Spelling Progress Bulletin

Dedicated to finding the causes of difficulties in learning reading and spelling.

Winter, 1978

Publisht quarterly
Spring, Summer. Fall, Winter
Subscription $3.00 a year.
Volume XVIII, No. 4
Winter, 1978

Editor and General Manager,
Newell W. Tune,
5848 Alcove Ave,
No. Hollywood, Calif. 91607

Assistant Editor,
Helen Bonnema Bisgard.
13618 E. Bethany Pl. #307
Aurora. CO. 80014

Table of Contents

-o0o-

Phonemic Spelling Council, successor to Simpler Spelling Association

The Phonemic Spelling Council is a selected group of qualified educators and linguistic scholars chartered in 1971 by the Regents of the University of the State of New York to encourage, thru establishing an inter-disciplinary post-doctoral Reading/Writing Research Institute under appropriate university auspices or otherwise, investigations of all aspects of phonemic spelling of the English language, more especially as influencing the reading, writing, and learning of English, whether by English-speaking peoples or as a second language as an international auxiliary medium of communication; and to disseminate the results of these and other relevant investigations, whether past, present, or future.

Research

To take full advantage of the i.t.m. technique involves, a wide field of basic research, beginning with the comparative advantages of a substantially one-sign, one-sound notation such as Sir James Pitman's Initial Teaching Alphabet (i.t.a.)which adds 20 new characters to supplement the deficiencies of the Roman alphabet,or a no-new-letter notation such as the Simpler Spelling Association's World English Spelling (WES), keeping strictly within the limitations of the universally available Roman alphabet, and supplementing its phonemic deficiencies by standardizing digraphs mostly familiar, with or without employing temporarily a ligature under each. In either case, there is the problem of developing new teaching materials to take full

advantage of the fact that as soon as the basic code of i.t.m. is learned (in the first few weeks) it opens up the child's entire listening and speaking vocabulary for reading and writing; determining the sequence and rate of introduction of phonemes (graphemes); the degree of proficiency to be sought before commencing to phase out the i.t.m. in favor of T.O.; constructing and validating new tests to measure progress under the changed conditions; the effect of the simpler conditions on reading readiness; use of the standard keyboard typewriter as a teaching instrument in the earliest grades, as demonstrated by Wood and Freeman nearly 40 years ago; adaptation to special types of students, including teaching English as a second language, and many other details.

At the annual meeting in New York City, Sept. 27, the following officers and Board of Trustees were elected-

Pres.: Dr. Alvin C. Enrich, Pres., Academy for Educ. Development, 680 Fifth Ave, Neu, York, N. Y. 10019.

Pres. Emeritus Dr. Ben D. Wood, Prof. Emerit. & Director, Bureau of Collegiate Research, Columbia Univ., 106 Morningside Drive, New York, N. Y. 10027.

V.Pres.: Dr. John Henry Martin, Educator and author, Carlisle Castle 207,1850 Palm City Rd, Stuart, Fla. 33494

V.Pres.: Dr. Wm. W. Turnbull, Pres., Educ. Testing Service, Princeton, N. J. 08540

Sec. & Dr. Helen Bonnema Bisgard, Prof. Emeritus Educ.,
Coordinator. Colorado Women's College, (address above)

Treas.: Dr. Russell L. Reed, Controller, Teachers College, Columbia Univ, New York, N.Y. 10027

Members of Board of Trustees

Dr. Hubert Park Beck, Prof. of Educ, City College, New York, 523 W. 121st St, New York, N.Y. 10027

Dr. Emmett A. Betts, Research Prof, Univ. of Miami, 144 Lake Mariam Rd, S.E., Winter Haven, Fla, 33880

Dr. Katherine P. Betts, Reading Researcher, same address

Dr. Abraham F. Citron, Prof. of Educ, Wayne State Univ, Detroit, Mich, 48202

Mr. Reynold B. Johnson, Pres, Educ. Engr. Assoc., 550 Hamilton Ave, Suite 225, Palo Alto, Calif, 94301

Dr. Norman D. Kurland, Dir. Study of Adult Educ, State Educ Dept, Albany, N.Y. 12234

Dr. Abraham J Tannenbaum, Prof. of Educ. Teachers College, Columbia Univ, New York, N.Y. 10027

-o0o-

[Spelling Reform Anthology §11.4pp168,169]
[Spelling Progress Bulletin Winter 1978 pp2,3]
[Green letters are joined in ita.]

Why Digraphs Impede Learning, by Sir James Pitman, K. B. E.

Although this might he considered self-evident, still it does not impress itself on many people. It requires considerable cogitation. Among the many benefits of i.t.a. to the learner, we think a most important one flows from the abolition of digraphs.

Digraphs in English are of three kinds:-

1. those digraphs where both of the characters accurately, and in their sequence, represent both of the sounds of the diphthong. (Incidentally there is only one, the one dealt with below);
2. those (as i e in die) which mislead the reader because the values of the two characters and their sequence in the digraph all misrepresent the two sounds of the diphthong;
3. those (as s h) which mislead even further, in that not only is the value of neither character heard in the sound, but also the sound is not even a diphthong at all, but a single sound, requiring therefore but a single character.

An instance of the first kind is the diphthong which is conveyed by the i.t.a. character *oi, Even in this, the least misleading of the three cases (the diphthong sound which the two characters (o and i in their sequence accurately convey) there is much to be said against the use of a digraph, because it would seem that the learner (at least at the beginning) will find it easier to read the word *oil* as a word of two sound units (e.g. (oil, that is (oi plus l), rather than as a word of three sound units o i l, (o plus i plus l). After all the learner hears the diphthong as a single sound, not as two (as in oi so too in other diphthongs as j, ch, ue, ie, etc.). The glide in a diphthong is so rapid that to appreciate that there is not one sound, but a sequence of two, requires, an act of teaching, and a not inconsiderable sophistication in learning. Moreover, the learner is too often so young that it must be wrong gratuitously to confront him with the task.

If then, there be disadvantage in even digraphs which accurately convey the constituent sounds of a digraph, how much greater disadvantage is there in those cases where the digraph is misleadingly composed, and how much greater disadvantage still where the misleading di- graph represents a sound which is not even a diphthong.

The benefit to the learner of having a single unit character (e.g. sh, ng, th, etc.) for what is a single unit of sound (and could never be separated as a diphthong in two sub-units of any kind) is surely most evident. In the words *mishap, ingoing, anthill,* the learner will naturally attach to the *s*, to the *h,* to the *g*, and to the *t* the respective values which he has learned and found so successful in *every* other such situation. To expect him exceptionally to forget all these happy experiences when he faces the digraphic words *bishop, ingot and anthem,* and to learn that these characters no longer remain what they have been, is clearly to expect a great deal. In fact, it can be confusing.

It is hard to understand how even much-respected experts, who concede that the old medium is harmful to success in learning, should question whether the new composite characters like ŋ for *sh* and ng for *ng* are really easier than the traditional digraphs." [1]

The word "easier" raises a number of questions. For instance, is it easier for the first learning and if so, easier for phonic learning or for look-and-say learning? Is it easier for both together? Is it easier for subsequent progress?, easier for the transition?, easier for writing (pencilmanship)?, easier for writing (spelling)?

Only in the sense of easiness for first learning (and for phonic learning only) has it been examined in this paper.

There are good grounds which could be advanced for supposing that on the other counts of potential easiness too, sh and ŋ etc. are "easier" than *sh* and *ng*, etc., or at least as easy. If that be the case, then it will require considerable optimism for any research organization to embark on the very large costs of printing in a new experimental alphabet several hundreds of copies of some 200 or 300 different books, and to envisage accepting the disturbance and costs of further comparative researches seeing that while the *a priori* case is so strong that sh and ŋ are easier (or no more difficult) on all counts than *sh* and *ng,* the only case to the contrary would appear to be the academic one that everything is open to question until it has been proved by research.

Such a questioning of what, to me at any rate, seems an elementarily obvious proposition, presumably explains itself largely by a strong emotional predisposition to continue with T.O. as a culture to be venerated and preserved, and by a revulsion against all departures from it, even as an initial learning medium. In time we will no doubt come to wonder how even specialists experienced in the reading field had become so conditioned to the sacrosanctity of the traditional medium that they could be so unaware of what has been going on under their very noses, but so emotionally

committed to it as to wish to remain unaware. No one at all would presumably question whether, in a decimal numeration, it might not be preferable to have a separate numeral in figures for each of the ten concepts of quantity. No one would suppose that there could be less than ten different ciphers, and that it could be acceptable, in default of enough ciphers, to require the normal characters (say 2 and 7) to do duty, in combination, in a quite different sense (say to act as the missing 5, as well as 27 when that figure is intended).

In my view, one of the strong features in the simplicity of i.t.a. has been this policy of having at least as many characters as there are sounds to be characterized. At any rate it was a conscious and deliberate decision, and I am surprised that any should challenge it. The average classroom teacher may not be a world-famous authority on reading, but few if any teachers who have had experience in teaching with i.t.a. would demur from joining me in claiming that, *per contra,* the "composite" characters (or as I call them, the "augmented" characters) of i.t.a. must be regarded as a *highly important factor in the simplicity of the new medium.*

If all this is valid, in what circumstances, then, might it have been worth sacrificing even a little of this learning benefit, by creating three new digraphs, in order to give a different benefit - that which makes easier the transition? Clearly an essential condition must be that the units of the digraph must truthfully (in the alphabet used and in the sequence) reflect each of the units of the diphthong. Clearly, too, there needs to be the prospect of a significant benefit in the transition. In the event, only j, ue and ch would appear to be worth considering on these two counts. (The possibility of eliminating wh by using the digraph h w is rejected on the second count.) Thus it is helpful, while retaining j in jam, to differentiate the sounds of that diphthong, ʤ as in heʤ; also while retaining ue in due to differentiate its two units of sound into yɷ; similarly while retaining ch in eech, tautologically to differentiate it into tch in witch, [2] and similarly while retaining ue to differentiate it tautologically into yue in yuel. Practice has shown, now over a number of years, that the learner can indeed establish these few digraphic and additional relationships for these few (3) diphthongs. The learner will no doubt have been greatly helped in the earlier stages by the simple relationships of the single j, ch and ue with what will have seemed to the learner in each case to have been a correspondingly single sound. Thus he will be able later to learn that ʤ and yɷ, and the tautologous tch and yue also satisfactorily represent sequences of two sounds, (which may also be accurately represented by j, ue, ch) in eʤ and yɷth, match and yuel. It would seem that the extra learning involved is but a small price to pay for the extra benefit in the transition, seeing that, shall we say y in the classroom is very frequently met outside the classroom in the form you. Such easier relationships will greatly help the morale of the learner in confirming what he is learning in class is helping him to read also easily outside of the classroom.

Notes

[1] "Some educational reformers - themselves frequently teachers of considerable experience - favour an alternative type of 'rational orthography' or 'systematized notation' such as the International Phonetic Alphabet, the Modified Spelling advocated by the British Simplified Spelling Society, or the 'Regularized English' proposed by Dr. Axel Wijk. Many of the criticisms which the proposals have already elicited will suggest points deserving special attention. Are the new composite characters, like *sh for *sh* and *ng for *ng*, really easier than the traditional digraphs?"
Preface by Sir Cyril Burt to *The Initial Teaching Alphabet.* (John Downing. Pub. by Cassell, London. 5th edition, 1965)

[2] In practice, the diphthong in the sound chuh is tsh. Compare whiet ship with whie chip.

-o0o-

[Spelling Reform Anthology §t11.5 p169]
[Spelling Progress Bulletin Winter 1978 p3]

Do Digraphs Impede Learning? by Godfrey Dewey, Ed. D.*

*Sec. Simpler Spelling Assoc, Lake Placid Club, N.Y.

Do digraphs impede learning in the leading languages of western Europe? The number of digraphs in their orthographies, exclusive of doubled consonants, ranges from five for Spanish or six for Italian, to 22 for Dutch, with a median of about 12 for French or 14 for German. So far as I am aware, no spelling reform movements in these countries seriously suggest the substitution of single characters (they already use diacritics - the tilde - in Spanish, the acute, grave, and circumflex accents in French, the umlaut in German), nor do difficulties on account of digraphs figure significantly in discussions of the teaching of reading. Presumably, this is because most of those digraphs represent only one phoneme, whereas in English 106 digraphs, again exclusive of doubled consonants, have a total of at least 202 pronunciations; while 115 additional combinations of more than 2 letters for one sound have a total of at least 204 pronunciations.

In English, for a phonemic notation such as World English Spelling (WES), the actual occurence of misleading, false digraphs, such as the *th* in *anthill* is so infrequent as to be almost negligible. In my list of commonest words, only one word (engaej) out of 1027, occuring only 11 times out of 78,633 words, exhibits a false consonant digraph, and there are only 5 false vowel digraphs, most of them almost unpronounceable the *wrong* way. Study of longer lists, such as the Thorndike-Lorge *Teachers' Workbook,* based upon 15 million running words, indicates that all such sequences together occur less often than once in 400 running words.

As for the philosophical difficulty, or the practical difficulty, of the concept of digraphs, I submit that ie or wh or oi, with a ligature beneath are just as unmistakeably single symbols as the i.t.a. symbols ie or wh or oi with a ligature above, and that if such a ligature be used for two weeks after the child is introduced to the symbol, he is most unlikely to be confused by the very rare occurences of the same sequence of letters for separate sounds, which can always be clarified by using a dot as a separator, (medi.eeval).

One obvious advantage of digraphs over new single character symbols is eliminating the task of learning to write 20 unfamiliar characters of relatively complex form which will be abandoned in a year or so, as against gaining additional practice in writing the Roman letters, which are a life-time acquirement. Another is greater compatibility of the phonemic forms with traditional orthography (T.O.), since only two of the digraphs (uu and zh) and one trigraph (thh) do not occur in T.O. A third possibility, which remains to be tested experimentally, is whether the transition to T.O. may prove to be easier.

On the positive side, one great and important advantage of digraphs over new characters is the possibility of using the standard keyboard typewriter: as a teaching instrument in the very earliest grades, the great possibilities of which (even in T.O.) were demonstrated by Wood and Freeman 35 years ago; and for using the same phonemic notation as an international auxiliary means of communication by those who have learned to read and speak English as a second language, thus bypassing the considerable burden of learning to *write,* i.e., to spell T.O.

It is no answer to say that i.t.a. typewriters are available. How many such are there in use? Perhaps 5,000? How many Roman alphabet typewriters, with substantially the familiar keyboard, are there? Five million or more. And even tho you multiply i.t.a. typewriters indefinitely, the inherent and inescapable difficulty of the totally different keyboard, made necessary by 20 more lower case

characters, remains as a handicap. It was this difficulty of teaching or maintaining two different sets of automatic situation-response reactions for touch typing that defeated the introduction of the vastly superior Dvorak keyboard (for T.O.) a generation ago.

Finally, successful use of a no-new-letter phonemic notation as an initial teaching medium points up much more sharply the query of many parents: why must my child go on to learn another and more complex way of writing? The answer for i.t.a. is because the necessary new characters are not familiar to the general public or readily available. The answer for WES is that as soon as the demand becomes widespread enough to be heeded, that added burden can be dropped.

The English-speaking world is enormously indebted to Sir James Pitman for already demonstrating on a world-wide scale the immense advantages of a phonemic notation as an initial teaching medium. This achievement deserves the unstinted support of educators wherever English is spoken or taught. What is needed now, without prejudice to that achievement, is controlled experimentation, preferably with no other independent variable, to determine how far the enormous values of that technique can be freed from the restrictive influence of new characters outside of the universally known and available Roman alphabet. It is true that the cost of such an experiment on an adequate scale will be substantial, but the possible values to be determined are so great, especially in facilitating continued use of such a no-new-letter phonemic notation as an international auxiliary medium of communication, that it is very much worth while.

-o0o-

As you probably know, some of the YMCA Indian Gides tribes study indian handicrafts, some play games and go on field trips, but our tribe has been studying American history. Let us show you what we have learned:

George Washing machine crosst the Dela where river with the Decoration of Indepants in one hand and the stachoo of Liberachy in the other. (by Chris Tune and Jack Sherin.)

This was given as a skit (accompanied by appropriate gestures) at the campout on Jan 21 at Camp Arbolata.

-o0o-

[Spelling Reform Anthology §11.6 pp170,171]
[Spelling Progress Bulletin Winter 1978 pp4,5]
[Green letters are joined in i.t.a.]

Rejoinder to Dewey's arguments, by Sir James Pitman, KBE *

*London, England.

Dear Newell:

Thank you for your offer of an opportunity to write a rejoinder to the late Godfrey Dewey's response to my article, "Why Digraphs Impede Learning," both of which you did not publish originally because of a difference of opinion as to whether the articles were appropriate timely. Now that testing has been completed, we have more evidence for both sides of the controversy.

I would greatly like to accept your offer and particularly welcome your offer to give me more space than your two inch conveniently vacant. Space is, I fear, very desirable because I need to quote from M. A. Tinker's book, "*Legibility of Print and Digits"* in his section, "Roman Versus Arabic

Numerals" and to include, in support, an extract from D. K. Perry's report, "Speed and Accuracy of Reading Arabic and Roman Numerals," (*Journal of Applied Psychology*, 36, Oct. 1965, pp. 346-7).

Roman numerals for words are largely digraphic, Arabic are wholly monographic and the analogy is thus presumably apt to our question. The bibliography to Tinker's book on page 280 summarises Perry's findings as follows:

> "Speed and accuracy of reading various sizes of Arabic and Roman numerals were compared. In all cases Arabic numerals were read significantly faster and more accurately than Roman numerals, and absolute and relative differences increased as the numbers got larger. For most purposes the use of Arabic rather than Roman numerals would seem desirable."

Tinker elaborated this, writing on p. 40 of his book with the cross-heading, "Roman Versus Arabic Numerals"

> "It seems obvious to most people that Roman numerals are more difficult to read rapidly and accurately than Arabic. The difficulty is not one of visibility, since the Roman numerals are like capital letters and the Arabic are more like lower-case letters. Apparently the difficulty is one of interpretation due to two things: (a) the Roman numerals are relatively cumbersome and complex, viz., XXXVIII versus 38, and (b) the ordinary reader has had little experience with Roman numerals, particularly the larger ones."

Perry (88) has reported how much speed and accuracy are lost by the use of Roman numerals. Using a counterbalanced design, he obtained responses from 30 university students while they read aloud as fast and as accurately as possible numerals from 1 to 9, 10 to 49, and 50 to 99. Errors and the total number of items read in one minute were recorded.

The results follow:

*Average Number Read per Minute**

Digits	Arabic	Roman
1-9	183.9	122.5
10-49	115.7	40.3
50-99	119.4	24.4

Average Numbers Errors per Minute

Digits	Arabic	Roman
1-9	0.1	0.4
10-49	0.3	8.4
50-99	0.3	10.2

*All differences between Arabic and Roman numerals were statistically significant.

The percentage difference between the reading of the two kinds of numerals was large: 50.1, 137.5, and 349.4 for speed, and 75, 96.4, and 97.1 for errors, all in favor of the Arabic. It would seem that Arabic rather than Roman numerals should be employed for most purposes because of their greater 'legibility'."

Speed in reading is not necessarily related to ease in learning but it surely is an effective indication of complexity, and most of your readers will agree with, this. Thus Tinker's judgement given above is of itself sufficient, and surely is applicable for reading words in letters and print as for reading words in numerals and print.

But even more important surely is the factor of principle. If the rest of the characters in an alphabet are expected to be unique representations (so that any character stands for its own 'characterie' [1] - and only its own), surely then any spelling reform ought also to aim at unique representation. Surely any departure from this principle can be regarded only as a gratuitous sacrifice of the interest of all future beneficiaries of reform to the self-interest of those, usually elderly, who wish to preserve a past to which they have become conditioned.

Surely Godfrey Dewey was also wrong to introduce into this matter of principle the question of frequency. It is undoubtedly true that by the criteria of frequency, words such as *anthill* and *anthem* are rare but, to the learner first learning, frequency really works the other way. After all it is the frequency of sounds represented by digraphs in words, not the frequency of the words, which is really relevant. The consonant represented digraphically by the *t* and *h* in *the* is the most frequently seen digraphic consonant in the English language. If we add the percentage of frequency of the relevant seven words which appear among the 50 most frequent words in the English language (in Godfrey Dewey's wonderful publication, *The Relativ Frequency of English Speech Sounds,* Cambridge, Harvard Univ. Press, 1923, 1950) we learn that these only seven words - *the, that, with, this, they, their, there* - have a total percentage of recurrences of over 11% of the words the ordinary reader usually sees in print. (assuming that the ordinary reader does not usually see such words as those occuring less often than 11 times out of 87,358 occurences) (see Table 4).

This is an overwhelming figure of the incidence of great complexity caused to beginners by only one of the digraphs for the sounds of English, but that is not all. The combination *th* as a digraph has a yet different value in other words and the use of that digraph in such cases adds a great further complexity. After all the Roman numeral *VI* always represents that quantity, never any other quantity also. The conjunction of *o, r, t*, and *h* (*o r t h)* occurs digraphically twice, as well as monographically once, in the representations *North, Northern* and *Shorthand.* It is true, as Godfrey Dewey pointed out, that the use of the digraph *t* plus *h* is far less frequently used for the unvoiced sound in *anthem,* but that factor of frequency does not detract from the complexity of its use also to represent the most frequently recurring sound.

This additional ambiguity obviously compounds an already confusing complexity for the learner in mastering *th* as a digraph. At least in the learning of the meaning of the digraph *VI*, there was the simpler task of learning only *VI*, not also two other quantities, say *VIII* and *XI* as well!

Surely the great achievement of those who systematized the Roman numerals was to recognize that ten characteries needed ten characters and that if there were at least as many characters as characteries, all such complexity would be avoided. If so then the clear requirement for systematizing spelling must be to have at least as many characters as there are sounds to be characterized.

I have experienced phenomenal success in the rapid teaching of reading (*in T.O.*) to illiterate adults who, having learned to read in digraphless i.t.a. very quickly (one week in some cases), have then been able to make the transition from i.t.a. to T.O. in no more than a further week. The provision of at least forty monographs has proved beneficial in eliminating the complexity of digraphs. [2]

There are other albeit less important points of Godfrey's response to my article which nevertheless ought to be answered.

He suggests Herbert Wilkinson's idea of using diacritical marks under the digraphs to warn the learner that one or the other or both of the characters in W.E.S. should be regarded as carrying not their otherwise habituated value but a different one. Diacritical marks have been tried over and over

again but have been unacceptable as an element in reform of spelling. The Simplified Spelling Society (U.K.) and the Simpler Spellings Association (U.S.A.) each forcefully rejected the idea. I was a member of the S.S.S. in the work of their high-powered recommendations and fully agreed to the rejection. I still do and so will very many others.

My view, which I believe was justified by the leaflet produced by *Parents' Magazine* (Feb. 1962), which showed the story of *The Little Red Hen* in World English Spelling (W.E.S.), in i.t.a. and in The New Single Sound Alphabet (Unifon) in parallel columns, demonstrated clearly that if the monographic versions of digraphs were designed, as they were, to be very similar to the statistically most frequently used digraph for that sound and yet to be unmistakably unique, the result showed that i.t.a. was clearly actually more compatible with T.O. than was W.E,.S.

It seems to me that it is words and syllables in which the spellings - whether in W.E.S., which I give here, or in i.t.a. - need to be radically altered (e.g. wuns, aut, huuz, woz) etc.) rather than the changes in i.t.a. of *the* to the nor in the introduction of the spellings - here given of monographs of i.t.a., ɑ and ʒ in fɑther and viʒion, rather than the digraphs in W.E.S., faather and vizhion which are less compatible than the spellings in i.t.a., - all of which changes inevitably make both media incompatible - in such afterall not so very frequent occasions.

After all both i.t.a. and W.E.S. look back to the same parent for their origin. Each is no more than a small departure from what the S.S.S. published and the S.S.A. accepted for a significant period in precise detail. In each case the departures from the original parent have all been to make the new medium more compatible with T.O. Many will judge that i.t.a. is the more compatible.

Finally, the admitted fact that i.t.a. cuts off the learner at the beginning from the use of the *standard key-board* typewriter is, if a handicap, a very short one. After a matter of only months, the i.t.a. learner (who is linguistically competent, and able therefore to solve by guessing from context the words which in their complex T.O. form depart from the i.t.a. form) is altogether more ready and able than the W.E.S. learner earlier to split into digraphs the monographs of i.t.a. and to substitute *zh, aa* and *uu* for ʒ, ɑ, ɷ and he is home, needing only to suppress zess (reversed z) and use z invariably for the sound. And all the other digraphs th, th, sh ee, ɷ and ɯ split naturally into *th, sh, ee* and, why not, into oo for ɷ and ɯ.

Godfrey Dewey paid in his article such a fulsome and most generous compliment to me and to i.t.a. that I might well need to judge it more appropriate not to fall in with your request for a rejoinder to his response. However he and I have always in the past worked most closely together on the basis of welcoming freedom of expression of each other's views, however critical. And incidentally, I have frequently been impressed in noting how many of my views - which earlier were anathema to him - have been incorporated in the developments of what was W.E.S. in that leaflet of *Parents' Magazine* in February 1962 and W.E.S. as he finally left it.

If it were argued that all the above has a slant more towards an Initial Learning Medium (I.L.M.) than to a Spelling Reform (S.R.), the answer is a simple yes, but the greater includes the lesser.

Any reform in seeking not to sacrifice the interest of future users and illiterates to the living and the well established foibles of the illiterate must stand or fall by its success in the learning of those yet unborn. It was Godfrey Dewey, who having pointed out to me that it would be only by making reform very successful in teaching literacy to the young that reform could possibly gain general acceptance, led me to accept the aim of turning the S.S.S. proposals into an I.L.M. Moreover W.E.S. is now confessedly equally intended as an I.L.M., the difference being only that it, (not i.t.a.). has been intended also as the thin end of the wedge for Spelling Reform which will eventually supersede T.O., whereas i.t.a. was intended only as an initial learning medium.

Editor's Comments:

In addition to your very convincing arguments, there is this: the fact that Roman numerals are used much less often than Arabic is only one of several reasons why they are harder to read than Arabic. It is the effect of being more difficult - the difficult is avoided whenever something easier is available. But the most important reason why the Roman numbering system is more difficult to read is that deciphering the meaning of a large Roman number is not a straight forward-left-to-right-process. In the case of 19 (XIX), a subtraction must be made in the mind of the reader in order to get the meaning. And both an addition and a subtraction must be made in the case of 39 (XXXIX). In order for a reader to understand 1939 in Roman numerals (MCMXXXIX), it requires 4 mathematical steps, whereas in Arabic it is straight forward, left to right knowledge and reasoning, not mathematical reasoning.

The English spelling of the word "have" is misleading in two ways. The silent terminal *e* is not seen in the eye's left-to-right progress until after the three letters that actually indicate the word's pronunciation. That terminal *e* is supposed to lengthen the sound of the preceding vowel (as it does in "rave"), but in "have" it does this erroneously, thereby compounding the mistake into two wrong indications.

There is one other point that is not made clear: Herbert Wilkinson's idea of subscribing a curved line under the *th* to indicate that this digraph has a unitary sound, was only intended as an initial learning device, not for use in a permanent spelling reform. In that respect, it is in the same category as is i.t.a.

[1] Dr. Timothy Bright, the first inventor of shorthand for the English language, entitled his booklet *"Characterie. An Art of shorte, swifte, secrete writing by Character. 1588."* There was space and helpful suggestions for the purchaser to invent his own characters (as glyphs) and an alphabetically arranged list of words as "characteries" to be so represented, with suggestions for indicating words with the opposite meaning or synonyms for words, not included in the list of "characteries" - as for instance 'small' and 'tiny' could be indicated by a single positioned remark denoting both that the opposite meaning was to be read and the initial *s* or *t*, and 'camel' or 'deer' by marks representing *c* or *d.*

[2] I have asked every adult illiterate I have come across to take down in Roman numerals from my dictation the five words: *eight hundred and ninety two* and to take down, not in Arabic numerals but in letters, the five words: *two hundred and ninety eight.* None so far have failed the first test and all have failed the second. I then ask them whether they can think of a more complex spelling of the sound of the vowel in 8 than *eigh* or a sillier spelling for *2* than *two.* I then go on to point out that if an *h* is placed in front of the letters *eight,* it does not in fact spell "hate"!

-o0o-

A hunch is creativity trying to tell you something: Frank Capra.

-o0o-

[Spelling Progress Bulletin, Winter 1978, pp6-8]

Relative frequency of occurence as a factor in the phonemic and graphemic problems of English, by Godfrey Dewey, Ed. D.*

*Presented at IRA-SSA joint convention, Anaheim, CA, May, 1970

Strictly speaking, the announced title of this paper should have included one more word, referring specifically to problems of *written* English. The English language which we speak is no more affected by whether it is recorded graphemically in shorthand or longhand, typing or print, than by whether it is recorded acoustically on a cylinder, a disk, or a tape. The very first sentence of the classic "Principls of '76" [1] (I retain the original spelling) promulgated by the American Philological Association in 1876 was: "The true and sole office of alfabetic writing is faithfully and intelligently to represent spoken speech." And it is with the written representation that we are here chiefly concerned.

Criteria for a phonemic notation of whatever type may be grouped in four main categories: sounds, symbols, assignment of symbols to sounds, and the influence of purpose. [2] For each of these categories, statistics on relative frequency of phonemes and/or graphemes are significant in varying degree. In the limited time available for this paper, the first two will have to be taken for granted; assuming substantially the phonemic basis of i.t.a. and W.E.S. (World English Spelling), and the graphemic basis of WES, either of which would be a major topic in itself, and confining out examination to the third, assignment of symbols to sounds, as modified by the fourth, the influence of purpose.

Data on relative frequencies here cited are, unless otherwise specified, taken from my studies of phonemes [3] and graphemes [4], both based on exhaustive analysis of the same 100,000 words of well-diversified connected matter, on a 41-phoneme basis (counting schwa), virtually equivalent to the phonemic basis of i.t.a. Complete data on occurences *and* items are stated usually in the form x/y, where x equals the total of *occurences* on the printed page, and y equals the number of *items* (different words or syllables involved - per 100,000 running words always understood. In general, data on occurences are more significant for reading, data on items more significant for writing, i.e., spelling.

Statistics, however carefully compiled, are chiefly valuable as an aid to common sense, not as a substitute for it. In particular, decisions should never be based on the most frequent *spellings of sounds* without taking into account the most frequent *pronunciations of spellings.* These are *not* just inverted statements of the same fact. Thus the predominant spellings of the name-sounds of *A, E, U* are the letters *a, e, u*, but the predominant *pronunciations of* the letters *a, e, u* are as in *bat, bet, but,* respectively. Similarly, the commonest *spelling* of the phoneme /z/ is the letter *s*, but the commonest pronunciation of the letter s is /s/.

Data on relative frequency of phonemes and/or graphemes can be invaluable both in devising phonemic codes and in formulating rules and/or exceptions for their practical application. I say *codes,* rather than *a code,* because as of today no one phonemic code for English can conceivably be "best" for all purposes. At the phonemic level, setting aside the precise *phonetic* notations which are the legitimate and valuable tools of the linguistic scholars, but a perplexing mystery to the untrained ear, there are at least three somewhat different purposes to be served by a phonemic notation:

1) As an i.t.m. (initial teaching medium), the purpose of most immediate interest to us;
2) For an intermediate stage or stages of phonemic spelling reform of English;
3) For an ultimate phonemic spelling reform.

Much of the importance of data on relative frequency derives from the problem of compatibility with T.O.(traditional orthography). For an i.t.m., the importance of compatibility in facilitating the all-important transition to T.O. is sufficiently obvious. For an intermediate stage of spelling reform, to be used, as Shaw put it, "side by side with the present lettering until the better ousts the worse," [5] the necessity for an essentially "self-reading" degree of compatibility, for one who has never examined the code, should be obvious. Even for an ultimate spelling reform, which in the English-speaking countries could hardly be imposed by decree, as Kemal Ataturk imposed the Roman alphabet on the Turkish language, compatibility would surely minimize resistance to the transition.

Yet another point at which data on relative frequency make a significant contribution is in estimating the possible savings in the writing and printing of superflous letters - the aspect on which Shaw again laid extravagant emphasis." For a well-designed phonemic alphabet of the *supplementing* type (one sign, one sound, adding necessary new letters to the present Roman alphabet), this saving can run just about 1 letter in 6, or $170,000 out of each $1,000,000 of writing and printing costs. For the more immediately practicable standardizing (no-new-letter) type, the difference from T.O. will be only 1 or 2% either way, since the necessary new digraphs, chiefly for the long vowels and diphthongs, just about offset the saving of silent or otherwise superflous letters.

For the purpose of most immediate interest to us, initial teaching media, WES will serve to supply examples of the application of relative frequency data to the standardizing type of notation. The supplementing type, of which i.t.a. is the prime exemplar, involves too many subjective judgments as to the degree of compatibility of characters not now in the Roman alphabet to be dealt with statistically in a paper of this length. As oral presentation of comparative figures on phonemes and graphemes is not easy to follow, three exhibits have been provided: "World English Spelling ('WES) for better reading"; the SSA (Simpler Spelling Assoc.) "Fonetic Alfabet," which most nearly parallels the phonemic basis of WES; and selected pre-publication figures on relative frequency of spellings, [7] to which I have added, for ease of oral presentation, figures for percentages of occurences, rounded off to the nearest 1%.

If compatibility is to be regarded as the predominant criterion, the Roman alphabet letters for about half of the consonant phonemes and most of the short vowel phonemes call for no comment. Because of the awkwardness of oral presentation, the examples discussed will be confined to a few of the most difficult or controversial decisions, both consonant and vowel: for the consonants, the *th* problem, and the treatment of c and g and s; for vowels, the "u" group of phonemes, as in *fun, full, fool;* and an examination of the principal differences between WES as a spelling reform notation and as an i.t.m.

If only items (words in the dictionary) are considered, the all-to-common practice in the past, it appears that the *th* grapheme is pronounced unvoiced, as in *thin,* in 65% of the items, voiced, as in *then,* only 35%. This leads naturally to assigning the familiar *th* grapheme to the unvoiced phoneme, with the logically cognate but uncouth symbol *dh* for the voiced phoneme. If however, occurences in running text, the more appropriate criterion for reading, be considered, it appears that 90% of all occurences are pronounced with the unvoiced sound, so that assignment of the *th* grapheme to other than the voiced phoneme is unthinkable. In that case, however, there remains no satisfactory digraph for the unvoiced phoneme. The cumbersome but intelligible *thh* grapheme adopted in WES may be justified to a degree by relative frequency data on two grounds:
1) the phoneme is one of the four least frequent in English, only 0.37%; 2) for native English-speaking users, the distinction is virtually unnecessary. In the entire 17,000 different words of the recent Hanna study, [8] derived chiefly from the 4.5 million running words which formed the basis of the Thorndike-Lorge list,' there are only 6 pairs of words (ether, either; thigh, thy; loath, loathe; mouth, mouthe; sheath, sheathe; wreath, wreathe) distinguished phonemically only by surd or

sonant pronunciation of *th;* and of these, only one word (either), occurs in my list of commonest words, which includes all those found oftener than once in 10,000 running words.

Use (or non-use) of the phoneme *c* is bound up with the phonemes /k/ and /s/. /k/ is spelled c in 64% of all occurrences, /k/ in 18%, and 9 other ways totaling 18%. Conversely, however, *k* is pronounced /k/ in all occurences, /s/ in 28%. Thus, explicitness, as well as the most distinctive form of the letter, obviously calls for representing /k/ by *k*.

A parallel example is the phoneme /j/, which is spelled *g* in 60% of all occurences, j in 26%, and 8 other ways totaling 14%. Again, however, *j* is pronounced /j/ in all occurrences, whereas *g* is pronounced /g/ in 73% of all occurrences, but /j/ in only about 27%, with 3 other ways totaling less than 0.5%. Quite obviously, therefore, explicitness calls for representing /j/ by j, and restricting g to /g/ - except, of course, for the digraph *ng* which, like any digraph, is regarded as a unitary symbol.

One more example of the importance of considering pronunciations as well as spellings in order to maintain the "self-reading" quality which is one factor in compatibility (ease of reading due to nearness to T.O.). The phoneme /s/ is spelled *s* in 75% of all occurences, *c* in only 14%, and 7 other ways totaling 11%. The letter *s*, however, is pronounced /s/ in only 54% of all occurences, /z/ in 45%, and 2 other ways totaling 1%. Conversely, the phoneme /z/ is spelled *s* in 97% of all occurences; but the letter z is pronounced /z/ in 96% of all occurences. This preponderance conclusively calls for representing /z/ by *z*, leaving *s* as the explicit representation for /s/.

Assignment of graphemes for the three vowel phonemes spelled oo in *food, good,* and *flood,* is a particularly good example of the help which relative frequency data can render. It will be taken for granted that the best available graphemes as oo, uu (which does not occur in T.O. but is used in the British *New Spelling)* and *u*. A discussion of the reasons for eliminating a dual use of *w* as a vowel, or employing some other digraph including *w*, will be taken up briefly. To use *w* alone as a vowel or semi-vowel would violate the rule of explicitness - one sound-one symbol. To use *w* in combination with *e, o, u*, can be considered. *Ew* is pronounced /'ɯ/ 88% of the time, and of /ɯ/ only 8%, but *ew* is the spelling of /ɯ/ only 4% of all occurences. So it would be unsatisfactory. *Ow* is pronounced /o/ 50% of the time, but none of the time is it used for any of the three sounds under consideration. *Uw* does not occur in English as a grapheme, so would be unreadable by a reader.

The vowel phoneme in *good* is spelled *u* in 24% of all occurences, *ou* in 21%, *oo* in only 15%, *o* in 15%, and 7 different other ways totaling 25%. For comparison, *ou* is pronounced /ou/ in 38% of all occurences, /ɯ/ in 30%, /u/ in 14%, /ν/ in 14%, /o/ in 3%, and /ə/ in 1%.

The vowel phoneme of *flood* is spelled *u* in 60% of all occurences, *o* in 14%, *ou* in 8%, *oo* in less than 0.5%, and 6 other ways totaling 18%. Conversely, *u* is pronounced /ν/ in 64% of all occurences, /u/ in 10%, /ɯ/ in 8%, and 5 other ways totaling 18%.

Correlating the foregoing figures:
For assignment of the *oo* grapheme, the fact that 50% of its occurences are pronounced /ɯ/ (food), as against 45% pronounced /u/(full), is hardly conclusive. When however, it is noted that the commonest spelling of /ɯ/ is *o*, the next commonest is *ou* and the third commonest is *oo*. And the commonest spelling of /u/ is *u*. it is clear that *u* must be used for the sound /u/. Since *ou* is already assigned to the sound /ou/, the preponderance of evidence clearly favors assignment of *oo* to /ɯ/. Since the predominant spelling of /ν/ is *u*, and the predominant pronunciation of *u* is /ν/, the traditional assignment of *u* to "short u" is fully confirmed. This leaves uu as the inevitable and not inappropriate choice for the phoneme /u/, most commonly referred to, or keyed in diacritic notations, as "short oo."

Concessions from one sound-one symbol writing

In principle, the chief distinction between a spelling reform notation and an i.t.m. lies in striking the balance between maximum simplicity (i.e., regularity) and maximum compatibility with T.O. [10] In practice, relative frequency data support three major concessions from one symbol for one sound writing (not, be it noted, from one sound for one symbol) introduced by i.t.a. and paralleled by WES.

1) Doubled consonants for a single phoneme, where T.O. has doubled consonants. Of the 21 consonant letters of the Roman alphabet (counting the semi-vowels, *h, w.* y, 6 *(h, k. q, w, x,* y) apparently are not doubled in T.O., and 2 more (*jj*, *vv)* did not occur in the 100,000 running words which I examined. The remaining 13, plus ck (in effect, a doubled consonant) -*bb*, *cc, ch, dd, ff, gg, II, mm, nn, pp, rr, ss, tt, zz* - occur 7070/1656 times, of which 99% represent the same phoneme assigned to the corresponding single consonant. In consequence, retention of these occurences improves the compatibility of some 6,900 running words in 100,000, and preserves the exact T.O. forms of some 2,000; at the same time that it introduces a simple but significant step toward the eventual transition to T.O.

2) Writing *c* for /k/, where T.O. has *c* for /k/; including *cc* and *ck*. The figures for /k/ and *c*, showing /k/ spelled 64% by *c*, and *c* pronounced 72% as /k/, have already been cited. This concession improves the compatibility of some 6,500 words, and preserves the exact T.O. forms of some 1,200; and again builds another simple bridge toward the impending transition to T.O.

3) Writing *y* for the high front unstressed vowel (between /i/ and /ɛ/) which Sir James Pitman has aptly named *schwi,* where T.O. writes *y* for that sound at the end of a word or root. The accompanying exhibits, showing /i/ spelled *y* in 14% of occurences, and *y* pronounced /i/ (in most cases, schwi), in 61% of all occurences, speak for themselves. This concession improves the compatibility of some 4,000 words, and preserves the exact T.O. forms of some 800; again, building toward the transition to T.O.

To take advantage of data on relative frequency of phonemes and graphemes is a far more intricate problem than these relatively simple and straightforward examples might seem to indicate. For example, little has been said on the problem of selecting the most suitable digraphs, and only a few examples have been given of their assignment. Enough has been said, however, I hope, to indicate the importance of the use of relative frequency data in practical linguistics.

References

[1] March, Francis. *The Spelling Reform.* U. S. Bureau of Education, Circular of Information, No. 8, 1893. Washington. U. S. Govt. Printing Office, 1893, P. 16.

[2] Dewey, Godfrey. *English spelling: Roadblock to reading.* New York: Teachers College Press, 1971, Appendix C.

[3] Dewey, Godfrey. *Relativ frequency of English Speech* sounds. Cambridge: Harvard Univ. Press, 1923, 1950.

[4] Dewey, Godfrey. *Relative frequency of English spellings.* New York: Teachers College Press, 1970.

[5] Shaw, George Bernard. Preface to R. A. Wilson, *The Miraculous Birth of Language.* London: J.M. Dent & Sons, Ltd., 1942, p. XXXI.

[6] Tauber, Abraham. *George Bernard Shaw on Language.* New York: Philosophical Library, 1963, esp. p. 65-136.

[7] See # 4, Tables 5 and 6.

[8] Hanna, Paul R., et al. *Phoneme-grapheme correspondences as cues to spelling improvement.* Washington: U. S. Govt. Printing Office, 1966. (Doc. OE-32008)

[9] Thorndike, Edward L., & Irving Lorge. *The Teacher's Wordbook of 30,000 words.* New York: Teachers College, Columbia Univ. 1944.
[10] See # 2.

Relative Frequency of Occurence Data from *Relative frequency of English spellings,* by Godfrey Dewey, 1970.

Consonants

Spellings of phonemes						*Pronunciation of graphemes*					
		occur.	items					occur.	items		
/ħ/	th	12,757*/	114*	90%/	35%	th	/ħ/	12,757*/	114*	90%/	65%
/ђ/	th	1,392 /	212	10%/	65%		/ђ/	1,392 /	212	10%	35%
/ /	h	4 /	1	0	0			14,149*/	326*		
		14,153*/	327*	* Includes *the* 7,310 / 1							
/k/	c	6,403 /	1775	64%		k	/k/	1,853 /	343	100%	
	k	1,854 /	343	18%		c	/k/	6,403 /	1775	72%	
9 others		1,753 /	562	18%			/s/	2,477 /	622	28%	
		10,010 /	2680				/ʃ/	17 /	11	0	
								8,997 /	2408		
/j/	g	948 /	306	60%		j	/j/	414 /	111	100%	
	j	414 /	111	26%		g	/g/	2,616 /	560	73%	
		1,582 /	492				/j/	948 /	306	27%	
							/ʒ/	6 /	5	0	
								3,570 /	871		
/s/	s	12,822 /	2974	75%		s	/s/	12,822 /	2974	54%	
	c	2,477 /	622	14%			/z/	10,695 /	1902	45%	
7 others		1,782 /	566	11%		2 others		136 /	30	1%	
		17,081 /	4162					23,653 /	4906		
/z/	s	10,695 /	1902	97%		z	/z/	247 /	107	96%	
	z	247 /	107	2%		2 others		9 /	6	4%	
5 others		147 /	54	1%				256 /	113		
		11,089 /	2063								

Vowels

/ɯ/	o	3,645*/	26*	60%		oo	/ɯ/	430 /	88	54%	
	ou	1,127 /	36	19%			/u/	388 /	54	45%	
	oo	430 /	88	7%			/o/	27 /	6	3%	
	u	161 /	48	3%			/ν/	17 /	7	2%	
15 others		688 /	124	11%				862 /	155		
		6,051*/	322*								

*Includes the preposition *to*, 2,924/1, 48%, most commonly pronounced with /ə/

/u/	u	604 /	171	24%		ou	/ou/	1,422 /	150	38%	
	ou	546 /	8	21%			/ɯ/	1,127 /	36	30%	
	oo	388 /	54	15%			/u/	546 /	8	14%	
	o	368 /	14	15%			/ν/	527 /	157	14%	
7 others		671 /	219	25%			/o/	117 /	21	3%	
		2,577 /	466				/ə/	22 /	11	1%	
								3,761 /	383		

/ʌ/	u	3,768 /	797	60%	u	/ʌ/	3,768 /	797	64%
	o	857 /	104	14%		/u/	604 /	171	10%
	ou	527 /	157	8%		/'ɯ/	498 /	186	8%
	oo	17 /	7	0	5 others		1,039 /	279	18%
6 others		1,104 /	53	18%			5,909 /	1433	
		6,273 /	1118						
				Concession					
/i/	i	20,276 /	3807	69%	i	/i/	20,276 /	3807	89%
	y	4,100 /	885	14%		/å/	2,107 /	302	9%
	e	2,833 /	803	10%	3 others		491 /	101	2%
17 others		2,074 /	467	7%			22,874 /	4210	
		29,283 /	5962						

[Spelling Progress Bulletin Winter 1978 p9]

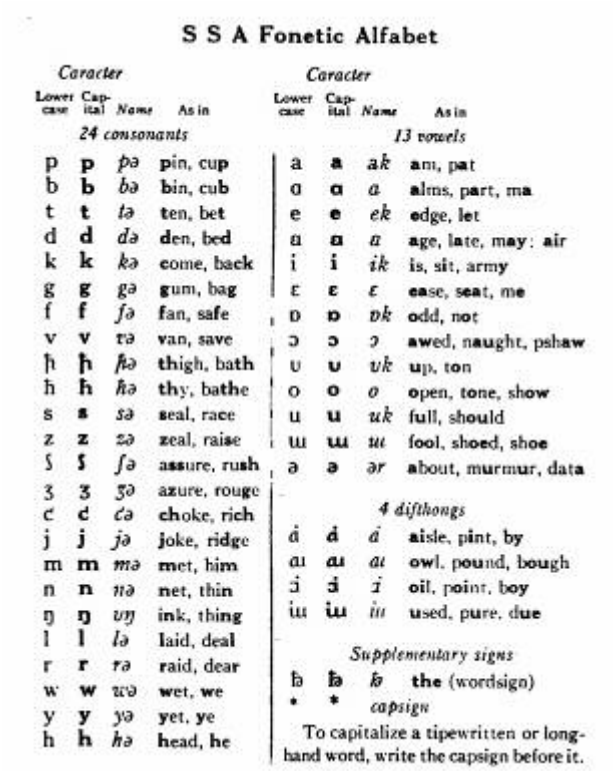
World English Spelling (WES) Reader's list

Symbol	*As in*	*Symbol*	*As in*
a	*a*t, m*a*n; *a*sk; *a*bout, dat*a*	nk	thi*nk*, ba*nk*, u*nc*le, a*nk*le
aa	*a*lms, f*a*ther, b*ah*; (*a*sk)	o	*o*n, b*o*ther, n*o*t; w*a*s, wh*a*t
ae	*a*g*e*, m*ai*n, s*ay*, gr*ea*t	oe	*o*ld, n*o*t*e,* g*oe*s, s*o,* c*oa*l, sh*ow*
aer	*air,* c*are,* th*eir*	oi	*oi*l, p*oi*nt, b*oy*
ar	*ar*my, m*ar*ket, f*ar*	oo	f*oo*l, m*o*v*e*, gr*ou*p, r*u*l*e*, t*oo*
au	*au*thor, l*aw, a*ll, w*a*ter, *ou*ght	or	*or*der, n*or*th, f*or*; st*or*y, m*or*e
b	*b*ay, ru*bb*er, ca*b*	ou	*ou*t, p*ou*nd, n*ow*, b*ough*
c	*c*ame, a*cc*ount, public; ba*ck*	p	*p*ay, ha*pp*y, ca*p*
ch	*ch*eck, *ch*ur*ch*, wa*tch*	r	*r*ate, mar*r*ied, dea*r*
d	*d*own, la*dd*er, bi*d*	s	*s*eal, le*ss*on, *c*ity, ra*c*e, ba*s*e
e	*e*dg*e,* m*e*n, *said,* h*ea*d, *a*ny	sh	*sh*all, pre*ss*ure, na*ti*on, wi*sh*
ee	*ea*ch, h*e*r*e,* s*ee,* b*e*	t	*t*own, le*tt*er, bi*t*
er	furth*er*, coll*ar*, moto*r*, murm*ur*	th	*th*at, ra*th*er, wi*th*
f	*f*ast, o*ff*ice, *ph*otogra*ph*, sa*f*e	thh	*th*ought, no*th*ing, bo*th*
g	*g*ame, ra*gg*ed, ba*g*; e*x*act	u	*u*p, *o*ther, b*u*t, s*o*me, t*ou*ch
h	*h*ad, be*h*ind, *wh*o	ue	*us*e, m*u*sic, d*ue*, f*ew*
i	*i*t, h*i*m, pr*e*tty, g*i*v*e*	ur	f*ur*ther, h*er*, *ear*ly, f*ir*st, w*or*k
ie	*ie,* t*ie*, k*i*nd, m*igh*t, b*y*	uu	f*u*ll, s*ure*, sh*ou*ld, g*oo*d
j	*j*ust, *g*eneral, stage, ju*dge*	v	*v*ast, ne*v*er, sa*v*e
k	*k*eep, wee*k*; ba*ck*; e*x*pect; *q*uite	w	*w*et, for*w*ard, *o*ne, q*u*ick
l	*l*ate, fe*ll*ow, dea*l*	wh	*wh*ich, every*wh*ere
m	*m*ight, co*mm*on, the*m*	y	*y*et, be*y*ond, mill*i*on; an*y*; *y*ou
n	*n*ight, di*nn*er, the*n*	z	*z*eal, pu*zz*le, i*s*, rai*s*e, si*z*e
ng	thi*ng*, lo*ng*, goi*ng*, si*ng*le	zh	*j*abot, plea*s*ure, vi*s*ion, rou*ge*

Separate by a dot successive letters which might otherwise be read as a digraph -
short.hand, mis.hav, en.gaej, man.kiend
gae.ety, ree.elect, hie.est, loe.er, influu.ens, pou.er, emploi.ee

For teaching purposes, use only lower-case letter forms.

S S A Fonetic Alfabet



S S A Fonetic Alfabet

Caracter				Caracter			
Lower case	Capital	Name	As in	Lower case	Capital	Name	As in
24 consonants				*13 vowels*			
p	p	*pə*	pin, cup	a	a	*ak*	am, pat
b	b	*bə*	bin, cub	ɑ	ɑ	*ɑ*	alms, part, ma
t	t	*tə*	ten, bet	e	e	*ek*	edge, let
d	d	*də*	den, bed	ɑ	ɑ	*ɑ*	age, late, may: air
k	k	*kə*	come, back	i	i	*ik*	is, sit, army
g	g	*gə*	gum, bag	ɛ	ɛ	*ɛ*	ease, seat, me
f	f	*fə*	fan, safe	ɒ	ɒ	*ɒk*	odd, not
v	v	*və*	van, save	ɔ	ɔ	*ɔ*	awed, naught, pshaw
ɧ	ɧ	*ɧə*	thigh, bath	ʊ	ʊ	*ʊk*	up, ton
h	h	*hə*	thy, bathe	o	o	*o*	open, tone, show
s	s	*sə*	seal, race	u	u	*uk*	full, should
z	z	*zə*	zeal, raise	ɯ	ɯ	*ɯ*	fool, shoed, shoe
ʃ	ʃ	*ʃə*	assure, rush	ə	ə	*ər*	about, murmur, data
ʒ	ʒ	*ʒə*	azure, rouge				
c	c	*cə*	choke, rich	*4 difthongs*			
j	j	*jə*	joke, ridge	ȧ	ȧ	*ȧ*	aisle, pint, by
m	m	*mə*	met, him	aʊ	aʊ	*aʊ*	owl, pound, bough
n	n	*nə*	net, thin	ɔ̇	ɔ̇	*ɔ̇*	oil, point, boy
ŋ	ŋ	*vŋ*	ink, thing	ɯ̇	ɯ̇	*ɯ̇*	used, pure, due
l	l	*lə*	laid, deal	*Supplementary signs*			
r	r	*rə*	raid, dear	ɧ	ɧ	*ɧ*	the (wordsign)
w	w	*wə*	wet, we	*	*	*capsign*	
y	y	*yə*	yet, ye	To capitalize a tipewritten or long-hand word, write the capsign before it.			
h	h	*hə*	head, he				

Fonetic print capitals ar hevy or boldface letters, otherwise similar to the small or lowercase letters.

-o0o-

[Spelling Progress Bulletin Winter 1978 pp10-12]

Is there evidence for Chomsky's interpretation of English spelling?, by Valerie Yule.

Mrs Geo. Yule, c/o King's College, Univ. of Aberdeen, Scotland.

Author's note: I have tried to write this article in simple English (SR-1 used), avoiding academic technical words and using words such as 'spelling' and 'sound' in senses familiar to the average reader. The word-pairs included are semantically-related, but not necessarily standing in the same grammatical or semantic relation to each other. Criticisms of this paper should be directed to producing the evidence to back Chomsky's claim which this analysis of over 6,000 words, the most common in the English language, and the first that young readers must face, has failed to find.
V. Yule

Chomsky has claimed that:
a conventional English spelling in its essentials appears to be a near-optimal system for representing the spoken language (Chomsky and Halle, 1968, p. 4)
because "it turns out to be rather close to the true phonological representation" (p. 184), which is not necessarily identical to what enyone speaks or bears.

Downing (1977), Francis (1970) and others have delt with the practical weaknesses in Chomsky's arguments, but few have tried to follow up Carol Chomskys anecdotal evidence (1970) of orthography showing underlying similarities which are real in the language (but which) would be lost in the grammar if phonetic differences were to be represented at the lexical level." p.293 [1],

even though her few examples of this have included the revealing gaffe of pairing *prodigal* (from the Latin word to squander) with *prodigious* (from the Latin word for unnatural and wonderful). Yet eight years later, both Chomskys are still quoted to prove that English spelling is the one thing in the world where progress should not or cannot be made.

Let us hear what Downing has to say on this point: "It is sometimes suggested that teachers who use i.t.a. know nothing about the 'modern' science of linguistics and its distinguished experts, such as Chomsky. For example, Roberts (1975) in his review of the Bullock Report in this journal, comments that,

The use of morphemic letter clusters has a direct bearing on whether or not to use i.t.a. although this is not stated in the Report. The arguments of Chomsky (1970) indicate that in terms of real understanding of the written code a strong argument can be made for retaining traditional orthography .... (p. 16).

Doubtless, Roberts' statement has been quoted with glee by opponents of i.t.a. That is most unfortunate for teachers, student-teachers, parents and children- not because i.t.a. is a cure for all reading evils - but because Roberts is wrong, and teachers are being misled by following fashions fed by such unsupported statements.

Roberts is wrong on two counts:

(1) i.t.a.'s design does take account of the morphemic letter clusters of t.o. That is why i.t.a. is not a simple letter/sound system. The i.t.a. cannot be learned in five minutes by teachers who want to use it. It takes time and effort precisely because of the spelling rules for the teacher's (not the children's) writing which must consider such problems as the morphemic letter clusters of t.o. that Roberts hints are unknown to i.t.a.'s designers and teachers who use it.

(2) Chomsky's arguments are not considered 'strong arguments. . . for retaining traditional orthography' by most linguists or psycholinguists. As so often happens in education, fashions are lagging behind developments in related sciences. Chomsky name-dropping is no longer *de rigueur* in linguistics or psychology (if it ever were). Noam Chomsky's (1957, 1965, 1970) theory in relation to English and orthography has been dismissed theoretically or disproved empirically.

A full discussion of Chomsky's theory requires a great deal of space (cf., for example, Downing, in press). The main point for teachers of reading is that Noam Chomsky claimed that t.o. does not represent phonemes at all. This led him to propose that 'the rules of sound-letter correspondence need hardly be taught' (N. Chomsky, 1970, p. 15). His English grammar led him to propose that t.o. is a system of 'lexical representation' (p. 4) and that, as such, it is 'a near-optimal system for representing the spoken language.' Noam Chomsky's own evidence does not bear up under scrutiny, particularly from the historical point of view (cf. Scragg, 1974). This was quickly noted by his colleagues in linguistics. Francis (1970) found Chomsky's claims for the reality of lexical representation extravagant and unsupported' (p. 51). Vacheck (1973) remarked that 'Clearly as a piece of apology for present-day English spelling, the argumentation adduced by Chomsky and Halle (1968) is hardly convincing. . .'(p. 68). Psychologists who have tested Chomsky's claims have made many interesting discoveries as a result, but they do not provide evidence supporting Chomsky's views on the nature and quality of t.o. (for example, Robinson, 1967; Moskowitz, 1971; Steinberg, 1973; Simons, 1975).

Roberts' reference to 'Chomsky' thus seems to be just the kind of 'tendentious statement' which the Bullock Report urges teachers not to accept.

Francis has alredy made the essential point that if conventional English orthography *was* a near-optimal system for representing the spoken language, then why do people have so much trouble

reading and writing it? The two answers are, first, that the millions who have great difficulty, or even fail, may not have the "innate linguistic ability" and the "unconscious linguistic equipment of the non-literate speaker." Chomsky assumes it is shared equally by all, not just the privileged elite who do become literate easily.

The second problem is that most of the 'barbed wire' in English spelling comes at the beginning of the learning experience. Even opponents of spelling reform admit that 'many of the most bizarre orthographic fossils and horrible examples of unpredictable English spellings are found among the most frequently used words' that the learner must master first. Cannot, or should not, these words be redeemed, then? It would seem reasonable to investigate whether Chomsky's ideas can offer eny justification for their continued sound-symbol mismatch. This paper looks at whether his claim can hold for those readers who need an 'optimal orthography' most - the children and second-language learners - by actually looking at the nature of what they must read without the advantages of alredy being skilled readers, or academic linguists.

An analysis of an official Australian basic spelling list for schools, produced by the Victorian Education Dept., showed that over half (729) of the 1400 most frequently used words in the language and over 16% of the total list of 6,385 words did not conform even to a wide range of conventions for sound-symbol relationships, yet did not show eny Chomsky-type lexical advantages to compensate.

Under 3% could be considered to be in his category, and this percentage was reduced still further under scrutiny. Even when it did occur, there appeared to be negligible practical value in the maintenance of orthographic similarities overriding major sound changes, since usually adequate clues still remain. We are not noticeably handicapped through eny loss of word-family recognition in the large number of words where spelling change does, sensibly, follow sound change.

Over half (729) of the 1400 most frequently used words have vowel spellings that are unpredictable and often unrecognizable to learners because they do not follow eny of the usual range of spelling patterns, and over 20% (307 words) have unpredictable consonant spellings which are unrelated to eny 'lexical representation' that even a clever child may have internalized in early primary school. In the complete list, 16% (1020 words) presented spelling difficulties not accounted for by Chomsky's rationale, even when the more exotic words were excluded and a wider variety of possible spelling patterns were assumed to be known by the young reader (see Appendix 1).

Worse still, there are meny words which directly contradict Chomsky's argument, because unnecessary spelling changes occur in semantically-related word-pairs with similar pronunciations, so that children must learn spelling patterns which change for no useful purpose.

aeroplane, aircraft	*awe, awful*	*comparison, comparative*
for, therefore	*feed, feast*	*dependent, independent*
example, exemplary	*defy, defiance*	*message, messenger*
marriage, marital	*mouse, mice*	*fulfil, full,* &-ful endings
poor, pauper	*reign, regime*	*stratagem, strategy*
whole, holistic	*speak, speech*	*past, passed*
true, truth	*joke, jocular*	*providence, provenance*
fly, flies, flight		(22+ examples)

Among 6385 words, only 168 had pairs which support Chomsky's notion of orthographic representation of a lexical structure that over-rode apparent sound values. This represents only 2.6% of the total list of words, since meny of the cognate words in the pairs are not in the list of young student's vocabularies. Even so, this group falls into 5 different categories:

1. In 70 pairs of words (just over 1%) a neural sound or schwa has replaced a clear vowel sound with change in position of stress, e.g., *metal-metallic, actual-actuality* (Appendix 2)

2. It could be argued that another 55 pairs (under 0.9%) might not qualify because an additional vowel symbol has been added to show that a sound has been changed, usually from a short to a long vowel, e.g., *consolation-console, breath-breathe, deception-deceit* (Appendix 3).

3. Another 33 pairs which also might not qualify for the same reason, might also disadvantage Chomsky's claim because the spelling has been further confused without eny lexical advantage by the placement of the extra vowel symbol with pronunciation change, e.g., *pacific-peace, popular-people, dubiety-doubt.* (Appendix 4).

4. Eleven pairs of words do indeed retain orthographic similarity despite sound changes, but Chomsky's principle does not explain why both words in each pair need to be spelt in an unpredictable way:

because, cause	*broad, breadth*	*do-does-done*
mystery, mysterious	*rhyme, rhythm*	*type, typical*
tyrant, tyrannical	*women, woman*	*youth, young*
you, yours	*none, no*	*one, only*

5. There remain 68 word-pairs out of over 6,000 words for which Chomsky's claim of orthographical representation of an underlying lexical structure rather than superficial 'phonemic' structure can be supported without modification - but even here, for at least 9 pairs, there are also other semantically-related words which do not agree in their orthography, and the morphological inconsistencies of the English language are such that words with similar spelling patterns cannot be relied upon to have similar types of morphological structure in their cognate words. e.g.,

facet, face	*dreamt, dream*	*healthy, heal (whole)*
plateau, plate	*meant, mean*	*repetition, repeat*
national, nation	*Iive, live*	*children, child*
navigation, navy	*leapt, leap*	*wilderness, wild*
passage, pass	*heroism, hero*	*Christian, Christ*
classic, class	*metric, metre*	*stealthy, steal (stole)*
knowledge, know	*finish, find*	*deception, deceive*
ironic, iron	*clerical, clerk*	*various, variety*
above, over	*says, say, said*	*anxious, anxiety*
lay, layer	*mineral, mine*	*application, appliance (apply)*
nature, natural	*ideology, idea*	*ferocity, ferocious (fierce)*
depict, picture	*medical, medicine*	*radiography, radio, etc.*
bomb, bombard	*soft, soften*	*production, produce*
centre, central	*signal, sign*	*slay, slaughter, slain, slew*
magic, magician	*solemn, solemnity*	*judge, judicial, justice*
nation, national	*malice, malicious*	*nothing, naught, nothing*
real, reality	*grease, greasy*	*conductor, conducive*
hymn, hymnal	*muscle, muscular*	*electric, electricity*
study, studious	*govern, government*	*hand, handkerchief*
twice, two, twopenny		*evacuate, evacuation etc.*

The variety is increased by other categories of words - such as the word-pairs in which the 'rule of e' to distinguish long and short vowels is reversed, e.g.,

adjective, adjectival	*desolate, desolation*	*doctrine, doctrinal*

estimate, estimation	*image, imagine*	*isolate, isolation*
palace, palatial	*pirate, piratical*	*separated, separation*

Thirty-one words are in an interesting class which are related in meaning, spelt identically (homographs), but change vowel in pronunciation, e.g., *live, read, primer, absent, present, perfect,* etc. To counter them, there is another impressive list of homonyms which are identical in both sound and orthography but have no relationship of meaning. In the text of this article alone, there are over three dozen such homonyms (see table 2) as standing arguments agenst those who claim that spelling reform might confuse readers by spelling *bread as bred.*

Clearly it seems pure luck whether Chomsky's principle applies or not - and it applies rarely, amid such morphological and orthographic inconsistencies as are found in the English language. This alone would indicate that there is little significant value to the reader in eny additional clue given by failure to change one or two letters in related words, at the cost of sound-symbol relationship. When we look at the clues needed to recognize word-relationships, we find that only two or three letters need remain stable to enable us to gather meaning in context, even in most of the meny verbs which are markedly changed by inflections, such as: *see, saw (sight): fly, flew(flight); sing, song, sang, sung; ring, rang, rung.*

There are too meny tautological traps in emphasising a 'meaning-bearing' value in spelling showing etymology or 'deep structure'. It is often necessary to *know* that words are related in order to recognize that they are related - or mistakes can be made, even by Carol Chomsky. Even in the lists given, more learned specialists than most of us will be able to claim that some of the pairs are not really related, for example because their origins are from related word-roots, not identical ones, even though their meanings are allied. And in eny case, what practical value is it to eny reader in actually using the language, to recognize the historical similarity between some of the other examples Ms. Chomsky cites, such as: *sign, resign; quest, question?*

Conclusion

It is possible that Chomsky has a case in claiming that an orthography that was 'rather close to the true phonological representation' would be 'an optimal system for spelling English' (Chomsky and Halle, 1968), but the evidence here shows how far English spelling is at present from that ideal.

Conservationists cannot therefore retain the array of spellings that are both phonemic misrepresentations and lexically inconsistent by calling upon Chomsky's linguistic arguments. However, there is need for research that investigates the degree to which Chomsky's ideal should be preferred to exact sound-symbol relationships in eny reform of the present inconsistencies in English orthography.

References

Chomsky, Noam, and Halle, M., *Sound patterns of English.* New York: Harper and Row, 1968.

Chomsky, N. "Phonology and Reading," in Levin, H., and Williams, J.P.(Eds.), *Basic Studies on Reading.* New York: Basic Books, 1970.

Chomsky, Carol. "Reading, Writing, and Phonology," *in Harvard Educ. Review,* 1970, v. 40, p. 287-310.

Downing, John. "The probability of reading failure in i.t.a. and T.O." *Reading, v.* 11, no. 3, Dec. 1977. pp. 3-12. United Kingdom Reading Assoc.

Francis, W. N. "Linguistics and Reading: a Comentary on Chpt. 1 to 3," in Levin, H. and Williams, J.P. (Eds) *Basic Studies on Reading.* New York: Basic Books,'70.

Pitman, Sir James and St. John, *J. Alphabets and Reading,* London: Pitman, 1969. (Makes a thorough analysis of English orthography).

Appendix
Table I

Examples of words in the Victorian school spelling list which cause spelling difficulty that is unrelated to Chomsky's rationale as far as the average reader is concerned - for whom relationship to unknown Latin roots or rare cognate words is of no practical use. (Australian vowel pronunciation used - an indication to spelling reformers of the degree to which a 'standard English' might be necessary in reform):

Short a	*Short e*	*Short i*	*Short o*	*Short u*
axe	bury	busy	gone	among
plait	bread	build	cough	come
salmon	said	crystal	caustic	couple
special	else	false	bicycle	touch
diaphragm	certain	sieve	honest	blood
	climate	give	halt	tongue
	many	message	catalogue	pigeon
	guess	carriage		station
	friend	stomach		judge
	foreign	handkerchief		
	leopard	pretty		
	leisure	biscuit		

Long a	*Long e*	*Long i*	*Long o*	*Long u*
baby	feast	sky	goes	due
play	feed	dye	both	new
maid	these	buy	boat	ewe
maize	cheese	aye	loathe	view
skein	field	eye	row	neutral
reign	leave	eyrie	though	duty
weigh	league	tyre	shoulder	beautiful
they	key	aisle	folk	bugle
great	quay	island	brooch	vacuum
gauge	believe	wind	sew	
dahlia	people	either		

*Sound ar, aa**	*Sound er***	*Sound air*	*Sound or, aw*
basket	circus	spare	tore
garage	burnt	tear	crawl
are	worst	was	ball
calves	sugar	there	poor
half	figure	aeroplane	saucer
aunt	nurse	their	caught
laughed	search	heir	court
heart	centre	mayor	chalk
guard	circle		warm
	were		awe
	herb		sword

*No distinction in Australian speech
** Sometimes the distinction between schwa and er is difficult.

Sound ow	*Sound oy*	*Sound oo* as in	*Sound oo* as in *book*
wound	point	blue	put
house	voice	threw	could
hour	buoy	do	wolf
drowse		shoe	cook
		move	
		truth	
		fruit	
		group	
		cruise	
		two	
		groove	

Consonant sounds

b. bauble, bubble, cupboard, bib
c tobacco, circus, truck, school, talk, bank, quite
a: fiddle, (would)
f. fluff, often, cough, elephant, (calf)
g. big, egg, ghost
h. who, he, hay
j. edge, soldier, garage
k. cook, (see c)
l. hall, (island)
m. summer, lamb, empty, autumn, (palm)
n. tunnel, (foreign), know, sandwich, gnaw
p. puppy, hop
r. horror, write, rhyme
s. assassin, circle, scissors, castle, (answer)
t. little, (two), bore to)
v. of, calves
w. language, one
x. socks, success, section, tics
y. iron, (weigh), you
z. scissors, accuse, zoos
ch. much, catch, natural
ng. sing, anxiety
sh. ocean, machine, sugar, station
th. this, eighth, thy, thigh (two sounds)
wh. which, when

Note: These lists are made up as they would appear to the everyday reader, not to the expert, and they bypass meny questions of definition (e.g., *w, x,* y, are not straightforward consonants, and overlaps with vowels are not satisfactory).

Table 2

Spelling similarity that does not 'lead directly to underlying lexical structure.' Some of 'the homonyms in the text of this paper (quite apart from those in the lists) in which the words sharing the same spelling and sound have no semantic relationship that bears a meaning today.

list	over	even	range	type
figure	still	sound	will	correspondence
common	meet	must	beat	may
full	present	fit	can	fall
clear	just	form	long	spring
rule	counter	rarely	letters	count
order	case	well	call	table
exact	bay	still	match	degree
close	class	light	cause	interest

Note [1] Experiments on spelling-clues to word-recognition of semantically related words, particularly for learners, and in practical situations, are still needed (especially when the related words change vowel sounds).

-o0o-

[Spelling Progress Bulletin Winter 1978 pp13-16]

Reading: A Class is Plural, by Emmett Albert Betts, Ph.D, LL.D.*

*Winter Haven, Fla.

Most parents and some teachers are narrow-minded free thinkers regarding the uniqueness of each individual. That is, they often compare and contrast people and in the same breath talk about treating all people alike. But most thinking is "cut on the bias"!

Evaluate your agreement or disagreement regarding the following statements, read the article, and review your responses.

1. A class average is a statistic, and, in a sense, a fiction. Agree( ) Disagree( )
2. Children should be brought up to the class average in all school subjects. Agree ( ) Disagree ( )
3. An occasional child may learn to read at age three. Agree ( ) Disagree ( )
4. Some children in the kindergarten (age 5) are ready for beginning reading. Agree ( ) Disagree ( )
5. All pupils in the first grade should be "taken through" preprimers, primer, and first reader of a series of reading textbooks. Agree ( ) Disagree ( )
6. If a child in the sixth grade is being taught to read in a second-reader (grade 2), he will not be ready for the seventh grade next year. Agree ( ) Disagree ( )
7. Children of the same age tend to have the same reading interests. Agree ( ) Disagree ( )
8. Children of the same age tend to have the same capacity for learning. Agree ( ) Disagree ( )
9. When a retarded reader is assigned to a "low" reading group he is stigmatized. Agree ( ) Disagree ( )
10. Children at the top of a class in reading - for example, a child in the fifth grade that can read twelfth grade books - do not need help to improve reading skills. Agree ( ) Disagree ( )
11. Effective instruction of a class increases the range of differences in achievement. Agree ( ) Disagree ( )

Averages

Some time ago Henry Taylor sagely remarked, "We Americans tend to place too much faith in figures. You have read the sad story of the man who drowned crossing a stream that averaged only two feet deep." His point is well taken that an average depth of two feet does not reveal a ten foot channel or a fifteen foot hole in the river. For swimmers, life and death *differences* may be hidden in a convenient statistic called the *average.*

In the classroom, too, there are hidden dangers in that fiction called the class *average. ,* How many times has an inexperienced teacher or an unsophisticated parent been lured into thinking about a first grade class or a fifth grade class in terms of averages - of likenesses among thepupits?

Differences are Important

Children learn to crawl, stand, walk, and talk at different ages. By the same token, they also learn to read at different ages. A few children, for example, learn to read at age three or four but most children do not catch on to reading until they have passed their sixth birthday. In short, they may be admitted to grade one when they have attained the calendar age of six but this does not mean that any teacher in the world can teach all of them to read at that age!

The child who learns to talk at two years certainly has a far better chance of learning to read at age six than the child who doesn't learn to talk until age three or four. This statement is obvious to parents and teachers. There are big differences in readiness for reading and in the rates at which they progress.

When the first-grade teacher meets her class an the first day, she finds they present a variety of needs. One or two may read, know the names of the letters, be able to write legibly, and use all speech sounds accurately. A few children are still learning the sounds of speech, the difference between *tomorrow* and *yesterday*; the days of the week, and color names. The rest of the class falls between these two extremes. Since the modern teacher knows it would be absurd to put all of them in the same book, she groups them according to their needs.

As children go through the school year, they become even less alike. Differences in reading and other abilities are increased. Training and schooling increase individual differences rather than decrease them. By the end of the first year, one or two or three pupils may still need more preparation for beginning reading. And a few may be able to read third readers with as much satisfaction as the average third-grade child.

Should the teacher recommend that all children who cannot read a first-reader - at least 30% to 40% of the class - be retained in the first grade? Should she recommend that the best readers be sent to the third grade? The answer, of course, is a quite clear-cut "No!" In the first place, children excel in different activities; some have more aptitude in numbers or science, or art, or music. In general, the gifted excel in many things and the mentally retarded are poor in many things.

This does not mean, however, that the same level of achievement will be found for a child in each subject. No matter how they are grouped for classes, individual differences in both capacities and abilities will be there, and the differences will be more apparent as time goes on. Secondly, children tend to make better emotional and social adjustments when they are kept with children of their own age. For these and other reasons, nearly all of the children are sent to a second-grade teacher.

Each year the range of differences is extended. By the time the average class is in the third grade, for example, there are one or two children in the beginning reading stage and there are one or two who can compete on even terms with the average seventh-grader. When this class is in the fifth grade, the range is likely to be from the pre-primer or primer level of reading ability to as high as the twelfth-grade level. In the junior and senior high schools, this range in reading abilities is increased, not decreased. These are the facts with which teachers must deal. These are the facts which parents must understand in order to guide the development of their children to effective adult citizenship - with peace of mind.

Grade Level: A Range of Differences

What is a grade? Are all pupils at the same level of achievement in a classroom? Do they wear the same size shoes or coats? Or, the same prescription for glasses? Are they alike in height at weight? Are they alike in personality? How many are average in one ability or skill? How many make an average score on all parts of an achievement test? Then what is the meaning of the term *average* in a classroom?

Can all children be brought up to a class average? Should the superior pupil be paced by the learning ability of the so-called average pupil? Then, can all pupils be given the same textbook prescription?

We have used graded reading textbooks and other materials (e.g., encyclopedias) to estimate reading levels of hundreds of pupils in the United States and Canada. These estimates are summarized in the chart below:

Grade	Range of achievement
1.	Zero to third-reader level
2.	Zero to fifth-reader level

3. Preprimer to eighth-reader level
4. Preprimer to tenth-reader level
5. Preprimer to twelfth-reader level

Many factors enter into the causes for this ever widening range of achievement at successive levels: intelligence, motivation, availability of appropriate reading materials (a well-stocked library), influence of the learner's cultural setting (including attitudes toward reading in the home - what is read and what is discussed), and so on. In general, however, the higher the teacher's level of professional competence, the wider is the range of achievement in a class. But some of the low achievers-not handicapped by mental immaturity, vision and hearing problems, and with birth injuries - may be helped via appropriate individual attention.

Grade Level: Plural Meaning

In great-grandfather's day, a grade was believed to be a group of pupils who had attained a certain level of achievement in the three R's - readin', ritin', rithmetic! Teachers had improved their pedagogy by eliminating the pupil - via failures and dropouts. It was not uncommon - as late as thirty years ago - for a fourteen year old boy to sit in the first grade reading, "See John. See John run." Relatively few pupils survived to the point of taking eighth grade county or state examinations fat admission to high school. Then at least 50% of the high school students failed to be graduated. To paraphrase Gertrude Stein, a grade was a grade, was a grade, was a grade - regardless of differences in mental abilities to study diagramming in grammar, cube root in arithmetic, or the best of Henry Wadsworth Longfellow's writings.

Later, in grandfather's day, there was a fad of social promotions. That is, pupils were promoted so they could be with the children of their social group. Soon, however, social promotions became merely chronological age "promotions"; the term *promotion* was given a new meaning - or rather the meaning was lost! Worse still, in grandfather's day, pupils were "promoted" from grade to grade with unanalyzed learning problems, but *regimented instruction* for the mythical average was continued, creating a learning vacuum for at least the upper third and lower third of the class. This shortage on educational logic, then, became an enormous farce for two-thirds of the pupils. Furthermore, this penalizing of differences was compounded by the old A, B, C, D, F home grade reports based on logic as rigid as that of a schizophrenic.

Irrelevant remedies were innovated. Helping teachers were hired to bring all children up to that illusion called a class average. Special reading teachers - without special professional preparation - were employed to cast a magic spell on children below the class average. This absurd assumption that all children could be brought up to the class average was somewhat discredited with a new fact: more children *above* the class average were found to be retarded in reading - in terms of their capacities to achieve - than children below the class average. In short, rigid regimentation of instruction proved to be a conflicting conviction regarding the high achievers as well as the low achievers.

There are at least two fallacies about "bringing up to grade level" all children.

1. Low intelligence and a lack of motivation to read make it impossible for some pupils to achieve as high as pupils with average or superior intelligence. (This fact also gives the big lie to the A, B, C, D, F report card that estimated a pupil's achievement in terms of the class average rather than in terms of the reality of his own capacity to learn.)

2. Children with capacities for high achievement become preshrunk pupils because their learning is *paced* by that of the fictional average. Hence, they become bored and, in terms of their capacities, they are retarded readers.

Then, what is a grade level in today's schools? The term *grade* has different meanings in different schools. First, in some schools 10% of the first-graders do not meet the standards of achievement imposed on them by adults and are failed. Hence, in these schools a grade is a conglomeration of pupils - high achievers, average achievers, low achievers, and repeaters

Second, in other schools a grade may be somewhat of a social group. That is, socially immature pupils may repeat a grade, especially in kindergarten and first grade.

Third, in many schools a grade is a conglomerate of non-readers, retarded readers, low achievers, average achievers, and high achievers. Furthermore, a grade is a classroom in which all pupils, regardless of their achievement, tend to get the same textbook prescription. While some attempt may be made to group and/or individualize instruction, these pupils tend to get the same textbooks in spelling, arithmetic, and other curriculum areas.

Defining a grade level is about as elusive as trying to find a word to rhyme with *orange.* But parents and teachers need to have objective discussions on this topic to insure better communication. A grade level is whatever you agree it is - to paraphrase Alice In Wonderland.

Children: Prototypes?

There is a lot of truth about how children of a given age are alike. Unfortunately, however, it appears to be natural for parents, teachers, and other humans to think of seven-year-olds, for example, as second-graders - to think only of likenesses. This tendency to think of school teachers as a type of person or butchers as a type of person or a doctor as a type of person causes humans to overlook important differences.

There are important age differences and sex differences in reading interests. There are also important differences in the interests of children at any age level. For example, fifth-grade children range in reading ability from zero to twelfth grade level. For many reasons, these differences in reading ability and interests stick out like sore thumbs in the first grade, Each succeeding year these differences in- crease, making it necessary to provide for them in order to give each pupil an equal opportunity to learn, to achieve!

What do these differences mean? Simply that the selection of one book cannot satisfy the needs of all the children at a given age or grade level. It cannot satisfy the need for (1) readable materials for each child or (2) interesting materials for each child. Hence, by different types of group and individualized instruction, the teacher begins where each pupil is.

Interests. Development

For a long time, one of the chief goals of reading instruction has been the development of permanent interests in reading. The evidence of success, however, is short of encouraging. About 25% of the school population struggles with the pronunciation of printed words and, therefore gets little or no satisfaction from reading. Even where libraries are available, only about one in four persons has a library card. Furthermore, most of the books borrowed from libraries are read by about 10% of the card holders. While this situation has been improving very slowly, more systematic guidance must be given to the development of permanent and worthwhile interests in reading.

In order to understand the interest facet of reading instruction, parents and teachers need to have a general idea of the sequence of growth. For this reason, the following brief outline, gleaned from researches, is offered:

Four and five years: Enjoys hearing Mother Goose rhymes, jingles and nonsense verse, very simple fairy tales, and nature stories; browses through picture books.

Six years. Enjoys hearing rhymes, animal tales (especially those in which the animals talk), and realistic stories about children.

Seven years: Begins to read on his own, to enjoy short fairy tales. Prefers narrative to informative selections.

Eight years: Begins to show interest in real life stories. Interest in fairy tales at peak.

Nine years: Begins to use references, such as *Compton's Pictured Encyclopedia*. Shifts interest from fanciful to factual, to stories of real life. Has genuine interest in reading.

Ten years: Boys begin to read how-to-do books, dealing with inventions and mechanics, model airplanes, radio, etc; girls, cooking, sewing, etc. Boys develop interests in reading legendary heros; girls, in biographies of women. Boys seek stories that are highly dramatic and that which emphasize adventure. In general, reading habits are well established.

Eleven years: Enjoys a spree of reading books of adventure and mystery, especially series books. Boys enjoy a heavy diet of science and invention; girls, of home and school life, and fairy and animal stories.

Twelve years: Reading interest is at its peak. Boys be- gin to lose interest in cowboy movies and to become increasingly interested in current events, history, biography, etc. Girls lose interest in fairy tales; are interested in boys' adventure stories, biographies of women; show some, interest in adult fiction.

Thirteen years: Previous interests intensified. Boys are concerned with mechanical and scientific interests. Girls read poetry and show some interest in drama.

Fourteen years: Turns to specialized reading interests.

Fifteen years: Has more interest in magazines than in books. Reading interests decline because of other new interests and demands on time.

Sixteen years: Stabilizes pattern of reading interests, tending to have about the same reading interest as an adult.

After admission to a REGIMENTED classroom, at any "grade level," pupils may become "drop-outs," unable to achieve a maturity of interests that take them to books. Pupils who are unprepared for beginning reading instruction - whether introduced in the kindergarten, first grade, or later - are "washed out" before they can take off. Children with certain types of hearing impairments, vision problems, neurological handicaps, and emotional disturbances, may be losers so far as reading achievement is concerned - and no one in good conscience can fault them. These two groups of defeated non-learners first take the negative attitude! "I KNOW I can't learn to read." These misunderstood souls become prisoners of their attitudes - as their parents and teachers do - becoming serious candidates for remedial reading therapy rather than the garden variety of *corrective* reading.

Time to Think

Textbooks - and teaching methods! - should be like clothes - tailored to fit the learners they are designed to serve. But alas! this is not the case in far too many classrooms. Too often parents object to group and individualized instruction designed to provide equal opportunities to learn. Too many uninformed and emotional parents rush to the school when their children are assigned to a different reading group, demanding reinstatement in the original group that is reading at a level which is frustrating for the pupil. But this situation tends to arise when there is a breakdown in communication between teacher and parent. A preliminary conferences time for candor-between the two may be that ounce of prevention that insures pupil success.

Consider appropriate answers to the following questions concerned with the nitty-gritty use of textbooks:

1. Is it advisable for a large school system to adopt one series of textbooks for all classrooms?
    a. Is a textbook with selections about middle-class homes likely to elicit the interests of pupils in a culturally deprived area?
    b. Is a textbook which emphasizes life on a farm suitable for urban children?
    c. Are pupils from a culturally deprived area likely to have the same achievement in speech and grammar - as preparation for beginning reading - as pupils from relatively high socioeconomic areas?
    d. Do pupils from different socioeconomic areas bring to beginning reading the same background of experience, concepts (e.g., birds and flowers), and values (e.g., attitude toward reading in the home)?
    e. Is a twelve-year-old with primer-level reading ability likely to be "sent" by a selection written for six-year- olds?
    f. Can a nine-year-old with primer-level reading ability profit from struggling with a fourth-reader textbook?
    g. Is a fifth-grader who reads avidly twelfth-grade books on science likely to be motivated to read selections in a reading textbook written for ten-year-olds?

2. Are parents who press the school board to adopt McGuffys Eclectic Readers (copyright 1848) suffering from the "old oaken bucket" delusion? That is, are they submerging memories of pointless stories and complex pronunciation marks in the same way as the old man does when he day-dreams about the cold water brought up in a bucket from an open well at the cost of backstrain and calloused hands?

3. Is there a need for some standardization in grading the difficulty (readability) of different series of reading textbooks?
    a. Should publishers be required to submit scientific information on the grading of their textbooks to a selection committee? (For example, in some series there is a significant discrepancy between the third reader and fourth reader, with a wide gap between the two levels.)
    b. Is it desirable for different series of readers to be graded on the same basis so that a pupil can shift from the 2-2 reader, for example, of one series to the 2-2 reader of another series?

4. Can all essential reading skills be developed in one series of textbooks?
    a. Is it desirable to restrict guidance in reading to a given reading textbook at any reading level?
    b. Is it to the pupil's best interest for parents and teachers to identify interesting and worthwhile books that the pupil can read on his own-that is, at his independent reading level?

c. Is it desirable to spend the taxpayer's money on an abundance of books and magazines for each classroom?
d. Is it better to buy books than cheap toys for children, beginning at age three or before?
e. Do parents have a responsibility to encourage their children, at an early age, to obtain a card from the public library and use it often?

(Answers to the above questions probably are: 1, a, b. c. d. e, f, g, all *no*, 2, *yes*, 3, a, b, all *yes,* 4, *no*, a, *no,* b, yes, c, *yes,* d, yes, e, *yes.*)

In Review

Each year individual differences are better understood and each year there is less discrimination against ability in classrooms and homes. The myth of the class average has produced a stifling regimentation in learning that is slow to die. Hence, those statements appear to merit careful consideration.

1. When parents and teachers face up to the realities of individual differences in learning, they are concerned with providing equal opportunities for Mary, Jimmy, or any other child rather than with the class average.
2. An old failure formula calls for "coaching the laggards" to bring them up to that fiction called a class average, because pupils in the same class vary significantly in their motivations to read, phonic skills, comprehension abilities, and levels of achievement.
3. An occasional three-year-old may learn to read - with or without special teaching - but advice to teach all children to read at age three is either an innocent delusion or a gross deception.
4. Some kindergarten children, at age four or five, are ready for beginning reading, a few can read "easy" books, and some may be slow bloomers, needing specific preparation for beginning reading.
5. The first-grade teacher is the only one to get through the preprimers, primer, and first reader when she is blinded by zeal to "treat all children alike."
6. A learner in any grade - first grade or college - is better prepared for succeeding levels of achievement when he plugs the holes in complex of reading skills, not previous-plugs the holes in complex of reading skills, not previously learned, by instruction on textbooks that are readable and interesting for him.
7. Learners differ in their motivations to read as well as their levels of achievement; hence each individual must have access to books, magazines, and other materials that cater to his interests.
8 .Reading is basically a thinking process, but children vary significantly in their capacities to think-from the mentally retarded to the genius.
9. When the retarded reader - an individual whose hearing comprehension level is higher than his reading comprehension level - volunteers for help in a special group, he should experience no disgrace.
10. All of the pupils - from low to high achievers - in a class need to improve their reading and study skills.
11. When all pupils of a class are taught effectively, at their own levels of achievement, the range of differences in achievement is increased. That is, the more effective the teaching, the more individual differences are nourished.

(Responses to the statements at the beginning of this article probably are: Agree to # 1, 3, 4, 7, 11 and *Disagree* to the others.)

-o0o-

[Spelling Progress Bulletin Winter 1978 pp16,17]

A Fonetic Analysis of Present Day Spellings, by Frank T. du Feu*

*Guildford, Surrey, England.

The spelling analysis that is enclosed considers about 3000 words of 19th and 20th century literature which has been tabulated in each of the 24 cases of spellings.

Some spellings are very much commoner than others, and this explains why we do not always have just *the first 80 words cc the first 60 words* in a perusal of 3000 words of text.

Anyone working on a spelling reform or just a learning- to-read medium could find the analysis useful to determine the frequency of occurence of various letter combinations.

The first 100 different words with 'a'

a as in *acrobat*	(a)	70
a as in *radiation*	(ae)	15
a as in *waterfall*	(au)	7
a as in *swan, wasp*	(aa)	4
a as in *father*	(o)	3
a as in *many*	(e)	1

The first 40 different words with 'ar'

ar as in *card sharper*	(aar)	34
ar as in *warm*	(aur)	6

The first 80 different words with 'e'

e as in *detrimental*	(e)	62
e as in *veto*	(ee)	17
e as in *pretty*	(i)	1

The first 60 different words with 'ea'

ea as in *dean, near*	(ee)	3
ea as in *head*	(e)	15
ea as in *break, bear*	(ae)	4
ea as in *learn*	(ur)	3
ea as in *really*	(eeə)	2
ea as in *heart*	(aa)	2

The first 20 different words with 'ei'

ei as in *vein, their*	(ac)	9
ei as in *receive*	(ee)	7
ei as in *eider*	(ie)	3
ei as in *leisure*	(e)	1

The first 80 different words with 'i'

i as in *this picture*	(i)	71
i as in *kind pilot*	(ie)	9

.

The first 60 different words with 'i-e'

i-e as in *appetite, time*	(ic)	44
i-e as in *discipline, native*	(i)	12
i-e as in *police, marine*	(ee)	4

The first 60 different words with 'ie'

ie as in *bodies, married*	(i)	22
ie as in *tie, supplied*	(ie)	17
ie as in *grief*	(ee)	16
ie as in *quiet*	(dif. syl.)	4
ie as in *friend*	(e)	1

The first 100 different words with 'o'

as in *odd obIong*	(o)	57
o as in *old solo*	(oe)	24
o as in *front wonder*	(u)	14
o as in *do together*	(oo o)	2
o as in *glory*	(aur)	2
o as in *woman*	(uu)	1

The first 60 different words with 'o-e'

oe as in *stone, more*	(oe)	45
oe as in *some, glove*	(u)	9
oe as in *prove, whose*	(oo)	5
oe as in *shone, gone*	(o)	1

The first 60 different words with 'oo'

oo as in *foolproof*	(oo)	40
oo as in *goodlooking*	(uu)	16
oo as in *flood*	(u)	2
oo as in *door*	(oe)	2

The first 40 different words with 'or'

or as in *order, form*	(aur)	33
or as in *world*	(ur)	7

The first 80 different words with 'ou'

ou as in *roundabout*	(ou)	44
ou as in *you, group*	(oo)	10
ou as in *country cousin*	(u)	9
ou as in *soul*	(oe)	5
ou as in *four*	(oer)	4
ou as in *bought*	(au)	4
ou as in *could*	(uu)	3
ou as in *journal*	(ur)	1

The first 60 different words with *'ow'*

ow as in *slow bowler*	(oe)	35
ow as in *how now*	(ou)	24
ow as in *knowledge*	(o)	1

The first 80 different words with 'u'

u as in *understudy*	(u)	51
u as in *superhuman*	(ue)	21
u as in *bush*	(uu)	5
u as in *penguin*	(w)	2
u as in *busy*	(i)	1

The first 60 different words with 'u-e'

u-e as in *huge cube*	(ue)	45
u-e as in *nature, picture*	(uer)	14
u-e as in *fortune*	(ə)	1

The first 60 different words with 'y'

y as in *mystery*	(i)	54
y as in *dynamo, try*	(ie)	6

The first 60 different words with 'ch'

ch as in *church, fetch*	(ch)	50
ch as in *school, anchor*	(k)	7
ch as in *machine*	(sh)	3

The first 60 different words with 'ee'

ee as in *deep, deer*	(ee)	58
ee as in *divorcee*	(ae)	1
ee as in *committee*	(i)	1

The first 100 different words with 'g'

g as in *bag, go, regret*	(g)	59
g as in *change, general*	(j)	29
g as in *singing, strong*	(ng)	10
g as in *sign, impugn*	(silent)	2

The first 30 different words with 'gh'

gh as in *bough, caught*	(silent)	18
gh as in *light, highly*	(ie)	9
gh as in *rough*	(f)	2
gh as in *ghost*	(g -)	1

The first 30 different words with 'qu'

qu as in *inquire, quite*	(kw)	24
qu as in *conquer, quay*	(k)	6

The first 60 different words with '-se' after a vowel

se as in *please, use (v.)*	(z)	38
se as in *case, use (n.)*	(s)	22

The first 60 different words with 'th'

th as in *that, brother*	(th voiced)	36
th as in *think, both*	(th unvoiced)	24

The first 60 different words with 'ti'

ti as in *initial condition*	(sh)	32
ti as in *timid, until*	(t plus i)	28

Pronunciation is given in modified World English

[Spelling Progress Bulletin Winter 1978 p17]

Laedy Thhrip, by Frank du Feu*

*Written in *Eurospelling* - a minimal change sistem of simplified spelling.

"Yess, Laedy Thhrip of Runnymede,
We'r very fortunate indeed
That yoo shuod be in toun today.
Yoor garden's such a fine display."
"Shall I divulje whot nun supposes?
I'v lavishd aull mie luv on roses,
For thow I'm taull, attractiv, helthhy,
And, shuod I say it? raather welthhy,
Hou straenje," and here she wiped an eye,
"Romance has aulways passd me bie."

Is sumwun saying that at last
The days of shivalry ar past?
Then fie upon yoo for a bore,
She nou had offers hie the score.
A widowd golfer caulld next day
Hoose family dwelt at Colwyn Bay.
She sent him back, but, man alive!
He had a handicap of five.
A nervous tailor came from Bute,
Hoo, starting thuss to press his suet,
"Wun gloarious morning in the Parks"
Soon lost the thhred of his remarks.
For him she never cared a button.
A glazier came bie buss from Sutton,
But, he, it seems, wos such a dunce,
She saw thhru his desiens at wunce.
A baker hoo had cum from far,
Sed, "Thow I hav no Mini car,
Yoo'd be moest welcum to mie Roells."
A lerned fellow of Aull Sowls,
Hoo wore a huod of costly satin,
Proposed to her in Greek and Latin,
But thiss proceeding wos absurd,
She scaercely understood a wurd.

A trapper came from Baffin Land
To crave the onor of her hand,
Sed he, "aulthow for munthhs mie wurk'll
Detain me near the Arctic Circle,
Mie seal-skin furs will keep yoo worm
In eny boisterous Polar storm.
We'll spend, before the liner sails,
Our hunywoon in seeing Wales."
"I'd needs be tuf as India-rubber;
No gass for cuoking, oenly blubber;
No beef to roast or cliops to frie;
D'yoo thhink I'd liv on pengwin pie?
Bahl yoor proposal leaves me coeld."

And then a cuerate came from Moeld,
Hoom she at first declined to see
As he arrived in time for tea.
A printer from the toun of Fife
Implored her to becum his wife,
But didn't niiend his P's and Q's.
She had no choice but to refuse.
A farmer hoo had sown wield oats,
Arrived bie air from Jon O'Groats,
But his reception wos the same.

Nou when a dance-band leader came,
He luokd quite different from the rest;
Of fine fyseqe; moreoever dressd
From hed to fuot in spotless white.
She fell in luv with him at sight,
Became engajed without delay.
But on the aull-important day
He seemd unconscionably late.
Alass! the ierony of fate!
They never saild that night for Rome.
His wife had kept him safe at home.

-o0o-

[Spelling Progress Bulletin Winter 1978 pp18,19]

Book Review, by Helen Bonnema Bisgard, Ed.D.

Sec., Phonemic Spelling Council, Aurora, CO.

Godfrey Dewey. *Relative Frequency of English spellings.* Teachers College Press, 1970. Columbia Univ. New York City, N.Y. 142 pp. 8 15.

Sometimes book reviews are previews intended to alert readers to forthcoming publications which may not as yet have reached the shelves of retailers. This appraisal of Dewey's *Relative Frequency of English Spellings,* however, comes eight years after the publication date. Perhaps it should be considered a *post*view, in consideration of the fact that part of the contents was in use for years before 1970. Earlier editions bearing the title*, Relativ Frequency of English Speech Sounds* were published in 1923 and 1950. Their widespread use by linguists called for production of the present work.

Previous influence
During the past half century inventors of reformed orthographies conferred with Dr. Dewey and were impressed by his *Relativ Frequency* figures. Some of these designers employed only the graphemes of traditional orthography. Some augmented these with new symbols such as schwa; others added diacritics, and a few assigned different sounds to certain letters, but regardless of the nature of their systems they all left one symbol as it now is: /e/for the so-called "short e" as heard in men. In many cases, the decision to retain the /e/ was based upon the figures shown in Dewey's tables of statistics for (1) Spellings Of sounds, and (2) pronunciations of Spellings.

Spellings of Sounds Table
Some questions which might be asked about any speech sound, or phoneme, are:
1. How prevalent is it in the English language?
2. How often does it occur when every single word in the dictionary is listed one time?
3. How prevalent is it in ordinary discourse printed in newspapers, magazines, books, and other widely read publications where common words are continually recurring?
4. Does this phoneme usually appear at the beginning, middle, or end of a syllable?
5. With what letters, or graphemes, is it represented in writing?
6. Which of these graphemes predominates?

Answers to questions 4, 5, and 6, are important to the teacher of writing and spelling. Conversely the teacher of reading needs to know as well:

7. How dominant is a certain grapheme in the dictionary listing of words?
9. How dominant in connected reading matter?
9. In what part of a syllable does it *most* often occur?
10. What phonemes does it most often represent?

Questions 7 thru 10 might sound like a mere inversion of the first 6, but actually they have different significance. For example, the book shows that the commonest pronunciation of the letter z is /z/ (zest); and the commonest pronunciation of the letter s is /s/ (set); but the commonest spelling of the phoneme /z/ is the letter S, (is, roses).

The answers to questions 2 and 7 are given in Dewey's companion volume, *English Spelling: Roadblock to Reading* which was reviewed in the Spring, 1972 *Spelling Progress Bulletin.* The statistics given herein are based upon his analysis of the 132,000 words defined in the *American*

College Dictionary, whereas the answers to numbers 3 and 8 are given in the tables of the *Relative Frequency book.*

Dewey counted all of the occurrences of each of the 41 phonemes in 100,000 running words of representative English, prose found in periodicals, books, and other popular literature, analyzing these into 10,119 different syllables, or one-syllable words, which he terms "items." In order to illustrate the manner in which Dewey presents the statistics for all of the 41 sounds and symbols, the statistics for only nine phoneme-grapheme, /e/, will be traced as it appears thruout the book. /e/ was chosen because, as mentioned earlier, it is regarded as "regular" by all linguists polled.

Statistics for the e phoneme
In the 100,000 running words, the *e* phoneme occurred 12,709 times in 3,172 words, or syllables, herein called "items." The following table shows the graphemes which were used to spell this /e/ sound:

grapheme as in	*T. O.*	*occurrences*	*items*
e	men	10,987	2,941
e-e	ledge	530	96
ea	head	402	105
a	many	371	10
ai	said	298	4
ay	says	52	1
ie	friend	40	5
ue	guess	21	5
e-ue	cheque	7	4
u	bury	1	1
		12,709	3,172

Dewey also indicated whether the phoneme was at t e beginning of the syllable, as in *ebb,* medial, as in *met,* final, as in *tre bling,* or syllabic, as in *e h.*

	Initial		*Medial*		*Final*		*Syllabic*	
graph.	*occ.*	*it.*	*occ.*	*it.*	*occ.*	*it.*	*occ.*	*it.*
e	3,315	1,159	7,538	1,749	41	15	93	18
e-e	314	36	216	60				
ea			402	105				
a	261	7	104	1	6	2		
ai			298	4				
ay			52	1				
ie			40	5				
ue			21	5				
e-ue			4	3				
u			1	1				
	3, 893	1,203	8,676	1,934	47	17	93	18

Value of statistics on phonemes
In his preface Dr. Dewey explains the purpose for compiling the above information: "Such data have an immediately important contribution to make to what is increasingly being recognized as the most basic problem of present-day education - learning to read. The ability to select for earliest introduction or greatest emphasis, in teaching materials, those phoneme-grapheme correspondences which will occur most frequently and/or with the least irregularity is an important aid, regardless of the teaching method employed; more important with the increasing trend toward code-emphasis

methods rather than meaning-emphasis, and still more important in connection with methods which employ as an initial teaching medium a substantially phonemic notation. . . . Also they provide, for the first time, trustworthy, comprehensive, objective data as a guide for devising or criticizing proposals for reform of English spelling. . . ."

Pronunciation of Spellings Table
Dewey points out, "A source of error in most reading methods is that they concern themselves chiefly with the spellings of sounds. It is their disregard of the converse aspect pronunciation of spellings, which most often impairs their effectiveness or invalidates the findings of research." The reason the letter *e* is considered *regular* is that the pronunciation of the grapheme is usually /e/ as validated by the following figures:

Phoneme as heard in *T.O.*	*Occurrences*	*Items*
men	10,987	2,941
over	5,027*	1,051
be	3,333	205
pretty	2,833	803
re (music)	7	3
sergeant	4	2

Position within the short word or syllable:

Phoneme as in	*Initial (ebb)*		*Medial (net)*		*Final (tre bling)*		*Syllable (e h)*	
	occ.	*it.*	*occ.*	*it.*	*occ.*	*it.*	*occ.*	*it.*
men	3,315	1,159	7,538	1,749	41	15	93	18
over	2,465	567	2,518	471	24*	9*	20	4
be	95	2	51	27	3,142	164		
pretty	62	7	37	8	2,362	644	372	144
re			6	2	1	1		
sergeant	1	1	3	1				

*not including *the.* See the following.

the
The definite article *the* occurred 7,310 times in the 100,000 running words examined, and was treated as a single unit or "phoneme." Thruout his work, Dr. Dewey treats the as a single phoneme for two reasons:

1. *the* has three pronunciations in good usage:
/thee/ emphatic (the least frequent). Example: Detective Jones said, "You are looking at *the* gun."
/thi/ before a vowel. Example: This is the only one of its kind.
/thə/ unemphatic, before a consonant. (the most frequent). Example: The gun is loaded.
No practical system of transcription should consider writing a common word in three ways.

2. Considered as a single "phoneme," *the* occurs more frequently than over half of the 41 true phonemes, so that whatever arbitrary assumptions may be made as to the relative frequency of each of the three pronunciations will be large enough to distort seriously the figures for the known frequencies of the three vowels involved. These assumptions are: /thee/ emphasized, 10% of all occurrences of that sound in connected printed material, /thi/ before a vowel, 30%, /thə/ unstressed, 60%.

Scientific basis for word research
In the Foreword, Dr. Emmett Albert Betts evaluates the book: Dr. Dewey's pragmatic approach to the study of phoneme-grapheme relationships supplants opinions with facts. This lucid report of his latest investigation gives the reading "establishment" a scientific basis for research on word perception and offers psycholinguists relevant information for developing adequate theoretical constructs regarding the complexity of the little-understood process called reading. Hence, his report not only is of immediate value but also is a priceless contribution to researchers."

This achievement was Dewey's aim. He stated, "The chief purpose and distinctive contribution of this publication is to provide accurate quantitative objective measurement of the characteristics of our accepted English spelling as it exists today. It is hoped that this study of English graphemes and phonemes may prove to he of important service to other laborers in the educational vineyard."

-o0o-

[Spelling Progress Bulletin Winter 1978 pp19-20]

Our Readers Write Us.

Dear Newell: **Sir James Pitman, KBE.**

In answer to your questions:
1. *Is it possible to devise an allophonic alphabet?* It does not matter whether it is possible or not. The point is that it will have relevance only if you continue to insist that printing should be orthographic and yet related to speech - which varies!

My claim, with great certitude, is that in reading more than in listening, conformity to a single standard is both unnecessary *and impossible.* You and I don't conform to any criterion of pronunciation of words (yet as G.B.S. wrote, we get on very will communicating together). We just could not possibly change our speech!

If we can nevertheless understand one another in the evanescent spoken word, how much more certainly will we get on if we hand write as we speak & import into our written communications all those many departures from the other's speech which we use when we are speaking. Clearly in reading (*scripta manent* whilst *verba volent*) there is plenty of time to come to terms with all the departures and moreover the value of context in understanding is not evanescent as it is in listening.

There is no conformity in handwriting any more than there is in speech to an imposed criterion of letter & word shapes, nor in printing - vide the 10 forms of the word BAG. Why suddenly should there be a point in imposing such a criterion on spelling in a system which is designed to relate closely to sound just because there has been a criterion in a grossly chaotic written language?

What is the need to regard even a written *sceduel* or *sheduel* as more intractable than those two when so pronounced by you & me? I've got a list of words, *clerk, clark,* etc. in which i.t.a. is selective of the form which is closest to T.O. but after all we, you and I, are here catering not to learners with an initial learning medium (in which there is a strong case for consistency) but with a medium in which it may be postulated that the knowledge of the English language & the reflex action in turning characters into words is developed to a very high degree, & in which consistency for everyone is known to be impossible without breech of the very principle for which reform is intended (accurate phonetic rendition). Let us write as we speak.

I know a lot of people skilled in detecting & recording dialect differences - and you will know a lot more - but the question still remains to what good purpose the exercise of their skills would in fact contribute.

2. *Publication of Helping the Foreigner to Learn English.*
It is at present resting in Washington with the Editor of your Gov't's free handout around the world, *English Teaching Forum*, by the International Communication agency.

3. *The Rules of Spelling in i.t.a.* are not much use to you unless you accept as valid ideal conformity to that pronunciation (in any acceptable dialect) which most closely resembles the T.O. spelling so that when the word is so respelled in the new system, there is least departure from T.O. I believe this policy of close conformity will be as valid (for reasons, which I will explain later) for Ref. Sp. as for an ILM. The reasons are 1. The greater resemblance to T.O. - or the least departure from T.O. - the less antagonism (albeit by only a little) to the new spelling. 2. The effect of spelling on pronunciation is almost compulsive. The best hope for standardizing pronunciation - & so achieving greater consistency in the spellings in Ref. Sp., when writers are writing systematically as they pronounce, will be to accept what I have done about i.t.a., at any rate as a basis for Sp. Ref.

In time *r* dropping and *r* intrusion will probably cease in British & other (Indian) pronunciations as soon as i.t.a. has become general & has influenced learners who will then tend to be convinced by the Sp. Ref. pronunciations when they transition to more & more books which they will try to read in Ref. Sp.

As you know, I will still deplore the turning of our present heterographs for common words into homographs, claiming strongly that homophones are poor communication, and that the skilled reader & user of context is benefitted much more than harmed by the very helpful discriminations of heterography in place of the hesitations and even dubiety caused by holography.

It is wise and far-seeing of you to be a believer in the principle of close relationship between what is heard and what is read and written, and to be a believer in i.t.a. as the best initial learning medium for that purpose. I expect you too will agree that spelling reformers are all wrong to go beyond the initial stages of learning and to seek to impose for the final utility medium either a new orthography based upon an authoritarian decision as between many variants in pronunciation or acceptance of no uniformity at all in the spellings of the *printed* word.

It is only during the learning period that the disrelationship and the confusions cause trouble in reading. (I have made an analysis of those myriad confusions). Thanks to context *(and* a knowledge of the English language), listening and reading can tolerate wide variations and come not even to notice them. The same thing has been found in Braille. Skilled Braille readers are able to read Braille i.t.a. very fluently - their observation is only that the Braille spellings are very unusual!

Handwriting, for the eyes of a single or at most a few readers, is another matter from printing for the millions. As we now know enough about the tolerance of the eye of readers to different handwritings, to mis-prints, to i.t.a. and to Traditional Orthography (T.O.), even at the transition, to be certain that if each handwriter were to spell as he pronounces and if a single standard alphabet of, say, 40 characters were established as the systematic norm, the reader would have even less difficulty in being communicated with than the listener to that dialect. In other words, while the listener has no time to adjust, the reader has all the time he needs.

For this reason, I judge that neither of the two alternatives set out at the end of the third previous paragraph (beginning with, "It is wise') are practicable in' printing for even in high class standard key-board typewriting but that for handwriting there should be acceptance of variety in spelling.

Just think of the teaching and learning time which this would save and of the fact that for the greater part the com puter will happily maintain the orthograpliy as we have it at present and all will be able to read it - as they are able to do at present - and with the greater certainty given by heterographs and by the other illogicalities (e.g., the *ough* in *enough, rough,* etc.) which experience has shown soon become possibly more helpful than harmful in at any rate reading - tho not of course in writing orthographically!

4. *The "Desiderata"* is not an essential part of the article*, 'Helping the Foreigner,'* etc., but it is an essential part of *getting something done* & ending the centuries of futile talk & propaganda.
I equally regard as important & essential to obtaining action, my idea of getting the French to adopt the new medium for teaching French children in return for the British using L'Alphabet l'Apprentisage for the teaching of French in English schools (I make in paragraph 45 the point that foreigners are more receptive of innovations in the teaching and learning of a language other than their own than are the native speakers of that language to tolerate the use of "what *is* not their language in learning - and teaching English to foreigners".)
Sincerely, Jim.

-o0o-

Dear Jim:

I agree with much of what you said in your letter, but … In 1., I think it is possible, tho perhaps not actually necessary, to devise an allofonic alfabet. You have made one step in that direction by devising a symbol in i.t.a. that looks like both the *a* and a and so can be given the pronunciation the reader desires to a word (with this letter) which he sees in print. You also devised a pointed *s* (or a mirror- image z) to take care of the *s* with z-sound. hence i.t.a. is almost an allofonic alfabet now. Surely any other area of dialects can be treated similarly.

No one expects the public to change their speech had its - and I agree that it is unlikely even with the examples of standardized speech by radio and TV announcers.

Handwriting certainly does vary! - that is why I have to type your handwritten letters to me in order to make sure I have not misinterpreted an occasional word (which does happen). Therefore perhaps we need a standard of writing?

I'm afraid I cannot go along with the assumption that spelling reformers are all wrong in wanting to go avoid the use of an ILM as best for the English speaking people. A permanent reform is logically better than any temporary intermediate step which then perpetuates the illogical spelling system(?) we now tolerate. Certainly it is better for future generations and foreigners - and literate adults can, without very much trouble, accomodate their reading habits to the changes in spelling brought on by sensible, simplified spelling - that is, if they are unselfish enuf to realize that a little accomodation on their part will in the long run bring great benefits in the education of children, with its permanent results. As Dewey said, a temporary ILM dislike building an emergency hospital at a R.R. grade crossing instead of eliminating the grade crossing.

I agree that it is largely in the learning period that there are those confusions in reading. But many people go all thru life learning how to read and only after half way thru life have they the competency to enjoy reading. How much better for them it would be if they faced a reliable medium at the beginning of their learning - and then never had to change from it to an unreliable spelling that had to be learnt fotografically. Statistics show that girls are better spellers than boys because they spell according to the appearance of a word - in other words, fotografically. But boys are inclined to think logically. And this is disastrous with a malfonetic, unsystematic spelling. Ask

anyone how often he has been asked on the fone to spell his name or street address.

As for the choice between the acceptance of no uniformity in the spellings in a reformed spelling, and a different printing for each dialect for use in each of those countries, or make an authoratative choice for a standard dialectal spelling, I think this is a red herring brought up by those opponents of spelling reform, to confuse and befuddle reformers. While it may rot be possible to devise an allofonic system of spelling without adding new letters, I think that the dialectal differences are so minor that they can be surmounted - if we have the will and determination to do it. Has anyone ever tried to find out how many (or how few) words there are that would be spelt differently in British and American spelling due to dialects? I doubt if it would be any more than are now spelt differently due to Webster, - only a dozen or so.
Yours sincerely, Newell