

The Basic Principles of Gregg Shorthand

Dr. John Robert Gregg
(1867–1948)

“Art must have a scientific basis. Shorthand not only has this scientific basis, but it is a science in and of itself.”

—Isaac S. Dement

Preface

CONFRONTED by a new invention an American almost invariably asks: “Will it work?” Until satisfied on that point, he is seldom interested in the mechanical principles on which the invention is constructed. But when the invention has been demonstrated to be a real advance, he wants to take the motor apart to see how it works.

This will explain why so little has been written about the scientific basis of Gregg Shorthand. The policy pursued in presenting the claims of the system was that of concentrating attention on the *results* accomplished by its students and writers. Even after Gregg Shorthand had achieved the most extraordinary success ever attained by any system in the history of shorthand, I was too busily engaged in the production of textbooks and magazines, and in the building of a publishing organization, to respond to the demand for a detailed explanation of the scientific principles on which the system was constructed. At odd moments, as opportunity offered and as the mood dictated, I made shorthand notations for a series of articles on the subject. A few of the articles were published in the *Gregg Shorthand Magazine* (England) some years ago, but the reduction in the size of that magazine on account of war conditions rendered it necessary to discontinue the series. Since then so many teachers and writers of the system, on both sides of the Atlantic, have urged me to complete the series that I decided to do so, and to publish them in book form.

The fact that the articles were first written for a magazine published in England will explain to American readers the numerous references to Isaac Pitman Shorthand, a system which is now little used in America outside of New York City and some parts of Canada, and also why so many quotations from well-known authors and writers of other systems are used in support of each principle expounded. In giving these quotations I had in mind the fact that in England there is more reverence for “precedent” and “authority” than is the case in this country.

After reading this book in proof form, one of the most capable supporters of our system said: “The explanation of curvilinear motion as a basic principle in the construction of the system was a revelation to me. What puzzles me is why you made that feature so prominent in the Preface of your very first edition and have practically ignored it in recent editions.”

The explanation I gave was that for many years my problem was to “convert” teachers of other systems, and in doing this I found it best to move along the lines of least resistance by dealing chiefly with things that were familiar to writers and teachers of the older systems. In discussing the system question I began, for example, with the elimination of shading or thickening. As all teachers and writers of the old-style systems had experienced the difficulty of observing the distinction between thick and thin characters, and knew that the thickening of a character was an obstacle to rapid writing, they were willing to admit that the elimination of thickened characters would be an advantage, “other things being equal.”

The next step was to explain that the vowels were written in the outline. The difficulty of inserting vowels after the “consonantal skeleton” had been written, and the difficulty of reading

shorthand when the vowels were omitted, were so obvious that most teachers were willing to admit with the *usual* qualifying expression that the insertion of the vowels would be an advantage.

The third step was to gain an admission that the placing of words in various positions with relation to the line was an obstacle to rapid writing and to phrase-writing. This generally elicited the most hearty expressions of concurrence of any principle presented.

Up to this point we were dealing with things that were familiar to them. When I attempted to go beyond these three principles, I found that Bagehot was right when he said, "One of the greatest pains to humanity is the pain of a new idea. It is so 'upsetting'—you do not know at once which of your old ideas it will or will not turn out."

Much experience convinced me that it was a mistake in tactics to dwell very long upon the other principles of the system, such as the Longhand Movement, Curvilinear Motion, or Lineality, except perhaps in an incidental way. Any stress placed upon features of the system that were absolutely new and unfamiliar to teachers and writers of the old-style systems would be so "upsetting" and confusing to them, and therefore so provocative of argument, as to nullify the progress made up to that point.

The objective to be gained was *the creation of a desire to study the system*. To accomplish this it was best to show them how the system eliminated certain specific difficulties or defects in the system they used. If they did study the system, the advantages obtained from the other features of the system would gradually, but inevitably, become clear to them as soon as they could write the system on connected matter.

In reading this, many hundreds of teachers and writers of the system who formerly wrote other systems will doubtless remember the various mental reactions which occurred during the period of transition from the Old to the New, and will smile appreciatively at this explanation of the process.

As these articles have been written at various times, and sometimes under pressure, they may lack the unity of plan and treatment which is desirable in a work of this kind. I believe, however, that those interested in shorthand as an art and a science will find them helpful in tracing the process of the evolution of the art of shorthand toward principles that are logical and natural to the mind and characters and movements that are natural to the hand.

JOHN ROBERT GREGG

New York, 1922

Chapter 1

Longhand as a Basis of Shorthand

“ I am persuaded that the true progress of shorthand—the real solution of the difficulties surrounding it—is to be found in an attentive study of our ordinary longhand writing. ”

—THOMAS ANDERSON, in *History of Shorthand* (1882)

IN reading some of the letters which were received while I was on a trip to Australia, I found a very interesting paragraph in a letter from Mr. John A. Bell of Glasgow.

As the paragraph in Mr. Bell’s letter suggests an interesting topic, I am going to use it as a text, as it were, for the first of a series of articles on the scientific principles underlying the system. Mr. Bell writes:

“ In reading over this month’s Magazine I could not but admire the beautifully written page on the Fauna of the Alps. I remember when I was studying architecture for an art certificate a number of years ago being struck by a remark made by a writer who was comparing Greek and Roman architecture. He said that the reason why Greek architecture was more beautiful than Roman was that it was based on the ellipse, which, on account of its variety, is impelling to the eye. Do you see the point? That is the reason for the pleasure which a page of Gregg gives if one has looked over several pages of Pitman. ”

It is needless to say that, like Mr. Bell, every writer of the system finds delight in the artistic beauty of its forms and in the easy, natural character of the writing. These qualities are commented on again and again in the letters we receive. But doubtless few writers have tried, as Mr. Bell has done, to find definite *reasons* for either the artistic qualities of the system or its easy-writing qualities.

As the derivation of them may be interesting to our friends, I am going to discuss them in a series of articles. In doing this I intend, first, to explain the general basic principles of the system, and, second, to show how these fundamental principles have been applied in the selection and arrangement of the alphabet. It is necessary to have a clear understanding of the entire plan of structure as a whole to appreciate the working out of the details. I hope, therefore, that if you are interested in the subject, you will read the explanation of each basic principle, and carefully weigh its relative importance to the whole plan. If you do this I believe you will find a new interest in the system, and be able to give convincing reasons for the faith that is within you.

The Fundamental Difference

The fundamental difference between geometric shorthand and Gregg Shorthand is this: Geometric shorthand is based on the *circle* and its segments; Gregg is based on the *ellipse*, or oval.

As geometric shorthand is based on the circle, its characters are supposed to be drawn with geometric precision, and are struck in all directions. The characters, being struck in all directions, necessitate continual change in the position of the hand while writing.

As Gregg Shorthand is based on the ellipse or oval, it is written with a uniform slope, as in longhand. Its characters are, therefore, familiar and natural to the hand, and like longhand do not require a change in the position of the hand while writing. When we say, “with a uniform slope as in longhand,” we do not mean any particular slope; we simply mean that whatever slope is adopted the writing is uniform in slope—not zigzag. This is understood by all writers of the system, but I consider it advisable to include the statement here, as an effort is being made to represent us as insisting upon a particular slope.

Short-Writing or Short-Drawing?

Geometric shorthand has been described as a rapid drawing of characters, while Gregg Shorthand has been described as a rapid writing. That the affinity of geometric shorthand to drawing is fully recognized by the advocates of that style will be clear from the following quotations.

Isaac Pitman, in the seventh edition of his *Manual* said:

“The student should be careful not to hold the pen as for common writing, for this position of the hand is adapted for the formation of letters constructed upon a totally different principle from those of Phonography. The pen should be held loosely in the hand, *like a pencil for drawing*, with the nib turned in such a manner that the letter “b” can be struck with ease. ”

In a series of articles on “Aids and Hindrances to Shorthand Writing” in *Pitman’s Shorthand Weekly*, Mr. Alfred Kingston said:

“I have frequently noticed that the shorthand student skilled in thawing always makes the best start upon the shorthand alphabet. The student should be encouraged, therefore, to treat the preliminary work of mastering the simple geometric forms, and especially the curves, *as something really in the nature of a drawing lesson*, and to draw them as carefully and accurately as possible at the start. ”

Andrew J. Graham, author of the most successful American modification of Pitman’s Shorthand, in the Introduction to Part Two of his “Standard Phonography,” said:

“The position given to the pen and hand in backhand writing seems best adapted for the easy and graceful formation of phonographic characters. The pen should be held very loosely, so that the nib may be readily turned and suited to the execution of characters made in various directions. ”

These quotations will prove that the geometric style of shorthand is admitted to resemble a drawing—not a writing—of characters.

Although they do not bear directly on the question of the drawing or the writing of the characters, the views expressed by very prominent Pitman reporters about ‘the comparative facility of the back slope and forward slope characters’ may be of interest at this point.

Mr. Henry M. Parkhurst, one of the most prominent of the early pioneers of “Pitman’s Phonography,” and the “Spelling Reform” in America, said:

“The stroke for *p* [a back-slope character in Pitman] cannot be struck with the same ease as *ch* [a stroke like our *j*] because the *muscles of the fingers naturally move in the direction of the latter stroke*, and not in the direction of the former. The cords, muscles, *et cetera*, all strain from the inside of the limbs; and consequently all those who use the right hand in writing can write with greater rapidity and endure longer in writing from right to left than they can in writing from left to right. ”

Mr. George R. Bishop, for many years an official reporter of the New York Stock Exchange, and formerly President of the New York State Stenographers’ Association, in discussing the various shorthand characters, said:

“The directions or slopes of some strokes are quite different from any to which the fingers become accustomed by writing ordinary longhand; the muscles therefore require to be trained to these unfamiliar movements and directions by much practice. ”

The famous reporter, David Wolfe Brown, for many years one of the staff of official reporters of the House of Representatives, Washington, in his book, “Mastery of Shorthand,” which was published by the Phonographic Institute Company (publishers of Benn Pitman Shorthand), declares:

“Even in those rare cases where the phonographic pupil shows by his ordinary penmanship not only an eye for truth and beauty of form, but a real facility of hand, it is a facility adapted exclusively to the peculiar forms and inclination of the longhand characters; and there remains great need for special manual discipline by reason of the variety of forms and directions of the shorthand characters. ”

Mr. Brown expands this thought in his popular book, “The Factors of Shorthand Speed”:

“In the shorthand writer’s manual discipline the first step is to *get rid of certain habits often acquired in longhand*, and which, unless corrected, must make high stenographic speed a physical impossibility. It may be desirable, for a time at least, that longhand practice be as far as possible suspended, so that a new set of manual habits may be the more easily acquired.

One of the habits which shorthand writers need especially to overcome arises from the peculiar slant of the longhand characters. . . . As the shorthand characters are written in almost every direction—probably more of them with a backward inclination, or with a horizontal motion, than with a forward slope—the

hand and fingers, in being educated for shorthand writing, must be emancipated from the fixed position to which they have been accustomed in longhand.

From these extracts it will be seen that, instead of previous experience and training in the writing of longhand being regarded as an advantage to the student of geometric shorthand, it is declared by these high authorities to be an obstacle. To do good work in geometric shorthand the student is told that he must “get rid of certain habits acquired in longhand,” and his “hand and fingers must be emancipated from the position to which they have been accustomed in longhand.” 🗨️

The Logical Deduction

If what these eminent authors and reporters say is true—and what advocate of Pitman Shorthand will challenge their statements?—then the student or writer of a system founded on longhand, requiring the same position of hand and fingers, and the same movements as longhand, starts on the study with a tremendous initial advantage over the student or writer of geometric shorthand.

“The planets move in elliptic orbits.” We claim that the ellipse is a more scientific basis for a system of brief writing than the circle.¹ Our beautiful Roman writing is based on the ellipse, or oval, and being the outcome of a process of evolution that has been going on for centuries, it represents the “survival of the fittest” in the movements and characters best adapted to the hand. As Benn Pitman says in his “Life and Labors of Sir Isaac Pitman,” our present writing is “but the culmination and fruition of a series of experiments, changes and improvements which were commenced in the very childhood of civilization, and which have been uninterruptedly continued to the present time. From the earliest pictorial and hieroglyphic symbols there has been an unending series of experiments and improvements, and each step has been received with more or less of hesitancy and distrust because of the inconvenience attending a change of habit. . . . The simplest, most convenient, and most reasonable way of doing anything is usually the last to come, but when the right thing is accepted it seems amazing that the inferior and imperfect one should have been tolerated, much less loved and tenaciously adhered to.” [There is an almost prophetic ring about that last sentence!]

The Benefits Admitted

If it be true that the movements and characters used for longhand writing have been adopted because they are easy and natural to the hand, we believe that it does not require argument to prove that the same easy, natural movements and characters are the logical basis of a briefer style of writing. Indeed, nearly all authors and expert writers of geometric shorthand have been willing to acknowledge this, but have asserted that, on account of the limited shorthand material, it was impossible to construct a practical system on such a basis.

At the first International Shorthand Congress, in 1887, Professor J. D. Everett, author of “Everett’s Shorthand for General Use,” a geometric system, acknowledged that, “to employ char-

¹ Mr. William A. Crane, author of “Crane’s Script Shorthand” (1884), declared that “all graceful motion is elliptical.”

acters which slope all one way is advantageous in so far as it enables the writer to make a given number of movements in a given time.”

And Edwin Guest, the author of “Compendious Shorthand,” a geometric system, in a discussion at one of the meetings of The Shorthand Society, London, is reported to have frankly admitted that, “if any script system could be written with *only double the number of strokes in a geometric system*, he was prepared to admit the advantage was in favor of the script system.”

In 1888 Mr. Thomas Allen Reed, the most famous of all the English champions of Pitman’s Shorthand, in referring to some shorthand notes which had been contrasted as to *brevity*, with longhand, at one of the meetings of The Shorthand Society, London, is reported to have said that he thought “Dr. Gower had overlooked one point—the *advantage of the one slope*” in the longhand specimen.

The Reporters’ Journal (England), January, 1891, in giving reasons for objecting to the suggested substitution of the downward (backslope) *r* for the upward *r* before *m* (a suggestion which has since been adopted by Isaac Pitman & Sons) said:

“ We are, nevertheless, as firmly convinced as ever that the upward *r* is struck, either alone or in combination, very much easier and with greater facility than its downward companion.

The very act of having to draw the pen backward tells against the downward *r*, and surely phonographers can quickly ascertain for themselves the more advantageous outline by writing each for the same space of time. ”

A Convincing Demonstration

In a paper on “The True Theory of Shorthand,” read before the Shorthand Society, London, Mr. Thomas Anderson, author of the “History of Shorthand,” stated the absurdity of zigzag writing very effectively:

“ I am not now raising the question whether writing on the slope from right to left, or writing perpendicularly, or nearly so, or, again, writing on the back slope, is the quicker or quickest method of writing. I say I do not now raise that question. I give no opinion on it—nor am I concerned what may be the decision regarding it.

But this I do earnestly and strenuously maintain that the attempt to write in these three different directions at one and the same time is absurd. Just take the word *absurd* as an example. It is a good word for the purpose. Now if I am to write the “a” on the common slope, the “b” on the back slope, and the “s” straight up and down, and follow any other variety of the same changes with the other letters of the word, namely, “u,” “r,” “d,” then I make bold to say that the word and the thing signified are both demonstrated in the same form—a form with which you offend the eye, as well as threaten dislocation to the hand.



It is idle to answer that the habit is followed by thousands of shorthand writers without much difficulty, or it may be said even with ease. Granted. What then? The praise is to the hand, which, as Aristotle has well said, is “the instrument of instruments.” We are not, however, entitled on that account to visit it with an unnecessary infliction.

I may, in concluding my observations under this head, allude to the fact that an inspection of any paleographical folios will show, on a comparison of the ruder forms of writing with the more modern in almost all languages, a tendency to have the characters all on the one slope. The fact is interesting rather than here important, but if anyone cares to turn over the princely tomes of Silvester in his “Paléographique Universelle,” he will perceive this to be very noticeable. ☺

The famous journalist, editor, author, and Member of Parliament, Mr. T. P. O’Connor, in writing on the subject of shorthand in the *Weekly Sun*, London, said:

☺ I am not an entire believer in the Pitman system of shorthand; but as I began with it I never tried to change ... I have known very few Pitman writers whose notes could be read by anybody else, and I have known a great many—including myself—who found it very difficult to read their own notes. ☺

It strikes me now, that the system is best which can be made most like the ordinary longhand. Obviously the same muscles, the same nerves, the same attitudes, all that conglomeration of causes, open and latent, which provide the peculiarities of one’s longhand will be employed in producing the shorthand. In other words one will write his shorthand as he does his longhand.

Put Into Figures

In an article on “The ‘One Slope’ Theory in Shorthand,” Mr. G. C. Mares stated the practical advantages obtained from uniformity of slope in a very convincing way:

☺ It will be evident to the vast majority of shorthand writers that in Pitman Shorthand many words can be written much faster than others, even though the number of pen strokes and ineffective movements (lifts) are the same. Thus the word *cherry* can be written faster than *pity*, *reject* is more facile than *shave*, although it has an additional stroke, and the same may be said of hundreds of other words. What causes the difference in facility? The answer is that *cherry*, *reject*, are written on the “one slope,” whilst *pity*,² *shave*, employ back strokes. At the commencement, then, we see that an advantage exists in favor of one-slope writing; but no one has yet, I believe, shown the existence of this advantage. I will, therefore, invite attention to the following figures:

(a) A rapid penman can write 30 words a minute; each word containing on an average of 16 movements— 16×30 equals 480 *longhand strokes* a minute.

(b) The limit of the power of the hand to form *shorthand* strokes is, at the outside figure, 300 a minute; 300 to 480 shows 60 percent in favor of *longhand strokes*.

² The obtuse angle in *pity* is partly responsible for the slowness with which the outline is written.

(c) As the formation of shorthand strokes requires more care than longhand, on account of the necessary observance of length, thickness, etc., an allowance of, say 25 percent must be made, and this, with an allowance of 10 percent for loss of brevity (if any) as compared with other systems, will leave us 25 percent advantage in the matter of facility of execution *gained by the use of one-sloped or longhand signs or strokes...* 🗨️

All Natural Writing Elliptical

It has been said that it is impossible for the human hand to make a *perfect* circle in rapid writing. On the other hand, elliptic figures are natural and easy to the hand; indeed, the making of an ellipse or oval is one of the first exercises given a child in learning ordinary writing. As a writer on the subject has said:

“No alphabet on the radii of the circle with its various arcs can be easy to write. The circle is the most difficult of all simple forms. It is astonishing that modern inventors of shorthand should have overlooked the experience of all nations in the writing of longhand, and therefore, it is clear that the efforts to secure speed have developed the forms employed away from the circle into arcs and axes of the inclined ellipse. No hand at rest can rapidly execute the circle, while all easy movements of the arm, hand and fingers resting on the paper form the lines of the ellipses. Is it not remarkable that after having based the alphabet on the circle Pitman should say in the “Reporters’ Companion,” “Theoretically, every line employed in phonography is a light line or an arc of some circle. Practically all light lines become to fluent writers portions of ellipses. The most continuous line that can be described is the flattened ellipse. The greater the velocity, the flatter the arc.” 🗨️

The older script, cursive, graphic, scripthead, or pasigraphic systems—as they are variously termed—claimed to be “founded on longhand.” That claim was based on the fact that they rejected vertical and back-slope characters, and were written with a “uniform slope.” The title page of one of the first of these systems, that of Richard Roe, published in 1802, described it as “A new system of Shorthand in which legibility and brevity are secured upon the most *natural principles*, especially by the singular property of their *sloping all one way* according to the habitual motion of the hand in common writing.” This is the claim of all the systems on that basis—there is little change in the wording.

While *uniformity of slope* is very important, it is but one of the virtues of longhand writing, and it is a question whether or not it is the most important one. Let us consider some of the other qualities of longhand.

Other Longhand Features

In longhand writing there is no compulsory shading or thickening of the characters.

Prior to the appearance of Gregg Shorthand nearly all the systems claiming to be “founded on longhand” had shading or thickening of the characters. Some, indeed, had shaded upward characters, and shaded horizontal characters—even shaded small circles and shaded hooks! If we accept longhand as our model—if we are absolutely sincere about it—we are bound to acknowledge that freedom from compulsory shading is just as important as is the uniform slope.

In longhand writing the words are not placed in several positions with relation to the line of writing.

Prior to the appearance of Gregg Shorthand, many of the systems said to be “founded on longhand” had words placed in three or more positions—on the line, above the line, and through or below the line. Here, again, if we accept longhand as our model, we are bound to acknowledge that the use of several different “positions” for distinguishing words is not admissible.

In longhand writing all the letters, vowels, and consonants are joined.

But some of the systems claiming to be “founded on longhand” (notably “Sonography,” by Rev. D. S. Davies, and “English Script Shorthand,” by John Westby-Gibson) expressed the vowels by disjoined signs after the consonantal skeleton of the word was completed.

There are other features in many of the systems said to be “based on longhand” prior to the publication of Gregg Shorthand, which were inconsistent with that claim. Among these may be mentioned the presence of many obtuse angles, which do not occur in longhand. I intend to speak of these things later.

A Process of Evolution

I should be sorry if you gained the impression from what I have said that I am attempting to disparage previous endeavors at the construction of a system on natural lines. This is not the case. I am simply explaining certain fundamental differences between the structure of our system and the systems that preceded it.

The following quotation from the “Story of Gregg Shorthand,” as told at the Silver Jubilee meetings (and afterwards published in pamphlet form) will show that I have always been ready to pay a tribute to preceding authors:

“ I regard that alphabet as a natural evolution of the best principles of all systems mentioned. In its making, therefore, credit is due to the great shorthand authors of the past, whose genius cleared the path for progress. The chief distinction I claim for Gregg Shorthand is that while other systems embody one or more natural principles—such as absence of shading or position of writing, or uniform slant, or lineal, continuous movement, or connective vowels—Gregg Shorthand is the only system embodying all these natural features. And it is the

only system, I venture to say, that satisfies the eye with the freedom and gracefulness of its forms. ☹

In the course of this series of articles I hope to make it clear that there has been a gradual evolution toward a system that would be “the distilled essence of our common writing.”

I have often heard advocates of Pitmanic Shorthand dispose of other systems with a contemptuous expression, and then mention several systems that were once fairly well-known, but have now declined in popularity, as proof of the superiority of Pitman. That is very superficial reasoning. It is on a par with the shortsightedness of the people who ridiculed the early inventors of the airplane because their first air flights were not *entirely* successful. To the thoughtful investigator even the *partial* success of systems founded on principles entirely different from those of Pitman has great significance. It would be easy to demonstrate that each of these systems succeeded in almost exact proportion to the degree in which it contained *natural* writing features, and failed to attain greater success because it retained or extended the use of certain *unnatural* writing features. In some instances these systems, while incorporating one or two longhand features, pushed the use of principles or expedients opposed to longhand to a much greater extreme than is done in the Pitman system.

A Prediction Fulfilled

Mr. Thomas Anderson, who was for many years a reporter in the Law Courts of Glasgow (using the Pitman system), and who wrote a very valuable and scholarly “History of Shorthand,” expressed this opinion:

☹ To make shorthand what it ought to be, it must follow the track of the longhand writing, be all written on the one slope, and make no difference between thin and thick strokes, while describing accurately the vowels...

I believe that such a system would, in the course of a few years effect a comparatively universal change, by the side of which the results attained by the Pitman plan in the course of the last fifty years would look anything but magnificent. ☹

Considering the date at which it was written—1882—this was a remarkable prediction.

One of the beliefs of shorthand inventors and of others who are enthusiastic about the benefits to be derived from the widespread study and practice of shorthand, is that it will eventually take the place of longhand to a very large extent. That belief is a very reasonable one.

For many years there was printed on the covers of Isaac Pitman’s books the following extract from an article which appeared in the *English Review*:

“Who that is much in the habit of writing has not often wished for some means of expressing by two or three dashes of the pen that which, as things are, it requires such an expenditure of time and labor to commit to paper? Our present mode of communication must be felt to be cumbersome in the last degree; unworthy of these days of invention. We require some means of bringing the operations of the mind, and of the hand, into closer correspondence.”

If that was true fifty years ago, it is even truer of conditions today. There is an ever-increasing pressure, and it does seem absurd that we should be obliged to continue to employ the cumbrous forms of longhand when a briefer method is at our disposal. Articles have been published dem-

onstrating that millions of hours a day could be saved by the general use of shorthand in correspondence and in making notations. But it has been recognized as a fact—an extraordinary and inexplicable fact—that many of those who know shorthand are not inclined to use it in their literary and other work. It has been noted also that writers of our system are much more inclined to use shorthand in this way than are the writers of the older styles. In our own offices, for instance, nearly all the managers of departments jot down in shorthand the answers to letters on the back of the letters, and hand them to the stenographers instead of dictating, and this plan is followed in much of the correspondence between offices and in the composition of articles, advertisements, etc. Even the reports of our traveling representatives are made in shorthand—the original report in shorthand being sent to the manager of the local office, and a carbon copy sent to the General Sales Manager in the Executive Department.

Shorthand for Personal Use

Speaking offhand one would say that the mental attitude which induces such a large percentage of writers of our system to use shorthand more freely and confidently as a personal time-saving instrument, as compared with the small percentage of writers of the older systems who do so, is due to the greater legibility of our system on account of the insertion of vowels, the absence of shading, and position writing—all of which make the writing more easy and natural. All these things contribute a good deal, because they create confidence and relieve the mind of much conscious effort; but there is another reason, which is probably more important still. It will be found in an article by a distinguished shorthand reporter who was also an author of distinction.

Some years ago the *Phonographic World* published a series of articles on “How Authors Write,” and the late Philander Deming, who was an author of distinction as well as a shorthand reporter, said:

“With slight exceptions, my literary work has been done with the pen. . . . This is done without any rule and without thought about it. *But the strong tendency is, when I am most intent upon my work, to use only longhand forms.* I suppose this is because the longhand is made up by the repetition of so small a number of radical elements. You will call to mind the fact that the Spencerian analysis and system of penmanship shows us that the working letters (the small letters) of our common writing are formed of only four radical elements. These four elements form the entire alphabet. The result of this formation is that, while it requires considerable muscular action to write longhand, the work of writing calls for very little attention on the part of the mind of the writer.

Phonography is based upon twelve radical elements. The writing, therefore, is not a continual choice from among four elements, *but from among twelve, and this rapid choosing among so many is difficult and the work is complex. Hence, the writer has to give his attention to the form in writing them, and this continues to be true, however extensive his experience in writing phonography may have been.* The moment a writer becomes deeply interested in his subject he forgets to write shorthand; his pen glides unconsciously into the longhand forms. It will be re-

membered that Charles Dickens was a shorthand writer. He reported the debates in Parliament, and he has described his struggles in learning shorthand in a well-known and often-quoted story—and yet all his literary work was done in long-hand writing. 🗨️

To the thoughtful reader this quotation may have a great deal of significance. It represents a phase of this subject which is seldom given any consideration. In using our system there is greater *mental freedom* than there is in writing geometric shorthand, because, like longhand, the writing in our system consists of a few familiar elements.

In the next chapter, I shall discuss what I believe to be the most important element of either longhand or shorthand writing. It is not longhand slope, connective vowels, absence of shading, or the elimination of position writing. It is seldom mentioned, but it is, nevertheless, the greatest feature of the system—the one which, above all others, distinguishes it from all other systems. Can you guess what it is?

Chapter 2

Curvilinear Motion

“Motion in curves is more beautiful than that in straight lines, both because of the greater beauty of the curved line and because curvilinear motion indicates less effort.”

—Dr. Francis Wayland

“A good curve is not uniform in curvature, but curves most near one end.”

—John Ruskin

IN closing the preceding chapter I said that my next talk would be about “the most important element of either longhand or shorthand.”

That element is the *predominance of curve motion*. This feature is probably the most radical departure from the older lines of shorthand construction to be found in the system. Curiously enough, its importance has not been fully appreciated by many writers and teachers, although, when the system was first published, many shorthand authors and others interested in the scientific aspect of shorthand recognized it to be an extremely radical step.

A New Idea

The distinguished French shorthand author and reporter, M. Jean P. A. Martin, of Lyons, wrote me under date of June 24, 1888—less than a month after the publication of “Light-Line Phonography,” as Gregg Shorthand was then called—and the very day he received a copy of my first book:

“The postman has brought me your book this morning. ... I can but think well of a system that embodies all the ideas defended by me time and again, and is mainly constructed after the principles laid down by Conen de Prépéan, the real founder of continental shorthand.

There is, however, a point that is quite new to me; I mean the predominance given by you to curve motion. Whilst Mr. Clement Gourju in his *Semiographie*, and Mrs. De Wik Potel in her *Dewikagraphie*, endeavored to do away with all consonantal curves, whilst *nearly*, all of us have criticized large curves (I say the large ones, and not the small ones), you have taken an opposite view of the case.

I am glad you have, because I have no doubt you will soon produce reporters, and their notes will be of value to shorthand scientists. We shall better be able to form an opinion on the advisability of predominant curve motion in shorthand

writing. We shall watch your progress with great interest. We look upon your system as a very valuable experiment. You are the exponent of an idea, and we LOVE *ideas* when they are carried into actual practice.

I shall ever be glad to give my support to men who fight for the supremacy of the sound principles established by Conan de Prépéan. It is not because your shorthand principles are French; it is because they are scientific, and Science knows no borders, no nationalities; it is human. ☺

Writing me again on July 30, 1888, M. Martin said:

“ We do everything we can in order to diminish the number of curves in our representation. You do *the very reverse*: you remove nearly all the straight lines from the consonantal alphabet. The point at issue must be settled through experience, through practice. You now understand why Shorthand Scientists are anxious to see the notes of several Light-Line Phonographers written at a speed of over 120 words a minute. They want to know what will be the effect of the predominant curve motion on a page of shorthand. Of course, there is no question about this or that system; we do not care about systems. Scientifically speaking, we study ideas, principles, and see what results they yield, no matter the alphabet. And I can but repeat what I said before: yours is a new idea. Light-Line Phonography is, in our opinion a very valuable experiment which all persons who are studying the Science of Shorthand cannot fail to watch with great interest. ☺

At this point it may be interesting to quote what I said on this subject in the preface to the first edition of “Light-Line Phonography,” in describing the “main features” of the system:

The Predominance of Curve Motion

“ Curves, the prevailing element of ordinary penmanship, being more facile than straight lines, the author has, so far as is compatible with a well-balanced alphabet, assigned to them the representation of the most frequently recurring consonants. In addition to this, the straight characters have been so arranged that the most frequently recurring combinations of letters form an *obtuse* angle at their point of junction, and such angle not being observed, the letters are allowed to coalesce naturally in the form of a large curve; thus curve motion has its rightful preponderance, the maximum of facility obtainable from this source is secured, and the system is freed from the unnatural zigzag motion of the ordinary shorthand. ☺

This is expressed in somewhat pretentious language—I was very young then!—but it shows that recognition of the prevalence of curves in longhand writing was an important factor in the construction of the system.

In my earlier experiments at shorthand construction I followed the beaten path. The result was an *angular* style of writing—a truly “script-geometric style,” as someone described it. This realization that curvilinear motion was the greatest of all the elements of longhand writing placed

me on the path which led to “Light-Line Phonography” and it is the feature of the system to which, more than to any other, is due its wonderful success.

The Combination Principle

Those who have read the “Story of Gregg Shorthand” as told at the Silver Jubilee meetings (and afterwards published in pamphlet form) will remember the emphasis placed upon the discovery of the *combination* principle, as distinguished from the assignment of characters to the letters in accordance with their *individual* values. The successful working out of the combination principle depended upon a scientific analysis and utilization of the curvilinear motion of long-hand, beginning with the ellipse or oval as a basis.

The assignment of the characters according to *individual* values in the older systems naturally and inevitably resulted in the straight lines being given the preference, as stated in the letters from M. Jean P. A. Martin, which I have quoted. Straight lines *when joined*, resulted in a jerky, angular style of writing. Mr. Hugh B. Callendar, B.A., of Cambridge University, put this truth very well when he said:

“It is commonly stated that straight lines are more facile than curves. This is true of a series of straight lines described independently; but the curve often has the advantage in the matter of joining to other characters, for its curvature may generally be varied, especially near the ends, so as to make the joining easier.”

Mr. D. P. Lindsley, author of “Lindsley’s Takigraphy,” in writing about “The Nature of Angles,” said:

“When the hand is in rapid motion, any change of direction must hinder the speed of the writing. If the first glide into the second without any angle, the highest speed can be secured.”

Writing on this subject, another well-known author and teacher, Mr. R. L. Eames, said:

“It has been said that Nature abhors a vacuum; I believe I may add with truth that Nature abhors a straight line. Nowhere in the whole domain of the universe can there be found a single instance of natural motion in a straight line. No system based on this principle (of straight lines) can be easily written, or naturally rapid, but must depend for stenographic capability on extreme brevity.”

An Unusual Review

About a year after the publication of “Light-Line Phonography” a review of it appeared in a newspaper in South Africa—the *Cape Argus*, Cape Town.

I do not know who wrote the article, but in the thirty years that have passed since then I have not seen a more satisfactory or penetrating review of the system. The following sentences from it have a direct bearing on the subject of this article—curve motion:

“The inventor hits Pitman in a vulnerable part when he claims “frequency of curves, and infrequency of angles.” Awkward angles—awkward to make and li-

able to run into incorrect forms—are unquestionably a weak point in Pitman, because when one set of wrist and forearm muscles are being used these angles demand a sudden jump to another set, which tends as it were, to throw the machinery out of gear. In the system before us the inventor seems to be on the right lines. The great thing in rapid writing is not that the strokes should be as brief and few as possible, but that they should flow with perfect ease and without the slightest hesitation from the pen. Therefore it follows that if there is to be improvement in the shape of characters, it will come in the direction of keeping the lines as much as possible in one direction, choosing lines easily made, and discarding those which tend to check the fingers and call into play a set of muscles different from those ordinarily employed. Mr. Gregg's system looked at from this point of view is one which certainly deserves attention from those interested in the subject—in fact great success is claimed for it already. ☞

Everyone knows that a stiff, angular style of longhand writing always connotes a *slow* writing, and that an easy, rapid, effortless style of writing abounds in curves, because curves are written with a free, rolling continuous motion. The muscles are relaxed in making elliptical curves; straight lines necessitate greater rigidity of hand. If this be true of longhand, it must be equally true of shorthand.

Some very significant admissions about the value of curve motion occur in “Phonography in the Office,” a book published by Isaac Pitman & Sons. After deploring the tendency of students to write a heavy style of shorthand, the author of the book, Mr. Alfred Kingston, says:

“The increased friction from the resistance of the paper makes it a serious obstacle to the acquisition of speed, to say nothing of the difficulty of distinguishing thin and thick strokes. ☞

Mr. Kingston then proceeds to give an exercise to be practiced for the purpose of counteracting this heavy style, but he takes care to say:

“The exercise is so framed as to consist *almost exclusively of light curves*. The selection of words and phrases which favor a continuous flowing style of writing will also enable the writer to take it down easily. *The rate of speed acquired in the writing of such a passage will be much greater than upon an ordinary passage, and it must not be used as a test of speed, or the result will be very misleading.* ☞

It is surprising that Isaac Pitman & Sons permitted that statement to appear in one of their books. But at the time it was published the Pitman firm did not have competition with a system based on “light curves,” which yield “greater speed” than angular zigzag writing—a system free from the “increased friction” caused by heavy strokes.

So far, in speaking of curve motion in longhand, I have discussed it mainly from the practical standpoint. The following quotation about “the beauty of curves,” from Dr. Francis Wayland was sent to me by one of our writers who thought it applicable to the writing of the system:

“Motion in curves is more beautiful than that in straight lines, both because of the greater beauty of the curved line, and because curvilinear motion indicates less

effort. For these reasons, the motion of a fish in the water has always seemed to me remarkably beautiful. The waving of a field of grain, presenting an endless succession of curved lines, advancing and receding with gentle motion, uniform in the midst of endless variety, has always seemed to me one of the most beautiful objects in Nature. On the contrary, jolting and angular motion always displeases us. How different is the effect produced by the motion of one man on crutches, and of another on skates. ☹️

Yet there are some people who still adhere to a belief in “jolting, angular motion,” as the true basis of shorthand writing!

In the preceding chapter I stated that our system was based on the *ellipse* or oval, and that this was the vital distinction between it and geometric systems, which are founded on the *circle* and its segments. Bearing this in mind, you will realize that the ellipse embodies the natural *curve motion* of the hand in writing. This is the feature which distinguishes our system not only from the geometric systems, but from all other systems that claim to be founded on longhand or on the slope of longhand.*

My next subject will be an important and original development of curve motion, which came about in a very interesting way.

* As this book is going to press my attention has been called to the results of an investigation made by The National Institute of Industrial Psychology (London), an institution established to promote efficiency in industry. The Institution' reports the findings of its skilled and trained psychologists after an investigation of the mental and physical qualities of operatives in factories and workshops, as follows:

While the shortest distance between two points is a straight line; the investigators have found that curved movements of the hands, though longer than straight movements, may be quicker in the end. . . . Workers were trained by the investigators to follow curved paths and natural rhythms instead of straight lines, and an increase of thirty percent output was obtained, far less effort resulting.

Chapter 3

Blended Consonants

“Combination is the essence of invention. ”

—Thomas Edison

“Obtuse angles are especially objectionable, and should be avoided so far as possible. ”

—David P. Lindsley

“It would be madness and inconsistency to suppose that things which have never yet been performed can be performed without employing some hitherto untried means. ”

—Lord Bacon, *Novum Organum*

IN beginning the previous chapter I said that the importance of curvilinear motion in the system was not fully appreciated by many writers and teachers. But the application of curve motion in the formation of the Blended Consonants is more than appreciated—it is the feature which, above all others, is warmly commended by writers of our system and even by writers of other systems. I suppose this is because other curve combinations are obtained by the mere joining of the characters—as in *pr, br, pl, bl, kr, kl, gr, gl, fr, fl*, etc.—and therefore require no conscious thought, whereas the blends are obtained by the entirely original plan of allowing lines forming the obtuse angle to blend in the form of a curve. Whatever the reason may be, there is no question about the enthusiasm which the blending principle evokes.

A System Discussion

The origin of the blending principle is a rather interesting illustration of how a valuable principle may be developed from a mere passing suggestion. In discussing an earlier effort at shorthand construction with Mr. William Pettigrew (a well-known Glasgow man who had been prominent in the advancement of Pitman’s Phonography in its early days) he strongly criticized the presence of many obtuse angles in the specimens I showed him. Then he vehemently declared that he had always maintained that the greatest weakness in the Pitman system was the presence of many obtuse angles. Taking a piece of paper he illustrated this by joining in succession the Pitman signs for *p-k, k-p, t-ch, ch-t, p-t, t-p, k-r, r-k*; next, he ran through a similar series with the thickened letters, beginning with *b-g*; then, the same series of characters with thick and thin strokes alternating; and finally he wrote the curve and straight line combinations like *l-p, f-r* (upward *r*), *r-sh* (downward *sh*), *t-sh* (upward *sh*), *m-ch*, etc.

After each example he would say with great emphasis, “In rapid writing those lines will run together in the form of a large curve. You can’t prevent it unless you write very carefully”—and so on for at least an hour.

It was evidently a hobby with him; and he had discussed it so many times with other phonographers that he had the illustrations at his fingers’ ends. I omitted to say that Mr. Pettigrew had left the phonographic ranks because, like Mr. T. A. Reed, Mr. William Relton, and others, he objected to the introduction of the large initial hooks and some of the other changes made in the system.

I listened to his exposition with considerable deference for I was very young at that time, and Mr. Pettigrew was a man of standing in the community—a member of the City Council, I believe. But when he had finished his denunciation of the obtuse angles in Pitman I ventured to point out that the outlines in the specimens submitted to him were on the longhand slope and, therefore, there could be only *two* obtuse angles—those between the horizontal line and the upward straight line, and *vice versa*—while in Pitman’s Shorthand there were no less than *eight* obtuse angles *between straight lines alone*. The occurrence of these eight, too, was doubled by shading (*b-g*, etc.) and tripled by alternating light and heavy characters (*b-k*, *k-b*, etc.).

“Well,” he said, “that is an improvement, but why have them at all? Why not have alternative characters for these upward and horizontal letters so as to exclude the obtuse angles? Besides, these letters are common letters [at that time I had adopted the Duployan arrangement of the horizontal line for *t*, *d*, and the upward line for *r*, *l*], and *tr*, *dr*, will run together. To prevent that you will have to slow up in the writing—you can’t observe those angles in rapid writing. Besides, you may say the *t* and *d* slant upward slightly. That makes the angle less acute and the lines more liable to run together. To prevent this you ought to provide alternative signs for them.”

(Incidentally, I may say that a little while afterwards an attempt was made to overcome this tendency by a special “positional” expedient which, however, could be applied only at the *beginning* of words.)

Mr. Pettigrew was somewhat mollified by my contention that the *number* of obtuse angles was greatly reduced by the adoption of the longhand slope, and soon afterward he was won over to at least an academic support of the system. To be fair about it, I believe that his controversies with orthodox phonographers inclined him to support almost any system that promised to vindicate one of his theories!

The last time I was in Glasgow I called at Mr. Pettigrew’s shop, but was grieved to hear that he had passed to the Great Beyond. I had looked forward with pleasant anticipation to telling him the momentous consequences that came from that discussion so many years ago. Doubtless I should have discovered the blending principle in working out the curvilinear motion principle to its logical conclusion; but I am inclined to believe that unconsciously Mr. Pettigrew started the train of thought which resulted in the discovery of a new principle in shorthand by which the obtuse angle has been almost entirely eliminated.

The Execrated Obtuse Angles

I am sure that Mr. Pettigrew would have read with delight and hearty approval the following passages which I found some time ago in the preface to Munson’s “Shorthand Dictionary” writ-

ten by the author of one of the most popular textbooks on Pitmanic shorthand in the United States:

“ We often see theorizing authors of shorthand works demonstrating by rule and dividers and by the counting of pen-strokes, the superiority of their systems in point of speed; while they fail to take cognizance on the other hand of the many hindrances to speed that inhere in their outlines. ”

Mr. Munson then proceeds to discuss these hindrances. One of them he names as:

“ *Too frequent obtuse angles between stems—a very great impediment to speed,* as may be readily demonstrated by tracing with exactness, but as quickly as possible, a line like the first of the following diagrams, and then in like manner, one like the second. ”

(Mr. Munson then gives two lines of outlines, one with sharp, and the other with obtuse angles.) He adds:

“ It will be seen that the outline with obtuse or blunt angles requires a much slower movement than the one with sharp angles. ”

Benn Pitman and Jerome B. Howard, in their “Reporter’s Companion,” in discussing the “graphic impediments to phrasing,” state that the presence of an obtuse angle may be a “sufficient reason for breaking a phrase, no matter how suitable for combination its elements might be from a grammatical standpoint.” They then go on to explain that:

“ Obtuse angles require a slowing and steadying of the band in their execution, and are, therefore, stenographically objectionable in themselves. In the building of outlines of *words* the obtuse angle must at times be submitted to; but in *phrase-writing* it is generally avoidable and to be avoided. It should be observed also that the difficulty of an obtuse-angle joining of a half-length stroke is greater than is that of full length stroke, while the joining of the ticks, *a-an-and*, *the*, and *of* the vowel logograms at an obtuse angle is still more objectionable. ”

Another author, Mr. D. P. Lindsley, declared:

“ When an angle must be formed, the more acute it is the more easily can it be made. Obtuse angles are especially *objectionable, and should be avoided as much as possible.* ”

Mr. W. S. Rogers, author of “Lessons in Graham Shorthand,” says:

“ We really have but two easy joinings, and those are strokes joined by circles or by sharp angles. Strokes joined by obtuse angles are more likely to detract from speed than add to it. ”

In the Introduction of “A Critical and Historical Account of the Art of Shorthand,” the authors (Hugh W. Limes and George Carl Mares) say:

“ The obtuse joining is altogether condemnable, seeing that in writing performed with even a moderate degree of haste, it is liable to be rounded off and the two strokes appear as a single curve.³ A system in which obtuse angles occur frequently would prove untrustworthy. ”

The famous reporter, and foremost exponent of Isaac Pitman Shorthand in England, Thomas Allen Reed, in “Leaves from my Note-Book,” in explaining the nature of various phrases said, “The easiest joinings are those of straight lines or *curves* that run into one another. Right angles and obtuse angles are less easy. Unless the junction is easy and flowing, no time is saved; indeed it will often take less time to write such words separately than without lifting the pen.”

An Insoluble Problem

After I left Mr. Pettigrew I could not get his argument about the obtuse angles out of my mind. A little later, when the combination and curvilinear principles became fixed tenets in my shorthand creed, Mr. Pettigrew’s denunciation of the obtuse angles seemed to intrude itself in every experiment. When I was happy over some arrangement of the characters for an alphabet I would find an obtuse angle; and immediately there would flash into my mind a picture of Alderman Pettigrew leaning over the counter of his shop in Sauchiehall Street, pointing the finger of scorn at the offending angle! There were no obtuse angles in longhand—I was forced to acknowledge that—and if the “system of the future,” of which I dreamed, and for which I worked, was to be the “distilled essence of our common writing,” obtuse angles must be eliminated. There seemed no way to eliminate them except by providing alternative signs for the letters, as suggested by Mr. Pettigrew, and where were sufficient signs for alternatives to be obtained in a script-hand system? Seemingly it was an insoluble problem, and I was utterly discouraged over it.

The Solution Discovered

Then, one day came this thought: if lines which join with an obtuse angle take on the appearance of large curves when the angle is obscured in rapid writing, why is it not possible to contrive combinations with that end in view? Why not arrange the horizontal and upward lines so that when they blend in the form of curves these curves shall represent very frequent combinations of letters?

I well remember the enthusiasm and the feverish energy ‘with which I worked day and night on that idea—how I compiled table after table of all the common combinations of letters, and tested each of them. I realized that it was not enough to have conceived the theory: I must apply it to the most useful purpose. The result you know: the *ten, den, tem, ent, emt*, blends; and *def, dev, jent, jend* (the latter afterwards extended to *pent, pend*).

³ The similarity in the wording of this to our presentation of the blending principle will be noted. It was published nine years after Light-Line Phonography, hence the unconscious assimilation.

The “Blends”

In presenting the “Blended Consonants” in the first editions they were arranged in two groups:

(1) The combinations *pr, pl, br, bl, kr, kl, gr, gl, ted, ded, ses*, all of which combine without an angle. (*Fr, fl, vr, vl*, were added later).

(2) The combinations in which the obtuse angle was eliminated through the “natural tendency of the hand to allow such lines to form a curve”—*ten, den, tem, dem, ent, end, emd, def, dev, jent* (the last named being afterwards extended to *pent, pend*).

While the inclusion of the combinations given in the first section helped to emphasize the fact that combination was a basic principle in the system, it was not necessary to make a special feature of them, as the characters joined without the application of any special blending principle. For this reason I thought it advisable in later editions to introduce them without special classification in order that students might have a more extensive writing vocabulary early in the course.

The little “wave-like” *ses* has always been a great favorite with writers; there was nothing just like it in any system prior to “Light-Line,” but it has been adopted in several systems since then.

The joining of *t* to *d* to express *ted, ded*, is an old expedient used in many other systems.

It may interest many writers of the system to learn that the sign for *men, mem*, was not in the system at first. At that time *ng* was expressed by the sign now used for *men, mem*, and *nk* was expressed by the lowered *n*. Later the lowered *n* was assigned to *ng*, which was lengthened for *ngk*. This change permitted the use of the lengthened *m* for *men, mem*, and thus one of the most useful of all the combinations was added to the system. Isaac Pitman, in an address before the Shorthand Society, London, 1894, said:

“*M* and *n* are not only side by side in the alphabet, but like loving sisters they walk through the language hand in hand. These affinities must be regarded in the selection of signs to represent the sounds, so that the letters may run easily into each other as the sounds do. ☺”

It will be seen that the dictum of the author of Phonography applies more strongly to the representation of *n* and *m* in Gregg Shorthand than it does to his own system. It is certainly remarkable how frequently *n* follows *m*, and how seldom it precedes it. The saving effected by expressing such common combinations as *men, mem*, by one impulse of the pen is very obvious.

As a Matter of Record

An attempt has been made to show that the blending principle was not original with “Light-Line Phonography.” This is highly complimentary, because it shows that the great value of the elimination of the obtuse angle, and the resulting combinations (one is tempted to say, “thus killing two birds with one stone”) is fully recognized even by those opposed to the system. In attempting to substantiate his assertion our critic points to arbitrary signs for combinations of letters, such as have appeared in systems since the beginning of shorthand, and which are in no sense blended signs.

In view of these misstatements I may be pardoned if I make a digression at this point to state that so far as I am aware:

(a) The blending of the obtuse angles in the form of curves is not to be found in any previous system.

(b) The curves representing the blends in our system *are not used in the alphabet for any purpose*. Therefore it is obvious that the blending principle was a fundamental part of the construction of the alphabet, and not an afterthought.

(c) The name, “Blended Consonants,” was not used in other systems until *after* the appearance of “Light-Line Phonography.”

(d) In borrowing the name, “Blended Consonants,” from “Light-Line” as a substitute for the names previously used—“syllabic contractions,” “consonantal combinations,” “combined consonants,” etc.—to designate contractions which are not obtained by allowing lines forming an obtuse angle to blend as curves, other systems have perpetrated a ridiculous solecism. Webster’s New International Dictionary defines “blend” in this way:

“To fuse, merge ... to pass or shade imperceptibly into one another ... so that it cannot be known where one ends and the other begins.”

The Century Dictionary defines it:

“To cause to pass imperceptibly into one another; to unite so that there shall be no perceptible line of division.”

How admirably this describes the elimination of the obtuse angle by the arrangement of the letters, so that they pass “into one another” in the form of a large curve “without any perceptible line of division” will be apparent to any reader who is familiar with the system. And it will be equally apparent that the name “Blended Consonants,” when applied to arbitrary combinations of consonantal characters which join with a sharp angle, and cannot therefore “pass imperceptibly into one another,” is a misnomer.

Perhaps I have written at too great length on this subject. In coming to the explanation of this subject I found a reminiscent pleasure, as it were, in recalling my boyish enthusiasm and exultation over the discovery of the blending principle. In those days it was an epic event! And in all the years that have passed since then I have not had any reason to change my views about its importance. Indeed, I would be wanting in frankness if I did not acknowledge that the Blended Consonants have given me greater satisfaction than any other basic principle of the system, except Curvilinear Motion, of which it is a natural and logical development.

Chapter 4

The Evils of Shading

“It has finally become the experience of the most expert shorthand writers that outlines which depend upon shading for their legibility are in general unsafe outlines to adopt. ”

—George H. Thornton

It does not seem necessary to argue that it takes longer to write a heavy stroke than a light one. The fact is so obvious that I was inclined to depart from the plan of giving quotations from authors and prominent advocates of other systems in support of any statement I made. My files contain a folder for each shorthand principle, and the one devoted to shading is simply overflowing with articles and quotations about the evils of shading. Many of the articles give numerous instances of humorous—and sometimes serious—errors in transcription which have been caused by the use of shading.

An Obstacle to Speed

To be consistent with the plan of the series of articles, I am going to incorporate a few quotations. The first one is from a book published by Isaac Pitman & Sons, called “Phonography in the Office.” The author, Mr. Kingston, deplores a “too heavy style of shorthand,” as “the increased friction from the resistance of the paper makes it a serious obstacle to the acquisition of speed, to say nothing of the difficulty of distinguishing thin and thick strokes.” He then gives an exercise “so framed as to consist almost exclusively of light curves,” stating that the “selection of words and phrases which favor a continuous, flowing style of writing will enable the writer to take it down easily.” After giving the selection consisting “almost exclusively of light curves,” he utters this significant warning:

“The rate of speed required in the writing of such a passage will be much greater than upon an ordinary passage, and it must not be used as a test of speed, or the result will be very misleading. ”

Some years ago a well-known Chicago law reporter, Mr. W. E. McDermut, in writing on the subject of shading, said:

“Forty years ago Mr. Graham tabulated the results of experiments made to test the relative brevity of certain characters and combinations. His tables showed that light characters are at least ten percent more rapid than heavy ones. I have demonstrated with shorthand classes that this is the minimum difference, and some writers claim that the advantage of light strokes amounts to thirty percent. ”

In his “Handbook of Standard Phonography” (Edition of 1858, Part V., p. 12), Mr. Graham said:

“ The difference between *t* and *d* shows that it is a disadvantage to write with a heavy hand—that the heavy lines should be barely distinguished from the light lines, which should be made very light. ”

Mr. Isaac S. Dement, the winner of the first reporters’ speed contest in the United States, said after the contest (*Phonographic World*, September, 1887):

“ I wish also to say here that I think this light-line system is the true one, and will be thoroughly demonstrated to be the true one in time. ”

In the preface to the “Modern Stenographer,” Mr. George H. Thornton, former president of the New York State Stenographers’ Association and official reporter of the Supreme Court, New York, said:

“ It has finally become the experience of the most expert stenographers that outlines which depend upon shading for their legibility are in general unsafe outlines to adopt. ... If, as experience has taught, this shading of the outlines can be done away with, it is useless to tell a practical stenographer of the immense advantage in point of speed to be gained thereby. ... The essence of this principle is recognized by Mr. Munson in his “Complete Phonographer,” for he there says that increase of speed is attended with decrease of force, and therefore that all stems would be written as light as consistent with legibility. If this is true, the converse of the proposition most naturally follows, that the increase of force necessarily required in the shading of the outlines must be attended with decrease of speed. It is so apparent that a plain system can be written with a greatly increased rapidity that it is hardly worth while to demonstrate it. ”

Correct Shading Essential

The *Phonographic Magazine*, Cincinnati, Ohio (the organ of the Benn Pitman system) for May, 1889, has this frank admission:

“ Undoubtedly, there are many outlines which are recognizable from their general form without reference to shading—with the shading omitted, or even with the shaded and light strokes reversed. But such outlines are relatively few, and are only the forms of long words or of highly characteristic phrases. Thousands of words and phrases of only one and two strokes depend upon correct shading not only for ready legibility, but for a degree of legibility which enables the writer to read them at all. ”

In answer to a question from a correspondent who experienced difficulty in shading horizontal strokes—and he is not alone in that!—the *Phonographic Magazine* (October, 1904) gave the following elaborate suggestions:

The ordinary normal position of the hand in phonographic writing is such that both nibs of the pen may rest upon the paper with equal pressure. In shading horizontal strokes this position may be temporarily modified by very slightly rotating the penholder with the downward pressure of the thumb, so that the left nib shall press a little more heavily than the right nib. As soon as the stroke is executed, however, a contrary rotation of the penholder should bring the pen back to the normal position. Your only danger in carrying this hint into practice is that you may make the rotation of the holder and the consequent pressure on the left nib greater than necessary. The modification of the normal position should be very slight, indeed.

These quotations are from authors or expert writers of Pitmanic systems. In these systems shading is used chiefly as a means of distinction between the phonetic pairs, although as Mr. Hugh Limes has pointed out, “Pitman shades not only to distinguish similar consonants, but to add *p* to *m*, *r* to *l*, *ch* to *r*, and to give *n* a nasal intonation.”

Shading Used for Many Purposes

Shading has been used for many purposes in various systems. It has been used to express double letters; to add consonants, such as *h*, *r*, *s*, *t*; to add vowels; and to distinguish shades of vowel sounds. In the German systems it is generally used “to distinguish symbolically-indicated vowels, and also certain written vowels.”

As far back as 1856 Soper thickened letters to add *r*, calling it “the simultaneous *r*.” He was followed in this by J. G. Cross (1878), who called it “the coalescent *r*,” by Sloan (1882), Simson (1884), Barter and others. In Guest’s “Compendious Shorthand” thickening is used to add *t* or *d*, and lengthening is used to add *s*. It is usually claimed on behalf of systems in which shading is used for the purpose of adding a letter that this is an advantage, because they have less shading than in the Pitman system.

The most prominent of the systems applying shading for the addition of a letter is the Sloan-Duployan. There was no shading in the original French system, but as the outlines were very cumbersome, Mr. Shan, following the lead of Soper and Cross, introduced shading to express the letter *r*.

Shading Denounced by Those Who Use It

A pamphlet on behalf of Sloan-Duployan Shorthand, entitled “Revolution in Shorthand” (written and copyrighted by Mr. Thomas S. Malone, then the Glasgow agent for Sloan-Duployan and who later became identified with “Script Phonography”) claims that one of “the leading principles of structure from which the system derives its chief excellence” is “the absence of shading, or the use of light and heavy signs, which is only introduced by Mr. Sloan into his adaptation to meet a peculiarity of the English language with regard to one particular letter of constant recurrence.”

Then follows this succinct statement of the evils of shading:

“ The extensive use of the process of shading outlines, although very general in the old systems, is a most objectionable principle in shorthand, being an obstruction of speed if used, and a source of illegibility if neglected. ”

In the same paragraph the “monstrous ‘position’ principle in other systems, which gives to an outline a variety of meanings according to its position on the paper” is denounced. But, in the words of Kipling, that is another story.

Even more effective is the argument against shading contained in the “Reply to T. A. Reed’s Criticism of Sloan-Duployan Shorthand,” written by Mr. Malone, and published by the Sloan-Duployan Shorthand Association. The “Reply” says:

“After describing the alphabet he [Mr. Reed] remarks: ‘Nor do I find fault with the distinction between the two letters in each pair by length, although a good deal is lost in brevity by the absence of any distinction in thickness.’ However high may be Mr. Reed’s reputation as a shorthand writer, we unhesitatingly assert that here he utters a palpable fallacy obvious to the merest tyro in the art.”

That the absence of any distinction in *thickness of stroke accelerates* instead of *retarding* speed is a plain matter of fact, which it will require something more than the weight of Mr. Reed’s authority to controvert. Let the reader try the simple experiment of tracing the following two pairs of lines—the one distinguished by length and the other by thickness—and then judge of the soundness of the theory Mr. Reed gravely propounds. The former pair, it will be seen, in striking contrast to the eye are equally expeditious to the hand, while the latter necessitates the shading—a process most obstructive to rapid writing. Great indeed must be the blinding power of self-interest if so able a man as Mr. Reed can persuade himself that the absence of shading in a shorthand system is a defect.

And on the same page Mr. Malone, in speaking of some of the Duployan outlines, said:

“As they are free from shading and scarcely involve the principle of position, the facility with which they can be applied is self-evident.”

In his first lecture on “Script Phonography,” Mr. Malone said:

“Our next source of speed is the light, hair-stroke character of the writing, there being no shading, no thickening of the strokes, except with regard to one letter, and that the most common letter in the language, the letter s and, of course, its cognate z (or soft s).”

There is a characteristic confusion of ideas in this statement. Mr. Malone begins by claiming as a great merit of “Script Phonography” that there is little shading, and then goes on to say that shading is used for the “*most common letter in the language!*”

After the appearance of “Light-Line Phonography”—a system in which there was absolutely no shading—Mr. Malone made a “strategical retreat,” in these words:

“To the thoughtless and indolent, the total absence of any distinction between thick and thin lines in a system of shorthand may seem an attraction by the license afforded for dispensing with all discipline of hand movement and concentration of thought. To write in a slipshod, mechanical manner, without having to think appeals to some as a thing to be desired.”

My only comment on this is to repeat Mr. Malone's reference to Mr. Reed—"Great indeed must be the blinding power of self-interest."

Shading Always Detrimental

Shading is objectionable in whatever form it is used. It is more objectionable as an expedient for adding a letter (as in Sloan-Duployan, Script, Cross, etc.) than when it is used to distinguish between the phonetic pairs, as in the Pitman system. When it is used to distinguish the phonetic pairs, if the shading is not clear there is sometimes a slight clue to the word on account of the similarity of sounds. It is true, as stated in the quotation from the *Phonographic Magazine* already given, that "such outlines are relatively few, and are only the forms of long words or of highly characteristic phrases." But it does happen occasionally. In the case of systems where shading is used to add an important letter, if the shading is not clearly indicated, there is absolutely no indication that a letter is omitted.

The difficulty in some of these systems is intensified by the fact that the shading is applied to *upstrokes*, and even to *small circles and hooks*! Where an attempt is made to apply shading to minute characters, such as circles and hooks, the onward impulse of the pen is *checked abruptly* while the pressure is being applied to the minute character. After an abrupt pause of that kind it is difficult to regain momentum, just as it would be impossible for a runner to stop every hundred yards to pick up something and keep going at his maximum speed. The difficulty of applying shading to a small circle or hook, even when writing at a moderate speed, will be apparent to everyone; but when the writing is *rapid* it is almost impossible to apply shading to minute characters.

There are many systems in which *both* position-writing and shading are used to add consonants. When either of these hazardous expedients is not applied with precision, the reading of the notes depends upon the guessing ability of the reader; but when *both* expedients are applied to the *same character*, and neither applied with precision, the reader of the notes needs to be a super-guesser, so to speak.

Chapter 5

The Evolution of Shading

“ My contention is that it is not permissible to elaborate distinctions of thickness in one and the same stroke, by making it at one time thinner and at another thicker. Such a contrivance may be placed in its obvious light if we could imagine anyone proposing to abbreviate our ordinary writing by making the “k”, when written thick and heavily, to stand for “g”, and when thinned to be used for “k” or so that “Kate” would be written with a thin “k” and a thin “t”, and “giddy” with a thick “k” and a thick “t”!! ”

—Thomas Anderson

As you will have noticed, I have taken pains to show that shorthand principles have gone through a process of evolution. In tracing this process of evolution in shorthand we often find that an expedient, which is introduced in an incidental way in one system, has been expanded into an important basic principle in the structure of a later system, and we often find that when the principle has been applied to the limit of its possibilities there has sometimes come a reaction against it. Thickening of characters as a means of distinction between similar consonant sounds, is a good illustration of this.

As comparatively few people have given much thought to the origin of the expedient of thickening in shorthand, and its effects upon the history of shorthand when extended from an *expedient to a principle*, I am going to explain it somewhat fully.

The Origin of “Shading”

The first use of shading to distinguish between pairs of consonants has been generally attributed to the Harding edition of the Taylor system. Harding’s first edition was published in 1823, and, as will be seen from a quotation given later in this chapter, Isaac Pitman studied shorthand from the Harding edition of the Taylor system and wrote it for seven years. Probably this is why the introduction of shading for the purpose of distinguishing between pairs has been very generally attributed to Harding.

While writing this series of articles I had occasion to refer to Molineux’s “Introduction to Byrom’s Shorthand,” and in it I found the following sentences:

“ The next consonant, it may be observed, is *f* or *v*, the latter being in general represented by the same mark as *j*; though, occasionally, it may be useful to distinguish from the former by making a stroke a LITTLE THICKER. ”

A similar distinction is also occasionally made, whenever it may appear either useful or necessary, between the letters *s* and *z*, which, having the same power, are generally signified by one

and the same horizontal straight line. When they are distinguished from each other, the letter *z* is made a little thicker than the *s*.

The book from which I have quoted this is the Fifth Edition, published in 1821; but probably the same statement appeared in the previous editions, the first of which was published in 1796. As Harding's first edition of Samuel Taylor's system was published in 1823, it seems clear that he derived this means of distinction between pairs from Molineux or Byrom—especially as the distinction is made for the same pairs—*f* and *v*; *s* and *z*—as in Molineux's edition of Byrom's system.

In his "History of Shorthand" Isaac Pitman quotes approvingly from the review of Byrom's system by Lewis, in which he says:

“ In order to assist the learner he [Byrom] classifies the letters in the following manner, according to their affinity of sound or their labial connection: *p, b; f, v; s, z; sh, zh; t, d; th, dh; k, g; ch, j; m, n; l, r; h.* ”

Isaac Pitman, having been familiar with this method of using shading as a means of distinguishing between some of the cognates through his practice of Harding's edition of the Taylor system, expanded it to a general principle for the purpose of distinguishing all phonetic pairs of letters.

A Retrograde Step

I regard it as extremely unfortunate for the progress of shorthand that Isaac Pitman studied the Harding edition of the Taylor system. If he had not done so, the history of shorthand for more than half a century might have been entirely different, and the art might now be part of the education of every child. Think what that would have meant to the world! The saving in time and effort effected for millions of people, to say nothing of the educational advantages that would have been derived by all who studied the subject, simply staggers the imagination.

By the extension of thickening to nearly all the phonetic pairs as a means of distinction, the progress of the art was deflected from its natural course for more than half a century. I say this because I am thoroughly convinced that the real source of most of the "complexities, perplexities, and eccentricities" of Pitman's Shorthand, which have prevented it from becoming almost universal, is to be found in the introduction of shading to distinguish the phonetic pairs. I hope to make this so clear as to carry conviction to the mind of the impartial reader.

To begin, then, at the very beginning: "The Life of Sir Isaac Pitman," published by Isaac Pitman & Sons, says:

“ Phonography, he long afterwards wrote, with all the intellectual and social benefits that follow in its train, has resulted from the seemingly trifling circumstance that the author, at the age of seventeen, learned Taylor's system of shorthand from Harding's edition and that he was incited to the study chiefly by the persual of the eloquent enumeration of some of the advantages arising from the practice of the art, from the pen of Mr. Gawtress, the publisher of an improved edition of Byrom's system. ”

Mr. Andrew J. Graham, author of the “Graham Standard Phonography,” in the *Phonographic World* for August, 1889, pointed out that the use of shading, as a means of distinction between the phonetic pairs of letters, was suggested by Mr. Pitman’s previous use of the Harding edition of the Taylor system. Mr. Graham said:

“Isaac Pitman, by his own acknowledgment, used Taylor’s system for seven years prior to the publication of his “Stenographic Sound Hand.” Taylor’s system was published in 1786, and in 1823 there was published an improvement upon it by Harding and it is my impression that Isaac Pitman acknowledges in some of his works that that was the system he used for seven years. Although Mr. Pitman has never made any acknowledgment of his indebtedness to Harding for the most important principles of “Phonography,” we find in his 1837 edition that he copied the most important of these from Harding’s book; and these were the method of representing vowels by dots and dashes and of distinguishing pairs of letters by pairs of light and heavy signs, as *f, v; s, z*. (Pitman’s *Phonotypic Journal*, Vol. VI., 1847, p. 340). Mr. Pitman publicly acknowledged that to one familiar with these representations of this idea it was but child’s play, with the relations of the consonants of the language generally known, to *apply this* important principle in his alphabet; as, in the “First Edition” (1837), *p, b, t, d, ch, j, k, g, f, v, s, z*. ”

[Mr. Graham then gave shorthand illustrations showing how closely Mr. Pitman followed Harding in the arrangement of the consonants in his 1837 edition.]

In fine, Isaac Pitman in 1837 copied Harding’s alphabet, with its important characteristics, more closely than he has his own 1837 alphabet, in several editions since.

In addition, Mr. Pitman appropriated from Harding the plan of writing words in *three* different positions, to imply first-position, second-position, or third-position vowels. See Harding’s book (1830) p. 24, last paragraph but one. Also Harding’s plan of writing the vowels to preceding or following consonants and the plan of reckoning the position from the beginning or direction of the consonant.

Mr. Graham then states that Isaac Pitman was indebted to Harding for:

1. Similar or paired signs for similar or paired sounds. As to discovering these relations of the consonants they were completely known to phonologists from 1787 (in Rev. William Graham’s *Shorthand*, in Byrom’s system, and in Harding’s).
2. The arrangement of vowels into two classes, one part represented by dots, and the other by dashes, in three different places, with a determination of the order in which those vowels were to be placed, to read before or after; and as to the direction of the strokes.

Mr. Graham’s article is interesting, although it is marred by personal malevolence towards the author of Phonography.

Phonetic Pairing Very Old

As emphasis is placed in the foregoing quotation on the pairing of sounds, we may point out that Mr. Graham could have quoted earlier instances of pairing than those he mentioned. The

following quotation from “The Life and Labors of Sir Isaac Pitman,” by Benn Pitman, is valuable in this connection:

“It is a curious incident in Stenographic history that the exact order of Isaac Pitman’s simple-vowel scheme, and *to a great extent the pairing of the consonants*, was anticipated in one system of Shorthand, namely, that by Holdsworth and Aldridge, joint authors of “Natural Shorthand,” published in 1766. ... It was the first brief system of writing in which the phonetic principle and a full alphabet were recognized.”

In extending Harding’s expedient to all the pairs Mr. Pitman found it necessary to give the downward directions to nearly all the frequent pairs of letters, since shading could not be applied with ease or certainty to upstrokes. Therefore Mr. Pitman assigned downward characters to some of the most common pairs of letters—*t, d, p, b, f, v, s, z, sh, zh, th, dh, r, l*. This resulted in a constant downward tendency in the writing, and to counteract this preponderating downward tendency Mr. Pitman provided some of the letters with alternative forms which were written upwards. In the introduction of these alternative forms to patch up a defect in the arrangement of the alphabet—a defect which was a direct outcome of the use of shading to distinguish similar consonants—is to be found the origin of most of the complications of Pitman’s Shorthand.

Evil Effects of “Shading”

To return to the arrangement of the Pitman alphabet: The upward straight line was assigned to *r* (only one form of *r*), one upward curve to *l* (only one form of *l*), the other upward curve to *sh* (only one form of *sh*); the horizontal straight facile line was assigned to comparatively infrequent *k, g*; and the horizontal curves to *n, ng, m, mp*. Just compare the importance of these letters, and you will see at once that “stenographic balance” (or lineal writing) is absolutely impossible when so many frequently-occurring letters are written downwards. Remember, too, that *t, d, p, b, s, z, th*, are ALWAYS written in a downward direction and that the three upward characters, *r, l, sh*, are as often written downward as upward, and you will get an idea of what I meant about the evil effects that the introduction of shading had upon shorthand construction.

In his “Note-Taker” (published in 1873) D. P. Lindsley pointed out that in Pitmanic Shorthand it was possible to write the combination *strd* in *twenty ways*. He said:

“It is not easy to employ the best form for a word when several possible forms occur to the mind. For example, suppose that a word containing the letters *s t r d* is to be written. The form may be varied in more than a dozen ways, retaining the letters in the same order. In the following words, the only consonants written by the Phonographers are *s t r d*; yet each word is written in a different way, as follows: Then followed the outlines for these words: *Saturday, steward, stride, strayed, astrayed, astride, eastward, yesterday, sturdy, stirred, storied, star-eyed, asteroid*.

Were the forms given above all the forms from which the student must choose in writing words containing these letters, the difficulty would not be so great as it really is; for, besides these legitimate outlines there are *eight* others, which are not recommended for use, yet are quite as likely to be chosen by the young writer, who must choose between twenty possible outlines to find the correct one.”

Since the above was written the “Committee on Shorthand Standards” of the New York State Shorthand Reporters’ Association has declared that the “compound consonant devices of Pitmanic shorthand contribute not a little to its weakness through being pushed too far.” Says the committee:

“This factor more than any other is lost sight of by the writer of mature experience. To realize its importance you must by a conscious effort set aside the unconscious familiarity acquired by thorough training and long experience and look with the open mind and inquiring eye of the shorthand novice about to be initiated into the mysteries of the shorthand art.

“Consider these eight signs, with their respective meanings:

s	thr	z	thr	r	fr	w*	vr
))))))))

*The Benn Pitman form for *W* is used.

No explanation however ingenious can evade the confusion of the student on learning that a stem which, through every other variation of half or double length, final hooks, loops, or circles, is consistently *S* or some systematic addition to *S*, here stands for the *S*-less compound *thr*—and similarly for the other three pairs of stems.

Consider the consonant sequence *str*

}	}	}	}	}	}
))))))

Here are twelve different representations provided, of which every writer will use at least a majority at one time or another. By any standard of the relative frequency of the combination or of the component sounds this is an overbalanced and wasteful use of material, contributing more to mental hesitation than to facility.

Consider, for a final illustration, the double length device used for *te*; *der*, and *ther* on all strokes, for *ker*, *ger*, and *er*, in addition on some strokes, with a sentiment rapidly crystallizing in favor of using it for *ted* on all strokes as well. In professional shorthand writing almost any device or sign may or must be expected to ‘carry double,’ but reasonable limitations must be observed if positive legibility, the final test of any system, style or writer, is to be maintained.”

Experienced writers of Pitman’s Shorthand frankly admit that the numerous alternative forms for letters in that system are a fruitful source of hesitancy and uncertainty in writing. Few of them, I believe, have traced the necessity for these alternatives to the original source—the introduction of shading to distinguish the

phonetic pairs. This defect in the system has been so well recognized by the Pitman firm that there has been a strenuous effort to create a feeling of reverence for these alternatives as perfect marvels of scientific ingenuity. A favorite method of camouflage is to speak of the “wealth of material” represented by these alternatives. ☹

Alternatives Responsible for “Breakdowns”

As illustrations of the amusing manner in which the publishers of Isaac Pitman Shorthand seek to defend the use of alternative signs for the characters, I give two quotations. The first is from an article on “Alternatives in Pitman’s Shorthand,” which appeared in Pitman’s Journal for July 26, 1919:

“ One of the features that conspicuously distinguish Pitman’s Shorthand from inferior systems is the provision of alternative forms for the representation of individual consonants. ... Failure to grasp or to recognize the full significance of the rules which govern the employment of various alternatives is responsible for many an examination breakdown. It cannot be too often repeated that it is wise on the part of every student, when he or she has gone through the adopted textbook or attended a complete course of instruction, to go through the system again from the beginning. The early rules will now be seen in the new light. Little things that had been overlooked or imperfectly mastered will reveal their real importance, which was perhaps less obvious on the first perusal. The great value of the alternative forms would be brought out by a critical scrutiny such as is here recommended. And the necessity of availing oneself fully of those alternatives will be driven home with a force that was not felt originally...

Let the intelligent, critical student ask himself why it proves beneficial in practice to use sometimes a stroke and sometimes a circle to represent *s*; why it is useful to be able in some instances to write *r* or *sh* from the bottom upwards and in other instances to write those letters from the top downwards; why it is valuable to indicate an added *t* or *d* by halving, and why in certain cases it is preferable to employ the full-stroke forms to represent those letters; or how it is that legibility and fluency are promoted by the use of hooks for *r*, *l*, *f*, and *v*, in addition to the alphabetic characters; or what is the precise gain secured by the various modes of representing the aspirate, and he will soon find that he is launched on a fruitful intellectual inquiry. He will be brought into close and intimate contact with some striking facts of the language and of the raw material from which all shorthand writing is built up. ☹

“Facing Facts”

The same journal for September 17, 1921, which I have just received, contains an article under the title, “Pitman’s Shorthand and its Facile Word-Forms,” which I give in full:

“ The student of Pitman’s Shorthand, when he has discovered how efficaciously the use of alternative characters to represent a single consonant serves the purpose of vowel indication, is prone to apply the method universally. To be able from the mere form of a consonant character to tell infallibly whether an unwritten vowel precedes or follows it, or whether a vowel is or is not to be read between two successive consonants, comes as a revelation of hitherto unsuspected possibility of handwriting. The beginner had encountered nothing like it in learning shorthand. And he is justifiably fascinated. He has found out for the first time how to make two blades of grass grow where one grew before. His enthusiasm is diverted into a new channel when his teacher begins to invite his serious attention to another powerful tendency in this system. Alternative signs, he begins to perceive, serve another purpose also. Shorthand is not merely a method of brief writing. It is a method of rapid writing. The twin requirements of legibility and speed have to be provided for; and since all possible combinations of geometric forms are not equally capable of being made with perfect accuracy at speed, there are instances in which it becomes imperative to select the form that does fulfill that requirement. Ease of writing then becomes the paramount consideration. And so the student having learnt, for instance, that a downward *r* indicates a preceding vowel and that an upward *r* indicates that a vowel follows, is made aware that another indispensable need compels him sometimes to subordinate the principle of vowel-indication to that of facility of writing. The upward *r* in *arch*, *artist*, *answer* and *officer*, and the downward *r* in *room*, *remain*, and *romance*, show how Pitman’s Shorthand faces facts. ”

Any intelligent reader will know why the Pitman publishers feel it so necessary to assume an attitude of profound admiration for alternative characters, and to go into ecstasies over the manner in which their system “faces facts.” The truth is that it is because they are face to face with facts that such articles appear in almost every number of their publications.

The consequence of the introduction of shading, to distinguish the common phonetic pairs, is that instead of having a fluent, onward, lineal movement the tendency of the Pitman writing is invariably downward. It is almost impossible to write any long word in Pitman’s Shorthand from the alphabet without the writing descending two, three, and sometimes four strokes, below the line of writing. This explains why all the early lessons in Pitman’s Shorthand consist almost exclusively of monosyllables. *Very few long words are ever written from the alphabet in Pitmanic shorthand.*

Alternative Forms a Hindrance

Writing on this subject in the *Gregg Shorthand Magazine* for November, 1914, Mr. E. P. Aust (of Bath) said:

“ But whatever passage is chosen, the alphabetic character of Gregg will always stand out as one of its strongest features.

It must be a very common experience of Pitman teachers, after explaining to and drilling their students in one of the many modifications of the Pitman alphabet, each with its numerous rules and exceptions, to find them continuing to write alphabetically. The average student, when he has to write a new word, writes it alphabetically, and generally lets it stay at that. And if the case of the reporter (recently quoted by you) who wrote *reference* in full is at all typical, this sort of thing is not confined to learners. In the case of the learner, at any rate, I think it is a perfectly natural and logical error. The Gregg student will, of course, act in precisely the same way, save that he will use the vowels as well; but generally, unlike the case of the Pitman learner, the resulting outline will be correct, or nearly so. I went into my Gregg class the other day, and found them trying—they were all beginners—to write their names in Gregg. There were some, of course, who had not gone far enough to do this, but quite a number of the students succeeded. They had simply used their alphabet. ☺

Within the past week I received a letter from a gentleman in England who is known to shorthand teachers everywhere as a foremost authority on Pitman's Shorthand, but whose name I cannot give without his permission. Among other things he said:

“ After giving this time to Gregg Shorthand and understanding something of its structure and beauty—you do well to speak of Gregg artists—I find that the angular outlines of Pitman are positively repellent—they offend my artistic eye. Certainly you have a very beautiful system, compared with which Pitman is cold and dead. ☺

That paragraph would have gone in the first chapter had I received it in time. The next paragraph has a more direct bearing on the point discussed by Mr. Aust:

“ The great asset of Gregg, apart from its fluent, script characteristic, is to my mind, that a very wide vocabulary is available early; there is more shorthand material in the first seven lessons of your Manual than in the whole of the Pitman Manual. ☺

Another Evil of Shading

Among my correspondents many years ago was a talented and experienced journalist who had used Pitman's Shorthand for more than thirty years as a reporter. The gentleman to whom I refer, Mr. J. L. Cobbin, of Cape Town, South Africa, had published an improvement on Pitman's Shorthand under the title, “The Student's Shorthand”; and papers from his pen were read and discussed with great interest at the meetings of the famous “Shorthand Society,” of London. Some of the American shorthand publications of that time also gave considerable space to his views on shorthand matters.

It is not known to the profession that shortly before his death Mr. Cobbin became intensely interested in our system, and sent me many warm commendations of it—interspersed, I must admit, with pleas for the retention of certain Pitmanic features to which long habit had accus-

tomed him. His letters contained many acute and philosophic reflections about shorthand systems and shorthand principles. Among other things, he said: “Your shorthand, I can plainly see, will endure a great amount of scribbling without becoming illegible. This is a high recommendation, evident at a glance to any practical shorthand writer—the mere amateur’s opinion I consider as utterly valueless.” He then went on to say:

“The very worst fault in Pitman’s Shorthand is caused by an insufficient provision being made for re-duplicating certain consonants, such as *t, d, p, b, k, g, ch, j*, and compelling the writer either to make a double-length stroke thick in one half and thin in the other or vice versa, or to sacrifice phonetic propriety by substituting one letter for another or making the whole line of one thickness. Such outlines, for instance, as *pb, bp, td, dt, kg, chj, jch*, are intolerable; and yet there are many words in which they must be written in Pitman’s Shorthand. Happily your shorthand abhors such monstrosities. ”

Incessant Changes Due to Shading

If you trace the many changes that have been made in the Isaac Pitman system—averaging an important change for every three years of its existence, as has been shown by Dr. William D. Bridge—you will find that most of them are due to an effort to keep the writing to the line. This is true also of many of the reporting contractions that have been adopted.

To remedy the fundamental defects in the system Isaac Pitman built up a supplementary alphabet of alternative forms. The result is that *r* can be written in Pitman’s Shorthand in three different ways: an upward stroke, a downward stroke, and a hook; *l* also has three characters; *sh* can be written in two ways—upward or downward; the unimportant *h* has four characters (and two of these are compound characters); *s* has two characters; *t* and *d* can each be expressed in two ways, and so can *f, v, and n*; while *w* and *y*, in addition to the signs used to represent them (compound signs, too), can each be prefixed to other letters in six different ways!

Other Evils Follow

On account of the insertion of the vowels it is not necessary in our system to have special signs for *w* and *y*, but in the Pitman scheme not only are separate—and compound signs—assigned to these letters, but as these are inadequate, a clumsy expedient is introduced by which *w* and *y* are each prefixed to vowels in six different ways!

Speaking of the absurdity of expressing the aspirate (which Mr. Pitman described as “*a mere breathing*”) in four different ways—by two *compound* characters, a tick and a dot—this naïve passage in Pitman’s Handbook for Shorthand Teachers will be read with amusement by many of our readers:

“The very wealth of Phonography is sometimes the cause of perplexity to beginners. They are so accustomed to writing a letter in longhand always the same way that when they discover that the aspirate may be written in Phonography in four ways, they do not readily grasp the idea. ”

I have mentioned twelve letters which are represented in Pitman's Shorthand by no less than thirty-six characters or expedients. In view of this profusion of alternatives it is more than surprising that Isaac Pitman, in criticizing the system of Samuel Taylor, should say:

“Two forms should never be given to one letter except from manifest necessity, and such necessity should be avoided as much as possible in the construction of the system; because, with respect to every word containing any such letter it becomes necessary to determine by practice which of the several forms of the letter is most judicious in that particular word. Though this is an advantage in giving a variety of outlines to the words, yet when the principle is extended to a great many letters, the toil is greater than the reward.”

The views of the author of Phonography on this subject will be approved by every experienced shorthand writer. And it embodies the strongest of all arguments against Pitman's Shorthand.

His brother, Benn Pitman, in his “Manual of Phonography,” Par. 239-240, in speaking of outline formation, said:

“Since *p, b, t, d, f, v, s, z, sh, zh, l, r, n, w, y,* and *h* are represented in Phonography in more than one way, it is obvious that many words may be written with several possible outlines. The word abbreviation, for instance, has no less than twenty possible forms, though, of course, only a few of them are at all practical.

The difficulty of choosing the best from among various possible outlines causes, perhaps, more embarrassment to the average student of Phonography than any other one point, and is best overcome by repeatedly reading and copying printed phonographic publications, and by consulting the Phonographic Dictionary, when a doubt arises, while writing original matter.”

“Waste of Material”

When you hear anyone repeat, parrot-like, something about the “wealth of material” in Pitman's Shorthand, or assert that there is a “waste of material” in systems written with the slope of longhand, just point to the awful waste of material involved in providing twelve consonants with thirty-six methods of representation!

The selection, by Mr. Pitman, of the vertical stroke to express *t* and its cognate, *d*, was particularly unfortunate. As *t* is one of the three most common consonants in the language, its expression by a vertical stroke gave a downward tendency to the writing, as anyone can easily ascertain by an examination of a page of Pitman writing. In an effort to remedy this, there was introduced what I consider to be the most illogical device to be found in any system of shorthand—the half-length expedient. For the information of those who have not studied Pitman's Shorthand it may be well to explain that in the Pitman system when a letter is written half its usual length it is supposed to add *t* or *d*. As someone expressed it, you “subtract to multiply.”

“Multiplication by Subtraction”

Consider what this means. Manifestly a single letter is vastly more frequent than any combination of it with another letter; thus, the letter *p* probably occurs fifty or one hundred times where *pt* occurs once. Yet by the halving expedient the *shorter sign is assigned to the combination* and not to the *single letter*.

From the standpoint of logic, the halving expedient is absolutely indefensible. It is merely an attempt to patch up an organic defect in the construction of the alphabet. But towards it, too, there has been a consistent effort to create a spirit of reverence. Anything that is abstruse and long established is accepted by many people without question when it is called “scientific”!

In the *Phonographic World* for February, 1891, Mr. Justin Gilbert, official reporter, Boise City, Idaho, advises the shorthand author “to look well to it that each principle in his system is applied in such a manner as to afford the greatest possible benefit to the reporter and amanuensis. That the principle of halving to add *t* or *d* is NOT so applied is evident, as will be seen at even a casual glance. The principle as it is now used is a very useful one, of course, but if applied in another direction it would be made more than five times as useful.”

A very talented Isaac Pitman reporter, Mr. George Farnell, in a paper on “The Struggle for Existence in Shorthand Material,” which was read before the New England Shorthand Reporters’ Association in 1900, said:

“ The halving of a letter was an old and well-tried expedient long before Mr. Pitman’s time, but theretofore had not been made use of for the purpose of addition. ”

With an alphabet such as just referred to, the phonographer is enabled to violate, with impunity, a fundamental rule of mathematics, and add to the meaning of a character by taking away something from it; in other words, to perpetuate the paradox of making addition by subtraction.

The admission that the halving principle “violates a fundamental rule of mathematics” is hardly consistent with the claim that Pitman’s Shorthand is the embodiment of “Nature, Science, and History!” Mr. Farnell, however, is more philosophic and decidedly more candid than most Pitmanic advocates, for he ends his paper with these words:

“ While, personally, I cannot think that better systems are not possible, yet I admit to the weakness that I would leave the discovery of better systems to others, being content with present shortcomings, if there are any, rather than fly to others that I know not of. ”

I repeat that the use of all these alternatives is the source of a very large percentage of the complication and indefiniteness of Pitman’s Shorthand. Had the alphabet been selected without the necessity of striking the most common pairs downward—a *necessity due to the introduction of shading*—there would have been no need of all these alternatives, and therefore no need for the innumerable rules, and exceptions to rules, that abound in Pitman’s Shorthand.

Because our system, like longhand, is free from compulsory shading, it can be written with greater freedom and with greater speed than any of the shaded systems. And, to a great extent, its remarkable legibility is due to the absence of many of the fine distinctions required by any system in which shading is applied for any purpose.

Before leaving this part of the subject it may be well to point out that the loss of time caused by shading is not due entirely to the process of thickening the characters. There are two other causes of loss of time: one is the extreme difficulty of executing *in rapid succession* light and heavy characters; and the other is the slight (but perceptible) pause which must necessarily take place after each shaded character. The greater freedom of mind and hand secured through the elimination of the necessity for observing different degrees of pressure will be apparent to any one.

Mr. Thomas Allen Reed, in discussing brevity of outline, once said: "There are inflections and inflections. Twenty easy inflections may be written more rapidly than a dozen difficult ones with awkward joinings. The easy flow of a system is one of its more practical elements." That is an opinion that will be endorsed by every experienced reporter; and there is nothing that contributes more to the "easy flow" of the writing than the elimination of thickened characters.

Chapter 6

“To Shade or Not to Shade”

SINCE the last two chapters were written there has been a discussion of this subject under the above title at a meeting of the National Shorthand Reporters’ Association.

As a supplement to what I have written I am printing the remarks I made in the course of the discussion:

“ MR. PRESIDENT, I think you will realize that this is a subject in which I am particularly interested. I ask your permission to say a few words on the subject. ”

It is a truism to say that we are creatures of habit—habit of thought and habit of practice. I believe that in shorthand matters this is particularly true. The practice of a particular style of shorthand for a long time seems to create both mental and physical grooves which render it almost impossible to think of other principles or other forms than those with which we are familiar.

Shorthand Systems the Product of Youth

This is strikingly illustrated in shorthand by the fact that there has been no system of shorthand produced in any country that has achieved any marked success which was not published soon after its author was out of his teens; that is to say, before he became so fully imbued with certain principles or with certain methods of writing that it was impossible for him to dissociate his thoughts from them. As the late Charles Currier Beale pointed out at one of these conventions, Isaac Pitman published his system at the age of twenty-four. Even the most original of the modifiers of the Pitman system, Mr. Graham and Mr. Munson, published their first works when they were twenty-four and twenty-nine respectively. Duployé, the author of the most popular of the French systems, was twenty-six when he first published his system, and Gabelsberger, the author of the most popular of the German systems, was twenty-seven, when after years of study he produced his great system. Incidentally I may mention that my system was published when I was twenty.

I have no hope of convincing many of you of the great advantages which I believe are derived from the abolition of shading, simply because long practice has accustomed you to it; but I do believe I can at least set some of you to thinking about the subject in a way in which perhaps you have not thought about it before.

What I have said about habits of thought and practice are shown in the case of the previous speaker. He has been a writer and advocate of Lindsley’s Takigrafy for many years. The result is seen in all that he has written, and in the paper he has just read. Lindsley’s Takigrafy was largely a modification of a Pitmanic system with these important variations—connective vowels and greater lineality, the latter being secured by the adoption of horizontal characters for *t*, *d*, and *s*, *z*.

Where Pitmanic theory and practice is in accordance with Takigrafy, he endorses Pitmanic with enthusiasm; where Takigrafy differs from Phonography he endorses the Lindsley theory of practice. For instance, he condemns the use of the downward right diagonal (*ch* in Pitman) and the upward oblique (*ray* in Pitman) for different purposes. Why? Simply because Lindsley's Takigrafy uses that character written *either* upward or downward for the same purpose.

Now I contend, and I believe that most of you will agree with me, whatever system you write, that there is much more danger of confusing the vertical *t* with the oblique characters *p* or *ch*, in rapid writing than there is of confusing *ch* and *r*. The characters for *ch* and *r* differ not only in direction and slant but they are very seldom standing alone either in Pitmanic shorthand or in Gregg shorthand. That is just an illustration of how long practice of Takigrafy has given a mental bias to his views of others systems.

The Question of Shading

Much that has been said is absolutely irrelevant to the subject, but I shall try to keep myself strictly to the point at issue—shading. It all resolves itself into a question of loss and gain. I do not suppose that I need to argue that it takes longer to make a thick character than a light character. Mr. Andrew J. Graham stated that his investigations showed that it required ten percent more time to make a shaded character than to make a light character. Mr. McDermut, of Chicago, one of our most valued members, who passed away last year, stated that his investigations had convinced him that Mr. Graham had placed too low a figure on the loss occasioned by shading, which he said was at least thirty percent. Suppose we put it at twenty percent.

All Script Systems Not Light Line

The previous speaker referred to “script systems” as if all script systems were light-line systems. As a matter of fact, all the script systems that appeared before the publication of my system were shaded systems; since then there have been two or three imitations of our system without shading. The question of shading has nothing to do with the script or cursive style of shorthand. On the other hand, there have been Pitmanic systems free from shading. For instance, there is a light-line shorthand by Mr. Thornton, an official reporter of high standing in Buffalo—and with whom I had the pleasure of dining a short time ago—and I learned today that it is represented by an official reporter who is at this meeting. Now Mr. Thornton's system is a Pitmanic shorthand, but it is free from shading, and Mr. Thornton claims an advantage on that account of twenty-five percent in facility of writing. But, as I said before, let us put it at twenty percent.

There is a factor, too, that is not often taken into account in considering these things, and that is the pause which must necessarily take place after each shaded character. It is very slight, but the hand must adjust itself to varying degrees of pressure. This is especially noticeable where straight characters are written in the same direction, one shaded and the next light, or vice versa, as in the case of *bp*, or *pb*, *kg*, or *gk*, or *dt*.

How Shading Affects Lineality

The next factor is that of lineality or horizontality. In a statement made somewhere else by

the previous speaker, he said that the horizontality of the writing in our system was “phenomenally high, over 90 percent, giving a remarkably close adherence to the normal line of writing,” while the writing in Pitmanic shorthand had less than fifty percent of horizontality. Now what does that mean? It means that in writing our system the hand of the writer at the end of a word-form or phrase-form is in position to begin the next one. There are much fewer ineffectual movements. You will all recognize the importance of that. Suppose we put the gain in that respect at ten percent, which I think is a very conservative figure. That makes a gain of thirty percent.

Perhaps you do not see what bearing the absence of shading has on the question of lineality. Well, the history of the shading principle as generally used is a very interesting one. Isaac Pitman has stated that he had been a writer of Taylor’s system, which he learned from the Harding edition of that system. Harding distinguished *r* from *l* and *z* from *s* by shading—you will find the full story of this in Graham’s *Student’s Journal*—and Mr. Pitman in telling the story of the invention of the system said that it immediately occurred to him to extend this method of distinguishing letters to all the phonetic pairs. In carrying out that idea he naturally gave the most frequent pairs of letters the downward direction, since shading could not be applied to upward characters very well, or even to horizontal characters with any facility. As you know, the result has been that many of the most frequent letters are struck downward, like *t*, *d*, *s*, *z*, one of the forms for *l* and one of the forms for *r*. That is why the writing in Pitmanic shorthand always tends downward.

It is true that Takigrafiy has greater lineality than Pitmanic shorthand, which I think explains the emphasis placed on that point by the previous speaker, but in Takigrafiy it is obtained with an increase in the number of shaded strokes in a horizontal direction. I think I am perfectly safe in saying that, even if you approve of shading as a sort of “necessary evil,” you would not care to increase the number of shaded characters in a *horizontal* direction. On account of the absence of shading I was able to select horizontal lines to represent some of the most numerous letters, *n*, *m*, *r*, *l*, which accounts for the phenomenally high degree of horizontality in our writing.

Shading an Arbitrary Expedient

The previous speaker made a somewhat elaborate argument to demonstrate that it was more natural to distinguish the phonetic pairs by shading. It may seem more natural to him because long practice has made it familiar to him. I believe it is more natural to both mind and hand to distinguish by *length*. It is very natural to say and to think that “as the sound strengthens the stroke lengthens.” It is certainly more natural to the hand to make the distinction by lengthening, since that is the method used in longhand in distinguishing *e* from *l*, and so forth; and in longhand writing there is no such thing as *compulsory* shading.

These are some of the gains, just *some* of them, from the elimination of shading. I need hardly speak of the freedom of mind and hand which the absence of shading must give. That will have occurred to all of you.

The Halving Expedient Discussed

Now what do we *lose* through the abolition of shading? Simply the half-lengthening expedient to add *t* or *d*. I wonder how many of you ever analyzed how much is gained by the halving expedient. The purpose of it is not so much the addition of *t* or *d* as the keeping of the writing to the line. Without the halving principle the entire body of the writing would tend downward. The previous speaker has stated that the horizontality in Pitmanic shorthand was less than fifty percent. Without the halving principle, it would be much less, as you will all realize.

The argument as stated was that as we used the half-length for the first letter of the pairs, that is *p*, *t*, etc., and the full length for *b*, *d*, etc., we were losing time in making the longer character. Besides this, he said, we cannot add *t* or *d* by halving. Very good. Let us examine that statement.

The first point I would make is this: that *all* the *alphabetic characters* in Pitmanic Shorthand are *full length* strokes. Mr. Graham computed that a full-length could be written only ninety-five times while a half-length was being written one hundred times. We have therefore, a decided advantage in that fact, because one-half of the alphabetic characters in our system are half-length, and these characters for *t*, *p*, *f*, *r*, *n*, etc., *are far more frequent than the full-length letters*.

Is the Halving Expedient Logical?

Next, what does the half-length represent in Pitmanic shorthand? This character [illustrating] represents *p*; when it is written half-length it becomes *pt*. In other words, the half-length is assigned to the less *useful purpose*, because manifestly the combination *pt* is not nearly so frequent as the single letter *p*. Did you ever think of that?

As one writer expressed it, you “subtract to multiply.” It is not logical or natural to do this. There was an article in the *Phonographic World* many years ago—I think in 1893—called “The Requiem of the Halving Principle,” by a Mr. John H. Hotson, an accomplished Pitmanic writer. Mr. Hotson built up his argument from the basis of Mr. Graham’s computation about short and long characters, to show that if all the basic characters of the phonetic pairs are represented by *half-lengths* and *t* and *d* added by *lengthening* instead of halving, there would be a great gain in compactness and facility. The article was illustrated by comparisons of matter written both ways. Personally, I think that Mr. Hotson’s theory is absolutely correct in practice, and it certainly is logical.

[Since this discussion I have looked up Mr. Hotson’s article “The Requiem of the Halving Principle,” *Phonographic World*, April, 1894, and the following quotation from it will make his argument clear to the reader:

“By incontrovertible calculations from indisputable facts and figures published by Mr. A. J. Graham in his “Handbook,” I worked out, in an article entitled “Comparative Brevity,” in the July (1893) number of the *Phonographic World*, results showing the comparative length of time occupied in writing every stroke and character entering into the composition of shorthand. For example, the time occupied in writing an initial small hook was found to be half of the time occupied in writing a full-length stroke; a small circle was found to equal 70 percent of a stroke; a lifting was found to consume 36 percent of the time taken to write a full-

length stroke; a half-length stroke was found to consume 92 percent of the time of a full-length stroke, etc., etc. It is from these facts that I propose to prove that the halving principle is an utter failure in producing real brevity. ♡

If the halving principle were abolished entirely from a system in which it is now used, the alphabetical stroke would become the smallest stem stroke, and the present full-lengths could then be written the size of the present half-lengths, thus effecting a saving in point of time of 8 percent on every one of such present full-lengths.]

How often can you apply the halving principle? One writer who made a careful analysis of Graham writing, in which the use of the expedient is pushed to a greater extreme than in any other system, stated that it could be used only in about sixty percent of all the occurrences of *t* or *d*. In Taylor's *Commentary on Pitman Shorthand*, published by Isaac Pitman & Sons, there are, I believe, fifteen pages devoted to the explanation of when it *cannot* be used.

If it were not for the fact that it *helps* to keep the writing to the line in Pitmanic shorthand, the half-length expedient would not be worth what it costs even in Pitmanic shorthand.

Variable Lengths

Before leaving this subject I should like to take exception to the constant reference to "triple lengths" in Pitmanic Shorthand. In reality there are four lengths in constant use, and occasionally a fifth length. There are but three lengths in our system. In Isaac Pitman Shorthand there are the following outlines [illustrating] for *due*, *admit*, *deem*, *diameter*, in four lengths. You can write this: "You met my mother" (four lengths), or "You met my mother there" (five lengths), or "You met my lawyer's mother's motor there." I could go on illustrating this indefinitely.

Now, my friends, I do not expect many of you to understand fully all that I have said on this subject, or to agree with me, because you are not accustomed to a different mode of practice. All I ask is that you keep an open mind on the subject, remembering that all the alleged losses described are offset by advantages which, to my mind, far outweigh them. If it were true that the losses were very great, then our system would be a very slow system. But you know that it has been written in the contests held by this Association at 196 words a minute on solid matter, 237 words a minute on jury charge, and 268 on testimony, by a young man who was then only nineteen years of age, and who is to-day the official reporter to the President of the United States. And the system is young! There does not seem to be much loss on account of the elimination of shading in those records, does there?

Chapter 7

Joined Vowels

“ I have seen the time when I would have given the price of the transcript for a single vowel. ”

—Isaac S. Dement

“ The omission of the vowels is for the most part hazardous, and, indeed, to many a pupil, the pages he has just disfigured with such a system of writing have presented to his perplexed gaze little else than the appearance of a wilderness of vague forms—a confused convention of exasperating nonentities. ”

—Thomas Anderson

JOINED vowels have been used in shorthand systems from the beginning of the art. The Tironian Notes, which were used in reporting the orations of Cicero, employed joined-vowel signs, as did nearly all the early English systems.

Writing on this subject, a well-known teacher of shorthand said:

“ No one questions that consonants should be written in the order they are spoken in the word, and it is just as absurd that vowels should be written in as a disconnected afterthought as that they should be so spoken in a discourse or conversation, or that the words of a sentence should be subject to such vagaries. ”

To an orderly mind one of these departures from the natural order of expression is no more offensive or confusing than the other.

Writing, like speech, should be simple, direct, orderly, and continuous. If our position here is sound, we are forced to the use of connective vowels as being the only practicable method by which the sounds can be written in a word in the natural order in which they occur or are spoken, thus forming a continuous flow of *sound pictures*, grouped together in *word families* in such a way as to show their intimate relationship.

Importance of Vowels

The well-known reporter, Mr. Clyde H. Marshall, in an article on “The Mastery of Shorthand,” emphasizes the importance of the vowels in an emphatic way:

“ The accented vowel is the most important and suggestive thing about a word. When we give ear to a speaker we hear him by *vowels*, if I may use that expression. The consonants, for the most part, are not really heard at all. We hear the speaker by his vowels and by his context. ”

In an article in the *Shorthand Writer*, April, 1919, Mr. Marshall quotes with approval this statement:

“Explicit expression of the principal—usually the accented—vowel sound of a word is of superlative assistance to legibility. But much also depends upon the power to indicate definitely any prominent vowel sound, for again and again this has been found the clue to a tangled mass.”

And George R. Bishop, in the introduction to the revised edition of “Exact Phonography” (1893), said:

“It is needless to say, to one who has made our language a subject of study, that a *vowel* sound is often the most prominent and distinguishing sound that a word contains; in which case the facile and prominent representing of it becomes especially important.”

This being the case, the absurdity of writing a consonant skeleton of the word and omitting the sounds which make the most impression on the ear will be clear to anyone.

It is even more absurd and illogical to be compelled to retain the vowel-sounds in mind and their exact order and position in the word, so that after the consonant outline has been completed they may be expressed by dots and dashes placed in different positions alongside the various consonants of the word.

The only thing that in any way justified the adoption of this unnatural method of expressing vowels was the belief that in order to obtain greater brevity than the earlier systems (which represented the vowels by *strokes* and in some instances by *compound strokes*) it was necessary to omit the vowels in practical writing.

The Correct Theory Triumphs Eventually

It may be admitted at once that the methods by which the vowels were expressed in the earlier joined-vowel systems were extremely clumsy, although some of these systems were practical reporting instruments—notably the Gurney system, which has been used for reporting the British Parliament for over one hundred years. The *principle was right*, but the correct application of it had not been discovered. When a principle is right, it is only a question of time when the practical application of it will be evolved, and it was through experience and much experimentation that the solution of the problem of joining vowels and consonants in their natural order without sacrificing speed, was discovered.

At the present time the most familiar and impressive illustration, of how the ingenuity of man, starting with a correct theory, after many disheartening failures, and in the face of almost universal ridicule, achieves the “impossible,” is to be found in the aeroplane. But in this series I prefer to take the development of the typewriter as being more closely allied to the art of shorthand. I think, too, that the existing conditions render the comparison more analogous and more interesting.

I well remember the stir caused by the first typewriter with “visible writing.” The writing was not so very visible at that, because it was necessary to bend forward and look over a large shield

in order to see what had been written. But even that amount of visibility was an advantage, because it obviated the lifting of the carriage to see the writing.

The proprietors of the older machines assumed an air of lofty disdain over the new “fad” or theory. Said they, “The really expert operator does not need to look at what he has written”—which sounds very much like a paraphrase of “the really expert shorthand writer does not need to insert vowels very often.”

But the *theory* of “visible writing” was correct. Soon another machine came along embodying the principle in a more natural and practical way with the slogan “the writing in plain sight.” Still the older machines continued to maintain that visible writing was not worthy of consideration. After a long struggle a visible-writing machine won its way to the very front rank.

In the meantime, touch typewriting had become popular and this furnished the manufacturers of the “blind-writing” machines with a new and more plausible argument. They said, “The touch operator does not need to look at his writing very often; indeed, the difficulty of seeing the writing is an *advantage*, because it is an incentive to become a touch operator in order to avoid needless lifting of the carriage!” That sounded very much like the statement quoted in a previous article, that shading was advantageous because it promoted “discipline of hand movement and concentration”!

But the visible-writing machines grew in popularity, until the older machines “scrapped” their old “blind-writing” models and adopted the visible-writing principle—a decision which meant a revolution of their entire manufacturing and sales organizations at an expenditure of many millions.

The *theory* of “visible writing” was right in the first instance. When a practical method of applying it was evolved, nothing could prevent its universal adoption.

Points of Similarity

It is not necessary to point out the striking analogy that exists in this story of the evolution of “visible writing” in typewriters and the evolution of several principles of natural writing in shorthand.

In the case of the representation of the vowels, it was a long step from the crude and illogical method of expressing vowels, by dots and dashes—when expressed at all—to expressing them by joined strokes and dashes. Like the first attempts at “visible writing” in typewriters, the expression of such common letters as the vowels by joined strokes and dashes was so clumsy as to be open to serious objection. The principle was right, however, and it is the way of mankind to persist in trying to find a solution of what is apparently insoluble. In the familiar phrase, “necessity is the mother of invention.”

Then came the very natural evolution towards the representation of the vowels by the smallest and most facile signs, circles, hooks, loops, as set forth in an interesting way by Monsieur Martin in a quotation given in this article.

The third step was the assignment of the circles and hooks in accordance with the values of the material and the frequency of the vowels represented by that material.

A Desideratum Accomplished

In a discussion before the Shorthand Society, London, in 1883, the famous reporter, Thomas Allen Reed—than whom there never has been a greater authority on Pitman’s Shorthand, or a more enthusiastic advocate of it—made this admission:

“ The advantage of joined vowels is no doubt very great. If a good system could be constructed in which the vowels and consonants could be all joined continuously, and, at the same time, the system could be as brief as other systems without vowels are, such a system would be a desideratum we should all hail with delight. ”

It is perhaps superfluous to say that at the time he made this statement Mr. Reed had no idea that it would be possible to construct such a system! Yet within five years from the time he made the statement such a system was published, and it is to-day written by more people and taught in more than five times the number of schools that are now teaching all forms of disjointed shorthand.

Mental Independence Necessary

The truth is that it is difficult for anyone to get away from impressions which have been placed in his mind by constant reading and practice. Habits of thought and action control all of us. Since practically all the literature of shorthand for nearly three-quarters of a century—that is to say, during all the time shorthand was widely used—has been written or published by those who are interested in the maintenance of a certain style of shorthand, considerable independence of mind is required to emancipate one’s self from the impressions thus produced.

One result of the practical monopoly by the Pitman firm of the avenues of publicity in connection with shorthand has been that scant justice has been done to the great work for the advancement of the art which was accomplished by the authors of the early English systems—Taylor, Mayor, Gurney, Byrom, Stackhouse, Blanchard, and others. The references made to these systems have created an impression that they were utterly unworthy of serious consideration, and that really *practical* shorthand began with the advent of “Phonography.” This is true also of the tone adopted toward French, German, and American systems. Towards all of them the references in Pitman’s publications are contemptuous. In the first public explanation of “Light-Line Phonography” before the Liverpool Shorthand Writers’ Association, an organization consisting exclusively of Isaac Pitman writers, in February, 1893, I said:

For half a century clever Phonographers all over the world have been endeavoring to improve the Pitman method, and their efforts have resulted merely in certain modifications of the superstructure of that system. It is utterly impossible, ladies and gentlemen, to make any vital change in the foundation of the Pitman method. Had it been possible to make any material advance on the old lines, it would have been made long ago by Messrs. Graham, Munson, Longley, or some of the other American adapters of the Pitman system. I might say, incidentally, that I am far from sharing that contempt which is so commonly expressed concerning Graham and Munson, and I think that the writers who abuse our American friends in such unmeasured terms would find much to marvel at if they only studied the works of these talented American writers.

In view of all this it has puzzled some thoughtful people to understand why the Gurney system, in which the vowels are represented by joined strokes—a very clumsy method of representation—should have been used for the official reporting of committees in Parliament for over one hundred years. Lord George Hamilton once declared that the reporting of the committees in Parliament was performed with “almost mechanical accuracy.”

Evolution of Joined Vowels

The evolution of joined-vowel representation toward a natural and facile plan is one of the most interesting things in shorthand history. In a previous article some extracts were given from a letter written to me soon after the publication of “Light-Line Phonography” by the distinguished French shorthand author and scientist, M. Jean P. A. Martin, of Lyons. It will be remembered that Monsieur Martin commented on the radical departure from all previous theories of shorthand construction which I had made in giving the preference to curves over straight lines, and that he described “Light-Line” as being “mainly constructed after the principles laid down by Conen de Prépéan, the real founder of continental shorthand.”

As I did not know anything about Conen de Prépéan at that time, I asked Monsieur Martin who he was and what were the “principles laid down” by him. Monsieur Martin’s answer to my query is so interesting that I am going to quote it somewhat fully. In doing so, however, I must caution the reader not to accept unreservedly his statement that the plan of expressing the vowels by circles and hooks originated with Conen de Prépéan. His very natural enthusiasm for the achievements of a compatriot inclined my gifted correspondent to give Conen de Prépéan more credit than was actually due him.

Much as I dislike, at this time especially, to deprive a French author of the glory of originating this method of expressing the vowels, simple justice to earlier English authors compels me to say that circles and hooks were used to express vowels before Conen de Prépéan’s time. Stackhouse, in 1760, used circles to express vowels—a small circle for *a* and a large circle for *o*, *which is the very use made of them by Conen de Prépéan, Aimé-Paris, Emile Duployé and nearly all the other French authors of joined-vowel systems since that time.*

This method of using the small circle and the large circle has been adopted by several English and American systems. Blanchard, in 1786, used the small circle for *a* and *o*, and a large circle for *w*. Holdsworth and Aldridge, in their “Natural Shorthand,” published in 1766, used a small circle for *o*, a large circle for *ow*, a small loop for *eu*, and a large loop for *wh*. Oxley (1816) used a downward hook for *u*; and other early English authors made use of hooks for different vowels. Undoubtedly Monsieur Martin was not aware of these facts at the time he wrote me, any more than I was.

All Honor To France

Credit may be freely and gratefully given Conen de Prépéan, and to Aimé-Paris, Duployé, and the other French authors who followed his lead, for developing the principle of using circles and hooks for vowels, and for demonstrating its superiority to all other methods of vowel representation. It is possible, too, that they made the best use of that material for expressing the vow-

els in the French language, although I cannot speak on that subject from personal knowledge. When I come to the discussion of the use of the circles and hooks, I intend to show that the authors of adaptations of the French systems to English, and of systems for English which have copied the French vowel method, have all made a very serious mistake in adopting the French arrangement of the vowels.

The Noble Work of M. de Prépéan

With these preliminary remarks, I present Monsieur Martin's very interesting story of Conen de Prépéan:

“ Conen de Prépéan published several systems, some of which are still in use in the French Parliament; his alphabets were widely different from one another. Well, his systems are nigh forgotten, but his ideas and principles survived this unfortunate scientist who died in misery after a life spent over shorthand researches and experiments. Five of these principles are quoted, page 42 “Cours de Sténographie Française” by L. P. Guénin, edited by C. Delegrave, Paris. In fact, Conen de Prépéan is the originator of the connective vowel systems as they now stand. Without Conen, it is very likely that neither Duployé nor Sloan, nor you, nor anybody else, chiefly in England *where Taylor reigned*, could write any efficient system. The principles set forth by Conen look so natural, *so simple*, so self-evident that no shorthand author, no modern author, I mean, will ever dream, can ever dream of building a connective-vowel system upon other principles; Conen hit the nail on the head; unknowingly, unwittingly, as all others, you and I and all of us have adopted them. You have received them through Sloan, Sloan through Duployé, Duployé through Aimé-Paris, Aimé-Paris through Conen de Prépéan. They are no news now, they are common property, everybody applies them among the connective-vowel shorthand authors and pays as little attention to how they came about as a child thinks of the originators or inventors of our Roman alphabet. Yet what a step from ideographic writing to Roman letter writing! What a tremendous advance! One might say European civilization is the outcome of the 25 or 26 letters of the alphabet. The alphabet is the greatest invention, the greatest blessing, and a boy of ten does not see in it anything particular; it is so common. The same thing occurs with Conen de Prépéan's principles, the importance of which is not realized nowadays.

When Conen de Prépéan set to work he had before him two systems: Taylor's, which ignored vowels entirely, and Coulon de Thévenot's. Coulon de Thévenot wrote all the vowels; only the syllables were disconnected, each syllable, though very fluent, very lineal, even compact was very complicated; no connection could possibly occur among the various syllables; it was a clumsy-looking system. Every modern shorthand writer swears that it is impracticable because it does look so. Yet as it was in some respects founded on science (fluent, lineal, compact enough), it is a well-known fact that very efficient verbatim stenographers used it with great success in spite of its bad looks: Coulon de Thévenot looks a tremendously huge

thing. The point, then, was to make each syllable very short, and at the same time find out a way to retain the vowels and connect each element of the word. Taylor's system was there; what signs on earth could be added to his alphabet? He had given the problem up himself by dropping the vowels altogether. Other people took to dots and accents; but that was cutting the Gordian knot instead of untying it. The vowels were a perfect puzzle. Of course, in older systems they were used, but the vowel was a complication. Gurney, for instance, has the following connective signs for his vowels:

[Here Monsieur Martin gave some of the illustrations of the compound signs used by Gurney.]

Syllables were not short and connecting was occasionally a very tough matter with the old alphabet that had kept special strokes for the vowels.

Bertin-Taylor's disciples could show very brief outlines, and Conen de Prépéan did not wish to double these in length to add the vowels. *That was a very hard nut to crack.*

Then Conen said: Let the vowel signs be *four times shorter* than consonantal ones; that'll make a difference. Then let us take circles or loops, fractions of a small circle, and ticks as vowel signs. Yes; but Taylor's consonantal signs were *not* single strokes; some of them consisted of a hook or a circle and a stroke to represent one letter only; the new loops and fractions of a circle would clash with the hooks of the consonantal signs. *That was another puzzle.* Shorthand materials were limited in number.

Besides, supposing that there should be no clashing between the loops and hooks, the parts and parcels of the consonantal signs and the vowel signs themselves, the outlines would at any rate be long enough. What should he do?

Then Conen said: In order to represent each consonant by a simple sign, let us classify consonants phonetically and if *p* is short let it be the rule that the corresponding consonant *b* should be written long. So the problem of one sign for each sound was solved.

Again, the problem of devising connective-vowel systems of shorthand was solved, in giving the vowels a form and size corresponding to their importance when compared to the consonants.

I have not related here all we owe to Conen de Prépéan; but if you have had patience enough to follow my explanation, you cannot help remarking that the principles of that man seem now so self-evident that nobody thinks of them; yet a hundred years ago Gurney, in supplying vowel signs, could not find his way out of bee otherwise than by an awkward combination of strokes for both vowels and consonants. In those days nobody, except Taylor, had yet found a way to use decent connective signs; Taylor was radical: he did not mention them, that's all; some did the same, I believe, before him. Pitman is but a disciple and modifier of Taylor.

After this Conen was plagiarized extensively, went on working for all his life, spent a fortune, died a destitute and unhappy man, and is now forgotten. He is a true martyr of Shorthand. Whenever I see a new connective-vowel system I think of the poor fellow. What a sad thing!

Excuse haste, bad writing; I am half asleep as it is near three o'clock and the morn is near, but I wanted to answer the letter of a brother in shorthand pursuits. ☹️

Our Early Acknowledgment

When I received this letter from Monsieur Martin in 1888 I was preparing a pamphlet entitled "Shorthand for the Million," and I took advantage of the opportunity to make this acknowledgment to Conen de Prépéan:

Circles, hooks, and loops have been adopted as the material suitable for the representation of the vowels. This principle was first laid down by M. Conen de Prépéan, and has been adopted by nearly all the authors of modern connective-vowel systems as the most natural and effective method. It is only in the assignment of this material that most connective-vowel schemes differ, and experience proves that in this respect "LIGHT-LINE" has a very decided advantage over all the plans hitherto published. The most facile signs have been carefully assigned to the representation of the most frequently occurring vowels and vice versa, hence there is a far larger percentage of vowels inserted in rapid writing than in any other method.

At that time I was not aware that Stackhouse, Blanchard, Oxley, and other English authors had anticipated Conen de Prépéan to some extent in the use of the circles and hooks for the expression of the vowels.

This chapter has extended to a greater length than I expected; largely on account of the letter from Monsieur Martin, which was so interesting that I could not refrain from quoting it somewhat fully.

Chapter 8

More about Vowel Expression

“ The sound elements should always be written in the order in which they are heard. ”

—Edwin Guest

“ The slightest thought on the subject is enough to show that when outlines of consonants are alone used, they can, strictly speaking, have no sound at all. The place of the vowels may be guessed, so as to impart a living sound to a dead form. ”

—Edward Pocknell

As some of my readers have not studied other systems, it may be well to describe the method by which vowels are expressed in disjoined-vowel systems, when they are expressed at all.

In Pitman's Shorthand, twelve vowels are expressed by a dot and a dash in three positions alongside the consonant. The dot is made heavy for certain vowels and the dash is likewise made heavy for certain vowels. In theory, at least, these fine distinctions are supposed to be observed in writing and to be observable in reading.

A Scientific Analysis

The best scientific demonstration we have read of the absurdity and impracticability of this method of vowel representation was that made by Mr. Edward Anderson in the *Journalist* (London) for December 15, 1888, in answer to an attack on the Taylor system, which had appeared in the *Phonetic Journal*. It gives us pleasure to quote Mr. Anderson's analysis of the manner in which vowels are expressed, when they *are* expressed, in Pitman's Shorthand.

Consider for a moment what vowel-position really means in practice. The normal length of a consonant may be taken as $\frac{1}{8}$ of an inch. Therefore in a system of three-placed vowels the dot or tick must be written accurately to the $\frac{42}{1000}$ part of an inch. If a system admits half-length consonants (as Phonography does) then the vowel to the half-lengths must be written accurately to the $\frac{21}{1000}$ part of an inch. Moreover these extremely fine distinctions have to be adhered to when the hand is writing at the rate of say 150 words a minute equal to $2\frac{1}{2}$ words in every second of time. Is the thing practicable? Taylor says it is not. You almost agree with him, for you go on to say that Byrom's five positions are clearly too many; and these are equivalent to a distinction of the $\frac{25}{1000}$ part of an inch, which gives a trifle greater scope than the Phonographic half-lengths. Besides, since the time of Taylor, the refinements of light dots and heavy dots, light dashes and heavy dashes have been invented, which render accuracy still more impracticable. In addition to

all this we have the very weighty evidence of experts in Phonography, who tell us that it is not necessary or practicable to insert more than one vowel in every 30 or 40 words.

What “Position” Fails to Do

As it is utterly impracticable to express many vowels by disjoined dots and dashes—made light and heavy and placed in certain positions alongside the consonants—after the completion of the consonantal skeleton of the word, resort is had to position to indicate the vowels. As we have shown in another chapter, this simply means that the *sixteen* sounds (twelve vowels and four diphthongs) are supposed to be indicated by three positions, an average of more than five for each position. And the position does not tell *where* the vowel occurs in the word!

That accomplished shorthand reporter, Mr. George R. Bishop, in discussing the weakness of Pitman’s Phonography in vowel expression, put the case very well. He said:

“ In the *vowel* department, there has been what seemed to be a grim despair as to finding any solution of the undoubtedly serious difficulty—the case seeming hopeless, and an equally grim determination to disguise the existence of the defect. The mode of *indicating* vowels by “position” of the consonant signs was a device of the older shorthand systems long antedating Mr. Pitman. As Mr. Pitman adopted some consonant signs and devices from older systems, so he seems also to have adopted from them this ancient *vowel indication* idea.

There was this marked difference, however—a difference which told heavily against him on the score of definiteness: that while the older systems indicated at most, six vowels by three positions, or two for each position, the Pitman undertook to indicate, with the same number of “positions” from fifteen to twenty sounds, including the diphthongs; and while some of the old systems indicated their smaller number of vowels merely as *initial* ones—those *preceding* the strokes so written in “position”—the Pitman undertook to indicate its larger number of *sounds* not only as preceding, *but also as following*, the consonants written; thus doubling the already increased ambiguity. . . . It is needless to comment on the heavy task imposed on the shorthand writer who is obliged to guess *which one* of twelve different things indicated by the same position is the one actually intended in a particular instance.

Yet many advocates of this clumsy, indefinite method of “indicating” five or more vowels by one “position” (which cannot be observed with precision in rapid writing) and in a manner which does not tell whether the vowel precedes or follows the consonant or, indeed, where it occurs in the word, will hold up their hands in absolute horror at the thought of three closely-related vowel sounds being expressed in practical writing by one sign! Could insincerity or prejudice—call it what you will—go farther than this? ☹

I am now going to give a number of quotations from eminent authors, reporters, and teachers on the importance of the vowels. The first quotation is from Mr. George R. Bishop, a distinguished reporter, and the author of “Exact Phonography.” Mr. Bishop has been President of the

New York State Stenographers' Association and President of the Law Stenographers' Association of the City of New York. His views on joined vowels are set forth in considerable detail in the preface to "Exact Phonography," which was a very ingenious effort to incorporate joined vowels by strokes in a geometric system.

Turning to the standard textbooks of Phonography and looking for a practical illustration of this indefiniteness, one found that its author repeatedly recognized it as among the possibilities that a writer of this system would employ the same outline in the same position, with equal co-gency, to represent any one of eight or nine different words: often necessitating, one would conclude, nearly as profound a study of contexts and the general drift and meaning of the matter reported as an archaeologist would need to employ in the deciphering of a partly defaced ancient tablet.

As one result of dissatisfaction at this indefiniteness, the last decade has witnessed the appearance of a considerable number of new works on shorthand; a distinct effort to remedy this one more serious defect being discernible as a leading motive in most of them. In England this striving after something better has been particularly noteworthy.

In the *Reporter's Assistant* (Second Edition) we find "opened, pound, pent, append, compend, pained, paint, pinned, compound, penned, punned, oppugned," as different readings for the same sign in the same position. Obviously it might be difficult for even the most expert and best-informed writer to determine from the context which of these twelve words, eleven of which could be employed as verbs, was just the one to be transcribed, in a particular connection. Leaving the expert writer, and coming to one not highly skilled—one unable to appreciate what best fitted the context—what would his situation be, assuming that he sought aid from the Reporter's Assistant? And what should we expect the mental state of a class of boys of thirteen or fourteen to be, if, on being first assembled as a class in phonography, it were described to them how much of indefiniteness there was inherent in the vowel part of the system—the "Assistant" being referred to as indicating one of the possible results of it? What matter of surprise is it that so little progress has been made in the teaching of shorthand in schools, in view of this inexact state of the art?

Isaac Dement's Emphatic Statement

In the preface to his textbook on Pitmanic Shorthand (Second Edition) Mr. Isaac Dement said:

“ I have seen the time when I would have given the price of the transcript for a single vowel. . . . Some of the best reporters of my acquaintance employ vowels very freely—if they cannot put them in at the time, the first lull finds them busy ornamenting their notes with them—and the poorest reporters (?) I know say they have no need of vowels, in fact, never learned them. ”

In an article on "Significant Tendencies in Shorthand," Mr. W. E. McDermut, a well-known court reporter in Chicago, who has written the Munson system for over thirty years, said:

It has been my experience, and it is that of many old reporters with whom I have talked, that the fatal weakness of the Pitmanic systems lies in the general inability to determine how a word begins, whether with a consonant or a vowel, and if a vowel, what one.

A Famous London Reporter

The next quotation is worthy of a careful reading. It is from the pen of Mr. Thomas Hill, Past President of the Shorthand Society, London, head of the firm of Thomas Hill & Co., Law Reporters, London. Mr. Hill has been a writer and reporter, using the Pitman system for over thirty-five years.

“As to the mode in which the vowels should be represented, probably most experts would agree that joinable vowel signs, which could be written in the order of their occurrence, and woven, so to speak, into the texture of the word, would be preferable to the detached marks sprinkled in among the consonants, out of their natural sequence, after the consonantal skeleton has been placed upon the page. In any system the provision of a complete set of easily joinable vowels would do as much to compensate for shortcomings which might exist in other parts of the stenographic scheme.

Professional phonographers have, no doubt, often wished, when dealing with unusual words or difficult subject matter, that their system provided them with joined vowels, or, at least, with vowels of such shape that they could be joined initially.

A vowel occurring initially is generally the most distinctive vowel in the word, and for joining purposes it is probably the most important. In some cases it is the only vowel which it is necessary to insert for the purpose of making a distinction between two words containing the same consonants. It may often lead to the recognition of a distorted outline, and so give a clue to the whole word. The insertion of an initial vowel would have prevented an equilateral triangle from being rendered as a collateral triangle in a sermon published in a once well-known serial. Apart from the characters for *w* and *y*, there is only one vowel in Phonography, namely, the long *i*, which will lend itself to junction with an outline, and the possibility of joining even that one is restricted to three or four consonants.

An incidental benefit arising from the use of joined vowels is that it enables the first syllable or two of a long word to be used in many cases with safety to represent the whole word, and puts into the hands of an experienced writer a means of extemporizing contractions without the risk of illegibility. The clipping of words after this manner has been in use probably from the earliest days of shorthand, but a system in which connective vowels are used gives the best opportunities for carrying out this method of abbreviation. ”

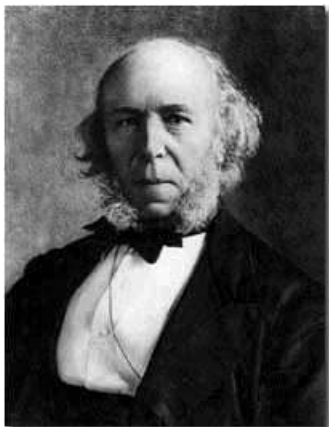
A Congressional Reporter

The late David Wolfe Brown, author of “The Factors of Shorthand Speed,” said:

“When a word, because unfamiliar, is indistinctly understood, the vowels are generally more clearly heard than the consonants, and though the consonant outline may be incorrect, a clearly expressed vowel may be so wonderfully suggestive as to settle beyond doubt the word intended. ”

Herbert Spencer's Views

The great English scientist and philosopher, Herbert Spencer, in his criticism of Pitman's Shorthand dwelt strongly upon the unscientific nature of disjoined vowels. The analytical nature of his remarks on the subject show that this great authority had given the subject a great deal of thought. He said:



“ The vowels are not sufficiently distinguishable. The sounds, *e*, *a*, *ah*, are indicated by dots, and *au*, *o*, *oo*, by small dashes; and it is hardly to be expected that in rapid writing these marks can be made with such accuracy as to insure their identification. Moreover, the distinction between the individual vowels, dependent as it is upon the placing of the dot or dash at the beginning, middle, or end of a consonant, is such as cannot be observed with certainty. And, further, the greater heaviness of touch by which the long vowels are known from the short ones can never be given with anything like precision without an amount of care inconsistent with expedition. ...

The legibility of the system is certainly injured by the apparent transposition of letters, resulting from the peculiar arrangement of the vowels. A dot at the beginning of a consonant is, as likely as not, to signify a vowel after it, or dot at the end to imply a vowel before. ...

Phonography looks simple in consequence of these movements having no representations upon paper, whilst in reality they require an equal amount of time with those that leave visible signs behind them. Nay, more; to lift the point of a pencil from the paper and carry it over the surface to make a dot at some other place, involves a more complicated muscular action than its transference to the same point along the surface (that is, without leaving the paper), and probably more time is expended in the motion. ”

The initial difficulty which the student encounters in separating vowels and consonants is well expressed by Julius Rasmussen, LL. B.:

“ If the student takes up a Pitmanic system, he is taught to make outlines of the consonant characters and omit all -silent letters and vowels, which may give him the same outlines for such words as *eastern*, *Saturn*, *Austrian*, *stern*, and *strain*. Since the student has for ten or fifteen years looked upon language as composed of consonant and vowel sounds, it will necessarily take him several months to learn to look at the language in this new way. And what is most important, while the writing is difficult the reading is still more difficult, and the consequence is that the transcript is very faulty. ”

Masterly Statement of Case

One of the most powerful presentations of the arguments in favor of joined vowels was made by Mr. Hugh L. Callendar (1863–1930), B.A., Fellow of Trinity College, Cambridge, author of “Cursive Shorthand”:



“ In the disjoined-vowel systems the consonant outline of each word is written first, and the vowels are dotted in afterwards in their proper places. This is called “vocalizing” the outline. The writer has to go over each word twice, in a highly artificial and unnatural order, if he wants to put in the vowels, that is to say, if he wishes his writing to be legible. ...

It is often maintained that a detached vowel mark counts in loss of time only about as much as an extra lifting of the pen. This is very far from true. In addition to the lifting of the pen there is the time occupied in making the stroke or dot and locating it carefully in its proper position. This is not unnaturally found to be longer than the time required for the mere making of the same number of dots and ticks irrespective of position. Besides this, detached vowels usually involve hesitation: after finishing the consonant outline the writer has to make up his mind what vowels to insert and where, or whether he can leave the outline unvocalized: with unskilled writers this is a fruitful source of loss of time: with skilled writers it is often almost unnoticeable. But the most serious hesitation generally occurs, and this even with the most skilful writers, *after* inserting the vowels and before proceeding to the next words. This is most strongly marked after inserting two or more vowels in one outline. It is probably due to the illogical order in which the vowels are written. The mind momentarily loses its place in the sentence, and has to go back and pick up the lost thread, so as to find what comes next. The result is that the insertion of detached vowel marks always involves such a disproportionate expenditure of time, that they must be omitted in writing at any reasonable speed.

The chief advantage of detached vowels is that they present an *appearance* of brevity, and look neat, especially in print. They are so inconspicuous that the inexperienced eye does not realize the difficulty of inserting them accurately and takes no account of the aerial movements of the pen which their insertion involves. ”

Significant Confession

Perhaps the most convincing indictment of disjoined vowels is to be found in a quotation given in “Progressive Studies in Phonography,” published by Isaac Pitman & Sons. Here it is:

“ Just where the greatest speed is necessary, to write a consonant and then put in the vowels in their proper places, is where the most hesitation is likely to be. first, time is lost in getting the true sounds of the words; second, comes the quickly-to-be-disposed-of

thought how to write the consonants the best way and which vowels to put in and how many (all this is less than a second). By this time the outline has made such spasmodic jerks that full-lengths are half-lengths and half-lengths are twice as long as they ought to be, or an intended hook has been made into a circle or a circle into a hook. ☹️

The Dual Analysis of Words

Another view of the matter is presented by Mr. D. Kimball:

“ In Phonography all the vowels are of necessity written separately from the consonants, i.e., must be written beside the consonant so as to show what sound they represent by the position they are in. It is so difficult to put them in their exact position in writing, even beside full length consonants, where the writer must bring his pen down one-twelfth of an inch, and be sure a dot does not lengthen into a dash, that were this the only defect it would be an almost effectual bar to rapid writing. But consonants are made half-length—about one-twelfth of an inch long, each of which has also its three positions. We venture the assertion that the person never lived who had that accurate command of his hand that would enable him to write vocalized Phonography fifty words a minute and get his dots and dashes the right shape, and just where they belong, beside the full and half-length consonants. This is never attempted in practical work; but it is a necessary part of the theory, a hideous nightmare to the learner and user. ☹️

Mr. Kimball then describes the “dual analysis of words necessary in Phonography”:

“ The difficulty of writing sufficiently exact to be legible mentioned above, is a minor one compared with that of the double analysis which the writer of Phonography is compelled to go through with each word when fully expressed. He is obliged first to go through each word mentally, analyze it, pick out the consonants and write them; then, beginning the word again, re-analyze it, pick out the vowels and dot or dash them in beside the full or half-length consonant, being sure he remembers their positions and lands them exactly where they belong, or he will rue it when he comes to read. ☹️

After giving some illustrations of this troublesome process, he concludes with this:

“ As a necessary accompaniment of this tedious, unnatural and burdensome double analysis, comes the slow, uncertain and difficult process of putting in the disconnected dots and dashes beside the consonants—a process so irksome that most phonographic writers prefer to halt, stumble, and guess in reading unvocalized outlines rather than go to the extra time and trouble of putting in the vowels in so awkward and unnatural a way—unnatural because the order of the letters is not that of the words in which they occur—one does not think that way, speak that way, or write that way, except when he is trying to use this exceptional, crude, and ill-devised scheme. It is too laborious, unnatural, slow, and unsatisfactory for

practical use even by the devotees of the system. Yet it is the best they have to offer. 🗨️

Advantages of Joined Vowels Summarized

One of the best presentations of the case for joined vowels is to be found in a paper on “The Power of Connective-Vowels in Shorthand,” which was read by Mr. Peter Vogel, law reporter, before the Pennsylvania Shorthand Reporter’s Association in 1904. Mr. Vogel is a writer of Lind-sley’s Takigrafy—a connective-vowel system on a Pitmanic basis. Here are some paragraphs from this paper:

“Vowels not dependent on position can be independently written, and so furnish a broader basis for “wordsigns,” and relieve the overloaded consonants, and in that proportion at least, enhance legibility.

It is often much quicker to write the vowel than to move to position and have, besides, something to read instead of ending with a guess. The resulting outline on paper may seem to be the longer, when in reality it is shorter. So both speed and legibility are gained.

Besides, the necessary lifting of the pen and replacing it on paper at “position” adds immensely to this invisible “waste of material,” which so deceptively looks like brevity and speed.

When the eighteen vowels and diphthongs are distributed to three positions, as in Phonography, say six to a place, the riddle in reading is, “Which of the six is meant?” And if there happens to be a series of like ambiguities following or preceding, the solution may become dangerous. Some years ago, for example, a Democratic and a Republican reporter “took” a political speech in Phonography for their respective St. Louis papers, and an important passage appeared in print diametrically opposite in sense, resulting in a considerable quarrel. When the matter was sifted, each reporter had the same consonant outline and the difference lay in the political spectacles through which the absent vowel was seen. This could not have happened with a connective vowel.

While the peculiar outline often determined where the vowel to be guessed at should go, it sometimes becomes enough of a problem to determine its imaginary habitat to delay and even puzzle the reader.

For the sake of having the outline-form kept to determine the place where the guess comes in, it becomes necessary to commit many special forms, where the connective-vowel writer can proceed with delightful abandon.

A connective vowel often relieves what would otherwise be a bad angle, and here again the longer form is the speedier, in addition to being definite.

The number of possible outlines can be greatly multiplied by the use or absence of a vowel, and so relieve consonant outlines from congestion and make them more definite.

The definiteness which a written vowel gives to an abbreviation often enables one to shorten it beyond what is otherwise possible, thus contributing to speed and retaining legibility.

The absence of a vowel in a particular place is often in a connective-vowel system an indication of what it is, from the fact that had it been another vowel it would have been so easily written at that particular place that it would not have been omitted.

Proper nouns, such as names of persons and places, especially when unfamiliar, must be vocalized to be legible, and where there is a succession of them, as often happens, Phonographic “position” is inadequate, vocalization too slow and longhand out of the question.

A similar thing is true in meeting the expert witness. No reporter, especially no young reporter, can be acquainted with all the new terms of advancing science and art, and many of these terms when unvocalized are either hopelessly confused or irretrievably lost.

Position-writing to express omitted vowels depends on the accented vowel, is governed by it, when as a matter of fact that is often far from being the important vowel in the word or the most helpful either in writing or reading the word.

As said before, there is quite an extended and growing list of words wholly vowel, where Phonography must always utterly fail.

Position writing is a hindrance to freedom in phrasing and often requires a word to be read against the position it occupies. Here the connective vowel is peculiarly at home. ☹

I have now said enough, and quoted enough in support of joined vowels. The next point is: How shall the vowels be represented in a joined-vowel system? As the vowels are vastly more frequent than consonants, it follows logically that if vowels are to be joined, they should be expressed by the most facile of all characters—circles and hooks. As Mr. Kimball put it in “How Shall We Write?”:

☹ Consonants are to a word what the bones are to the body—the large, strong framework. Vowels are to words what the flesh is to the body: they give to them form, flexibility, volume. It is desirable that two classes of sound should be represented by letters readily distinguishable; to the consonants should be assigned large letters, and it is best that the vowels should be represented by small letters. ☹

Even that militant champion of Pitman’s Shorthand, Thomas Allen Reed, in reviewing the Duployé system, makes this admission:

☹ The use of the circle for certain vowels enables many short words, in which some vowel representation is absolutely necessary, to be easily and briefly written without lifting the pen. ☹

When it is remembered that the great bulk of the words the stenographer will have to write are “short words” the significance of this admission will be apparent.

Circle “Speeds the Writer”

In Pitman publications in England, no writer is more frequently quoted at the present time than Mr. James Hynes, the manager of the London office of Isaac Pitman & Sons. One of the Pitman publications recently contained a series of “Lectures on Pitman’s Shorthand,” by Mr. Hynes. These lectures were evidently written for the purpose of minimizing the numerous difficulties of Pitman’s Shorthand. The airy way in which Mr. Hynes disposed of some of the problems that confront both learner and teacher must fill the mind of anyone who is familiar with the subject with something like admiration. But the difficulties remain!

Mr. Hynes did not confine himself to mere exposition of rules and exceptions to rules. Here and there he diverges from the main topic to defend the system of his employers. Speaking of the use of the circle for *s*, for instance, he says:

“The system is built for speed. ... Think of the extraordinary facility of form provided by the use of the small circle for *s*, and how, as a matter of fact, the inclusion of the circles actually speeds the writer, in the majority of cases, by reason of the easy, graceful sweep with which the outline can be made as a result of the introduction of the circle into the form. It is an interesting and undoubted fact that the writing of the circle *s* medially, though it adds another sign to the outline, in a great majority of cases very materially increases the speed at which the outline can be written. You only have to try such forms as *fsn*, *m^sl*, *rsm*, *rslv*, *psi*, *tsk*, *ksp*, with and without the circle, and I am sure you will agree with the statement.”

Evidently Mr. Hynes has been profiting from our analysis of the value of the circle! The interesting fact is this: That our statements about the circle—made again and again, in almost the identical language now used by Mr. Hynes—have been vociferously denied and ridiculed by the advocates of Pitman’s Shorthand! It is refreshing to have our theories so ably championed by an employé of the Pitman firm! If Mr. Hynes is correct in his statement about the circle increasing the speed of the writing, the question is: Which system has made the best use of the circle? Manifestly *s* does not occur by any means as often as the vowels *e* and *a*, hence the circle which, according to Mr. Hynes, “speeds the writer,” occurs much more frequently in Gregg Shorthand than in Pitman’s Shorthand.

Mr. Oliver McEwan, who was for many years regarded as a high authority on Isaac Pitman Shorthand, said:

“Now all shorthand writers know that an outline composed of two straight strokes connected by a circle is usually more easy, or at least quite as easy, to write as a combination of the same two strokes *without the circle*. The circle occupies no time in writing, its formation being equal to the making of the angle at the point of union of the two strokes. The Pitman outline for *task* (*tsk*) is quite as easy to write as the outline for *take* (*tk*).”

But there is considerable difference in the manner in which circles and hooks are used to represent vowels in various joined-vowel systems. When we discuss the application of these various basic principles in the construction of the alphabet of "Light-Line Phonography," we hope to demonstrate very conclusively that the plan followed by the French systems and by the adaptations of these systems to English, and which was copied by several indigenous systems, is not the most practical one for the English language.

Chapter 9

Joined Vowels as Speed Factors

IF one were to collect even a tithe of all the articles that have been written setting forth the advantages of joined vowels, the result would be a volume of very imposing dimensions. While I was going over much that has been written on the subject for the purpose of finding some of the quotations which have been given in previous chapters, it struck me as remarkable that in all the discussions there was hardly a reference to the gains in *brevity* or in speed secured by the use of joined vowels.

Joined Vowels Contribute to Brevity

The gains in legibility from the use of joined vowels have been emphasized over and over again, as well as the gains in simplicity through “writing the sounds in their natural order as they occur.” These gains are very obvious. But, while the gains in speed from the inclusion of the vowels are not quite so obvious—especially to those who have not written a joined-vowel system—they are very real and very important. It is my observation that even many of those who write a joined-vowel system do not appreciate fully the many ways in which joined vowels contribute to brevity of outline.

For that reason I shall try to make clear some of the ways in which joined vowels contribute to brevity of form, beginning with the most obvious one.

The Abbreviating Principle

Even writers of disjoined-vowel systems concede that the insertion of vowels permits of an extensive use of a very natural method of abbreviation which can be applied only to an extremely limited extent in systems in which the vowels are disjoined. In referring to this, Mr. Thomas Anderson, author of “The History of Shorthand,” said:

“ The natural way to abbreviate our words in the spelling is to give the first portion of them accurately; thus, for example, *ety* is a better abbreviation for *etymological* than *tmlgkl*, because it is both rational and sufficient, and so is *ery* for *erysipelas*; so with others of kind. The accurate and invariable presence of the vowels is the cardinal merit of Gurney’s system and has attracted millions to the coffers of that firm, W. B. Gurney & Sons. ”

While the illustrations given by Mr. Anderson do not appeal to us very much, as the words are unusual, his statement of the matter is sound.

A teacher recently wrote us:

“The following words occur in a book which is now lying open before me: ‘In long words only so much need be written as will afford an easy clue.’ You may think this was written by a Gregg writer; but you will be wrong. These words are written with respect to Pitman’s Shorthand! They occur in ‘German Shorthand,’ an adaptation of Pitman’s Shorthand to the German language. It is the abbreviating principle set forth in as simple language as one could possibly wish for.”

Obviously the reason why Pitmanic writers do not make greater use of the abbreviating principle is that this valuable and natural method of abbreviating cannot be used advantageously to any great extent in a system in which the vowels are omitted.

The Journalist (London) for February 18, 1887, in a review of systems, put it very well:

“We confess that at one time joined-vowel systems had no charms for us. . . .

There is another point about joined-vowel systems which is certainly overlooked by the partial critic, and that is the power of abbreviation by using half the word for the whole. When a system which relies wholly on unpronounceable consonants attempts this method, it ignominiously fails. But when, as in the connective-vowel systems, the vowel can be shown where the word is broken off, the plan can be advantageously adopted.”

The Pitmanic systems use the principle where it is possible for them to do so, which is not very often. The greatest of the many “improvers” of Pitmanic shorthand, Andrew J. Graham, in his “Hand-Book of Standard Phonography” (p. 120), says:

“*Apocope* is the elision of some of the final letters of the word.”

As illustrations he gives *impos-* for *impossible, impossibility*; *prac-* for *practicable, practicability*. (That is carrying the principle much farther than is done in Gregg Shorthand.)

And on the next page he says:

“An affix-sign, especially when it cannot be conveniently joined, may be omitted by the reporter whenever its omission would not seriously endanger the legibility of his writing; thus, *com-ens, commencement*; *ray-en-jay, arrangement*; *ned-stend, understanding*; *iths-gay, thanksgiving*; *for-gay, forgiving*; *lev-kind, loving kindness*.”

Mr. Oliver McEwan, who was for many years a well-known exponent of Isaac Pitman’s Shorthand, in an article in the *Shorthand and Typewriting News*, said:

“Skillful writers are in the habit of contracting lengthy words of frequent occurrence by abbreviating them to the first syllable, or the first two syllables, or to a sufficient number of syllables to clearly indicate what the word intended is. For instance, *benevolent* is clearly indicated by writing merely the first two syllables—*benev.*, *dignity* is sufficiently represented by means of the letters *dig*. So the shorthand inventor finds, ready at hand the most convenient means of contracting lengthy words without in any degree sacrificing legibility.

It is possible for two words to have the same outline and still not clash. Words will never clash unless they are of the same part of speech, the same gender, number, and case. You will see, then, that we reduce the possibility of clashing to the smallest possible compass. *Dg*— representing *dignity*, also represents *dig*, *dug*, but it will be impossible for any sane shorthand writer to experience difficulty in deciding which of these words is intended by the outline *dg*— the context will clearly indicate which word is intended. ☹☹

A Graphic Illustration

In the course of an exposition of our system before a teachers' association in England Mr. T. S. Halton emphasized the value of the abbreviating principle, and in doing so he made use of a new and excellent illustration. He said:

☹☹ Take the word *rhinoceros*. Pitman writes *rnsrs*, Gregg writes *rinos*— diphthong *i* and the accent on the *nos*. Now any ordinary person can recognize a rhinoceros by its head and shoulders, but it takes a skilled anatomist to recognize it from its skeleton and dry bones. ☹☹

We cannot recall a more vivid and convincing way of stating the matter that is contained in this illustration.

The abbreviating principle is marvelously simple, marvelously adaptable, and marvelously effective. It is the principle over which Pitmanic writers become most enthusiastic when they master our system. As it is a new thing to them—and contrary to previous practice in a system based on the idea of expressing consonants and not vowels—they usually view it with misgivings at first. Perhaps this is why they are so enthusiastic about it later when they find that not only were their misgivings without foundation, but that the principle is so valuable. Writers of the system who have *not* written a Pitmanic system previously are sometimes puzzled to know why “converts” to our system are so enthusiastic about the Abbreviating Principle; to them the application of it is so natural and easy that they give it no more thought than they do to the turning of an electric light switch.

Its “Exhaustless Power”

Referring to this timidity about the Abbreviating Principle on the part of those who, like himself, had used Pitmanic shorthand for many years, Mr. Charles M. Miller, of New York, in his address as the first President of the Gregg Shorthand Association of America—after narrating his experiences in changing from Pitmanic shorthand after having written it professionally for more than twenty years, paid an eloquent tribute to the abbreviating principle. He said: “I have found the abbreviating principle of the system, and the power that lies behind it, the most fascinating of studies. . . . Now that it is so simple to me, and I know its exhaustless power, I want you to know it as well.”

In the previous article we quoted the views of one of the most respected of the London professional reporters, Mr. Thomas Hill, who has written Pitman Shorthand for more than thirty-five years. I repeat one paragraph, as it applies to this subject:

“ An incidental benefit arising from the use of joined vowels is that it enables the first syllable or two of a long word to be used in many cases with safety to represent the whole word, and puts into the hands of an experienced writer a means of extemporizing contractions without risk of illegibility. The clipping of words after this manner has been in use probably from the earliest days of shorthand, but a system in which connective vowels are used gives the best opportunities for carrying out this method of abbreviation. ”

In the introduction to a series of articles on “Abbreviations” in *Pitman’s Journal*, Mr. E. A. Cope, in speaking of “the abbreviating instinct,” said:

“ Mankind has always been addicted to shortcuts, given to striving to save time and labor. ...

It took the word “omnibus” and reduced it to “bus.” It curtailed “cabriolet” and left us with the irreducible syllable “cab.” It cut down “tramway-car” to “tram,” and is converting “perambulator” into “pram.” It refused to tolerate “taximeter-cab” and insisted on saying “taxi.” Even “motor-car” was too long for it, and it substituted “motor.” “Pianoforte” it deprived of its final syllable, giving us the familiar “piano.” It dethroned “bicycle” in favor of “bike.” And when the vivacious medical student insists on calling the “Criterion” the “Cri” and the “Pavilion” the “Pay,” he is following a succession of well-established precedents. ”

This confirms in a very striking way Mr. Anderson’s statement that this method of abbreviation is the most natural that can be applied.

A Poetical Illustration

The beauty, practicability, and *power* of the “abbreviating principle” are graphically shown in the following poem by Mr. Harry Graham, which appeared in the *Century Magazine* several years ago, just after President Roosevelt had issued his famous order in regard to spelling reform.

We do not know whether Mr. Graham is a writer of the system or not, but he has assuredly grasped the genius of the abbreviating principle. There is not an abbreviated word in it that is not instantly recognizable. Even with the verse dealing with golf—which to many is a technical subject—such words as “hazard,” “niblick,” “Haskell,” and “bunker” are unmistakable to any one of ordinary sense.

Such a principle is possible only in a system like ours where the essential vowels are an unmistakable part of the form. Vowels are what give the life, vividness, and “voice” to words, make them speak out truly and clearly. A mere consonant outline is nothing—“unspeakable,” because you can’t pronounce it. An outline made up of the consonants in a word only is but a skeleton of “dry bones.” The vowels add red blood, flesh, and sinew. They make the word a thing of life. And the simplicity of the abbreviating principle is one of its greatest charms. You are not hampered by rules, restricted and confused by exceptions. You simply write the part of the word that is unmistakably suggestive.

Conversational Reform

When Theo: Roos: unfurled his bairn:
 As Pres: of an immense Repub:
 And sought to manufact: a plan
 For saving people troub:
 His mode of spelling (termed phonet:)
 Affec: my brain like an emet:

And I evolved a scheme (pro tem.)
 To simplify my mother-tongue,
 That so in fame I might resem:
 Upt: Sine:, who wrote "The Jung:
 And rouse an interest enorm:
 In conversational reform.

I grudge the time my fellows waste
 Completing words that are so comm:
 Wherever peop: of cult: and taste
 Habitually predom:
 'Twould surely tend to simpli: life
 Could they but be curtailed a trif:

For is not "Brev: the soul of Wit"?
 (Inscribe this mott: upon your badge)
 The sense will never sufl: a bit,
 If left to the imag:
 Since any pers: can see what's meant
 By words so simp: as "husb:" or "gent:"

When at some meal (at din: for inst:)
 You hand your unc: an empty plate,
 Or ask your aunt (that charming spinst:)
 To pass you the potat:;
 They have too much sagac:; I trust,
 To give you sug: or pepp: or must:

If you require a slice of mutt:
 You'll find the selfsame princ: hold good,
 Nor get, instead of bread and butt:;
 Some tapioca pudd:;
 Nor vainly bid some boon-compan:
 Replen: with Burg: his vacant can.

At golf, if your oppon: should ask
 Why in a haz: your nib: is sunk,
 And you explain your fav'rite Hask:
 Lies buried in a bunk,
 He cannot very well misund:
 That you (poor fooz:) have made a blund:

If this is prob:—nay, even cert
 My scheme at once becomes attrac:
 And I (pray pard: a litt: impert:)
 A public benefac:
 Who saves his fellow-man and neighb:
 A deal of quite unnecess: lab:

Gent: Reader, if to me you'll list:
 And not be irritab: or peev:,
 You'll find it of tremend: assist:
 This habit of abbrev:,
 Which grows like some infect: disease,
 Like chron: paral: or German meas:

And ev'ry living human bipe:
 Will feel his heart grow grate: and warm
 As he becomes the by: discip:
 Of my partic: reform,
 (Which don't confuse with that, I beg,
 Of Brander Matth: or And. Carneg:)

“T is not in mort: to comm: success,”
 As Shakes: remarked; but if my meth:
 Does something to dimin: or less:
 The expend: of public breath,
 My country, overcome with grat:,
 Should in my hon: erect a stat:

My bust by Rod: (what matt: the cost?)
 Shall be exhib:, devoid of charge,
 With (in the Public Lib: at Bost:)
 My full-length port: by Sarge:
 That thous: from Pitts: or Wash: may swarm
 To worsh: the Found: of this Reform.

Meanwhile I seek with some avid:
The fav: of your polite consid:

Disjoined Prefixes and Suffixes

Disjoined-vowel systems, in which dots and dashes are used for vowels, are limited to consonant strokes for the representation of prefixes and suffixes. With the exception of the dot for *con* these signs are not available in such systems for the expression of prefixes or suffixes—since the dots and dashes, if used for prefixes, might be read as vowels. (Incidentally as *shaded* strokes are not good material for prefixes or suffixes, few *consonant* signs are available for the expression of prefixes or suffixes in shaded, disjoined-vowel systems.)

In joined-vowel systems the signs for *both* consonants and vowels may be used for the expression of prefixes and suffixes, thus obtaining great brevity of form for many long words. In Gregg Shorthand, for instance, we use the following vowel-signs for both prefixes and suffixes:

- | | |
|------------------------|---------------------|
| (1) a small circle | (4) a large loop |
| (2) a large circle | (5) an upward hook |
| (3) a small loop | (6) a downward hook |
| (7) a hook on its side | |

To get the full significance of this, it should be remembered that these signs can be used for both prefixes and suffixes. In addition, we can use combinations of these, joined in their natural order, to form derivatives of *both* prefixes and suffixes, particularly suffixes.

Joined Prefixes Definitely Indicated

On account of the fact that at the beginning of words certain consonants cannot be pronounced with other consonants without an intervening vowel, many joined prefixes are possible in a joined-vowel system which are not possible in a disjoined vowel system. The fact that there is no vowel between the first and second consonant in a joined-vowel system indicates clearly that the consonant represents a prefix. In Gregg Shorthand, for instance, *for* and *fore* are expressed by *f*. When the writer sees *f-most* he knows that *f* is *for* or *fore* because *fm* could not be sounded with a vowel between them, therefore, the word is read as *foremost*. So, too, with *f-noon*, for *forenoon*, and other words in which *for* or *fore* occur. To take another illustration: *con* and *com* are expressed by *k*, and the writer on seeing *k-ply* knows that the form must be *comply*, because *k* and *p* cannot be sounded with a vowel: therefore it must be *com*; and it cannot be *con* because *con* never occurs before *p* or *b*. We might go on illustrating this with other joined prefixes.

This cannot be done in a disjoined-vowel system because in practice the vowels are omitted.

Joined Suffixes Definitely Indicated

What was said about the absence of a vowel in a joined-vowel system indicating a joined prefix applies equally well to joined suffixes. When a writer sees *breth-l* (*breathless*) he knows that the *l* stands for *less*, because otherwise there would be a vowel-sign between the *th* and the *l*; *bash-f* must be *bashful* for the same reason, *achev-m* must be *achievement*, and so on with the other suffixes.

This cannot be done in a disjoined-vowel system because the vowels are omitted in practice.

Vowel Indication

Someone has remarked in a semi-humorous vein that one of the advantages of joined vowels is that their omission indicates them! Paradoxical as it may seem, the statement is true, when applied under definite rules in a joined-vowel system.

Take, for example, the rule in Gregg Shorthand for the omission of *u* and *ow* before *n* and *m*. The outline *r-nd* could not be anything but *rund* or *round*. The writer knows that in that combination *r* and *n* cannot be sounded without an intervening vowel; and he knows, too, that if it were *rind*, *rend*, *rand*, *rond*, *ruined*, the vowel would appear in the outline; therefore, the form must either be *rund* or *round*—and there is no such word as *rund*. If the form is *gr-nd*, he knows it must be *ground*, because the vowel would be written in *grand*, *grinned*, *groaned*, *grind*. Many other illustrations could be given.

Wordsigns Made Distinctive

The wordsigns, “grammalogues” and “logograms” of the disjoined-vowel systems are very unreliable because there is no expression to them on account of the omission of the vowels.

A wordsign or “grammalogue” consisting of one or two consonants may stand not only for the particular contraction given in the list, but also for many other words in which vowels are omitted in rapid writing.

The “logograms” are mere dots and dashes dependent upon shading and upon their position—purely arbitrary contractions that must be memorized.

All of this is eliminated in a joined-vowel system. The insertion of a vowel—the addition of a facile circle or hook requiring hardly any effort—not only clearly distinguishes the word forms but gives *sound*—life—to the word, which enables the student to *learn* the particular form without any trouble. As illustrations: *ab* for *about*, *af* for *after*, *bo* for *body*, *col* for *collect*, *cre* for *credit*, *edu* for *educate*, *ev* for *every*, *fa* for *far*, *fi* for *find*, *fo* for *follow*, *fu* for *full*, *gi* for *give*, *ime* for *immediate*, *loo* for *look*, *mo* for *most*, *na* for *name*, *rep* for *reply*, *res* for *respect*, *ri* for *right*, *si* for *side*, *shu* for *sure*, *tha* for *that*, *to* for *told*, *ve* for *very*. The ease with which such abbreviations can be learned is obvious, and it is also obvious that they are distinctive.

As Mr. Peter Vogel said, “The number of possible outlines can be greatly multiplied by the use or absence of a vowel, and so relieve consonant outlines from congestion and make them more definite.”

Phrase-writing Power Increased

The phrase-forms in a joined-vowel system are much more distinctive than in a disjoined-vowel system. In a disjoined-vowel system many word-forms and phrases look alike because in *both* word-forms and phrase-forms the vowels are omitted; therefore, the need of distinguishing between word and phrase-forms limits the extent to which phrase-writing may be used. In a joined-vowel system the absence of vowels in most cases indicates that the form is a phrase. For example, when a writer of Gregg Shorthand sees *f-t-l-b*—all “unpronounceable consonants”—he knows that it is the phrase, *for it will be*; it cannot possibly be a word.

Again the insertion of the vowels opens a field of abbreviation in the modification of word-forms for words that occur in many common phrases; thus *k* may be used for *week* because *this-k*, *last-k*, *past-k*, *next-k* are all absolutely clear.

Consistency and Simplicity in Word-Building and in Forming Derivatives

One very great gain from the insertion of the vowels is the natural and logical manner in which derivatives are formed. The necessity for distinguishing word-forms consisting of mere consonants compels disjoined-vowel systems to depart from logical word-building principles in forming derivatives of many words. This is not necessary in joined-vowel systems. Simplicity of mental effort in word-building contributes enormously to speed.

Elimination of Long Lists of “Words Distinguished”

All disjoined-vowel systems contain long lists of “distinguished outlines,” words with the same consonants but different vowels, in which it is necessary to distinguish in some arbitrary way: by a change in the form of the word; by “position”; or by the insertion of a vowel. The memorizing of these lists is admittedly one of the hardest tasks that confronts the student—and the lists must be mastered or “clashes” of a serious nature will result in transcribing. The Isaac Pitman “Centenary Instructor” contains no less than fifteen closely-printed pages of such outlines and the list is not complete! To take a few examples at random:

Str expresses *satire*, *star*, *stare*, *steer*, *starry*, *story*, *stray*, *Austria*, *astray*, *astir*, *austere*, *estuary*, *oyster*, and *Easter*. In order to distinguish the forms for each of these words different forms for *s*, for *str*, for *r* are called into use; there is no consistency, no logical word-building principle.

Prprt represents *appropriate*, *property*, *propriety*, *purport*;

Prch represents *approach*, *preach*, *parch*, *porch*, *perch*;

Dtr represents *daughter*, *auditor*, *debtor*, *doubter*, *editor*, *dietary*, *auditory*, *deter*, *detour*.

And so on almost *ad infinitum*.

In a joined-vowel system, there are very few words that need to be distinguished by special forms—the insertion of the vowels provides the distinction in almost every case.

Rapidity in shorthand writing depends upon the promptness with which the correct form is conceived or recalled by the brain. It is very obvious that if the student has to memorize long lists of words that must be distinguished arbitrarily—many of such words being written for that purpose *contrary to rule*—there will be hesitancy in recalling them. When the mind is relieved of that burden, through joined vowels, there is an enormous gain in the promptness with which the forms are recalled and written.

I believe that in this is to be found the chief reason why so many young writers of Gregg Shorthand, in the speed contests conducted by the National Shorthand Reporters’ Association have surpassed the records made by experienced Pitmanic reporters of more than double their age and experience—records that have never been made, or even approached, by Pitmanic writers of their age or experience.

Chapter 10

Some Humorous Errors

THE shorthand publications, the reports of the proceedings of the various reporters' associations, and even magazines and newspapers of general circulation, contain numerous examples of the absurd mistakes made by stenographers in transcribing. In nearly every case the mistakes were due to the omission of vowels, to the inability to distinguish between light and heavy characters, or between large and small hooks; sometimes to a combination of two or more of these. By far the most prolific cause of misreadings is the omission of vowels.

Most of the mistakes quoted in these stories are ludicrous, and it is the custom to attribute them to a lack of intelligence on the part of the stenographer. This is not fair, as most of the mistakes are due to structural defects in the system they use. It is impossible to endow a young stenographer with the knowledge of language and the maturity of judgment, which will enable her to tell which word out of a possible five, ten, or even twenty words, represented by the same consonantal skeleton, will best fit into the context.

I am going to give some extracts from articles on the subject, which I think will be of interest—and a source of amusement. An article appeared in the *Success* magazine some years ago under the title, "Some Stenographic Slips," which contained some delightful illustrations of the kind of mistakes that are made on account of the lack of vowels in the outline:

“ A certain man in New York City gains his living by his pen, in sense, but not in fact; for, while he is a writer for periodicals, he does not write. He uses a typewriter in duality of being, a girl and a machine. Some years of experience with the combination has resulted in his acquiring the following:

1. A sprinkle of hodden gray in an otherwise russet head of hair.
2. An active current account in the pardonable department of the profanity section of the Recording Angel's Bureau.
3. An unwholesome joy in "English as she is born of stenographic notes."
4. A peculiar regard for the young woman who advertises that she is "rapid, accurate, and educated," in a typewriting sense.

In the earlier stages of his experience he was amazed, indignant, irritated, and exasperated, by turns, but in time he learned to accept the inevitable. Then began he to keep a book, in which were recorded a few, a very few, of the mistakes of his amanuenses. He became a philosopher, in order to seek the cause of the effect. He found this course to be of a double-headed sort, thus: (a) the basic defect of all systems of stenography, and (b) the superficial education of the average "graduate" of public or high schools linked to the carelessness and ignorance that such an education breeds.

As to the first, you are probably aware that a stenographer, when “taking” dictation, practically dispenses with the signs that stand for vowels, using consonant signs only, thus getting a sort of skeleton outline of the word. This is, as stated, a defect indeed. The context, together with the position in which the word itself is written in relation to the ruled lines in the notebook is supposed to enable one to supply the missing vowels or make sense of the word. Thus, in the word “success,” the stenographer would use the consonantal outline, “S-K-S,” writing, as she does, phonetically, or by sound. Now, if the sentence you dictated to her ran, “The circulation of that popular magazine ‘S-K-S,’ is increasing rapidly,” the identity of the needed vowels would be apparently obvious, thanks to the context—that is, obvious to a stenographer of an intelligent sort. But, as “S-K-S” is also the consonantal outline for *sikhs*, *socks*, *seeks*, *sucks*, *skies*, and so forth, you are very likely to read that “that popular magazine ‘Socks,’ is increasing, etc.”

Now for the extracts from the book, and let it be said that they are given precisely as they came to the man, hot from the typewriter roller. There has been no pruning, adorning, or marring.

“The far-off summons of the matin bell,” was butchered thus: “The far of Simmons of the mutton bill.”

“The doctor looked grave as the sick child stirred uneasily on her crib,” was rendered, “The dear looked grief as the sick child stared uneasily at the crab.”

“The beating that Ericsson had given Karl was wasted on the latter,” was ingeniously mutilated thus: “The batting that Ericsson had given Karl was waist on the latter.” Karl was evidently bent on playing Falstaff.

Sometimes the apparent sense of the mis-sense of the thing is charming. For instance doesn’t “The litter that was the outcome of the pen, etc.,” suggest the old farmyard with a bunch of squealing piglets escaping from their ordained quarters? Yet the man, when he dictated, “The letter was the outcome of the pen of, etc.,” had no thought of pork within him. Or, again, “His career was to be thenceforward as the path of an arrow in the direction of popular reform,” was made to read, “His career was to be thenceforward as the pith of marrow in the duration of popular reform.”

This is one girl’s partial record for one day. She left on the next, by the way. “Canterbury bells,” was metamorphosed into “Canterbury balls,” a most unusual print. “I will add up your account,” came out, “I will do up your account,” which was enough to alarm any honest debtor.

“The deed shocked the nation to the heart-core,” was what was said, and the typewriter evolved, “The dead shocked the notion to the hard car.” “The site of the mansion” was the intention, and, “The sight of the mason,” the result. “Bills of lading” were hardly recognizable as “balls of loading.” “His heart was warmed by the glee,” was rendered, “His heart was wormed by the glow.” “The rumor was transient, though,” was hardly recognizable as “The rammer was trains end through.” A rear-end collision was evidently in that girl’s mind.

“As manna fed the Jews,” was ingeniously tortured by another young woman into, “As mamma fed the jays.” Yet she was a Sunday-school teacher.

When “The Battle of Waterloo,” after going through the ordeal of the notebook and the machine, came out as “The bottle of water l’eau,” the man, astonished, determined on tracing the mental process by which the stenographer had “arrived.” This is how she explained herself: “Well, the outline of ‘battle’ and ‘bottle’ is the same, you know, and I just made it out ‘bottle’; and, of course, when I saw water after that, I was sure that bottle was right—water and bottle, you know—and then I came to the ‘l’ sign that was after the watet’, and I knew that there was a vowel there and I couldn’t make it out until I remembered that ‘l’ with ‘eau’ after it is French for water, and you know I learned French at High school, and so, as water was the word before, I thought for sure that you meant ‘l’ with the ‘oo’ for ‘l’eau,’ the French for water, and so I just wrote it that way.”

“But,” said the man, “the sentence reads, ‘The nearest historic parallel is to be found in the situation that immediately preceded the battle of Waterloo.’ Now in view of that sentence, oughtn’t your common sense to have told you that I couldn’t possibly have said ‘bottle of water l’eau?’”

“I s’pose so,” replied the high-school graduate, who had studied French, and that was all she could offer in the way of explanation or defense.

“Kine, knee-deep in fragrant clover,” was cryptically rendered, “Keen no dip in frogrent clever.” The perpetrator was on the eve of entering one of the most famous women’s colleges in order to “complete her education.” She attempted to condone the “keen, etc.,” by explaining that she did not intend to become a professional stenographer, anyway.

“Plays, creeps, and laughs, the innocent,” crooned the man, one day, mouthing the opening lines of some projected baby verses. When the typewriter tapped out, “Plays craps, and leaves the innocent,” he scanned her visage closely.

He said, “The voice of Dr. Jocelyn was heard calling for assistance,” and it came out, “The vice of Dr. Josh Lane was hard killing four assistants.”

As dictated it was, “The hollow droning of the mill wheel.” As typewritten it was, “The hollow draining of the mile whale,” which is a fairly big contrast, by the way.

When “But she held Jake too dearly for that, and so —passed on,” was dictated, and it came out, “But she held Jacks, two, drawing for that and so passed, one,” would it have been unjust to credit the girl at the machine with an elementary knowledge of gambling?

“Dennis, let him have the pass at cut rates,” was transformed into, “Dennis, let him have the pass at cat rates.” When the man asked her just what she meant by it, she frankly answered that she didn’t know.

Sometimes the stenographer adds a word to the language that is strikingly reminiscent of “Alice in Wonderland”—thus: “A mess of brains spread like brown lace-work over the Klep-slap.” That it should have been, “A mass of briars spread

like brown lace over the cliff-slope," is neither here nor there. A girl who could evoke "Klepslap" is capable of great things. The man told her so when he discharged her, feeling, as he did so, that the universal-language people needed her badly.

The question of international alliances must have been humming in the ears of the girl above the keys when she caused "On account of this, Ethel's life was marred for all time," to appear, "On a Count of those, Ethel's love was married for ill times."

Occasionally a new beast or bird is discovered by the typewriter, thus: "The sea-quail was, etc.," the intention being, "The sequel was, etc." This was in line with a blunder made by the same girl, who avowed that a "gull sunk the schooner," instead of "a gale." On another occasion she declared that a pair of lovers "hatched up a pretty squirrel," instead of their having "patched up a petty quarrel."

Having confessed that once upon a time she had been a waitress in a popular restaurant, the reason is clear why "Foist the males of the dynasty" was clicked out, "first, the meals of the dinnersty." This sounds like a "made-up," but it is a fearful fact.

"The President was heard with acclaim," dictated the man. "The present was hard with clam," was what the typewriter insisted he had said, as she tearfully hunted for her notes.

In some stenographic systems an arbitrary sign may stand for one, two, or even three words. Sometimes, the mistranslation of one of these signs leads to funny results. For instance, it was toward the end of a love story, and the girl was expressing herself as tired of her narrow round of duties and wanting an opportunity in life. To this the so-far-undeclared youth ought to have replied according to the dictation of the man, "Alice, let me be your opportunity!" But the grammalogues for "particular" and opportunity 'were the same in the system used by the man's stenographer, and so she made Edwin plead, "Alice, let me be your particular."

Because of the droll typewritten truth of the assertion that "He is the sawed-off man that one instinctively books down upon," the departure from the original, which was, "He is the sort of man one instinctively hooks down upon," was forgiven.

During a political campaign the man dictated, "The chattering policy of the party is of an amazing sort. Irresponsible talk seems to have taken the place of concerted action, so far as the leaders are concerned." But, according to the typewriter, he had declared, "The chattering Pollies of the party is of an amazing sort. Irresponsible tick seems to have taken the place of concerted coin, as far as the leaders are concerned." He had to admit that his employee had unknowingly written much truth.

A bright-haired, bonnie-faced girl, with a whole stack of diplomas and references, held a position with the man for one day. Seventy times and seven, more or less, did he forgive her blunders during that day; but when, toward evening, he spake, "Fate creeps slowly along Time's corridors," and she made it appear, "Feet creep slyly along Tom's car-doors," it was too much.

In another instance it was announced in reference to some of the stars of a metropolitan dog show, that "The Italian greyhound is a dog of high degree." The man read that he had avowed that "The Italian greyhound is a Dago of high dagger." This, by the way, was an illustrative instance of the manner in which the indifferent stenographer blunders to a conclusion. Thus, "d-g" is the consonantal outline for dog, dago, and several other words. "D-gr" is the outline of degree, dagger, and lots of other things. Now, a moment's reflection in connection with the context would have given the clue to the words that the outlines represented. But she had been impressed with the word "Italian" in the sentence. Now, "dago" being, in the vernacular, an Italian, "d-g" was surely dago, and, as all dagos are supposed to carry daggers, why, "d-gr" was, of course, "dagger," and there you are. ☹️

In a paper read before the New York State Stenographers' Association in 1912, Mr. J. D. Strachan (a Pitmanic writer) quoted some amusing blunders that have occurred in the transcripts of stenographers and reporters on both sides of the Atlantic. Here are some of them:

☹️ An official note taker in the law courts of England said that he dictated to one of his assistants in the course of a speech these words: "Nature is not so kind," and the amanuensis turned in the transcript with the passage thus: "Common sand is gone."

In a case a witness said: "The pursuer came to my house and spoke to me on a Tuesday," which was reproduced, "The pursuer came to my house and spoke to me on the outside."

A person was described by a witness as "running up very heated." This appeared in the notes as "bareheaded."

The chairman of a well-known railway happened to use the phrase, "attacking the traffic of other companies," which was rendered, "taking away the traffic of other companies."

Lord Beaconsfield said upon one occasion, "Where his ashes repose." "Where his issue lives," transcribed the phonographic but unmemoried reporter. "Your application is based on two grounds," was transcribed "bad grounds." ☹️

In dictating to a stenographer a synopsis of a case lawyer said:

☹️ "Plaintiff was the owner of a mill dam which supplies water with which to run a sawmill. The defendant, a competing sawmill owner, had threatened to cut the water from plaintiff's mill dam and thus prevent him from sawing logs with which to fill a certain order. Held, that an injunction would lie." ☹️

This is the way it was transcribed:

“Plaintiff was the owner of a mule team which supplies power with which to run a sawmill. The defendant, a competing sawmill owner, had threatened to cut the halters from plaintiff’s mule team and thus prevent him from sawing logs with which to fill a certain order. Held, that an injunction would lie.”

The stenographer explained that the word signs for mill dam and mule team were similar, and, having injected the mule team into the case, she was unable to understand how cutting the water off from the mule team would interfere with the running of the mules, so she concluded that instead of cutting the water, it should be cutting the halters.

In dictating a brief a lawyer referred to “an anecdote.” The stenographer translated it into “a nannygoat,” perhaps improving and certainly enlivening the text.

In Texas the order of the probate court appointing an administrator (or administratrix, as the case may be) usually reads: “It is ordered that upon the applicant, John Doe, giving bond and taking the oath prescribed by law, that betters testamentary or of administration issue,” etc. A very dignified, but somewhat bashful lawyer, who was a somewhat elderly bachelor, had for a client a wealthy and recently bereaved widow. He also had an inexperienced stenographer. The order of the court appointing his client administratrix of her husband’s estate had been dictated and was lying on the lawyer’s desk, he not having had time to look it over. The client entered, and, seeing that the paper concerned her business, picked it up and glanced over it. The attorney, who had been occupied with some papers, turned to her just in time to see her hastily lay the paper down, while an unmistakable blush suffused her face, and she regarded him with a look of mingled confusion and indignation. Completely mystified, he picked up the offending instrument and to his horror read that: “It is ordered by the court that upon the applicant, Mrs. Blank, giving bond and taking a bath prescribed by law, letters of administration shall issue.”

A lawyer dictated a notice, in a separate maintenance case, that he would move the court for a rule on defendant to pay the plaintiff “temporary alimony and suit money.” As the notice came from the machine it read, “Temporary alimony and soup money.”

In the *Stenographer*, Mr. P. J. Sweeney gave the following:

“Our pumps are recommended as being absolutely useless (noiseless).”
 “In regard to the Kansas City (capacity) of the pump.”
 “We cannot stand whipping (consistently ship) the goods except C. O. D.”
 “We can loan to you upon no (any) terms that will suit you.
 “Soul device (sole devisee) under the last will and testament of Thomas White.”

Some time ago Mr. E. A. Cope gave an interesting account of the errors made in transcribing which have come under his notice as shorthand examiner for the Society of Arts:

“ Proper names are troublesome to beginners. Thompson has been rendered Adamson, Gauntlet transcribed Connolly, Globe transformed to Club, and a letter dictated to Mr. Warner, addressed by the dictatee to Mr. Marshall.

In examining papers, one is sometimes struck by the circumstance that several candidates stumble over the same word, but stumble in different directions. Three transcripts handed in at a speed examination were found to contain three different blunders over the simple word “pledges.” The phrase dictated was, “One of the pledges.” It was variously transcribed, “One of the subjects,” “One of the speeches,” “One of the privileges.” The word “tapped” was similarly favored with three different renderings, all of them wrong. One competitor made it “tacked,” another “talked,” and a third “attacked.” Two scribes misread the word “promoted.” One made it “prompted” and the other turned it into “permitted.” The word “events” was fatal to two more. One transcribed it “visions,” and the other made “evidence” of it.

Here are a few specimens taken at random from faulty transcripts: Salutation was transcribed salvation; issue, as Ireland; ideas, as eye-sights; condemns, as admits; minutes, as months; affection, as conviction; sober, as spirit; shorter, as surer; praising, as personal; solution, as consolation; dissolve as “do something”; animated as vaunted; tended, as contended; played, as completed; right, as ready; amount, as account; settlement, as statement; approach, as preach; notion, as information; employed, as liable.

Hasty writing and imperfection of form are responsible for the conversion of “they were equal to” into “they would stock to”; “see nothing for them except extinction” got twisted into “I say nothing, for they expect extinction.” The phrase “back him up” looked libelous in its transcribed form, “take me up.” And the competitor who took down “I appeal from Philip drunk to Philip sober” must have been in some confusion as to Greek and Hebrew history, when he wrote deliberately “appeal from Peter drunk to Peter sober.”

In a paper on “Shorthand and English,” read before the Incorporated Phonographic Society, London, Mr. J. E. McLachlan quoted many errors in the transcription of a simple passage which was dictated at an examination of shorthand teachers:

“Permits and even promotes” was transcribed “permits and even permits.” “The means of production,” an expression that had been familiar through all the years since the time of Mill, was frequently transcribed “mines of production.” “Excess in the hands of a small class” was transcribed in one instance “chaos in the hands,” etc., and in another “access,” etc. “Positive privation” was variously transcribed—once as “paucity of provision”; “privation” appeared also as “profession.” “Breeding” in the expression, “the breeding of degenerate hordes” was transcribed “brooding” and “breeding.” “Feudalism” was transcribed as “fatalism.”

The report says that Mr. McLachlan “reminded his hearers that the candidates were not students, but candidates for the teachers’ diploma” and that the test was the easiest one set.

This is taken from an address by Mr. J. N. Kimball to a class of shorthand teachers:

“ When I dictate something about the “tales of the monks of ye olden time,” I don’t like to find that I am mistaken and that it was monkeys which had the tails, not the monks, just because the outlines are alike.

And when I write to some bereaved friends and say things which I trust will “soften the force of the blow,” I mildly expostulate when I find myself telling them that “time will soften the fires of the below.” And if I have occasion to rise in my wrath and tell some chap that he is “no account,” it hurts my pride to find that I have only intimated that he is “knock-kneed.” ”

Anyone who has knowledge of the Pitmanic systems will recognize the reason for these errors. *In nearly every case the error was due to the omission of the vowels, to the inability to distinguish between light and heavy characters or between large and small hooks.*

Chapter 11

The Position-Writing Expedient

“The vicious and embarrassing principle of position.”

—Thomas Anderson

“Like “shading,” position writing is destructive to lineality and to phrase writing, and is a constant source of embarrassment if applied, and of illegibility, if neglected.”

—Preface to the first edition of *Light-Line Phonography*

THE expedient of writing words in several different positions in relation to the line of writing is a very old one, and one that has been used for almost every conceivable purpose. It has been used for doubling letters, for indicating omissions of vowels or consonants and as a means of distinction between word forms.

“Position” an Old Expedient

In a paper read before the Shorthand Society, London, in 1885, Mr. Edward Pocknell described in an interesting way the various purposes for which position writing had been applied in systems since the beginning of alphabetic shorthand:

“I have already referred to “position” being used for vowel-dots and “vowel-mode,” and in some instances for differentiating consonant characters *of* and *in* the alphabet. For the former purposes it dates back to the first alphabetical system, that of John Willis (1602). “Position” has been so generally used for various purposes that we may take it that it has not been neglected by any author, as a principle, more or less to be used as a contracting method, especially for logograms and terminations. The principle was adopted more or less in all the early systems. Lyle (1762) used three positions (*above*, *on* and *below* the line,) and the principle occurs in various systems, but it is worthy of note that Mayor (1795) discarded the use of this principle for words, but stated specifically that had it not been for burdening the memory he would have made use of three positions in reference to the line for logograms. Rid-path (1687) *indicated* omitted words by position in relation to each other—viz., *above* or *below*, or *far from*, or near to, the preceding word. Thus he indicated the presence of “to,” “of,” “with,” “by,” “from,” “for,” without writing the words. Byrom used three positions for his horizontal stroke *s* to get the vowel before it, as in, “as,” “is,” and “us”; but his sticking for lineality prevented the application of “position” to any but the horizontal stroke.”

“Position” Condemned by Isaac Pitman

It is not generally known that Isaac Pitman rejected position-writing in the first editions of his system and condemned it unsparingly. Writing about some of the earlier systems, he said:

Systems of shorthand that depend for their existence upon staves, like music, or even on a single line on which the letters have a three-fold power of expressing different words above, on, or below the line are certainly practicable, but they are not practical.

But as time went on Mr. Pitman found that, on account of the omission of vowels in his system in practical writing, many words containing the same consonants but different vowels, were misread. He, therefore, reluctantly introduced position-writing.

In a previous chapter I quoted the statement of Mr. Graham that” Mr. Pitman appropriated from Harding the plan of writing words in three different positions, to imply first-position, second-position, or third-position vowels. See Harding’s book (1830), page 24, last paragraph but one.”

That position writing has some value in a disjoined vowel system for the purpose for which it is used need not be disputed. It is merely a crutch to bolster up an organic weakness in the structure of the system, and as a crutch it is useful, although its usefulness is greatly exaggerated by some of its advocates. To hear some of them talk about it one would imagine that the placing of an outline in a certain position indicated precisely what the omitted vowel was and where it occurred in the word. Put under the acid test of facts this claim vanishes. There are in Pitman’s Shorthand twelve vowels and four diphthongs; these are supposed to be expressed by three positions; that is to say, about *five* for each position. How much of definiteness is there in that? That is not all, because position does not indicate where the vowel occurs in the outline. In short, position-writing, if observed, merely indicates that *one of five vowels* or *diphthongs* occurs *some-where* in the outline; it does not tell *what* the vowel or diphthong is nor *where* it occurs.

Condemned by Others

Candid Pitman writers and teachers acknowledge that position-writing is a much overrated expedient. In a discussion at a meeting of the Manchester District of the Incorporated Society of Shorthand Teachers about four years ago, Mr. Sandiford, a well-known and accomplished teacher of Pitman’s Shorthand, said:

“ Mr. Hallam has dwelt on the point that vocalization in Pitman is now much less scientific than it used to be, that it is more difficult than ever to decipher a word, that more is thrown upon position writing than ever before, and that *position-writing in itself is one of the most dangerous expedients you can possibly have in any system of shorthand.* ”

That is my conclusion, too. It is, it seems to me, a mistake on the part of Pitmanites to labor the question of the positional representation of vowels. After all, position tells you neither what the vowel is, where it is, in what part of the word it occurs, whether it is before a consonant or after a consonant, nor supposing it is, say, a first-place vowel, which particular first-place vowel or diphthong it is. In point of fact, if you try to decipher an outline apart from context, you may have to run through a dozen words before you hit upon the correct one.

In a recent issue of the *Stenographer and Phonographic World*, Mr. W. J. Burrows said:

“When words are written in position there is far too much guesswork. Only one vowel can thus be indicated, and the reader has at least three guesses as to its place in the word, viz., initial, middle, or end. This means eighteen guesses as to the nature or whereabouts of—what? The principal vowel! As to what happens to be the principal vowel there is nearly as much uncertainty in far too many cases. ”

In discussing methods of expressing vowels, Mr. Edward Pocknell, the author of “Legible Shorthand,” who used Pitman’s Shorthand for over thirty years as a professional reporter in London, said:

“Is it not a hundred times more difficult to remember on the spur of the moment whether a phonographic arbitrary form should be placed above, on, or through the line, according to the vowel sound, often obscure? ”

A talented Boston reporter, Mr. Bates Torrey, said:

“Although position is an ingenious device, and in the strictness of its phonetic application conducive to legibility of writing, yet at times it falls short of the purpose for which it was designed—simply because so many words have the same vocal elements. Note the unchanged positions called for in the words *knee*, *nigh*, *gnaw*; in *like*, *leak*, *lock*, *ilk*, *lick*—all being same-position sounds. ”

Mr. David Wolfe Brown, in his book, “The Factors of Shorthand Speed,” in detailing the difficulties which students encounter, said:

“If thus unskilled as to the requirements of the reporting style, he must not only think out the whole outline before starting to write it, but with the outline mentally suspended, must decide which of perhaps half-a-dozen vowels (heard possibly none too distinctly) is the one which should determine the “reporting position” of the outline. ... I ask them to write some word, not very difficult, but which they have never written before; and they hesitate painfully. The pen seems unwilling or unable to touch the paper. Mind and hand appear paralyzed. “What boggles you?” I ask; and they reply, “Oh, I can write the outline but I am trying to think of the position!” This is often their pitiable plight after they have been writing shorthand for months and months! ”

In another place he describes the “indication” of the vowels by position as “generally vague, unsuggestive, and practically useless.”

Thus an outline which, ignoring artificial rules of “position” is so vocalized as to express the essential vowel, will often be written in less time than an unvocalized outline carefully placed in “position,” which, theoretically, is supposed to “indicate” the omitted vowel, but whose “indication” is, for an unfamiliar word (such as a proper name), generally vague, unsuggestive, and practically useless.

“Undoubtedly a Hindrance”

Even that ever-loyal devotee of Phonography, Mr. E. A. Cope, in a discussion before the Shorthand Society, is thus reported: “Mr. Cope’s experience led him to wish for the abolition of position as much as possible. It was undoubtedly a hindrance.” (*Shorthand*, Volume I., Page 114.)

Probably there is no higher authority on rapid shorthand writing among Pitman writers in England than Mr. W. McDougall. In a letter published in *Commercial Education* for October 20, 1915, Mr. McDougall said:

“ Besides the difficulty in the Phonographic outlines themselves, my own experience is that in many cases where the word allows of position-writing at moderate speeds, at the highest speeds this position-writing must go by the board. It is practicable only in the case of the shorter words where the rule serves to distinguish between different words represented by the consonantal outline. Applied to outlines which represent more words than one, it is doubtless helpful in the reading of the notes, but beyond this it becomes both impracticable and unnecessary, and the speed aspirant would do well to ignore the innovation or he will find himself hindered rather than helped. ”

The editor of *Commercial Education* makes this comment:

“ We are quite in agreement with our correspondent. ... Some theorists seem to look upon position-writing as a virtue in itself instead of being, as it undoubtedly is, only a necessary makeshift for, distinguishing words that cannot be otherwise distinguished. ”

The “Appreciable” Losses

The *Phonographic Magazine* (the organ of the Benn Pitman system) for December, 1912, in an answer to a correspondent, makes a very significant statement about the time lost in placing words “in position.” After stating that certain words belong to certain positions—above, on, or through the line—the editor says:

“ It is, however, unnecessary to write these long outlines in position, as the bare outline of each written on the line is sufficient for all purposes of legibility whenever the word appears in context, i.e., *sentences*. And there is an especial disadvantage in doing the unnecessary in shorthand. The time and effort consumed is infinitesimal in a single instance, but the shorthand reporter writes words by the hundreds of thousands and by the millions, and the sum of these infinitesimal losses soon becomes very appreciable. In teaching, therefore (which means, in the cultivation of working habits in the learner), these outlines written unnecessarily in position should be treated as errors, and the student should be admonished not to waste time in doing the unnecessary. ”

That is to say: When the student places the forms in the correct position, the words should be treated as errors, if, *in the judgment of the teacher*, it is *unnecessary* to place them in position. Beautifully definite, is it not?

Most significant is the admission that there is a loss of time and effort in placing the words in position, and that in continuous writing *the sum of these infinitesimal losses soon becomes appreciable*. Yet we have heard people make the absurd assertion that there is no loss of time in placing words above, through, or below the line.

The statement of the *Phonographic Magazine* that “outlines written unnecessarily in position should be treated as errors” is but another illustration of the absurdities and inconsistencies of the old-time systems of shorthand. The student has to spend many tedious hours in learning to do things one way, only to be told that if he does it that way he may be penalized for errors. In other words, to be right is to be wrong.

“Position” Means Loss of Time and Effort

I could quote volumes of similar expressions from well-known teachers and reporters on both sides of the Atlantic, but there is no need to do so. Every candid teacher and writer will acknowledge that position-writing is one of the greatest obstacles to the attainment of speed. There is mental effort in thinking ahead about the position in which words should be placed; there is physical effort in dodging from one position to another, instead of proceeding continuously along the line of writing. As the distinguished congressional reporter, David Wolfe Brown, said: “The more often you depart from the line of writing, the greater the labor for the hand, and the less the speed.” Henry Richter, former President of the Shorthand Society, London, said: “Position writing, if used to a great extent, requires a constant jumping about, and thus wastes valuable time, besides unduly tiring both hand and brain.”

Not only is position-writing a tax on the memory and a constant source of hesitation, but the changing of the position of the hand in placing the words—now above, now below, now on the line—interferes with both speed and legibility.

The use of “position” is an obstacle to easy, natural and legible phrase-writing, for when the words are joined to one another without lifting the pen some of them must be written *out of position*. The result is that those words out of position lose their identity, so far as the vowels are concerned. As sometimes as many as twenty words may be written by the same sign in disjointed-vowel systems, some idea of the ensuing confusion may be gleaned.

There is no position-writing in longhand, and if longhand is to be our standard for natural writing, then position-writing is inadmissible.

As our system is free from “position rules,” the writing in it flows steadily onward without loss of momentum, and with the hand always in the right place to begin the next word without any ineffectual “air-traveling” from the end of one outline to the beginning of the next one. Good phrase-forms, too, are not destroyed as they are in other systems where certain words in the phrase have to be placed above or below the line—or treated as “exceptions.”

Chapter 12

Lineality an Important Factor

“Speed in writing depends [among other things] upon the use of forms favoring lineality of writing.”

—Andrew J. Graham

THE dictionary defines “lineal” as “in a direct line.” Lineality in shorthand writing is understood to mean writing that keeps to the line instead of running in a downward or in an upward direction. It is obvious that if the writing descends below the line of writing, or shoots upward, there is an *ineffectual movement* in getting back to the line. The great English philosopher, Herbert Spencer, in discussing shorthand systems, described such ineffectual efforts as the “unregistered movements of the pen.”

Value of Continuous Movement

In comparing shorthand systems the importance of lineality—the continuous movement of the hand along the line—is too often overlooked; and yet it is a factor of paramount importance. When comparing systems it is a good plan to note *how many characters end beneath the line*; that is, how many “unregistered movements of the pen” there are between the shorthand forms.

When properly understood, this matter of lineality makes clear some otherwise inexplicable events in shorthand history. We constantly see references to the extraordinary vitality of the systems of Gurney and Taylor—the former having been in existence nearly two centuries, and the latter considerably more than a century. The explanation of the longevity of these old systems is to be found in the fact that they are free from shading and position writing; consequently the authors were able to select lineal, easy characters for the most frequent letters. The writing although lengthy, is more like a free, onward running script—and therefore rapid.

In a discussion of shorthand before the Central Commercial Teachers’ Association, Mr. A. C. Van Sant, a Pitmanic writer, said:

“I was trained to the belief that the “Pitmanic” system was the only system by which rapid note-making could be done. I went to Washington in 1863, as clerk of the Committee of the District of Columbia and I had a position assigned to me among the gallery reporters. I looked down and saw one man whose hand was moving across the page in apparently almost direct lines with wonderful rapidity, turning off a sheet every few moments. I wondered what kind of writing he was doing. I went down afterwards and made myself known, and asked him what system he wrote. He replied, “the Gurney.” “Is that rapid enough for congressional reporting?” “Why,” he said, “it is the most rapid system in the world.” I said,

“How is it with regard to accuracy?” “It is the most accurate system in the world,” he said. Here was an upsetting of my views at once.

Afterwards I was employed on the Chicago Tribune, and in a big political meeting with a man who wrote the same system; three of them reported the political speeches, and when anyone wanted anything he was the man who made the quickest answer. ☹️

In a letter about shorthand, which appeared in the Chicago Daily News, an “ex-court reporter of twenty-five years’ experience” urged the importance of simplicity of form. “Speed,” he said, “comes when the forms for the words flow from the brain to the fingers in an instantaneous vibration without effort or pause.” Then he went on to say:

“The Gurney system gives outlines at least as extended as in the Pitman; yet the Gurney men still do most of the work in English Parliamentary Committees; and in 1900 two of the official reporters in New York courts, deservedly famed for swiftness and accuracy, were Gurney men. Of course, the Gurney system is a running script, which the Pitman is not, and as to how far that equalizes matters is pure guesswork. ☹️

The “Unregistered Movements”

If the writing is of such a character that it frequently leaves the hand below the line at the end of a word or phrase, there is an ineffectual movement in getting back to the line, or to the beginning of the next word. In many systems, for example, the common letters, *t* and *d*, are represented by downward characters, and as these letters are of very frequent occurrence, the result is a general downward tendency to the writing. To counteract this defect, such systems resort to other methods of expressing these letters, which result in different ways of writing words and consequently, in much hesitancy in execution.

Why Pitmanic Shorthand Straggles Downward

When such common letters as *t*, *d*, *n*, *m*, *r*, *l*, are given a horizontal, onward direction, the result is a very flowing, lineal movement, conducive to great facility of execution. But, naturally, this may sometimes result in the writing extending along the line and thus occupying more space, although written with much less effort and with even fewer strokes than systems requiring a constant up-and-down or zigzag motion. In his keen, analytical criticism of Pitman’s Shorthand, Herbert Spencer said, among other things:

“It does not keep to the line. This is an evil common to all shorthand hitherto published—an evil productive not only of inelegance, but of great inconvenience, and one which must seriously militate against the general adoption of any method of writing which does not avoid it. ☹️

In another place he criticizes the Pitman method of vocalization, because of “the motions of the hand in going backward and forward to vocalize,” and he terms these “the unregistered

movements of the pencil.” The same reasoning applies to unregistered movements from the end of one word to the beginning of the next.

David Wolfe Brown, in commenting on Mr. Spencer’s views, said:

“Whatever else we may think of Herbert Spencer as a shorthand critic, there is at least one of his remarks that should give us food for serious reflection. It is undoubtedly true that “the unregistered movements”—those in which the pen or pencil moves over the paper without touching it—consume an equal amount of time with similar movements that leave visible signs behind them. This being true, one of the most obvious of shorthand lessons is to spend as little time as possible in “unregistered movements”—in executing unwritten strokes—in writing “in the air.”

Among the suggestions made by Mr. Brown for reducing “the unwritten stroke” to a minimum, is this:

“By avoiding all unnecessary carrying of the pen or pencil above or below the normal line of writing.”

Andrew J. Graham, in stating the “requirements of speed,” has well urged “the use of forms favoring lineality of writing.”

A “Vicious Principle”

There is almost a pathetic note in Mr. Brown’s concluding remarks:

“Most serious is the loss suffered by the shorthand writer who needlessly resorts to “position,” simply because “the accented vowel” happens to be this or that or the other.”

Position for the sake of distinction between words of similar outline, I believe in; position for the sake of “indicating the accented vowel” (which is never thereby “indicated” in any sense of the term) I deplore. If this effort to give to every shorthand outline a position with reference to the “accented vowel” is to go on unchecked, I expect to see rapid stenographic writers become rarer and rarer, through the manual loss by sacrifice of lineality, and the mental loss by undertaking to determine, with reference to every written outline, a generally needless question as to “the accented vowel.”

The foremost exponent of Pitman’s Shorthand among reporters in England for more than half a century was Mr. Thomas Allen Reed. In his “Leaves from My Note-Book” he expressed the opinion that “unless a junction is easy and flowing, no time is saved;” and then he went on to say, “I have met combinations like this (illustrating), written deliberately and in cold blood.” The phrase Mr. Reed gave as an illustration represented, “I think it was said that there would be such”—a phrase-form that required no less than ten downward movements! Mr. Reed then made this significant comment: “It is indeed awkward to have to draw the hand so far downwards and then to make a sudden dash upwards to regain your position on the line!”

In their “Reporter’s Companion,” Benn Pitman and Jerome B. Howard make this explicit statement:

“ Departing widely from the line of writing tends to disturb the even movement of the reporter’s hand, producing a “jerk,” or momentary loss of poise in the effort to regain the line-position. Such a disturbance is dangerous to the writer who is following a rapid speaker, and may, at a critical moment, lead to an actual breakdown in the continuity of the report. ”

Edward Pocknell, author of “Legible Shorthand” (a geometric system), stated that among the features of “a good shorthand” were the following: few people, indeed, realize its importance as a speed factor in shorthand until their attention is called to it. In speaking of it before the Shorthand Society, London, a professional reporter, Mr. Edward Pocknell, author of Pocknell’s “Legible Shorthand,” said: “One of the greatest difficulties of the shorthand constructor is to find signs that will produce lineal writing without having recourse to contractions and exceptions to rules.”

Mr. Pocknell was right. In my earlier efforts at shorthand construction some of the outlines shot away towards the top of the notebook, while others seemed determined to reach the bottom of the page.

Numerous familiar expedients suggested themselves—expedients that tempted me to depart from my ideals—such as alternative forms for certain letters. I did not succeed in reaching my ideal in those early efforts; but in constructing “Light-Line,” I gradually worked towards the solution through the analysis of the frequency of the various letters and particularly, of the various combinations of letters. How this was accomplished will be fully explained when I come to the story of the construction of the alphabet. I believe that an examination of any page of writing in our system will show a very much smaller proportion of words ending below or above the line than in any other system, past or present. If you place a page of the notes alongside a page of notes in any other system, you will notice that in our system a very large percentage of the words and phrases end on the line, so that the hand is in position to begin the next word; whereas in other systems a very large percentage of the forms end beneath the line of writing, and require an upward jump of the hand to get in position for the next word. This involves what has been called “air traveling,” that is to say, movements which have no value or significance, as the time consumed in moving from one position to another is absolutely lost so far as practical writing is concerned.⁴

⁴ Since this was written the “Committee on Shorthand Standards” of the New York State Shorthand Reporters’ Association, 1918, has declared that:

“Assignment of signs to sounds should give a factor of (horizontal) lineality of not less than 75 percent.”

The report then states:

“This factor of lineality varies for well-known shorthands from just under 50 percent for most Pitmanic to just over 90 percent for Gregg.”

Chapter 13

A Résumé of the Seven Basic Principles

“ The development of Phonography affords another illustration of the general rule that the simplest, most convenient, and most reasonable way of doing anything is usually the last to come, but when the right thing is accepted, it seems amazing that the inferior and imperfect one could have been tolerated, much less loved and tenaciously adhered to. ”

—Benn Pitman

You will have noticed that in the preceding chapters I have discussed broad, basic principles only. An understanding of the value, and of the relative importance of these basic principles, is a necessary preliminary to an explanation of the manner in which I attempted to construct a system in harmony with them.

I have shown by numerous quotations that each of these principles has been advocated or approved by prominent authors, teachers, or expert writers, of the older systems. Possibly the quotations with which the previous articles have been interspersed have been so numerous as to be wearisome to some readers. Nevertheless, it was with great reluctance that I omitted many other quotations from similar sources on almost every topic contained in the series. If the articles seem to have been unduly embellished with these quotations from authors and writers of other systems, I feel sure you will appreciate what a strong temptation I resisted in refraining from giving quotations from teachers and writers of our system. What splendid articles and letters I could have quoted from that source, and particularly from those who had previously written or taught other systems!

A Recapitulation

Let me refresh your memory at this point by a brief recapitulation of the seven great basic principles, which were discussed in previous articles:

1. *Based on the ellipse or oval—on the slope of longhand*
2. *Curvilinear motion*
3. *Elimination of obtuse angles by natural blending of lines*
4. *Joined vowels*
5. *One thickness—elimination of shading*
6. *One position—elimination of “position writing”*
7. *Lineality—the easy, continuous flow of the writing along the line*

All these principles are in accordance with the teaching and practice of ordinary writing; all of them are natural writing principles. Gregg Shorthand was the first system in which they had *all* been incorporated.

Anderson's "Five Axioms"

Mr. Thomas Anderson, author of "The History of Shorthand," in an address on "The True Theory of Shorthand," delivered before the Shorthand Society, London, March 7, 1882, (six years prior to the publication of "Light-Line Phonography") said:

“ I shall not limit myself to a dry dissertation on the defects of the existing systems or an exposition of the illogical basis on which they repose; ... but it is my design to propound, to illustrate, and to defend, what, it appears to me, are the necessary and indispensable conditions which regulate and apparently restrain the attainment of excellence in the elimination of hooks turned backward has a greater influence towards fluency and naturalness of writing than is generally supposed. ”

Two Sizes of Hooks

In many of the older systems there are *two* sizes of hooks. It requires great nicety of execution to distinguish these hooks, especially in a system containing the half-lengthening expedient; yet in many instances the small hook expresses one sound, and the same hook made larger expresses an *entirely different sound*. This is a violation of the principle that "sounds within a determined degree of likeness be represented by signs within a determined degree of likeness; whilst sounds beyond a certain degree of likeness be represented by distinct and different signs." Furthermore, in a geometric system, there is very little difference in many instances in size or shape between a large hook and a half-length curve.

Many of the best writers of Pitman's Shorthand have vigorously denounced the use of the large initial hook for *l* before curves. This expedient was introduced in Pitman's Shorthand in 1862, and the greatest exponent of Isaac Pitman Shorthand of that time, Mr. Thomas Allen Reed, declined to adopt the expedient in his own practice, as did many other capable writers. Indeed, Mr. Reed went so far as to speak of the "abomination of the large hooks and his arguments against the large hooks, supplemented by those of Mr. William Relton and many other eminent authorities on the system, convinced Isaac Pitman (after more than thirty years) that he had made a mistake in allowing them to become a part of the system. In the last years of his life the venerable author attempted to remove them from the system, but his sons to whom he had given the control of the business, declined to permit the change to be made. Shortly before his death, Mr. Pitman issued numerous appeals to all Phonographers to eschew the use of these large initial hooks before curves, declaring them to be a "blot on the system."

There lies before me a pamphlet, consisting of eight large-size pages, of a somewhat remarkable character. It is entitled, "From the Teachers of Pitman's Shorthand to Sir Isaac Pitman & Sons"; it is dated, "Bath, 5th September, 1896." This pamphlet, compiled and published by Sir Isaac Pitman, and sent to the junior members of the firm, consists of extracts from letters received by

Sir Isaac from teachers, approving of the changes he proposed to make in the system and which were vetoed by the junior members of the firm, to whom he had turned over the control of the business. The copy in my possession is rendered peculiarly interesting because it bears at the top of the first page in the handwriting of Sir Isaac, “For Alfred and Ernest,” and all through the pamphlet the passages which the author of Phonography considered deserving of special attention, are marked in red ink. One curious thing about it is that Sir Isaac evidently considered that the best way to emphasize any part of the pamphlet was to draw a red ink line *through*—*not* underneath—the words. The sentiments expressed by the many teachers, quoted by Sir Isaac, are in substance to be found in these extracts:

The late Mr. J. T. Beck, of Liverpool, wrote:

“ The sooner the *large* initial hooks to curves are abolished, and the new arrangement introduced, the better it will be for all concerned. ”

Mr. G. F. Sandiford, of Manchester, wrote:

“ My views on the advisability of the abolition of the large, initial *L* hooks to curves are quite unchanged, and will require other methods than those being adopted to change them. ”

Among those supporting Sir Isaac in his battle with his sons were some of the leading authorities on Pitman’s Shorthand of that time, and among them were some who are still prominent. Here are some quotations from a letter to Sir Isaac from Mr. James Hynes, now manager of the London office of Isaac Pitman & Sons:

“ It is difficult to understand the objections to the improvements. Indeed, I am beginning to think that the objections are more apparent than real. I have recently spoken to the principal teachers in the Manchester Society, and I find that they are unanimously in favor of the alterations. I am teaching the “new style” in my classes and with the most gratifying results. I have never had such ease in teaching the initial hooks nor have the exercises ever been done so well. ... It is to be regretted that the Firm cannot see how much they are standing in their own light in blocking the improvements, as they are doing. It is a suicidal policy thus to refuse to simplify the system for the learner, and especially for the pupils in the day schools of the country, upon whom the future of Phonography will so largely depend. It would be a thousand pities if the improvements should be killed by opposition. I should be glad if Sir Isaac could in some way make it publicly known that the improvements are not to be abandoned. ”

Benn Pitman in his “Life and Labors of Sir Isaac Pitman,” explains that his differences with his brother Isaac arose “on account of my rejection of his injudicious and much-repented-of change in the system—the use of large initial hooks on curved strokes—which he introduced into the English text-books in 1862—the very changes which he labored so energetically during the last six years of his life to expunge from the system as a ‘defect’ and ‘a blot’.”

Benn Pitman quotes Thomas Allen Reed as saying of Isaac Pitman’s efforts to get rid of the large hooks, “They are but a return to a safe, convenient practice, which I never abandoned.”

I believe I am one of the very few people possessed of a complete set of the pamphlets and journals issued by Sir Isaac Pitman in his controversy with his sons in the closing years of his life, and probably my set is unique, in that it contains very interesting and enlightening communications from the sons to the members of the committee, who were to pass upon the “improvements” advocated by their father, the author of the system. Sir Isaac, at over eighty years of age, fighting desperately—even on his deathbed—for the removal of the “blots” on his system is an heroic figure, albeit a pathetic one. Concerning the exclusion of one or two forms of large-hooked strokes, Sir Isaac Pitman wrote from his deathbed, “My system of shorthand shall not go down to posterity with two sizes of initial hooks to curved strokes, and two forms each for double consonants which are better represented by one sign.” (*The Speler*, page 172.) Sir Isaac Pitman also said, “The system has two blots, which I, as the providential Inventor of the system, cannot allow to remain, and depart from this world in peace.” (*The Speler*, page 2, January, 1897.) Sir Isaac died a few days later.

Briefly told, Sir Isaac condemned the use of large initial hooks on curves in his system for these reasons:

1. In high speeds it is impossible to preserve the distinction of size in hooks.
2. The halving of a letter with a large hook makes an indistinct character.
3. Big initial hooks are ugly.
4. Professional reporters, who learned Phonography before their introduction, will not use them.

In answer to this, his sons said:

“ The halving of a letter with a large initial hook, we are told, makes an indistinct character. For the same reason, so must the halving of a consonant with a large final hook. Yet *fashioned*, *occasioned*, *motioned*, etc., are to be permitted, while *flat*, *quote*, etc., must be discarded. ”

Now, I agree with both father and sons! We maintain that the distinction of two sizes of hooks, whether joined to half-length or full-length strokes, or initial or final, cannot be observed in rapid writing.

In Gregg Shorthand there is but *one size* of hook *anywhere*, and there are no hooks *turned backward*.

Four Lengths

In many systems there are four, and sometimes even five, lengths of characters. Such distinctions require great nicety of execution, which can be maintained only by those who have trained themselves to almost perfect control of hand. Even then the distinctions can be made only when writing at a moderate rate of speed. In Pitman’s Shorthand four lengths are in constant use, although it is the practice to speak of three lengths only. There is the short dash used for the logograms, a half-length, a full-length, and the so-called “double-length,” and in certain instances the so-called “triple-length.” These four lengths are illustrated in: *you* (1), *met* (2), *my* (3), *mother* (4); or in the words, *due* (1), *admit* (2), *deem* (3), *diameter* (4); or in *to* (1), *pit* (2), *happy* (3), *peep* (4).

There are no four-length characters in Gregg Shorthand; and on account of the insertion of

the vowels, even the third length is almost invariably distinguished as such, quite apart from its length.

I could mention many other features of our system that distinguish it as a natural-writing system from the old-time systems, but I think I have said enough on the subject.

As I View It

The memorable meeting of teachers, writers, reporters, and school managers, held in Chicago in 1913 to celebrate the Silver Jubilee of Gregg Shorthand, was the largest gathering of shorthand enthusiasts ever held in all the long history of the art. At the closing meeting I was called upon to speak on “The Shorthand World Today.” While it was an informal and impromptu talk to a gathering of friends, the closing sentences so well express my views on the principles of shorthand construction that I have clipped them from the report of the meeting as an appropriate résumé of what I have set forth in this and in previous articles:

“In the end it will all come down to the question of what are the right principles of shorthand writing.

“What shall be our guide in the matter of shorthand principles? I believe that what is natural will survive; that if we work along the natural lines, we are best helping the development of the art and helping its extensive use; and that the extension of the use of shorthand will be of vast importance as a factor in the saving of time and effort, and in the advancement of education.

“Now, what is *natural*? It seems to me that it is *not* natural to write thick and thin characters. It can hardly be disputed that it is natural to write characters that are free from arbitrary shading. What next? I do not think that it is natural to write words in position—that is, above the line, on the line, through the line, or under the line. All natural writing should be in a continuous line.

“I do not believe that it is natural to write a consonant skeleton of a word—mentally to analyze a word, separating the consonants from the vowels and then put down only the consonants, going back over the outline afterwards to dot-in the vowels. It is a great tax on the mind to analyze the forms in this way, and it is a still greater tax to decide whether the vowel is important, and then a further tax to remember *where* that particular dot or dash should be placed in relation to the consonant. I believe that the vowels should be written in their natural order in the outline as they occur, and written by characters that are natural links between the consonants.

“And it does not seem to me natural to write characters in all possible directions, making a series of zigzag movements. Our ordinary longhand is the product of centuries of evolution: it is easy, natural, and graceful. So I believe shorthand, the highest development of writing, should have that same beauty of form and ease of writing that characterizes longhand—the grace of form about which Mr. Brown spoke in discussing penmanship. The characters in shorthand should appeal to the artistic eye.

“I believe that this shorthand of ours embodies these natural principles, and that it is going to be the writing that will prevail in all countries eventually, and that it will live long after we have passed away. I believe, too, that in looking back to this convention in the years to come, in all lands, they will see the starting of a movement for a writing in all languages that shall express the evolution of the art of writing in its highest form, whatever that ultimate form may be.”

Chapter 14

The Sounds to Be Expressed

THERE are five main divisions of the problem of shorthand construction:

1. *The Sounds to be expressed*
2. *The evaluation of the Sounds*
3. *The selection of the Shorthand Material to express these Sounds*
4. *The evaluation of the Shorthand Material*
5. *The use of the Shorthand Material with the greatest degree of economy and efficiency*

In this chapter I intend to discuss the first of these divisions—the sounds to be expressed. I take it for granted that it is unnecessary at this late day to demonstrate that shorthand should be written by sound.

The Origin of Writing by Sound

An impression long prevailed that writing by sound originated with Isaac Pitman. A series of articles on “The Evolution of Phonetic Shorthand,” which appeared in the *Stenographer* for December, 1902, began:

“Isaac Pitman is commonly credited with having originated the use of the phonetic principle in shorthand. That this is erroneous there is abundant evidence to show. More than two centuries before the publication of *Stenographic SoundHand*, shorthand authors were directing their pupils to write according to the sounds of words and not according to the received orthography. Such was the instruction given by each of the following authors: John Willis (1602), Edmond Willis (1618), Cartwright (1642), Metcalfe (1645), Rich (1646), Bridges (1659), Shelton (1650), Everardt (1658), Mason (1672), Stringer (1680?), Ridpath (1687), Barmby (1700), Weston (1727), Gibbs (1736), Macaulay (1747), Tiffin (1750), Annet (1750), Angell (1758), Taplin (1760), Holdsworth and Aldridge (1766), Graves and Ashton (1775), Hervey (1779), Blanchard (1779), Taylor (1786), Mayor (1789), Lewis (1815), Bailey (1819?), Towndrow (1831), and Moat (1833). Tiffin (1750) used a phonetic alphabet in which all the consonant sounds were represented, and a full vowel scale, “suited to the utterances of the languages,” as he said. He claimed that his was the first system of the kind, and stated that by it one could “express in writing his own pronunciation or any other that he has a mind to represent.” Others had alphabets more or less phonetic in their arrangement, and the American system of Phineas Bailey (about 1819), is known to have been based upon a purely

phonetic alphabet. ☞

In the early days of his “Stenographic Sound-Hand” and “Phonography” Isaac Pitman repeatedly claimed that he originated phonetic shorthand writing and also the word “Phonography.” In a circular which he issued in 1841 he spoke of his “First Edition” thus: “This work is interesting, as containing the first attempt at writing by sound”; and at the Phonetic Festival, Birmingham, in 1848, he said:

“The committee who got up this meeting gave me for a subject, ‘Phonography,’ a single word; a word which I was the means of introducing into the language.” Commenting on these statements, Mr. Andrew J. Graham (*Students’ Journal*, July, 1889) said:

“ This self-praise is clearly too much. The term, “Pronouncing Stenography,”—the precise equivalent of Isaac Pitman’s term, “Stenographic Sound-Hand”—was applied by Mr. Keyes A. Bailey to his system, published in New York in 1831, which, be it noted, is six years before Mr. Pitman’s “Stenographic Sound-Hand.” So that Mr. Pitman cannot have the glory of originating the idea of phonetic representation in shorthand, nor of the invention of even the name. The name Phonography was first applied by Isaac Pitman in 1840, but it has been applied in a work of 144 pages, teaching phonetic spelling, published in London in 1701, with the following title; “Practical Phonography; or, the new art of rightly spelling or reading words by the sight thereof. Applied to the English tongue by J. Jones, M.D.”

Nor can Mr. Pitman have the honor of first applying the term Phonography to shorthand writing; for in 1691, there was published in London, a book by Joseph Games, entitled “Phonography; or How to write the English tongue by the Sound Thereof;” and the equivalent, Phonegraphy—voicewriting, or writing by sound, was applied in 1839, by De Stains, to his shorthand system, which was published some months before Mr. Pitman issued his “Second Edition” with the name, Phonography. ☞

In his “History of Shorthand,” Thomas Anderson also refers to the claims made by Isaac Pitman and his early disciples that “writing by sound” originated with Pitman’s Phonography:

“ The title, *Phonography*, is not new, no more are the ideas on which the system is founded, as we find the title first used by M. C. Luc, 1809 ... and we also find the arrangement of the alphabet, as well as its pretense to a philosophical foundation, enunciated by Dr. John Byrom in 1767. Not only so, but anyone may see in the alphabet of Blanchard (1779) all the outlines of characters used by Pitman. Pitman’s *sh* is only Blanchard’s *f*, Pitman’s *f* is his *r*, Blanchard’s *w* is Pitman’s *r*, which when thickened is also made to do service in Pitman’s system for *w*,⁵ and Pitman’s *s* and *z* (circle) are also those of Blanchard. The inquisitive stu-

⁵ This refers to the old form for *w* in Isaac Pitman’s system, which is still retained in most of the American Pitmanic systems, Munson, Graham, etc.

dent will also find that the very arrangement of the alphabet of Mr. Pitman is little less than a reproduction of that of Dr. Byrom, who clustered the letters according to their affinity of sound or their labial connection, thus: *p, b, f, v, t, d, th, dh, z, sh*. In this alphabet, too, we recognize the plan taken by Mr. Pitman, of using the combination of *ks* for *x*. Further, in the work published by Scott de Mainville, we find all the hooked characters which Pitman employs for *fr, fl, gl, pr, br*, etc. ☞

The First Phonetic System

Benn Pitman, in his “Life and Labors of Sir Isaac Pitman,” said:

“It is a curious incident in stenographic history that the exact order of Isaac Pitman’s vowel scheme, and to a great extent the pairing of the consonants, was anticipated in one system of Shorthand, namely, that by Holdsworth and Aldridge, joint authors of “Natural Shorthand” published in 1766. ... It was the first brief system of writing in which the phonetic principle and a full alphabet were recognized. ☞

Referring to Holdsworth and Aldridge’s system in his “History of Shorthand,” Isaac Pitman said:

“This system is constructed on a phonetic basis, but will not stand the test of practice. ☞

The title page of Holdsworth and Aldridge’s system declares that “All the simple characters are as analogous to each other as the sounds they represent.”

France, too, has a claim to the origin of phonetic shorthand. In the *Journalist* (London) for June 24, 1887, M. Jean P. A. Martin put in a claim on behalf of Conen de Prépéan. He said:

1813 v. 1837—A Lesson to all Fathers of Phonography

On the 11th November, 1813, before the Société Académique de Paris, a report was read about Conen de Prépéan’s Stenography. The second paragraph ran thus: “Exact Stenography is the art of writing as fast as one can speak by taking down accurately every sound uttered by man, no matter the language.” At that time, Mr. Isaac Pitman, the well-known father of Phonography, was in his infancy. Three years before the event I have just referred to, a man had died who was a strong advocate of Phonetic printing; M. Urham Domergue published in phonotypy a book entitled: “La Prononciation Notée” (1796). Louis Meygret had set Mr. Pitman the example in 1542. I can guess, however, that Mr. Pitman was 16 years of age in the days of the prosperity of the French Spelling Reform Association (1829); that he was but a boy when Conen de Prépéan was advocating phonetic spelling, and pushing Phonography to the front.

“Grizzling hair the brain doth clear,” and in the more philosophic mood, and with the wider knowledge and broader outlook that came to him with advancing years, Isaac Pitman frankly

admitted that he neither invented phonetic writing nor the word “Phonography.” In some of his statements he went to extremes of modesty in deprecating his work in this respect. In 1862, acknowledging a testimonial, he said:

“It is stated to have been presented as a mark of gratitude for the invention of Phonography Now I wish to say, and I ought to know, that there is really no invention in the matter. I do not know any one word in the language which would express what Phonography is. It is certainly neither an invention nor a discovery, for I invented nothing and discovered nothing. I was considering the matter this morning while enjoying a long walk home from beyond Paddington and the only word I could think of was usufruct. Phonography is a usufruct, a fruit of use—taking the word in its etymological sense, and not in the accommodated legal sense signifying a temporary possession of something that really belongs to another. The word might express the idea of some truth brought into use. Phonography is just that and nothing more—a truth acted out. ”

And in his “History of Shorthand” he said:

“It may be noticed here that the title “Phonography” was adopted by the writer of this history as the most suitable term for his own system of Phonetic Shorthand in 1839, several months before “Phonography” IDe Stains’s appeared and under the impression that it was a new word added to the language, as he also thought (not having access to many books) that he was the first in modern times to attempt to write words in accordance with their pronunciation. He has since found that about a hundred authors have written on this subject and urged its importance on mankind. ... The use of the word “Phonography” may be traced back one hundred thirty-nine years before the appearance of that system of Shorthand which now bears the name. The writer has in his possession a work entitled “Practical Phonography,” a thin quarto volume, published in 1701 by John Jones, M. D. The aim of this writer was not to introduce a new character nor even to alter the spelling of words, but merely to assist persons in learning to read or spell by means of tables of words, classified according to their sounds, whereby the irregularities of the common spelling are more clearly perceived. ”

In a discussion on the origin of phonetic writing, the Proceedings of the International Shorthand Congress, in 1887, reports (in the third person) Sir Isaac as saying:

“He had never claimed or imagined that phonetic writing originated with him; but when he published his first shorthand work in 1837, he was not acquainted with the earlier literature of the subject of phonetics. ”

The articles that have been written on this subject and the papers that have been read before various societies—all designed to prove that Isaac Pitman did not originate either phonetic shorthand or the word “Phonography”—if printed in one volume would make a book of formidable proportions. For my part, I believe that such discussions are absolutely futile and absurd. Doubtless they were originally evoked by Sir Isaac’s early statements on the subject and have

been kept alive by the persistence with which the Pitman firm—even after the disclaimers of Sir Isaac—endeavored to disseminate the idea that phonetic shorthand originated with “Phonography” and that all the systems of shorthand antedating “Phonography” were crude “stenographies.”

An Overworked Quotation

This impression has been deepened by constant repetition of the description of shorthand given by Charles Dickens in “David Copperfield,” containing the statement that “the mere mechanical acquisition necessary, except in rare cases, for thorough excellency in it—that is to say, a perfect and entire command of the mastery of shorthand writing and reading—is about equal in difficulty to the mastery of six languages, and that it might perhaps be attained, by dint of perseverance, in the course of a few years.”

This quotation from the pen of the famous author, who was an accomplished writer of the Gurney system, has done yeoman service for the Pitman firm in conveying the absolutely erroneous impression that the Gurney and other earlier systems were crude in structure and extremely difficult to acquire.

Every reader and lover of Dickens knows that he heightened the effect of his novels by humorous, and sometimes even ludicrous, exaggerations; and this is true of his description of learning shorthand. When one remembers that Dickens had mastered the Gurney system so completely, and attained such proficiency as a writer of it, as to have a seat in the Reporters’ Gallery of the House of Commons at the early age of nineteen years, the statement that the “mastery of shorthand is about equal to the mastery of six languages” will be received—as it was intended to be received—as a humorous exaggeration.

When all is said that can be said on the subject, I believe that the great achievement of Isaac Pitman was the definite establishment of the phonetic principle in shorthand writing. It is incontestable that he was the first to publish a system in which phonetic writing was advocated as *fundamental*, and he was the first to apply that principle fully and practically. The very title of his first book, “Stenographic Sound-Hand,” shows clearly that it was the dominant thought in his mind in connection with the system he had produced. I believe, therefore, that while he did not actually originate writing by sound in shorthand the glory of establishing it as a fundamental principle in the construction of shorthand systems will ever be associated with the name of Isaac Pitman.

American Author Anticipates Isaac Pitman

Since the above was printed in the *Gregg Shorthand Magazine*, a correspondent called my attention to the fact that the Rev. Phineas Bailey, of Poultney, Vermont, who first published his system in 1819, took a definite stand in favor of phonetic shorthand in the edition of his book published in 1831. My correspondent says:

“The statement you made that ‘the very title of Isaac Pitman’s first book (“Stenographic Sound-Hand”) shows clearly that it was the dominant thought in his mind in connection with the system he produced’ will apply equally as well to the system of Phineas Bailey, as the title of

his book was ‘Pronouncing Stenography.’”

A reference to Phineas Bailey’s book discloses the fact that the full title was “A Pronouncing Stenography, containing a complete system of shorthand writing, governed by the analogy of sounds, and adapted to every language.” The first rule reads:

“Rule I. Spell words according to their most simple sound, omitting silent letters, and joining the remainder as closely as possible.”

My correspondent adds: “You will see that there is a very remarkable resemblance in ideas and in title between ‘Pronouncing Stenography’ and ‘Stenographic Sound-Hand,’ and Bailey’s book antedated Pitman’s by half a dozen years.

“Sound-Hand” and “Hand-Writing”

Some years ago, in discussing systems with a teacher of great experience—a man who took a deep interest in shorthand principles—he remarked: “The outstanding feature of Isaac Pitman’s invention was the phonetic principle—writing by sound; while the outstanding feature of your system is its adaptation to the natural movement of the hand. Pitman’s system embodied a scientific analysis of sound-writing; you have adopted that principle and have added to it a scientific analysis of hand-writing.”

I don’t suppose that the gentleman who made this epigrammatic statement was aware that the first book of our system was entitled “*The Phonetic Handwriting*,” and it did not occur to me at the time. It is somewhat singular that the title of that book should have embodied the dominant thought in my mind, just as “*Stenographic Sound-Hand*” embodied the dominant thought in the mind of Isaac Pitman.

After all, the statement that shorthand is “written by sound” is but relatively true of any system. Even in *theory* what is written for many words is but an approximation to the actual sounds: in *practice*, the phonetic theory is thrown overboard in many systems.

For example, the distinguished London professional reporter, Thomas Hill, in a discussion before the Shorthand Society, London, on one occasion said:

“ I wish to correct the statement that Pitman’s system was “phonetic both in theory and in practice.” That system was, no doubt, phonetic in *theory*, but in practice it was unphonetic. For instance, although normally the halving of a thin letter added t and the halving of a thick letter added d, yet in practice a thin letter was frequently halved to express the addition of d, and contrariwise, a thick letter was frequently halved to express the addition of t. A notable instance of this departure from theory was afforded by the usual form for the word *affidavit*. In this case the thin letter f was halved to express fd, and the thick letter v was halved to express vt. This was an entire reversal of the theory. Another instance was afforded by the current way of writing the syllable *ted* in the last tense of a verb—namely, a half-sized t. ”

The great phonetician, Alexander Melville Bell, condemned Pitman’s Phonography because, he said, “it furnished no means for the writing of four of the most distinctive of all the vowel sounds in English: those heard in *ere, err, ask, ore*.”

The Number of Sounds

In discussing the “Elements of the English Language,” Andrew J. Graham said: “The number of simple and proximate elements of the English language (exclusive of whispered *l*, *m*, *n*, and *ng*) is forty-six.” He added: “There are sixteen vowels, which may be represented by twelve signs provided no distinction is made by means of signs, between the vowels of *ale* and *air*, *ebb* and *her*, *at* and *ask*, *old* and *whole*.”

In *theory* at least, most phonetic systems provide for the expression of forty-one sounds, as follows:

Consonants		Coalescents		Aspirates		Vowels		Diphthongs	
<i>p, b</i>	[p], [b]	<i>w</i>	[w]	<i>h</i>	[h]	<i>a</i> as in <i>at</i>	[æ]	<i>u</i> as in <i>fume</i>	[ju]
<i>f, v</i>	[f], [v]	<i>y</i>	[j]			<i>a</i> as in <i>arm</i>	[a]	<i>ow</i> as in <i>now</i>	[aʊ]
<i>k, g</i>	[k], [g]	<i>wh</i>	[hw]			<i>a</i> as in <i>aim</i>	[eɪ]	<i>oi</i> as in <i>oil</i>	[ɔɪ]
<i>t, d</i>	[t], [d]					<i>i</i> as in <i>if</i>	[ɪ]	<i>i</i> as in <i>fine</i>	[aɪ]
<i>th, dh</i>	[θ], [ð]					<i>e</i> as in <i>ebb</i>	[e], [ɛ]		
<i>n, m</i>	[n], [m]					<i>e</i> as in <i>eat</i>	[i]		
<i>ng</i>	[ŋ]					<i>o</i> as in <i>on</i>	[ɑ]		
<i>r, l</i>	[ɹ], [l]					<i>o</i> as in <i>orb</i>	[ɔ]		
<i>s, z</i>	[s], [z]					<i>o</i> as in <i>roe</i>	[o]		
<i>sh, zh</i>	[ʃ], [ʒ]					<i>u</i> as in <i>hut</i>	[ʌ]		
<i>ch, j</i>	[tʃ], [dʒ]					<i>oo</i> as in <i>foot</i>	[ʊ]		
						<i>oo</i> as in <i>doom</i>	[u:]		
(21)		(3)		(1)		(12)		(4)	

Some authors have provided special characters to *q* (*kw*), and *x* (*ks*); others have attempted a more complete expression of the vowels by making provision for the sound of *a* heard in *air*, *a* heard in *ask*, *e* heard in *her*, and of *o* heard in *whole*. Prof. J. D. Everett, in his “Shorthand for General Use,” has characters for fifteen vowels and four diphthongs. He distinguishes between a as in *mat*, and *a* as in *comma*, *mica*, *boa*, between *u* as in *bud*, *cull*, *burrow*, *son*, *rough*, and *ur*, as in *fur*, *curl*, *burn*, *fir*, *fern*, and between *o* as in *home*, *comb*, and *o* as in *so*, *flow*, *pole*, *toe*. (These are the actual illustrations given in his book.)

Yet Professor Everett admitted that he had not provided for all the vowel-sounds. His exact language was: “Without pretending to represent every shade of vowel-sound employed in correct English speech, I claim a nearer approach to this end than has been attained by any system of shorthand hitherto published.”

Sound Refinements a Source of Confusion

But such refinements of the vocal elements are now generally recognized as being unnecessary and a source of confusion to students. The trend in recent times has been toward simplification, rather than elaboration, of the phonetic element in both consonants and vowels; in other words, toward a reduction of the number of fine distinctions of sound.

Theodore R. Wright, in his address as President of the Shorthand Society, London (after having written Pitman's Shorthand as a professional reporter for more than thirty years), said:

“As a practical man I must enter a protest against the unnecessary refinement which some phonetic theories introduce into the vowel system. To insist on having separate signs for the vowels in *take* and *tare*, *on* and *all*, *could* and *food*, *rat*, and *rather*, *wet* and *whether*, *is*, in my opinion, totally unnecessary; if we have good joining forms for *oo* and *e*, the so-called consonants *w* and *y*, which are really vowels, may be dispensed with, and the second *th* is another unnecessary refinement. If we adopt this practical view we thus effect a saving in our all too scanty material to the extent of eight characters. The following would be an acceptable vowel scale for the stenographic purposes: *pat*, *pet*, *pit*, *but*, *rod*, *rood*, *rode*, *reed*, *raid*, *night*, *newt*, *now*, *boy*. ”

The late Charles Currier Beale, of Boston, who was a talented as well as an erudite and profound writer on shorthand topics, claimed as a merit of the Pitmanic style he evolved that in it “the difficulties of phonetic spelling were reduced to a minimum,” through a reduction in the number of vowel-sounds expressed. It is true that some authors—mainly those who have adapted systems from languages containing fewer sounds than English—have gone to an extreme in the reduction of the representation of both consonants and vowels. In some of them even such vital distinctions as those between *t* and *th*, *gay* and *jay*, *u* and *o*, are ignored in practice.

Chapter 15

Economies in the Use of Shorthand Material

“ Shorthand is found to depend, not upon a formidable array of marshalled hieroglyphics, but upon the active manœuvring of a few selected signs. ”

—Edward Pocknell

IT will readily be understood that, with the limited material at the disposal of the shorthand constructor, great economy must be exercised in making assignments of material to the various sounds. It is, then, desirable at this point to consider what economies of material are possible without loss of efficiency.

Pairing of Consonants

A great economy of material is effected by the pairing of the related consonants—*p, b; t, d; k, g*, etc. This simplifies the learning of the characters; and the affinity of sound between the letters which are paired is helpful in reading. At the same time it enables us to express two letters by one stroke—the short stroke expressing the short sound and the long stroke, the long sound.

This plan of pairing the cognates was recognized and adopted by shorthand authors more than a century ago; but owing to the fact that in most of the older systems the distinction was made by shading, it was impossible to apply the principle to the same extent as is done in Gregg Shorthand. It is, for example, impossible in Pitmanic Shorthand to pair the upward characters, since the shading of up-strokes is practically impossible. Nor is it desirable to express sounds of frequent occurrence by shaded *horizontal* strokes or curves, as it is difficult to write thickened horizontal characters. As distinction between the pairs is made in our system by *length* instead of by thickening, it is possible for us to form pairs for the upward characters and to use both the horizontal straight lines and horizontal curves for *frequently-occurring pairs of letters*. In this way we gain in the pairing of *n* and *m*, *r* and *l*, which are not paired in Pitmanic shorthand. The gain from the pairing of these letters is enormous. It is a gain not only in economy of material, but in effectiveness, as it brings into constant use two of the most facile shorthand characters for the expression of very frequent sounds—characters, too, that flow along the line, thus avoiding ineffectual pen movements.

At this stage I am directing attention mainly to the great gains effected by the elimination of shading as a means of distinction between the phonetic pairs; but it may be well to point out, in an incidental way, that distinction by length is more *natural* than distinction by thickening. It is the method of distinction to which the hand has been familiar from childhood in the practice of longhand. Some of the letters of longhand, like *e* and *l*, are distinguished wholly by length; and many other letters vary mainly in length, thus: *a, d, g; i, t; b, f; p, h; i, u; n, m; v, w*.

Unnecessary Consonantal Distinctions

There are a few consonant sounds—*s* and *z*; *sh* and *zh*; *th* and *the*—which are so closely related that precise distinction between them is unnecessary. While recognizing this in *practice*, many of the older systems have wasted good material in trying to provide precise distinctions between these sounds in *theory*. In the Pitman alphabet special signs are provided for *s* and *z* but neither of these signs is much used in practice; nor is the distinction between these sounds observed in practice, as a circle (which is not given in the alphabet) is used for either *s* or *z*. So, too, an alphabetic distinction is made between *sh* and *zh*, and yet in practice the distinction is not observed in a whole series of words. A distinction is made in the alphabet between the two sounds of *th*, and yet in a series of words no distinction is made between *t*, *th*, and *the*! The waste of material in all this is amazing. To make this clear, I shall deal with these letters in detail.

S and Z

While *s* is one of the most frequent sounds in the language, the sound of *z* is one of the least frequent. In nearly all systems *s* and *z* are expressed by the same sign in practice. Taylor's "Commentary on Isaac Pitman's Shorthand" says: "In addition to the strokes for *s* and *z*, which the student has already learned, these consonants may also be represented by a small circle." The "Phonographic Amanuensis" (Benn Pitman and Jerome B. Howard) says: "The small circle is joined to any one of the alphabetic strokes to represent either *s* or *z*." Munson ("Art of Phonography") says: "Either *s* or *z* may be added by a small circle to any consonant-stem."

The reasons why *s* and *z* should be represented by the same sign are well expressed by Mr. D. P. Lindsley:

“ Since *z* only can unite with the semi-vocal and *s* only with a whispered sound, the circle may be used for either *z* or *s*. We use *.s* in the common spelling for *z* in such words as “heads,” “bags,” etc; and even *z* for *s* in “quartz.” Since only *z* can unite with *d* and *g*, and only *s* can unite with *t*, these sounds *become definite*. It will be noticed that *l*, *n*, and *r* take either *z* or *s* after them, as in “false,” “falls,” “worse,” “wars,” “hence,” “hens.” To distinguish *z* from *s* after these letters, the circle is made heavy for *z* and light for *s*. This is not necessary in ordinary practice, but may be done when special accuracy is desirable. ”

(Needless to say, the distinction suggested by Mr. Lindsley—making a small circle “heavy”—is purely theoretical.)

Quite apart from the economy effected in the use of valuable alphabetic material, the learning of a system is greatly simplified by the elimination of a special character for a letter that does not require definite expression in a fraction of one per cent of the words in the language, even in a disjoined-vowel system.

Sh, Zh and Th, Dh

What has been said about *s* and *z* applies, of course, to *sh* and *zh*, but with greater force. As Jerome B. Howard, the publisher of the Benn Pitman system, put it, “The sound of *zh* is the least frequent of all English sounds. It is heard in French words, as ‘rouge’ and ‘Vosges’.”⁶

It is, therefore, a sheer waste of good material to provide a special sign for it: a diacritical mark added to *sh*, if it should ever be necessary, is sufficient. In Pitman’s Shorthand *zh* is expressed by the same sign as *sh* in a series of words—“vision,” “invasion,” “derision,” “profusion,” etc.

In answering a criticism of his “Legible Shorthand,” which appeared in Pitman’s *Phonetic Journal*, Mr. Edward Pockneli said:

“Here I may observe that Mr. Pitman does not stick to his principles and write the character for *vision* with the sound for *zh*, but he prefers *v-shon* (hook). If *shon* is enough for *zhon*, why should not *shure* do for *zhure* in *measure* and *pleasure*? ”

What has been said about *sh* and *zh* applies to *th* as in “death” and *th* as in “blithe.” In Pitmanic Shorthand no distinction is made between *ter*, *der*, *ther*, *dher*, in a whole series of terminations. Purely theoretical distinctions in the alphabet result in a great waste of material that might be used for some really useful purpose.

The Three “Nondescripts”

There are three other sounds which require special notice: *w*, *y*, and *h*. More than anything else, differences about the expression of these three sounds (which Isaac Pitman described as “nondescripts”), have split Pitmanic shorthand into warring factions. In England, by virtue of the copyright law, there can be no effectual difference on the question so far as publication or instruction are concerned; but in America there is great diversity in the manner of expressing these sounds in the various Pitmanic styles. The Benn Pitman system (the most widely used of all the Pitmanic styles in America) retains the forms for *w*, *y*, and *h* which Isaac Pitman discarded more than fifty years ago, as does Graham and others; in the Longley style *h* is expressed by the sign for *r* preceded by a downward tick; in the Munson style a thickened *m* expresses *h*; and so on. In the face of the rapid displacement of all the Pitmanic systems, strenuous efforts have been made to “standardize” the various “styles”; but, after fourteen years of incessant discussion, the project is recognized to be absolutely hopeless—largely because of the irreconcilable differences over *w*, *y*, and *h*. Mr. J. N. Kimball, the noted Munson writer, said in the *Phonographic World*, “The moment you have numerous devices for the alphabetic characters, as for instance, with *h*, *w*, and *y*, you can by no possibility erect upon your foundation a standard system.”

In the expression of these letters the Pitmanic systems violate the principle that “a simple sound should be expressed by a simple sign.”

The “Aspirate Problem”

⁶ In the Lindsley table, given on page 182, *zh* is stated to have occurred but seven times in 12,943 words!

Mr. Jerome B. Howard, publisher of the Benn Pitman system, once read a paper on “A Proposed Solution of the Aspirate Problem,” in which he narrated the many changes Isaac Pitman had made in the method of expressing the aspirate. Mr. Howard’s solemn account of the “problem,” and of the many efforts to solve it, would be simply amusing to a writer of our system. Mr. Howard concluded his story of the many methods adopted at various times for the expression of the aspirate with these words:

“When it is seen how mutable has been the practice of the “father of Phonography” in treating this troublesome member of his shorthand family (no less than twelve different signs having been used by him to represent it) it will cease to be a matter of wonder that the “modifiers” and “improvers” of the system have differed greatly in its treatment.”

The author of a recent system on a Pitmanic basis speaks of *h* as “that most unfortunate derelict in shorthand, which has been switched, twisted, and has floundered around ever since its inception, and still remains uncouth!” In Taylor’s “Commentary on Pitman’s Shorthand” no less than thirty-seven pages are devoted to the discussion of the various means of expressing the aspirate in that system!

In our system “the aspirate problem” is solved by expressing this “mere breathing” by a dot. In most words, such as *him*, *happy*, *hope*, *heard*, the dot may be omitted without any danger of misreading. Of course, in a disjoined-vowel system it is not possible to do this.

The Coalescents, W and Y

The nature of *w* and *y*—whether vowels or consonants, or both—has been a subject of almost endless discussion in shorthand textbooks and magazines. Perhaps the fact that the early advocates of Pitman’s Phonography were more interested, at times, in the “spelling reform” than in Phonography accounts for the interest taken in what is purely a theoretical or academic question, so far as practical shorthand is concerned. Perhaps, too, the fact that in Pitmanic shorthand various methods of expressing these sounds inclined Pitmanic authors to justify alternative means of expressing them by proving that the *sounds* were puzzling in themselves!

Mr. Benn Pitman in his “Life and Labors of Sir Isaac Pitman,” has of course, something to say about the problem:

“Lexicographers and grammarians say *w* and *y* are sometimes vowels and sometimes consonants. The fact is they are neither. They rank midway between vowels and consonants; *w* being a slightly obstructed *oo*, and *y* a slightly obstructed *ē*. We have but to pronounce *oo-ay*, first distinctly, then more rapidly without pause, thus causing a closer position for the *oo*, and we hear *way*. If we pronounce *ē-oo* without a pause, we hear *yoo*; that is *ē-oo*, uttered without a hiatus or obstructing pause, becomes *you*, *yew*.”

An eminent authority on phonetics, Alexander Melville Bell, F. R. S. S. A. (the father of Alexander Graham Bell, of telephone fame) said:

“ The letters, *y* and *w* are the connecting links between the two classes of sounds—vowels and articulations; *y* being of the same formation as the vowel *ee*, and *w* of the same formation as the vowel *oo*. ”

Mr. James E. Munson (“Art of Phonography”) said:

“ The sounds of *w* and *y* are so closely allied to the vowels *oo* and *e* respectively that they are sometimes called *semi-vowels*. Their vowel nature enables them readily to blend or coalesce with all the vowel-sounds and with several of the consonants. ”

The *Phonographic Magazine* for May, 1904, contained a very labored explanation of why *w* and *y* were treated as consonants. The editor was asked by a correspondent to explain a paragraph in the Pitman Manual, which stated:

“ The vowels *oo* and *ee*, the two extreme members of the long-vowel scale, are, from the exceeding closeness of their formation in the mouth, of such a nature that any vowel may readily follow either of them and coalesce with it in the same syllable, forming a combination much like a diphthong. In such cases *oo* and *ee* are formed even closer than usual, and so nearly approach true obstructed sounds that they are often considered as consonants and give consonantal representation by strokes for *w* and *y*, to which the vowel which follows may be written. ”

The editor’s explanation was:

“ A vowel may follow *oo* or *ee* just as a vowel may follow any other vowel. Whenever any vowel is followed by another vowel *in the same syllable*, a diphthong results. For instance, the diphthong *I* results from a vocal glide from the position of *ah* to the position of *ee*. *Oi* glides from *aw* to *ee*; and *ow* glides from *ah* to *oo*. These three glides are recognized as *the* true diphthongs of the English language, and it is to be noticed that they all have the stress or emphasis on the first vowel, or, in other words, at the beginning of the glide. When a glide begins with *cc* or *oo* and passes to any other vowel, the stress lies at the end of the glide. These are diphthongs of a noticeably different sort from the three first mentioned, and, for distinction’s sake they have long been called coalescent glides. The diphthong-like nature of these sounds is recognized in phonography by a series of diphthong-like characters given for their representation.

W and *y* are used in the common orthography to represent these sounds, and English orthoëpists have long cherished the idea that these signs represent sounds which are true consonants, or at least, “sometimes” consonants. This view has been so long and so generally accepted that it has imposed itself upon phoneticians as well as “orthoëpists,” and the phoneticians have defended their acceptance of the doctrine by saying that when *oo* and *ee* thus coalesce with other vowels they are made a “little closer” than their usual formation, and so become true obstructed sounds and therefore “consonants.” And in conformity with this rea-

soning, which gives to these sounds something of both vowel and consonant character, the fathers of phonography provided stroke signs for *w* and *y* as consonants, in addition to their vowel-like signs. It is, of course, apparent that the opening through which the sounds of *oo* and *ee* escape from the mouth are smaller than those of other vowels. In forming *oo* the lips are rounded and contracted to a very much smaller opening than is given, for instance, to *aw*. If in sounding *oo* the lips are puckered just a little tighter for an instant before the sound is allowed to pass out, a slightly exploded *oo* will be heard, and this is *w*. In like manner, if in producing *ee* the tongue is allowed to approach just a little closer to the ridge on the roof of the mouth just back of the upper teeth, so as to touch it very lightly and momentarily, the *ee* will be slightly exploded, and that is *y*. And yet the distinction is so delicate that the momentary obstruction and explosion may be omitted without material difference in the sound of the word, and, in fact, it often is so omitted. This slight obstruction and explosion should be accepted as existing in the theoretically correct pronunciation in all words where *oo* or *ee* is followed by a stressed vowel in the same syllable.

There have not been wanting phoneticians who deny to these coalescent glides any trace of true consonant character. Whether this view is sound or not, it is for practical shorthand purposes highly convenient to give *w* and *y* both a vowel and a consonant representation. ☞

The author of the *Pitmanic Shorthand Instructor*, Mr. Charles T. Platt, states the matter even more frankly:

“ In “wait” the *w* represents a vowel sound (*oo* as in “ooze”) which coalesces with the following *a* so closely that the two are heard almost as one sound. In like manner, in “yoke” the *p* represents a vowel sound (as *e* in “eve”), which coalesces with the following *o*. ...

These sounds are often disguised in the common spelling (as “choir,” pronounced *kwire*); but it will simplify the shorthand presentation to consider the letter *w* as representing the coalescing *oo*, and the letter *y* as representing the coalescing *e*. ☞

In harmony with this, *w* and *y* are represented in Gregg Shorthand by a hook and a circle—the hook for *oo* expressing *w*, and the circle for *e* expressing *y*. This simple, facile, and absolutely legible method of expression is not possible in a disjointed-vowel system.

Consider the Saving in Material!

The elimination of these theoretical distinctions from the alphabet reduces the number of special characters required, and the characters remaining may be used more advantageously than would otherwise be the case.

It will be seen that in a properly constructed joined-vowel system it is unnecessary to provide special forms for *w* and *y*; that *h* may be expressed by a dot; and *wh* (pronounced *hw*) by placing

the *h*-dot over the sign for *w* when it is necessary to make the distinction. Here you have a saving of four special signs. Indeed, the saving is much greater than this, as most systems represent some or all of these sounds by *several* characters; but even if we assume that only one character was used in these systems for each of these sounds, the saving amounts to four special signs.

Now if we eliminate the purely theoretical alphabetic distinction between *s* and *z*, *sh* and *zh*, *th* and *the*, we have a saving of three additional special signs—making a total saving on the consonant material of seven characters, *which is more than one-fourth of the entire number of consonant sounds!*

This explains why it is possible to place the writing in our system on a uniform slope, as in longhand, and thus obtain the enormous advantage in facility of movement derived from the use of characters familiar to the hand from infancy—and of characters that do not require a constant change of direction.

The Expression of the Vowels

So much for the consonants. Let us now consider the economies that may be effected in the expression of the vowels without loss of efficiency—but rather with *increase* in efficiency.

If the pairing of similar consonantal sounds is an advantage in simplifying the *learning*, the *writing*, and particularly the *reading*, of shorthand, it is very obvious that vastly greater advantages may be obtained by the grouping of vowel sounds that are more closely related than are any of the consonants.

In correct speech the sounds of the *consonants* are definite, unchangeable; but even in correct speech, the sounds of many of the *vowels* are so indefinite or neutral that orthoëpists and lexicographers differ as to the precise vowel sounds in thousands of words.

Professor Everett said:

“ Vowel sounds are not in general so sharply distinguished as consonant sounds, but in the mouths of different speakers shade almost insensibly into one another: being much more affected than consonants by local and individual peculiarities, as well as by the tone of feeling which the speaker throws into his words. ”

And the *Encyclopedia Britannica* says:

“ The sounds which are the most difficult to define are the vowels; a great variety may be indicated by the same symbol. ... It is clear, therefore, that the best alphabet would not long indicate very precisely the sounds which it was intended to represent. ”

In a world language like English the vocal elements are subject to variation or modification in different countries, and sometimes in different parts of the same country. One has but to consider the futility of insisting upon a precise standard of recording the vowel sounds in words as spoken in Devonshire, Yorkshire, Scotland, Wales, and Ireland—not to mention the United States, Canada, Australia, and South Africa—to realize the advantages secured by the expression of *closely-related* vowel sounds by one sign, with provision for the indication of the exact shade of

sound in the rare cases where such precision is necessary or desirable.

Inflexible Vowel-Expression an Obstacle to Wide Use of Shorthand

Anyone who has considered this question very much will realize that one of the greatest obstacles to the general use of shorthand, and to the adoption of a standard system of shorthand for the English language, has been the inflexible nature of the vowel expression in the older systems—which was due to their faulty construction. As a sidelight on how this problem has stood in the way of a standard system for the English language, I quote the following from Benn Pitman’s “Life and Labors of Sir Isaac Pitman”:

“Careful speakers, however, in certain classes of words use a vowel of medium length. They insist that *a* preceding the continuants *f*, *th*, *s*, and *sh*, as in *laugh*, *path*, *master*, *rash*, etc., is longer than the *a* in *pat*, *cat*, *man*, etc., but not so long as the *a* in *alms*, *psalm*, *father*, etc.; and also that the *o* in *lost*, *soft*, *tossed*, *long*, etc., is longer than the vowel in *lot*, *sot*, *top*, but shorter than the vowel in *fall*, *fault*, *law*, etc., though of the same quality. The vowel in *past*, *path*, *master*, etc., we contend is not the lengthened *a* in *pat*, *sat*, etc., but the shortened *a* in *palm*, *father*, etc. English Phonographers write the short vowel for the medium length one in both cases, while Americans, more consistently, write the long one.

The English use of the same vowel in *besides* as in *bet*, *revile* as in *revel*, *prefer* as in *preference*, etc., is unknown here. American authorities, without exception, give this class of words with long *e*, and never with the *e* in *met*, but note that in the pronunciation of the former words, where the accent is on the following syllable, the *e* is somewhat briefer than when under the accent.

The vowel *a* preceding *r*, as in *pair*, *dare*, *prayer*, etc., is generally admitted by careful speakers of English, except the Scotch, to differ from *a* in *plate*, *dame*, *paint*, etc. The *a* in the former words is a somewhat more open sound than when it precedes other consonants, and a further difference consists in its vanish into *uh*, the vocal murmur; but when preceding other consonants the vowel position of *a*, in seeking repose, vanishes into *i* or *e*.

R is a further disturber, in that it causes a diversity of pronunciation and representation, in certain classes of words, between American and English phonographers, which may long remain unreconciled. The Phonetic scheme of vowels provides but two signs to represent three unlike sounds, as heard in the following words. Lines 2 and 4 are supposed to contain the same vowel, though differently spelled.

1. Set, pen, serried, perish, peril, etc.
2. Earth, serve, mercy, firm, first, whirl, etc.
3. Cut, rub, sun, hurry, scurry, etc.
4. Word, burst, curse, worth, curl, whorl, etc.

English phonographers write lines 1 and 2 with a short *e*, and lines 3 and 4 with short *u*. American phonographers write the first line only with the short *e*, and lines 2, 3, and 4 with the short *u*. The English practice of writing *serve*, *earth*, etc., with the same vowel as *set*, *pen*, etc., and making a difference between *firm*, *first*, etc., and *furnish*, *further*, etc., seems paying deference to the spelling which is not justified by the usual pronunciation of educated people. ☹️

As it would extend this chapter to a great length, I shall defer the explanation of the scientific grouping of the vowels until I come to the story of the manner in which the various assignments of material were made.

The Actual Saving Effected

To come back to the economies effected in the use of material to express the vowel:

There are twelve simple vowel sounds and four diphthongs. By arranging the vowels in groups, each group consisting of three closely-related sounds, we are able to express them in practice by four signs; thus effecting a saving of eight special characters. The diphthongs, being expressed by the signs for the vowels which compose them, do not require any special signs. This means a saving of twelve characters; and yet the diphthongs are fully expressed, and the vowels expressed with sufficient definiteness for all practical purposes.

The total saving of *special signs*, then, for both vowels and consonants, is nineteen!

The Mental and Physical Gains

This reduction in the number of characters used is a very great gain indeed. Obviously, the fewer the characters employed, the less mental and physical effort there will be in *acquiring* them, the less mental effort there will be in *recalling* them promptly, and the less physical effort there will be in *writing* them. Obviously, too, the fewer the characters employed, *the more quickly will the process of writing them automatically be acquired*. Mr. P. Deming, a distinguished author who was at one time a professional reporter, in explaining why he did not use shorthand in his literary composition attributed it to the fact that longhand consisted of *just a few simple elements*, while Pitmanic shorthand, being written in all directions, required a “continual choice from among twelve elements.” This “rapid choosing,” he said, “among so many, is difficult and the work is complex; hence the writer has to give his attention to the form in writing them, and this continues to be true, however extensive his experience in writing Phonography may be.”

He might have added that the number of fine distinctions—wholly theoretical distinctions, as I have shown—contributed in no small degree to hesitancy, difficulty, and complexity in the writing.

To Sum Up

Great and advantageous economies in the use of shorthand material for the consonants are effected through the elimination of *special* joined signs for *z*, *zh*, *the*, *w*, *y*, *h*; and the diacritical marks provided for the exact indication of these sounds are not needed in thousands of pages of

shorthand writing. Still greater and more advantageous economies in the use of the shorthand material for the vowels are effected through the scientific grouping of similar vowel sounds; and the diacritical marks provided for the indication of the exact shades of vowel sounds in each group are not needed in thousands of pages of shorthand writing.⁷

⁷ Several years ago, while I was still actively engaged in teaching, I telephoned to a very expert writer of the system—a man who had been engaged in highly technical shorthand work for several years—and asked him to substitute for me with an evening class of beginners. He consented to do so. The next day he came in to find out why I had introduced the diacritical marks to distinguish the shades of vowel sound. When I told him that they had always been a part of the system he was absolutely incredulous; and, in order to convince him, I had to show him the early editions of the system. Then he remarked with emphasis, “Well, perhaps I did learn them, but I have never used them and have never felt the need of them, although for years I have been doing very technical shorthand work with a firm of chemical manufacturers.”

Chapter 16

The Evaluation of the Sounds

IN the two preceding chapters I discussed the “Sounds to be Expressed,” and “Economies in the Use of Shorthand Material” to express these sounds. The next step is to ascertain the comparative *values* of the various sounds as shown by their frequency of occurrence.

One of the claims put forth by authors of the earlier shorthand systems, as expressed by one of them, was that “the alphabet is founded on the allocation of the most facile signs to the most frequently-recurring consonants.” The same thought, expressed in slightly different language, occurs in nearly all the textbooks of the older shorthand systems. It would seem to be a very strong and a very reasonable position to take. But it ignores one very important fact: that the *individual* value of a sign may be greatly affected by the frequency with which it is joined to some other sign or signs.

The Combination Idea

In speaking of the construction of the alphabet in the preface to one of the editions of the Gregg Shorthand Manual, I referred to this theory as follows:

“The real strength of Gregg Shorthand lies in its alphabet; all the rest is subsidiary. In his earlier efforts at shorthand construction, the author, adhering to the precedent of his predecessors, followed the false theory that the most facile characters must be assigned to the representation of the most frequent letters. He laboriously compiled statistics showing the comparative frequency of letters, or rather sounds, and devoted a great deal of time to scientific experiments with a view to determining the ease with which the various shorthand characters could be written. In these experiments the results of the investigations of others were of no value, as they had been made from a geometrical standpoint. The alphabets developed by these experiments were hopelessly inefficient, and he was, for a time, reluctantly forced to acknowledge the truth of the assertion so often made that it was impossible to construct a practical system of shorthand using the slope of longhand as a basis, and in which there should be neither shading nor position writing. When he was almost disheartened, there came to him a new idea, *that the value of a letter or a shorthand character is determined by its combination with other letters or characters*. From that idea has come a revolution in shorthand.

The assignment to individual letters, as we have said, is of slight importance; the vital matter is the use made of the combination. Realizing the importance of the discovery he had made, and the vast potentialities that lay back of it, the most exhaustive experimental investigations were made to evolve an alphabet that

would endure. The alphabet of Gregg Shorthand has therefore been worked out on scientific principles deduced from a close analytical study of the combinations in the language and the movements used in ordinary writing.

It is almost needless to say that a faulty allotment of the alphabetic characters would have entirely nullified in practice the value of the natural principles which form the basis of the system. ☹

The Frequency of the Consonants

I am sorry to say that the many tables on the frequency of letters and of combinations of letters which I compiled when engaged on the construction of the system were lost in the fire which destroyed my offices in Chicago in 1900. In planning this series I intended to make a new analysis and present the results, but it has been impossible for me to find time to do so. In any event, I believe that the figures given by other authors will be more effective than anything which I might personally submit.

Mr. Lewis's Table

In 1815 Mr. James Henry Lewis gave the values of the consonants in this order:

s, t, n, h, r, l, d, f, m, w, g, y, p, b, v, k, j, q, x, z.

The figures compiled by the authors of the early English systems are not of much value now, as they were based on the ordinary spelling, instead of the phonetic sounds. It will be quite apparent that *h*, for instance, which is placed fourth in Mr. Lewis's list, would be very near the end of the list in an analysis on a phonetic basis: it would be very greatly reduced in value by including it in *sh, ch, th, wh*, and through *ph* being expressed by *f*; and its value would be still further reduced by its omission in words like *honor, laugh*, etc., in which it is silent.

The great value placed upon *h* by the early authors is probably responsible for the extraordinary consideration with which that unimportant letter is treated in Isaac Pitman's Shorthand, in having no less than four methods of representation assigned to it! As mentioned previously, Isaac Pitman had written the old Taylor system for seven years before attempting to construct an improvement on it; and to this day the compound sign used for *h* in the Taylor system—a circle attached to a downward, oblique stroke—survives in the Isaac Pitman system as one of the four ways in which *h* is expressed.

The value assigned to *w, g, and k*, in the Lewis table would also be affected by a change from an alphabetic to a phonetic basis; *w* as a part of *wh*; *g* as a part of *ng* and *gh*; *k* as a part of *x (ks)*, and so on.

Isaac Pitman's Table

In an address on "The Science of Shorthand," delivered before The Shorthand Society, London, in 1884, (printed in the *Phonetic Journal*, 12 July, 1884, and *Shorthand*, Vol. II, No. 17) Isaac Pitman said:

☹ I took the *Leisure Hour* for 1873, containing a variety of papers by various

writers, and counted the occurrence of the letters or sounds in the first line of fifty-five columns. The experiment carried my calculation to a little over one hundred for the most frequent sounds. If I had pursued the subject to the extent of one thousand, the results would not have been different, for they agree with all my experience as a writer of shorthand. ... The frequency of the letters is in this order, ranging from 110 to 0:

r 110, *s* 102, *t* 97, *n* 86, *p* 72, *l* 48, *k* 46, *f* 41, *m* 31, *th* 22, *sh* 17, *w* 13, *h* 11, *ng* 7, *y* 0.



Unfortunately, the report of his address does not mention *b*, *d*, *v*, *g*, *j*, *z*; so this table of values is not complete, but from an article by Mr. Pitman in his *Phonotypic Journal*, September, 1843, we are able to obtain more complete data. The article was entitled, “On Phonetic Printing,” and was for the purpose of setting forth one of his many plans for a scheme of phonetic type to supersede the letters used in ordinary printing. He said the figures were obtained by counting the sounds in “The Vision of Mirza” (*Spectator*, No. 159), and were as follows:

n 429, *t* 422, *r* 384, *d* 334, *s* 282, *th* (as in *that*) 276, *l* 205, *z* 189, *m* 183, *v* 146, *h* 136, *p* 135, *k* 125, *f* 106, *b* 97, *ng* 74, *ch* 49, *sh* 40, *th* (as in *thin*) 39, *j* 34, *zh* 7.

(Total sounds, 3731.)

It will be seen that this table of occurrences differs very materially from the one given forty-one years later. For instance, *s* is relegated to fifth place—below *d*!—and *r* is reduced from first to third place. Perhaps this is due to the nature of the articles selected—and in both instances the articles were very short.

Mr. Guest’s Table

In the preface to his “Compendious Shorthand,” Mr. Edwin Guest, in 1883, gave the letters on a phonetic basis in this order:

s, t, n, r, l, m, d, k, w, f, p, b, x, v, g, j, z, y, q.

Mr. Guest did not mention *h, sh, ch, th, ng.*

Mr. Lockett’s Table

About the same time Mr. A. B. Lockett gave them as follows:

s, t, n, r, l, d, k, m, p, w, f, b, g, v, sh, ch, ng, j, y.

Mr. Lockett omitted *h, th, w, z.*

Omitting the letter *h* (for the reasons already explained) from the Lewis table, it will be seen that Lewis, Guest, and Lockett are in absolute accord as to the order of frequency of the first four consonants—*s, t, m, r*. In 1884 Isaac Pitman placed *r* first, but he gave the other letters in the same order as Lewis, Guest, and Lockett; in 1843 he placed *n* first, followed by *t, r,* and *d.*

Mr. Cross's Table

Mr. J. George Cross, author of "Eclectic Shorthand," in 1892, gave the following table based on an analysis of 3000 words:

n 163, *r* 144, *t* 137, *s* 85, *z* 81, *d* 80, *th* 80, *l* 76, *m* 67, *b* 53, *k* 52, *p* 40, *v* 37, *f* 36, *h* 24, *g* 22,
w 22, *j* 18, *ch* 16, *y* 12, *sh* 11, *wh* 5, *ng* 4, *zh* 3, *q* 3, *x* 1.

It is important to remember that Mr. Cross's system is partly orthographic and partly phonetic. Some of figures given by Mr. Cross are surprising; particularly those regarding *s*, *z*, and *th*.

Mr. Lindsley's Table

In 1885 Mr. D. P. Lindsley author of "Takigrafy," published a very interesting table which he said had been prepared by Mr. H. T. Beach of a careful analysis of twelve selections from different authors, each selection containing about 450 words. "The number of words in the twelve selections was 5,452; the entire number of sounds used in expressing them, 12,943, making an average of three and seven hundred sixty-five thousandths sounds to the word."

t 1477, *r* 1460, *n* 1449, *s* 1007, *d* 893, *l* 857, *th* 747, *z* 578, *m* 555, *k* 503, *v* 440, *w* 430,
p 407, *h* 403, *f* 388, *b* 343, *ng* 199, *g* 164, *sh* 157, *y* 143, *ch* 127, *th* (*ith*) 107, 1102, *zh* 7.

Note: *wh* is given as 86; but it is stated that it should be eliminated, since it is also included under *w* and *h* respectively.

Mr. Guest seems to have made the most careful investigation of any of the authors mentioned, and I am therefore going to quote what he said on the subject:

“ The author found a general consensus of opinion among inventors that the most frequently-used letters should have the easiest lines, but the analysis of their alphabets constantly revealed the strangest departures from the principle enunciated. The frequency of letters and the facility of lines were equally matters of guess, to a certain extent, or if any attempts were made to ascertain either, they were made in so unscientific a manner as to be scarcely worthy of attention.

The present writer was therefore compelled to resort to the laborious process of actual counting to obtain his data. Short extracts from Shakespeare, Bacon, Locke, Milton, Addison, Dr. Johnson, Hazlitt, Macaulay, Carlyle, Ruskin, and Kingsley; and passages from the speeches of Canning, Shiel, Lord Beaconsfield, Lord Derby, Dean Stanley, Mr. Bright, Mr. Gladstone and other orators were counted; poetry, prose, religion, history, politics, ethics, and science all being represented; with the result that in 10,000 words (*and*, *of*, and *the* being left out because these common words have in most systems special marks) *s* was found to recur 2,886 times, *t* 2,700 times, *n* 2,543 times, *r* 2,175 times, *l* 1,316 times, and so forth down, to *j*, *ch*, *y*, and *q*, which recurred only 198, 177, 168, and 33 times respectively. The necessary equations having been made on account of *ks* rep-

representing *x*; *ph*, *f*, etc., the proportionate recurrences of the consonants stand thus: *s* 100, *t* 95, *n* 90, *r* 74, *l* 46, *m* 41, *d* 40, *th* 33, *k* 26, *w* 25, *f* 25, etc., down to *j* 7, *ch* 6, *y* 6, and *q* 1. Thus, *s*, *t*, *n*, *r*, occur 359 times in the aggregate to *l*, *ch*, *j*, *q*, 20 times. Hence there is an obvious advantage in giving to the first four the best possible lines, and in making the last four wait until all the rest have been accommodated. ♡

How "Pairing" Affects Values

In considering these tables, it is important to keep in mind that where the letters are arranged in phonetic pairs—*p*, *b*; *t*, *d*; etc.—and are represented by the same character (distinguished either by thickness or by length) their importance is increased or decreased in exact ratio to the *combined frequency of both letters*. For example, the consonant *s*, which is given first place in three of the above tables, has a very unimportant cognate, *z*, while *t* has for its cognate, *d*, which is placed fourth in one table, sixth in two of the tables, and seventh in another; and *r*, which in our system and in many others, has as a cognate *l*, is placed fifth in four of the tables, and seventh in one table.

It seems strange that, in all tables that I have mentioned, this very important factor in the evaluation of the sounds appears to have received no consideration.

The Application of Mr. Guest's Figures

Applying this principle to Mr. Guest's evaluation of the individual letters, we get some interesting results; thus:

	Total
<i>t</i> 95; <i>d</i> 40.....	135
<i>n</i> 90; <i>m</i> 41.....	181
<i>r</i> 74; <i>l</i> 46	120
<i>s</i> 100; <i>z</i> (say) 5.....	105

With these figures before you, it will be interesting to see what bearing they have on certain important features in our System.

Lineality: The great importance of a lineal, continuous movement was set forth in a previous chapter. According to Mr. Guest, the letters *n*, *m*, *r*, *l*, which are represented by horizontal characters in our system, total 251. To these add *k* and *p*. Since *k* is valued at 26, and as *p* is placed by Mr. Guest after *f*, which he values at 25, and ahead of *j* which he values at 7, we may assume his valuation of it to be about 15, making a total for *k* and *p* of 41. The total for horizontal letters is thus 292. (This total would be further increased by the inclusion of *ng*, *nk*, which keep close to the horizontal.)

Balance: Another important element in shorthand construction is the preservation of an equitable balance between upward and downward characters. Applying Mr. Guest's figures to the letters represented in our system by upward and downward characters, we get some interesting results.

The letters represented by *downward* characters are as follows:

	Total
<i>s</i> 100; <i>z</i> (say) 5.....	105
<i>f</i> 25; <i>v</i> (say) 5	35
<i>j</i> 7; <i>ch</i> 6; <i>sh</i> (say) 10	23
<i>p</i> 12; <i>b</i> 8.....	20

The letters represented by *upward* characters are:

	Total
<i>t</i> 95; <i>d</i> 40.....	135
<i>th</i>	33
	168

It will be seen from this that there is an almost perfect balance in our system between upward and downward characters; and by comparing these figures with those given for the horizontal characters, it will be seen that *the horizontal characters almost equal the combined total of Upward and downward characters.*

In reality the very slight advantage for the downward characters is more apparent than real, on account of the minute size of *s*. It should be remembered that *t* and *d*, although classed as upward characters, are *onward*, forward characters; and that *t*, which has *more than double the frequency value of d*, is a *very short* upward character.

Another factor in making for both *balance* and *lineality* is the frequency with which *t* and *d* are used at the end of words after downward characters, particularly in forming the past tense. The outlines for the following words will illustrate this and will suggest innumerable other examples: *smashed, reached, pledged, alleged, raved, saved, leaped, bribed, and peeped.*

The Cross and Lindsley tables are more complete than the others, and they give actual figures for all the sounds or letters. Lindsley's table is based on a purely phonetic analysis of 5,452 words; and Cross's is based on an analysis—mainly phonetic—of 3,000 words.

The Application of Mr. Lindsley's Figures

Mr. Lindsley's values, when the letters are paired, are as follows:

	Total
<i>t</i> 1477; <i>d</i> 893.....	2370
<i>r</i> 1460; <i>l</i> 857	2317
<i>n</i> 1449; <i>m</i> 555.....	2004
<i>s</i> 1007; <i>z</i> 578	1585
<i>th</i> 747; <i>th</i> 107.....	854
<i>f</i> 388; <i>v</i> 440	828
<i>p</i> 407; <i>b</i> 343	750
<i>k</i> 503; <i>g</i> 164.....	667
<i>sh</i> 157; <i>ch</i> 127; <i>j</i> 1102; <i>zh</i> 7	393

Lineality: Based on Mr. Lindsley's table, the horizontal characters in our system—*n, m, r, l, k,*

p—total 4,988.

Balance: The downward characters—*s, z, f, v, p, b, sh, zh, ch, j*—total 3,556. The upward characters—*t, d, th*—total 3,224.

A comparison of these figures with those of Mr. Guest will reveal remarkably close *net results*. Mr. Lindsley's figures illustrate the almost perfect balance between upward and downward characters in our system, even when the figures are based on an analysis of 12,943 sounds, occurring in 5,452 words. What we have said about the onward character of *t* and *d* (although they are classed as upward characters) should be kept in mind; and also the fact that *s* and *z* are expressed by a *very short* downward character.

The Application of Mr. Pitman's Figures

Isaac Pitman's values, in his 1843 article, show the following results when the letters are paired:

	Total
<i>t</i> 422; <i>d</i> 334.....	756
<i>n</i> 429; <i>m</i> 183.....	612
<i>r</i> 384; <i>l</i> 205.....	589
<i>s</i> 282; <i>z</i> 189.....	471
<i>th</i> 276; <i>dh</i> 39.....	315
<i>f</i> 106; <i>v</i> 146.....	252
<i>p</i> 135; <i>b</i> 97.....	232
<i>k</i> 125; <i>g</i> 39.....	164
<i>ch</i> 49; <i>j</i> 34.....	83
<i>sh</i> 40; <i>zh</i> 7.....	47

Lineality: According to Mr. Pitman, the horizontal letters in our system—*n, m, r, l, k, p*—total 1,365.

Balance: The downward characters—*s, z, f, v, p, b, ch, j, sh, zh*—total 1,085. The upward characters—*t, d, th*—total 1,071.

It will be seen that, according to Mr. Pitman's figures, there is an almost perfect balance between the upward and downward characters in our system. It will also be seen that there is a much higher percentage of lineal movement than either upward or downward movement.

The Application of Mr. Cross's Figures

Mr. Cross's values, when the letters are paired, are as follows:

	Total
<i>n</i> 163; <i>m</i> 67.....	230
<i>r</i> 144; <i>l</i> 76.....	220
<i>t</i> 137; <i>d</i> 80.....	217
<i>s</i> 85; <i>z</i> 81.....	166
<i>p</i> 40; <i>b</i> 53.....	93
<i>th</i> 80.....	80

<i>h</i> 52; <i>g</i> 22.....	74
<i>f</i> 36; <i>v</i> 37.....	73
<i>sh</i> 11; <i>zh</i> 3; <i>ch</i> 16; <i>j</i> 18.....	48

Lineality: Based on this table, the horizontal characters in our system—*n, m, r, l, k, p*—total 542.

Balance: The downward characters—*s, z, p, b, f, v, sh, zh, ch, j*—total 380; the upward characters—*t, d, th*—total 297.

From Mr. Cross's figures it will also be seen that there is a very close balance in our system between upward and downward characters—especially when the minute character of *s* and *z* is considered. It will also be seen that once more the horizontal characters almost equal the *combined total of upward and downward characters*. Bear in mind, too, what was said about the onward nature of *t* and *d*. In Mr. Cross's table, too, the letter *t*, which is expressed by a very short upward character in our system, is given almost double the value of *d*.

Natural Movement: Still another factor, and one of equal importance, is the use made of the movement that is most frequent in longhand—the movement embodied in the small longhand forms of the vowels, *a, e, i, o, u*, and in the small forms of nearly all the consonants. It will be seen that *r, l, p, b*, which are written with that motion in our system, have a total of 313, while *k, g, f, v*, characters with the opposite movement, which is much less frequent in longhand, have a total of less than one-half that number—147.

I shall have occasion to refer to some of these factors in explaining the construction of the alphabet.

Since writing the foregoing I came across another table prepared by Sir Edward Clarke, K. C. In the preface to his system, "Easy Shorthand," Sir Edward says:

“ The result obtained from a careful examination of a large number of passages from different books is that the twelve symbols we require to use most often are those representing the following consonants, in their order of frequency: *s, n, t, r, d, f, l, m, p, b, g, k*. ”

The table is not complete and is given merely as a matter of record.

The Frequency of the Vowels

While I have given tables compiled by several authors about the comparative values of the various consonants, I am unable to do so with regard to the vowels. The reason for this is the scant consideration given to the vowels in the older systems. There was no need to give much attention to the frequency-value of the vowels in the construction of systems in which vowels were expressed, if expressed at all, by dots or by dots and dashes, since they were all on an equality in the physical effort of executing them.

I am, therefore, especially sorry that the tables I had compiled were lost in the fire which destroyed my offices in 1900. The figures about the frequency of the various vowels would be of great interest and importance in dealing with the allocation of the signs for the vowels. For-

tunately, I remember, in a general way at least, the results of my investigations of the occurrences of the vowels more vividly than those of the consonants, because they were responsible for the radical change which I made in the manner of using the circles and hooks for the expression of the vowel sounds.

I found that *i* (as in *it*) was by far the most frequent sound in the language. As I remember it, the figures showed that this sound occurred almost twice as often as any other vowel sound, and occurred as frequently as *all* the vowel sounds of *a* combined! Next in importance to short *i* were short *e* and the short *a*, with very little difference in value; next came the long *e* and the long *a*, and here again there was a little difference. The sound of *a*, as in *arm*, was not very common. Next to these came the short *o* as in *hot*, and the long *o* as in *no*, with little difference in value between them. The sound of *aw* was much less frequent. The sound of *u* as in *up* was almost as frequent as *o*, but short *oo* and long *oo* were low in the scale.

Briefly stated: when grouped, the three vowels, short *i*, short *e*, and long *e*, had fully twice the value of the three sounds of *a*; the three sounds of *a* were at least one-third more frequent than the *o* vowels; the *o* vowels were about one-third more frequent than the short *u*, short *oo*, and long *oo*.

Although about thirty-five years have passed since I compiled these figures, I believe that any scientific investigation of the frequency of occurrence of the vowel sounds will show that my recollection of them is very close to the actual values.

The question remains—if the vowels *are* to be written in the outline, how shall they be represented?

I believe that many authors of joined-vowel systems have failed to achieve their object because they did not reach a sound judgment on this point. Through long practice of disjoined-vowel shorthand, many authors have attempted to retain certain facile characters for the representation of frequent consonants and were then forced to adopt less facile material for the expression of the vowels—with disastrous results. It seems to me to be very obvious that if the vowels *are* to be written in the outline, the most facile of all shorthand signs should be used for their expression. The frequency and the very nature of vowels render that imperative.

As Mr. D. Kimball put it:

“ Consonants are to a word what the bones are to the body—the large, strong framework. Vowels are to words what the flesh is to the body: they give to them form, flexibility, volume. It is desirable that the two classes of sounds should be represented by letters readily distinguishable. To the consonants should be assigned large letters, and it is best that the vowels should be represented by small letters. ”

In a previous chapter the story of the evolution from strokes to circles and hooks for the expression of the vowels was told, in part at least, and particularly in the quotation from M. J. P. A. Martin. I shall have more to say about the matter when I explain the construction of the alphabet of the system.

Chapter 17

Application of the Basic Principles in the Representation of the Consonants

“ A compound character should never be used in a system until all the simple lines of nature are exhausted. ”

History of Shorthand — James H. Lewis

“ Related letters should have related signs, which may be differentiated by length or thickness; the single consonant character should consist of a single stroke or curve. ”

—Edward Pocknell

“ As a general rule, *sounds* within a determined degree of likeness should be represented by *signs* within a determined degree of likeness. ”

—Edwin Guest

THREE of the seven basic principles discussed in previous chapters do not call for further comment in explaining the construction of the alphabet. These three principles are the longhand slope of the characters, the elimination of shading, and the elimination of position writing. If these are accepted as fundamental principles, they are not affected by the selection or allocation of the characters; nor is the selection or allocation of the characters affected by them except that they exclude from consideration shaded characters, vertical characters, and backslope characters.

The other four basic principles require discussion because they are susceptible to varying methods of treatment. As it is possible to express joined vowels in many different ways, it is necessary to discuss the method in which their expression in our system differs from that of other joined-vowel systems. Obviously, too, as the allocation of the characters to the letters in the alphabet will determine the degree of lineality, of curvilinear motion, and the frequency of obtuse angles, in the writing, these features require discussion.

The Governing Factors

Anyone who has given the alphabet of the system and the combinations of the alphabet any thought will have realized that there were three factors which governed the selection of characters to represent the consonants. Those three factors were: (1) curvilinear motion, as expressed in the oval; (2) the elimination of the obtuse angle through the blending principle; (3) lineality. With the first two of these I was entering upon untrodden fields, since they were absolutely new

theories in shorthand construction—and yet they were simple, natural, and logical.

The formulation of these two principles was the culmination of a long series of more or less empirical efforts at system construction. I believed that these principles were extremely important discoveries—so important that I determined to test both of them with *every possible combination of letters* before making the allocation of the characters.

The Ellipse Analyzed

It seems to me that the best way to begin an exposition of the construction of the alphabet is to go back to the foundation. As explained in the first article of this series, the system is based, primarily, on the elements of longhand writing; and the basis of longhand writing is the oval or ellipse. The first thing to do, then, is to analyze the ellipse.

It is very easy to ascertain the elements of the ellipse. If you write the ordinary longhand letter *o*, and dissect it, you will see that it is composed of five elements—the downward curve, the turn at the bottom, the upward curve, the small circle or oval, and the connecting stroke.



Now write the entire alphabet in the small letters of longhand, and count the letters in which that lower turn (which expresses *r* in our system) is to be found. You will find that the lower turn occurs in no less than nineteen of the twenty-six letters of the alphabet. The exceptions are *h, j, m, n, p, s,* and *z*; and you will notice that the connecting stroke after four of these letters is made with the lower turn. It is important to note that every vowel-sign in longhand contains that lower turn; and in one of them (*u*) it occurs twice. Furthermore, the connecting stroke *after every vowel* contains it.



Carry the inquiry a little farther, and you will notice that the first two elements of the oval or ellipse (see illustration No. 1) occur in *combination* in nearly every letter of the alphabet.



I do not think that I need to point out the importance of the facts disclosed by this analysis. In themselves they furnish an acid test that may be applied to any system founded on the longhand-movement basis. (It is well, however, to keep in mind two points mentioned in a previous article: the importance of the combination, and the importance of the phonetic pairs of letters.)

That I was blind to this important truth at the time of one of my earlier efforts at shorthand construction (“Script Phonography”) is shown by the fact that I allocated that most facile character, the lower turn, to the representation of *k*—one of the least frequent consonants in the language—and on a smaller scale (as a hook), to the least-frequent group of vowels.

Reverting for a moment to the analysis of the longhand alphabet: it is important to keep in mind that the upward turn occurs only in *h, m, n, p, z*. The use made of this less-valuable element in assigning characters to the consonants and vowels will be explained later. The predominance of the other motion, on account of its being used in all but seven consonants, and in all the vowels, explains why most people, when they attempt to write rapidly in longhand, have difficulty in distinguishing *n* from *u*; and why the forms of other letters, such as *m, p*, which contain the upward turn, show the same tendency. Speaking of this tendency, in his address as President of the Shorthand Society, London, Mr. Theodore R. Wright said: “That this curve is one of the easiest to form is proved by the well-known fact that in rapid writing *u*’s and *n*’s are very commonly made alike. On examination, however, I believe it will invariably be found that this arises from the *u* being made like *u*, never from *u* being made like *n*.”

In a series of lessons entitled “Commercial Penmanship: How to Acquire a Free and Fluent Style” (*Pitman’s Journal*, March 30, 1918), Mr. G. C. Jarvis, B. A., said:

“Of all the twenty-six letters of the alphabet small *e* and small *i* are the simplest in outline and the quickest made. ... Words like *mamma, mawk, and now* take much longer to write than words like *level, eels, and lee*. ”

This quotation emphasizes in a striking way the points I have been trying to explain.

The Selection and Allocation of Material

R and L

The reason why I assigned the facile downward curve to the very frequent letters, *r* and *l*, is now fairly obvious. As shown by the tables given in the preceding article, *r* is one of three most frequent letters in the language; and while *l* is not so frequent, the pairing of these letters gives great frequency to the character (short and long) used to express them. The liquids *r* and *l* coalesce with other letters to form “consonantal diphthongs,” as they have been termed—*pr, pl, br, bl, fr, fl, kr, kl, gr, gl*, etc.— and this has been so well recognized that in many systems purely arbitrary, and sometimes very illogical, methods of expression have been adopted for such combinations. In Pitman’s Shorthand, for example, in writing the simple word *apple*, a hook for *l* is written, then the *p*, and finally the dot for the vowel, so that the exact order in which the letters for *apple* are written is *l-p-a!* Isaac Pitman & Sons, *Handbook for Shorthand Teachers*, has this candid statement: “Another difficulty with regard to initial hooks is that of making the pupils understand that the *r* and *l* are to be read AFTER and not before the consonant to which the hook is attached. The tendency among beginners is to read them in the wrong order.”

It follows from what we have said that the lower turn, which occurs in nearly all the letters of longhand, joins easily with characters founded on longhand, if the characters have been selected with that end in view, and the allocation of that lower turn to *r* and *l* is, therefore, both logical and eminently practical.

The pairing of the liquids is logical, natural, and very practical. They are paired in two of the most successful of modern systems—Duployé and Stolze, in *Eclectic Shorthand* by J. George Cross, in *Edeography* by F. Redfern, in *Lucid Shorthand* by William George Spencer, (father of the great English philosopher and scientist, Herbert Spencer) in *British Phonography*, by Edward J. Jones—as well as many others. Mr. Hugh B. Innes, LL. B., in *The Office* (London, June 15, 1889), said:

“In Stolze *l* and *r* are circles of different sizes, while in my own acquaintance with Gurney, I find that *r* and *l* written carelessly are remarkably alike, and that coalescing *r* may be, and in the examples of the published handbook often is, omitted without causing any trouble. In Taylor, the two letters are clearly distinguished by a loop, but in hurried Phonography the upward *l* and *r* bear a striking resemblance to one another and the two sizes of hooks by which these letters are affixed to a group are not easily distinguished. ”

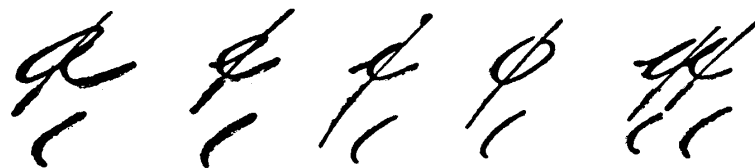
The point mentioned by Mr. Innes about *r* and *l* being paired in Isaac Pitman Shorthand in the case of the small and large hooks before curves is ignored by Pitman advocates, just as is the fact that in practical writing *s* and *z* are expressed by the same sign—a circle; and that *sh* and *zh* are expressed alike in a great many words.

Some of the pairings in Pitmanic shorthand are absolutely indefensible. In Isaac Pitman, Benn Pitman, and Graham, *mp* is paired with *m*; in Isaac Pitman’s early editions, and in Benn Pitman, Graham, and other Pitmanic “styles,” the downward *l* is paired with *y* and downward *r* with *w*; while Munson pairs *m* with *h*! Mr. D. L. Scott-Browne, editor of *Browne’s Phonographic Monthly*, said:

“Mr. Munson insists that the sign for *h* employed by Benn Pitman, Graham, etc., and that used for the same purpose by Isaac Pitman, is unphilosophical because they introduce *compound* signs where harmony requires a simple one; and so far as that is concerned, he is right.”

P and B

Starting with the combination idea, and basing that idea on the elements of the ellipse or oval, it did not require any great amount of thought to decide upon the allocation of the downward left curve to *p* and *b*, since that curve precedes the lower turn in *a*, *e*, *o*, etc., in longhand,



thus providing the constantly-recurring *pr*, *pl*, *br*, *bl*, with easy, natural, graceful combinations. So easy is that movement that it requires very little more effort to make any of these combinations than it does to make the lower turn alone. If you will look at a page of the writing in the system you will be impressed with the grace and beauty which these combinations give to the writing.

In view of the natural, effortless character of the combination used for *pr*, etc., it is simply

amazing how little use has been made of it in the older systems. Consider what it represents in other well-known systems: in Pitmanic shorthand it expresses *in* (and only one of the forms for *in*), as in *alone* and one or two other infrequent words; in Duployé, and in the numerous adaptations of Duployé to English by Pernin, Sloan, Brandt, Perrault, and others, it expresses *w-s*—two letters which do not combine without an intervening vowel; in Script Phonography it represents *ch-k* or *j-k*, which do not combine without an intervening vowel. Similar illustrations could be given from other systems.

K and G

The upward turn, found in the longhand signs for *m*, *n*, *p*, *h*, *z*, being much less frequent than the downward curve, was assigned to *k*, *g*, because these letters are much less frequent than *r* or *l*. In making this allocation, I had in mind the fact that in a large percentage of the cases where *k* or *g* do occur, they are in conjunction with either *r* or *l*, as *kr* (*cr*), *kl* (*cl*), *gr*, *gl*, and by this allocation these combinations are expressed by easy curve combinations.

F and V

The letters *j* and *v* are not frequent; hence, the less useful right curve, which occurs in the longhand *v* and *z*, is used for them. By the allocation made to *f* and *v* one of the most graceful combinations in the system—*fr*, *fl*, *vr*, *vl*—was obtained, a combination that occurs in writing *v* and other letters in longhand. The selection of the characters for *f*, *v* was influenced to some extent by the possibility of securing the “egg-shaped” blends which are used for *def*, *dev*, *tive*.

In a preceding paragraph I mentioned the failure of authors of older systems to appreciate the value of the simple, natural combination used in our system for *pr*, *br*, etc. It seems to me to be equally remarkable that the combination used in our system for *fr* was not used for *any purpose* in any of the many hundreds of systems that have appeared since shorthand history began. It is not, perhaps, surprising that the angle was not eliminated in geometric systems, but it is surprising that systems on the longhand basis did not blend these characters, as is done in our system. Probably the reason is to be found in the fact that in previous systems the curve used in our system for *f*, *v* was assigned to letters which do not combine in speech with those expressed by the horizontal downward curve.

Sh, Ch, J

The straight, downward line is easy to write *independently*, but as Mr. Callendar said, it is rigid and inelastic when joined to other characters, hence its assignment to *sh*, *ch*, *j*, which are not frequently-occurring sounds.

I have always thought that I was particularly fortunate in the grouping of *sh*, *ch*, *j*. It is well known that it is much easier to control the length of downward straight lines than it is to control onward lines. The distinction between *sh*, *ch*, and *j* can be maintained very easily—the tick for *sh* being a mere drop of the pen, such as is used in the first part of the bookkeeper’s check mark. The beauty of it is that even when the distinction is *not* observed there is no trouble in reading the forms correctly. If *French* becomes *Frensh*, or even *frenj*, it does not matter in the least. Hundreds of other illustrations are already familiar to you.

The expression of *sh* and *zh* and *ch* and *j* by entirely different characters (although the sounds are closely related) has created one of the most troublesome of the many problems with which Pitmanic authors have had to deal. To show how serious this problem has been, I quote the following from Benn Pitman's "Life and Labors of Sir Isaac Pitman":

“Phoneticians have abundant reason for thinking that after fifty years of investigation and discussion, pioneered by Sir Isaac Pitman, they have settled a great many perplexing questions of use, practice, and application; nevertheless, there are opinions still held by intelligent persons which, from their standpoints, may be regarded as yet unsettled.

For example, do we use *ch* or *sh* as the terminal sound in the words *French*, *bunch*, *pinch*, *filch*, etc.? It is amusing to find so great a stickler for the right thing as Isaac Pitman—and “right” with him had a moral side to it, and meant more than “correct,”—giving *sh* in his Phonographic Dictionary for 1846, *ch* in the edition of 1850, *sh* in the edition of 1852, *sh* in the edition of 1867, and *ch* in the 1878 and subsequent editions, as the correct pronunciation of this class of words. But with seeming inconsistency, *sh* continued to be used in a few words, as *filch*, *Welch*, in editions of his dictionary, as late as 1883, 1891, and 1893. H. T. Jansen (Exeter, England), one of our early patrons and phonetic enthusiasts, whose opinion Isaac Pitman ranked with that of Dr. Ellis, Dr. William Gregory, Sir Walter Trevelyan, and a few others of his earlier advisers, insisted that it was “simply absurd” to write this class of words with other than *sh* as the terminal sound. Dr. Gregory (Edinburgh) characterized the use of *ch* in these words as “the greatest absurdity possible.”

It seems to me that there could not be a stronger endorsement of the method of expressing *sh* and *ch* by the same character differing slightly in length, than is contained in this quotation from Benn Pitman; nor could there be a more convincing argument against *expressing them by entirely different characters*. Just consider the perplexity of the ordinary student when Isaac Pitman, after many years of close study of phonetics, and with the assistance of the greatest authorities on the subject, could not tell definitely whether a word should be written with *sh* or *ch*—sounds which are represented in his system by *entirely different characters*.

In our system the student is relieved of that problem. My observation is that in such words the student of our system follows the ordinary spelling instinctively and makes the characters *ch* length. Anyway, he is never bothered about it one way or another.

There are other reasons why the allocation of the straight oblique stroke to *sh*, *ch*, *j*, seems to me to have been extremely felicitous. As *sh* expresses *shun*, that very common termination is disposed of by a facile downward tick that joins easily *after* all characters. If you have studied Pitman's Shorthand you will probably remember the numerous rules (and exceptions to rules) governing the use of the large *shun hook*. Pitman's "Centenary Instructor" contains several pages devoted to *shun*, and Taylor's "Commentary on Pitman's Shorthand" devotes no less than *fifteen pages in small type* to that momentous subject! In our system it is disposed of in four words:

“Write *sh* for *shun*.”

Again if a careless writer occasionally writes *s* without curving it, the *s* may resemble *sh*. In that event, *s-k-e-m* (scheme) will be read as *sh-k-e-m*, *disguise* as *dish-guise*— and there can be no misreading. Of course, the inclusion of the vowels in the outline is largely responsible for the legibility of the forms in such cases.

The combinations *sht*, *shd*, *cht*, *chd*, *jt*, *jd*, are very frequent at the end of words; thus, *lashed*, *reached*, *matched*, *preached*, *beached*, *wished*, *lodged*, and they are all easily expressed. These are extremely facile combinations in themselves, but they also preserve *balance* between the upward and downward characters by bringing the hand back to the line of writing. Take the word *alleged*, for instance: the downward stroke *j* is followed by the upward stroke *d*, which brings the hand back to the line without an “ineffectual movement of the pen.” If you write in our system, “It is alleged that he preached,” you will see the great advantage derived from this arrangement of these characters.

The manner in which the blending for *gent*, *gend* (to which *pent* and *pend* were added), thus balancing *def*, *dev*, *tive*, was secured by this allocation of the downward straight lines does not require explanation.

S and Z

The expression of *s* was one of the greatest of my problems in the construction of the alphabet. The letter *s* is an exceedingly common letter, and it is constantly used in conjunction with every other letter. Above all other letters, therefore, *s* demanded flexibility. In consonance with the curvilinear theory, it ought to be represented by a *curve*; but a *full-size* curve for such a common letter would militate against compactness and facility in many words.

My experience with three adaptations of Duployé had impressed me with the mobility of the little “quadrants” used in Duployé for the ever-recurring nasal sounds of French, *an*, *en*, *in*, *on*, *un*. These signs are not very useful in English for the purpose to which they are applied in French (which is one of the weak points in adaptations of the French system to English), but their selection for the expression of the all-important nasal sounds of French made a deep impression on me. I do not suppose I should have paid much attention to them if I had known only the Pernin or Sloan adaptations of Duployé. It was when I mastered the adaptation by J. P. A. Martin, which adhered very closely to the plan of using the quadrants as in the original Duployé, that the value of these signs became apparent to me.

So little did I value them in my earlier efforts at shorthand construction that I assigned no less than four of them (written downward in all directions) to the almost useless *h*! What was still worse, I assigned two of them (written upward) to *n*. That was primitive, indeed, because it apparently ranked *h* as of greater importance than *n*! Even if only *two* downward quadrants had been assigned to *h* it would have ranked the aspirate higher than *n*, because the downward quadrants are more easily made than those written upward. A little experimentation will show that in writing upward characters, particularly curves, the pen is held more rigidly than in writing downward characters. The downward curves are written with much greater flexibility, and usually with much greater curvature, than upward curves. The downward quadrants are not more flexible but they join easily with other character while the small upward quadrants join awk-

wardly characters, except at the beginning and end of words, an₄ should, therefore, be used for the representation of comparatively infrequent letters.

(Incidentally, the word “quadrant” is an incorrect word to use in speaking of these small curves in our systems. A “quadrant” is a “quarter circle,” and while it is a correct description of these small curves in the Duployan and other *geometric* systems founded on the circle and its segments, the small curves used for *s* and *th* in our system are not “quarter circles,” but halves of small *ellipses*.)

The facile, flexible little curves were assigned to *s* and *z*; and naturally the downward curves were given the preference. How admirably these little curves join to other characters, and with what little pen effort, is known to every writer of the system.

At this point it may be well to point out that the insertion of the vowels has a great bearing on the value of these signs. Sometimes a writer of another system, in giving our system a hasty examination, jumps to the conclusion that *s* will clash with *p* or with *f* in rapid writing when the distinction of size is not observed. Sometimes they would—if it were not for the joined vowels. What I mean is that if *s* is written *very carelessly*—both as to *size* and *shape*—so that *sp* appears as *pp*, it does not make any material difference. Why? Because the reader knows that *pp* cannot occur without an intervening *vowel*. The outline could not be read *peep*, *pap*, *pop*, *Pope*, *pup*, *poop*, *pipe*, simply because the vowel would be written in each of these words. For the same reason *sf* could not be *ff*—and so on with all the other combinations.

There is another difference: since *s* is a very minute character, there is a rule that the downward consonant *following s* rests on the line; therefore, if the *s* is made as large as *p* in writing *sp*, the fact that the *second* character rests on the line shows that it is *sp*, not *pp*. The writer does that automatically.

In addition to all this, as writers of the system know, there is a distinctiveness about the deep curvature of the minute form for *s* in practical writing that is quite remarkable.

I have previously spoken of the analogy of both *sound* and *sign* existing between *s* and *sh*—a scientific point worth noting, in connection with the representation of *s*.

Th

The less facile little upward curve was assigned to *th*, and its analogy, both in *sign* and *sound*, to *t* is already clear to you.

At the period of my earlier experiments I was largely influenced by my enthusiasm for Duployé, and therefore inclined to undervalue *th*. As this sound does not occur in French, there was, of course, no provision for it in the original Duployé. All of the adaptations of Duployé to English (except that of Brandt, with which I was not then acquainted) expressed *th* by the sign for *t* with a dot over it.

In practice the dot was dropped, and such words as *debt* and *death*, *bat* and *bath*, *tin* and *thin*, *tea* and *thee*, *toes* and *those*, *tick* and *thick*, were expressed by the same outlines. Yet full provision was made for *sh* because that sound is important in French, while *j* was neglected in nearly all the adaptations!

In one of my earlier efforts at system construction I perpetrated even a greater crime against phonetics than this. As already mentioned, I assigned no less than four little downward curves to

the aspirate, which was certainly a generous provision for such an unimportant element, especially in a system in which the vowels were expressed in the outlines. That was bad enough; but I went a step farther and expressed *th* by joining *t* to *h*! When *th* was written in full in this way most of the outlines containing it were simply atrocious; and it was necessary to omit *h*, as was done in the Duployan adaptations. This was worse than the plan adopted by most of the Duployan adaptations, bad as that was, because in these adaptations the omission of the *dot* did not change the *form of the ward*; but after a student had acquired the habit of joining two strokes for *th* it was difficult for him to drop one of them. When he did drop it, *the form of the word underwent a radical change*. Every experienced writer and teacher will understand what that meant!

In a joined-vowel system the expression of *h* at the beginning of a word, where *h* usually occurs, is unimportant. If *happy* becomes ‘*appy*—or *hope* becomes ‘*ope*—there can be no possible misreading; but its omission in *th*, a sound which may occur in any part of a word, is a very serious matter, as will be seen from the illustrations already given.

In breaking away from the Duployan plan of slighting *th* I was probably influenced by my previous knowledge of other systems, but I think that what impressed me with the absurdity of expressing the *single sound* of *th* by *two* characters, or expressing it in practice by *t*, was the criticism of that expedient by all writers of Phonography. It was manifestly a violation of *phonetics*, which no argument could overcome.

The reasons which governed the assignment of the characters to express *r, l, p, b, f, v, k, g, sh, ch, j, s*, and *th* have now been given. I have purposely reserved *n* and *m, t* and *d* for the last.

N and M

In explaining the process of reasoning which led to the discovery of the blending principle, I said that the principle was tested on every possible combination of letters. These tests demonstrated conclusively that by far the best results were obtained by assigning the horizontal lines to *n* and *m*, and the upward lines to *t* and *d*. This allocation yielded the beautiful and facile blends for *ten, den, tern, dem, ent, end, emt, emd*—and eliminated obtuse angles which have been execrated by shorthand writers since the beginning of shorthand history. It also promoted curvilinear motion to a remarkable extent.

By the way, if you go back to the longhand illustrations of the vowels and consonants, you will notice that the curve used for *ent, end*, is the *finishing* curve of the oval, and of nearly every letter in longhand. It is peculiarly fitting, therefore, that it should express *ent, end, mt, md*, which are generally terminal.

The relationship of sound between *n* and *m* is very close; they are also of similar appearance in longhand, and are, therefore, very easily mastered and associated mentally. Speaking of these letters, Isaac Pitman in his address on “The Science of Shorthand” (Shorthand Society, London, 1884) said:

“*M* and *n* are not only side by side in the alphabet, but like loving sisters, they walk through the language hand in hand. These affinities must be regarded in the selection of signs to represent the sounds, so that the letters may run easily into each other as the sounds do. ”

It will be recognized that the dictum of the author of "Phonography" applies more strongly to the representation of *n* and *m* in Gregg Shorthand than it does to his own system. In our system *n* is expressed by a short horizontal stroke and *m* by a long horizontal stroke, corresponding to the difference in their size in longhand and to the *length of the sounds of these letters*. The tables given in the previous chapter show that *n* has more than double the frequency value of *m*; therefore *n* should be expressed by a short sign and *m* by a long one.

I have now stated the reasons for the assignments of the characters to the consonants. The next chapter will deal with the representation of the vowels.

Chapter 18

Application of the Basic Principles in the Representation of Vowels

IN chapters Seven, Eight, and Nine I presented in considerable detail the argument in favor of joined vowels.

The joining of the characters for the sounds, consonants, and vowels, as they occur in the word is so natural and logical that there is only one possible reason for disjoining the vowels, which is that the insertion of the vowels would ‘lengthen the forms unduly. That was a valid objection to the earlier systems containing joined vowels, and also to some of the more recent systems in which the vowels were represented by strokes; but, as I have shown in previous chapters, that objection was eliminated by the use of more facile material, and a more scientific use of that material.

The speed and accuracy records made by young writers of Gregg Shorthand in the national shorthand speed contests—records that have never been equaled by writers of any disjoined-vowel systems, or, in fact, of any other system, have demonstrated decisively that joined-vowels do not necessarily entail a loss of speed. In Chapter Nine I explained how joined vowels were conducive to speed, when expressed scientifically.

The origin and development of the use of the circles and hooks as the logical material for the expression of the vowels was traced in some of the earlier chapters. This method of expressing vowels originated with the early English shorthand authors, but in France—through Conen de Prépéan, Aimé Paris, and Duployé—the principle gradually evolved into a more and more perfect adaptation to the needs of the French language.

The use of diacritical marks to distinguish slight differences of sound probably suggested itself to French shorthand authors because diacritical marks are used so much in French to indicate the accent of vowels, and in the French shorthand systems diacritical marks are used to indicate differences in the nasal sounds, *an, en, in, on, un*, as well as the vowels.

In the adaptations of the French systems to English the diacritical marks were used without any scientific classification of the vowels. In the Sloan-Duployan, a dot was used above a vowel to mark a short sound; a dot below to mark a medium sound and sometimes a long sound; and a horizontal dash was also used. It was a haphazard arrangement.

The Origin of the Vowel Groups

In the “Story of Gregg Shorthand” I referred to the fine accomplishments in school of my brother George and my sister Fanny, the latter having taken first prize every year in the girls’ school she attended, and George having secured first place every year with the exception of one

year when he won second place. George died in New Zealand of tuberculosis at the early age of twenty-four, and Fanny died in Glasgow two years later. Fanny was the only one of the family who displayed any conspicuous ability as a speaker or musician, and it was through her study of elocution and singing that she became a member of the faculty of the Glasgow Institution for the Deaf and Dumb. I believe it was owing to the extraordinary zeal and enthusiasm with which she devoted herself to the great and beneficent calling that she so exhausted her strength that she passed away when but twenty-eight years of age. I had then, and have now, a profound reverence for her abilities, and a still more profound reverence for her many lovable qualities both of heart and mind.

Kindly in nature as they were, my three brothers looked upon my enthusiasm for shorthand as a species of mania. That I had the audacity to dream of attempting the construction of a new system, even if for my own use only, seemed to them the quintessence of folly, and it afforded them endless opportunities for merriment at my expense. At such times it was to Fanny that I went for consolation. While not in the least interested in shorthand, she was always sympathetic and encouraging. Looking backward, I can now understand that, as a true teacher, she knew that *any* subject in which I became really interested, and to which I devoted continuous attention, would be likely to aid my mental development.

One of the problems I discussed with her was the classification of the vowels. That was a subject on which she could speak with authority, by virtue of her studies and her daily work in teaching the deaf and dumb. At that time I was putting the finishing touches on "Script Phonography," in which I had adopted for the most part the Duployan arrangement of the vowels and also to a large extent the unsystematic arrangement of them in, the leading adaptation of Duployé.

On account of my previous experience with the grouping or pairing of the vowels in Pitman's Shorthand, I was dissatisfied with the unsystematic manner of distinguishing the shades of sound by dots above, dots below, and horizontal dashes, and dots inside circles and loops employed in Sloan-Duployan. Fanny patiently explained the relationship of the various vowel-sounds, showed me some books which she had on the subject, and suggested the *grouping* which I incorporated in the system on which I was then working, and which I retained in Light-Line.

I shall devote a few paragraphs to an explanation this plan of grouping the vowels. To quote from the Gregg Shorthand Manual, "In writing by sound, there are twelve distinct vowels, which are arranged in four groups, each group consisting of three closely-related sounds."

Now as to the method of grouping the vowels:

Group One

The first group consists of *ă, ä, ā*, as in *at, art, ate*. Since these three sounds of *a*, as well as *oth* are written and printed with exactly the same character the English language without confusion, and in Gregg Shorthand the number of sounds of *a* represented by one character is restricted to three, it is even more exact than longhand. The grouping of these three sounds of *a* not only simplifies the learning of the system, but simplifies the reading of it.

Even authorities on phonetics are often puzzled over the exact sound of *a* in *senate, palace, bondage, desolate*, and thousands of other words; and it will be obvious that the expression of

these sounds by the same character in practice relieves the student of a very puzzling element in the study of shorthand. The language itself is fluid and flexible—particularly in the vocal sounds—and there is a decided advantage in relieving the shorthand student of phonetic problems of this kind.

Group Two

The second group consists of *ĩ*, *ě*, *ē*, as in *pit*, *pet*, *peat*. This is a logical grouping. In his “Art of Phonography” Mr. Munson devotes a long paragraph to showing the close relationship between *i* and *e*. He says:

“The sound of *ě* in *term*, and its precise equivalent, the sound of *ĩ* in *mirth*, are provided with two signs, the light dot and the light dash in the second place, it being optional with the writer which shall be used.”

The relationship of *ě* and *ē* is also commented upon by Mr. Munson, and he gives a long list of words to illustrate this relationship—*elude*, *economy*, *elastic*, *becalm*, *below*, *demean*, *secure*, *acme*, *Aeolian*, as well as some words in which *i* is used in ordinary writing, such as *finance*, *divide*, *pacify*. It seems to me that a close study of these words will be sufficient to show how logical is the grouping of the sounds in our system. As has been frequently pointed out by phoneticians and lexicographers, there is a tendency to shorten *e* in many words where formerly it was given the long sound, *e. g.*, in *been*, *becalm*, *below*, and other words beginning with *be*.

The expression of both these closely-related sounds in our system not only relieves the student of a very puzzling element in the study of shorthand, but establishes uniformity in the shorthand forms used in all parts of the English-speaking world.

Group Three

This group consists of *ǒ*, *ö*, *ō*, as in *hot*, *orb*, *oar*. This is a very natural grouping and a very suggestive one, both in the writing of shorthand and in the reading of it. It eliminates hesitancy in writing words about which there may be a doubt as to the exact vowel sound, as *economy*, *oblivion*—and many other words.

Group Four

This group consists of *ũ*, *oö*, *oö*. The close relationship here will be seen by pronouncing *tuck*, *took*, *tomb*. It is so logical and natural that I do not need to discuss it.

I may add, incidentally, that the simplicity of our vowel grouping is one of the secrets of the remarkable success of the system in the writing of foreign languages—notably Spanish, for which language it has been adopted exclusively by the United States Government in the high schools of Puerto Rico.

A point that is not understood by writers of disjointed vowel systems is this: that in most words there can be but one possible vowel. For example, *g-a-t* is read instantly as *gate*, because there is no such word as *gat*; *l-a-t*, as *late*, because there is no such word as *lat*; *k-i-t*, as *kit*, because there are no such words as *ket* or *keet*—and so on *ad infinitum*. After the student has written the forms for *gate*, *late*, etc., two or three times, he recognizes them at *sight*—no analysis is needed. And

even when the form expresses two words, as *led* and *lead*, the context in nearly every instance tells explicitly what the word is, as: “He *led* the way,” or, “He will *lead* the way.” (It will be noted that in this instance, as in many others, *the same form for both sounds is used in longhand*, as in the sentences: “He will *lead* the way.” “Let me have a *lead* pencil.” “He is working in a *lead* mine.”)

Material Used Scientifically

Much more important than the grouping of the vowels was the radical change which I made in the manner of using the material—circles and hooks—for the expression of the vowels or vowel-groups.

In the French systems of Duployé, Aimé-Paris, and others, the small circle expresses *a* and the large circle, *o*; and other vowels were expressed by hooks in various directions. That plan was followed in the various adaptations of the French systems to English; and it was the one adopted in my early experiments. The investigation of the frequency of the various sounds, described in Chapter Fifteen, revealed the fact that this allocation was utterly unscientific because “the figures showed that short *i* occurred twice as often as any other vowel sound and occurred as frequently as all the vowel sounds of *a* combined; and that if the short *e* and the long *e* were grouped with the short *i*, the frequency-value of the sign expressing the group was vastly greater than that of any other vowel or group of vowels.”

Therefore, the logical manner of expressing that particular group (*ī, ē, ē*), was to assign to it the most facile sign, the small circle. The *a* group came next in frequency, and therefore the logical representation of that group was the next most facile sign—the large circle.

There remained the expression of the *ō, aw, ō* group, and the *ū, oō, ōō* group. Here again a radical change from former practice was necessary. Based on the analysis of the oval or ellipse, given in a previous chapter, it was easy to see that since *ō, aw, ō* occurred more frequently than *ū, oō, ōō*, the familiar downward turn, in the form of a small hook, should express the former group, and the less frequent upward turn should express the latter group.

I could spend a good deal of time explaining the enormous advantages derived from this departure from the old methods of using circles and hooks, but I believe it is unnecessary to do so.

The Four Distinctive Features

There are four important differences between our system and other joined-vowel systems in which the circles and hooks are used for the expression of the vowels:

First. The circles and hooks are assigned to the vowels in Gregg Shorthand in accordance with the frequency-value of the sounds and the facility-value of the material. In the old phrase, “the most facile characters are assigned to the most frequently-occurring sounds.” This was not the case with any previous system.

Second. There is uniformity in the method of marking the distinctions between the shades of sound, the marks being always placed *beneath* the vowel instead of *above* and *below*. There is a decided gain through the uniformity of practice. This was not done in any previous system.

Third. The use of the *acute accent mark* to indicate the *long* sound of the vowel—a very natural and suggestive plan which was not used by any system prior to the publication of “Light-Line

Phonography.”

Fourth. The vowels are classified scientifically in accordance with the nature of the sounds. The *Lingual Vowels* (ă, ä, ā, ĭ, ě, ē), so called because they are formed mainly by the modulation of the tongue, are expressed by *circles*; the *Labial Vowels* (ö, aw, ô, ů, oö, oö), so called because they are formed mainly by the modulation of the lips, are expressed by *hooks*. This scientific division of the two classes of vowel sounds had not been made in any joined-vowel system prior to “Light-Line Phonography.”

Chapter 19

The Evolution of Shorthand Principles

“The whole drift of modern science and art is towards naturalness. To copy the simplicity of Nature is found to be the highest wisdom. ”

—David P. Lindsley

SEEING that the value of each of the principles discussed in this book has been so generally acknowledged by authors and advocates of nearly all systems of shorthand, as shown by the quotations from their writings, the question naturally suggests itself: Why have not these principles been generally adopted in the construction of shorthand systems?

The answer is to be found in the conservatism with which mankind approaches a new thought or a new invention. As one writer puts it, “If the experience of centuries has taught us anything at all, it has taught us that mankind would rather think in a groove, and think large and at random, because the former is easier and the result more likely to conform to popular precedents.” Bagehot, in “Physics and Politics,” says: “One of the greatest pains to humanity is the pain of a new idea. It is so ‘upsetting’—you do not know at once which of your old ideas it ‘will or will not turn out.’”

Illustrations of this trait of human nature are to be found in the story of almost every forward step since recorded history began. You have probably seen engravings showing the quaint-looking railway carriages used in the early days of the railways. They were very obviously patterned after the style of the coaches of that period, and many years passed before the builders of railway carriages ventured to depart from the stagecoach model.

Man moves forward timidly, hesitatingly, from the known and familiar, until by a series of successive steps, his invention approaches perfection—sometimes, however, through a radical departure from the path along which he moved in his earlier experiments.

Sir Isaac Pitman, in the last year of his life, in advocating certain “improvements” or “changes” in his system which were opposed by his sons, who then had control of the business established by him, wrote:

“In every reform, or ‘change,’ opposition springs up from personal considerations, vested interests, and the trouble of lifting oneself up a few inches to get out of the rut or groove of life which we have made for ourselves by long ‘use and wont.’ All these considerations have obstructed the adoption of the present batch of Phonographic Improvements, and they have proved the more formidable from the fact that the ‘old style’ has been in use thirty-two years. ”

The Scientific Reason

The truth of all this is known to everyone; and the scientific explanation of it is put in a very simple way by Arthur Brisbane in an article on “The Brain,” in the course of which he said:

“As time passes, the substance of which your brain is made “sets,” becomes, mentally speaking, hard, like concrete. After a certain age a man cannot change his opinions. He thinks he doesn’t *want* to, but in reality he *cannot*.

Between twenty and thirty and forty educated men receive new ideas easily; after that, with difficulty or not at all. Unless an opening has been made into the brain, through which the truth may go, in youth, the truth cannot get in later. Hence the importance of having what is contemptuously called “a smattering of general information and general opinions.” Each “smattering” may leave a hole to let in the light later. Uneducated men rarely accept a new thought after twenty-five. Beyond that age they can hate, but think with difficulty. That makes mobs so dangerous.

When Harvey announced that the blood circulated through the body, pumped by the heart, any fool, you would say, should immediately have recognized the truth of Harvey’s discovery.

Yet that truth, so plain to us, was denied by all the “great doctors” of Europe, except some of those under forty years of age. The minds of the others had settled into solid concrete. ☹

Dr. Frank Crane declares: “No reform ever succeeds in the generation to which it is proposed. That crop of adults has to die off. It is only the next crop that is qualified to carry on the new idea. This accounts for the fact that all reforms go in waves, in tidal waves about thirty years apart.”

Incidentally, we may add that this applies to shorthand more than to most subjects, because shorthand involves physical expression of the thought. After a time the physical response to the mental impulse becomes subconscious and automatic, like walking, and it is exceedingly difficult to think in forms, or to use forms, other than those with which the mind and hand have become familiar by “long use and wont.”

This explains why it is that every system of shorthand that has attained distinction in any language or country, by reason of its *originality*, has been the product of youth. The most popular of the German systems, that of Gabelsberger, was originated when its author was twenty-seven; the most popular of the French systems, that of Emile Duployé, was produced when its author was twenty-six; the most popular system in England, that of Isaac Pitman, was published when its author was twenty-four; and the most popular system in America was published when its author was twenty.⁸

⁸ Isaac Pitman was but a mere stripling schoolmaster of twenty-four when he issued his unpretentious “Stenographic Sound-hand,” destined to revolutionize the shorthand methods of his time. His American adapter and rival, Andrew J. Graham, was a youth of twenty-three when he issued, in 1854, his first shorthand work. John Robert Gregg, he of “light-Line” fame, is credited with the mature age of twenty-one or thereabouts when he set about to astonish the shorthand world. — Charles Currier Beale, in *The Phonographic Magazine*, July, 1903.

As far back as May, 1904, I printed these verses on the editorial page of the *Gregg Writer*, without comment:

THE CALF-PATH

BY SAMUEL WALTER FOSS

I

One day, through the primeval wood
 A calf walked home, as good calves should,
 And made a trail all bent askew,
 A crooked trail, as all calves do;
 Since then three hundred years have fled,
 And I infer the calf is dead.
 But still he left behind his trail,
 And thereby hangs my moral tale.

II

The trail was taken up next day
 By a lone dog that passed that way;
 And then a wise bell-wether sheep
 Pursued that trail o'er vale and steep,
 And drew the flock behind him, too,
 As good bell-wethers always do.
 And from that day, o'er hill and glade,
 Through those old woods, a path was made;

III

And many men wound in and out,
 And dodged and turned and bent about,
 And uttered words of righteous wrath
 Because 'twas such a crooked path.
 But still they followed—do not laugh—
 The first migrations of that calf,
 And through this winding woodway stalked,
 Because he wobbled when he walked.

IV

This forest path became a lane,
 That bent and turned and turned again;
 This crooked lane became a road,
 Where many a poor horse with his load
 Toiled on beneath the burning sun,
 And traveled some three miles in one.

And for a century and a half
Trode in the footsteps of that calf.

V

The years passed on in swiftness fleet,
The road became a village street,
And this, before men were aware,
A city's crowded thoroughfare;
And soon the central street was this
Of a renowned metropolis,
And men two centuries and a half
Trode in the footsteps of that calf.

VI

Each day a hundred thousand rout
Followed this zigzag calf about,
And o'er this crooked journey went
The traffic of a continent.
A hundred thousand men were led
By one calf near three centuries dead.
They follow still his crooked way
And lose one hundred years a day;
For thus such reverence is lent
To well-established precedent.

VII

A moral lesson this might teach
Were I ordained and called to preach;
For men are prone to go it blind
Along the calf-paths of the mind,
And work away from sun to sun
To do what other men have done.
They follow in a beaten track,
And out and in, and forth and back,
And still their devious course pursue
To keep the path that others do.
They keep the path a sacred groove,
Along which all their lives they move;
But how the wise old wood gods laugh,
Who saw the footprints of that calf!
Ah! Many things this tale might teach,
But I am not ordained to preach.

The thought I had in mind when I printed these verses was that the reference to “a trail bent all askew,” a path that “dodged and turned and bent about,” “a zigzag path,” and so on, would be read with appreciative chuckles by the writers and teachers of our system, which was then meeting with the determined opposition of the united forces of those interested in the maintenance of the old-style systems.

Origin of Geometric Styles

Quite recently—and since the preceding chapters of this book were written—I had occasion to make some investigations of the Tironian notes, which were in use before the birth of Christ, and also of the English systems of the sixteenth and seventeenth centuries, for the purpose of preparing a brief history of shorthand. In the course of these investigations I became convinced that the authors of the earliest English systems were not only inspired to attempt the revival of the art by reading Plutarch’s statement that the debates on the Catiline Conspiracy, in the Roman Senate, B. C. 63, were reported in a brief form of writing (as acknowledged by Dr. Timothy Bright, the author of the first English system, in his dedication of his work to Queen Elizabeth), but *had actually imitated the characters of the ancient Roman shorthand writing in the construction of their alphabets.*

While there is not much, if any, trace of the Tironian *notae* to be found in Bright’s “Characterie,” (1588), which consists largely of arbitrary marks, the first alphabetic system, the “Stenographie” of John Willis (1602), contains unmistakable evidence that it was founded on the Roman stenographic characters.

When this theory became a conviction, I was interested to note that, with one exception, subsequent authors, for two hundred years, pursued the “bellwether” path of Willis, who had followed the zigzag “calf-path” made by Tiro more than seventeen centuries before! I do not think that in all history there is to be found a more striking illustration than this of the way man follows the beaten path of “well-established precedent.”

The evolution of the art of shorthand through several centuries can be clearly traced. It is true that at times the art has strayed into by-paths or blind alleys, but nevertheless the student of shorthand history can find, century after century, evidences of gradual progress in some direction. Sometimes a principle which was condemned or ridiculed in the life-time of its author received universal acceptance when revived later and applied in a more practical form.

“What is natural survives,” and it was inevitable *that*, as time went on, the trend of shorthand construction would be towards principles which were in accord with the natural movements of the hand in writing, but the steps taken in that direction have been slow, hesitating, and laborious.

The Evolutionary Steps

The processes of evolution in shorthand, as I see them, were as follows:

The *first step* was the derivation of the characters of the Tironian notes from the majuscules, or capital letters, of the Latin writing of that time. The minuscule, or small letters that could be joined, and which were written in one direction — our current running hand — did not come into general use until the ninth century. As the majuscules of Latin are drawn in all directions,

e.g., V, A, T, the shorthand characters derived from them were written in all directions — back slope, forward slope, and vertical.

The *second step* was the imitation of the Tironian notes by the early English authors, and, consequently, the adoption of the majuscule basis, which imposed upon the art for centuries the multi-sloped style of shorthand writing.

The *third step* was the very evident progress, through a series of early English systems, toward the expression of *each letter in the alphabet by a single character*. (The first alphabetic system, that of John Willis (1602), contained no less than nineteen *compound* forms for the twenty-six letters represented in the alphabet of that system.) This is probably the most clearly-defined step of any.

An interesting illustration is the evolution of “f” and “v.” In the Tironian *notae* the letter “v” was expressed by two strokes — a back-slope stroke and a forward up-stroke, in imitation of the Latin capital “V.” Beginning with John Willis in 1602, the compound sign used by Tiro for “v” was adopted by E. Willis, (1618), Witt, (1630), Dix, (1633), Mawd, (1635), Shelton, (1641), Metcalfe, (1645), Farthing, (1654), and more than a score of other authors of early English systems, and continued in use for that very purpose, and in that very form, down to and including the noted system of James Weston, published in 1727. A forward step in the evolution of the form for “v” was taken in 1672 by William Mason, when he dropped the upward stroke and used only the single back-slope character. This was so brief and practical that it was adopted by the two most famous authors of the eighteenth century, John Byrom and Samuel Taylor, as well as by Lewis, Floyd, Dodge, Gould, Hinton, Moat, and others. All these authors expressed *f* or *v* by *the same sign*.

Then, with Molineux’s “Introduction to Byrom’s Shorthand” (1802), we have still another evolutionary step. Molineux said: “The next consonant is *f* or *v*, the latter being in general represented by the same mark as *f*; although, occasionally, it may be useful to distinguish from the former by making the stroke a *little thicker*.” Molineux gave the same direction for distinguishing between *s* and *z*, “which were signified by one and the same line, the letter *a* being made a little thicker than the *s*.” William Harding, in his edition of the Taylor system (1823), published after the death of Taylor, adopted Molineux’s expedient for distinguishing between *f* and *v* by shading the latter, and also the same method of distinction between *s* and *z*, which were previously written alike.

Isaac Pitman studied the Harding edition of Taylor, and in the first edition of his system in 1837, which was called “Stenographic Sound-Hand,” he used the same signs as Harding for *f* and *v* — the straight back-slope character, written light for *f* and heavy for *v*. In a later edition he changed the form to a back-slope curve.

Another very interesting letter to trace through its various processes of evolution in the earlier systems is the letter *r*. Edmund Willis represented *r* by one of the script forms for that letter. As time went on, this was modified until it assumed the form of a straight upward stroke, with a little tick before it, resembling the check-mark used by bookkeepers. Even Isaac Pitman, in his first alphabet, used this check-mark sign for *r*; but he gave, as an *alternative*, the upward stroke without the tick. After a while it was found that the tick was unnecessary, and it was dropped.

The *fourth step* was the gradual acceptance of the principle of “writing by sound,” and the

provision of characters that rendered it possible to express the phonetic sounds. The author of the very first system of alphabetic shorthand, John Willis (1602), said: "It is to be observed that this art prescribeth the writing of words, not according to the orthography as they are written, but according to their sound as they are pronounced." As the alphabets of the early English systems were not arranged on a phonetic basis, since they provided characters for *c* (which is sounded as *k*, *could*, or *s*, *cease*), *q*, (which is pronounced *kw*) *x*, (which is pronounced *ks*), and did not provide characters for simple sounds like *sh*, *th*, *ch*, it was impossible to carry out the direction to write words "according to their sound." Most of the early authors recognized this, and contented themselves with directing the student to "omit silent letters." It was not until the end of the eighteenth and the beginning of the nineteenth centuries that the negative statement of the principle, "omit silent letters," was changed to the positive "write by sound," and that characters were provided which enabled the direction to be carried into effect. —Holdsworth and Aldridge, (1766), Conen de Prépéan, (1816), Phineas Bailey, (1831), Towndrow, (1835), Pitman, (1837).

The *fifth step* was the arrangement of the consonantal characters according to their phonetic relationship: thus, *p*, *b*, *t*, *d*, etc., —Holdsworth and Aldridge (1766), Conen de Prépéan, Byrom, Pitman, and others.

The *sixth step* was the founding of the characters of the alphabet partly upon modern cursive longhand forms instead of upon the ancient Roman capitals. Even the alphabet of John Willis (1602) took a hesitating step in this direction in the expression of *y* by a character that imitated the small *y* of current writing. Other authors extended the use of cursive characters to *r*, *h*, and other letters.

That forward, running characters were more facile than back-slope characters was recognized early in the history of modern shorthand. This is shown by the fact that characters on the natural slope of writing, or with an onward movement, were given the preference in the representation of frequently-occurring letters. One of the most noted and talented of shorthand authors, John Byrom, M. A., F. R. S., who taught his system to many distinguished people (among whom were John and Charles Wesley), for many years, though the system was not published until 1767, several years after his death, said: "The other *th*, [a back-slope character] *by reason of our customary method of leaning the letters the contrary way in common writing, is not so readily made,*" etc.

The first system founded *wholly* upon a cursive basis was That of Simon Bordley (1787), but as it was buried in a formidable treatise called "Cadrnus Britannicus," it escaped attention. It was not until 1802, when Richard Roe published "A new system of shorthand, in which legibility and brevity are secured upon the most natural principles, especially by the singular property of their sloping all one way according to habitual motion of the hand in common writing," that the cursive principle was stated boldly and definitely as a basic principle in shorthand construction.

But the new principle, as expounded by Roe, was almost foredoomed to failure. In the first place, the limitations of shorthand material, as known at that time, seemed to render the application of the principle utterly impracticable; in the second place, Roe's system, like most first ventures in a new direction, was a very crude production; in the third place, and most important of all, it was placed before the public at a time when the older geometric styles, after two hundred years of progression, had reached a high degree of development, and were being used by Thomas Gurney and others for professional reporting.

One can easily imagine that the shorthand authors and writers of that time viewed Roe's work in very much the same spirit as those who had developed the gas balloon to a high state of perfection regarded the theories of Langley, Wright, and others, who believed that it was possible to construct a "heavier-than-air" machine.⁹ Why waste time with "cranks" who held such preposterous notions?

But the *principle* enunciated by Roe did not die. In 1816, Thomas Oxley made an attempt to give effect to it; and a few years later the great Bavarian author, Franz Xavier Gabelsberger, produced a system based on the current hand, which either in its original form or in modifications of it, soon became almost universally used in Germany and all other European countries, with the exception of France and Spain. French writers have asserted that Gabelsberger derived his inspiration from Oxley's but this theory may be the outcome of national prejudice.

The style of writing in the German systems has a very involved and lengthy appearance; but it is, nevertheless, much more *fluent* than the stiff, geometric style. Gabelsberger described the writing in his system as consisting of "meandering loops and lines," and that description would apply to all other German systems as they are founded on the principles laid down by the great Bavarian author. It is to this characteristic of the German systems that I attribute their failure to attain any real foothold among English-speaking people, who are accustomed to a style of writing, both in longhand and shorthand, in which there is greater simplicity of form than in Teutonic writing. Following the publication in England and America of adaptations to English of the French system of Duployé, an active propaganda was inaugurated in London and New York on behalf of adaptations of the German systems of Gabelsberger and Stolze, but it was without any practical results so far as the advancement of the German style of shorthand was concerned. It had one good result, however: It directed the attention of British and American shorthand writers to the success of systems founded on the cursive style of writing, as distinguished from the old angular and multi-sloped geometric styles. Incidentally, too, it brought into bold relief the popularity of shorthand and the high esteem in which it was held by educated people in Germany, as contrasted with the lack of interest in the subject in English-speaking countries, where a style of shorthand writing then prevailed, which was not in harmony with natural movement. This concentrated attention on the problem of developing a style of shorthand combining the uniformity and fluency of movement of ordinary writing with simpler and clearer forms than those used in the German systems.

The *seventh step* was a very slow and halting one. It was towards the joining of vowels and consonants in the natural order in which they occur in a word. The expression of vowels by strokes in the earlier systems was so clumsy that, in seeking relief from the burden of their expression, it is not surprising that some of the early shorthand authors (Samuel Taylor, for example) went to the other extreme of expressing *any* vowel by a dot. Others attempted to give a more

⁹ Speaking of the invention of the aeroplane, the *Chicago Tribune* said:

Professor Langley was right in principle and we now applaud him, but that didn't keep us from breaking his heart with ridicule. We had our tongues in our cheeks when the gentle old man tried to go aloft in the aeroplane we dubbed "Langley's Folly"; we gaped in shame and amazement when the Wrights made the "Folly" take the air like a bird. Had the Wright brothers failed, we would have heaped them with our all too ready sarcasm. But they made their objective, so we take credit for advancing the cause of aviation!

definite expression by placing dots, “commas,” or dashes in various positions alongside the consonants, but in practice most of the vowels were omitted. In those leisurely days, when shorthand was studied for the most part by highly educated and studious people as a useful accomplishment for reporting sermons and public addresses, or was studied for professional reporting purposes over a series of years, the absence of vowels was not so keenly felt as in our day. After much practice, well-educated people and trained reporters could tell almost instinctively when it was wise to insert a vowel, or, if a vowel was omitted, they could usually determine from the context, or from memory, what the word should be, even when the “consonantal skeleton” might represent a dozen words. In more recent times, when shorthand was studied for the most part by very young people for use in business offices, the ridiculous mistakes made through the absence of vowels in the shorthand forms emphasized the importance of a more adequate representation of them. Young people have not the education, discrimination, or maturity of judgment, necessary to “guess” correctly which word out of a possible dozen or more represented by the same “consonantal skeleton” was dictated. It was this factor, more than any other, which gave vitality to the demand in recent years for a more definite expression of the vowels. Many amusing illustrations of the mistakes made by stenographers through the omission of vowels were given in the chapter entitled “Some Humorous Errors.”

The history of vowel representation might be summarized as follows:

“ Under *Disjoined Vowels* we might trace the use of the disjoined signs for vowels, beginning with the dot for “i” in Rich, then the use of “commas” as well as dots, the gradual substitution of dashes for “commas”; the placing of dots in different position with relation to the consonants—at first in five positions, later reduced by Byrom to three; the formulation of rules governing the use of these dots and dashes before and after consonants; and the extension of the phonetic principle to the dots and dashes expressing the vowels and diphthongs.

Under *Vowel Indication* we might begin with Tiro’s method of writing the consonant characters at different angles to express vowels, and trace the evolution of the expedient through Gurney’s “vowel-modes” (adopted, in part, by Professor Everett) through Pitman’s method of indicating, in the case of a few characters, *where* a vowel *occurred*, by writing some letters upward to show that a vowel followed it, and other strokes downward to show that a vowel preceded it; through Melville Bell to Pocknell, Valpy, Browne, and others, who extended this expedient to *all* consonants. But it is hardly necessary to do this, as all the so-called “vowel indication” systems have passed away. None of them did more than indicate *where* a vowel occurred; and any method which does not indicate not only where a vowel occurs, but *what* the vowel is—or at least approximately what it is—has no possible chance of consideration in these times.

Another form of “vowel-indication” was by writing words in position. As explained in a previous chapter, the Pitmanic systems placed words in three positions, each position “indicating” that one of about five vowels occurred somewhere in the word. This was extended to *five* positions by J. George Cross (1877) and was imitated by a number of authors — McKee, Byrne, Chartier.

Under *Joined Vowels* we might trace the evolution of joined-vowel systems from stroke forms, beginning with Tiro, on through Willis and others; the gradual substitution of simpler forms, beginning with the use of the circle by Blanchard in 1786, until the adoption of the circles, hooks and loops, by Conen de Prépéan, (1805) Duployé, and others, as the most facile and logical material for the expression of the vowels; and, later, the use of the circles, hooks, and loops for the expression of the vowels in accordance with the *facility-value of the material and the frequency-value of the vowels represented*. ♡

The *eighth step* was in the direction of the use of characters of one thickness. The difficulty of finding material to express the letters without resorting to compound forms suggested the use of characters of varying degrees of thickness. When shading was first introduced, it was in harmony with the style of longhand writing then in vogue, as may be seen from the specimens of longhand writing of that period. As mere artistic productions, some of these specimens are a delight to the eye, with the broad, sweeping, shaded strokes, which could be readily and artistically executed by the quill pens then in use. In that leisurely age such decorative specimens of ordinary writing naturally suggested the use of shading for shorthand characters; but the demand for rapidity in more modern times relegated the ornate shaded style of writing to the discard. As explained in a previous chapter, the apparent gains obtained by the use of shading in shorthand were purely illusory, as they were more than counterbalanced by the losses.

The *ninth step* is the most recent of all, and it has not yet received the attention and appreciation that will undoubtedly be given it in years to come. It is the principle of founding the writing not only on the uniform slope of ordinary writing, but upon the curvilinear motion of longhand, as opposed to the angular style of writing. As this has been treated somewhat fully in one of the chapters of this book, it is not necessary to say more about it here.

Why Certain Systems Failed

It is my belief that many authors of systems published in the past fifty years failed to attain greater success than they did because they lacked a *controlling ideal*. They had in view, for example, the elimination of shading, or of position writing, or possibly both; or it may have been the inclusion of the vowels in the outline, or the slope-of-longhand theory — or a combination of any two of these. Whatever it was, they concentrated on *one* or *two* phases of the subject without having a broad conception of the entire problem. They had not the definite ideal of constructing a system based *throughout* on a close analysis of those easy, natural movements which the experience of mankind has embodied in our beautiful longhand writing. None of them, indeed, started from the premise that our ordinary writing in all its features was the natural basis of a briefer form of writing. I speak understandingly and sympathetically about this because at the time of my own early efforts at shorthand construction I had not formulated that guiding principle.

Probably the sequence of the mental operations of many authors ran something like this: “I believe in joined vowels. That is a natural, logical principle; therefore joined vowels there shall be in the system I am going to construct. But in introducing joined vowels there may be a loss in brevity of form — what can I do to offset that?”

Then the answer suggested itself: “Why not extend the use of shading, of position writing, or of characters of different lengths? These expedients can stand a little more pressure on them.”

The result of this reasoning was that most of these systems contain one or two *natural* principles on which great emphasis is placed, but the gain in this respect is offset, and sometimes more than offset, by the extension of certain *unnatural* features. Just to illustrate the emphasis sometimes placed on one natural feature to the exclusion of other equally important features, I quote a somewhat flamboyant paragraph from the Preface to the textbook of a system based “on the slope of longhand”—a system for which I was mainly responsible, prior to the development of my present system. And it may be well for me in doing so to say that the words printed in capitals and italics are so printed in the original Preface:

“ Regarding the inestimable value of a UNIFORM MANUAL MOVEMENT little need be said. Writing consisting of a medley of inharmonious symbols, demanding *a constant and instantaneous change of movement*, and presenting a tumultuous array of straight lines, circles, semi-circles, quadrants, ovals, and hooks *traced in every possible direction*, causes by its abrupt and rapid diversity of manual effort a severe strain on hand, nerve, and brain, especially distressing when the writing is *rapid* and the effort prolonged.

And this has been the *bane* of English shorthand, for which practice—practice, persistent, patient, long-suffering practice—has been the only antidote; nor antidote can it be called, for the physical strain and fatigue of such writing arises from a *physiological natural law*, and remains the bitter cup even of the expert. ”

What I said about the absurdity of placing the emphasis on one or two features, and not on *all* natural features, will be made clear from paraphrases of the above highly-italicized statement. Here is a paraphrase of it as applied to the elimination of SHADING:

“ Regarding the inestimable value of a UNIFORM LIGHT-LINE MOVEMENT little need be said. Writing consisting of a medley of inharmonious symbols, demanding *a constant and instantaneous change of pressure* of the pen, causes, by its abrupt and rapid diversity of manual effort, a severe strain on hand, nerve, and brain, especially distressing when the writing *is rapid* and the effort prolonged.

And this has been the *bane* of English shorthand, for which practice—practice, persistent, patient, long-suffering practice—has been the only antidote; nor antidote can it be called, for the physical strain and fatigue of such writing arises from a *physiological natural law*, and remains the bitter cup even of the most expert. ”

Now let me paraphrase the statement by an application to POSITION-WRITING:

“ Regarding the inestimable value of a UNIFORM POSITION FOR THE CHARACTERS little need be said. Writing consisting of a medley of inharmonious symbols, demanding *a constant and instantaneous change of position* above the line, on the line, and below the line, causes, by its abrupt and rapid diversity of manual effort in placing the forms in different positions, a severe strain on hand, nerve, and brain, especially distressing when the writing *is rapid* and the effort

prolonged.

And this has been the *bane* of English shorthand for which practice—practice, persistent, patient, long-suffering practice—has been the only antidote; nor antidote can it be called, for the physical strain and fatigue of such writing arises from a *physiological natural law*, and remains the bitter cup even of the most expert. ☹

And a paraphrase of it will make the statements apply equally well to CURVILINEAR MOTION:

☹ Regarding the inestimable value of a UNIFORM CURVE MOTION little need be said. Writing consisting of a medley of straight lines, demanding a rigid, jerky and angular movement, causes, by the absence of that natural curve motion to which the hand is accustomed in longhand, a severe strain on hand, nerve and brain, especially distressing when the writing *is rapid* and the effort *prolonged*.

And this has been the *bane* of English shorthand for which practice—practice, persistent, patient, long-suffering practice—has been the only antidote; nor antidote can it be called, for the physical strain and fatigue of such writing arises from a *physiological natural law*, and remains the bitter cup even of the most expert. ☹

Keeping this guiding principle in mind—that the ideal shorthand system should be “the distilled essence of our common calligraphy,” as someone expressed it—we can now understand why so many systems published in modern times failed to attain greater success. They failed because:

1. They eliminated but *one* or *two* of the unnatural features found in the older systems, and retained all the others.
2. While eliminating one or two unnatural features, some of them extended the use of other unnatural features far beyond the limitations imposed in the older systems.

Conclusion

After I had completed the preceding chapters of this book, in which the basic principles of the system had been fully explained, an event occurred which inclined me to “scrap” the entire manuscript. It was the winning of the Shorthand Championship by Albert Schneider — at the age of twenty. The old saying, “The proof of the pudding is in the eating,” and the maxim, “The public is educated quickly by events, slowly by arguments,” came to mind. I said, “Why should I print a book setting forth an elaborate presentation of the scientific principles on which Gregg Shorthand was built, when the soundness of those principles has been placed beyond all reasonable controversy by the actual achievements of its writers.”

But the book has been written, and as I dislike thinking that it has been a needless expenditure of time and labor, I am sending it forth. It may serve a useful purpose in furnishing the shorthand historian of the future with data on which to base a history in which the evolutionary principles may be traced—as distinguished from the mere cataloguing of the names and works of the various shorthand authors, as is the case with most of the histories that have appeared in the past. It may, too, prove of service to the advocates of the system in giving reasons for the faith within them.