Second International Conference of the Simplified Spelling Society. "Reading & Spelling". July 27–30, 1979.

[Spelling Progress Bulletin, Spring 1980 p2 in printed version]

Program

The order of the papers presented out the Conference has been rearranged in three categories:

A. Present English spelling and its teaching.

1. ***Analogy in English Spelling***, by Dr. D.G. Scragg, Univ. of Manchester, Eng. Pub. in SPB, Winter, 1979.
2. ***Research on Spelling Reform***, by Dr. John Downing, Univ. of Victoria, B. C. Canada. Pub, SPB, Spring 1980.
3. *Phonographic Relationships in English Spelling and their Implications*, by Fergus McBride.
4. ***Implications of Spelling Reform for Certain Phonemes. Graphic R,*** by Dr. Emmett A. Betts, Research Prof, Univ. of Miami, Fla. Pub. SPB Winter, 1979.
5. **Language, Orthography and the Schwa**, by Dr. Katherine P. Betts. Pub. SPB, Summer, 1979.
6. ***A Pedagogical Purview of Orthography,*** by George O'Halloran former Education Officer, The Gambia, W. Af. H.M. Overseas Education Service. Pub. SPB, Spring, 1980.
7. ***Patterns in Pupils' Spelling Errors,*** by Dr. David Moseley, Univ. of Newcastle-upon-Tyne, Eng.
8. ***In Defence of Conservatism in English Spelling***, by Dr. Philip Smith, Projektgruppe fur Psycholinguistik, Nijmegen, Netherlands, Pub. SPB, Summer, 1980.
9. ***A Multisensory Approach to the Teaching and Learning of Spelling,*** by Alun Bye, Head, Remedial Teaching Service, Northamptonshire, Eng. Pub. SPB, Spring, 1980.

B. The Case for Reform.

10. ***The Cultural Impediments of English Orthography***, by Vic. Paulsen, Publisher, San Francisco, Ca. Pub. SPB, Fall, 1980.
11. ***Traditional Orthography as Psychic Child Abuse,*** by Dr. Abraham F. Citron, Wayne State Univ, and Cloyzelle K. Jones, Univ. of Mich. Pub. SPB, Fall, 1978.
12. ***The Effects of a Simplified Spelling on Children's Readiness to Read***, by Dr. Derek Thackray, Editor of Reading (UKRA). Pub. SPB, Spring, 1980.
13. ***Modern Technology and Spelling Reform***, by Dr. Helen B. Bisgard, Pub. SPB, Winter, 1979.

C. Practical Aspects of Spelling Reform.

14. ***Is Spelling Reform Feasible?*** by Mrs. Elsie Oakensen, Head, Daventry Teachers Centre, Eng. Pub. SPB Summer, 1980.
15. ***Spelling Reform and The Psychological Reality of English Spelling Rules***, by Dr. Robert Baker, Univ. of Southampton. Pub. SPB, Summer, 1980.
16. Principles of reform — some proposals:
    a) ***The Right to Read***, by Dr. Axel Wijk, formerly Stockholm Univ. Pub. SPB, Spring, 1980.
    b) ***Some Proposed Principles for Simplifying English Orthography,*** by Dr. John R. Beech, New Univ. of Ulster, Coleraine, N. Ireland. Pub. SPB, Summer, 1980.
    c) ***A Transitional Spelling Reform for Adults and Learners***, by Valerie Yule, Child Psychologist. Aberdeen, Scotland. Pub. SPB, Fall, 1980.
    d) *On the Choice of the Right Symbol*, by Dr. Walter Gassner, Translator, Randwick, Australia.
    e) ***The Phonetic Representation of Speech, Ess Ess Ess Fonetik,*** by S. S. Eustace, Sec. Simplified Spelling Society. Pub. SPB, Fall, 1980.
    f) ***Reading and Writing in English,*** by S. Bakowski.
    g) ***The Sensible Solution to Simplified Spelling: One Sound-One Symbol,*** by Hugh V. Jamieson. SPB, Fall, 1980
17. ***Practical Aspects of Implementing a Simpler Spelling,*** by Valerie Yule, Child Psychologist, Aberdeen, Scotland. Pub. SPB, Fall, 1980.
18. **Photos** by Vic Paulsen.

[Spelling Progress Bulletin Fall 1979 p1 in printed version]
[Helen Bonnema Bisgard: see Journal, Anthology, Bulletins.]

The 2nd International Conference of the Simplified Spelling Society held at Nene College, Northampton, Eng. July 27–30, 1979. (reported by Helen Bisgard)

The Conference considered three aspects of spelling reform: need for change, devising an improved system, and means for implementing it.

All three considerations are interrelated, since a recommendation for change envisions something better which can be put into practical use. At this Conference, the three points were interwoven in the welcome speech by Treasurer Mona Cross, the keynote address by John Downing, the introduction by Vic Paulsen, and the paper by Emmett Betts.

The first consideration, NEED, was shown by the papers of nine contributors: Abraham Citron, Elsie Oakensen, Derek Thackray, Alun Bye. Cautions against unscholarly tampering with present traditional orthography were contained in the addresses given by: Fergus McBride, George O'Halloran, B. G. Scragg, Robert Baker, and Philip Smith.

The second consideration, DEVISING AN IMPROVED SYSTEM, was shown with various ingenious ideas by eight contributors, starting with a color sound motion picture film prepared for this conference by Hugh Jamieson, followed by papers by: Walter Gassner, S. Bakowski, Katherine Betts, John Beech, Axel Wijk, S. S. Eustace, and David Moseley.

The third consideration, IMPLEMENTING A NEW SYSTEM, was given by two papers: Valerie Yule, and Helen Bonnema Bisgard.

-o0o-

[Spelling Progress Bulletin, Winter 1979 pp1–3 in printed version]

Report on the SSS Conference of 1979, part 2 by Helen Bonnema Bisgard, Ed.D.
The Conference was held at the new campus of Nene College, Northampton, situated among large trees in open fields with a distant view. The meeting started on Friday evening and continued all day and evening on Saturday and Sunday, on Monday morning and early afternoon recessing each day for morning coffee, afternoon tea, and a long lunch. Lively discussions were continued during the meal times with remarkable intensity and even at night at the student resident building where accomodations were conducive to group conversations.

One of the conferees was heard to comment rather ruefully that his family thinks these meetings of "alphabeteers" are futile. Nothing is ever accomplished. Someone else laughingly retorted that we do succeed in having a very good time. We are "birds of a feather flocking together' from distant lands to chirp about Eutopia. We are having just as much enjoyment as those people who spend hours with their bridge club or on bowling team perfecting their scores, or with their scientific society searching for artifacts in archeological diggings. Moreover, if our deliberations result in preparing the public to accept a change which will be of inestimable benefit to millions of school children, we shall have accomplished greater good than any of our hobby engrossed friends.

This does not imply that nothing demonstrable will result from the conference. A post-program meeting of the SSS members held July 31 considered action on the implementation suggestions which had been made, and will be discussed further in the Annual General Meeting held on Oct. 27th. These discussions and any action will be reported in the official journal, The Pioneer, and later in an issue of Spelling Progress Bulletin. By Spring we may have some more interesting news to report, which is at the present not finalized.

-o0o-

[Spelling Progress Bulletin, Winter 1979 pp2,3]
*[Valerie Yule: see **Book**, **Journals**, **Newsletters**, **Media**, Personal Views **10**, **16**, **Anthology**, **Bulletins**.s.]*

Proceedings of the Second International Conference on Reading and Spelling,
by Valerie Yule*

held at Nene College, Northampton, Eng. July 27–30, 1979;
sponsored by the Simplified Spelling Society
*Old Aberdeen, Scotland.

Several new and significant developments are well in evidence in the papers presented at the 2nd International Conference on Improving Spelling organised by the Simplified Spelling Society. There are, predictably, trenchant criticisms of present English spelling and its social consequences, and the presentation of schemes that would be easier to learn. There is also serious investigation of the meny and sometimes conflicting requirements of an optimum spelling system. It must be easier for children and foreigners to learn than our present spelling. It must also be acceptable to the present literate generation as an improvement, and easy for them to read and write; it must solve problems of modern technology in translating speech and print;, it must maintain the readability of present spelling into the future; and the transition must meet the essential requirement of costing very little but saving billions of pounds and dollars.

Most of the past arguments pro and con spelling reform has been at an armchair level, pundit agenst pundit, quote agenst quote, assumption agenst assumption. Meny reformers have concentrated on devising splendid new spelling systems incorporating accurate sound-symbol correspondences, hoping that these could take over society from a base of universal schooling or government decree. Such systems have not been adopted even to a limited extent.

The Conference papers, however, show a new desire for facts. All claims and assumptions about fluent reading as well as about learning, must be justified by experimental investigation in the marketplace and in the classroom, where the most elegant studies may be confounded. The emphasis is that the abilities and needs of the people who must use spelling as a tool are more important than the ideal neatness of schemes or arguments.

The papers covered three areas: the nature of present spelling and spellers, the necessity and feasibility of improvement in English spelling, and practical methods of investigating and implementing changes.

Following Prof. John Downing's introductory lead on the crucial significance of factors affecting human motivation for change, examples of this practical type of investigation are presented by linguists, educators, psychologists, and a sociologist. The study of spelling is seen as a complex behavioral science, not as an abstract or natural science.

Dr. Donald Scragg, the linguist historian, points out how much can be learnt from the history of English spelling, so that improvement can follow natural trends, e.g., in simplification and in the extension of principles by analogy. Dr. Robert Baker, linguist, criticises spelling reform proposals whose systems conform to the sophisticated linguistic intuition of experts, whereas it is non-experts who must use spelling systems, and he uses the terms 'democratic spelling', and the 'psychological reality' that spelling rules must have. Dr. Baker, with linguist Dr. Philip Smith, psychologist David Moseley, sociologist Prof. Abraham Citron, and psychologists Dr. John Beech and Valerie Yule, describe their experiments and observations on how children and adults understand spelling and the nature and bases of popular spelling mistakes, with their implications for the nature of reform that would be both efficient and practicable. Experiments on 'the sort of spelling you would like to have' now go beyond the sometimes misleading technique of simple questionnaire. It was

suggested, inter alia, that dictionaries that fail to accept some almost universal spelling 'mistakes' are in fact not fulfilling their descriptive function of accurate reflection of the status quo.

Dr. Smith and others consider the issue that optimum spelling may not be merely phonemic, but should take into account morphemics lexical, syntactic, semantic, and other actors, and describe some of their own relevant research. The conference emphasis in discussion was that the significance of all factors must be empirically demonstrated, and then they might be applied to achieve a more efficient spelling than we have at present, since English spelling is only spasmodically consistent in eny of these areas.

As Dr. Axel Wijk points out, the really important anomalous spellings for learners are in the 400,500 of the commonest words. It was suggested in discussion that each of these would could be subject to investigation as to whether eny of these non-phonemic grounds exist to justify their continuance as phonemically irregular spellings.

The 'regularity' or predictability of spelling to enable learners to read and write is investigated by educator Fergus McBride, who says that 'books on phonics have to be red to be believed,' and reveals how meny Scottish teachers teach spelling rules which the Scottish Council for Research in Education has condemned as inadequate. He examines the limitations of present spelling 'rules' for learners and for computers.

The advantages of consistent spelling for modern technological application are described by Dr. Helen Bonnema Bisgard, and recent applications of phonemic-spelling strategies in sound-spelling machines, film-dubbing and simplified shorthands were discussed. Altho quite simple computers can play chess, attempts to program the most sophisticated computers with sufficient rules for present English spelling have never achieved more than 50% accuracy, and big business is now resorting to the expedient of building English dictionaries into their machines — and so, perhaps building another vested interest agenst spelling reform. Meanwhile medical research lags in building similar dictionaries into human learners, so the usual 3 to 8 year program of rote learning is still required for all non-machines who do not have good visual memories.

A pragmatic approach also characterises discussions of arguments and evidence regarding spelling reform.

Prof. Abraham Citron describes the continuing problem of functional illiteracy and dislike of reading in English-speaking countries despite 9–10 years of expensive universal education and the multi-billion-dollar decade of the U.S. Right-to-Read Program, (and Hugh Jamieson, who sent a videotape as his representative, comments that the 30 best spellers out of 10,000 in a recent contest could not score better than 14 words correct out of every 15 — so what of the rest of the population?). Citron emphasises the detrimental effect of the hidden curriculum upon children of the authoritarian imposition of an irrational and inconsistent spelling that does not obey its own 'rules.' Vic Paulsen suggests, not entirely fancifully, that English spelling was not 'orthography,' correct. writing, but 'pathography,' a collective aberration that could be prosecuted under the laws agenst unfair monopolies, environmental pollution and sex discrimination.

Remedial specialist Alun Bye demonstrates some of the ingenious expedients used to help learners attend to and remember the letters in words since reason cannot be relied on to help them, such as 'wordles' that visibly show their meaning (e.g. detonate-exploding) and reading words backward for memorable effects (murder-red rum), a sad commentary on the expedients to which some teachers must go to enable some pupils to learn to spell 'difficult' words.

In contrast, Prof. John Downing summarises the over-whelming evidence that i.t.a. teaching proves that sound-spelling consistency makes initial learning easier and reduces failures. However Downing regrets the initial decision to use the script of i.t.a. since it was never designed as a stepping stone to spelling reform and is unsuitable for such extension.

Dr. Derek Thackray complements Prof. Downing's summary with the findings of his own research which shows that learning to read in i.t.a. requires less maturity of 'reading rediness skills' than present spelling, and so makes it easier and safer for children to start learning earlier, with all the advantages of early-reading experience.

Mrs. Elsie Oakensen discusses the feasibility of spelling reform, and outlines the classical arguments for and agenst improving the conventional writing system.

It is a significant comment on English spelling that so meny foreigners, contrasting it with the efficiency of their native spelling systems, try to invent better systems for English. English people learning foreign languages take it for granted that they can pick up the principles of say Italian or German spelling in an hour or so; foreigners get a nasty shock when they find that learning English spelling takes meny years. Consequently it is no surprise that three of the Conference members presenting their ideas about English spelling are not native speakers. Mr. S. Bakowski, formerly from Poland, and Dr. W. Gassner, from Germany both emphasise the impossibility of extending one's spoken English thru trying to read present English spelling and they put forward their ideas about how international and immigrant learning of the English language could be facilitated by clearer sound-symbol correspondence.

Dr. Axel Wijk of Sweden has always recognised the issue of reconciling the needs of learners and present users of English spelling. The Conference, saddened by Dr. Wijk's recent deth, greatly appreciated the presence of Mrs. Pia Wijk to read the last paper he had prepared for it.

Dr. Wijk has attempted to 'clean up' English spelling by regularising its major inconsistencies to accord with its major consistencies, thus leaving up to 90% of present spelling intact and making the learning of spelling a matter of learning rules. The transition to present spelling is to be made later, by learning the exceptions to the rules. The books he has devised to reach his 'Regularized Inglish' initial learning scheme were on display at this conference.

Two psychologists also attempted to tackle the question of 'transitional' spellings that children could learn easily and also the present literate generation adapt to easily. John Beech and Valerie Yule present similar attempts to find the minimum number of rules that would achieve maximum similarity to present spelling, with 65–80% of words in running text remaining unchanged. Yule puts forward a two-way approach to a transitional spelling — the techniques by which adult readers can reach it by modifying present spelling, and how children could reach it by modifying a simple phonemic initial learning system. The two speakers stressed the tenor of the Conference — that it is time for experimental research to turn from the morbid fascination of what's wrong with children who cannot spell, to what are the critical features of English spelling that can be changed to create the best effect with minimal disruption. The research on spelling which has produced so little in the way of 'cure' for bad spellers and poor readers could all be re-analysed with a human engineering approach aimed at making the spelling fit the people rather than vice versa.

George O'Halloran, in his experience with phonetic alphabets in The Gambia, found that pupils were able to read with ease the Kiriyo dialect when it was written in a script similar to our T.O. but when it was printed in fully phonetic script, it was difficult to read. This convinced him that an orthography should work according to the nature of its own orthography. A practical trial in the field or in the classroom is essential to testing the theories of the new orthography.

Both psychologists take a broad-band 'diaphonic' approach for the representation of speech sounds, as simpler to learn and making possible a standard international English spelling. Research is called for as to how symbols are used as conventions to represent sounds. Mr. Sinclair Eustace presents a scheme that has the single aim of representing eny dialect very precisely, and its demonstration of the need for a highly trained ear to use it shows that an accurate phonetic spelling and a generally usable spelling may not be the same thing. The moral of Prof. Betts' paper on the Graphic R in present spelling is, in fact that one spelling can hold together a wide variety of sounds with more practical convenience than inconvenience. The implications of Dr. Katherine Betts' discussion of definitions of the schwa are that it can provide controversy for linguists for years to come. The hearer might infer that while they continue to research on language, the use of the schwa in eny spelling reform might be better determined by research on people.

There are indeed, meny pointers that meny objections that have been put up agenst spelling improvement may be only bogeys after all — e.g., dialects, homophones, and the reliance of fluent readers on linguistic clues optimally provided by present spelling.

The Conference has not concluded with formal resolutions but with practical possibilities for future action:

- the encouragement of research and observation that rigorously tests out all armchair claims about requirements or advantages of eny spelling for English, and the support of bodies such as the Phonemic Spelling Council, whose work is described by Dr. Bisgard.

- evaluation of the use of initial teaching spellings. While it is proven that improving sound—symbol correspondence makes it easier to learn to read and write, what types of improvement would be optimum for all purposes?

- implementing John Downing's recommendation to follow the lines of positive motivation for spelling change, e.g. facilitating the trend toward practical, organic social change, the continual thrust of technology and commerce towards efficiency and economy, and the computerised printing techniques that can now cope with spelling change in the media.

- 'taking spelling to the people,' with recommendations such as the use of Lindgren's SR—1 in daily life, as a step causing less disturbance in the appearance of running print than the average newspaper's misprints. To stimulate popular interest and support, an annual Spelling Improvement Day is suggested — originally the idea of the former Australian Minister for Helth (sic), Dr. Everingham — with the date of Sept. 30 proposed, to make school involvement possible. Valerie Yule's paper gives ideas for possible activities on that day, as well as other publicity-oriented ways to promote active spelling reform. Vic Paulsen's recommendation for 'biliterate' publications, material for schools and public use written in both present spelling and an improved version, as in multilingual notices, could be a good means of introducing alternate orthographies as well as testing their viability. Paulsen was very active in planning and getting publicity for the Conference both in the U.S.A. and with the B.B.C.

The Third International Conference to be sponsored by the Simplified Spelling Society is planned for 1981, possibly in Scotland, on the theme 'Progress in Spelling Improvement.' Dr. Abraham Tauber's book on 'The History of Spelling Reform in the United States,' coming out late in 1979 or Spring of 1980, may by that time need another chapter.

-o0o-

[Spelling Progress Bulletin, Spring 1980 p2 in printed version]

Report on the 1979 SSS Conference,
by Kitty Furst.*
* NSW, Australia.

The writer enjoyed the Conference convened by the Simplified Spelling Society, which has been in existence for more than a half a century and is at present under the patronage of his Royal Highness, the Duke of Edinburgh. The Conference was attended by about 40 persons, at Nene College, Moulton Park near Northampton, England. It was held from July 27 thru July 30, 1979. In view of the large number of papers presented, it was necessary to limit each speaker to 25 minutes, with 15 minutes for discussions which followed each paper.

Thruout the English-speaking world one hears complaints about the ever falling standard of literacy. It would be futile to put the blame on educators or on the young people's lack of desire to learn. It is the system of traditional orthography itself which is to blame, with its inconsistencies and vagaries. Where a language is phonetic, knowledge of the sounds of the alphabet is all that is needed to be literate, whereas in a language which is so constructed that sounds and letters do not agree, school-children have to learn the written form of each word individually, with the result that it takes years to master the basic skills of reading and writing-time which otherwise would be utilized in order to gain knowledge in other fields.

Whilst most of the speakers favoured a reform of English spelling, a fair hearing was given also to traditionalists, who presented information on the frequency of certain spelling errors found with school children, and showed means and ways to overcome the difficulties of the existing systems, some of them very ingenious. But the very fact that one has to resort to elaborate devices clearly demonstrates that only a thoro reform of the system of spelling itself can bring about the advantages enjoyed by speakers of phonetic languages. The Initial Teaching Alphabet, devised by Sir James Pitman, is in fact, one of those stepping stones towards literacy in traditional orthography. Experiments have shown that when students are first introduced to a system that is based on phonetic principles (even if it is not perfectly phonetic), the ability to read is acquired with such a speed that switching over to traditional orthography these students are better readers than those who learned to read in traditional orthography right from the beginning.

Among the different systems of reformed spelling presented at the conference, there are some that tend to avoid radical changes and merely aim at abolishing certain glaring absurdities. There are others that emphasize the acceptance factor and only aim at dropping silent letters. The objections to these suggestions is that with such trifling amendments one fails to get at the toot of the matter. The new set-up would still require memorizing the written forms of each word individually. It is, of course, possible to frame rules which cover a large proportion — possibly a majority — of words and earmark for change of spellings those words which do not comply with the rule. This task was carried out in a scholarly fashion by Prof. Axel Wijk. Unfortunately he died earlier in the month and his paper was read by his widow, Pia.

An entirely different approach is based on the phonetic principle. As there are some letters, the alphabet is deficient and needs to be augmented. New symbols can largely be avoided by using digraphs for certain sounds as we do now but consistently.

Elaborate rules are difficult for the school child to master, and going beyond the limits of the Latin alphabet would cut off English not only from its past, but also from the rest of Europe as well.

Between the two approaches — the cautious one and the radical one — there should be a compromise. Such a compromise should, on the one hand, create a situation in which it is always possible to deduce from the written form of a word an acceptable spoken form and likewise, in most instances, to deduce from the spoken form of a word, its written form; on the other hand it should avoid introducing new symbols or unusual combinations of letters and, generally speaking, be based upon current practices as far as this is compatible with the principle of phonetic accuracy. A system in which phonetic accuracy, modified by practical considerations, is achieved leads to a situation in which a foreigner who is ignorant of the language in general, but has been taught the pronunciation rules would be in a position to read an English text presented to him almost faultlessly — almost, not entirely, because some aspects of pronunciation, such as sentence stress, cannot be shown, with the result that the reading of such an imaginary foreigner would be slightly pedantic, tho fully intelligible.

Some of the papers presented at the Conference demonstrated that the lack of logic inherent in traditional orthography stifles the power of reasoning in children and adolescents; dyslexia and some aspects of juvenile delinquency can be attributed to this factor. One of the speakers was Prof. Abraham Citron who went so far as to assert that traditional orthography is psychic child abuse, since the fundamental law of consistency does not apply.

In recent years, money has been decimalised in Australia and in Great Britain, and gradually the Metric system of weights and measures, as well as the Celsius scale on the thermometer are being introduced in English speaking countries, doing away with complicated systems which were discarded in other countries long ago.

It appears appropriate to point out that just as money, weights and measures have been simplified, spelling, too, could and should be simplified.

In two years' time there will be another conference on spelling reform — probably in Scotland. Supporters of spelling reform do not delude themselves into believing that spelling reform will come about quickly or easily. The public has to be educated in the merits of reform and the differences between the various schemes bridged. The hope, however, can be confidently expressed, that whatever emerges in the end will afford the maximum advantage to speakers of English as well as foreign learners, with the result that there will no longer be any cause for complaining about illiteracy or semi-literacy, since literacy will be within the reach of all, and no longer the prerogative of those who are endowed with a good mechanical or photographic memory.

Let us hope that the United Nations Education Council has the wisdom and foresight to endorse such a proposal because it should be right in the realm of their objectives.

-o0o-

[Spelling Progress Bulletin, Spring 1980 pp2–5 in printed version]

Abstracts of papers presented at
the 2nd International Conference on Reading & Spelling.

Baker, Robert G. *Spelling Reform and the Psychological Reality of English Spelling Rules.*
Proposals for reformed orthographies for English have generally been the brain-children of individual linguists or educators or of committees of such individuals. Thus such spelling systems conform to the sophisticated linguistic intuitions of the experts. The systems are designed, however, for use by non-experts and it is non-expert opinion which holds political sway in terms of the adoption and implementation of any proposed spelling reform.

An experiment is described in which linguistically naive literate native adult speakers are asked to reform the spellings of selected English words according to their own notions of orthographic rationality. Results are discussed in terms of the psychological reality of particular spelling rules and by implication the intuitive plausibility of particular dimensions of orthographic change. Subjects were also interviewed and asked to explain their behaviour toward spelling reform. Results provide a picture of attitudes towards English spelling and a framework of considerations which should be borne in mind by would-be spelling-reformers.

Bakowski, S. *Reading and Writing in English.*
A foreigner like myself is very much aware that learning English is like learning two languages — the spoken language and the spelling — and yet, in spite of this, what advantages English has might help it to be the international language of the world were it not for its unreliable spelling. In my own attempt to tackle this problem, I put forward a proposal I call system B, but since this is very different from what literate English people are accustomed to, a supplementary proposal, 'system Z', modifies system B by admitting move features of familiar spelling.

Beech, John R. *Some Proposed Principles for Simplifying English Spelling*.
There would be several advantages for everyone learning to read to changing our present spelling

system to make it more accurately represent our present pronunciation of words. However, there would be many problems with changing to a completely phonetic system.

The following guidelines for regularizing traditional orthography are proposed.
1. Where several rules apply, adopt the most frequent one.
2. Retain frequently used but non-phonetic combinations (e.g., -tion).
3. One should tolerate cases in which one letter, or a multi-letter combination may represent more than one phoneme.
4. Subtle distinctions in sounds should be ignored (e.g., s and z sounds should be represented by the common letter 's').
5. Ambiguous vowel sounds, particularly at the end of words, should be omitted.
6. Double consonants and the letter 'k' should be abolished.
7. In cases of spelling ambiguity, a spelling should be based on most frequent spelling responses by laymen.
8. Spelling reform should take place simultaneously over all English speaking nations and it should be made standard.

The aim of these guidelines is to retain as many as possible of the rules of traditional orthography but to employ these rules in as regular a fashion as possible. A system to which any adult can transfer without much difficulty is far more likely to be acceptable to everybody and consequently from the political point of view is far more likely to be implemented.

Betts, Emmett A. *Graphic R*.
Graphic r represents both consonant and vowel phonemes and, therefore, is a maverick for both phonemicists and orthographers. Hence, it provides frustration par excellence for educators concerned with phonics — the relationships between graphemes (spellings) and phonemes (sounds). Perhaps this and succeeding reports on graphic r will have served one primary purpose: to spotlight traps and, at the same time, to offer a rationale for regularizing spellings for beginners in reading.

Betts, Katherine P. Language, *Orthography and the Schwa*.
This discussion has focused on a somewhat exhaustive examination of the schwa /ə/: its definition, phonemic basis, occurrence in syllabic l, m, and n, morphophonemic alternations, variability in dictionary respellings, graphemic basis, and a mini-study of its interpretation in 48 proposed orthographics for English. However, the undercurrent of this discussion propels the schwa in terms of its broader implications for reading and writing. Thus the schwa has served as a classic example of several controversial facets of the English phonemic-graphemic system, as well as an example of the morphemic basis of English spellings. Also pondered upon — but briefly — have been the effects of syllable and phrase stress on English phoneme-grapheme relationships which shift in discourse (as they should). Furthermore, syllable and phrase stress combine with pitch and juncture to form the melody — or intonation — of language.

Consistency and simplicity of phoneme-grapheme relationships in the English language are viable objectives, worthy of pursuit, particularly for the beginner attempting the acquisition of reading and writing skills. That English spellings are notoriously complex in their representation of speech, is a valid premise. That several languages (e.g., Spanish, Greek) have a more nearly consistent phonemic representation in their writing systems must also be accepted. However, a one-to-one phoneme-grapheme correspondence is a goal in conflict with the melody of the English (or most any other) language and the many dialects it represents.

In any event, may our efforts be guided by empirical evidence in the classroom, by professional objectivity, and by the practical application of a sound theoretical structure. To bring complex, worthwhile goals to fruition requires the collaborative efforts of many and, above all, a genuine concern and love for mankind.

Bisgard, Helen B. *Modern Technology and Spelling Reform.*
The introduction mentions the significance of certain developments in the past 100 year history of the Phonemic Spelling Council and its antecedent organizations as they encouraged investigation of all aspects of phonemic spelling of the English language. The Council's recommendations for making easier the learning of writing and reading range from merely making initial learning of standard spelling emotionally satisfying to promoting permanent reform for public acceptance as soon as possible.

The likelihood of the computer's causing this change is exemplified by the reading machine for blind people now available in a few libraries thruout the nation. A reverse process may perfect a device which will "hear" spoken messages and write them on paper using phonemic spelling. Such a system of spelling would become familiar and eventually acceptable to the public.

The standard of pronunciation used by the machine will be the generally accepted one now used by a dictionary. This is the General American speech used in Voice of America world-wide broadcasts.

The task of organizations such as the British Simplified Spelling Society and the Phonemic Spelling Council is to assure the certainty of success. A strategy must be developed for becoming experts in computer linguistics.

Bye, Alan. ***The Teaching of Spelling.***
Working from the premise that many poor spellers have poor powers of visual memory and visual imagery for words, this paper suggests some principles for training these subskills by teaching careful word study and encouraging the use of spelling mnemonics.

Citron, Abraham F. and Jones, Cloyzelle K. ***Traditional English Orthography as Psychic Child Abuse.***
In the international year of the child we should look more insistently for the sources of the difficulties which block great percentages of children in English-speaking lands from learning to spell, to write and to read.

The law of consistency or of reliability is basic to all learning. We are consistent with almost all symbols (traffic, directional symbols, time-telling symbols, musical notes, numbers, etc.) which we desire children to learn. Only in our orthography do we abandon consistency; and it is precisely here that we encounter grave academic problems.

Through a long and varied development, English orthography has evolved into a form which too often abuses the basic alphabetic intent and purpose of its origin, which is signifying or calling forth the sounds of speech.

Three main defences of inconsistent spelling are put forward by the reading establishment: the dialectal argument, the etymological argument, the lexical argument. Under scrutiny, all of these arguments collapse. Experience with i.t.a. and with Unifon demonstrates that children learn to read more easily, with lower failure rates, with regular orthographies, than children using traditional orthography.

Insistence on the maintenance of traditional spelling as a necessary guarantee of high level written communication constitutes a huge educational hoax.

Pounding irrational forms into the heads of children is not education; it is the action of a mindless tradition acting with iron authority. Stripped of its elaborate traditional rationalizations, this practice can be recognized for precisely what it is, a form of child abuse.

Downing, John. ***Research on Spelling Reform*****.**
The members of the Simplified Spelling Society are united in their belief that the traditional orthography (t.o.) of English should be simplified, but they are divided in their ideas about the manner of the simplification. Research in human psychology can help the Society in two ways: Psychological research findings contain the proof that the general objective of simplifying English spelling brings great benefits in the education of children whose mother tongue is English and in the teaching of English as a second language.

Psychological research on human motivation can be used to plan a practical strategy for spelling reform that will satisfy the divergent views of different members of the Simplified Spelling Society. This paper will summarize the evidence on both of these matters.

Eustace, S. Sinclair. ***Ess Ess Ess Fonik.***
A phonetic system of representing unambiguously all the sounds of European languages by means of letters available on typewriters. Not intended as a system of reformed spelling.

Gassner, Walter. ***On the Cboice of the Right Symbol*****.**
The English language needs a reform of its orthography because at present there is no reliable relationship between the sounds and the letters. To those who, in principle, support reform, but wish to tread warily, it has to be pointed out that it is not enough to concentrate on certain glaring

absurdities. If there is to be a reform, it has to be a thorough going one, a reform that creates a situation in which it is always possible to deduce from the written form of a word, an acceptable spoken form of that word, and like-wise — subject to certain qualifications — to deduce from an established spoken form, its written form.

With all the disadvantages it exhibits, traditional orthography can still serve as a basis for a reformed system that complies with these requirements. In this reformed system, only the letters of the Latin alphabet are used.

It is sometimes argued that indicating the pronunciation is not the sole purpose of writing, and that etymology and the way in which words are related to each other should be decisive factors. But if spelling is to provide certain additional information, it should never do so at the expense of its chief duty — that of indicating the pronunciation.

The fact that certain words have different meanings in different contexts is sometimes a disadvantage. With regard to cases in which traditional orthography does not discriminate between them, it has to be borne in mind that a spelling reform cannot do away with all disadvantages; it should solely aim at doing away with the disadvantages that are due to the unphonetic character of traditional orthography. But the reform should not create new disadvantages that cannot be anticipated.

It should not be advisable to introduce spelling reform in a large number of small steps, for this would, on every occasion, require reprinting of dictionaries, etc. and would render obsolete all matter previously printed. This is too much of a handicap to overcome.

Jamieson, Hugh V. ***One Sound-One Symbol: the Sensible Solution to Simplified Spelling*****.**
What is functional literacy? According to one modern dictionary, it is the ability to read well enough to function in a complex society. A functional ability in mathematics, citizenship, science, and health has, by the very nature of things, to be accomplished by a functional use of reading and writing. However, the broad use of misfunctional symbols to form words has been a tormenting handicap during the whole development of language.

A child is born with an amazing instinct for logic, starting with how he gets his first meal and lasting until he begins learning to write words he has just learned to speak. From then on he is forced to cultivate illogic by our present spelling system. By a 30,000 word count in' One Sound-One Symbol' dictionary, it is shown that there are over 60,000 misuses of symbols in our present spelling system.

That is why it takes from kindergarten through high school for the average child to become functional in reading and spelling.

I have discovered that our alphabet has an even 40 symbols that are each recognized universally for one particular sound. Unfortunately, they are used so very often for other sounds in other words that our spelling has to be learned by rote and not by a system.

In this presentation, I will describe a workable 'One Sound-One Symbol' system for spelling the English language.

McBride, Fergus. ***Phonographic Relationships in English Spelling and their implications.***
Simplification of the writing system is required much more from the writer's point of view than the reader's. Experienced readers of traditional orthography can cope with almost any innovation using the conventional alphabet because, in reading, we have cues from a variety of levels to draw upon in order to get the message. By contrast, in writing, the cues to "correct" spelling are few and unreliable. The difficulties in spelling arise when one has to make a choice between alternatives which are acceptable on phonemic grounds. The existing rules, commonly thought to assist the

speller in making these choices, cover a minimal number of cases are invalid (i.e. do not operate) in even a majority of instances, and in addition are difficult to understand and apply. Almost 70% of Scottish teachers use them. Interestingly, the rules covering the inflexions are generally dependable. The morpheme referenced rules are more useful than the phoneme referenced ones.

We can determine the spellings which present most difficulty, i.e. where there are plausible alternatives. We must either produce effective rules (I've found this impossible), or reform phonemically.

More generally, we need much more communication between reformers who tend to be isolated with tunnel vision concentrated upon their own ideas or spelling system. Conferences may help to do this. Is it too early to ask for a Government Commission to hear views and reach a consensus? Could we prepare a questionnaire for reformers on their views on major issues such as gradual or all at once?, representation of the schwa?, additional letters to the alphabet, etc. in order to get a consensus upon which way to "progress."

Moseley, David. ***Patterns in Pupil's Spelling Errors.***
[Abstract not available.]

Oakensen, Elsie*. Is Spelling Reform Feasible?*
The origin of spelling: Originally spelling was the true matching of spoken sounds each with a different symbol. It began when symbols were first used to represent sounds instead of pictures.

English is a composite language. Although the individual spellings which have been incorporated from other languages may have been systematic, they are incompatible with each other.

English, although richly endowed with many advantages has, in comparison with other languages, one serious defect — its unphonetic spelling. One letter may vary in many ways with regard to its pronunciation, while one particular sound may be spelt in an equally large number of different ways.

Additionally every letter of the alphabet is silent in some words.

Four definite advantages are seen for a reform of our spellings. The opposers of spelling reform see five insuperable obstacles to its use. The proponents of spelling reform offer in rebuttal six arguments. But still there is the problem: if it were decided to introduce a reformed spelling, which type of reform would be selected, and how?

O'Halloran, George. ***A Pedagogical Purview of Orthography*.**
The English language has long been used as a means of class discrimination, until this century when it was decided that all (or nearly all) children ought to be able to read and to spell. A spelling reform would make it easier for children to learn reading and spelling. But which pronunciation should the new spelling be based upon? It seems unlikely that there will ever be a unification of the various dialects of English.

If we were to change to a phonemic script, could we retain the diaphonic property of the present English spelling? The author's experiences in The Gambia in trying to devise a phonemic script are detailed. His theory is that the later in its development a language is written down, the better for all concerned. English was probably written down too soon. He also thinks that a phonemic reform would contain in itself the germ of the dissolution of the English language.

Paulson, Vic. *The Cultural Impediments of English Orthography*.
Inspired by the failure of the Federal Government's ten-year "Right-to-Read" program, this paper by the designer of TORSKRIPT is a comprehensive package which

(1) relates English illiteracy to the so-called "correct spelling" now in use,
(2) traces that "system's" historic origins,
(3) analyzes the nature of its deep-rooted investiture, and,
(4) presents novel strategy for displacing it.

Evidence is presented to support the author's proposition that conventional spelling is a pathogenic reflexive cultural entity that makes prisoners of those conditioned by it. The incapacity to escape from that bondage is classified as a collective mental disorder of societal proportions. A psychotherapeutic approach to the dispersal of it is suggested, beginning with the use of the clinical term "pathography" to describe conventional spelling.

Three additional steps in the strategy are as follows:
(1) large-scale comparative tests of a variety of alternative writing systems designed for Modern English.
(2) A dynamic legal attack against conventional spelling as exclusive usage, on the grounds of anti-trust violation, environmental pollution, consumer fraud, and sex discrimination.
(3) The publishing of vital public information in bi-literate form, with an improved alternative writing system side-by-side with the old.

The author does not mention any particular alternative system.

Scragg, D. G. *Analogy in English spelling*.
English orthography has a history of ten centuries — longer than any other language using the alphabet. English spelling has grown organically — not haphazardly. Understanding how our spelling evolved betters our chances of seeing why it went wrong, and how to right the anomalies it contains. Analogy is a powerful factor in language — especially so in spelling. Spelling errors are often due to analogy. Analogy is sometimes blamed for interfering with etymology, and correctly so. Visual links to closely related words are important but some such visual links to the past have outlived their usefulness. Wijk has applied the principle of analogy systematically and this author applauds it. But analogy must be applied with caution and scientific study.

Smith, Philip T. *In defence of conservatism in English spelling*.
This paper reviews recent psychological studies of reading and spelling. It will be argued that, on the evidence available, the best characterization of the reading process is one where the reader creates many different levels of linguistic representation in the course of reading the text (phonetic, morphemic, lexical, syntactic, semantic, etc.). Because English orthography contains information pertinent to many of these levels (unlike a phonetic alphabet, which, by definition, provides only phonetic information), it is suggested that current English spelling is of more help to a fluent adult reader than, most of the alternatives offered by spelling reformers.

Thackray, D. V. *The Effects of a Simplified Spelling on Children's Readiness to Read.*
Lack of experimentation in England until recently was due to a lack of published reading readiness tests.

In the author's first experiment, the earlier reading readiness results were correlated with the later reading achievement results, visual and auditory discrimination correlated significantly with later reading achievement.

Because of its simplicity in its visual and auditory characteristics, protagonists of i.t.a. have suggested that children using i.t.a. should be ready to read at an earlier age than if learning to read

with the more complex t.o. The author, knowing of the importance of visual and auditory discrimination for reading readiness, investigated this hypothesis using 300 children in 16 schools over a period of three years.

Matched groups of i.t.a. and t.o. children were established.

The results showed that children learning to read with i.t.a. were ready to read six months to a year earlier than the t.o. children. The Bullock Report was discussed.

Wijk, Axel. ***The Right To Read.***
It is suggested that an experiment should be undertaken to test whether English reading and writing can be caught more efficiently and successfully by the aid of the proposed new method than by the various combined Whole-word and phonic reading schemes that are now in general use. Owing to the confused spelling system, a large proportion of English children experience immense difficulties in learning to read. In this connection, we should further draw attention to the "Right to Read" movement in the U.S.A.

An approach to the reading problem which will enable children to learn to read more or less exclusively by the aid of phonics methods is by the aid of a regularized spelling. Regularized Inglish Spelling offers such a possibility, and deserves a full investigation.

The reading scheme consists of two parts: Book One for the introductory stage and Book Two for the advanced stage. Each book indicates the phonic details in the progress of the reading ability of the pupils. The Manual is written in Regularized Inglish so that the reader can see that anybody who can read traditional English can easily read in the new regularized form.

Yule, Valerie. ***A Transitional Spelling Reform for Adults and Learners*****.**
The scheme recognises the need to find the 'best fit' spelling for the sometimes conflicting requirements of learners, machines and fluent users, the educated elite and the 'educationally handicapped,' native speakers and second language learners, the changing English language and the maintenance of continuity with present English spelling.

A very simple initial learning spelling follows the lines of World English Spelling. Learners then progress to a Transitional Spelling which achieves a regularised approximation to conventional English spelling by modifying Lerner's Spelling with 12 rules and 12 sight-words.

Transition Spelling is immediately readable by today's readers, and as with Lerner's Spelling, the rules can be programmed for electronic machines. It can be introduced into print and learnt for writing, in four straightforward stages which, if unmodified by the 12 rules, would lead directly to Lerner's Spelling. As it is reform by stages, it can begin now, with Harry Lindgren's SR-1, and later forms can be modified as research and experience determine.

The full schemes includes proposals for more effective techniques to teach reading and writing once present unreliable spelling no longer complicates 'the reading process.'

Yule, Valerie. ***The Practical Matter of Implementing Spelling Reform*****.**
Spelling reformers must consider the needs, attitudes and abilities of the people who are to use a reformed spelling. A theoretically perfect phonemic spelling might prove impracticable for general and technological use even if public resistance to its introduction were overcome.
This paper looks at aspects of 'the psychology of spelling' — practical criteria to consider in designing a more efficient orthografy and planning its introduction, with techniques of consumer education and marketing.

-o0o-

[Spelling Progress Bulletin, Winter 1979, pp19,20 in printed version]
*[Donald Scragg: see **Journals**.]*

Analogy in English Spelling,

by D. G. Scragg.*

*Instructor, Univ. of Manchester, Manchester, Eng.
Presented at 2nd International Conference of S.S.S. at Nene College, Northampton, July 29, 1979.

It is my contention that for any effective improvement to be made in the efficiency of our spelling system, there must be very full information not only on the way in which we use the orthography today (which is what most of the papers given at this conference are concerned with) but on the way in which our system has developed over the past ten centuries. The major problem with English spelling, after all, is that it has a longer history than the spelling of any other language using the alphabet — there is a longer continuous history of writing in English than there is in any other European language. We cannot — and should not — ignore this history, but we may learn from it.

English spelling has grown organically — not haphazardly, as some have supposed — over the centuries, and clearly some of its developments have been advantageous (for example, an alphabet of 26 characters is obviously better geared to a reflection of speech patterns (if that is the desired aim) than is the alphabet of 24 characters which was all that was available to Shakespeare). I believe that the more we understand about 'how our spelling system evolved, the better our chances of seeing why — not just how — it went wrong, and the more successful we are likely to be in putting right those anomalies which we all recognize that it contains. Four years ago at the first conference I talked about the way in which English spelling stabilized into the present system whereby we have a single fixed form for each word (with a very few exceptions). Today I intend to examine with you some of the effects of one particular linguistic factor — analogy — on spelling of different periods, and I hope to be able to show how we could capitalise on it in our efforts to improve the efficiency of our written language.

First let me explain my specialised use of the term analogy. Linguistic analogy is the influence exerted by the use of language in one context on another in which it is historically inappropriate. To explain by means of an example: the historical plural of staff (a stick or long narrow piece of wood in its original meaning) is staves, but this plural involves a considerable disruption of the sequence of the sounds of the singular the replacement of a simple vowel by a diphthong /eɪ/ and the alteration of /f/ to/v/. Most English words form their plural by adding s, so by analogy with the majority pattern in the language, a new plural staffs was formed. Staves as a plural was reserved for situations in which the word in its original sense was regularly used in the plural, e.g., a fence is made of a series of upright sticks orstaves. When you pick out one of these, it is called a stave — by analogy of the fact that to form a singular in English you normally simply take away the s. So here we have two new words created in the language: staffs and stave — both created by analogy.

Analogy is a powerful factor in many areas of language, not least in spelling. We all know how children make spelling errors by applying to one word criteria for spelling which are strictly applicable to another. Hence because the sound /ɔ/ is spelt or in /or/ itself, why not cort or bort? This is spelling by analogy. Equally, on the analogy of *bought, caught, daughter, fought, naught, sought*, and *taught*, all of which have the sequence *a* or *o* followed by *ugh*, why not *pought* for *port* or *waughter* for *water*? A child acquiring the tortuous (or taughtuous) technique of modern British spelling has no inhibitions about such forms, but he is normally weaned away from them to the conventional spelling of the printed word. If in doubt, he turns to the dictionary for the generally agreed and acceptable form. Now dictionaries are a relatively new invention. There was no attempt

at an all-inclusive lexicon of English before the 18th century, and consequently before such a complete catalogue of all words with their fixed spelling was achieved, it was much easier for an individual word or a group of words to be influenced by a prevailing fashion or popular analogy. Writers had no dictionaries to stifle them. English borrowed the word *delight* from French. The French spell it (or did when they used it) *-ite*. But in English, words with the sound sequence /aɪt/ are more rarely spelt *ite* than *ight* (c.f. *might* is commoner than *mite, sight* commoner than *cite* or *site*, and there is also *bright, fight, fright, flight, light, height, night, right, tight*, against *bite, kite*, and *quite*), so by analogy we have come to spell *delight* with *igh*. Frequency of use of a symbol (however cumbersome that symbol may be) is an important factor here: it is the basis of Prof. Wijk's proposed reform.

Analogy, however, need not be confined, in the case of borrowed words like *delight*, to the recipient language. The first man to write *delight* as we do did so because he was thinking of the sound sequence which is also found in *light*, but many of his contempories in the 16th century were less interested in the echoes of the written word in the spoken language than in the reverberations from other written contexts. Lots of words we use are what might be called literary words, in that they are more often encountered in written language than in speech. I suppose *analogy* is a good example. In the 16th century English prose, especially the prose of the technical language such as that of science, medicine, learning generally, was still in its infancy. Most learned works were written in Latin. When a writer used English, he was aware that all his more literate audience was familiar with Latin, and hence when he created a literary echo in his reader, he was as likely to do so in a passage of Latin as in a passage of English writing.

Today it is sometimes said by opponents of spelling reform that it is useful to have visual links between related words. The linguistic philosopher Noam Chomsky has used the example of the pair *doctrine, doctrinal*. 400 years ago, a similar visual link was created by inserting an excrescent and entirely unpronounced (perhaps unpronounceable) *b* into *debt* and *doubt* to show their association in meaning with such Latin words as *debitum* and *dubitare*. Let us take note of the fact that writing is not a simple reflection of speech — writing has no way of symbolising patterns of intonation and has very inferior devices for denoting the variations of stress and pitch practised in speech. But, in a form of compensation if you like, writing has this ability for creating visual echoes which speech lacks, and spelling reformers will ignore this aspect of written language at their cost. What I would say, however, is that visual echoes of Latin are useful only when it can be guaranteed that the readers of English are equally fluent readers of Latin. Such is not now the case and I would say that the *b* in *debt* and *doubt* has outlived its purpose.

However, there are instances of the practical operation of analogy. Take the verbs *could*, *should* and *would*. All three have a silent l. In two, *should* and *would*, the *l* is etymologically acceptable in that these are historically the past tense forms of *shall* and *will*, in which *d* is added much as it is in *walk*, *walked*. As in *walk*, pronunciation of the *l* has been dropped since the word acquired its fixed written form. But *could* is a different kettle of fish entirely. Historically, it is the past tense of *can*. It acquired its very different pronunciation through a complicated series of changes which began some centuries before the birth of Christ, but at no time did anyone ever pronounce *could* with any of the sounds we normally represent by l (except perhaps in error). In this word, *l* is an analogical spelling, introduced by association with *should* and *would*. But is it not a useful association? After all, these three words are unique in the sense that while they carry no lexical meaning (they have no referential meaning which a dictionary can define, as it can say with *horse* or *ride*), they do have a distinct grammatical meaning (they are modal auxiliaries — not indicating an action as a lexical verb like ride may do, but a subject's attitude to the action: *could ride, should ride, would ride*). In this sense it is perhaps useful to have them marked off, by their visual form from the general run of written forms.

Let me return finally to Prof. Wijk's Regularized Spelling which I briefly referred to earlier. He has applied the principle of analogy systematically and I take this opportunity of applauding his system publicly. I offer only two thoughts on it.

The first — and this is very obvious — is that the success of any system based on analogy depends wholly on the point of the analogy. In other words, if the statistical survey on which the analogy is based is insufficiently broad, then the disturbance of the conventional system will be out of proportion. (A simple example — I showed at the beginning that there are more words in English with the sequence *ight* representing the sounds /aɪt/ than there are words in *ite*. But this does not take into account the frequency of occurence of such words, and in order to arrive at a proper estimate of the frequency of occurence, you have to choose your sample very carefully. The word *light* will occur more often in War and Peace than the noun *kite*, but this alone is not enough to prove that it is of more frequent occurence in the language as a whole. Conversely, readers of Enid Blyton may be more familiar with *kites* than with *fighting*.)

Secondly, I should like proposals for spelling reform to take account of what technically I call morpho phonemic rules. My example of *could, should, would* falls into this category but perhaps it is simpler to see it in the plural marker in nouns: in speech, we have three regular plural markers depending on context. /s, z, -ɪz/ in *cats, dogs* and *horses*. Would it be wise to have three differing markers in writing, or is it simpler to have just one?

The moral of my tale (let me stress it again): there is more to writing than a simple reflection of speech.

-o0o-

Editor's comment:

Something simpler is not necessarily better. In this case, simpler to him (the author) means keeping the status quo, even tho it fails to suggest the proper pronunciation. If a pupil is going to be taught to sound out words according to the pronunciation indicated by the spellings, then failure to indicate this, as in T.O., must cause failure on the part of the pupil to understand the proper pronunciation. And this will cause confusion. How can a pupil be taught pronunciation when many words only partly indicate pronunciation? Which is more important — that a beginner learn the derivation of words thru morphophonemic indicators, or that he learn how to pronounce words properly?

Morphophonemic indicators, such as the silent l in could, etc., are not helpful to learners. They are not helpful to teachers either. They are harmful because they interfere with teaching by phonics, and they are not useful to the teacher in teaching morphophonemic relationships because they are unreliable in this extent. Also a reform along morphophonemic lines would mean very little reform. And this kind of a reform would still be so unphonetic that it would be no help at all to the beginner. Actually it would still offer all the confusing anomalies now handicapping learners. Only in the fourth or fifth grade could such rules be of the slightest help — too late for learning reading — if indeed it was any help at all.

-o0o-

[Spelling Progress Bulletin, Spring 1980 pp8–9 in printed version]
*[John Downing: see **Journals**, **Newsletters**, **Anthology**, **Bulletins**.]*

Research on Spelling Reform,

by John Downing, Ph.D.*

*Victoria Univ, B.C., Canada.
*A talk presented at the 2nd International Conference on Reading and Spelling by the Simplified Spelling Society at Nene College, July 1979.

Psychological research can help spelling reformers in three ways. Firstly, there is a substantial body of scientific research evidence that supports the view that a Simplified spelling of English would bring very great benefits to children's education in the English-speaking world. Secondly, research shows that simplification would improve the effectiveness of students learning English as their second language. Thirdly, the psychological study of human motives for changing spelling conventions or preserving them provides guidelines for spelling reformers' strategies.

1. English-speaking children's education.
Debates in the British Parliament led the Minister of Education to give her support to a scientific experiment to test the effects of simplifying English spelling. The experiment was conducted by England's two foremost educational research organizations: the National Foundation for Educational Research and the University of London Institute of Education. The experiment was conducted in a large number of state schools in England, Scotland, Wales and Northern Ireland.

The experimental classes used a simplified spelling of English and their progress was compared with control classes using the traditional orthography of English. Both groups of schools used the same reading books and teaching methods. The two groups of children were matched in intelligence, social class, and several other variables. The only difference between the two sets of classes was the way in which their reading materials were printed — the experimental group's in simplified spelling, the control group's in conventional spelling ' This research was probably the largest and best controlled scientific experiment ever conducted in British education. It was also one of the longest. The same children were studied for five years. The detailed description of the experiment was published in one of my books (**Downing, 1967**).

The results of the experiment were quite unequivocal. The children using the simplified spelling made much more rapid progress in learning to read, write and spell. The incidence of failure in reading, writing and spelling in the experimental group was less than half of that of the control group.

The conclusion from this large scale scientific research is inescapable. The traditional spelling of English is a very serious cause of failure in the development of literacy skills. More than one half of the children who are failing in their school work today would be saved from this disaster if English spelling were simplified. (For detailed statistics see **Downing, 1967**, **1969**, **1977**; and **Downing and Latham, 1969**).

2. English as a second language.
Several scientific studies have been made of the effects of simplifying English spelling on students learning English as a second language. For example, **Abiri's (1969)** subjects were 1000 Yoruba-speaking children in Nigeria. The half of these students who learned English in simplified spelling were significantly superior to the half that learned with the conventional spelling. Several studies in Britain and America with non-English speaking minorities have confirmed the conclusion that the traditional spelling of English is a serious handicap in the teaching of English as a second language. (For a detailed review, see **Downing, 1979**).

3. Strategies for spelling reform.
A psychological analysis of the spelling behaviour of English speakers over the past ten centuries reveals the causes of changes and stabilities in English orthography.

There is a strong desire for stability among producers of books. The desire is based on the belief that readers prefer to find a word always spelled the same way. The first period of stability was in the West Saxon standard for old English in the reign of King Edgar (959–975). It was a period of economic prosperity and peace. Books were in demand and the masters of the scribes maintained strict conformity to the phonemic spelling of English of that time. This stability fell into ruin when English ceased to be the language of power, following the Norman invasion. Then, about, 1430, English revived through its use in the Chancery. This revival was accompanied by revisions to make English more phonemic. But it was far from stable. It was Mulcaster in 1582 who argued for the level of stability of English spelling that we know today. He proposed that words which already had a stable spelling should continue to be spelled that way. But words that were spelled in a variety of ways should be given a fixed spelling. The most phonemic spelling among the alternatives should be chosen. However, Mulcaster accepted non-phonemic spellings that were reasonable analogies with other stable spellings, and he also considered that homophones should not be homographs. Cooke's spelling primer of 1596 brought about the stability of English spelling that Mulcaster sought. By 1700 stabilization was complete, and it only remained for Dr. Johnson's dictionary to record what the printers and publishers had already accomplished.

The important psychological point here is that there is a strong motive for stability of spelling in periods of peace and prosperity when books are in demand. But note that the basic motive is economical. Publishers and printers want stability of spelling because they want to sell their books to readers who prefer such stable spellings. As we shall see below, if other economic factors becomes stronger than the desire for stability of spelling, then stability will be sacrificed.

Therefore, let us consider what has caused changes to occur in the history of English spelling. Seven motives for change can be traced:

(1) *Immediate financial gain.*
In the Middle Ages, lawyers' clerks were paid for their writing by the inch. As a result, words were given longer spellings and the clerks got paid more.

(2) *Aesthetics (a) tidiness.*
Alternative spellings were used for the same word in order to achieve a near right-hand margin on the page (for example, *pity, pittie*, etc., according to the amount of space to be filled).

(3) *Aesthetics (b) fashion.*
For example, the letter *z* has always been unpopular. Hence, the sound /z/ is often spelled with *s*, for instance.

(4) *Etymology.*
Spelling words to show their linguistic origin has long been a motive for modifying English spelling. But it was especially prevalent during the Renaisance. Unfortunately it led to so many etymological errors that modern English spelling is an unreliable guide to the origins of English words. Nevertheless, etymology remains an important argument against spelling reform, despite its invalidity.

(5) *Visual morphemes.*
A number of English spellings are deliberately non-phonemic. For example, *ed* for past tense and *s* for plural have been consciously introduced as being more useful than phonemic spellings in these grammatical contexts. The avoidance of homographs for homophones also was a deliberate decision by Mulcaster, for example, *rite, right, write, wright*. Also some other interesting visual morphemes seem to have developed through unconscious motivation. For example, when Caxton had the monopoly of printing in England, he changed many *g* spellings into *gh*. "Girl", "goose", "goat", "ghost", and "ghastly" were all spelled with *g* before Caxton. Caxton spelled them all with *gh*. As more competing printing presses were introduced, the *gh*'s reverted to *g*'s — but a few words kept Caxton's *gh*, for example, *ghost, ghastly, ghoul, ghetto*. They all seem to have some connection with the emotion of fear.

(6) *Domination through language.*
The year 1066 marked the beginning of the ruination of the stable English spelling of the Saxons. The scribes' customers became less and less interested in written English and more and more interested in written French. English spelling consequently was neglected and many errors crept in that have been preserved to the present day. From the truly conservative point of view, today's spellings of *monk* and *cinder* are errors. The original spellings were *munk* and *sinder*. The domination of French over English during the Norman period produced another curious anomaly in English spelling. As the Norman rule became settled, many educated people in England became not only bilingual but also biliterate. Therefore, there was no reason to change French spellings into English spellings when a French word became adopted into English, the biliterate could read the French words in an English text. Thus, unlike most other languages, it became traditional in English to preserve the foreign spellings of words adopted into English.

(7) *Simplification.*
Throughout the past one thousand years of English spelling, there have been recurring demands for its simplification. The most frequent change that has been demanded is a return to a more phonemic representation. Also changes that have actually occurred have often been phonemic.

These are the chief motives that have inspired changes and preservations in English spelling during the long history of its development.. Despite the rather lengthy period of stability that English orthography has experienced till lately, we should never overlook these dynamics. English spelling has changed frequently in the past and the same forces for change are all around us still today.

Two currents of change are clearly discernible.

Firstly, Harry Lindgren's S.R.1. proposals are becoming increasingly popular and have found favour among teachers of English in Australia. Here, we see the age old demand for a return to the simple phonemic spelling of the Saxon English of a thousand years ago.

The second wind of change that is blowing up may become gale force. That most powerful motive of all is stirring again — the economic one. Graham Greene has proposed a page in the *Times of London* for the *Guinness Book of Records* for its huge number of spelling errors. Why so many errors? Why is stability of spelling collapsing? Because the stability of conventional English spelling is becoming economically unfeasible. Money is being saved by computerized typesetting and reduction in proof-reading. Thus the desire for stability of spelling is being set aside to save money.

Spelling reformers can use this knowledge of human motives for change and stability in spelling to plan strategies for bringing about that simplification of English spelling that scientific research has shown to be necessary for improving English language teaching.

References.

1. Abiri, J.O.O. (1969), "Using w.i.t.a. and standard orthography in teaching English reading in Nigeria." *Reading Teacher,* 30, 137–140.
2. Downing, J. (1967), *Evaluating the Initial Teaching Alphabet.* London: Cassell.
3. Downing, J. (1969), "New experimental evidence of the effectiveness of i.t.a. in preventing disabilities of reading and spelling." *Developmental Medicine and Child Neurology*, 5, 547–555.
4. Downing, J. (1977), "The probability of reading failure in i.t.a. and t.o." *Reading*, 11 (3), 3–12.
5. Downing, J. (1979), "Results of teaching reading in i.t.a. to children with cognitive deficits." *Reading World*, 18, 290–299.
6. Downing, J., and Latham, W. (1969), "A follow-up of children in the first i.t.a. experiment." *British Journal of Educational Psychology*, 39, 303–305.

-o0o-

Preserving traditional orthography is only essential to prevent poor people from getting a good education and taking away good jobs from us well-educated people who think we are so superior to the masses of people. N.W.T.

-o0o-

[Spelling Progress Bulletin, Winter 1979, pp6–18 in printed version]
*[Emmett Betts: see **Anthology**, **Bulletins**.]*

Graphic R,

by Emmett Albert Betts, Ph.D., LL.D.*

*Winter Haven, FL, U.S.A.
Presented at Nene College, Northampton, England July 27–30, 1979, International Conference of the Simplified Spelling Soc.

Table of Contents.

Graphic R: Phonemic Situation.
In this report, consonant *r* and vowel /ər/, stressed and unstressed, are emphasized. Furthermore, diphthong /är/ is considered in some detail. The following *r* situations — as applied to General American speech — are delineated to reveal some grapho-phonemic dimensions:

1. Consonant r, as in *red, bread, street*.

2. Vowel /ər/, stressed, syllabic (*fern, hurt, shirt*) and unstressed, syllabic as in *mother, harbor, dollar*.

3. Centering Diphthongs.

/är/ as in *star*	/ur/ as in *poor*
/ar/ as in *carry*	/ir/ as in *spirit*
/iər/ as in *here*	/īr/ as in *fire* (tripthong)
/aər/ as in *pair*	/aur/ as in *our* (tripthong)
/ōr/ as in *door*	/eər/ as in *care*
/or/ as in *for*	/yur/ as in *cure* (tripthong)

The letter *r* functions as a consonant:
1. First part of a syllable; e.g., *ride*
2. Part of an initial consonant cluster (blend)
3. Second component; e.g., *br* in *bring*
4. Third component; e.g., *str* in *street*

The sound /ər/ as in *bird* (stressed) and *motor* (unstressed) functions as an elementary vowel sound — i.e., as a segmental phoneme (*r*-colored vowels).

The final *r* functions as part of a centering diphthong; e.g., *star, fire*, and so on.

> "The Central-Western type of American speech distinguishes nine vowel phonemes. One of these, [r], is peculiar in its inverted tongue position ... These phonemes are subject to a good deal of non-distinctive variation, some of which depends upon the surrounding phonemes ... " (**Bloomfield**, p.103) **[8]**

In **Godfrey Dewey**'s 1970 study (*Relative Frequency of English Spellings*) **[15]** based on 100,000 running words of connected matter, the letter *r* ranked eighth in frequency of occurence. He reported this letter made up 5.94% of English letters. (p. 27) A further analysis of his data on page 124 (again reported in terms of frequency of occurence by Dewey) revealed that *r* initiated syllables (i.e., represented consonantal /r/) only 19% of the time. All other occurences of *r* were in medial position (46%) and in final position (35%) of syllables, representing vowel-plus-/r/ situations. (*Note*: In final position, *r* may signal unstressed phoneme /ər/, as in *father*, or a diphthong, as in *far*. Hence, Dewey's 35% for final *r* needs re-interpretation.)

The Phoneme Concept.

This report deals with the letter (graphic) *r,* its uses to symbolize consonant and vowel phonemes. In the history of English, *r* has followed a long and somewhat tortuous route. As a result, attempts to regularize English spellings have been often frustrated by complex and complicated situations in both speech and writing.

At this date, the study of speech sounds continues. First, is the somewhat ambiguous vowel-consonant dichotomy in the continuum of phonemes, which needs to be resolved. This phonetic dichotomy becomes increasingly complex in terms of articulatory (sound producing movements) and acoustic (what is heard) definitions of phonemes. These dichotomies introduce difficulties in attempts to segment the stream of speech into categories of sounds.

Second, the delineation of the concept of the *phoneme* and its allophones versus the concept of *phonetic* features (the minutiae) requires continued study by the phoneticians and phonemicists. As **Leonard Bloomfield** commented in 1933 **[8]**:

> "speech utterances ... are infinitely varied." (p. 76)

Bloomfield continued:

> "Even a short speech is continuous. It consists of an unbroken succession of movements and sound waves. No matter how many successive parts we break up and record for purposes of minute study, an even finer analysis is always conceivable. . . " (p. 76)

The situation regarding the phoneme concept was stated succinctly by Sapir, as quoted by Hall:

> " ... No language forms a watertight system, and we would be surprised if too pretty a picture results from the phoneme analysis of a phonemically asymmetrical situation." (**Hall,** *Introductory Linguistics*, p. 97) **[28]**

On the other hand, the introduction of this basic *phonemic* concept has influenced positively present-day lexicographers. A casual inspection of the pronunciation symbols employed in dictionaries thirty years ago reveals a complex of symbols as contrasted to present-day phonemically based dictionaries. This trend facilitates lay use of dictionaries and enhances realism in phonics for basic reading purposes.

Of recent date, there has been renewed interest in the study of the writing system (orthography). On many counts, the writing system can be contrasted with language (speech). In addition to segmental phonemes — e.g., /ər/ in *father* /'fa-thər/ — there are suprasegmental, or secondary, phonemes (pitch, stress, juncture). These suprasegmental phonemes are represented in writing by punctuation and other devices. But the rhythm of language (intonation) is poorly represented by orthography. Bloomfield stated the situation this way:

> " ... but our conventions of writing are a poor guide ... "to the phonemic basis of alphabetic writing. (p. 79)

The /r/ Phoneme.

The variability of the /r/ phoneme is emphasized by **Kantner and West** [34]:

> "*r* is a sound that, even more than *t, k*, and *l*, is influenced by neighboring sounds. We will not be far wrong if we think of *r* as being dragged all over the mouth cavity by the various sounds with which it happens to be associated. This means that different sounds that we recognize as *r* are sometimes produced by fundamentally different movements. It is doubtful if we should speak of an *r* phoneme in the usual sense of the word. These various *r* sounds are only loosely bound together into one large phoneme. For some of the sounds the movements are of the same type; for others there may be a similar underlying acoustic factor in each case. Some of the *r* sounds, however, are so divergent that probably only their spelling causes them to be considered as *r*'s." (Kantner & West, p. 169)

In *The Pronunciation of American English*, **Arthur J. Bronstein** [9] also comments on the variability of /r/:

> "The /r/ is probably the most variable of all consonants in our language." (p. 117)

Pyles and Algeo regard allophones of /r/ as evidence of variability:

> "Phonemicists, who are primarily interested in distinctive sounds, regard these [e.g., *rot, tree*, and *three*] along with other varieties of the *r* sound as allophones of a single [r] phoneme." (Pyles & Algeo, *English — An Introduction to Language*, Harcourt, Brace & World, 1970, p. 54)

Manser [39] comments on *r* /r/ as in red:

> "Point the tip of the tongue toward your gum ridge and curl it very slightly back toward your soft palate. If your tongue is held in this position, the resulting sound will be voiced, semi-vowel *r* [r]. This sound becomes partially unvoiced when it follows a voiceless consonant in the same syllable ... " as in *pray* and *try*. (p. 34)

With some reservations, **West, Kennedy, and Carr** recommend symbol [r] to designate this phoneme:

> "The symbol [r] is used to include all the many members of the [r] phoneme; they differ significantly and yet resemble one another in quality very closely." (West, Kennedy, & Carr, *The Rehabilitation of Speech,* Harper & Bros., 1937, p. 220)

> "The allophones of /r/ vary considerably from one dialect to another and from one speaker to another. The form most common in American English is retroflex, when the tip of the tongue is turned upward toward the roof of the mouth, and constricted, where the tip of the tongue is drawn back and somewhat humped in the middle. There may also be an accompanying rounding of the lips." (**Francis**, p. 179) [19]

> "The [r] sound is seldom considered as a glide. Yet it seems evident that the r occuring before and after vowels is definitely a glide sound." (**Kantner & West**, p. 119) [34]

> "The vowelized *r* [ɝ] is closely related to the sound of the [r] phoneme." (**Judson & Weaver**, p. 121) [33]

On page 154, **Kantner & West** state

> ". . . the movement from [ɝ] to some other vowel produces the approach glide [r]. For example, rest [rɛst]?'

On page 161, Kantner and West list as a vowel glide [r] raw [rɔ].

> "The consonant [r] is a vowel, retroflex alveolar continuant." (**Wise**, p. 132)

Kantner and West list the following examples as [r] glides:

1. rare	/'raər/	(rer', rār')
2. rear	/'riər/	(rir')
3. rue	/'rü/	(rū')
4. roar	/'rōr/	(rôr')
5. yearly	/'yiər-lē/	(yir-lē)
6. chord	/'kord/	(kôrd')
7. rural	/'rur-əl/	(rur-əl)
8. rhubarb	/'rü-,bärb/	(rü'-bärb)
9. railroad	/'rāl-,rōd/	(rāl'-rōd)
10. very	/'ver-ē/	(ver'-ē)

Note 1: The respellings of *rare* and *rear* appear to present special problems.

Note 2: Kantner and West list *er* /er/ of very as a vowel glide; **Thomas** lists *r* as a non-syllabic consonant.

This dependence of consonants on vowels in the syllable was stated succinctly by **Martinet**, a philologist:

> "The name consonant is given to those sounds which are difficult to observe without the support of a preceding or following vowel." (p. 49, 275;)

Martinet adds:

> "Vowels being more perceptible than consonants, each vowel of an utterance will normally correspond to a peak in the curve of perceptibility or audibility, and as a general rule we perceive as many syllables as there are vowels ..." (p. 51–52)

Limitations.

Because of time and space limitations, this report focuses on a few facets of the graphic r. Hence, these boundaries were established:

1. Phonemics rather than phonetics is the basis for segmenting the speech stream.
2. For the most part, pronunciations are limited to General American Speech. Hence, British and other American dialects are not considered.
3. Primary use is made of pronunciation symbols and respellings recorded in elementary school dictionaries.
4. Although English is a stress using language, the emphasis is on stressed syllables — with the exception of the unstressed /ar/, as in *mother* and *actor*. (**Betts**, "*Stress: Syllable and Phrase*," 1976) **[6]**
5. Function, or structure, words — i.e., *and, for* — as a facet of intonation and as special problems in phonics have been considered elsewhere in this series of reports. (Betts, "*Function Words: Grammatical Indicators*," 1977) **[1]**
6. Syllabication of words was not deemed to be relevant to this report. Note the disagreements, shared by phonemicists, among lexicographers:

Word	*Webster's (G. & C.)*	*Thorndike-Barnart Elem.*
farmer	/'farm-ər/	(far'-mər)
monitor	/'män-ət-ar/	(mon'-ə-t ər)
order	/'ord-ər/	(or'-dər)
satyr	/'sat-ər/	(sa'-tər)
vigorous	/'vig-ə-rəs/	(vig'-ər'əs)

7. Of the proposed spelling reforms, especially for an initial learning medium, only two included dictionaries WES and i.t.a. Hence, these two proposals were listed for respellings of phonograms.

8. No attempt has been made to critique the proposals of orthographers and amateur alphabeteers. Instead, a delineation of some of the issues relevant to the uses of the letter r has been made, basic to spelling reform.
9. Only one facet of phonics — symbol *r* — has been very briefly discussed. The meagerness of phonic methods and some of the ways to confuse learners, however, are spotlighted.
10. This report does not justify any one phonics program or any one spelling reform proposal. Although the attitude toward phonics is endemic in parents, teachers and the general public, there is significant evidence that polemicists actually contribute substantially to learning disabilities. Furthermore, spelling reform zealots contribute to the devastating confusion about phonics — when they concentrate on phonemic spellings without a grounding in phonemics, perception, or appropriate methodology. (**Betts**, "*Spelling and Phonics*," 1976) [5]
    This report does focus, however, on some of the facts regarding the loose fit between writing and speaking. Phonic rules appear to be self-defeating when applied to graphic *r* in vowel situations. For example, phonogram ar represents /är/ in *arm*, /or/ in *warm*, /aər/ in *wary*, and unstressed /ər/ in *dollar*. On the other side of the phonics coin, the stressed /ər/ is represented by *ir* in *bird*, *ur* in *hurt*, *er* in *fern*, *or* in *(w)ork*, *ear* in *heard* — to mention a few — plus /ər/ in unstressed syllables. These confusing phonic situations are products of highly variable spellings and do not fit the "simple rules" claimed by some phonic zealots.
    This report, then, does bring into bold relief the need to give serious consideration to the hazards of the English spelling system for both native beginners and foreigners intent on learning English as a second language. At the same time, orthographers, especially amateur alphabeteers, are cautioned regarding variability in the phonemic basis of *r* in vowel situations.
11. Morphemes — determined on the basis of etymology — are not considered in this report. Since some students of orthography do emphasize the morphological basis of the English writing system, this facet of the spelling problem merits serious consideration.

Pronunciation Symbols.
In 1888, the International Phonetic Association (founded in 1866) published the first edition of the International Phonetic Alphabet (I.P.A.), revised in 1951. With some additions made by American phoneticians, this *phonetic* alphabet is used today in "narrow" transcriptions.

Fred West [56] explains phonemics and phonetics this way:

> "The phone is the speech sound as it is actually made, and falls under phonetics; the phoneme is the speech sound as it is interpreted by the hearer, and falls under phonemics." (p. 90)

West adds: A phoneme "is the smallest unit of meaningful sound in a given language." (p. 98)

Pronunciation symbols are signalled by different types of enclosures:

Phonetic — brackets

[y] as in *ladd(er)*	[ɑ] as in *f(a)rm*
[ɝ] as in *(ear)n*	[r] as in *(r)ed*

Phonemics — virgules, or slant lines, or slashes

/i/ (barred i) as in *furr(y)*

/e/ as in *m(e)rry*	/r/ as in *(r)ed*
/o/ as in *st(o)ry*	/o/ as in *h(o)rse*

Note See pp. 31–32 in **Bronstein**, *The Pronunciation of American English*, 1960, [9] for a discussion of slant lines and brackets to enclose sounds.

Dictionary respellings.
1. Virgules \ \ (slanted to the left)
Webster's New Elementary Dictionary \'born\
Note: Because virgules slanted to the left are not available on our typewriters, this report encloses respellings in virgules slanted to the right.

2. Parentheses.
Scott, Foresman *Beginning Dictionary* (bôrn)
Note: Dictionaries of many other publishers also use parentheses to enclose respellings to show pronunciations.

Dictionaries: Phonemic Respellings.
For this report, two elementary dictionaries were used consistently:
Webster's New Elementary Dictionary, G. & C. Merriam-Webster American Book Co., 1975
E. L. Thorndike/Clarence L. Barnhart, Scott, *Foresman Beginning Dictionary*, Scott, Foresman & Co., 1976

In addition, other higher-level dictionaries were used (1) to identify respellings of words not in the beginning dictionaries, and (2) to indicate other respellings:
Webster's New Secondary School Dictionary, G. & C. Merriam, American Book Co., 1959.
E. L. Thorndike/Clarence L. Barnhart, *Thorndike-Barnhart Advanced Junior Dictionary*, Third Edition, Scott-Foresman & Co., 1965.
Webster's New World Dictionary, The World Publishing Co., 1961.
The Random House Dictionary of the English Language, College Edition, Random House, Inc., 1969.
The World Book Dictionary (A Thorndike-Barnhart Dictionary), Field Enterprises Educational Corp, 1976.

Speech Development: The r Situation.
Articulation of consonant sounds appear to develop late in the acquisition of language, according to **Irene Poole** (In *Newer Practices in Reading in the Elementary School,* DESP Yearbook, 1938). While articulation of /b/, /p/, /m /w/, and /h/ appears early — about three to five years, the articulation of /r/, along with /z/, /s/, and /hw/ appears late — about 8.0 years — for many reasons (e.g., lisping caused by dentation at ages 5 to 7).

Carrell and Tiffany [10] comment:
> "For reasons not entirely clear, [r] and the *r*-colored vowels appear to be the most difficult sounds for children to learn. Sounds within these phonemes are typically the last to be acquired during the developmental period, and one of the most common characteristics of infantile speech is the use of [w] for [r]". (*Phonetics*, McGraw-Hill, 1960, p. 215)

West, Kennedy, and **Carr** identify five types of defective [r] (p. 221):
1. Infantile (*w* substitute, *wain* for *rain*)
2. Omission of prevocalic *r* (*tain* for *train*)
3. The [?] substitute
4. Labiodentalized [r] ("Especially noted when [r] follows [p] or [b]")
5. Foreign language substitute

The complexity of speech problems relevant to /r/ sounds is delineated by **Carrell and Tiffany**:
> "It is well known that the *r* sounds pose more pronunciation problems than any other group for anyone trying to master good American speech. Within the phoneme there is a wide range of perfectly acceptable sounds, depending upon such factors as stress and context. A large number of substandard pronunciations are also heard with great frequency." (Carrell & Tiffany, *Phonetics*, McGraw-Hill, 1960, p. 214) [10]

Pronounceable Graphic Units.
Much confusion in phonics has risen from attempts to pronounce consonants in isolation from a word. Why the confusion? Proponents of letter phonics have perpetuated "sounding out" words letter by letter; e.g., requiring the pupil to pronounce cart as "kuh-ar-tuh" /kə-är-tə/. Since the pronunciation "kuh-ar-tuh" has no relationship to the pronunciation /kart/, the beginner in reading is totally confused, as an adult would be if an otherwise sane teacher would say to him, "kuh-ar-tuh, what is the word?"

Attempts at the pronunciation of consonants in isolation produce unidentifiable distortions. First, sibilants (hissing sounds) may be prolonged, but they are distorted as /*s-s-s-s*/ for *s*. Second, voiceless stops (as indicated above) become "(p)uh, (t)uh, (k)uh," and the voiced stops become "(b)uh, (d)uh, (g)uh." Third, consonantal *r* /r/ cannot be pronounced in isolation without converting to /ər/, confusing indeed! Therefore, it is readily seen that consonants need a vowel, as in *bir* or *ird* of *bird*, to avoid distorted pronunciations. Hence, a pronounceable unit is a consonant-vowel or a vowel-consonant.

Then, too, spelling pronunciations may cause trouble. The avid young reader may pronounce *rumor*/rüm-ər/ as "/rəm-ər/."

That spelling pronunciation of words, especially /ər/, has plagued national television and radio commentators cannot be gainsaid. For example:

Word	*Respelling*	*Mispronunciation*
thorough	/'thər-ō/	/'thor-ō/
relevant	/'rel-ə-vənt/	/'rev-ə-lənt/

Spelling Reform: Basic Research.
Reform Spelling.
Before an initial teaching medium or all-out spelling reform can be presented to the public and their politicians, much basic research is required on a number of problems and issues:

1. Discriminability of graphic symbols, e.g., letters *o* and *c*
2. Spellings of stressed syllables, including both primary and secondary stress; e.g., *confirmation*/, kən-fər-'ma-shən/ (primary stress on third syllable, secondary stress on first syllable)
3. Spellings of unstressed syllables; e.g., *er* of agent as in *teach(er)*
4. Graphemic differentiation of homophones; e.g., *whole-hole*
5. Use of two-letter ligatures; e.g., *fl* for *fi, æ*
6. Morphology of spellings versus direct spelling-to-sound relationships (See **Scragg**, *A History of English Spelling*, 1974, p. 96 **[48]** ; **Lounsbury**, English Spelling and Spelling Reform, 1909.) **[38]**
7. Compatibility of graphic symbols with traditional orthography
   a) Printed symbols in reading matter — capital and lower case letters
   b) Cursive and manuscript symbols for ease of handwriting
8. Causes of reading disabilities of which an outdated orthography is one; e.g., emotional aberrations, visual and hearing handicaps, psycho-neurological anomalies
9. Educational malpractice, including regimented and self-defeating methodology, a lack of prerequisites for courses in methodology, and so on
10. Gradual spelling reform versus total re-appraisal of the writing system and sub-systems (e.g., spellings in terms of phonemics, morphemics, syntactics, form classes, perception and recognition — i.e., phonotactics and graphotactics in terms of psychological processes)
11. Gemination, or double consonant letters (e.g., *ha(pp)y)*
12. Compound graphemes (e.g., voiced and voiceless *th, ph* for *f*)

Furthermore, **Classen** **[12]** comments on

> "what a composite character is the English system of spelling ... It appears during the Old English period spelling was fairly uniform, thanks partly to the fact that West Saxon had risen to the dignity of a standard literary language. In the Middle English period, though writers no doubt still sought to write phonetically, uniformity was impossible because the dialects had again come into their own, and it was not until Chaucer's example created a standard language for literature that there was again an approach to uniformity. At the end of the fifteenth century came the first printed books and with them spelling became to a large extent fixed." (p. 272)

Classen concludes:

> "In this [printing] lay all the positive advantages which flow from uniformity and system, but on the other hand there was the disadvantage that the spelling from this time onward ceased to represent the pronunciation of the spoken language. Hence, our Modern English spelling really represents the sounds of the fifteenth or sixteenth century." (p. 273)

Spelling reform, especially an i.t.m., appears to be an imperative for effective phonics instruction. Antagonists to reform include **Chomsky** who "believes" that traditional orthography is an optimum writing system. Protagonists of reform include most linguists, many philologists, psycholinguists, and some enlightened educators. For example, the distinguished phonemicist and pragmatist **Kenneth L. Pike** [42] who urges a practical orthography:

> "A practical orthography should be phonemic. There should be a one-to-one correspondence between each phoneme and the symbolization of each phoneme." (p. 208)
>
> "In a phonemic orthography, spelling does not have to be remembered as an arbitrary set of rules." (p. 209)

Those who protest any reform of our "intricate and confusing" spelling enjoy membership in the exclusive Society for the Defense of the Status Quo (facetiously defined as "the mess we are in"). They need to form a coalition with the Ancient Order of Regimenters and Standardizers who have contributed mightily for centuries to the de-escalation of reading instruction.

High Frequency Words.
Commonest words tend to be irregularly spelled and constitute a relatively high percentage of the running words on a page:

No. of Words	*Percent (%)*
3	10
6	20
50	50
100	60
500	66
1000	89

Three words (types) — *a, and, the* — comprise 10% of running words (tokens) in common use. Fifty words (types) comprise 50% of the running words (tokens). Eight of these 50 commonest words use graphic *r*: *are, for from, letter, our, very, your, yours.*

Of Fitzgerald's 109 words misspelled 10% or more of the time by third graders, 41 use graphic *r*. These included "demons" of other lists; e.g., *near, first, learn, birds, right*. (**James Fitzgerald**, "The Vocabulary of Spelling Errors of Third-Grade Children's Life Letters," *Elementary School Journal,* XXXVIII, March 1938, pp. 518–527) [18]

At the fourth, fifth, and sixth grade levels, Fitzgerald identified 100 spelling "demons." Thirty-seven percent used graphic *r*; e.g., *their, where, sure, early, heard*. (James Fitzgerald, "The Vocabulary of Children's Letters Written in Life Outside the School," *Elementary School Journal*, XXXIV, January 1934, pp. 358–370) [17]

The *r* Situation: Phonics.
Phonemes represented by the graphic r have been by-passed by authors of professional textbooks, especially of textbooks on phonics. (In fact, very little, if any, attention is given to phonics in most of today's professional textbooks.) There are several reasons why the r issue has been skirted by educators.

First, considerable scholarship is required in phonology, especially in phonemics, to avoid the pitfalls inherent in *r* situations. For example, some authors of elementary school dictionaries which introduced the phonemic concept of respellings have made significant shifts toward phonetic emphasis in unabridged dictionaries. Furthermore, knowledge of either phonemics or dictionary

pronunciation symbols is NOT a prerequisite for a professional course in the teaching of reading. Hence, confusion tends to reign supreme, causing word perception to be a puzzlement for teacher and learner alike.

Second, scholarship is required in orthography — the writing system — to understand the relationships between phonemes and the spellings used to represent them. As we shall see, graphic *r* has a multiplicity of roles in the English writing system. For this and other reasons, tyros become bogged down in a sea of rules, vitiating phonics as a sole approach to word perception.

Third, a "working knowledge" of grammar, especially morphology, is necessary to fully understand the relationships between language (i.e., speech) and writing. Grammar is a keystone to both perception (e.g., syntactic cues to constraints) and cognition (e.g. semantic and pragmatic constraints).

Fourth, knowledge of perceptual learning (e.g., category, cue, probability, alternation), factors in perception (e.g., need, feedback, grouping or chunking of pronounceable units, perceptual and cognitive closure, etc.) (**Betts**, "*Word Perception: Processes and Medium*," 1975) **[7]**

[There was no item 5 in the article.]

Sixth, awareness of need for differentiated guidance as a basis for all teaching and, therefore, learning. (**Betts**, "*Reading: A Class is Plural*," 1978) **[4]**

Spelling reform has become a series of bipartisan issues: the pros resorting to polemics to gain a writing system that fits contemporary speech; the cons, equally polemic, offer a whole spectrum of rationalizations why they believe in perpetuating traditional orthography (T.O.) as an "optimum'.' system. Neither side has done their homework; e.g., on false etymology in T.O., phonology basic to a writing system, signals of vowel sounds, discriminability of graphic signals, and a spate of other problems. In short, discussions of spelling reform are prime examples of perpetual emotion.

Alexander Wolcott, after reviewing a play, is quoted as saying: "The scenery of the play was beautiful, but the actors got in front of it." Perhaps a valid parody on Wolcott's cynicism might read: The background of spelling reform is quite appealing, but prejudgements preclude veridical perception of the problems.

Spelling: Hard Spots.
In 1937, **Gates** published *A List of Spelling Difficulties in 3876 Words* in which he identified the hard spots in words. From these data, the hard spots in **Fitzgerald's** 41 *r*-words were studied by this writer:

1. Phonogram *ar* was the hard spot in *warm, star, March*, and *garden*.
2. Initial *r* in *right, radio, rabbit, room* caused no spelling problems; instead the hard spot in each word varied from *rite* for *right, rabit* for *rabbit* to *raido* for *radio* and *roon* for *room*.
3. Of the eight words with *r* consonant clusters, seven (*brown, dresses, friend, cream, fruit, draw)* presented spelling problems with the vowels but not with the clusters; *April*, however, was misspelled *Apirl* 42% of the time.
4. Of the six words with stressed /ər/, all presented spelling difficulties — *u* and *ir* for *ur* in *church*, *ri* for *ir* in *first* and *birds*, *u* for *urr* in *hurry*, *er* and *ar* for *ear* in *learn*, *a* for *o* in *word*.
5. Of the ten words with unstressed /ər/, only three presented spelling difficulties — *ar* for *er* in *father*, *er* for *or* in *doctor*, *r* for *er* in *flowers*.
6. The *wr* in *write* was the hard spot, with 48% misspelling in grade three.
7. The vowel plus *r* was the hard spot in *before, fourth, merry, morning, near, hour, every, your*.

In 1938, Fitzgerald identified 50 words misspelled by third-grade children. Forty-one (82%) of these misspelled words included *r* words; e.g., *draw, learn, your, warm*.

Gates and Bennett [24] included in their test of 30 words three *r* words: *star, war, tar* — ten percent of the total. (1933)

Every classroom teacher has noted pupil word-perception problems with *r* situations; e.g., *very* for *every, were* for *where, where* for *there*, and so on.

Consonant *r* /r/.
The consonant *r* is a voiced, retroflex continuant — sometimes called a glide. Some speakers in the Southeast and in New England do not pronounce final /r/ as such.

Thomas comments on the change from non-syllabic [r] to syllabic r [ə]:

> ". . . in such words as better and ladder what was once consonantal [r] has become syllabic [ə] or [ə̹]." (Phonetics of American English, p. 101)

The phoneme /r/ is represented by *r* (red), *wr* (write), *rh* (rhyme). In general, however, the *r* spelling is quite regular.

Wijk [58] further states:

> "The only important change that has taken place since the spelling became fixed is the weakening of the *r* sound in final and pre-consonantal positions." (*Regularized English*, p. 249)

The multiple use of the letter *r* is reflected in the spelling reform advocated by **Ripman and Archer** [46]:

> "The letter r has many different values according to its position and according to local usage. We propose to leave *r* wherever it occurs in the spelling of today, except where it is doubled, where as a rule only one *r* need be written ...

In certain categories of words, however, it seems essential, in order to avoid ambiguity, to use double *rr*. These comprise words like carry, sorry and hurry ... " (Ripman & Archer, ***New Spelling***, 1948, p. 28)

They continue:

> "It is therefore suggested that no double consonants be retained, except in . . . (b) compounds involving *rr* (e.g., *earring*); (c) special case words like *carry* (p. 46), sorry (p. 56), and *hurry* (p. 59) ..." (Ripman & Archer, p. 36)

Consonant Clusters.

> A consonant cluster is two or more adjacent consonant sounds within the same syllable as /dr/ of /'drem/ *dream* , and /skr/ of /'scrach/ *scratch*. Considerable information has been accumulated on the phonotactics of consonant clusters. For example, /r/ never comes after /s/ or /h/; but initial clusters beginning with a non-syllabic /p/, /t/, /k/, /b/, /d/, /g/, /f/, voiceless /th/, /sh/, /sp/, /st/, /sk/, may be followed by /r/. (See **Bloomfield**, pp. 131–133 [8]; **Trager and Smith**, p. 35 [53]; **Thomas**, pp. 57–59 [52]; **Gleason**, p. 357. [25])

In discussing "*The Number of Morphemes in English*," **Warfel** [55] states that about 24% of possible two-letter consonant clusters are used in English:

> "The statistics of English spelling show that of the 576 two-letter consonant combinations possible in English, only 137 are in use; of the 11,000 three-letter consonantal combinations, only 40 or so are used. As letters are added, the number of possible combinations increases, but the percentage of those actively employed goes down correspondingly. It is possible to assert, therefore, that a principle of economy exists on the morphemic and word level as it does on the phonemic level of language. A few units must and do carry the burden of meaning; they can do so because they mean nothing in themselves but only what the system makes possible." (p. 114)

In 1923, **Godfrey Dewey** [14] tabulated initial vowel and consonant situations (100,000 running words in 15 genres) of an adult vocabulary. An examination of his frequency of occurence data revealed that 67% of the syllables in his corpus were initiated by consonants; 33%, by vowels. Of the initial consonant situations, 47% were consonant clusters; almost half (44%) of these consonant clusters included /r/.

Dewey's eleven initial consonant /r/ clusters included:

Initial sound (cluster)	*Occurences*
pr	1061
tr	859
fr	618
gr	335
str	261
dr	191
thr	184
kr	175
br	147
skr	18
spr	15
Total	3864

To Dewey's list, /shr/ as in *shred, shrew, shrill*, and *shrine* can be added. These words were not in his corpus.

The above data appear to validate **Bloomfield**'s [8] statement: "... English is especially rich in consonant clusters." (p. 136)

Scholarly accidents can and do happen at the confluence of phonology and orthography. Witness the faux pas by **Venezky** (*The Structure of orthography*, 1970, p. 81) [54] when he listed the vowel /ər/ as "Final *r* clusters":

rb herb	rm term
rd bird	rn urn
rg berg	rl curl
rf surf	rpt excerpt
rth mirth	rst first
rch birch	rld world

Venezky's three other examples in this list were vowels plus *r* (i.e., post-vocalic r's) usually classified as centering diphthongs. In any event, neither final nor initial consonant clusters are pronounceable units in isolation from vowel sounds. Furthermore, Venezky's three remaining examples of consonant clusters *-rp* of *sharp*, *-rt* of *smart*, *-rch* of *march* — can be challenged on the basis of this report. (See /ar/ below.) But Venezky seems to have company, including some phoneticians.

Vowel Phoneme /ər/, Stressed and Unstressed.

(*ir* as in *bird* and *er* in *baker*)
Phonemics (allophones of /r/, **Bronstein**, p. 177) [9]
/ə˞/ hooked schwa, unstressed syllables
/ɜ˞/ hooked, reversed epsilon, stressed syllables, central vowel

Dictionary symbols.

Webster (G & C)	/ər/ for stressed and unstressed
Thorndike-Barnart	(er) for stressed, (ər) for unstressed
Random House	(ûr) for stressed, (ər) for unstressed

In the International Phonetic Alphabet, two symbols are used to indicate the pronunciation of /ər/ in stressed syllables:

[ɝ] hooked reversed epsilon to indicate the pronunciation of *ir* in *bird* in most dialects of General American speech.

[ɜ] reversed epsilon to indicate pronunciations of *ir* in *bird*; for example, in Southern England and parts of Eastern and Southern United States — both epsilons only in stressed syllables.

***Vowel Phoneme* /ər/:Unstressed.**

Phoneme /ər/: Linguistics
In terms of phonology and grammar (i.e., linguistically and orthographically), unstressed /ər/ usually spelled *er, ar*, and *or* is:

A phoneme /ə˞/
A syllable /ər/
A phonogram (e.g. er)
A derivational ending (e.g. *summ(er)*)
An inflectional ending (e.g., *hott(er)*)
A bound morpheme (e.g., *batt(er)*)

Sledd [49] recommends the use of /ər/ to transcribe the unstressed situation:

"In transcribing the unstressed syllables of words like *dinner, mother, bothered*, etc., most speakers should use /or/ if they have a final preconsonantal /r/, and /o/ if they have not /r/ in these positions." (p. 55)

The *er* in *father* "is the '*r*-colored' central vowel heard in such syllables throughout the country (U.S.A.), except in the *'r*-less' areas of the country, the South, Eastern New England, and, for many, the New York City area." (**Bronstein**, *The Pronunciation of American English*, Appleton-Century-Crofts, Inc., 1960, p. 177) [9]

Bronstein continues:

"Although any vowel may precede [ə] or [ə˞] to produce a centering diphthongal glide, there are five common centering diphthongs. These are [ɪə], [ɛə], [ɑə], [ɔə], [uə], and their '*r*-colored' variants [ɪə˞], [ɛə˞], [ɑə˞], [ɔɜ˞] [uɜ˞] in the words *fear, care, far, for*, and *poor*." (p. 200)

In 1949, **Kenyon and Knott** [34] appear to have settled the issue:

"The symbol ɜ˞ represents the accented form of the so-called 'r-colored' vowel used in the first syllable of further ['fɜ˞-ðə] by those who do not drop their *r*'s. . . The consonantal *r* sound that formerly followed the vowel (hence the present spelling) long ago merged with the preceding vowel and disappeared as a separate sound, though its effect is still heard in the *r*-coloring of the vowel. The simple proof of the nature of the present sound is that the vowel cannot be pronounced separately from the r without producing a quite different sound, ... " (p. xix)

Unstressed /ər/: Phonograms and Respellings.

Phonogram	*Word*	*G.&C. Merriam Webster's*	*Thorndike-Barnhart*
ar	dollar	/'däl-ər/	(dol'ər)
er	river	/'riv-ər/	(riv'-ər)
ir	tapir	/'ta-pər/	(ta'-pər)
or	mayor	/'ma-ər/	(ma'ər)
oar	cupboard	/`kab-ərd/	(kub'-ərd)
ur	murmur	/'mar-mər/	(mer'-mər)
ure	pressure	/'presh-ər/	(presh'-ər)
yr	martyr	/'mart-ər/	(mar'-tər)
re	sceptre (or sceptr)	/'sep-tər/	(sep'-tər)

Reform Spellings: Unstressed /ər/.

Word	*WES*	*i.t.a.*
river	river	river
tapir	(not available)	tæ pir
mayor	mæ or	mæ or
cupboard	cubord	cubord
murmur	murmer	N. A.
pressure	presher	N. A.
sceptre	septet	N. A.
martyr	matter	N. A.

Note 1: Rules for retaining or respelling of unstressed /ar/ are given on page 23 of the Dewey *WES Dictionary* (1969) but are not available in the i.t.a. dictionary.
Note 2: *The Anglic Alfabet apparently respells stressed /ar/ as ur and unstressed /ar/ as er. (as in WES)*
Note 3: In The i/t/a Handbook for Writing and Spelling, revised edition, 1965, the following respellings were given for unstressed /ər/:

Word	*i.t.a.*
pillar	pillar
tapier	taepir
Arthur	arthur
offer	offer

Note 4: In his Transliteration Guide from i.t.a. to WES, **Dewey** states: For i.t.a. *r,* "Write unstressed schwa before *r*, usually by *er*; unless t.o. has *a, i,* or *o*." (p. 3) Examples of WES: *further, calendar, parlor.*

A small sampling of **Wijk**'s Regularized English [57] reveals these spellings of unstressed /ar/:

Phonogram	*T. O.*	*Wijk R. E.*
er	mother	mother
or	honor	honour
at	altar	aultar

Wijk's rules read:

> "The murmur vowel is very common for post-tonic *ar* in both preconsonantal and final positions." (p. 153)

Examples: *afterwards, orchard, collar*

> "The murmur vowel is only found in a few words ... " in post-tonic position. (p. 195)

Examples: *elixir, martyr*.

Hunter, in 1930, [32] commented on the history of "orthographic inconsistencies":

> "Another feature to be observed is the manner in which orthographic inconsistence, as in the use of different symbols, or group of symbols, to represent the same sound, are often avoided; ... Further, the rules which compel us to write *scholar, butcher, terror, honour, figure*, etc. had, in the sixteenth and seventeenth centuries, not attained their force, and spellings like *scholler, color, tuture* (tutor) are quite common." (p. 7)

Vowel Phoneme /ər/, Stressed.

Stressed /ər/, usually spelled ur, ir, or (after w), er, is:

- A phoneme /ɝ/
- A syllable nucleus (e.g., b(ir)d)
- A phonogram (e.g., *er* in *her*)
- A digraph (e.g., *er*)
- A morpheme (e.g., *err*)

Phonology: Stressed /ər/.
Generally speaking /ər/ is classified as a vowel sound, but it is also considered to be a complex one. Consider these views:

> "In the pronunciation of many Americans, /ər/ is phonetically a single /r/-like vowel." (**Gleason**, *An Introduction to Descriptive Linguistics*, 1961, p. 39) **[25]**
>
> "The combination [ər] is a complex sound, which, since it includes the glide [r], is characterized by movement rather than a fixed position of the speech organs." (**Prator**, *Manual of American English Pronunciation*, 1957, p. 104) **[44]**

Bronstein comments on a special r situation:

> "[ɜ] may becom e [ɜ] plus [r] when the r sound is intervocalic, as in burrow and hurry. The difference is essentially a shift in the syllabication of the word. Those speakers who use [ɝ] split the word as [b Unicode"'>ɝ-o], the others split the word as [bɜ-ro]." (*The Pronunciation of American English*, 1960, p.17) **[9]**

Kantner and West emphasize the allophones of phoneme /r/:

> " ... the r phoneme contains many variations of sounds, usually considered as consonants. [ɝ], however, because it is a continuant sound of some length, and because it is produced through an orifice large enough to prevent the formation of friction noises is generally grouped with the vowels and called a vowelized *r*." (Kantner & West, p. 88) **[34]**

Wise opines:-

> ". . . the characteristic of the consonant [r] which distinguishes it from the two vowelized *r*'s, viz., [ɝ] and [ɚ], appears to be rapidity of motion; or, approaching it from another point of view, it is the mobility of the consonant *r* to be syllabic. Conversely, the greater duration of [ɜ] and [ə], coupled with their syllabicity, constitutes the vowel characteristic of these two sounds." (*Introduction to Phonetics*, Prentice-Hall, Inc., 1957, p. 132) **[62]**

Sledd discusses the complexity of stressed /ar/ situations:

> ". . . In transcribing the unstressed syllables of words like *dinner, mother, bothered*, etc., most speakers would use /ər/ if they have a final and preconsonantal /r/, and /ə/ if they have no /r/ in these positions.
>
> In transcribing words like *third* and *turn*, more difficulty may be encountered. Either these words will contain an /r/, or they will not. The vowel will usually be either mid central or high central (though some /r/-less dialects will have a diphthong /əɪ/). And the vowel in /r/-ful dialects may be either short (/ər/, /ir/), or long (/ə:r/, /i:r/). These /r/-producing speakers who contrast short and long vowels in pairs like *sorry* /ɑ/ and *starry* (/ɑ:/), *hurry* (/ə/) and *furry* (/ə:/) should normally write a long vowel; speakers with no such contrasts should normally write a short vowel." (James Sledd, *A Short Introduction to English Grammar, Scott, Foresman & Co.,* 1959*,* pp. 55–56) **[49]**

Bronstein explains:#

> "The stressed vowel of the preconsonantal sound in *burn* and *earn* is another allophone of /r/ in American English, and is represented by the phonetic symbols [3] or [3]." (p. 119) **[9]**

Kurath emphasizes "drastic changes" in vowels before r:

> "The ME [Middle English] vowels, both short and long, suffered drastic changes before an /r/ of the same syllable, as in *fir, fern, for, fur, here, hare, more, poor*, and only less so before intersyllabic /r/, as in *spirit, merry, carry, borrow, furrow, hero, Mary, story, fury* ...
>
> The general effect of /r/ was to lower and to centralize the articulation of the vowel preceding it, especially if it belonged to the same syllable. From this effect it is safe to infer that postvocalic /r/ was velarized, as it still is in the west of England and in America." (Hans Kurath, *A Phonology and Prosody of Modern English*, Univ. of Michigan Press, 1964, p. 27) **[36]**

Dictionary Respellings of /ər/.

The following is a short sample of words to compare respellings of stressed /ər/ in two dictionaries:

Word	*G. & C. Merriam Webster's*	*Thorndike-Barnhart*
bird	/'bərd/	(berd')
colonel	/'kərn-l/	(ker'-nəl)
courage	/'kər-ij/	(kér'-ij)
journal	/'jərn-l/	(jer'-nal)
squirrel	/'skwər-al/	(skwer-əl)
turn	/'tərn/	(tern')
were	/wər, 'wər/	(wer)
work	/'wərk/	(werk')

Note: In the above words, both Webster's (G. & C. Merriam) and Thorndike-Barnhart made consistent use of symbols.

T.O. Spellings of /ər/, Stressed.

Phonogram	*Word*	*Phonogram*	*Word*
er	term	er-e	serve
ere	were	err	err
ear	heard	ir	shirt
or	word	olo	colonel
our	courage	ur	hurt
uer	guerdon	urr	hurry
yr	myrtle	yrrh	myrrh

Reform Spellings (initial teaching medium) of Stressed /ər/.

In the following list of words, compare WES and i.t.a. respellings:

T.O.	*WES*	*i.t.a.*
bird	burd	bird
colonel	curnel	curnel
courage	curej	curaej
her	hur	her
heard	hurd	head
journal	jurnal	jurnal
purr	purr	purr
squirrel	skwurrel	skwirrel
turn	turn	turn
were	wur	wer
work	wurk	wurk

Note: In the above words W.E.S. uses *ur* and *urr* to represent stressed /ər/. On the other hand, i.t.a. uses four spellings: *er, ir, ur, urr*.

Note 2: In *The i/t/a Handbook for Writing and Spelling*, Revised edition, 1965, the following respellings are given for stressed /ər/.

T.O. Characters	*T.O.*	*i.t.a.*
ear, er	earn, fern	ern, fern
it, irr	girl, stirring	girl, stirring
ur	turn	turn
or	word	word

Note 3: In his transliteration guide from i.t.a. to WES, **Dewey** states:

For i.t.a. -r, "Write stressed schwa before *r* always by *ur*." (p. 3) Examples: *further, hur*, *furst*

Note 4: "The characters is used in the strong and stressed *her, sir, arthur, martys*." (**Pitman**, 1964, p. 32)

Note 5: "... *r* (er) was added to make the neutral or central vowel (schwa) more effectively characterized in the single word 'colonel' and whenever spelled in the traditional orthography with an *r* following *e, i, u*, or *y*. This made the doubling of the *r* in *very*, etc. no longer necessary, e.g.,

bert but *beri-beri*
cur but *curry*
sir but *irak* (Iraq)
myrr but *syrup*

and in the four corresponding unstressed forms such as *muther, elixir, arthur*, and *martyr*."

A quick sampling of **Wijk**'s Regularized English reveals these spellings of stressed /ər/:

Phonogram	*T.O.*	*Wijk R. E.*
ear	early	erly
or	word	wurd
our	courage	currage

In his *Rules of Pronunciation for the English Language*, Wijk lists three rules for stressed /ər/:

"The first long pronunciation [ə:(r)]: *her, deter, infer*..." (p. 43) "The first long pronunciation [ə:(r)]: *fir, sir, stir* ... " (p. 44)
"The first long pronunciation [ə:(r)]: *cur, fur, furred*..." (p. 44) **[59]**

In 1930, **Zachrisson** commented on his "Anglic Muuvment":

"Anglic oenly aims at bringing ordr into the prezent confuzion by jeneralizeng the moste comon ov the egzisting speling vaerients. Thus ... ur for the sound in urn, dern, third, learn, now rendrd in 16 waes." (In **Ripman**, et al, 1930, p. 12) **[63]**

Phonics: /ər/, Stressed and Unstressed.

More confusion than learning is produced by programs with the mystic label phonics. In fact, facets of effective phonics dealing with both stressed and unstressed /ər/ appear to be non-existent.

Durrell and Sullivan tend to emphasize letter phonics rather than vowel-consonant (e.g., *urch* in *church*) or consonant-vowel (e.g., *chur* in *church*) phonograms. Furthermore, they put all the *r* situations in one category. Hence, their treatment of /ər/:

"These words end in *r*. Say them after me: *after, alligator, bear, beaver, car, door, farmer, hair*, etc. Are you ready to tell me the words that end in *r*?" (1941, p. 53) **[16]**

In her *The Word Method of Teaching Phonics*, **Cordts** emphasized "sight" words:

"Purpose: To learn to recognize at sight the syllable ending er
Procedure: Step 1. Write on the blackboard these words: *deep, deeper, neat, neater*, etc." (p. 290) **[13]**

As evident, Cordts employed visual and auditory contrast (e.g., *deep-deeper*) for directing attention to the syllable /ər/ spelled *er*.

In a previous activity, she violated stress by referring the pupils to "frame and pronounce" the unstressed last syllable. (p. 288)

Later, Cordts provided an activity

"To learn that the syllable endings *er, or*, and *ar* have similar sounds." (p. 292)

She suggested that the teacher:

"Write on the blackboard: *rob, robber, beg, beggar*, etc."
You may say: "We have already learned the syllable er ending has the sound (ur). Today we are going to see if there are any other syllables that have the same sound. This will be a lesson for sharp eyes and sharp ears. Who is ready to frame and pronounce the words on the blackboard? Let us all look carefully each time at the syllable that ends the word." (p. 292)

In her *Word Recognition and Discrimination Development*, **Smith** was content to limit her phonics to *listening* and discussing:

> "New words: *kite, paper, sticks*
> In discussing these new words, have the children listen for the *p* in *paper*. Compare with *put, pulled, pullman, Polly*, and *play* ... " (p. 17) **[50]**

Too often, however, Smith merely listed new words:

> "New words: *turkey, sweater, catch*" (p. 20)
> "New words: *while, turned*" (p. 38)
> "New words: *hanger, light*" (p. 50)

Later, Smith follows a hazardous "finding a word within a word" plan:

> "New words: *head, winter, old*
> Assist children to work out the word *winter* by finding the little word *in*, combining it with *w*, and then trying to fit a word that begins with *win* into the context of the sentence." (p. 39)

The above is fraught with possible confusion because some teachers reach the zenith of silliness by having the pupils find *he* in *her*. Furthermore, this is a weak use of context clues because there are several possibilities; e.g., syntactic, morphologic, semantic.

Much confusion is created by authors of basic readers who have little or no understanding of phonemics. Consider this sample of naivete in **Gray**'s *Developing Word-Attack Skills — Grades 1–3*:

> "When the vowel *e* is followed by *r*, it has neither the long nor short sound. It usually sounds the way it does in these words. Write the words *corner, matter, paper, mother, roller, wonder, other.* Have the pupils pronounce each word and point to the letters *er*." (p.32) **[26]**

The above sample of obfuscation has several strikes on it:

1. The phoneme is /ər/, an unstressed vowel sound is spelled *er*.
2. Pupil need, as a factor in perception, to learn this ending is defaulted.

> "To avoid mere 'word getting' provide sentences for the children to read which will emphasize the importance of this phonogram as an aid to thought getting.
> Application:
>
> > Sister will *answer* the *letter*.
> > After *dinner* we will *gather* flowers.
> > The *water* runs *under* the bridge.
> > The *farmer's* dog ran *after* the *paper* kite.
>
> Illustrate how word variants are formed by adding er and let children change words by adding er to such words as *near, fast, slow, soon, hard, soft*. Have children make up sentences containing both forms of the word. For example:
>
> > I have a *long* pencil.
> > Bob's pencil is *longer* than mine.
> > Jane is six years *old*.
> > Susan is *older* than Jane." (p. 31)

In their *Writing Road to Reading*, **Spalding and Spalding** recommend their Unified Phonics Method for

> " ... accurate speaking, spelling, writing, and reading — as one integrated subject." (p. 80 They further state: "There is a reason or rule to cover almost every spelling in English. A study of word formation and euphony has contributed to formulating a set of easily learned, simple rules which explain and govern the spelling of all words suitable to each school grade, with surprisingly few, easily learned exceptions." (pp. 27–28) **[51]**

Spalding and Spalding introduce either naivete or shysterism into the justification of their highly questionable method:

> "The Unified Phonics Method of teaching enables every child in a group to acquire the unilateral dominance necessary for reading without delay or disturbing the progress of those fortunate few who are born with it." (p. 29)

Here is a sample of the Spalding's proposal for teaching the spellings of /ər/:

> "H*er* f*ir*st n*ur*se w*or*ks *ear*ly.

This sentence gives five spellings of the sound "er" and it should be memorized. Their phonogram cards are numbered 27 to 32. The spelling *er* is used most often.

Rule 8. *or* may say "er" when w comes before the *or*, as in *works*. There are few other guides in the choice of the spelling of the sound "er."

> "First dictate the sentence containing the five spellings of the sound "er." It sits on the top line of this page. Teach each word as described for teaching words on page one. Then dictate the five words across the second line, and so on.
>
> Check the children's knowledge of this page by asking, for example, "Which 'er' is in *church*?" The answer is, "The one in nurse." (The word in the model sentence at the top of the page.) Do this same checking with any word having an "er" sound.
>
> For children who find spelling difficult it is advisable to consider *or* and *ar* as having only the sounds as in *for* and *far* — not the sound *er* as in *doctor* and *collar*. In speaking, the *or* of *doctor* and the *ar* of *collar* deteriorate in sound because the accent is on the first syllable. In writing them say 'doc tor' and 'col lar.' " (p. 104)

These comments are relevant to the above. First, their "rule 8" covers only *w* plus *or*. The other "simple reasons or rules" are omitted. Second, the syllabication of the word *collar* /'kal-ər/ is based on the vocabulary entry *col-lar* rather than the respellings in the dictionary — a gross violation in phonics. Third, phonemes and spellings (phonograms) are confused in the question, "Which 'er' is in *church*?"

In his *On Their Own in Reading*, **W. S. Gray** taught "the consonant *r* as a clue to the vowel sound" under one general heading:

> "On the basis of known words like *arm, barn, park, her, herd, term, bird, girl, first, north, fort, corn, burn, curl, fur,* pupils note that if the consonant letter *r* follows the vowel letter, the vowel letter probably does not stand for a short vowel sound but for an *r*-controlled sound." (p. 43) **[27]**

W. S. Gray suggested that the learner's listening and speaking activities prepare the learner for unstressed /ər/:

> "Through listening to and using in their own speech. . . such forms of comparison as *big, bigger, biggest*, pupils also become aware that the endings *-s, -ed, -ing, -er*, and *-est* carry meaning." (p. 56)

Gray also recommended teaching phonogram *er* as a suffix:

> "Such suffixes as *-y, -ly*, and *-er* of agent, which children encounter frequently in derived forms as they read, may be used to develop understanding of suffixes as meaning units." (p. 57)

Relating phonogram *er* to grammar and semantics was heavily emphasized by Gray:

> "On the basis of such known inflected and derived forms as *bigger, earliest*, and *driver*, children learn that the spelling of a root word often changes when an ending or a suffix is added. For example, the final consonant may be doubled as in *bigger, muddy, shopping*; the final *y* may be changed to *i* as in *earliest, busily, cried*; the final *e* of a root word may be dropped before an ending or a suffix as in *baking, driver, greasy*. By studying such words in sentences, children strengthen the understanding that the meaning of the root is present in an inflected or derived form even though the spelling may change." (pp. 57–58)

On the other hand, Gray's word-perception program reflects strength in many areas, including meaning clues to root wards and affixes, semantics, selected dictionary skills (e.g., pronunciation symbols), cognitive closure, homonyms, homographs, syntax (e.g., derivatives and inflected forms), and a number of other pluses.

But Gray confused the issue via an unrealistic approach to syllabication. For example, he stated this rule:

> "If the first vowel letter in a word is followed by two consonant letters, the first syllable usually ends with the first of the two consonants." (p. 127)

For illustrations, he used *ladder* and *slender*.

Word	*Gray*	*Vocabulary Entry*	*G & C Merriam Webster's*	*Thorndike-Barnhart*
ladder	lad der	lad.der	/'lad-ər/	(lad'-ər)
slender	slen der	slen.der	/'slen-dər/	(slen'-dər)

This confusion of the syllabicated vocabulary entry and the syllabicated respelling to indicate pronunciation has compounded the learner's frustration. It should be quite obvious that an effective phonics program is based on the dictionary respelling, not on the vocabulary entry. Furthermore, reading motivation is better served by authors of textbooks — pupil and professional — and by teachers of teachers who understand gemination and other facets of orthography as well as phonology and grammar.

Gray commented on double consonant letters (gemination) but confused the issue by (1) failing to recognize the syllabication in dictionary respellings to indicate pronunciation and (2) offering the time-worn, catch-all, and ambiguous phonic rules (cliches) regarding "the vowel sound controlled by *r*":

> "Recall that two consonant letters are a clue to accent and to vowel sound in two-syllable root words like *cannon, supper, kitten*. Then comment that a doubled consonant letter before an ending or suffix is also a clue to accent and to vowel sound. To illustrate, write the words *forgetting, admitted, beginner, preferring*. Ask which syllable is accented in the root word of each. Is the vowel sound in that syllable long, short, or *r*-controlled? Then call attention to the doubled consonant before the ending or suffix; bring out that two like consonant letters before an ending or a suffix are a clue to an unaccented final syllable in the root word and to a short vowel sound in that syllable except when the vowel sound is controlled by r." (William S. Gray, *On Their Own in Reading*, Revised edition, Scott, Foresman & Co., 1960, p. 144)

Williams recommended introducing the phonogram *er* — both stressed and unstressed /er/ — in one activity:

> "To teach the phonogram *er*, have children identify it in familiar words such as *her, mother, father, over*, and *other* which should be written on the board. After the phonogram has thus been presented, write on the board words they will soon meet in their reading which contain the phonogram *er* and have the children pronounce them." (p. 31) **[61]**

Later Williams "teaches" the phonogram *er* as an inflectional ending:

> "The phonograms *est* and *er* have already been presented in simple sight words: rest, best, west, and over, other, mother, father.
> Use these phonograms now as inflectional endings or suffixes with such adjectives as *warm, cold, sweet*, etc. to indicate comparison. "(p. 36)

Finally, Williams "teaches" suffix *er*:

> "By the use of the following words ending in *y* it may be shown that only the words taking the suffix *ing* retain the *y*."

(Examples:)	er	ing
merry	merrier	
easier	easier	marrying
busy	busier	hurrying

(Linda Williams, *How to Teach Phonics*, Hall & McCreary Co., 1941, p. 70)

(obfuscation continued)

The *er* is a syllable in

mother /'məth-ər/ *matter* /'mat-ər/ *other* /'əth -ər/

The er is part of a syllable in

roller /'rō-lər/ *paper* /'pā-par/ *wonder* /'wən-dər/

The sample has one redeeming feature: the pupils are directed to point to the letters *er* in *mother, matter, other*. Hence, the misconception of pointing to sounds in a written word was avoided.

On the other hand, Williams recommended teaching the phonogram both in isolated words and in a sentence context. This application in the context of the textbook is crucial in both cognition and recognition. Furthermore, she emphasized syntax and morphology by having the pupils add *er* to selected words — hopefully useful immediately in legitimate reading activities.

> "The phonogram *er*
> To teach the phonogram *er*, have the children identify it in familiar words such as: *her, mother, father, over*, and *other* which should be written on the board. After the phonogram has thus been presented, write on the board words they will soon meet in their reading which contain the phonogram *er* and have the children pronounce them."

Extant textbooks on the methodology of reading have introduced newer terms: *graphemes, phonemes, morphemes, graphophonics*. These terms replace *letters, sounds, roots and affixes, sound-spellings* without contributing to an improved teaching program.

Recent textbooks on the teaching of reading are really *about* reading rather than on *how* to teach reading, especially word perception. In general, only a very brief mention is made of "vowels controlled by *r*." For example, on page 54, **Harris and Sipay** list *ir, or*, etc. (performance of) as in *teacher, sailor*. Inflectional endings (e.g., *er* of *warmer*) are not mentioned in the index **[30].**

Fry quotes the usual "vowel plus *r*" rule:

> "When the letter *r* follows a vowel, the vowel is usually neither long nor short." (p. 28) **[22]**

He then discusses stressed vowel plus r in the following paragraph:

> "First of all, the digraphs IR, ER, and UR all make the same sound, as seen in the example words "sir," "her," and "fur." Different dictionaries handle these vowels in different ways — short U's, schwas, etc. — but the sound is just like the consonant plus an /r/."

Fry discusses "Phonics: Our Alphabet, Phonemes, Methods" in chapter 2, pages 20–48. Here he reports on vowels and consonants, phonemes and graphemes, vowel principles (rules), homophones, phonics tests, but methods are conspicuously absent.

> "Phonic Correspondences for Single Vowels, Vowel Combinations, and Vowel Generalizations" are listed on page 170 by **Hall, Ribovich, and Ramig**. But here only stressed "R-Controlled Vowels" are even listed: *a-car, e-herd, i-bird, o-cord, u-fur*. Of course, the vowel in *herd, bird, fur* is stressed /ər/, not *e, i, u*! Apparently, *er, ir*, and *ur* are not one of those graphophonic clues. A nod is given to consonant clusters (blends) with *r* on page 131; e.g., *br, cr, str,* etc. **[29]**

Miller proposes:

> "Phonic analysis is a very important word recognition technique also presented at the initial stages of reading instruction in most approaches. Phonic analysis involves determining the pronunciation and meaning of unknown words by associating phonemes (sounds) with the graphemes (symbols) that represent them." (p. 5) **[41]**

In chapter 7, "Phonics," pages 97–117, she lists:

> or with the magic e
> ore, more, pore, snore, sore
> or without the magic e
> or, for, corn, horn (Miller, p. 104)

On pages 113-114, Miller lists among the vowels:

e h*e*rd, w*e*ar, *e*arn, s*e*rgeant
a *a*rm, *a*ir,
i b*i*rd
o *o*r, w*o*rm
u f*u*r

Incidental attention is given to suffix *-er* on page 180.

This is the phonics program in its entirety. It avoids crucial and basic issues in both the foundations of word perception and methodology. (**Betts**, "*Reading: Phonics Countdown*," 1974 **[2]**; **Betts**, "Spelling and Phonics," 1976) **[5]**

Centering Diphthong /ar/ (*ar* as in *far*)

	[ar]	(**Bronstein**, p. 117)
	[ar]	(**Prator**, "In short position before r," pp. 113, 120)
	[ɑ]	(**Thomas**, p. 90)
	[ar]	(**Cordts**, p.103)
	[ar]	(**Kenyon**, p. 222)

Phonemics:

Webster	/är/
Thorndike-Barnhart	/är/

Dictionary:

Random House	/är/

Classification: centering diphthong

Phonology.
Several symbols are used to designate the vowel sound in *(a)re, h(ea)rt, h(o)t:*

I.P.A.	[ɑ]
Trager & Smith	[a]
Thomas	[ɑ]
Carrel & Tiffany	[ɑ]
Lloyd	[a]
Fries	[a]
Webster (G & C)	/ä/ (two-dot a)
Thorndike-Barnhart	/ä/ (two-dot a)
Random House	/ä/ (two-dot a)
i.t.a.	ɑ ("ahn")
W.E.S. (Dewey)	aa

Bronstein makes this comment regarding centering diphthongal glides:

> "All front and back vowels may glide into the central vowels [ə] or [Unicode"'>ɚ].
> Words spelled with *r* following a vowel in the same syllable (such as *fear* and *poor*) are diphthongal forms in our language." (p. 199) **[9]**

In terms of tongue position, the vowels /ər/ [ɝ] and /ər/ [ə] are mid vowels. That is, in the formation of the vowels, the highest part of the tongue is at the central area, or mid point, of the mouth.

For these *r*-colored vowels in *b(ir)d* and *moth(er)*, the tongue tip is usually turned up toward the portion of the glide /r/. The lips are open and neutral. The retroflex /ər/ of *bird* /'bərd/ is *tense, stressed*, and usually "long." On the other hand, the /ər/ of mother is *lax* and *unstressed*.

Carrel and Tiffany offer this opinion:

> The [ɑr] diphthong features an off-glide from the relatively low back [ɑ] to the central-vowel position for [ɝ] or [ɜ]. Among those who do not pronounce their *r*'s, the glide is either toward [ɜ] or virtually absent. In the latter case the *monothong* [ɑ is increased in length and the vowel

distinguished from the [ɑ] of father in this way. The symbol for the long monothong [ɑ]. (Carrell and Tiffany, *Phonetics*, McGraw-Hill, 1960, p. 159) **[10]**

[ɑ] is a low, back vowel. It occurs at the beginning and middle of words, and is spelled *a* as in *arm, calm, farm*. (**Charles Kenneth Thomas**, *Phonetics of American English*, The Ronald Press, 1958, p. 90) **[52]**

Kantner and West recommend use of [r] for broad versus narrow transcriptions:

" ... In accordance with general practice among American phoneticians, [r] is used here to represent in broad transcriptions any of our American consonantal or glide *r*'s. . . " (Kantner and West, p. 293)

"In broad transcription, if any one symbol is to be used to represent all the *r* sounds (except the vowel forms) it should be [r]" (Kantner and West, 1960, p. 173) **[34]**

Prator believes:

The ɑ in the short position followed by *r* usually has the sound [a]: *arm* [arm]. (Prator, *Manual of English Pronunciation*, Holt, Rinehart & Winston, 1957, p. 113) **[44]**

Bronstein records the long sound of *a* in *yard*:

As [a] is the lowest of the back vowels ... the sound is ... long in such words as *yard* ... (Arthur J. Bronstein, *The Pronunciation of American English,* Appleton-Century-Crofts, 1960, **[9]**

On the other hand, **Kantner & West** offer this opinion:

The [r] sound is seldom heard as a glide. . . In the word *are* [ar]; ... the [r] is the acoustic effort of moving to the [ɚ] position. (Kantner & West, *Phonetics*, Harper & Brothers, 1941, p. 119) **[34]**

Carrel and Tiffany **[10]** cite a list of "words nearly always pronounced with [ɑr], rather than [ɔr]!" including *are, farm, large*.

They also cite "words which may be pronounced with [ɑr] or [ɔr]," including:

Entry	*Webster's**	*Thorndike-Barnhart*
forest	/'for-a-st, 'fär/	/fôr'-ist/
sorrow	/sär'ō/	/'sor'-ō/
foreign	/'for-an,'fär-/	/fôr'-an/
borrow	/'bär-ō/	/bor'-ō/

*Some of these alternate pronunciations are recorded in Webster's *New Secondary School Dictionary* (1959).

Wijk cites three pronunciations of the combination ar:

1. /är/ as in *car* /'kär/, *garden* /'gärd-n/
2. /ear/ as in *care* /'kear/, *vary* /'vear-ē/

Note: In this category of pronunciations, he also lists *parent* /'par-ant,'per-/ /per'ant/, or /'par-ant/.

3. /ar/ as in *baron* /'bar-an/, /bar'-an/, *marry* /'mar-ē/, /mar'-ē/

"Whenever the pronunciation of the combination *ar* deviates from the general rules concerning the distribution of the three pronunciations, the spelling will have to be changed in Regularized Inglish. This is only the case in a few words. In accordance with the principle stated the following changes in the present spelling are suggested:

1. For "are," write ar." (Wijk, *Regularized English*, 1959, pp. 160–161) **[59]**

Ripman and Archer emphasize alternate pronunciations of *ar*:

"The combination of vowel or diphthong with *r*, not followed by a vowel, is variously pronounced by English speakers, and this variation has to be taken into account!' (Ripman & Archer, *New Spelling*, 1948, p. 44) **[46]**

T.O. and Dictionary Respellings of /ar/.

Phonogram	*Word*	*Webster's*	*Thorndike-Barnhart*
ar	bar	/'bär/	/bär'/
aar	bazaar	/ba-'zär/	/ba-zär'/
are	are	/ar, är/	/är or ar/
arr	starry	/'stär-ē'/	/stär'-ē/
er	sergeant	/'sär-jant/	/sär'-jant/
ear	heart	/'härt/	/härt'/
orr	sorrow	/'sär-o/	/sor'-o/
uar	guard	/'gärd/	/gärd'/

Note 1: /ar/ in unstressed position, e.g., function word *are* as /ər/
Note 2: Some pronunciations of or in *forest* /'for-əst/, *sorrow* /'sar-o/ or /sor'-o/, *foreign* /'for-an/, *moral* /'mor-al/ or /mor'-al/, *torrid* /'tor-ad/ or /tor'-id/. (See **Carrel and Tiffany, p. 132)** **[10]**

The spelling *ar* in *bar* and *farm* is a phonogram representing /ä/ plus *r; ar* in the function word are represents /ar/ in the unstressed position (e.g., *collar*) and /ä/ plus *r* in the stressed position. In the teaching of reading, *ar* is a phonogram, e.g., *far, farmer*.

The phonogram *ar* /är/ is used at the beginning (e.g., *arm*), the middle (e.g., *farm*), and at the end (e.g., *bar*) of words.

Reform Spellings.
The following is a list of words comparing W.E.S. and i.t.a. spellings with T.O. (traditional orthography) and dictionary (Webster's New Elementary Dictionary, 1970) respellings:

T.O.	*Dictionary*	*W.E.S.*	*i.t.a.*
are	/ər, är/	ar	ɑr
bar	/'bär/	bar	bɑr
bargain	/'bär-gən/	bargen	not available
bazaar	/bə-'zär/	bazaar	bazɑɑr
borrow	/'bär-o/	borroe	borroe
foreign	/'for-ən/	foren	foren
guard	/'gärd/	gard	gard
heart	/'härt/	hart	hɑrt
sergeant	/'sär-jənt/	sarjent	sɑrjeant
sorry	/'sär-e/	sorry	sorry
startle	/'stärt-l/	startl	startl
starve	/'stärv/	starv	stɑrv

A casual inspection of **Wijk**'s Regularized English reveals one spelling of /ar/:

Phonogram	*T.O.*	*Wijk*
ear	heart	hart
er	sergeant	sargent

Phonic Rules.
Rules listed in books on the teaching of phonics provide little, if any, real help:

> "A vowel followed by *r* has neither the long nor short sound — the vowel is modified by *r*." (**Heilman**, Phonics in Proper Perspective, Charles E. Merrill Pub. Co, 1964, p. 9) **[31]**

Examples *car, fir, fur, her, for, part, bird, hurt, perch, corn*, etc.

> "A vowel (or vowels) followed by the letter *r* results in a blended sound with neither the short nor the long sound of this vowel." (Heilman, p. 68)

"Vowel-r combinations — the vowel letter has its sound modified or controlled by the *r*, e.g., *car, learn, fern, bird, word, far, fur*." (**Scott & Thompson**, *Phonics*, Webster Pub. Co., 1962, p. 348) **[47]**

Fry's discussion of /ar/ is limited to the paragraph below:

"When an A or an O is followed by an R, the situation is different. OR is rather uncomplicated in that it usually makes the sound heard in "for." But AR is a bit more complex in that it makes two different sounds as heard in the words "arm" and "vary." Both of these A sounds are a little difficult to teach because they are relatively infrequent. Some dictionaries mark the first with an umlaut or double dot over the /ä/ as in "arm," and a tilde over the /˜/ as in "vary." One help is that these A's usually precede an R; however, the second sound is also sometimes spelled AIR as in "fair." (Edward Fry, *Elementary Reading Instruction*, McGraw-Hill, 1977, p. 29) **[22]**

In his pamphlet on phonics, **W. S. Gray**, an eminent scholar, fell into the same trap as tyro authors. Here is his rule:

"Consonant controllers: If the only vowel is followed by *r,* the sound of the vowel is usually governed by the *r*, proceed as follows:

1. We know that the vowels *a* and *i* are neither long nor short when they are followed by the letter *r*. Write the words *bird, first, third, car*, *cart, far, park, start* and have the words pronounced. Call attention to the fact that each of the words has a vowel letter in the middle of it but that the letter does not have the short sound. Lead the pupils to conclude that the vowels are not short because they are followed by *r*.

2. (Irrelevant to är /ar/)

3. Write the words *had* and *hard* on the blackboard. Discuss why the vowel in the word is short. Bring out the fact that the word has only one vowel letter and that it is in the middle of the word. Ask pupils to tell why the vowel in the word *hard* is not short. . ." (Gray, *Developing Word Attack Skills*, Grades 1–3, Scott, Foresman, 1947, p. 32) **[26]**

Hay and Wingo made a tangential and somewhat obscure approach to "teaching" the phonic skills relative to /är/:

"In this activity each of the sounds of the murmuring diphthongs *or*, as in *for*, and *ar*, as in *farm* (is taught). A test is given on this page for *or* and *ar*. (Hay, Wingo, *Reading with Phonics*, Teachers' Edit. J.B. Lippincott Co, 1948, p. 80)

On page 80, 16 *or* words (e.g., *for, fork*) and 16 *ar* words (e.g., *far, farm*) were presented in isolation, followed by 20 "scrambled" words in a test.

On page 82: "On this page appears a phonetic story containing *ar* words." For example:
"Betty, have you seen my little red cart?"
"Yes, Bobby. It is in the barn or the yard," said Betty.

For the words *cart, barn, yard*, the first three letters were printed in red; the rest in black. This did have the advantage of calling attention to the phonograms *car* (cart), *bar* (barn), and *yar* (yard) in the whole word!

In a very brief presentation of *ar*, **Williams** recommended the consonant "substitution" technique plus use of both initial and final blends:

"Have the children hear and show the like elements in key words such as *cart, bark*, and *farm*. Build on either side of the phonogram, change initial or final consonants to make new words. From *farm* get *farmer, far*, and *arm*.
Change *arm* to *harm, harm* to *hard*. From *cart* get *cars, car, carpet*. Change *car* to *bar*, and in turn get *jar, tar, star, start, art, part*, and *party*. Children will enjoy the exercise and gain alertness in recognizing and blending parts in pronouncing." (Williams, *How to Teach Phonics*, Hall & McCreary, 1941, p. 33) **[61]**

In her Colorado phonics program, **Nettie S. Freed** makes no mention of the ir /ar/ situation. (Freed, *The Program in Word Analysis*) **[20]**

In Conclusion.
Graphic *r* represents both consonant and vowel phonemes and, therefore, is a maverick for both phonemicists and orthographers. Hence, it provides frustration par excellence for educators concerned with phonics — the relationships between graphemes (spellings) and phonemes (sounds). Perhaps this and succeeding reports on graphic r will have served one primary purpose: to spotlight traps and, at the same time, to offer a rationale for regularizing spellings for beginners in reading.

References.

1. Betts, Emmett Albert. "Function Words: Grammatical Indicators," ***Spelling Progress Bulletin***, XVII, No. I, (Spring 1977), 12–18.
2. —. "Perceptual Learning: Phonics Countdown," *Florida Reading Quarterly*, X, No. 2, (Jan. 1974), 3–7.
3. —. "Reading: Perceptual Learning," *Education*, LXXXIX, No. 4, (Apr. May 1969), p. 291–297.
4. —. "Reading: Phonemic Basis of Word Perception," ***Spelling Progress Bulletin***, XIII, No. 4, (Winter 1973), 10–16.
5. —. Spelling and Phonics," ***Spelling Progress Bulletin***, XVI, No. 2, (Summer 1976), 10–18.
6. —. "Stress: Syllable and Phrase," ***Spelling Progress Bulletin***, XVI, No. 4, (Winter 1976), 2.
7. —. Word Perception: Processes & Medium," ***Spelling Progress Bulletin***, XV, No. 3, (Fall 1975), 8–10.
8. Bloomfield, Leonard. Language. New York: Henry Holt. & Co., 1933.
9. Bronstein, Arthur J. *The Pronunciation of American English*. New York: Appleton-Century-Crofts, Inc., 1960.
10. Carrell, James, and Tiffany, Wm. R. *Phonetics*. New York: McGraw Hill Book Co, 1960.
11. Chomsky, Noam. "Phonology and Reading," in H. Levin & J.P. Williams (Editors). *Basic Studies in Reading*. New York: Basic Books, 1970, 3–18.
12. Classen, E. *Outlines of the History of the English Language*. New York: Greenwood Press Pub. 1919
13. Cordts, Anna. *Manual in Reading and Phonetics*. Boston: Ginn & Co., 1936.
14. Dewey, Godfrey. *Relativ Frequency of English Speech Sounds*. Cambridge: Harvard Univ. Press, 1923.
15. Dewey, Godfrey. *Relative Frequency of English Spellings*. New York: Teachers College Press, 1970.
16. Durrell, Donald, and Sullivan, Helen. *Building Word Power*. New York: World Book Co, 1941.
17. Fitzgerald, James. "The Vocabulary of Children's Letters Written in Life outside the School," *Elementary School Journal*, XXXIV, (Jan. 1934), 358–370.
18. —. "The Vocabulary of Spelling Errors of Third-Grade Children's Life Letters," *Elementary School Journal*, XXXVIII, (Mar. 1938), 518–527.
19. Francis, W. Nelson. *English Language*. New York: W. W. Norton & Co., 1965.
20. Freed, Nettie S. *The Program in Word Analysis*. Denver, Colorado State Dept. of Education, (undated).
21. Fries, Charles C. *Linguistics and Reading*. New York: Holt, Rinehart & Winston, 1963.
22. Fry, Edward. *Elementary Reading Instruction*. New York: McGraw Hill Book Co, 1977.
23. Gates Arthur I. *A List of Spelling Difficulties in 3876 Words*. New York: Bureau of Pub., Teachers College, 1937.
24. Gates, Arthur, and Bennett, Chester. *Reversal Tendencies in Reading*. New York: Bur. of Pub., Teachers College, 1933.
25. Gleason, H. A., Jr. *An Introduction to Descriptive Linguistics*. New York: Holt, Rinehart & Winston, 1961.
26. Gray, Wm. S. *Developing Word Attack Skills*. Chicago: Scott, Foresman & Co., 1947.
27. —. *On Their Own in Reading*. Chicago: Scott, Foresman & Co., 1960.
28. Hall, Robert A., Jr. *Introductory Linguistics*. New York: Chilton Books, 1964.
29. Hall, M. A., Ribovich, J. K., and Ramig, C. J. *Reading and the Elementary School Child*. New York: D. Van Nostrand Co., 1979.
30. Harris, Albert, and Sipay, Edward. *How to Increase Reading Ability.* New York: David McKay Co., 1975.

31. Heilman, Arthur. *Phonics in Proper Perspective.* Columbus, Ohio: Charles E. Merrill Books, 1964.
32. Hunter, G. B. "English Spelling: A Business Man's View," in W. Ripman et al. *Simplified English Spelling*. London: Andrew Reid & Co., 1930, 27–31.
33. Judson, Lyman S. V., and Weaver, Andrew T. *Voice Science*. New York: Appleton-Century-Crofts, 1965.
34. Kantner, Claude E., and West, Robert. *Phonetics*. New York: Harper & Brothers, 1941, 1960.
35. Kenyon, John S., and Knott, Thomas A. *A Pronouncing Dictionary of American English*. G. & C. Merriam Co., Springfield, Mass., 1949.
36. Kurath, Hans. *A Phonology and Prosody of Modern English*. Ann Arbor, Mich.; Univ. of Michigan Press, 1964.
37. Lloyd, Donald J., and Warfel, Henry R. *American English in its Cultural Setting*. New York: Alfred A. Knopf, 1956.
38. Lounsbury, Thomas R. *English Spelling and Spelling Reform*. New York Harper & Brothers, 1909.
39. Manser, Ruth B. *Speech Improvement on the Contract Plan*. Philadelphia: Chilton Co., 1961.
40. Martinet, André. *General Linguistics*. Chicago: Univ. of Chicago Press, 1964.
41. Miller, Wilma. *The First R: Elementary Reading Today*. New York: Holt, Rinehart & Winston, 1977.
42. Pike, Kenneth L. *Phonemics*. Ann Arbor: Univ. of Michigan Press, 1947.
43. Pitman, Sir James. *The Assault on the Conventional Alphabets and Spelling*. Manchester, Eng.: Manchester Univ. Press, 1964.
44. Prator, Clifford H. *Manual of American English Pronunciation*. New York: Holt, Rinehart & Winston, 1957.
45. Pyles, Thomas, and Algeo, John. *English: An Introduction to Language*. New York: Harcourt, Brace & World, 1970.
46. Ripman, Walter, and Archer, Wm. ***New Spelling***. London: Sir Isaac Pitman & Sons, Ltd., Pitman House, 1948.
47. Scott, Louise B., and Thompson, J. J. *Phonics*. St. Louis: Webster Pub. Co., 1962.
48. Scragg, D. G. *A History of English Spelling*. Mont Follick Series, Vol. III. Manchester, Eng.: Univ. of Manchester Press, 1974.
49. Sledd, James. *A Short Introduction to English Grammar*. Chicago: Scott, Foresman & Co., 1959.
50. Smith, Nila Banton. *Word Recognition and Discrimination Development*. New Yak: Silver Burdett Co., 1937.
51. Spalding, Romalda B., and Spalding, Walter T. *The Writing Road to Reading*. New York: Whiteside, Inc., and William Morrow & Co., 1957.
52. Thomas, Charles Kenneth. *An Introduction to the Phonetics of American English*. New York: Ronald Press, Co., 1958.
53. Trager, George, and Smith, Henry L., Jr. *An Outline of English Structure*. Washington: Amer. Council of Learned Societies, 1957.
54. Venezky, Richard L. *The Structure of English Orthography*. The Hague: Netherlands: Mouton, 1970.
55. Warfel, Harry L. Language — *A Science of Human Behavior*. Cleveland: Howard Allen, 1962.
56. West, Fred. *The Way of Language: An Introduction*. New York: Harcourt Brace Jovanovich, Inc., 1975.
57. Wijk, Axel. *Regularized English: An Investigation into the English Spelling Reform Problem with a New, Detailed Plan for a Possible Solution*. Stockholm: Almqvist & Wiksell, 1959.
58. —. *Regularized English: A Proposal for an Effective Solution of the Reading Problem in the English-Speaking Countries*. Stockholm: Almqvist & Wiksell, 1977.
59. —. *Rules of Pronunciation of the English Language*. London: Oxford Univ. Press, 1966.
60. —. *The Principle Differences in Spelling Between Traditional Orthography and Regularized Inglish*. (Typed) Stockholm: (Obtained through personal correspondence), 1979.
61. Williams, Linda. *How to Teach Phonics*. Chicago: Hall & McCreary Co., 1941.
62. Wise, Claude M. *Introduction to Phonetics.* Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1957.
63. Zachrisson, R. E. "Anglic and the Anglic Muvment," in W. Ripman, et al. *Simplified English Spelling*. London: Andrew Reid & Co., Ltd. 1930, 9–14.

-o0o-

[Spelling Progress Bulletin Fall 1979 pp11–17 in printed version]
*[Katherine Betts: see **Bulletins**.]*

Language, Orthography, and the Schwa,

by Katherine P. Betts, Ph.D.*

*Winter Haven, Fl, U.S.A. Presented at Nene College, Northampton, England, July 1979, International Conference of the Simplified Spelling Society.

This treasure, this symbolic storehouse of all man's recorded knowledge, this uniquely human behavior we call *language* does not readily yield insights and solutions to its mysteries. To those few whose artistry flows from their pens, we assign immortality. To those of us captivated by the study and analysis of language structure, we offer the inevitable debates arising from different disciplines and from various vantage points.

In the annals of language description and analysis, linguistics is a relatively recent discipline, as is its off-spring — psycholinguistics. Hence, lack of consensus and pluralism are appropriate and predictable. Contrastively, as we know, the battle for changing the vagaries and complexities of English spellings (orthography) has raged for centuries.

Despite their efforts, orthographers and alphabeteers have not changed, to any great degree, the way we spell the English language. (We have, in a limited way, used other alphabets, e.g., i.t.a., for beginning reading instruction.) But their greatest contribution, at this juncture, is the elevated status of orthographic study (e.g., included in college textbooks on reading instruction). That day is here, long overdue ultimate dream of orthographic practitioners has been cohesive, as illustrated by **Dewey** (1971, p. 6) **[6]** a few years before his death:

> A wholly simple phonemic spelling of English would have only one grapheme corresponding to each phoneme, and only one phoneme corresponding to each grapheme. Our currently accepted T.O. (traditional orthography) is deficient in that it has only 26 letters, 3 of which (*c, q, x*) are for all practical purposes duplicates to represent about 41 sounds — probably the optimum number for a phonemic notation for general use. Largely in consequence of this deficiency, it is also defective in having a multiplicity of spellings for the sounds and a multiplicity of pronunciations for the spellings. Several symbols for one sound are a major obstacle to writing (more particularly spelling); several sounds for one symbol are a major obstacle to reading. The impact of this confusion is the most obstructive single factor in elementary education — in effect, a roadblock to reading, which is not only itself the most important subject of elementary education but also the medium thru which much of the rest of elementary education is carried on.

But the problems of fruition have, for one, been captured by **Wijk** (in Haas, 1969, p. 58) **[9]**:

> The problem of devising a suitable new system of orthography for English may perhaps at first seem to be a comparatively easy one; but anyone who endeavours to penetrate more deeply into the question will soon find that it is fraught with formidable difficulties. The mere fact that the numerous attempts which have been made to solve it, both by eminent individual scholars and by societies specially founded for the purpose, have all failed to produce an acceptable solution, is in itself a sufficient indication of the intricate nature of the problem.

Is the goal of one-to-one phoneme-grapheme correspondence for English orthography an impossible dream? Or has it been achieved? These and other questions will be explored in this discussion of the schwa /ə/ and its implications.

Admittedly, the schwa /ə/ phoneme is a miniscule element in the tapestry of the English language. Yet it serves as a classic example of problems plaguing any re-definition of English orthography and the teaching of reading/ writing skills.

The sound of *a* in *about*, or the schwa (a German modification of the Hebrew word *sheva*, originally meaning a diacritical marking of a vowel), entered the English language more than nine centuries ago, as explained by **Scragg** (1974, pp. 11–12):

> As a whole, Old English spelling as developed in the West Saxon tradition was much newer a one-to-one relationship with sounds than its Modern English descendant. . . The widespread use of a single stable spelling system for an extended period meant that the accuracy of phonemic representation was increasingly disturbed in the eleventh century, and spellings which had a one-to-one relationship with sounds gradually lost it as the phonemic pattern altered. . . Vowels in unstressed syllables gradually fell together in /ə/ [schwa], so . . ., for example, the symbols *a, e, o* all represent the same unstressed vowel; eleventh century scribes frequently confused these graphemes (and also u) in inflectional endings and affixes.

Some pertinent points regarding stress and its effects on sounds have been summarized by **Classen** (1919, p.209) **[5]**:

> It is found that all language sounds in stressed syllables have not the same [historical] development as sounds in unstressed syllables. This is only another way of saying that all sounds are combinatory, since their development is bound up with stress. But setting aside this point for the moment, it is clear that a sound which is stressed will have more resistance to changes of a certain kind than a sound which is not stressed, for it will not be slurred over in pronunciation, it will be more clearly pronounced and any divergence from the normal will be more noticeable than if it were unstressed. On the other hand, an unstressed sound tends to be slurred and shortened, especially in those languages in which the stress tends to fall on the syllable which really conveys the meaning, for in such languages unstressed syllables are less important from the point of view of significance. Hence there is usually in language less variety of sound and quantity in unstressed syllables than in stressed ones.

Definition
The schwa /ə/, e.g., the sound of *u* in *but*, one of nine simple (or "short") vowels in the English language, is articulated in the mid-central, lax position in American English dialects, somewhat farther back in British English dialects. It is an unrounded vowel in the respect that the lips do not enter into its articulation. Phonetically, the schwa /ə/ (represented by *o* in *abbot*) is differentiated from its stressed allophone /ʌ/ (represented by the *o* in *mother*); phonemically, these variant sounds of schwa appear to be allophones of a single phoneme, a family of sounds in complementary distribution. Phonetically, the schwa-plus-*r* (e.g., *er* in *mother*) is considered *one* phoneme /ə˞/; phonemically (particularly in dictionary respellings), it has been interpreted as *two* phonemes /ər/. The schwa-plus-*r*, beyond the scope of this discussion, has been delineated in a companion paper by Emmett Albert **Betts**. "Implications of Spellings: **"Graphic R".**

In G & C Merriam's Webster's New Elementary Dictionary (1970, p. 26a), the *phonemic* definition of schwa is evident:

The sound represented by the symbol ə (called schwa) is one of the most common in the English language. When stressed this sound is spelled with the letter *u* in *cut*. . . . with *oo* as in *blood*, and with *o* as in *son, done*, and *color*.

When unstressed this sound may be spelled with any of the vowel letters as in *about* /ə-baut/, *silent* /'sī-lənt/ *maritime* /'mer-ə-tīm/, *collect* /kə-lekt/, *suppose* /sə-'pōz/, and *cylindrical* /sə-'lin-dri-kəl/.

Phonemic Basis
General Comments. The delineation of *phonemes* (a linguistic abstraction) and the differentiation between *phonetics* and *phonemics* (branches of phonology) appear crucial to this discussion. Hence, **Gleason's** (1961) interpretation **[8]**:

> The *phoneme* is the minimum feature of the expression system of a spoken language by which one thing that may be said is distinguished from any other thing that may be said. (p. 16)
>
> A *phoneme* is a class of sounds which: (1) are phonetically similar and (2) show certain characteristic patterns of distribution in the language or dialect under consideration.
>
> The simplest of the patterns of distribution is free variation. The human vocal apparatus operates with an incredibly high degree of precision, but it is still far from exact. If the word key [two phonemes is pronounced, even by a single speaker, a hundred or so times and all the measurable features of each /k/ are measured, it will be found that no two are exactly alike. They will, however, cluster about certain average characteristics. . . Any two sounds (e.g., stressed and unstressed schwa) which are always in free variation cannot be two phonemes but only two points within the range that constitutes one phoneme. (pp. 261–267)

Linguistic pluralism regarding the classification of English phonemes was pinpointed by **Wise** in 1957; his comments, still valid today **[18]**:

> The specific phonemes of the English language have never been completely agreed upon; on the contrary, those who have thought most deeply and effectively on designating them still change their minds occasionally as to what the phonemes are and what they include. . . two [definitions] have proved more useful than any others, viz., [Daniel] Jones' statement that a phoneme is a *family of sounds*, and **Bloomfield's** that a phoneme is a *minimum unit of distinctive sound features*. (pp. 74–75) **[3]**

Pike's (1947, p. 57) **[11]** metaphor clarifies the differing linguistic objectives of phonetics and of phonemics; as he points out:

> Phonetics gathers the raw material. Phonemics cooks it. Practical phonetics provides a technique for describing sounds in terms of movements of the vocal apparatus, and for writing them in terms of articulatory formulas., i.e., as letters of a phonetic alphabet. Practical phonemics provides a technique for processing the rough phonetic data in order to discover the pertinent units and to symbolize them in an alphabet easy for the native to read. The purpose of practical phonemics, therefore, is to reduce a language to writing.

Phonemic Status of the Schwa

That the phonemic status of the schwa /ə/ has been diversely interpreted in extant dictionaries and by eminent scholars cannot be denied. The schwa is the most frequent vowel sound in English discourse (i.e., speech); its phonemic status, clouded by several factors: (1) the use of two symbols (/ə/ for *a* in *sofa*, /ʌ/ for *u* in *cut*) in phonetic alphabets, (2) a plethora of symbols in dictionary respellings (e.g., Emmett **Betts**, 1973, p. 13, **[1]** identified 12 dictionary pronunciation symbols used between 1944 and 1953 for the schwa sound), (3) diverse interpretations in orthographic studies (e.g., **Venezky**, 1970, **[16]** versus **Dewey**, 1971 **[6]**), (4) the ambiguous relationship of the schwa and its stressed allophone to the phonetic schwa-plus-*r* /ɚ/ e.g., *broth(er)* and its stressed allophone /ɝ/ (e.g., *b(ir)d*), and (5) shifts of stress in speech utterances (e.g., ham and eggs versus *ham 'n eggs*).

If one accepts the premise that the schwa and its stressed allophone are separate phonemes, then logically one also accepts the notion of separate phonemes for: the unstressed (e.g., *moth(er*) and stressed (e.g., *b(ir)d*) allophones of /ar/, 8 other simple vowels, as well as 27 additional vowel nuclei (not all of which appear in any one dialect) articulated as off-glides with one of three semi-vowels (*h, w, y*), plus two diphthongs (as in *(ou)t, b(oi)l*), and the on-glide /yü/ (as in *c(u)te*). All of these, beyond the scope of this discussion (see Gleason, 1961, or Trager Smith, 1957); all of these, only the vowels!

A few years ago, Emmett **Betts** (1973, p. 13) **[1]**, discussing the schwa as part of a comprehensive article on the phonemic basis of word perception, made this observation:

> "It will be noted that the schwa /ə/ is used phonemically in both the 1956 and 1970 editions of *Webster's New Elementary Dictionary*. This phonemic approach simplifies the use of pronunciation symbols and, therefore, makes the pronunciations more accessible to both child and adult." Further on, he provided a list of scholars who address the schwa phonemically and a list of scholars who have a phonetic orientation. An independent compilation made for this discussion is a bit longer and includes all the names on his list, with a change for Trager and Smith, who are now on the phonemic side of the fence. Also, Robert Hall, depending upon his objective, appears on both lists.

Thus the schwa /ə/ for designating both stressed (e.g., *m(u)d*) and unstressed (e.g., *(a)bove*) allophones is used by John B. Carroll (*Language and Thought*), 1964, W. Nelson Francis (*English Language*, 1965), H. A. **Gleason**, Jr. (*An Introduction to Descriptive Linguistics*, 1961 **[8]**), Robert A Hall, Jr. (*Sound and Spelling in English*, 1961), Archibald A. Hill (*Introduction to Linguistic Structures*, 1958), Chas. F. Hockett (*A Course in Modern Linguistics*, 1958), Herbert Landar (*Language and Culture*, 1966), Donald L. Lloyd and Harry Warfel (*American English in its Cultural setting*, 1963), Kenneth L. **Pike** (*Phonemics*, 1947 **[11]**), Clifford R. **Prator**, Jr. (*Manual of American English Pronunciation*, 1957 **[12]**), Paul Roberts (*Patterns of English*, 1956), Peter H. Salus (*Linguistics*, 1969), Norman C. Stageberg (*An Introductory English Grammar*, 1965), Richard L. **Venezky** (*The Structure of English Orthography*, 1970 **[16]**), Henry R. Warfel (*Language — A Science of Behavior*, 1962).

Authors espousing the phonetic interpretation of the schwa /ə/ and, therefore, classifying the schwa and its stressed variant /ʌ/ as separate phonemes include Arthur J. **Bronstein** (*The Pronunciation of American English*, 1960 **[4]**), Jon Eisonson and Paul H. Boase (*Basic Speech*, 1956), Louis H. Gray (*Foundations of Language*, 1939), Robert A. Hall, Jr. (*Introductory Linguistics*, 1964), Claude E. **Kantner** and Robert **West** (*Phonetics*, 1941 **[10]**), John S. Kenyon (*American Pronunciation*, 1950), Ralph R. Leutnegger (*The Sounds of American English*, 1963), Albert H. Marckwardt (*Introduction to the English Language*, 1942), Dorothy Mulgrave (*Speech*, 1954), Thomas Pyles (*The Origins and Development of the English Language*, 1964), Charles K. **Thomas** (*Phonetics of American English*, 1958 **[15]**), Axel **Wijk** (*Rules for the Pronunciation of the English Language*, 1966 **[17]**).

One of these authors, Charles K. **Thomas** (1958, p. 58 **[15]**) pinpoints some problems with perceiving the schwa in unstressed syllables:

Many people remain completely unaware of the existence of /ə/, partly because of the variations in spelling conceal it, partly it is often interchangeable with unstressed /i/, and partly because of the natural tendency when an unstressed syllable is examined, to add stress to it, thereby changing its quality. The vowel /ə/ is, however, *one of the most frequent in English*, and its use is essential to good English pronunciation. Proper balance between emphatic and unemphatic material is as important in speech as is balance between singer and accompanist, or between foreground and background in a painting.

Thomas (1958, pp. 10–11) also concurs with Emmett Betts in reference to dictionary respellings of the schwa:

> . . . With rare exceptions we are visually minded; we rely more on our eyes than on our ears. We feel uncertain about an unfamiliar word till we can visualize its spelling, however odd that spelling may be. Our dictionary makers encourage this visual tendency, else we should not have so many symbols in all but the most recent dictionaries for the unstressed vowel [schwa] common to *(a)count, sod(a), sil(e)nt, Apr(i)l, c(o)nnect,* and *circ(u)s*.

Arthur **Bronstein** (1960, pp. 180–181 **[4]**), another of these phoneticians, has addressed the complex phonemic status of the schwa, noting the absence of "a satisfactory and generally adopted conclusion" on either side:

The /ə/ vowel is the lax, central vowel that can occur in any position of a word. . . It is probably best described as a sound made with the articulators in neutral position, with neither spread nor rounded lips, and with the tongue neither forward nor back. . . It is variously called the *schwa* sound, the indeterminate, weak, obscure, or un-stressed vowel . . .the schwa sound may be spelled with any vowel [letter] . . .The variations of the sound are dependent on the phonetic surroundings of the vowel. It is not an unstressed variety of other vowels, for any stressed vowel may also have an unstressed form. . .

/ə/ is the vowel commonly found in the monosyllabic definite and indefinite articles, prepositions, conjunctions, pronouns, and helping verbs as well as many other words not so easily classified: *a, an, the, but, or, for, from, of, her, them, shall, was, can, as* are normally spoken with /ə/, unless stressed. Many other words possess this intermediate vowel, that cannot be assigned to any other phonemic entity. . .

Because of the extensive unstressing of syllables in our language, /ə/ is our most commonly used vowel. . .

It is probably not necessary to mention that many linguists do not agree with the conclusion that recognizes /ə/ as a separate phoneme. . . The widely followed Trager-Smith system. . . describes the unstressed and stressed vowels of *above* and *under* as /ə-bəv/ and /ənd-ər/, and there is strong phonemic justification for this on the basis of complementary distribution (i.e., /ə/ and /ʌ/ do not signal differences in meaning). . .

Some linguists, then, prefer using /ə/ as a separate phoneme in American English, recognizing /ə/ and /ʌ/ as belonging to /ə/.

Syllabic *l, m, n*

In relation to syllabic *l m, n*, — as in *coup(le), har(um), poll(en)* — the equivocal status of the schwa /ə/ has yet to be resolved. Evidence of ambiguity in this area abounds, particularly obvious in dictionary respellings of word forms with one of these syllabic phonemes. Differences are found, not only across dictionaries but also in different editions of the same dictionary. A consistent rationale for the examples below has not been discovered:

Words	*G. & C. Merriam Webster's New Elem. Dict.*		*G. & C. Merriam Webster's Secondary Dict.*	*Random House Collegiate Dictionary*	*Thorndike-Barnhart World Book Dict. (2 vol.)*
	1975	1970	1959	1969	1979
people	/'pē-pəl/	(same)	/'pēp-l/	/pē'-pəl/	/pē'-pəl/
bottle	/'bät-l/	(same)	(same)	/bot'-ᵊl/	/bot'-əl/
shuttle	/'shət-l/	(same)	(same)	/shut'-ᵊl/	/shut'-əl/
hovel	/'həv-əl/	(same)	/'həv-l/	/huv'-əl/	/huv'-əl/
counsel	/'kaüns-əl/	(same)	/'kaün(t)s-l/	/koun'-səl/	/koun'-səl/
column	/'käl-əm/	(same)	(same)	/kol'-əm/	/kol'-əm/
bottom	/'bät-əm/	(same)	/'bat-m/	/bot'-əm/	/bot'-əm/
custom	/'kəst-əm/	/'kəs-təm/	/'kəst-m/	/kus'-təm/	/kus'-əm/
token	/'to-kvn/	(same)	/tok-n/	/to'-kən/	/to'-kən/
carton	/'kärt-n/	(same)	(same)	/kar'-tən/	/kar'-tən/
pigeon	/'pij-ən/	(same)	/'pij-n/	/pij,-ən/	/pij'-ən/

One may note in these examples that syllabic l, m, n, have been respelled (often for the same word) in three ways (e.g., /-əl/, /-l/, /-ᵊl/ (The term same in the above chart refers to agreement with the respelling in the first column.) Incidentally, the syllabication of these respellings also varies (e.g., *people, custom, carton*).

Morphophonemic Alternations

The phonemic status of the schwa /ə/ can also be observed in morphophonemic alternations (e.g., phonemic variations of morphemes). Of the several options in this complex category, the following examples illustrate the effects of shifts in syllable stress in pairs of identical word forms. Merely by shifting primary stress from the first to the second syllable in each pair of words, one may observe a shift in form class, in meaning, and in pronunciation (i.e., the formerly stressed vowel shifts to schwa /ə/). (The respelling symbols are from the 1975 edition, G. & C. Merriam's phonemically based *Webster's New Elementary Dictionary*.):

contract	/'kän-trakt/	(noun) vs.	*contract*	/kan-'trakt/	(verb)
convert	/'kän-vərt/	(noun)	*convert*	/kən-'vərt/	(verb)
convict	/'kän-vikt/	(noun)	*convict*	/kən-'vikt/	(verb)
content	/'kän-tent/	(noun)	*content*	/kvn-'tent/	(adjective, verb, noun)
entrance	/en-'trans/	(verb)	*entrance*	/'en-trəns/	(noun)
moderate	/'mad-a-,rāt/	(verb)	*moderate*	/'mad'ə'rət/	(adjec.)
annex	/'an-eks/	(noun)	*annex*	/ə-'neks/	(verb)

In each of the above, (and other) examples, the schwa /ə/ phoneme contrasts with each of the stressed vowel phonemes to signal differences in meaning. However, no example could be found in which the schwa /ə/ contrasted with its stressed allophone /ʌ/ to signal different meanings, *an important criterion in determining separate phonemes*.

Graphemic Basis

General Comments

As we know, alphabetic symbols — or graphemes — are the other side of the phonic coin. The degree to which graphemes represent phonemes has been assigned various terms: *relationships, correspondence*, or *fit*. As orthographic scholars and practitioners have so often pointed out: phoneme-grapheme relationships in the English language are notoriously complex, often irregular, sometimes inscrutable. However, they are not irrational; else none of us could have learned to read and write English.

In addition to the phonemic reference of graphemes, **Gleason** (1961, pp. 409–411 **[8]**), for example, illustrates their morphemic reference:

> A writing system consists of a set of graphemes plus certain characteristic features of their use. Each grapheme may have one or more *allographs*. . . the relationship of graphemes to allographs is similar to that between phonemes and allophones. . .
>
> The most familiar type of grapheme is that with a *phonemic reference*. . . The reference of a grapheme may be single-valued or multi-valued. These complexities are merely instances of the intricate fit which exists between the English writing system and English phonology. . .
>
> A second type of grapheme has morphemic reference. This is the case with English &. . .
>
> Another somewhat different instance of an English grapheme with morphemic reference is English 'in boys' [' refers to possession; morphemic -s refers to plural]. . . . *Boys, boy's* and *boys'* are phonemically identical, but are morphemically distinct.

Other queries regarding graphemic reference will be raised in relation to the schwa; for example:

1. How do relational versus marking functions of graphemes (see Venezky, 1970 **[16]**) enter into decisions regarding specific phoneme-grapheme relationships?
2. How does the "silent-letter" debate affect similar decisions?
3. How should graphemes within word forms be segmented to provide generalizable data regarding phoneme-grapheme relationships?

4. How important is frequency-of-occurence in reporting the spellings of sounds and the sounds of spellings?

Graphemic Status of the Schwa
In stressed syllables, the schwa /ə/ is spelled by:
1. *u* as in *fun, rug, run, luck* (the most frequent spelling)
2. o*au* as in *rough, country, trouble* (highly frequent spelling)
3. *o* as in *ton, other, mother* (frequent spelling)
4. *o-e* as in *come, love, done* (infrequent spelling)
5. *oo* as in *flood, blood* (rare spelling)
6. *oe* as in *does* (rare spelling)
7. *a* as in *tam-tam* (rare spelling)

In unstressed syllables, spellings of the schwa /ə/ include:
1. *a* as in *away, about, cereal* (the most frequent spelling)
2. *e* as in *wanted, pavement, taken* (highly frequent spelling)
3. *o* as in *pilot, carbon, atom* (frequent spelling)
4. *i* as in *habit, civil, devil* (infrequent spelling)
5. *u* as in *upon, column, hocus-pocus* (infrequent spelling)
6. *ai* as in *captain, fountain, mountain* (infrequent spelling)
7. *ou* as in *glorious, famou*s (infrequent spelling)
8. *y* as in *analysis, paralysis* (rare spelling)
9. *eo* as in *luncheon* (rare spelling)
10. *ai* as in *captain, fountain, mountain* (infrequent spelling)
11. *au* as in *restaurant* (rare spelling)
12. *io* as in *fashion, legion, region* (infrequent spelling)
13. *ei* as in *forfeit, counterfeit* (rare spelling)
14. *a-e* as in *capsule* (rare spelling)

Therefore, it seems that three spellings (*u, ou, o*) of the schwa predominate in stressed syllables; all other spellings of this sound are infrequent or rare. Interestingly enough, three spellings (*a, e, o*) most frequently represent the schwa in unstressed syllables; all other spellings, again, are infrequent or rare. Although frequency of occurence is not unique to this discussion, it remains an important criterion in evaluating the spellings of sounds and the sounds of spellings.

Next, conclusions regarding the number and variety graphemes representing the schwa /ə/ vary, being highly dependent upon the approach taken. If, for example, the schwa and its stressed allophone are classified as separate phonemes in reporting spellings of this sound and if (as has often been done) the schwa-plus-*r* (excluded from this study) is separated and reported as spellings of schwa, then understandably the data regarding the spelling of this sound will be considerably different from study to study.

There are, also, other sources of variety in reporting the spellings of the schwa /ə/. For instance, one can be quite tidy, accounting for ambiguous vowel graphemes in word forms, and assign split digraphs (e.g., *o-e* in *come*) and split-digraph combinations (e.g., *u-ue* in *brusque*) to spellings of schwa /ə/. Or one can espouse the "silent-letter" syndrome and thus eliminate the *e* in *come* and the *ue* in *brusque* from any further consideration. (Actually, all letters are silent; their function, complexly symbolic!) Still another way to deal with these troublesome orthographic features is to describe the *e* in *come* and the *ue* in *brusque* as serving neither a marking function (i.e., signaling the sound of a previous vowel in the word) nor a relational function (ie., representing a phoneme) and to classify these graphemes in terms of graphotactics (i.e., serving only a spelling convention).

Other Orthographies

Many have addressed their efforts to orthographic change. Some have published their rationale and proposals for change; others have not. Fortunately, a compilation of fifty-plus orthographic proposals (Emmett A. Betts, Editor, *Orthographies*; 1974 [2]) was completed during two years of Phonemic Spelling Council activities. This compilation has provided a rich resource for an analysis of the schwa in stressed and unstressed syllables: consistency in the treatment of the schwa and recommendations for spelling this phoneme. The purpose of this analysis is not to endorse any one proposal over another, but rather to draw some conclusions regarding the interpretation of the schwa.

Corpus

All of the authors submitted their rationale, their proposed alphabet, and an approved transliteration of Lincoln's *Gettysburg Address* (177 words, including the title). Altogether, there were originally 54 orthographic samples in the 1974 edition (the first one, T.O., or traditional orthography). Of the 54, 5 were deleted: two at the request of the authors; three, shorthand systems requiring special training to read.

Procedure

l. The T.O. sample was examined to determine frequency of occurence of the schwa /ə/ in stressed and unstressed syllables, including syllabic *l, m*, and *n*.
2. The proposed spellings for the schwa were examined in the rationale and in the sample.
3. The results were tabulated, classified, and converted to percentages without reference to specific authors.

Results

1. In the T.O. sample, 62 (or 35%) of 177 words in the *Gettysburg Address* include the schwa /ə/ in their pronunciation — 9 in stressed syllables and 53 in unstressed syllable s.

a. In T.O. stressed syllables, the schwa /ə/ was spelled most frequently by *u* (n=5), less frequently by *o-e* (n=2), *o* (n=l), and *a* (n=1).

b. In T.O. unstressed syllables, the schwa was spelled most frequently by *e* (n=12) with 3 of the remaining *e* spellings also shifting to unstressed /i/ (e.g., *r(e)maining, d(e)votion, r(e)solve*, Less frequent spellings were *o* (n=9), *a* (n=7), and *i* (n=2).

2. The various recommended spellings of the schwa /ə/ in 48 orthographic proposals were tabulated and classified in the table which follows; the results reveal some interesting trends, as well as variability within individual proposals and across proposed systems of spelling:

a. An overwhelming majority (83%) of the proposed orthographies opted for the *u* spelling of schwa in stressed syllables. (Two of these added diacritical marks to *u*. One also used the same symbol *u* to represent /ü/ as in n(ew).) Note:- *new* is also pronounced /nyü/.
b. The remaining 17% recommended 6 different symbols for stressed schwa; two of these used the a symbol for their spelling of the sound.
c. Almost half (or 40%) made no provision for the schwa in unstressed syllables, instead using their stressed representation of the vowel grapheme (as in *contin(e)nt*). However, about a third of this number did provide for syllabic *l* (as in *peop(le*)).
d. A few proposals (13%) used m for syllabic /m/, and 15% used *n* for syllabic /n/ (as in *nati(o)n*)).
e. Interestingly, 60% proposed symbols for unstressed schwa; of this number, two-thirds recommended *u* for spelling schwa in unstressed syllables.

The Schwa /ə/ in 48 Proposed Orthographies for English

Stressed Syllables					*Unstressed Syllables*		
Graphem	*No*	*Spelling of "but"*	*Grapheme*	*No.*	*Syllabic l*	*m*	*n*
e							
u	38	but	* No provision	12	N= 25	6	7
~~u~~	1	b~~u~~t	No provision except for /l/	7	%= 52	13	15
				N= 19 (or 40%)			
u	1	but	u	18 (or 38%)			
	N= 40 (or 83%)						
ə	2 (or 4%)	bət		4			
v	1	bvt	a	2			
e	1	bet(apostrophe)'		1			
	1	b.t	i	3			
			(alternate with ə)				
ʌ	1	bʌt	e	1			
				29 (or 60%)**			
q	1	bqt					
o	1	bot					
	8	(or 17%)					

*No provision indicates that the schwa /ə/ in unstressed syllables was ignored, i.e., transliterated as the stressed representation of the vowel grapheme (e.g., the *e* in judge- m(e)nt).
**12 of 29 (or 41%) of orthographic proposals having a symbol for unstressed schwa /ə/ were not consistent in the use of this spelling.

Implications for Reading and Spelling

The title originally opted for this paper, "Implications of Spellings for the Schwa," was revised after a preliminary review of orthographic studies and relevant linguistic publications; the approach, deemed inadequate. As a result of the broader base which was developed and the diversity of positions therein, one can draw a variety of implications for reading and writing.

Of course, the one which has captured the motivations of almost all orthographic practitioners has, after all these years, been aptly summarized by **Bloomfield** (1933, p. 500 **[3]**):

> Although our writing is alphabetic, it contains so many deviations from the alphabetic principle as to present a real problem, whose solution has been indefinitely postponed by our "educationalists' " treatises on methods of teaching children to read. . . The primers and first reading books which embody these doctrines, present the graphic forms in a mere hodgepodge, with no rational progression. At one extreme, there is the metaphysical doctrine which sets out to connect the graphic symbols directly with "thoughts" or "ideas" — as though these symbols were correlated with objects and situations and not with speech sounds. At the other extreme, are the so-called "phonic" methods, which confuse learning to read and write with learning to speak, and set out to train the child in the production of sounds — an undertaking complicated by the crassest ignorance of elementary phonetics.

Of many implications for reading and writing, here are some major ones which merit consideration:

1. English orthography is multi-faceted, having phonemic, morphemics and grammatical bases. Therefore, one can simplify one facet (e.g., phoneme-grapheme relationships) and, at the same time, complicate another facet (e.g., morphophonemic change, as in *s(ig)n* versus *s(ig)nal*).

2. Frequency of occurence (not only of words but also of Phonemes and graphemes) appears to be a significant variable in analyzing the implications of sounds of spellings and spellings of sounds in orthographic studies and in developing materials for reading/writing instruction.
3. Lack of concensus regarding the phonemes of English and the functions of graphemes (elaborated in Graphemic Status of the Schwa) within word forms causes some difficulty in forming valid generalizations across orthographic studies. Ibis vacillating pluralism underscores a need for greater emphasis on the theoretical underpinnings of orthographical proposals and of reading/writing instructional materials.
4. Methodology in reading and writing instruction is allied, but does not have a linear correspondence with consistent phoneme-grapheme relationships. Many other factors, beyond the scope of this discussion, must be taken into account in developing, planning, and delivering effective reading and writing instruction.

In Conclusion

This discussion has focused on a somewhat exhaustive examination of the schwa /ə/: its definition, phonemic basis, occurence in syllabic *l, m*, and *n*, morphophonemic alternations, variability in dictionary respellings, graphemic basis, and a mini-study of its interpretation in 48 proposed orthographics for English. However, the undercurrent of this discussion propels the schwa in terms of its broader implications for reading and writing. Thus the schwa has served as a classic example of several controversial facets of the English phonemic-graphemic system, as well as an example of the morphemic basis of English spellings. Also pondered upon — but briefly — have been the effects of syllable and phrase stress on English phoneme-grapheme relationships which shift in discourse (as they should). Furthermore, syllable and phrase stress combine with pitch and juncture to form the melody — or intonation — of language.

Consistency and simplicity of phoneme-grapheme relationships in the English language are viable objectives, worthy of pursuit, particularly for the beginner attempting the acquisition of reading and writing skills. That English spellings are notoriously complex in their representation of speech, is a valid premise. That several languages (e.g., Spanish, Greek) have a more nearly consistent phonemic representation in their writing systems must also be accepted. However, a one-to-one phoneme-grapheme correspondence is a goal in conflict with the melody of the English (or most any other) language and the many dialects it represents.

In any event, may our efforts be guided by empirical evidence in the classroom, by professional objectivity, and by the practical application of a sound theoretical structure. Whatever the state of our knowledge, we have achieved it, via the miracle of language, by standing on the shoulders of giants in their field, as they have stood on the shoulders of those before them*. It has been said that when our information is structured, it becomes knowledge and that, finally, the appropriate application of that knowledge is wisdom. To bring complex, worthwhile goals to fruition requires the collaborative efforts of many and, above all, a genuine concern and love for mankind.

1. Betts, Emmett A. "Reading: Phonenic Basis of Word Perception," ***Spelling Progress Bulletin***, XIII, no. 4, (Winter 1973), 10–16.
2. Betts, Emmett A. (Editor and Compiler). *Orthographies*, 1974. Coral Gables, Fla: Univ. of Maimi (Xeroxed), 1974.
3. Bloomfield, Leonard. *Language*. New York: Henry Molt & Co., 1933.
4. Bronstein, Arthur J. *The Pronunciation of American English. An Introduction to Phonetics.* New York: Appleton-Century-Crofts, Inc. 1960.
5. Classon, E. *Outlines of the History of the English Language*. New York: Greenwood Press Publishers, 1919.
6. Dewey, Godfrey. *English Spelling: Roadblock to Reading.* New York: Teachers College Press, 1971.
7. — *Relative Frequency of English Spellings*. New York: Teachers College Press, 1970.
8. Gleason H. A. Jr. *An Introduction to Descriptive Linguistics*. New York: Holt, Rinehart & Winston, 1961.

9. Haas, Wm. (Editor). Alphabets for English. *Mont Follick Series*, Vol. 1. Manchester, Eng.: Manchester University Press, 1966.
10. Kantner, Claude E., and West, Robert. *Phonetics*. New York: Harper & Bros., 1960.
11. Pike, Kenneth L. *Phonemics*. Ann Arbor: Univ. of Mich. Press, 1947.
12. Prator, Clifford 11. Jr. *Manual of American English Pronunciation*. New York: Holt, Rinehart & Winston, 1957.
13. Ripman, Walter, and Archer, William. ***New Spelling***. London: Sir Isaac Pitman & Sons, Pitman House, 1948.
14. Scragg, D.G. *A History of English Spelling*. Mont Follick Series, Vol III. Manchester, Eng.: Univ. of Manchester Press, 1974.
15. Thomas, Charles Kenneth. *An Introduction to the Phonetics of American English*. New York: The Ronald Press, 1958.
16. Venezky, Richard L. *The Structure of English Orthography*. The Hague, Netherlands: Mouton, 1970.
17. Wijk, Axel. *Rules of Pronunciation for the English Language*. London: Oxford Univ. Press, 1966.
18. Wise, Claude Merton. *Introduction to Phonetics*. Englewood Cliffs, N. J.: Prentice Hall, 1957.

Appendix — Orthographics: 1974

by Emmett Albert Betts, Ph.D., LL.D.
Research Professor, Emeritus, Adjunct Prof. of Psychology, Reading Research Laboratory Univ. of Miami, Coral Gables, Fla.

1. Traditional Orthography. Source. *Compton's Pictured Encyclopedia and Fact-Index*. Vol. 8, 1966 Edition. Chicago: F. E. Compton Co., 1966, p. 284h.
2. *Braud English Spelling*. Douglas N. Everingham, M.D., Queensland, Australia.
3. *Crassnoff System of Phonetic Spelling for English.* Victor N. Crassnoff, But is it Art? Copyright, 1969, Godfrey, Ill.
4. *Diacritical Marking System (DMS).* Edward Fry, "The Diacritical Marking System and a Preliminary Comparison with Initial Teaching Alphabet," The Jour., of Typo-Graphical Research, 1, no. 1, (Jan. 1967), 19–30. Director Reading Center, Rutgers Univ, 10 Seminary Pl, New Brunswick, N. J.
5. *Fonedik*, 1st Edition. Fred C. Wingfield, Denver, Colo.
6. *fone'matik speling*. Edward Smith, Beckenham, Kent, England.
7. *Fonetic English (FE).* Traugett Rohner, Fonetic English Spelling. Evanston, Ill.: Fonetic English Spelling Assoc, 1966, p. 36. Evanston, Ill.
8. *Fonetik Speling*. Newell W. Tune, Hollywood, Ca.
9. *Fonetik Wurld Inglish (FWI),* 1st Edition. Herbert Wilkinson, Bridge End, Brighouse, Yorkshire, Eng.
10. *Ful Fonetik Speling*, Hugh V. Jamieson, Dallas, Tx.
11. *Initial Teaching Alphabet (i/t/a).* Albert J. Mazurkiewicz and Harold J. Tanyzer, with Sir James Pitman. The i/t/a Handbook for Writing and Spelling. New York: i/t/a Publications, Inc, 1964. New York.
12. *Lambert Phonetic Alphabet*. Robert E. Lambert, Alhambra, Ca.
13. *Lindgren Phonetic A*. Harry Lindgren, Spelling Reform, a New Approach. Sydney, Australia: Halstead Press 1969, pp. 44–73. Narrabundah ACT.
14. *Lindgren Phonetic B*. Harry Lindgren, Spelling Reform, a New Approach. Sydney, Australia: Halstead Press, 1969, pp. 74–90. Narrabundah ACT.
15. *Literary Phonetic English*. Albert Eagle, Buxton, Derbyshire, England.
16. *New Engglish*. Frank C. Laubach, *Learn English the New Way, Book 1, New English in Twenty Lessons.* Syracuse, N.Y.: New Readers Press, Revised Edition, 1964. *Learn English the New Way, Book II, Bridges to the Old Spelling*. Syracuse, N.Y.: New Readers Press, Third Revised Edition, 1964. Laubach Literacy Fund, Inc, Syracuse, N.Y.
17. *New Spelling*. Frank C. Laubach. *Let's Reform our Spelling Now, Why and How.* Syracuse, N.Y.: New Readers Press, 1966 (2nd Edition, 1967). Laubach Literacy Fund, Inc, Syracuse, N.Y.

18. *Regularized English*. Axel Wijk, Univ. of Stockholm, Stockholm, Sweden. Regularized English. Stockholm, Sweden: Almqvist & Wiksell, 1959, pp. 33, 35.
19. *Revyzd Kadmeeən Alfəbet*. S. S. Eustace, Simplified Spelling Society of Great Britain, London, England.
20. *Ryt Ryting.* Clarence Hotson, Romulus, N. Y.
21. *Sistematïzd Ënglish*.Ali Fiumedoro, Boston, Mass.
22. *The Ten-vowel Alfabet*. Leo G. Davis, Palm Springs, Ca.
23. *Torskript*. Vic Paulsen, Torskript Publishers, San Francisco, Ca.
24. *World English Spelling (WES: regular) World English Spelling (WES)* A no-new-letter phonemic notation for English. Lake Placid Club, N.Y.: Simpler Spelling Assoc. 1968, p. 3. For these materials, write to the Phonemic Spelling Council, Lake Placid Club, N.Y.
25. *World English Spelling (WES: i.t.m.) World English Spelling (WES) for Better Reading*. Lake Placid Club, N.Y.: Simpler Spelling Assoc. 1968, p. 7. For these materials, write to Phonemic Spelling Council, Lake Placid Club, N.Y.
26. *Y.O.K. Alfabet*. Yoshisaburo Okakura, Studies in English Literature, XII, No. 4, 1932.
27. *Zonic Spelling*. William W. Murphy, Zonic Spelling Service, *Speaking is Spelling*. Glen Ridge, N. J.: Zonic Spelling Service, 1959, p. 16. Glen Ridge, N. J.
28. *Anglic Asoesiaeshon Fonetik Alfabet*. Anglic Fund, Uppsala, Sweden.
29. **New Spelling**. William J. Reed, Broadstairs, Kent, England.
30. *Spoken English*. D. G. Davis, Real Life Spoken English, Brooklyn, N.Y.
31. *frē speling elfubet uv sowndz*. Louis B. Thoreson, Ticson, Ariz.
32. *The American Phonemic Alphabet*. Herbert Willging, College of St. Thomas, Dept. of Foreign Languages, St. Paul, Minn.
33. *Instaphonic Spelling*. Joseph A. Perry, Jr., E. Providence, R. I. Copyright, 1972.
34. *Fahlke Spelling*. Owe Bruno Fahlke, Berlin, Germany.
35. *Nuespel*. Edward Rondthaler, Photo-Lettering, Inc., New York, N.Y.
36. *Abbreviationaz*. Loyd C. Frederiksen and Adeline Frederiksen, Washington, D.C. Copyright 1973.
37. *The Absey Alphabet*. Percy Freer, Rondebosch, Cape Town, So. Africa.
38. *SRI*. Robert Mayhew, Director, Mayhew English Academy, Calexico, Calif.
39. *Rit*, 1973 Edition. Arnold Rupert, Lunenburg, Ont. Canada. (Shorthand)
40. *Fonetik Wurld Inglish*, 2nd Edition. Herbert Wilkinson, Bridge End, Brighouse, Yorkshire, England.
41. *Towle Spelling* (Deleted from this edition, see 1973 edition — handwritten).
42. *Systematized Spelling*, 2nd Edition. Fred C. Wingfield, 471 Denver, Colo. (On file in the Reading Research Lab, Univ. of Miami, is a Wingfield transliteration of Systematized Spelling, in which harmony with T.O. is attempted.)
43. *Britic*. Reg. Deans, World Language Assoc. Leeds, England.
44. *Alphabet for Simplicity and Uniformity of Spelling*. Rex Reeve, Palos Park, Ill.
45. *Orthographic System of James Keilty*. James Keilty, San Francisco, Calif.
46. *Shaw-Script*. G. B. Shaw Contest (Transliteration provided by Kingsley Read, Abbots Morton, Worcester, England).
47. *Compatible Phonemics*. Jules E. Dieudonné, New Iberia, Louisiana.
48. *New Phonemic Alphabet*. Claus C. Gerber, Kansas City, Mo.
49. *Traditional Phonics*. Barnett Russell, M.D., Plainview, N.Y.
50. Richardson (Deleted at request of orthographer).
51. *Letęr Ritęr's Alfębet*. Walter Schneider, Edmonton, Alberta, Canada.
52. *A Symbol for Each Sound*. Emma B. Johnson, Canal Winchester, Ohio.
53. *Sound-Spell.* Kingsley Read, Abbots Morton, Worcester, England.
54. *a.i.t.a*. Ralph Leighton, Altadena, Calif.

-o0o-

[Spelling Progress Bulletin, Spring 1980, pp13–15 in printed version]
*[George O'Halloran: see **Newsletters**, **Bulletins**.]*

A Pedagogical Purview of Orthography,

by George O'Halloran.*

*London, England. Presented at the 2nd International Conference on Reading and Spelling at Nene College, Northampton, Eng. July 27–30, 1979. Sponsored by the Simplified Spelling Society.

The English language has long been used as a means of class discrimination in English society. This is how it works. One reads, say, the applications that have come in for a vacant job. One then sorts them according to their spelling errors and, perhaps, their use of the subjunctive. A certain effectiveness in spelling shows, in general, a certain type of education, and so, again in general, a certain type of class background. In this way one can be reasonably sure of sorting out the right kind of middle-class young man for one's office or factory. The next step was to write a letter to The Times complaining that school-leavers cannot spell. Some folk were, as usual, more equal than others.

But then, as is common in England, the middle-class conscience began to twitch. It was felt that all (well, nearly all) children ought to be able to read and spell. A spelling reform movement set out to make spelling easier for the lower classes. Then the fun started and it still goes on. Which pronunciation of English should be used for the brave new spelling? Various suggestions, made in all seriousness, were put up: educated speech, the Edinburgh dialect, the Dublin dialect, R.P. (Received Pronunciation, and believe it or not, the pronunciation of the English gentry! What was lost sight of in all these solemn deliberations was that the selection of any particular dialect would put all the others at a disadvantage and so frustrate the original purpose of the exercise: to produce a system easy for all. There is still no agreement on this question and probably never will be. But it doesn't really matter and it never really did.

When Pitman and I worked together we sometimes disagreed about the pronunciation of English words. On consulting Daniel Jones we often found that my pronunciation was labelled as correct but also as 'old fashioned' or by some such tag. Yet it was perfectly good English sound transmigrated from the English midlands to the Irish midlands (together with the usual complement of English settlers to form an upper class) in the reign of our good Queen Mary in the 16th century. The real difference was that my dialect had remained in its pristine state and had not developed on the same lines as its cognates in England. This atavistic knowledge of English really does give Irishmen an advantages kind of insight over natives in pronostigating the direction of evolution in British English.

All this disputation made up the controversy (confusion might be a better word) about the what of spelling reform. Soon, however, it blossomed into the argument about the how. Hereabouts we began to lose sight of the forest for the trees. Nobody seemed to consider that it was not the sound which was put on paper that was important but the sense being read from it — as the Chinese had discovered several thousand years earlier. They had solved the problem for their own culture by the use of a pasigraphy.

In England in the beginning there was ***Nue Spelling*** and the various phonetic alphabets. The problems associated with these were soon recognised and then we began to hear about phonemic solutions. There was an enormous proliferation of both kinds of alphabetic solution. I am told that over 700 have been counted. Sinclair Eustace in his 1974 publication states that he and his sub-committee of the Simplified Spelling Society 'examined about eighty.' it is a pity he did not include a list.' It would have been useful to later workers in the field.

The phonemic alphabets also seemed to produce problems and we next saw the arrival of the 'two-stage' solutions of the problem. Chief, and for some time the most popular of these was i.t.a. — the Initial Teaching Alphabet. [See **Journals**, **Bulletins**.] At one time over 4,000 British schools were using i.t.a. and many thousands in other countries. One country, The Gambia, agreed to put

all its elementary schools over to i.t.a. but inactivity in the I.T.A. Foundation frustrated this hope. It now seems that two-stage solutions are no longer widely accepted as the answer to the problem, except in TEFL-teaching English as a Foreign Language.

It is, I think, probable that there will never be a unification of the pronunciation of the various dialects of English. If, therefore, we are to continue to seek a universal writing system for English, it seems likely that we shall have to eschew both phonetic and phonemic approaches. We shall have to go for a medium in which folk all over the world will be able to read off, in their own local pronunciations, what is printed or written.

Take a look at the following sentence: *He had fair hair.*

Think how it might be sounded in London, Los Angeles, Liverpool, Lagos, and Dublin — and a few other places, too! If the different sounds of this sentence in each variant dialect were to be represented in a phonetic or phonemic script, the written versions would differ quite considerably from each other (and, of course, from the traditionally written version).

At present, all readers learn to read this line into what ever are the appropriate sounds in their own dialects. And, indeed, it should be pointed out here that all the spoken interpretations of traditional orthography (T.O.) are still universally comprehensible to all speakers of all English dialects. In other words, all spoken English dialects can be understood still by all English speakers. But this kind of resolution of written symbols into variant but inter-understandable sounds is usually known as diaphonic. Our traditional orthography (T.O.) is diaphonic — although catalectically so in places. Teachers in all English-speaking lands have always used T.O. diaphonically and described its use as 'phonics' or 'the phonic method.'

If we were to change to phonetic or phonemic script could we, in fact, retain the unifying diaphonic property of T.O.? Or would English just dissolve, phonetically or phonemically, into dozens of written dialects? — just as Latin did some two thousand years ago. Was it not really the writing down, perhaps phonemically, of slightly variant dialects that brought about the dissolution of Latin into French, Spanish, Italian? Is not T.O. now actively preventing this kind of dissolution of English?

I am, for example, able to read with fair case the meaning of most things written in the Kiriyo dialect of Sierra Leone (an English dialect perhaps three hundred years old) when this dialect is written in a script similar to our T.O. But when this dialect is put into full phonetic script by a scholar, I find it difficult to read. Is this phonetic script, because it is different, the start of a new language? Is this what happened in the genesis of the Romance languages from Latin? Is phonemic spelling the new road to Babel for English?

It seems to me that we are beset by scholars — and pseudo-scholars. From Mulcaster, and even before, onwards they have done us a lot of damage. From a base of small Latin, less Greek, and no feeling at all for English, persistent and enduring attempts have been made to pervert the naturally evolving spelling of English into a Latin pattern — in the same way as other scholars had already spancelled English grammar into a Latin strait jacket. **New Spelling** (Nue Speling) set a bad fashion and the subsequent systems that have all been derived from it suffer from the same main defect — a compulsion to multiply letters and/or rules to cover up inconsistencies. None of these newer systems has paid much attention to the way in which English spelling was evolving naturally, nor to the special genius of the English language which produced this spelling.

An orthography should work according to the nature of its own language and not according to the Latin language, nor the **International Phonetic Alphabet (I.P.A.)**, nor, indeed, to any preconceived ideas. When in 1947 I was given by the Gambian Government the task of writing down the Mandinka language for the first time in a script suitable for the production of books for speakers of the language, I had not yet learned this simple truth. I started work in the Africa Script — sometimes called the Westermann Script. This is a variant of the International Phonetic Alphabet (I.P.A.) prescribed for African languages by a group of scholars in London and Berlin. Up to a point this script worked well enough but there were some problems. As well as making an

orthography for the language, I was at the same time composing a literacy primer. To test the primer, I had a gang of boys aged about ten+ years from the nearby village of Jenyer who would come to my mud-and-grass hut in the evening to learn to read. They had some trouble in coping with my first attempts at orthography. We ran into the word for 'cloth' which I had written as *baio*. My students kept obstinately saying *ba-i-o* as three syllables. (I could not speak Mandinka at this time so could not explain.) After a little experimentation, I found the answer. This was simply to write *bayo* as two syllables. This was read accurately at first attempts. This was the first change in my prodromal alphabet.

We also had a problem with doubled vowels in expressions like *a taata* (he/she/it went), *a boota* (he/she/it came/went out). Here by trial I found the remedy was simply to undouble the vowel to *a tala*, *a bota*, and so on.

After some time I found that where I had started off with an alphabet, I was now working with a syllabary. We had adjusted to the genius of the Mandinka language. Our new approach made accurate soundings out of sentences possible from simple juxtaposition of syllables and their sequential utterance. I had also found out that a rigidly consistent system was not needed. Readers were able and willing to adapt (even unconsciously as they became more expert) where adaption is logical and not excessive.

From these boys I learned many things about practical orthography. A general conclusion was the need for practical trial in the field with consequent adaptation to the learning habits of students. There is a need for testing — NOT to prove one orthography to be better (whatever that may mean) than another but to find out how an orthography works for learners. In summary I might say that from my trials I learned (a) to follow the genius of the language and (b) to be guided by the learning habits of its speakers. Little heed has been paid to the genius of English spelling by its hordes of reformers.

I have a theory that the later in its development a language gets written down, the better for all concerned. It gets a chance (like cheese or wine) to mature. Let me give a few examples of what I mean. Many African languages have complex and complicated systems of syntax and accidence. They get much of their effect by changes in word shape — perhaps several changes in the same word — (Twi) asu (water, loose in a lake or river), *nsu* (water, controlled in a receptacle) *osu* (water, in the form of rain). Prefixes often complicate the scene: (Temne) *Rabomp rami rabang* (My head is aching). The forms these changes take are very numerous.

These languages still have to work their complications out of their systems and, of course, they will do so if the scholars will only allow them to do so.

Mandinka has already cleared most of the complications from its linguistic system. It has shed all of the inflections except one: *-lu* to show plurals and this rule, like all of the very few rules the language has, has no exceptions to its working. The analytical tendency in Mandinka has gone far past that even of English. The Mandinka third person pronoun has, for example, coverage for all possible third person senses. The little word *a* means he/she/it in the nominative; him/her/it in the accusative, and his/hers/its in the genitive.

Nouns, adjectives and verbs (so far as these terms are applicable) are used interchangeably as appropriate.

Mandinka has also worked out all 'difficult' sounds, e.g. the velar fricatives present in its neighbours, the cognate but more primitive dialects of Bambara and Wongara. Bambara *tagha* [1] has become *ta* in Mandinka and *sighti* [2] (sit) has become *si*. Mandinka has also preserved and developed an agglutinative utility. For example, it has no difficulty in coining new words where these are called for in life*: jiokono-moto* (in-water-motor): launch; *kaluntila* (boat-fly-maker): aeroplane; *sisibondirango* [2] (smoke-make-go-out-instrumerit): chimney. It also borrows freely from other languages which offer useful words, and such words become indistinguishable from real Mandinka words. Examples of borrowings are: *champiyongo* [2] (English): champion; *kalaso* (French): ice; *tura* (Portuguese): bull; *alimani* (Arabic): headman; *duntung* [2] (Fulaani): cockbird; *nyeta* (Jolof): three-penny piece, etc.

We know all this has happened in Mandinka for several, reasons. First, Mandinka is surrounded by Bambara, Wongara and other cognate dialects in which these changes have not taken place. There is also internal evidence in the Mandinka language.

English was, perhaps, written down too soon. Before it had time to develop and mature as fully as Mandinka, the scholars and pseudo-scholars got hold of it and began to pervert its spelling. They have continued to do so until this day.

A very reasonable system of putting sound on paper (or vellum) had begun to evolve in English — one which is both acceptable and interesting to young learners. I know about this. I teach it every day. Its beginning works (for me) in graded steps as follows:

1. We have five basic vowel signs: a, e, i, o, u.
2. They are sounded as these words: *bag, beg, big, bog, bug*.
3. The names of the vowels are: e:i (ay), i: (ee), ai (ie), o (ou), yu.
4. Sometimes the names of the vowels are uttered in words instead of the sound values given above. When this happens the different sound is cued by the addition of 'e' to the syllable, as in *mate, mete, mile, mote, mute*. This supervenient "e' is not itself sounded. It is there merely as a signal. Children are interested in this kind of change. A little magic has been worked. It gives them a feeling of expertise. They will look harder at words. Some will even start to collect examples perhaps minimal pairs.
5. Then we have the soft pronunciations of 'c' and 'g'. The *soft* sound of 'c' always precedes 'e' and 'i'. The soft sound of 'g' sometimes precedes 'e' and 'i' at the beginning of words; it often does so in the middle of words and it always does so at the end of words: *cement, gem, engagement, cage* but *begin*.
6. We have consonant doubling to cue short vowel sound: can, canned, canning but cane, caned, caning.
7. We have various consonant clusters which cue vowel sound, for example, 'ck': *sack, seck, sick, sock, suck*.
8. The magic 'e' works for these also but one consonant has to be left out as always to change the vowel sound: *sack: sake; lick: like; pock: poke*.
9. What happens when the other consonant of the cluster is left out? rack, cake, race; mack make, mace; lick, like, lice, etc.

This is only the beginning. There are other ploys of this kind which stimulate interest in the working of words and lead to questions, explorations and dictionary drill. This is a much better system of inculcating literacy in the young than the drudgery of unrelieved phonetics or crude phonemics. Children enjoy this way of working, especially when it is used with a cued key sentence approach. One group of our children, measured on the Schonell Test, was four years better than the local average and two years above the Schonell norm.

This system is natural to English. It is the lineal descendent of the way in which English folk began to adapt the Roman alphabet to their own language, indeed, just a little earlier than the Mandinkos of West Africa began to adapt the Arabic alphabet to their language. Oddly both encountered the same kind of problem.

Below is a table of some vowel sound representation in English in a cuing frame with 'p' and 'l' bounds:

vowels	pal	pel	pil	pol	pul	5
longer vowels	pall	---	pill	poll	pull	4
magic 'e'	pale	pele	pile	pole	pule	5
oddments	pawl	peel	---	pool	purl	4
	Paul	peal			pearl	3
	(palm)					1
(pele is an obsolete spelling of peel)						22

The vowel combinations above occur as discrete syllables in English. In these syllables 22 vowel sounds are cued — and no need for any other characters. And of course, other vowel combinations do occur. The ingenuity shown reminds me of the inventiveness of the Mandinkos in their rather simpler adaptation of Arabic letters to their own language. It is true that the English system now needs tidying up a bit. Mere physical difficulties of communication in the roadless Britain of a thousand years ago made it inevitable that local variations would arise. Since then the scholars and pseudo-scholars of later days have been at work and stirred things around a bit. The net result of all this is that much that was simple has been made complicated. There is need for some measure of re-simplification, perhaps, (mainly as a result of the labours of the pseudo-scholars) but none for massive, and to most folk unacceptable, reformation. The resolute wisdom of the man-in-the-street in rejecting most forms of reform proposed up to now, gives hope for a rational future.

But the latest research is beginning to look again at the old system. Our greatest living linguist, Chomsky, has said in Sound Patterns of English (New York, 1968) that the traditional English orthography (T.O.) comes very close to being an optimal orthographic system. Another major scholar of international repute has recently published detailed findings of a method of building on the ancient natural system of our ancestors to achieve a modern evolutionary alphabet for English. I refer, of course, to our friend and colleague, Prof. Axel Wijk of Stockholm.

Phonetic or phonemic reform contains in itself the germ of the dissolution of the English language. The inter-understandable slightly variant dialects of the Latin of the old Roman Empire were written down phonemically for local use in France, Spain, Italy, and other places. They became progressively more variant deprived of the influence of the traditional Roman orthography and, in the end, they became separate languages. The same can easily happen with the various dialects of English — and Babel will once more ensue! It has already happened with the Kiriyo English dialect of Sierra Leone which has been given its, own orthography by Thomas Decker. I understand that the Gulla Negro dialect of the Southern East coast of the United States and the islands off-shore has also been given a variant script. The French Creole dialect of Haiti has officially been written as an open syllable language by UNESCO in a variant script and has lost all resemblance to French in appearance. In the back streets of Monrovia, Lagos, Accra, even Douala, and many of the other larger cities of Africa, new dialects of English are emerging — even into literature. Plays, novels, and the Bible have been written into them.

Nobody wants to try to prevent any people from having its own language, even an evolved language, but when one compares the relative uselessness of Swahili to its speakers — as compared with English — one begins to see the value of preserving the best point of the writing system which seems destined to preserve English as a world utility.

If we want to keep any unity in English, spoken or written, we must forget phonetic for phonemic reform. Unless we wish to allow English to degenerate into a multiplicity of dialect — in time, even into different languages — and thus lose its great usefulness as an international medium of communication, let us cling to the spelling system which began to evolve to fit the sounds of English some six or seven centuries ago. This traditional orthography (T.O.) is a good script eminently suited to English with its wide dialectal variety of sounds. By all means let us tidy up our spelling into regularity and consistency and also keep it in line with developments in the language, but let us make sure also that we keep any simplification along the well-known traditional lines.

Notes:
[1] *gh* represents a velar fricative consonant.
[2] *ng* represents a velar nasal consonant.

-o0o-

[Spelling Progress Bulletin Winter 1980 pp17,18 in printed version]
*[David Moseley: see **Journals**.]*

Patterns of Spelling Errors: Some Problems of Test Design,

by David Moseley*

*School of Educ. Univ. of Newcastle upon Tyne, Eng.
*Presented at the 1979 Conf. on Reading & Spelling, Nene College.

The majority of spelling tests in current use cover a wide age-range and yield an age-related or standardised score. With the exception of the visual memory and phonic spelling tests in Durrell's (1955) [3] battery, they are not designed for diagnostic purposes. It is, however, open to teachers who wish to compare different aspects of spelling performance to use two or more norm-referenced tests for the purpose. For example, one can compare a pupil's ability to recognise correct spellings with his ability to produce them, using measures such as the Richmond Spelling Test (France and Fraser, 1975) [4] and the Spar (Young, 1976). [7] An alternative approach, but one of unknown reliability, is to use an informal scheme of classification of spelling errors produced in writing from dictation or in free writing. One such scheme was proposed by Peters (1974). [5]

Spelling tests can be derived from three main sources: graded vocabulary lists, lists of words misspelt in free writing by pupils of different ages, and lists of words judged by teachers to be appropriate for different age-groups. The majority of tests in common use appear to be based on graded vocabulary lists, and are not deliberately weighted with 'spelling demons'. This reduces their content validity to a certain extent, since failure to spell common but graphically idiosyncratic words like 'through', 'friend', 'because', and 'people' is certainly what one expects from an incompetent speller. The study reported here concerned tests derived from lists drawn up by teachers for a particular age-group, and one of the issues discussed is the length of test required if one is looking for reliable diagnostic information for use in planning individual programmes of corrective or remedial work.

Little research has been carried out to compare different formats, of spelling test in terms of reliability and validity. The most common format is single word dictation, but multiple-choice formats and dictated passages are also used. Clarke (1975) [2] obtained a correlation of 0.9 between his own dictation spelling test and Schonell's Spelling Test (1932), [6] which suggests that there is little advantage in the use of dictated passages. Such passages, although meaningful, are time-consuming to administer and mark.

Practical constraints such as the ease of mastering a marking scheme, rapid group administration, and low cost have major influence on whether or not an assessment device is accepted by teachers. In this paper, guidelines are offered both for formal and informal assessment of spelling errors. The analysis of different types of spelling error is not intended to be exhaustive, but even a simple scoring scheme can sensitize teachers to the major areas of difficulty and inconsistency in English spelling.

A pilot study

An opportunity arose to evaluate a spelling test designed by teachers of 8 year old pupils in a primary school. The test consisted of 60 core words, judged by the teachers to sample common

sight words, common misspelt words and basic phonic, patterns. The test had already been administered in single word dictation form. It was decided to incorporate the words in a passage for dictation, and to give the new version within a fortnight of the first testing. This was done, 85 pupils taking both versions of the test.

Using the two sets of results, a Pearson product-moment correlation of 0.94 was obtained. One could hardly have expected a higher result than this, even if the same test had been used. This finding indicates that the formats of the test (single word or dictated story) are to all intents and purposes equivalent. This being so, the single word dictation version is probably to be preferred as it can be completed more quickly and is easier to mark.

The high correlation obtained also indicates that the reliability of the test is adequate for individual measurement, and may indeed justify an examination of its possible diagnostic use through the derivation of scores for different types of error.

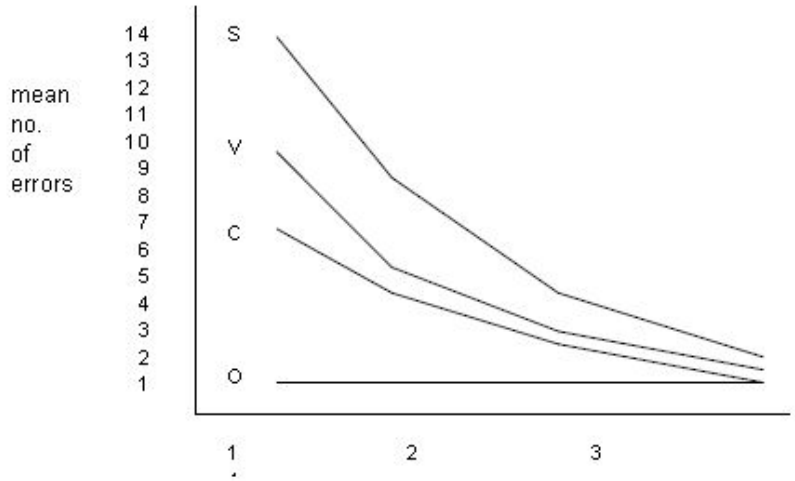
A four-category scoring scheme was chosen, which the writer had previously developed for use with the Carver Word Recognition Test (Carver, 1970). [1] In the analysis of word recognition errors, this method had yielded better test-retest reliability coefficients than other methods of classification. An earlier attempt to classify errors as either visual or auditory had been abandoned mainly because of lack of test-retest stability of 'auditory' errors. The following scoring rules were applied, which avoided problems of overlapping categories:

1) If the pupil's spelling contains fewer letters than the target word, score as 'S' (simplification error), and do not consider any other errors which may be present.
2) If all letters are present, but 'in the wrong order, score as 'O' (order error). Do not score 'O' if letters are omitted or added.
3) If the 'S' and 'O' errors have been avoided, look for the first error (from left to right) made in the representation of graphemes in the target word. These errors may involve either omission or addition, and are scored as 'C' (consonant) or 'V' (vowel) according to the appropriate grapheme in the target word.

It is recognised that this scoring scheme inevitably distorts the relative frequency of occurrence of different types of error, by increasing the ratio of consonant in proportion to vowel errors, for example.

The test papers were marked and mean error rates examined graphically, in order to see whether certain types of error varied more than others with overall level of spelling competence. The results are shown in Fig. I where mean results for the four quartiles of total test score are plotted (n=96).

Fig. I



Frequency of simplification, vowel, consonant, and letter order errors, for the four quartiles of total spelling score.

It can be seen that letter order errors were the least common, and occurred with essentially the same frequency at all levels of competence. Other types of error showed a marked decline over the range of competence, maintaining the same rank order in frequency of occurrence.
In order to evaluate the above results more objectively, the reliability of the error category scores was examined.

Test-retest reliability coefficients were computed for each of the four categories and were found to bear some relation to the overall frequency of each type of error.

Table I
Test-retest reliability of error scores (n= 85)

Error type	rtt
Simplification	0.79
Vowel	0.79
Consonant	0.69
Order	0.39

While the three categories of simplification, vowel and consonant errors show a moderate degree of stability, the order category is clearly not stable. To some extent, this result reflects the inadequacy of the test. Certainly the range of order error scores was restricted (no pupil making more than four errors), and the form of the distribution skewed (42% making no errors at all). At the same time it is possible that letter-order errors are associated with random lapses of attention which may be affected by uncontrolled situational variables.

In order to see whether the four categories of error do in fact represent different aspects of skill, correlation co-efficients between the error categories were computed, using the single-word version of the test. The results are given in Table 2.

Table 2
Correlations between error categories

(Simplification)	S				
(Vowel)	V	.63			
(Consonant)	C	.47	.71		
(Order)	O	.09	.00	.06	.03
		S	V	C	O

It is evident that the vowel and consonant categories are relatively closely linked (r=0.71), and that simplification errors are more closely associated with vowel errors than with consonant errors. The difference between the two correlation coefficients (0.63 and 0.47) is significant at the 1% level. The vast majority of simplification errors involve ignorance of digraphs and trigraphs, most of which are vowel rather than consonant spellings.

It can be seen that the relationship between vowel and consonant errors is of the same order of magnitude as the reliability of each of these measures. This finding weighs against the assumption that different kinds of skill are involved in learning to represent vowel and consonant sounds correctly. It does, however, appear that when consonant errors are made, omission of letter or of sound occurs less frequently than in the case of vowel errors.

The low reliability of letter order errors and their failure to correlate with other types of error makes interpretation difficult.

Implications of the study

It is clearly possible for teachers to produce a valid and reliable spelling test for a particular age group by drawing up a list of 60 words.

It is doubtful, however, whether any useful diagnostic information can be gleaned even from a test of this length. If we apply the Spearman-Brown formula, we find that the test would need to consist of as many as 240 words if the consonant category were to reach the satisfactory reliability level of rtt 0.90. A further implication would be that if we are sampling a child's writing in order to build up an error profile, we should continue until a minimum of 10–12 errors have been recorded under all categories used. Further work is needed on the various types of error category, but it is unlikely that errors of letter order will warrant separate attention. The most common source of difficulty is undoubtedly the longer words, and next to this comes the spelling of vowels where complexity and lack of regularity present considerable problems to children.

References

1. Carver, C. (1970) *Word Recognition Test*. Sevenoaks: Hodder & Stoughton.
2. Clarke, A. (1975) *A dictation spelling test* (mimeo). London: Child Guidance Training Centre.
3. Durrell, D.D. (1955) *Durrell Analysis of Reading Difficulty*. New York: Harcourt, Brace and World, Inc.
4. France, N. and Fraser, I. (1975) *Richmond Tests of Basic Skills*. Sunbury-on-Thames: Nelson.
5. Peters, M. L. (1974) The significance of spelling miscues. in Wade, B. and Wendell, K. (Eds.) *Spelling: task and learner*. Univ. of Birmingham.
6. Schonell, F.J. (1932) *Essentials in Teaching and Testing Spelling*. London: Macmillan.
7. Young, D. (1976) *SPAR Spelling and Reading Tests*. Sevenoaks: Hodder & Stoughton.

-o0o-

[Spelling Progress Bulletin, Summer 1980, pp14–17 in printed version]

In Defence of Conservatism in English Orthography,

by Philip T. Smith, Ph.D.*

*Dept. of Psychology, Univ. of Stirling, Scotland.
*Presented at the 1979 Conf. on Reading & Spelling, Nene College.

The argument in this paper is that spelling systems that carry more than purely phonemic information are better suited to the requirements of fluent adult readers, and that different systems of spelling can induce different reading strategies in young readers, these reading strategies perhaps not being best adapted for fluent reading. Accordingly we can draw the conclusions that there are advantages to the use of current English orthography.

Consider first a problem that I want to argue has many parallels with the problem of designing writing systems, namely the problem of designing mathematical systems of notation. It is often the case that the gap between the way a mathematical idea is written down and the way it is spoken is quite large. For example: '/2(x+2)2=20, which is spoken (in my dialect) as "half x plus two, all squared equals twenty." Note that although the symbol "2" appears four times, it is spoken in a different way on each occasion, and that some symbols (the brackets) affect not so much the way each element is spoken in isolation, but the way they are grouped together: '/2(x+2)2 and ('/2x+2)2 are spoken with a different rhythm. Now this notation undoubtedly poses problems for the learner, and any mathematic s teacher will be able to tell you of pupils who confuse '/2(x+2)2 and ('/2x+2)2, and, more fundamentally, even of some pupils who confuse "multiplying by 2" with "raising to the power 2". Despite this state of affairs, there is no great pressure to reform algebraic notation comparable with the pressure to reform English orthography. This is because algebraic notation is a particularly successful way of expressing a variety of concepts (multiplication, division, raising to a power, etc.) and this is crucial when algebraic problems of any complexity are attempted: a notation that translated directly into words would leave most of the essential concepts more obscure. When "reforms" have occurred in mathematical notation (the replacement of Roman by Arabic numerals, the preference for Leibniz's rather than Newton's notation for the differential calculus) they have always been in the direction of makingthinking easier, not necessarily of making speaking easier.

Consider now the case of alphabetic systems and the problems of reading and writing. Some recently invented orthographies are not strictly phonemic (Faroese orthography, invented by a linguist in the 19th century, contains morphemic information (**O'Neil, 1972** [7]) and, as we shall see later, even the best shorthand systems, which are the subject of quite frequent reforms, contain much that is not phonemic or phonetic. However, most alphabetic orthographies have begun by coding only phonemic information, yet in the course of time, largely because the rate of change of spelling is slower than the rate of change of speech, the spelling system has become related to the speech system only in a rather indirect way. Most notoriously this is the case with English spelling, where the writing of vowels is more closely related to the way these vowels were pronounced in pre-Tudor English, and where over the centuries many foreign words have been absorbed into the language, with their pronunciation being adjusted but their original spelling being retained.

Now we argue that just as systems of algebraic notation achieve distinct advantages through distancing themselves from the pronunciation of the propositions they express, so an alphabetic system that expresses linguistic information in an abstract way has advantages over a system that seeks to express only the phonemic form of language. In discussing the optimal design for a writing system, we need feel no more constrained by the observation that alphabets were originally designed to express sounds than a mathematician should worry that geometry was originally developed to measure the areas of fields.

In what ways can alphabets code linguistic information abstractly? First note that even a phonemic system is itself an abstraction. In my dialect, for example, /p/ of *pun* is pronounced with aspiration [p^hʌn], but the /p/ of *spun* is pronounced without aspiration [spʌn]. In writing both these sounds with

the same letter p, a writing system is making an abstraction, deciding which distinct phonetic items should be classed together. The reason why such a convention is entirely acceptable is that it is entirely regular and hence predictable: all my word initial /p/'s are aspirated, all /p/'s in the consonant cluster /sp/ are unaspirated. So provided I have a writing system that marks word boundaries, I can always derive the pronunciation of /p/ by rule. This type of observation is given by linguists such as **Chomsky and Halle (1968)** [2] the status of a fundamental principle: what can be derived by rule need not be marked in an orthography. For example, there exist pairs of words in English that differ only in the location of primary stress (a súrvey (noun), to survéy (verb) but it is unnecessary to indicate stress in the orthography, according to Chomsky and Halle, because stress location in English is derivable by rule; similarly the vowel alternations in word pairs such as *divine-divinity, serene-serenity* are rule governed and need not be marked. While we lose information in failing to mark these distinctions in sound patterns, we gain by being able to have similar visual forms representing related ideas (the noun and verb forms of *survey*, obviously related ideas, are written the same; the related pair *divine-divinity* have more letters in common than they have sounds in common).

Now I want to emphasise that this paper is far from being a full endorsement of Chomsky and Halle's position. Much of their phonology, it seems to me, is highly implausible at a psychological level, and I am grateful to **Valerie Yule (1978)** [13] for pointing out the large numbers of exceptions there are to their rules when we first look at the sort of high frequency words that a beginning reader is first exposed to. But I think Chomsky and Halle's essential insight — that an abstract writing system has the power to express important linguistic relations that are missing from a more directly phonemic spelling — should not be ignored by spelling reformers. I now give several examples where the conservatism of English orthography has produced features that could help a fluent reader.

(1) *Word stress*.
The location of primary stress in polysyllabic words in English is not easily predicted, since it depends on several phonemic, morphemic and syntactic factors, and stress is unmarked directly in English orthography. However stress placement is rule-governed, and we have shown in a series of studies (**Baker and Smith, 1976; Smith and Baker, 1976** [9]**; Groat, 1979** [4]) that English speakers know quite a lot about these rules, to the extent that when subjects read aloud written nonsense words embedded in normal English sentences, the location of stress is affected by such factors as whether the final vowel in the word is tense, whether the word ends in two consonants, and whether the word is a noun or a verb. These skills are present even in seven-year-old children.

One feature of stress assignment is that it can sometimes be predicted more directly from the written form of the word than from the phonemic form. For example, three-syllable nouns with lax vowels take stress on the first syllable if the second vowel is immediately followed by one consonant (*cínema, cátapult*), but stress is placed on the second syllable if the second vowel is immediately followed by two consonants (*veránda, fiásco*). Some words are apparent exceptions to this rule: *umbrélla, regátta*, where only one consonant follows the second vowel in the spoken form of the word. These exceptions are neatly handled with reference to the written form of the word: *umbrella* has two 'visual' consonants following the second vowel, putting it in the same class as *veranda*. Similarly, while two-syllable nouns with final lax vowels take stress on the first syllable (*témpest, búcket*) some exceptions such as *giráffe* and *grotésque* can be accounted f or with reference to an underlying three-syllable form, like *veránda*, from which the third syllable is deleted: although we do not hear this third syllable, its presence is still signaled in the written form by the silent final e. Our experiments have shown that readers do take account of double consonants and silent final e's in pronouncing nonsense words, and we can conclude that such conventions will help a reader in handling unfamiliar words whose pronunciation he might be uncertain about.

(2) *Effects of spelling system on reading strategies*.
One issue, which has received little attention in studies of spelling systems, concerns the influence of the type of information contained in a spelling system on the way a child or adult carries out fluent reading. The novice reader has to move from a strategy of laboriously reading aloud all the words he comes across to a strategy of 'reading for meaning' which can be many times faster than natural speech and where any conversion of a word into its full spoken form might actually interfere

with efficient reading. It seems to me there is a possibility that if, say, a child is brought up on a highly phonemic alphabet, his attitude to reading and his reading strategies might over-emphasise the phonemic aspects of reading, to the detriment of the lexical and semantic aspects. In this respect, a more abstract system might encourage the child to look beyond simple grapheme-phoneme correspondences.

To be fair, I do not think that such effects, if they exist, will be very large, but given one of our major educational aims is to teach people to read fluently and with comprehension, I think in our research we should be paying more attention to the effects of teaching methods, spelling systems, reading materials, etc. on the reading abilities of children who should be achieving reasonable fluency (15-year-olds, say) rather than concentrating only on the first few years of learning to read.

In our own research, we have one small piece of evidence bearing on this. **Groat (1979 [4])** looked at the use of stress assignment rules by two groups of seven-year-old children. One group had used traditional orthography throughout the schooling. The second group had been taught to read with the (more phonemic) initial teaching alphabet, but had recently transferred to traditional orthography. Groat found that the two groups performed in similar ways (in particular, both groups had a sophisticated appreciation of the complexities of English stress assignment rules) but in one respect i.t.a. children were different. Recall that, according to some linguists, words like *giraffe* and *grotesque* have an underlying three-syllable form (like *veranda*) which leads to the final form of the word having stress on the second syllable when the third syllable is deleted. Now children taught with i.t.a. operate just in this fashion — a nonsense noun such as *gevespe* is quite likely to be treated either as a three-syllable word or as a two-syllable word with stress on the second syllable, whereas children taught only with traditional orthography appear to ignore the final *e* in *gevespe*, treating it as a normal two-syllable noun with stress on the first syllable (like tempest). So children taught with a more phonemic alphabet have a different strategy for analyzing the stress patterns of long words, though of course we do not know whether this habit persists into adult life or is, as I suspect, merely a temporary strategy in the transition from i.t.a. to traditional orthography.

(3) *The three-letter rule*.
Albrow (1972 [1]) has pointed out that content words in English must be spelt with at least three letters, thus there are many words with apparently redundant consonant doubling or silent final *e*'s (e.g. *inn, bee, bye, sow, two, ore*, contrast with *in, be, by, so, to, or*). I believe this has some significant implications for reading. Recent studies of eye-movements during reading have shown that word-length plays an important part in the way readers scan a text. For example, **McConkie and Rayner (1973 [5])** have developed an ingenious computer-controlled display of text which allows them to change the text while the subject is in the process of reading it.

Performance is measured by fixation duration (how long the subject needs to spend looking at each part of the text: the longer the fixation, the less efficient the performance). Now if changes are made in the text more than 12 letters ahead of where the subject is currently looking, his performance is unaffected; if changes are made less than 8 letters ahead of where he is looking, his performance is disrupted; but, significantly, if changes are made between 8 and 12 letters ahead, performance is not disrupted if the changes preserve the shape, length and initial and final letters. If a sentence reads: *The cat is near the back.* and the subject is looking at the word is, we could change *back* to *book* or *bank* without disrupting performance, but changing *back* to *sack* (initial letter change) or *back* to *brook* (length change) would disrupt performance. This means that information about word length and shape is being processed by the skilled reader well ahead of actual word identification (words cannot be accurately identified when they are 8 to 12 letters from fixation). Moreover studies by **O'Regan (1979 [7])** have shown that readers are able to control their eye-movement patterns in such a way as to avoid what are normally uninformative parts of the text occupied by short function words. Accordingly it seems that the skilled reader can be guided to the most informative parts of the text by peripheral cues to do with word shape and word length, and this process is facilitated by the three-letter rule which distinguishes two-letter function words from three-letter content words.

In this respect, note also that it is an advantage for an orthography to distinguish homophones by words of different shape or length (e.g. *threw, through; seen, scene*).

(4) *Preservation of morphemic information*.
It is a simple observation that syntactically organized text is easier to read than totally disorganized text. It is not even necessary that the text makes sense: syntactic organization by itself helps reading, as Lewis Carroll was well aware.
("Twas brillig, and the slithy toves did gyre and gimble in the wabe..."). Note that Carroll creates syntactic organization by the judicious use of function words (*the, did*) and the use of certain bound morphemes (-y, -s). Now I argue that those features of current orthography that help us to identify morphemes are making a significant contribution to the ease with which we can extract syntactic structure, and thus these features should be preserved. More formal evidence than Lewis Carroll is available, e.g. **Epstein (1961)** [3] who showed that nonsense syntactically organized in the manner of Jabberwocky was easier to learn than unorganized nonsense. There are two ways that preservation of morphemes can help organization. First it can help indicate whether a word consists of a single unbound morpheme or an unbound morpheme plus a bound morpheme (so we distinguish the homophones *band* and *banned, please* and *pleas*); second, morphemes that *sound* different in different environments still look the same (e.g. -*s* in cat*s* and dog*s*, -*ed* in walk*ed*, climb*ed*, float*ed*).

Evidence that a reader's information-seeking strategies are strongly influenced by certain bound morphemes and function words comes from work I have been doing using letter cancellation (**Smith and Groat, 1979** [10]**; Smith, Pattison and Groat** [12], in preparation). Subjects (university students) are required to read a text while at the same time cancelling all the e's that they notice in the text. Artificial though this technique may sound, it does not seem to disrupt reading greatly, and it has the merit of telling us exactly what parts of a text a subject notices in making a detailed analysis. Results show that the *e* in the definite article *the*, and the *e* in the bound morphemes *ed* frequently fail to be cancelled, and this failure rate is strongly dependent on such variables as the difficulty and coherence of the text, and whether the subject had been instructed to attend to the meaning of the text or not. Moreover there are large sequential effects whereby these sorts of *e* are especially likely to be missed in particular (syntactically defined) parts of the text. For these reasons we call the *e*'s in *the* and -*ed* syntactic *e*'s, in contrast with the other *e*'s, which we call lexical *e*'s and which show small sequential effects and little sensitivity to manipulation of text structure. This dissociation of syntactic and lexical *e*'s suggests to us that readers are using words in the text in two different ways: content words (containing lexical *e*'s) are read in much the same way as words in isolation, their meaning and, if necessary, their pronunciation being looked up in some central dictionary in the brain; but certain function words and bound morphemes (containing syntactic *e*'s) are not analysed in such detail, being used rather to guide the reader through the text, and for this purpose their invariant form is crucial.

(5) *Semantic information in spelling*.
Semantic information in the spelling of a word, over and above the morphemic information, can appear in English in four ways:
(1) Many words are introduced into English from other languages with their non-English spellings retained: *spaghetti, Pavlov* (the latter being a straight transliteration from the Russian alphabet).
(2) Sometimes an English letter is used unconventionally to represent a non-English sound in a loan word: *Iraq, Qatar*.
(3) A substantial number of words have been invented with non-English (usually Latin or Greek) components: *psychology, architecture, chromium, cholestrol.*
(4) Sometimes particular misspellings have become accepted, presumably because they seemed particularly apposite: *ghastly, ghost, ghoul.*

These processes have some relevant implications for reading: we can guess that *spaghetti* comes from Italy because of its characteristic Italian spelling; the non-English spelling of *Pavlov* ('native' English words cannot end in a *v*) indicates his Slavonic origin; likewise the non-English *q* in *Iraq* and *Qatar* indicates an Arabic origin; the hard *ch* in *psychology*, architecture, etc. often indicates a recently invented word (based on Greek) and hence such spellings are likely to indicate words of scientific or technological origin; and *ghastly, ghost, ghoul* can be seen to be semantically related, thanks to a slip by William Caxton.

To be honest, we do not know how important these semantic cues are for the reader and the speller: certainly educated adults, when asked about the meaning of an unfamiliar word will often use its spelling as a clue to its meaning, and certainly there is plenty of evidence in the psychological literature that the meanings of words can be assessed directly by the reader without recourse to the full phonemic form of the words, but I am inclined to think that the *purely semantic information available* directly from English spelling is present *too sporadically to make a substantial contribution to normal reading.* But this is no argument for removing all traces of such information from spelling, rather we should be looking to exploit and systematize such information as is present (it is, for example, unfortunate that *Tchaikovsky* and *Chekhov*, are not spelt in British English with the same initial letters, when a systematic transliteration of Russian to English would require this).

Shorthand Systems. Finally I want briefly to discuss shorthand systems. These systems provide further examples of writing systems that demonstrate the advantages of going beyond strictly graphemic-phonemic correspondences. Shorthand systems are interesting because they are reformed quite frequently, there are several systems competing for students, and there is a strong pressure for them to achieve a well-defined criterion, namely to permit rapid and error-free transcription of speech. In short, there are just the sort of pressures, largely missing from traditional orthographies, that should lead to the development of efficient systems.

We have reviewed English shorthand systems recently (**Smith and Patterson**, to appear **[11]**). Our conclusion is that their relation to speech is just as abstract as traditional orthography. For example, consider Pitman New Era, one of the fastest and one of the most phonemic systems. There exist in Pitman New Era, abstract phonological conventions like voicing neutralization (*ass* and *as*, *prices* and *prizes*, *Confucian* and *confusion*, would constitute pairs of homographs), rules that operate differently within a word and at the ends of words (*sleep* and *asleep, honest* and *honesty*, would be written in fundamentally different ways, because abbreviations for clusters such as *sl-* and *-st* are only available when these occur at the beginning or end of a word) and several abbreviatory devices ignore syllable structure (*spring* and *separate* would begin with an abbreviation for *spr-*, despite the fact that in one case *spr-* stands for a true consonant cluster and in the other case for two syllables from which the vowels have been deleted). The moral is that rapid writing systems need not stay close to phonemic detail to be efficient. Psychological studies of shadowing (repeating back a message at the same time as listening to it) make much the same point (**Marslen-Wilson, 1975 [6]**): a wide range of linguistic information (morphemic, lexical, semantic) is computed by a listener with remarkably short latency), and there is no evidence that all information must be fully represented in phonemic form before we can start to understand it. Hence there is no reason why an efficient writing system should dwell exclusively on phonemic detail.

Conclusion.

Let me first deal with one objection to the arguments I have been putting forward. It is unnecessary, it is claimed, to distinguish homophones (know, no), to preserve morphemes (*walked, climbed, floated*) or to have a three-letter rule to aid in discrimination of function and content words (or, ore) because context will almost always allow us to resolve any ambiguities. First, let me remark that the use of "context" is very much a two-edged weapon: we could equally well invoke context to justify all sorts of non-Phonemic reforms, such as dropping nearly all the vowels as semitic orthographies do. Second, writing typically provides less context than speech: when I say, *The sun's rays meet* or *The sons raise meat*, it is likely that a gesture I make, or perhaps the rhythm of the sentence will give some hint to the meaning, and these contexts are absent on the printed page. Third, and most important, fluent reading is faster than speech, and needs all the help it can get to be efficient: one reason nobody pushes for vowel deletion as a spelling reform (think of all the space that would save) is that although intelligibility would scarcely be affected, the removal of useful supportive information would probably reduce the reading rate considerably. Let us put as much information into spelling as the reader can usefully handle.

Looking back over my arguments, and having listened to some of the papers at the Northampton conference of the Simplified Spelling Society, what should I recommend about spelling reform? First, I would be against deleting the second *l* from *umbrella* or the *e* from *giraffe*, since they help with the correct assignment of stress; I would be against dropping the *h* from *spaghetti*, and

against using *k* to stand for *ch* in *psychology* or for *q* in *Iraq*, since useful information is given. However with these examples I acknowledge my position is elitist: these conventions help good readers squeeze a little more information out of difficult or low frequency words. It seems to me an open empirical question whether these slight advantages out-weigh the disadvantages for less able readers.

However there are some reforms that I would much more confidently oppose, because they affect processes that are involved in some of the most central parts of reading. May I re-emphasise that efficient reading depends on much more than accurate phonemics, and that word shape, word length and morphemic structure are important guides for rapid reading. With this perspective, I would be against destroying morphemic invariance (*-s, -ed*, etc.), against dropping redundant letters in three-letter content words (*add, axe, egg*, etc.) and against destroying different spellings for homophones (*gate, gait*). On the other hand, preserving the close visual similarity of *divine* and *divinity* is probably less important (the words will begin with the same letters and have roughly the same shape no matter how we spell the second vowel).

I return to my point that spelling should contain as much information as the reader and speller can usefully handle. It seems to me beyond dispute that much of this information should be phonemic, and that in the early stages of reading, the phonemic aspects of spelling need to be stressed. But if we want to develop an orthography that does justice to the richness of the English language and permits fluent and intelligent reading and writing, we should take great care to incorporate into any reformed orthography information that refers to deeper levels of linguistic knowledge.

Acknowledgement. This paper was written while the author was visiting Max-Planck-Gesselischaft Projekt-gruppe für Psycholinguistik, Nijmegen, Holland, whose support is gratefully acknowledged.

References.

1. Albrow, K. H. (1972) The English writing system: notes towards a description. London: Longmans. Baker, R. G. and Smith, P. T. (1976) "A psycholinguistic study of English stress assignment rules," *Language and Speech*, 19, 9–27.
2. Chomsky, N. and Halle, M. (1968) The sound patterns of English. New York: Harper and Row.
3. Epstein, W. A. (1961) "The influence of syntactic structure on learning," *American journal of Psychology*, 74, 80–85.
4. Groat, A. (1979) "The use of English stress assignment rules by children taught either with traditional orthography or with the initial teaching alphabet." *Journal of experimental child psychology*, 27, 395–409.
5. McConkie, G. W. and Rayner, K. (1973) "An on-line computer technique for studying reading: identifying the perceptual span." *NRC 22nd*, 119–136
6. Marsien-Wilson, W. D. (1975) "Sentence perception as an interactive parallel process." *Science*, 189, 226–228.
7. O'Neill, W. (1972) "Our collective phonological illusions: young and old." In Kavanagh, J. F. and Mattingly, I. G. (Eds.) *Language by ear and by eye*. Cambridge, Mass.: M.I.T. Press.
8. O'Regan, K. (1979) "Moment-to-moment control of eye saccades as a function of textual parameters in reading." In Kolers, P., Wroistad, M. and Bouma, H. (Eds.) *Processing of Visible Language, 1*. New York: Plenum Press.
9. Smith, P. T. and Baker, R. G. (1976) "The influence of 'English spelling patterns on pronunciation." *Journal of Verbal Learning and Verbal Behavior*, 15, 267–285.
10. Smith, P. T. and Groat, A. (1979) "Spelling patterns, letter cancellation and the processing of text." In Kolers, P., Wrolstad, M. and Bouma, H. (Eds.) *Processing of Visible Language 1*. New York: Plenum Press.
11. Smith, P. T. and Pattison, H. (to appear) "The structure of writing systems as evidence for the psychological processes involved in perception." To appear in *Processing of Visible Language 2*.
12. Smith, P. T., Pattison, H. and Groat, A. (in preparation) *"A model for reading, based on evidence from a letter cancellation task."*
13. Yule, V. (1978) "Is there evidence for Chomsky's interpretation of English spelling?" ***Spelling Progress Bulletin***, 18, 4, 10–12.

[Spelling Progress Bulletin, Spring 1980 pp18–19 in printed version]
*[Alun Bye: see **Journals**, **Newsletters**.]*

A Multisensory Approach to the Teaching and Learning of Spelling, by Alun Bye.*

*Northampton, Eng. Presented at the 2nd Inter. Conf. on Reading & Spelling, July '79.

Apart from the obvious irregularities and inconsistencies in our writing system, the main reasons for spelling disability seem to be poor visual memory for words, poor visual imagery for words, poor auditory analysis, poor muscular-memory, inappropriate handwriting style, poor self-image as a speller, and unsystematic teaching. These essential subskills are rarely, if ever, taught through the medium of the weekly spelling list, and too often the latter is mistaken for a methodical teaching system.

The student with a weak visual memory is easily spotted by his tendency to spell as if all words possessed phonic regularity. Despite seeing the correctly written versions many thousands of times, he continues to write them the way they sound. Written corrections by teachers are to no avail, and only confirm the student's depressing view of himself as a weak and never improving speller.

It is pointless for a teacher to write comments on a student's work exhorting him to improve his poor spelling. He probably already knows that his spelling is poor, and may even grow ashamed of it. What he needs is a sympathetic and insightful teacher who can systematically show him just how he can improve his spelling and enable him to remember difficult and awkward words. His spelling miscues may be a plea for help which pass unrecognized by an insensitive and unimaginative teacher.

It is wrong to assume that all children are born knowing how to study word spellings, and how to remember them, or that they will develop appropriate strategies for themselves given time. Many never do, and many cannot without careful guidance.

Training should begin by showing weak visualisers what to look for in words, by emphasising their spatial, acoustic and semantic components. A word's configuration may be studied for its number of double or treble letters, for the number of words within a word, for its balance of beginning against ending, for its pivot point, etc. Students who are very young or very weak visualisers may benefit from verbalising the shapes and spatial elements of letters, perhaps by referring to round letters, tunnel shaped letters, reaching up or dangling down parts, or ascenders and descenders, and letters with dots on, etc. When a word has been studied thoroughly in this way, it should be written from memory by the student, and this version compared with the original. Such comparisons aid memorization, and the word should be rewritten, again from memory, until the word is correctly spelled. At this point the word should continue to be written as many times again as there were trial attempts. This ensures that the word is practised beyond the point of bare mastery, and provides an opportunity for it to be embedded in long term muscular or finger tip memory.

It is important to avoid merely copying out a difficult word several times, for this makes no demands upon visual imagery or visual memory, and both faculties remain unpractised. There may also be little virtue in copy-tracing the word in the air or on sandpaper. Unless an effort is made to memorize and visualize and vocalize at the same time as tracing, there may be little real benefit apart from a pleasant tingle at the finger tip. It is far better to trace in sand, where the combined feel and appearance of the word may be appreciated. Attending to the acoustic properties by exaggerating the tricky syllable's sound can further help to stamp it into memory. When practising writing the word, it is useful to use a fibre-tip pen and sugar paper, for this combination increases the kinaesthetic feedback. The piece of paper may be folded before each attempt, thus concealing the previous effort, but permitting immediate comparison, recognition of error and knowledge of results. The benefit of the kinaesthetic flow is enhanced if the child learns as early as is practicable to join his letters together using the correct, efficient entry and exit points for each letter.

Poor spellers should be required to attempt a word of whose spelling they are uncertain before they consult the teacher or a dictionary. This creates a positive mental attitude towards good visualisation. Sensitive teaching can improve a poor self concept by praising for correct letter sequences and presenting for practice only those words which the student can reasonably be expected to spell without excessive difficulty.

As well as teaching children how to study word configurations, we should also provide tips on how to remember tricky words, especially those hoary perennials which we, as experienced teachers, know are likely to cause some problems. Surely this is move in keeping with the teacher's true role of distributing admonishments. Students should be encouraged to use their ingenuity to formulate their own mnemonics and to share them with one another. The more imaginative students may help the less creative brethren.

Contriving an element of meaningfulness into an otherwise arbitrary list can be very beneficial. For example, spelling families may be more effectively learned by stringing them together in sentences, such as: *A thirsty bird chirped with mirth as he spied the pond from the first fir tree*; or *A curly haired nurse lost a purple fur purse in D'urbeville Church*; or *I eat beans and meat at meals*.

Such homophones as *beech/beach* can be learned by linking beech to tree and beach to sea-side. An awkward word like 'necessary' may be linked to the need to wear one collar (one /c/) but two socks (two /s's/), or two ships sailing on one sea (c). Deriving 'argument' from 'argue' may be remembered as being stuck in an ar-gum-ent. The tricky word 'definite' and its 'ite' ending may be better remembered if it is visualised as 'de-fin!te'. And to end on a moving note, how about loco-motive?

-o0o-

[Spelling Reform Anthology §13.9 pp193–196 in printed version]
[Spelling Progress Bulletin, Fall 1980, pp.4–7 in printed version]
*[Vic Paulsen: see **Bulletins**.]*

The Cultural Impediments of English Orthography,

by Vic Paulsen, San Francisco, Ca.

Communication amongst human beings involves at least two people: one who transmits the information, and another who receives it. Written communication involves a third element, which is interposed between the two human elements: a writing system, thru which the information is conveyed.

Writing systems are of two general kinds:
(1) picture-writing, which uses ideographs, and
(2) sound-writing, which uses syllabaries or alphabets.

Ideographs are simplified pictures with informational content. They have actual meaning. But syllabaries and alphabets are designed to represent speech-sounds only, and they are not intended to represent anything else. In China, for example, a common system of word-signs which is largelyideographic provides communication amongst people of different regions who cannot otherwise communicate because their spoken languages are different. But in the western world, wherealphabetic writing is the custom, all three elements in the chain of communication must be geared to the same language. Both the writer and the reader must understand that spoken language, and the writing system must be designed for it. To the extent that any of the elements departs from these qualifications, communication fails.

The problem in the English-speaking world today is that altho the two human elements, the writer and the reader, both speak the same language, which is Modern English, the third element, the writing system, was not designed for that language. It has been shaped a bit, here and there, in the direction of Modern English, but the fact is that its spelling is based primarily on another language, Middle English, which hasn't been spoken in at least 400 years, and is no longer understood. So, we have a bottleneck in communication.

From the point of view of a technician, this problem is easily solved. All one needs to do is to design a writing, system specifically for Modern English, so that all three elements in the chain of communication can function in harmony. We know very well that in those parts of the world where such systems operate, literacy is easily achieved. Learning to read in one day is not unheard of.

But the design of a new writing system is only a partial solution. The major obstacle that confronts the orthographic reformer is the existing system itself, which, with all its scandalous lack of utility, happens to be an investiture that seems to defy displacement.

During the last 30 years or so, literacy in the English-speaking world has been declining at an alarming rate. It's not hard to guess why. During the rapid development of electronics in the past 40 years, *speech*, for the first time in the entire course of history, *has become a mass medium*. The people, having discovered those electronic channels thru which they can receive information in their own language, are now circumventing the outdated writing system which has been the

bottleneck in mass communication. And having alienated themselves from it, they have become less able and less willing to cope with its irrational complexities.

In an attempt to correct this situation, the Federal Government of the United States initiated its "Decade of the '70's" program, in which "The Right to Read" was to become a reality. [1] During that ten-year period, which is now ending, both State and Federal governments have poured massive sums into programs designed to eradicate illiteracy, not by re-designing the outdated writing system, but by attempting to shape the minds of human beings into conformity with the status quo. And what has this extravagant program achieved? Nothing! The drift to illiteracy continues as before, except that it now has reached the proportions of a crisis. For example, the United States Navy now complains that from 40 to 50% of today's recruits can't read the instruction manuals. The Navy is plainly worried about the future. [2] And they are not alone. But how do the educators explain all this? Their typical response is: "Well, this is a difficult problem! We must rise to meet the challenge, re-dedicate ourselves, learn to work together, involve the parents, etc." [3]

Now, before we start examining this peculiar human reluctance to do something about conventional spelling, let's just briefly review the origins and the nature of alphabetic writing, so we know exactly what we are talking about.

Alphabetic writing seems to have begun sometime prior to 1,000 B.C. in the eastern Mediterranean area. It was acquired and perfected by the Greeks, then adopted by the Romans, who spread it thruout their civilizations. The principles were these: Each significant speech sound (phoneme) was represented by an individual symbol, and these symbols were written from left to right in the same sequence in which the sounds would be heard if the information were spoken. Diphthongs were represented analytically, that is, each of the two phonemes of which the diphthong was composed was represented by its own symbol, so that the phonetic constitution of the diphthong was clearly indicated; and those symbols were also written from left to right in the same sequence in which the sounds would be heard if the information were spoken. The reader, by scanning the line from left to right, "sounding" the symbols one by one, could reproduce, in speech, the information intended by the writer. That's what alphabetic writing is all about, and for its first thousand years or so in Europe it was done, for the most part, with capital letters and without any word-spacing. [4]

Along about the 7th Century a very important refinement was introduced. Groups of letters representing whole words were separated from each other by spaces, and this practice was combined with the use of letter styles, some of which had descenders or ascenders. [5] This gave a more or less characteristic outline to particular word-groups, making for easier whole-word recognition, and thus speeding up the decoding process.

It was not until after this development that vernacular writing evolved in Britain and in Europe, where the official language of record and of learning had been Latin. Vernacular writing was simply an adaptation of the Latin alphabet to the vernacular. But the new languages had some sounds that were not represented in the Latin alphabet, so the practice developed of using digraphs and other combinations of Latin letters to represent these sounds. But digraphs don't scan, and the only reason they could be used at all was that word-spacing had come into use. And so began a departure from alphabetic principles that fostered the strange notion that word-groups might be regarded as basic units, the spellings of which might be memorized if not scannable, or that might be identified more or less as logograms. Now, a few digraphs in the orthography of a language that

has remained fairly stable is no great problem. But in the case of English, which has undergone enormous pronunciation changes which have not been accommodated in the spellings, the relationship between the speech and the writing has simply departed from the reality of alphabetic procedures.

The succession of influences that produced linguistic turmoil in England prior to the 18th Century and the subsequent orthographic chaos of which we are the inheritor, already has been documented ad infinitum, but let's just use one word as a sample of what happened: "knave." This is the Middle English word pronounced "knah-veh" (be sure to pronounce the "k" — that's what it's there for) ... two open syllables, each containing one single vowel sound. And, as you can see, the spelling was a perfect specimen of classical alphabetic principles. Using symbols for the phonetic values for which they were intended, it scans from left to right, symbol by symbol, to reproduce the spoken word intended by the writer. But in *Modern English*, the language we speak, there is no knah-veh. That word has become one *closed syllable* containing a *diphthong*. But how would anybody know that? We are still spelling it k-n-a-v-e, which, in alphabetic terms, is a departure from reality. According to classical alphabetic procedure, which requires that diphthongs be represented analytically, the correct modern spelling would be: "neiv."

So how does a teacher explain the spelling k-n-a-v-e to a child? One way might be this: "Children, be sure to spell this word correctly. It begins with a "k", but this is a silent "k". It must be there, but we don't pronounce it. As we know, the letter "a" has many pronunciations, but we never know which one until we know what the other letters in the word are. In this case, the last letter is an "e". We don't pronounce this either, but be sure to include it in the spelling because this one is the magic "e" that tells us that the letter "a" is pronounced like the "a" in "able". Remember that rule, but remember too that rules have exceptions, and in this case, if the "kn" at the beginning of the word were replaced by an "h", this would tell us that the magic "e" wasn't magic anymore, and that the "a" would then be pronounced like the "a" in "hat". But above all, be sure to include the final "e" in the spelling, even if it is not magic, and even if it is not pronounced, because if you don't, the spelling won't be correct. Now is this clear to everyone?"

If the teacher were in a prophetic mood, the speech might continue like this: "Now I hope that all of you will try very hard, and that by the time you will have graduated, after eight years in this school, that most of you will have learned to read ... a little. But some of you, even many of you, will have difficulties. Some of you will try, but just not be able to get it. Others will just sit and cry. Some will just stare out the window, and have a tight feeling in the stomach. But don't worry about it. The school psychologist will make a lot of tests, and ask you a lot of questions about your family, and might even interview your parents to find out what their problem is. The psychologist might discover that you have a learning disability, or perhaps a brain disfunction of some special kind, possibly dyslexia, or even that you are suffering from brain damage!

Some of you will become disciplinary problems. You will become hyperactive. You will run and jump and squirm and fight! Anything to avoid learning to read. For you, we have a little pill. Not a drug, really ... just a pill. This will quiet you down and keep you from becoming a problem in the classroom. Of course, you might come back after dark and break all the windows, maybe even set the building on fire, in which case you will have to deal with the police. But this might not stop you. You might become incorrigible, and end up in a life of crime, which is what happens to many illiterates.

And there is something else I must tell you. Girls learn to read more easily than boys. You see there is quite a difference between boys and girls. But don't worry about it. We can send you to a Remedial Reading Clinic, where they will try to correct your problem.

"Finally, children, I would like to say that this task can be much easier for all of us if only you will try to remember that, after all, Reading is Fun!"

Conventional English spelling is commonly spoken of as "crazy" or "insane", but these are general terms that don't take us anywhere. A more particular and more useful description might be "pathogenic", that is, "disease causing"; "disease" in this case meaning mental disorder. The evidence, when viewed in proper perspective, seems to justify this one. Let's find out:

The tools a society shapes for its use are reflexive cultural entities. As the tools are used, the society that produced them is, in turn, shaped by them, may become dependent on them, even enslaved by them. Examples: television, automobiles, writing systems. The more widely used the tool, the more thoroly it influences the society. And in the English-speaking world, where the writing system has — in alphabetic terms — become irrational, it has produced irrational mental processes in the society. Let's see how this has come about:

In the first place, the teaching of reading and writing in any society, whatever the language or the writing system, involves the enshrinement of the writing system as a standard of reference on which the teaching is based. This tends to identify the writing system with the particular language, as if the two were one and the same thing. This illusion has inspired a popular misuse of terms, some of which have found their way into dictionaries, thus reinforcing the illusion. For example: words such as "language", "vowel", "diphthong", "digraph", "English", "literacy", the terms "short vowel", "long vowel", and such statements as "Reading is Fundamental", and "Back to Basics'! All of these formerly had specific meanings based on the assumption that the writing represented the sounds of the language. But as the pronunciation of the language changed while the spellings remained the same, a distortion occurred in the meanings, some of the terms expanding to include multiple meanings. The result of this is that any discussion of the relationship between speech and writing tends to become futile because the terms mean different things to different people. Thus, any consideration of orthographic reform tends to be unappreciated.

Another peculiar psychological disability has come about with the phasing out of acoustic in favor ofvisual methods of decoding, namely: an actual incapacity to decode alphabetic writing acoustically. This has arisen from an accumulation of influences. Prior to the introduction of word-spacing, the custom seems clearly to have been that of reading aloud and listening to one's own voice to get the meaning. **[6]** After the introduction of word-spacing, secondary visual associations in the form of whole-word patterns came into being. The continuous contact with these secondary visual patterns that came about with the introduction of printing and the consequent proliferation of reading material, tended to cause a substitution of the visual for the acoustic. Also, certain non-alphabetic innovations such as the so-called etymological spellings contributed to the declining acoustic reliability. And in more recent times, the "look-and-say" method of teaching reading completed the job of producing a total dependence on visual word identification — to the extent that such identification is possible. Experience shows that people who have been conditioned to this visual process may be incapable of decoding a scannable alphabetic system, even if they have learned the phonetic values of the symbols and are capable of reconstituting the speech intended by the writer. Altho they may read the words aloud correctly, so that anyone within hearing

distance can understand the message, they themselves are not listening to what they are saying because while they are saying it their attention is riveted to the visual image, which is where they expect to find the meaning.

Fortunately, this affliction is easily overcome, but the afflicted people don't know this, and when someone suggests a reform of English spelling that involves a restoration of alphabetic principles, they are seized with apprehension, and nothing gets thru to them. These are the people who say "making sounds is not reading" without realizing that they are only describing their own affliction.

But simple lack of knowledge concerning the nature of literacy does not adequately explain the single-minded, unbudging tenacity with which the English-speaking world clings to its outdated writing system. This phenomenon resembles the behavior of an individual suffering from a neurosis, who defends himself against any suggestion that he might have a personal problem. Even knowledgeable analysts in the education field who have shown the writing system to be the main source of our reading difficulties, will then usually propose some special way of teaching it, but seem unable to perceive the possibility of changing it. Somehow, they will manage to find an explanation, an apology, or a rationale, to show that *change* is either unwise or impossible. **[7]**

This rigid, "blank-wall" attitude is pretty strong evidence that what we are dealing with here is a mental disorder. In psychiatry, behavior is considered normal when it is determined by processes that are predominately conscious, and therefore deliberative. But behavior is considered neurotic when the determining processes are *unconscious*, and therefore not subject to deliberation. **[8]** But a collectivemental disorder involving a whole society is not readily identified. If an *individual* should become psychotic in an otherwise healthy society, his behavior is easily noticed because it is different. But if a whole society becomes psychotic, nobody notices it because it is the norm.

Another difficulty in recognizing collective mental disorders has to do with terminology. Individual mental disorders are dealt with clinically by psychiatrists, who have evolved clinical terms to describe them. But mental disorders of societal proportions are not treated clinically, and if they are described at all, it is by anthropologists or historians or sociologists. They may speak of "cultural tag", or perhaps "the decline and fall of," etc., but they don't identify the affliction for what it really is: a mental disorder of a particular kind.

But there is another — and perhaps the strongest — piece of evidence to identify as a mental disorder the fixation for an outdated writing system, and that is the way in which such fixations have commonly been dispersed. Of the instances of orthographic reform that have occurred in this century, those of the Portuguese, the Russian, the Turkish, and the Chinese, have followed in the wake of violent social upheaval. They are the collective counterparts of "abreaction", a psycho-therapeutic process by means of which the pathological complexes of individuals are dispersed. **[9]**

A certain amount of evidence has now been presented to show that we are dealing with an outdated orthography that has been enshrined as a standard, but which, in terms of alphabetic principles, has become irrational; and which, by virtue of its being a reflexive cultural entity, has produced in the society itself a pathological fixation which is interfering with the need of the society to be literate.

So, how do we get out of this mess?

It has been pointed out that individual mental disorders are dealt with clinically by psychiatrists, but that collective mental disorders are not. The cure of an afflicted individual can begin only when he himself reaches the conclusion that he has a problem that needs being solved. Until this attitude is taken nothing can be done for him. But in the case of a collective mental disorder, such as the fixation of the whole society for conventional English spelling, we are dealing with a collective psyche comprising many disparate elements and groups of elements in an organizational structure theattitude of which is a resolution of the complex vector relationships amongst the elements.

Since the orthographic reformer himself happens to be one of the elements of this structure, he can work from within, using appropriate strategy, to expedite the required change of attitude. The possibility of this is not unthinkable. A mood for change has been expressing itself in the western world since the end of World War II, and this iconoclastic dynamic is looking for targets. At the same time, the political and educational leaderships, having failed to produce literacy by the traditional methods they have espoused, are more vulnerable to criticism than even before.

But it doesn't make much sense to attempt to destroy an existing system without having first evolved some superior alternatives. What is needed, it seems to me, is some large-scale comprehensive tests of writing systems designed for Modern English. Some initiative in this direction was taken at the First International Conference in 1975, but it needs to be pursued more vigorously. And to encourage interest in this whole area, we might urge universities to institute courses in "Orthographies of the Western World". Something along these lines is being considered at a university in Canada.

It was mentioned earlier that many of the terms that would normally be used to discuss this situation have lost their specificity, so that communication has become ineffective. We must change this. For example: The word "orthography", from the Greek, meaning "correct writing", has come to mean any method of spelling, including conventional English spelling, and I have used it in that way in the writing of this paper. But the fact is that conventional English spelling is not correct at all. It has, in fact, become irrational and pathogenic. But we don't have any one specific word to describe this kind of writing. So, let's coin one. How about "pathography"? From the Greek. Literally, "sick writing". Defined as follows: 1. Any form of writing characterized by disorderly, non-alphabetic use of alphabetic symbols. 2. Conventional English spelling.

The use of the term "pathography" will not by itself exercise any immediate magic, but its continuous use, particularly in connection with legal initiatives, will emphasize the pathological nature of conventional spelling, and will gradually move into proper perspective a host of unreal concepts. For example:

1. "dyslexia", "reading disability", "minimal brain damage", "hyperactive" — are all concepts, the etiology of which has been sought in the child, his cultural heritage, his parents, his diet, his family environment, etc. But with pathography a factor to be considered, it might very well turn out that all these so-called afflictions are nothing more than normal human defenses against a pathological influence. And the way this can be determined is by comparative tests of writing systems.

2. "comparative reading scores". These are widely regarded as absolute determinants of the teaching and/or the learning of literacy. But since we know that the same identical

pathography is built right into all the tests, the results may be nothing more than the aggregate reactions to a pathological influence.

3. "sex differences in reading". It is said among educators that boys have "more difficulty learning to read" than do girls. But this notion does not take pathography into account. Once we do consider it, our new perspective gives us an entirely different interpretation. We can see now that it is the boys who tend to rise up in rebellion against any attempt to condition them to an irrational, pathogenic pattern, while the girls are more likely to go along with it. In other words, what we actually have here is not a "difficulty in learning to read", but a normal, healthy, masculine outrage against the rape of reason. The attempt, by whatever means, to suppress or overcome the male reaction against pathography is clearly a case of sex discrimination.

During this era of social upheaval to which we all are witness, the courts have been busy overturning old concepts, but they haven't yet got around to considering pathography because, so far as I know, it hasn't yet been in any court proceeding. But the legislative process is gradually evolving the bases for this. In addition to the anti-trust laws which have been around for some time, we are witnessing an accelerating legislative interest in sex discrimination, environmental protection, consumer fraud, and public health. If, at this stage, pathography is not yet thought of as an evil monopoly existing in spite of the anti-trust laws, it certainly constitutes manmade environmental pollution, and it seems clearly to be an instrument of sex discrimination. And when its pathological nature is legally established, the propagation of it will certainly be subject to the laws that safeguard the public health and the riots of the consumer.

So much for the attack on pathography. Assuming that by the time this has been carried out we have evolved a superior writing system, how then do we manage to establish it as the new standard, replacing the old? All of the strategies I have heard about are based on the assumption that people must be made to change life-long habits, either by persuasion or mandate, either gradually or all at once. But why should it be necessary to confront an obstacle, when one may just as easily circumvent it? It seems to me that, contemporaneous with the attack on pathography, demands should be made for the bi-literate presentation of all vital public information, with the old writing system and the new, side by side. This is not unreasonable, and is only one step beyond what we already do on a word-for-word basis in the dictionaries of the English-speaking world. This arrangement (1) makes the new system available to those who wish to use it, (2) compares the merits of the two systems, (3) provides instruction in the form of a cross-reference for those curious about the new system, and (4) continues the old for those who choose to live out their lives without changing their habits.

"In the end, the better system will survive. **[10]**

Pathography: n. (Gr. *pathos* +*graphein*. Literally, sick writing).

1. Any form of writing characterized by disorderly, non-alphabetic use of alphabetic symbols.
2. Conventional English spelling.

References.

1. James E. Allen, Jr., U.S. Commissioner of Education, "Right to Read—Target of the '70's" Speech of 9/23/69 in Los Angeles, Ca. to the Ann. Convention of the Nat. Assoc. of State Boards of Educ. This well-publicized presentation was the precursor of the "Right-to-Read" program.

2. Vice-Admiral James D. Watkins: Talk given Jn 22, 1977 at the San Diego Chamber of Commerce. For full text, see Spelling Progress Bulletin, vol. XVII, no. 4, Winter, 1977, pp 14, 15, 20.

3. For a typical educator's perspective, see the article by former director of the Federal Government's "Right-to-Read" program, Ruth B. Love, in the publication, "Reporting on Reading", vol. 4, no. 6, Sept. 1978. This periodical is produced under contract with the U. S. Dept. of Education. Copies are available without charge from CEMREL, Inc., St. Louis, Mo.

4. Encyclopedia Britannica, 11th Edition, Cambridge, 1911, under the listing, "Palaeography."

5. Vic Paulsen, TORSKRIPT, LONDON, 75.1978. TORS KRIPT PUBLISHERS, San Francisco, Ca.

6. H. J. Chaytor, FROM SCRIPT TO PRINT, 1967, October House, Inc., New York.

7. I have chosen not to list examples of this, preferring to let the readers make their own judgments. Such a list would include scholars for whose accumulations of knowledge I have great respect. But knowledge and purpose are two different things, and if the purpose is determined by unconscious factors, the accumulated knowledge becomes subordinate to it.

However, here are two references the readers may wish examine for themselves, to determine to what extent, if any, the writer's positions were influenced by subjective factors:

Rudolf Flesch, WHY JOHNNY CAN'T READ, 1955, Harper & Bros., New York. *See page 24*.

Robert A. Hall, Jr., SOUND AND SPELLING IN ENGLISH, 1961. Chilton Books, Philadelphia. *See pages 59–60*.

8. Lawrence S. Kubie. PRACTICAL AND THEORETICAL ASPECTS OF PSYCHOANALYSIS, 1975. International Universities Press, Inc., New York.

9. Vic Paulsen. IMPROVED ORTHOGRAPHY, 1971, TORSKRIPT PUB., San Francisco, Ca. *See pages 41–44.*

10. George Bernard Shaw: In his will he gave these words.

-o0o-

[Spelling Reform ed Newell Tune t17.4 pp232–234. Point VII is not in the Tune anthology.]
[Spelling Progress Bulletin Fall 1978 pp2–5 in printed version]

English Orthography: a Case of Psychological Child Abuse,

by Abraham Citron, Ph. D.*

*Dept. of Educ. Sociology, Wayne State Univ, Detroit, Mi, *SR 1 used (Spelling reform, first step), see section V, p. 4.

At the portals of education we have laid, not a highway, but a labyrinth.

Brainwashed as we are, we do not perceive our spelling as difficult, irrational, deceptive, inconsistent, clumsy, frustrating and wasteful; but it is and especially so to children.

Our spelling devours hours of study for years, squanders teachers' energy, blocks and frustrates children, renders writing more onerous and reading more difficult, strings out our words and inflates every cost of written communication. Our child-defeating spelling is one of the basic sources of academic discouragement and failure, aiding in the transformation of many children into psychological or physical dropouts.

The large majority of elementary and high school students in this country are either very poor, poor or mediocre spellers; the big majority of adults are no better. Millions of student hours are spent on spelling, millions of dollars are spent in teaching time, yet results are quite poor. Most students dislike spelling, many students abhor it.

Make no mistake about it, spelling is inextricably interactive with reading; our inconsistent spelling contributes greatly to reading difficulties.

Our culture is based on words and on power over words; our instructional system is built almost entirely of words. Every other power and expansion in academics comes through mastery of words. Even the artist, mathematician, musician, athlete finds his or her career stunted without power over words. Our system moves on words, runs on words, exists on and in words. At the narrow base of this immense system are 26 letters which we combine into hundreds of thousands of written words.

Much depends, therefore, on how we combine these letters. Note that we are working with an alphabet not at all designed for the sounds of English, but borrowed from the Romans, who had designed it to express the sounds of Latin. At the outset we are stuck with only 26 letters to express 41 (some say 44) phonemes of spoken English.

A second difficulty which has been gathering on our word system over centuries is that letters have been combined into words according to differing schemes at different times, letters have been stuck on just to justify lines of print, spellings have been borrowed from other languages. We have changed the sound of letters, we have changed the way we pronounced words while the spelling has often congealed on the old form. All this and more has evolved over centuries in haphazard ways.

The result is that we have inherited an orthographic system full of inconsistencies, irrationalities, quirks, exceptions and disorganization. And because, by the time we have become adults, we are accustomed to it, we unthinkingly force this "system" on our children.

We double-cross children in hundreds of ways as they struggle to master our unnecessarily difficult word forms.

We teach children a hard 'c' as in 'cat,' 'can,' 'candy,' and then double-cross them with words such as 'certain,' 'center,' 'cement.' In a word such as 'cease,' the first 's' sound is expressed with a 'c,' the second with an 's '; in 'civic,' two different sounds are expressed with 'c.' Observe what a

complicated mess we make with 'necessary.' We teach children to sound 'k' as in 'kick,' 'kid,' 'klan,' and then confront them with 'knee,' 'knob,' 'knife,' etc. Further, if hard 'c' and 'k' are sounded alike, why do we need them both? We teach children 'p' as in 'poor,' 'put,' 'push,' then force them to handle 'photo,' 'phrase,' 'pneumonia,' etc.

We cross up children with our miserable 'ie' and 'ei' combinations as in 'believe' and 'receive'; and the "i before e" rule is little help since the exceptions are nearly as numerous as the examples. With 'craze' and 'haze' we use a 'z', but to express the same sound in 'please' and 'tease' we use an 's.' We cross up the kids by spelling 'lease' with an 's' and then 'fleece,' the same sound, with a 'c.' In both these words, the vowel has the same sound but in one we express it with a double 'e' and in the other with 'ea.'

We force children to drag along outmoded and useless 'ough' forms in words such as 'through,' 'bough,' 'plough,' 'though,' ; and useless 'gh's in a host of words such as 'light,' 'might,' 'bright,' 'night,' etc. Our spelling is literally laced with these inconsistent and meaningless forms outmoded in the long, long ago.

Godfrey Dewey, a lifelong student of our orthographical system, found that for the 41 distinguishable sounds of our spoken language (phonemes), there are 561 spellings currently used. The 26 letters of our alphabet are pronounced in 92 ways. Also we have 132 sets of two letters (digraphs) such as 'th,' 'ch,' 'ie,' 'ea,' etc., and for these we use 260 pronunciations. [1]

What would happen in our educational system with numbers if we told children that a 2 was two except when it had the value of 4 or 7? Or take a more extreme example: what would happen to children if we used red lights for 'stop' only some of the time and green lights for 'stop' some of the time? Such examples highlight the cruciality of consistency in basic education. Yet we throw orthographic inconsistencies at children all the time and wonder why so meny* find our written system difficult. [2]

A Small Experiment

A seven word list was submitted to 621 sixth graders distributed in 9 schools and 20 classes in the metropolitan Detroit area, Nov., Dec., 1974. The words, in traditional and approximately phonemic form, were as follows:

traditional spelling	*approx. phonemic spelling*
believe	beleev
height	hyt
photograph	forograf
receive	reseev
through	thru
tongue	tung
weigh	wa

In each class the traditional list was analyzed and discussed for seven minutes, then written to dictation; then the phonemic list was analyzed, discussed for seven minutes and written to dictation.

On the traditional list 1481 words were misspelled as agenst* 764 on the phonemic forms. This is an error reduction of 48%. Such a result would occur by chance less than one time in a thousand. The number of perfectly spelled lists jumped from 192 (31%) traditional to 332 (53%) phonemic. The poorest spellers, those who missed 3 or more words on the traditional list, numbered 248 or 39%; but on the phonemic list they were reduced to 109 or only 17%.

There is no question but that there is Hawthorne effect in these results; the students were playing an interesting game. (They were told at the outset that this experiment had nothing to do with their

grades in spelling.) Even so, the phonemic forms were new to them, meny were quite familiar with the traditional spellings before the tests, and exposure to the new forms was only seven minutes.

They were enabled to do so well so quickly because they were familiar with the sounds of the letters of the alphabet, and, following the sound of the word, they could fit the letters needed. Eny teacher who deals with spelling will report that children often fail back upon "instinctive" spelling, spelling the way a word sounds to them. These sixth graders were excited to find that they could smell "instinctively" and it would be "right."

Reliability, Reliability, Reliability

Children learn most of the things they need to know, without formal training. If we look at the way they learn it "naturally" we see that, given motivation, they learn things most quickly and easily if they can rely on an environmental response, if they can discern a pattern that does not fail them. Learning to walk is a complex matter, but doubtless one reason it is achievable is that the child can depend on the forces of gravity, distribution of weight and balance, which are constant. The child is rewarded every time balance is maintained and taught by a tumble when balance is lost. The child feels balance being maintained or being lost.

Learning to talk is enormously complex, but agen surely one reason it is achievable is that certain sounds are always associated with certain objects, actions, ideas. The spoken word 'mother,' or 'mamma,' or 'ma' always means a given person in a given role, as does 'pa.' The spoken syllable 'milk' always means milk, 'jump' means jump and so on. The sounds are reliable hence learnable. We have little trouble teaching children to tell time because we are consistent on the differing jobs of the clock hands, and we are consistent on the numbers and their positions on the clock face. Learning always involves perception of a pattern — the simpler and more reliable the pattern, the quicker the learning.

A basic principle of all learning is that children need a perceived reliable and integrated world as a basis for learning. All aspects of socialization, including necessary skills, are much more readily acquired if the child has the confident feeling of being in a reliable, secure and therefore a trusted world. Such a world is integrated in that one aspect of experience builds into or reinforces another.

For example, learning to walk builds into learning to run, which builds into participation in (social interaction) children's games requiring running. This means that learning to talk will build into learning to write and read. In an integrated world, writing and reading should be as closely and as naturally as possible linked to speaking.

The principle of reliability does not mean that a child never be surprized or shocked or puzzled or discouraged. It does not require a world of monotony. But it does require a regularity of pattern in the skills crucial to the culture.

From the Natural to the Less Natural
(By Making the Less Natural More Natural)

Speech is primordial. Children speak as naturally as they walk and almost as naturally as they breathe.

Speech is so natural that we often fail to note that it is built on abstraction and on symbolization. In speech we endow vocal sounds with meaning, we clothe sounds with life, with human experience. In other words, speech, which appears so natural, really combines the sound apparatus of homo sapiens with a contrived system of symbolization. To make a sound is at one level of the natural; to contrive a system of meanings and assign given meanings to given sounds is a different level of the natural. If this can be done with sound, can we come closer to it in our written symbols?

These sounds, as received by the ear or voiced by the organs of speech, become an intimate part of our being. We do not experience them (usually) as sounds at all but as direct meanings. So much a part of us do they become that we get to feel the syllable 'dog' is inherently doggy and that water could hardly be called anything else. We cleave to our native tongue and dialect and feel that our speech must be the language meant by the universe.

Thus, the world over, all people speak, but only some cultures develop a written language; and in the cultures which do develop written forms, only some of the people learn them. It is necessary to conclude that speech is primordial and on a level of naturalness denied to written forms. Homo sapiens takes to speech like a duck to water but it takes effort and sustained discipline to learn to read. (Some children learn to read unaided or with very little assistance but they are quite exceptional.)

It is true that we have not tried to raise children from infancy using only written language for communication. Were we to do this we might find that written forms too can become very intimate and "natural." But the facts remain that we always find humankind with speech, that written forms arise only in some cultures and only at some points in the development of those cultures, that all people speak but only those specially trained read and write.

We are thus drawn to the idea, often repeated in the study of reading, that the greatest difficulty in leading children from speech to writing and reading is the gap between a natural activity and one more abstract, less natural, more artificial. If this approach is correct, we should hypothesize that the more natural the written forms can be made to be, the more easily children will learn to write and to read. What does "natural" mean in this context? This again is an hypothesis, but I take it to include the following qualities: (a) as close as possible to the forms of speech, (b) as simple as possible, (c) experienced so early (3, 4, 5 years of age) and so often and so normally as to be taken as a part of the natural world of the child, (d) directly related to the sounds of speech, (e) reliable, always related in the same way to the same sounds.

Social scientists often speak of "internalization" of attitudes, values, points of view, roles. By this they mean an individual has made his or her own possession, an aspect of behavior modeled in the social environment. In this way, mention has been made of the magnificent way children make the sounds of native speech their own down to the last intonation. Learning (or socialization) has been remarked to occur when some aspect of the world is emotionally assimilated (internalized) into the self. Freud, Piaget, Rogers, Montessori, Maslow, among many others, have noted an emotional internalization theory of socialization and of learning. That which is learned becomes a part of the self; if we "grasp" or "understand" something, an idea or relationship, it in some way has become a part of us. To learn means a flowing of the psyche into the world and a flowing of an aspect of the world into the self, which is a way of describing experience.

And if the sounds of speech are "natural" because they are so early and so thoroughly absorbed into the self, then we can make the written forms more "natural" by making them early more familiar, more friendly, more supportive, more a natural part of the child's environment. We should make the cultural arrangements to cause children to induct into their hearts with familiarity, friendship and delight the letters of the alphabet. (A child who knows his or her letters as frends, tried and true, as animated pals, as companions — a child who knows their shapes, voices, characters, quirks — a child, in short, who has adopted the 26 friends, is ready to follow them into writing and reading. Such a child feels they are a part of the natural world. "These letters are mine." just as a child develops favoritism for certain numbers, so may feelings of positive or negative valence be developed for letters. A child who feels "Good ole' A" and "Bad ole' Z" is more ready to write and to read than a child who feels next to nothing for the letters. In these cases a non-preferred letter is neither fearsome nor overlooked, but constitutes a doleful and friendly imperfection like the Cowardly Lion.)

Cultural arrangements should be made such as nursery schools with parental involvement, children's TV programs, children's' product advertizing, toy emphasis, kindergarten and first and second grade emphasis. (Children should be able to experience the alphabetical letters not only

pictorially, but with personalities as dolls, puppets, pillows, blocks, cut-outs, cartoon characters, crackers, cookies, cereal nuggets, etc. At an early age, children should be taught to arrange and read block letters making up their names, later to feel and draw and manipulate them in many ways.)

The next step is crucial, for as the letters are used to build words, each letter must remain true to itself, true to its sound. This reliability will enable the children to see and hear and feel how letters are put together to form words. And in "understanding" this they will be more able to assimilate and adopt (take into themselves) the words. [3]

Just as reliability of sound to object is crucial in learning to speak, so the reliability of grapheme (letter) to phoneme (sound) is crucial in learning to write and to read.

In an alphabetical system, a written word is a collection of letters directing a reader (speaker) to produce certain sounds. A written word is exactly like a brief musical score, only the instrument playing the score is not a violin or piano but human breath as formed by vocal chords, palate, cheeks, tongue, teeth and lips. Observe a perfectly spelled word, (our lexicon still has many of them), such as 'tip.' Here the speaker is directed to combine a 'T' a short 'I' sound, and a 'P' sound in that order — three distinct sounds (phonemes) and three letters (graphemes) exactly corresponding to the sounds required. This is the basic plan of an alphabetical system. Over the centuries our orthography has strayed from this basic plan. We need desperately, for the sake of our children in a complex, symbolic, technological culture, to return to it.

Will a child who learns to read by sounding the words aloud or silently be limited to always going from the print to the sound and thence to the meaning? Not at all. (Very few of us, as a matter of course, realize we only hear sounds when we hear speech; we go directly to meaning.) Altho some readers move their lips or imaginatively hear the sound before they can get to meaning, the vast majority of readers learn to go directly from the written symbol to meaning. Many readers, for example, can read much faster than they can speak. [4] With all reading there may be some residual cerebral activity corresponding to speech activity, but if there is, it doesn't slow us up or interfere. Once the words are ours, the phrases begin to hang together and soon, if the notion takes us, we can soar over the printed page, skimming several times faster than speaking.

This means that the phonemic construction of a word, to maximize its naturalness and ease of learning, in no way limits its symbolic function. 'Thru' can mean everything that 'through' can and still be much easier to learn and to use. 'Hed' can signify everything that 'head' can signify; 'litl' is just as small as 'little' and much more sensible; 'nịt' (dots on both ends to signify long 'i') is just as dark as 'night,' etc.

Step by Step Reform

It should be emphasized that with our 26 letters it is impossible to spell many of our words perfectly phonemically. Lack of perfection, however, should not stop us from making the vast improvements which are quite possible. For example, the Australian Teachers Federation has recommended Spelling Reform One (SR-1) which is to spell every word with a short 'e' sound with an 'e'; thus 'bread' becomes 'bred,' 'head' becomes 'bed,' 'friend' becomes 'frend.' 'said' becomes 'sed,' etc. This change affects only 120 out of the most commonly used 25,000 words of our lexicon and thus would be rather easily assimilated. Through a series of such steps, say one every four years for 40 years, we could, while reducing the shock and displacement of change, revolutionize our spelling. A second change, for example, might be to change all 'ph's pronounced as 'f' to 'f'; thus 'telephone' would become 'telefone.' [5] A third change might be to drop all silent consonants such as the 'k' in 'knee,' [6] the 'l' in 'could,' 'would,' 'should"; the 'p' in 'pneumatic,' etc.

VI Our Present System Constitutes Psychic Child Abuse

What is being insisted upon here is nothing other than we have all said repeatedly over the years as a basis for the education of children. We have said, "Don't lie to children." The position here pit

forward is that our orthography is deceptive — it is one lie after another and hence it constitutes, not education, but psychic child abuse. Unnecessarily difficult and confusing word forms which many children fail, are not helping them to "grow" — it is not "educating" them — it is child abuse.

It is no less abuse because the system is administered in the name of knowledge and culture, or because it is enshrined in tradition. It is no less abuse because the forms come down to us wrapped in the prestige of "English literature:' It is no less abuse because the system is standard throughout the land or because we all participate in it, nor because it is curricularized and blessed with the authority of every school board of every state. It is no less abuse because children cannot manage the perspective or the courage to cry out specifically against it. It is abuse because it traps children in needless drudgery and frustration, detracts from their feelings of success and of adequacy, defies and negates their sense of logic, robs many of them of love of written forms, and forces them over a course which many fail.

For the children, we should have the courage to change

Why haven't we long ago shifted to a consistent phonemic spelling which was and is the intent of our alphabetic system? Despite high sounding "lexical" and etymological rationalizations, the real reason is that we are used to the forms and do not want to undergo the inconvenience of change. As one graduate student put it, "I've learned to operate in one system and I'll be damned if I'll learn another."

But tremendous educational and monetary benefits could be reaped through such a change. Before we opt for costly pie-in-the-sky gimmicks, we should reform our child-defeating spelling. Simplified spelling could be the most fundamental and far-reaching educational innovation since the introduction of the common school.

[1] Godfrey Dewey, English Spelling: Roadblock to Reading. Teachers College Press, New York, 1971, p. 6.

[2] It is well known that experimental psychologists have induced apathy and behavioral breakdown in rats by training them in behavior leading to reward (food) and then switching the reward to punishment.

[3] E. J. Gibson, A. Pick, H. Osser, M. Hammond, "The Role of Grapheme-Phoneme Correspondence in the Perception of Words." Amer. Jour. of Psychology, 1962, v. 75, p. 554–570. "The results of this experiment demonstrate that a letter group with a high spelling-to-sound correlation is reproduced more accurately than an equivalent letter group with a low spelling-to-sound correlation. ('Vuns' was reproduced more accurately than 'nsuv,' 'besks' more accurately than 'skseb,' etc.) "Practically, this result suggests strongly that the proper unit for analyzing the process of reading is not the alphabetical letter *but the spelling pattern which has an invariant relationship with a phonemic pattern.* This may be of great importance for children's learning to read and write." (emphasis mine.)

[4] With the aid of strongly literate family and peer environments, letter cleverness, special interests or strong motivation, most of our children learn to operate at some level of efficiency in our present system. But millions of our children are discouraged and turned away by its difficulty, irrationality and unnaturalness.

[5] Since in an honest orthography, all 'o's would be long, the eventual spelling of 'telephone' would be 'telefon.'

[6] Some silent initial consonants cannot be dropped without other changes in spelling. For example, know, knew, and others such as knot become homographs when the silent initial letter is dropped. In many words with gh, this digraph cannot be dropped unless another way is used to indicate the vowel sound.

-o0o-

[Spelling Reform, §9.7 pp.146–148 in printed version]
[Spelling Progress Bulletin, Spring 1980, pp.10–12 in printed version]

The Effects of a Simplified Spelling in Children's Readiness to Read.

by D. V. Thackray, Ph.D.*

*This paper was presented at the 2nd International Conference on Reading and Spelling at Nene College, Northampton, England, on July 27–30, 1979. Sponsored by the Simplified Spelling Society.
*Rugby, Eng.

This report falls fairly naturally into three parts. First I would like to give you the background to the research, then go on to describe the investigation and finally to present the results.

Background to the Research.
I have been interested in the field of reading readiness for a number of years. In my first research I tried to determine the relative importance of the generally accepted reading readiness skills, such as visual and auditory discrimination, mental ability and vocabulary development, in learning to read and making progress in reading. Research of this kind has been carried out by American research workers over a period of almost fifty years, from the time reading readiness tests were first published; in England however, to the best of my knowledge, mine was the first experiment of this kind. The reasons for this lack of experimentation in England are firstly, English children begin school when they are five, which is felt to be rather too young an age for widespread testing, and secondly, until recently there were no published British reading readiness tests.

In my first experiment I followed the approach commonly used by American research workers. A representative sample of 183 children was tested in a number of reading readiness skills using an Anglicised version of the American **Harrison-Stroud Reading Readiness Profiles (1956)** [3], when commencing their second term in school (average age 5 years, 4 months); the children were also tested for three other important factors in reading readiness, namely general ability, home environment, and emotional and personal attitudes. Later when commencing their fourth and fifth terms (average age 6 years; and 6 years, 4 months respectively) the children were given the **Southgate Group Reading Test 1 (1959)** [8], to measure reading achievement.

The earlier reading readiness results were correlated with the later reading achievement results. And the individual reading readiness skills, which correlated the most highly with reading achievement, were those of visual and auditory discrimination. These correlations were higher than the one for mental age, showing that in this experiment, the readiness skills of visual and auditory discrimination were as important — perhaps more important — than mental age in learning to read in the early stages.

In England, 1961 saw the start of the main i.t.a. experiment under the direction of Prof. John Downing. When describing the differences between i.t.a. and traditional orthography (t.o.), both **Pitman (1961)** [5] and **Downing (1964)** [1] have stressed that i.t.a. is simpler both in its visual and auditory characteristics. It is simpler visually because in i.t.a. there is a constant visual pattern for each whole word or sentence; it is simpler from the auditory standpoint because each symbol in i.t.a. stands effectively for its own sound.

Because of its simplicity, protagonists of i.t.a. have suggested that children using i.t.a. should be ready to read at an earlier age than if learning to read with the more complex t.o. Knowing from my first experiment the importance of visual and auditory discrimination, and from the literature that i.t.a. was simpler visually and auditorily, I felt that this hypothesis was a reasonable one and in my second experiment — the one with which this paper is concerned — I decided to test it experimentally.

Purpose of the Research.
So the main purpose of my research then was to test the hypothesis that children learning to read with i.t.a. are ready to read at an earlier age than children learning to read with t.o.

The Investigation.
The method of approach was to enlist the co-operation of 16 schools; 8 schools where the children were learning to read with i.t.a. and 8 schools, matched as well as possible with the i.t.a. schools, where the children were learning to read with t.o. The original total sample was 300 children with 150 in each group, but family removals and the matching of the two groups reduced these numbers to 119 in each group during the first two years of the experiment and to 102 children in each group during the third year.

The children in the experiment were studied over a three year period, during which time the children learning to read with i.t.a. had transferred to t.o. and had been given the opportunity to make good any setback in reading achievement experienced after transfer. Reading readiness considerations were the main ones in the investigation, but it was realised that true reading standards, needed for comparison with standards on reading readiness measures, are not established until the children who started to read with i.t.a. have been reading for a reasonable length of time in t.o. after the transfer. So this meant testing and observing the children who were taking part in this experiment over a period of three years.

After being in school for approximately six weeks, all the children in the sample were given the Harrison-Stroud reading readiness tests of visual and auditory discrimination, and also tests of visual and auditory discrimination that I constructed. They were also given the W.I.S.C. (1949), and my own test of vocabulary. At the same time, class teachers of the children were asked, firstly, to rate each child on a five point scale for a number of reading readiness evaluations including mental abilities, physical attributes, social and emotional traits and language development; and secondly, to give the fathers' occupations and details of any homes which were other than normal. This information gained from tests, evaluations and teachers' reports enabled the later matching of the i.t.a. and t.o. groups and sub-groups to be made.

At the beginning of the children's third term in school, two of the reading readiness tests, my tests of visual and auditory discrimination, were given to the whole sample. These two tests were given firstly, to measure progress made in these two skills and secondly, to see if the children learning to read with i.t.a. had in any way developed these skills differently from the children learning to read with t.o. This comparison was made because the results of a small experiment carried out by Sister John (1966), suggested that i.t.a. might develop perceptual skills to a greater extent than t.o., and it was decided to test this hypothesis. Also at the same time a first reading achievement test, the **Schonell Graded Word Reading Test (1959)** [6], was given to all the children. The usual form of the test was given to the t.o. group, but a transliterated version of the same test was given to the i.t.a. group. In this way initial progress in learning to read was assessed.

After a further term, that is at the beginning of the children's fourth term in school, the same reading achievement test was repeated together with a second more comprehensive reading test, the **Neale Analysis of Reading Ability (1963)** [4]; transliterated versions were used with the i.t.a. children.

Reading achievement and progress was again measured at the beginning of the children's sixth term in school. At this stage, it was found that many children had transferred to t.o. and where this had occurred, the children concerned were tested in t.o. Those children still reading with i.t.a. were tested both in i.t.a. and t.o.; in these cases the t.o. test was given to the children first. As being the more difficult, it was felt that the taking of the t.o. test would not affect the i.t.a. scores to any great extent. A comparison of the i.t.a. and t.o. scores made by the same children, at the same time, on the same test, provided interesting evidence regarding the ease of transfer from i.t.a. to t.o.

The final reading achievement tests of the investigation were given at the beginning of the children's ninth term in school, when some of the children had moved to Junior Schools or Junior Departments, and all but four had transferred to t.o. reading. The same two reading achievement tests were given, but this time only the t.o. versions were used.

Analysis of the Data.
In order to compare the reading readiness requirements of children learning to read with i.t.a. and t.o., two groups of children were matched for age, sex, reading readiness skills of visual and auditory discrimination, intelligence, vocabulary and social class. The two matched groups of i.t.a. and t.o. children were then compared in three main ways. Firstly, the mean reading achievement scores of the i.t.a. and t.o. groups were compared throughout this experiment. Table 1 illustrates this approach.

Table 1.
showing a comparison between the mean scores of the i.t.a. and t.o. groups on the Schonell Graded Word Reading Test given for the first time (given in i.t.a. to the i.t.a. children; given in t.o. to the t.o. children).

GROUP	NO.	MEAN SCORE	S.D.	DIFF. IN MEANS	S.E. of DIFF.	C. R.	STATIS-SIGNIFI.
i.t.a.	119	6.8	9.55				.1%
t.o.	119	3.55	3.6	3.25	.94	3.46	level

This table is just to illustrate my first approach which was to compare the mean scores of the i.t.a. and t.o. groups on the Reading Achievement Tests given from time to time throughout the three years. Column 1 indicates the two groups; column 2 the number in each group (119) and column 3 — the important column — shows the mean reading achievement score of each group on the Schonell Test given at the end of the first year in school. Column 5 shows the difference in the mean score of 3.25 in favour of i.t.a. The other figures need not delay us, as I am only trying to illustrate my approaches.

Secondly, five levels of performance achieved by sub-groups of i.t.a. and t.o. children on the various reading measures were taken, and for each level the mean scores attained by the sub-groups of i.t.a. and t.o. children were calculated and compared. Table 2 illustrates this approach.

Table 2.
showing a comparison of the mean scores attained on the Schonell Graded Word Test, by sub-groups of i.t.a. and t.o. children who attained similar levels of performance on the writer's Visual Discrimination Test.

Visual Discrimination — Thackray. Schonell Graded Word Reading — first time.

Range of scores	Group	N.	Mean score	S.D.	Diff in means	S.E. of diff.	C.R.	Statis. signif.
28-34	i.t.a.	8	24.00	15.81	19.75	3.61	5.47	.1%
	t.o.	24	4.25	3.74				level
	i.t.a.	53	7.92	9.27				5%
21-27	t.o.	33	3.88	5.39	4.04	1.58	2.56	level
	i.t.a.	26	4.96	6.40				
14-20	t.o.	27	2.30	2.83	2.66	1.37	1.94	N.S.
	i.t.a.	23	1.87	2.50				
7-13	t.o.	28	1.29	1.90	.58	.63	.92	N.S.
	i.t.a.	9	1.33	.95				5%
0-6	t.o.	7	29	.46	1.04	.41	2.54	level

This table illustrates my second approach which was to compare the mean scores attained on the Reading Achievement Tests by sub-groups of i.t.a. and t.o. children who attained similar levels of performance on the measures of reading readiness skills given soon after the children entered school.

In this particular table, column 1 shows the range of scores possible on my Visual Discrimination Test, divided into 5 levels of performance, 0–6, 7–13, 14–20, 21–27, and 28–34. Column 4 shows the mean reading achievement scores of the i.t.a. and t.o. children who attained similar levels of performance on Visual Discrimination. Column 6 shows the differences in the mean scores of the i.t.a. and t.o. sub-groups and a clear pattern can be seen — the mean scores of the i.t.a. groups are consistently higher than the mean scores of the t.o. groups although they had the same level of performance on the Visual Discrimination Test given initially. From such an approach it is possible to see that i.t.a. children with a lower level of performance in Visual Discrimination than t.o. children could reach the same reading achievement level in the same time. For example with the range of scores 28–34, the t.o. reading score was 4.25 (column 4). If we enter the range of scores 14–20 we see the i.t.a. children's mean reading score was similar (4.96), but this with a lower level of performance in Visual Discrimination. I hope this indicates the way in which I obtained my results. Thirdly, a comparison was made between the mean scores attained on the reading achievement measures by sub-groups of i.t.a. and t.o. children, with similar mental ages. Table 3 illustrates this approach.

Table 3.
showing a comparison between the mean scores attained on the Schonell Graded Word Reading Test, given the first time, by sub-groups of i.t.a. and t.o. children with similar mental ages.

Mental ages	*below*	*3–6*	*4–0*	*4–6*	*5–0*	*5–6*	*6–0*	*6–5*
(*years, months)*	3–6	3–11	4–5	4–11	5–5	5–11	6–6	6–11
No. of i.t.a. chn. in each mental age grp.	2	5	15	23	36	30	7	1
No. of t.o. children in each mental age group	4	7	14	20	25	27	20	12
Mean score of i.t.a. children on Schonell	.5	2.0	3.13	3.69	6.69	10.93	11.71	20
Mean score of t.o. children on Schonell	0	1.71	1.8	1.65	2.24	3.0	5.22	12

This table illustrates my third approach which was to compare the mean scores attained on the reading achievement tests by sub-groups of i.t.a. and t.o. children with similar mental ages. Across the top of the table you see eight mental age ranges from below 3 years, 6 months to 6 years, 11 months.

If you look at the column headed 4 years, 6 months to 4 years, 11 months, you see 23 i.t.a. children fell into this mental age range, and 20 t.o. children fell into this range. The mean scores of the i.t.a. children in the group was 3.69 and the mean score of the t.o. group was 1.65. This is a common pattern indicating that with similar mental age levels i.t.a. children score consistently higher than the t.o. children, and it follows that with lower mental age levels, i.t.a. children can score the same as the t.o. children.

Main Findings.
1. In my sample, i.t.a. had no more favourable effects on the growth of perceptual discrimination skills than had t.o. so Sister John's earlier findings were not borne out.

2. Regarding the first statistical approach in which mean reading scores of the matched groups were compared throughout the experiment, the following results were established:

(i) When the i.t.a. group was tested in i.t.a., there were significant differences between the mean scores of the i.t.a. and t.o. groups, in favour of i.t.a. As the two groups were well matched, the children in my sample learned to read more easily and made better progress with i.t.a. than with t.o. Conversely, the traditional alphabet and spelling of English used with an eclectic approach was a more difficult medium for the teaching of reading than i.t.a.

{ii} When the two groups were tested in t.o. at the end of their second and third years in school, there were no significant differences between the mean scores of the i.t.a. and t.o. groups. When i.t.a. children read in the relatively more difficult medium of t.o., the average score was lowered and the i.t.a. group lost its early lead.

(iii) At the end of the second year, a comparison was made between the mean scores attained on the i.t.a. and t.o. versions of the two reading achievement tests by 50 i.t.a. children who had not transferred to t.o. There was a highly significant difference between the mean scores on the i.t.a. and t.o. versions of both tests, indicating that for these 50 children at this stage, the t.o. version of the test was much more difficult for them to read than the i.t.a. version and again shows that in my experiment there was a setback in reading progress during the transfer stage.

3. Regarding the second statistical approach which compared the mean reading achievement scores of sub-groups of i.t.a. and t.o. children who attained similar levels of performance on the reading readiness measures given initially, the following results were established:

(i) When the i.t.a. group was tested in i.t.a., the results show that for nearly all levels of performance on the reading readiness tests, the mean reading achievement scores attained by the i.t.a. sub-groups are greater than the mean reading achievement scores attained by the t.o. sub-groups and in many cases significantly greater. This pattern of results indicates that i.t.a. sub-groups with lower levels of reading readiness than t.o. sub-groups can reach similar levels of reading achievement to those t.o. sub-groups, whilst reading in i.t.a. If i.t.a. children can learn to read with lower levels of reading readiness than t.o. children, then i.t.a. children, on average, will be ready to read earlier than t.o. children.

(ii) When the two groups were tested in t.o. at the end of their second and third years in school, and a comparison again made of the mean reading scores of i.t.a. and t.o. sub-groups who attained similar levels of performance on the reading readiness measures given initially, a new pattern of results emerged. The mean reading scores of the sub-groups were similar, again providing evidence of the setback in the progress of i.t.a. children at the transition stage.

4. Regarding the third statistical approach which compared the mean reading achievement scores of sub-groups of i.t.a. and t.o. children with similar mental ages initially, the following results were established:

(i) When the i.t.a. group was tested in i.t.a., the figures indicated that i.t.a. children were able to learn to read as well as t.o. children with an average mental age of six months to a year less than the average mental age of the t.o. children.

(ii) When both groups were tested in t.o., the results indicated that the i.t.a. and t.o. sub-groups with similar levels of mental ability initially had similar levels of reading ability, again providing evidence of the setback in the reading progress of i.t.a. children during the transition stage.

I feel that my research showed experimentally that:
a) i.t.a. is simpler than t.o. in its visual and auditory structure;
b) i.t.a. children are ready to read earlier and make quicker progress than t.o. children taught with an eclectic approach;
c) there is a setback for the i.t.a. children during the transfer stage which resulted in similar mean reading scores for the i.t.a. and t.o. groups at the end of three years in school.

Conclusion.
If firstly, children learning to read with i.t.a. were taught with confidence at a rather earlier age than is normal for the teaching of reading with t.o., and secondly, the transfer to t.o. could be made easier in some way, then i.t.a. children could keep their lead and reading standards could be raised.

In the discussion of i.t.a in the **Bullock Report (1975) [2],** the Committee made the following two comments, which are relevant to this paper:

" ... we have already noted the bewildering complexities of the English spelling system, and it is self-evident that a simplification of the relationship between sound and spellings must make it easier for a child to make progress in the early stages. If there are fewer items to be learned this alone must reduce the time required, and if there are fewer ambiguities there will be less confusion. All this is amply confirmed by research."

"As a Committee we are not unanimous on the value of i.t.a. but we believe that as there is no evidence of adverse side effects at a later stage, schools which choose to adopt it should be given every support. We also feel that teachers should examine the question of i.t.a. on its merits."

The Bullock Committee is encouraging teachers to look again objectively at i.t.a., and I would endorse this view.

References.

1. Downing, J.A. (1964), *The i.t.a. Reading Experiment*. London: Evans Brothers.
2. DES (1975), *A Language for Life* (Bullock Report), HMSO.
3. Harrison, M.L. and Stroud, J.B. (1956), *The Harrison-Stroud Reading Readiness Profiles*. Houghton Mifflin Co.
4. Neale, M.D. (1963), *Neale Analysis of Reading Ability*, London: MacMillan Ltd.
5. Pitman, I.J. (1961), Learning to Read: An Experiment, *Journal of Royal Society of Arts.* 109. pp.149–180.
6. Schonell, F.J. and Schonell, F.E. (1950), *A Graded Word Reading Test.* Edinburgh: Oliver and Boyd.
7. Sister John, "The Effect of the i.t.a. medium on the Development of Visual and Auditory Awareness of Symbol Differences", in Downing, J.A. *The First International Reading Symposium*. London: Cassell. pp. 112–123.
8. Southgate, V. (1959), *Southgate Group Reading Test 1.* University of London Press.
9. Wechsler, D. (1949), *Manual for the Wechsler Intelligence Scale for Children*. New York: Psychological Corp.

-o0o-

[Spelling Reform Anthology §15.3 p215 in the printed version]
[Spelling Progress Bulletin, Winter 1979, p4,5 in the printed version]

Modern Technology and Spelling Reform,

by Helen Bonnema Bisgard, Ed.D.

* Secretary, Phonemic Spelling Council, Aurora, Colo.

Last winter when Fergus McBride corresponded with me about speaking at this conference, he suggested that I include information about the Phonemic Spelling Council, of which I am the Secretary. If we had a few hours time, we could profitably review the history of the Council starting with its antecedent organizations, The American Philological Association organized in 1874, the Simplified Spelling Board 1894, the Simplified Spelling Association 1946, and finally the Phonemic Spelling Council in 1971.

During those one hundred years there were encouraging periods interspersed with disappointing ones. At all times the lack of progress was ultimately caused by public lack of awareness, indifference, or actual opposition.

The by-laws of the organization states: "The purpose of the Phonemic Spelling Council is to encourage investigation of all aspects of phonemic spelling of the English language. Its Board of Trustees shall consist of not less than 8 nor more than 15 members, and elects its own successors."

At present there are 13 trustees. They are all committed to the goal of making easier the learning of writing and reading but are divided in their recommendations as to the means for reaching the goal.

One group believes that the present conventional orthography will be the accepted system for so long in the future that all efforts should be directed toward making initial learning of standard spelling emotionally satisfying. Others urge that rather than a short initial period, the length of time for putting into use a phonemic alphabet should be increased in order to prove the advantages of the system for permanent use. They believe that the positive results of such projects should be used for convincing the public of the need for simplification of spelling. They press for a permanent reform. Such promotion includes urging computer manufacturers to select and market an appropriate product.

There are no clear lines dividing these two groups and both see the need for devoting time to seeking funds from sources such as educational foundations.

Present undertakings include experimentation. A first grade writing-reading learning center in a public elementary school in Stuart, Florida is being conducted by Dr. John Henry Martin, formerly Vice-President of the i.t.a. Foundation. A similar project is being conducted at Nova Univ. in Fort Lauderdale, Florida. Dr. Martin emphasizes to teachers and parents that "children who can write can read" and "all children can write once they learn to encode what they say." His "technological system" as he calls it, emphasizes the importance of the encoding process. His pupils use a recently invented microphonograph, typewriters, sand, clay, felt pens, chalk, rubber stamps, pencils, and paper to facilitate the children's writing.

Also, the Council continues to serve like its predecessor Association as a clearing house and distribution center for people who are interested in spelling reform. It encourages publication of articles such as Abe Citron's "**Psychological Child Abuse**" and is revising for publication Dr. Abraham Tauber's 1958 *History of Spelling Reform in the United States.* Members write articles for the ***Spelling Progress Bulletin*** which has been published continuously since 1961 by the editor Newell W. Tune of North Hollywood, Calif. I am pleased to show you the 1961–70 and 1971–78 contents indexes, and this summer's issue. I am distributing to you samples of the front page.

Additional Spelling Progress Bulletins have been placed on the display table by Mona Cross for your perusal.

The PSC Trustees discuss the feasibility of securing funds for establishing an international academy for the English language, and for a seminar to find reasons for the lack of language skills by juvenile delinquents.

In studying the papers which cross my desk as secretary of the Council, I have come to realize that English writing will likely not be reformed because of the public's insistence but because of the pressure for profit created by commerce and industry. The computer may be the agent for this change.

At Colorado University library recently I used an oral-reading computer invented for the blind. It transforms magazine, book, and newspaper print into spoken words. Its robotlike voice sounds out any printed material laid on its surface. There were some mispronunciations upon the first reading which were corrected after I pressed the "learning" button at the end of the selection: machine /chine/ instead of /sheen/, page /pāg/, number /bair/, magazine /zin/, spelling /speel/, cooperation /koop/, book /bok/, break /brek/, reading/redding/. The oral reading of the machine was mysterious magic.

By a reverse process, a device now being developed for the aurally handicapped will "hear" spoken messages and write them on paper. However, the commercial production of such a sound to-print machine is blocked by its inability to spell traditional orthography correctly. When confronted with an English sound such as the vowel in dough (ough), low (ow), foe (oe), go (o), yeo(man) (eo), and beau(eau), it spells all the word endings with the same "long o." The machine shows the same consistency when writing any of the approximately 44 sounds which are heard in the 561 **[1]** different spellings of English. The words it writes look like the respellings in a dictionary, e.g., antique (anteek). It could equally as well be programmed to print words in World English, if there was a market for such a system.

If the inventors decide to market this voice-activated typewriter in spite of its limited capacity to spell only phonemically, its users can communicate complicated directives on to paper without the intermediary use of pencil, typewriter, or secretary. Not only the disabled, but also writers in commerce, business, and industry will find this shortcut invaluable.

Learning to read phonemically written computer sheets will require little instruction, yet some training will be given in high schools and business colleges to make sure that graduates can scan them efficiently. As students and business people become accustomed to seeing the easy-to-read machine spelling, they will realize that it can be helpful in the initial teaching of young children and foreigners. Eventually it will be used in primers. The books will be so easy to read that a pupil will quickly figure out the sound of any word in his lessons, and also of any word in the encyclopedia. He will not spend the endless hours his parents did in learning to read but instead can use that time in reading to learn. With his easily acquired reading skill, the pupil will master aspects of science, literature, mathematics, and social studies now delayed until junior high school.

Best of all, from the viewpoint of certain diachronic linguists, he will be able to study the history of the English language and the etymology of words. Because the frustrating inconsistencies of the traditional spelling system have been eliminated, the beginner will experience less psychological stress and have less need for remedial assistance. He will write fluently any word in his own vocabulary and in the speech of those about him.

After his first year in school he will need no further spelling lessons nor rote memorization of word lists. His creative writing will be colorfully descriptive thru the use of polysyllabic words.

[1] Dewey, Relative Frequency of English Spellings, p. 3.

-o0o-

[Spelling Reform Anthology §15.3 p214 in printed version]
[Spelling Progress Bulletin, Winter 1979, p5 in printed version]

(The following section appears in the Anthology as part of an article by Ivor Darreg on Automation for Libraries, Part 2, but in the Bulletin as part of the above article by Helen Bonnema Bisgard.)

By whose standard of pronunciation shall the computer spelling be established? By the same standard now used by a dictionary when it indicates the generally accepted punctuation. For example: *pheasant* is shown as (fez'-ənt). The pronunciation in parenthesis is a broad transcription and does not represent regional or individual practice. If, perchance, an Alabaman says (faz'-ənt), a Polynesian (fiz'-ant), or a lisper (feth'-nt), each of these speakers will nevertheless use the machine' s standard spelling. He will unconsciously assign a modified sound just as he does now to the examples shown in the dictionary's pronunciation key. His pronunciation is not so different from the standard that he cannot read standard spelling, or conversely, that he cannot understand speech as presented in Voice of America broadcasts. Listeners throughout the world now tune into these newscasts. Travelers comprehend English whether spoken by native people in Asia, Europe, Africa, Ireland, Texas, or the Bronx. After the change which was triggered by computer technologists has been effectuated, the opposition of historical linguists and the man in the street will be forgotten. Economic urgency will determine what course is followed by technologists. It will determine whether they use a reformed spelling system or continue to be restrained in accomplishments by our discouraging spelling.

The foregoing speculative prediction about future developments makes the process sound predetermined, leaving little for us to do but complacently watch as our dream of sensible spelling comes true. However, as you have likely noted, there are IF's in the prognostication: If the inventor decides to market his computer regardless of its inability to spelling in the customary manner, and ifthe public adjusts to these unusual word forms. Then there's a possibility which I should like to only whisper. I am a bit worried that we may alredy be too late. A computer programmer tells me that simpler spelling will not be necessary because the machine will soon be able to handle traditional orthography.

Consider the phrase *to be*. Although there are six possibilities, three for the word *to*: (t-o, t-w-o, t-o-o) and two for the word *be*: (b-e, b-e-e), *t-o-o* can be eliminated since it is not good English, neither is *t-w-o b-e*, because after *two*, only the plural *bees* would be correct, not the singular *b-e-e*: so the machine can be programmed to write *t-o b-e* as the only correct spelling.

The task of organisations such as the Simplified Spelling Society and the Phonemic Spelling Council is to ensure the certainty of success in the use of a reformed spelling. They must recommend the most practicable improved system not only for the computer but also for the general public, and not forgetting that an initial learning medium will be useful for a long time. We must also present effective procedures for showing the desirability to business, education, and government.

We must immediately develop our strategy for becoming experts on computer linguistics.

-o0o-

[Spelling Reform ed Newell Tune t2.5pp19–23 in printed version]
[Spelling Progress Bulletin Summer 1980 pp2–6 in printed version]

Is Spelling Reform Feasible?

by Elsie M. Oakensen,*

*Northampton, England.
Presented at the 2nd International Conf. of S.S.S. at Nene College, July 29, 1979.

The Origin of Spelling
Spelling was originally the true matching of spoken sounds each with a different symbol. It began when symbols were first used to represent sounds instead of pictures. 4,000 years ago languages were simply spoken. The Greeks had 24 letters in their alphabet, Latin used 22, the Phoenicians 26. All symbols could be matched to sounds and the spoken languages had become visible.

When the Romans arrived in Britain bringing with them their alphabet, it was no doubt adequate for the purposes of written communication then (which was usually in Latin but since that time many influences have played their part and Weekley (1949 described the spelling of English as "so far as its relation to the spoken word is concerned, quite crazy."

John Downing says, "There is a logic in English spelling but it is very complex. It consists of several logical systems that were introduced at different times. Now they overlap and give the appearance of illogicality. This appearance confuses children because it is difficult for them to understand the complex logic involved." Our language is said to be made up of about 42 sounds and we have only 26 letters with which to spell words. Consequently letters must do double duty. Each of the vowel letters represents several or many sounds. All of the different sounds may each have several letters or letter combinations to represent them. Every letter of the alphabet is used silently in some word. **Appendix I** gives some examples of the different sounds for the same letter and the different letters or groups of letters for the same sound, and also words with silent letters.

Should a Reformed Spelling be Implemented?
Consideration should be given as to whether or not spelling reform should be implemented and I shall now examine the arguments for and against transferring to a fully phonetic alphabet.

English, although richly endowed with many advantages, has, in comparison with other languages, one serious defect — its unphonetic spelling. Many people from the 13th Century onwards have considered it worthwhile to spend many years of their lives designing alphabets which they feel would make it more phonetic or would help to simplify and regularize English spelling (**Appendix III**, The Way to Spelling Reform). These devotees of spelling reform would consider the following of being the advantages for such a move.

1. *It is commonsense to enable English-speaking children to spell correctly without having to memorise every word*, and unreasonable to confront them with such a host of apparently irrational difficulties at the very outset of their careers. The perceived confusions and inconsistencies of the existing spelling impose an obvious burden on pupils and teachers throughout the English-speaking world.

One of the chief objects of education is to develop children's reasoning processes. This they cannot do with our spelling because it is so difficult to perceive its logical basis. Thus the discipline of "learning to spell" may be harmful and worthless.

2. *In foreign countries English is less effective than it might be as a second language because of its extremely complex spelling.* With a system which is free of unnecessary complexities or apparent irrationalities, and which offers a better guide to pronunciation, its acceptance as a world language could be made surer. Nothing stands so much in the way of English becoming the most

important medium of communication as its spelling. This alone would justify our attempts to reform it. In 1975 H.R.H. The Duke of Edinburgh agreed to support the aims of the Simplified Spelling Society by becoming its first Royal Patron.

3. *The number of adult illiterates in this country is staggering.* Considerable sections of the adult population find difficulty in achieving literacy and communication. An alphabet relating written symbol to spoken sound would rapidly lessen the vast numbers of people who have failed to learn to read in traditional spelling.

In *A Plea for Spelling Reform*, W. R. Evans (1878), referring to the work of the Elementary Education Act writes, ". . . . that teaching our anomalous system of spelling to the children of the poor is in most cases impracticable, and that when the task is in exceptional cases accomplished, it entails *the loss of much other instruction that might be imparted during school attendance*. . . ."

Charles Dickens may have been expressing a similar view when, in *The Pickwick Papers*, he had old Mr. Weller say to Sam,

> "When you're a married man, Samivel, you'll understand a good many things as you don't understand now; but vether it's worthwhile goin' through so much to learn so little, as the charity-boy said ven he got to the end of the alphabet, is a matter of taste."

The Simplified Spelling Society estimates that at least a year of educational time would be saved by all English speaking children if their "New Spelling" system were used. Jamieson (1973), who designed 'sensubul speling', calculates an average of one-and-a-half misuses of symbols per word in traditional spelling. The time and energy saved when teaching a simplified and regularised orthography could be better used in meeting the increased educational demands of a changing civilisation.

4. *Paulsen (1971) and Rondthaler agree that the practical consideration of turning out printed material which is nonconventional is no longer a forbidding one.* During the last 25 years there has been a continuous state of revolutionary change in printing techniques. Today we can place a transliterating computer between the typesetter's keyboard and the photo-printout unit and at the turn of a switch, the traditionally spelt input comes out as the new spelling typesetting. These two writers both feel that the saving in printing bulk would pay for the computers again and again. "We have at last the technology to make the dream come true. Do we have the courage to use it?" Rondthaler, (1973) asks.

The opposers of Spelling Reform see as an insuperable obstacle.
1. *That pronunciation is not uniform in all areas where the language is spoken, nor is it even static.* It is forever changing. In Vallins (1973),

> "Swift and Johnson saw what Spelling Reformers have never been able to see, that phonetic spelling means swiftly changing spelling, with variations according to local types of pronunciation. The one thing that can be legitimately fixed in a language is the form of its words, and that must depend not so much on changeable and variable sound as on recorded history: in brief, spelling should be precisely what it is in English, etymological rather than phonetic."

The derivation of a word would be obscured by a new type of spelling. Words of Teutonic origin for instance would be extensively changed.

English is a living language, outside influences add foreign words to our vocabulary, and the pronunciation of words is continually changing. The use of dialect is no longer frowned upon. At present all these changes are being gradually absorbed into our language, because with the large variety of combinations of letters required to spell a sound, a new group is accepted without comment. If we used a phonetic alphabet for our present 40-plus sounds, would new symbols need to be added in the future when new foreign words were admitted to our vocabulary, or would we

accept the foreign spellings for these words, and by so doing, could this new simplified and regularised spelling become, in a thousand years time, even more confused than it is at present. We could, of course, copy the languages of other countries who adapt the spelling of foreign words to their own spelling rules, eg. picnic = pique nique (French).

2. *The learning of spelling it is argued, is a good mental discipline*. Children who never have to exercise their minds on anything difficult will not be good for much in later life. In Boyd (1924),

> "English spelling though teeming with irregularities is fundamentally rational, and in spite of confusion and uncertainty caused by irregularities, we learn to spell the majority of words on the basis of analogy."

Prof. Axel Wijk (1972) suggests that if we examine the entire vocabulary of the English language, we shall find that the vast majority of English words (about 90–95%) actually follow certain general rules and patterns and that only 5–10% display definite irregular spellings. (see **Appendix II**, Comparison of alphabets)

3. *With a new alphabet, words would have absurd representations and look unfamiliar.* Some would be shorter in length but with "New Spelling" and "Consistent Spelling", very many would be extended, so it would be doubtful if there would be an overall economy of letters or space.

4. *Homophones, words which sound alike, are spell differently at present, but when represented phonetically would have the same configuration and would cause confusion to the reader.*

Dr. Gassner has shown great concern about this problem in his "Consistent Spelling," and uses double consonants in words to show difference in meaning.

5. *If Spelling Reform were implemented, the millions of volumes in public and private libraries would become 'closed books' (without special study) to the children of tomorrow.*

My own observations on these points would agree that "A language requires an adequate collection of various signs for its spoken sounds. English spelling reformers say we need 40 or more phonetic symbols instead of the 26 we have." (Fairbanks 1970)

1. *The chief merit of a phonetic system would presumably be its consistency.* It may be argued that our not having such a system is indeed the root of our troubles. Goaman (1966) supports this. He stated: "It would make English a much easier language to read if we always used the same letters to represent the same sounds."

2. *After a short study of phonetic print, the reader will find he is able to read and write with perfect fluency.* The only difficulty will be to analyse the different sounds needed in formulating the written words, but this neglected part of our education can become surprisingly interesting.

3. *It is said that reformed spelling would obscure the etymology of words.* But in an approximately equal number of words wrong etymology would be clarified. A phonetic spelling would no doubt give many words a form farther removed from their Latin or other source than the old spelling, but the mass of those who learn the new spelling will also know the old, which will always be available for reference to those who are interested in etymology. The study of the derivation of words is a specialist subject for the scholar. As long as words convey meaning to the ordinary person, that is all he requires from them.

In the 8th Century Alcuin taught the scribes a development of script used by Irish monks. He introduced the small letters of the alphabet. Most of them have a different representation from their corresponding capital letters. [6] These were new characters and Alcuin could be accused of reforming the spelling of his day. He introduced new configurations to each word and we can assume that this was welcomed by the scribes who would find it much quicker and easier to write.

At first the unusual American spellings we see in many present-day books may be offensive to the eye. This would be so with any new spelling. We shrink instinctively from any change from the familiar, but in time the initial strangeness becomes accepted, and in turn, also becomes familiar.

4. *Pitman (1969) observed, with reference to Shaw's alphabet, that it was both more legible and one-third more economical in space than traditional printing*, and suggested that this could lead to a great increase in reading speed.

5. *The homonym-homophone argument is baseless*. It is maintained that confusion would arise if right, wright, rite, write (which are homophones) were all written with the same configuration, but confusion does not arise when these words are spoken, and it is impossible to make up a sentence containing one of these words so that any of, the other three could take its place and make sense. (Ben Franklin, 1783)

It is appropriate at this point to mention the confusion caused to children beginning to read, by homographs, [7] words such as 'read, tear, wind, row' etc. which have different pronunciations, but the same configurations. This at present is a far more confusing situation than future similarly-spelt homophones would be.

With a phonetic alphabet, homographs would have a spelling in which their accurate sound would he read and the confusion we now have when reading them would be eradicated. In both cases the efficient use of context will establish the meaning of the words. And care in writing context would eliminate the need for differently-written homophones.

6. *All books in the old spelling would be useless it is said.* Those who use the new spelling would also be able to read the old without too much difficulty. Everyone would find it is relatively easy to read phonetic print. One verbalises as one reads. The future generations could apply this ability to reading the old print — they would not have to learn it and spell it — just read it.

Before a decision can be made about a reform which would affect us all to some degree, there are six questions to be answered.

1. *Is it fair that a year's education time should be wasted on teaching children to read?* i.t.a. has been proved to be a success in the initial stages of learning to read. The transfer from i.t.a. to conventional spelling is not as formidable as had been anticipated. Even the most sceptical observers have had to concede that it helps dull children from poor homes and does not retard bright ones from good homes.

How much more reading could have been achieved by these children if they had not had the problems of changing to the traditional orthography and learning so many spelling rules! How much less would be the pronunciation problems of foreigners learning our language, if it were phonetically spelt!

In Fernwald (1974), "Learning to read the English language is one of the worst mind-stunting processes that has ever formed a part of the education of any people."

2. *Can we legitimately criticise the idea of Spelling Reform without first having a detailed knowledge of the imperfections of our present-day spelling system?*

Teachers and members of the public not familiar with i.t.a. are doubtful of the advantages of the use of a phonetic alphabet because they have the impression that this would mean learning over 40 completely new symbols — and even people in the teaching world cannot, or will not, realise that this is a complete falacy. Of the 45 symbols in the expanded i.t.a. alphabet, 24 are exactly the same as our Roman letters, 13 are easily recognisable digraphs of our common letters joined

together, 5 are ordinary letters with slight distinguishable embelishments, and only 3 are completely new to be learned.

Prof. Walter W. Skeat (1942) felt strongly about this also. He said, "No one can possibly be in a position to judge as to the extent to which our spelling ought to be conformed (if at all) to that of Greek or Latin — for this is what supporters of the (so called) etymological spelling really mean — until he has first made himself acquainted with the history of our spelling and of our language. The plain question is simply this: how came we to spell as we do, and how is it that the written symbol so frequently gives a totally false impression of the true sound of the spoken word. Until this question has been more or less considered, it is impossible to concede that a student can know what he is talking about, or can have any right to be heard. It is surely a national disgrace to us, to find that the wildest arguments concerning English spelling and etymology are constantly being used by well educated persons, whose ignorance of early English pronunciation and of modern English phonetics is so complete that they have no suspicion whatever of the amazing worthlessness of their ludicrous utterances."

3. *Is Spelling Reform coming to us gradually without us realising it?*
Since the 1950's changes towards clarity and simplicity in the mechanics of spelling have been made where fullstops, apostrophes, inverted commas (quotes), hyphens, and capitals are concerned.

Spacing now performs the function of punctuation in addresses and qualifications after a person's name. Fullstops and commas are omitted. (Robert Brown, BA, MP)

Abreviated words omit the fullstops after the final letter if that is the same as the letter in the full form. (Gk for Greek)

The apostrophe is less used and has disappeared from 'bus and 'cello (bus and cello), and in plurals where there is no clear notion of possession (Girls School). Teachers' Training College became Teacher Training College in the late 1940's and in 1964, College of Education. We now have Earls Court., St. Davids, Selfridges.

We say 'quotes' instead of 'quotation marks' or 'inverted commas'. They were not used by Shakespeare or in the King James Bible. Are they really necessary?

Hyphens are essential in such phrases as 'will-o-the-wisp' or 'happy-go-lucky' but previously hyphened place names have dispensed with them (Kingston upon Thames, Stratford upon Avon).

Current custom prefers lowercase letters if there is uncertainty as to which to use, thus there is simplicity of print.

New words are continually being added to our vocabulary.
These reforms have come about almost unnoticed. In Australia (1975) Harry Lindgren's spelling reform (SR 1) using no new characters was introduced. Here in the first stage of Spelling Reform the short e sound was simplified. In all words containing this sound the group of letters used was replaced by a single e, e.g. bread becomes bred; friend — frend; leopard — lepard; said — sed, etc. By simplifying one sound at a time the change is so gradual that very few inconveniences will be felt.

4. *If traditional spelling is continued, is help needed for a simpler introduction to this complex system?* In 1913, Bradley in his paper "On the Relations between Spoken and Written Language, with special reference to English," stated,

> "It is not the sole function of writing to represent sounds. Writing can directly express meaning, in that for most experienced readers words have an ideographic rather than a phonetic value. We do not, in fact, read by sound. . . Traditional spelling is essential for the preservation of

association of words, and for speedy communication of ideas. However, there is no doubt that those unphonetic features of our spelling which have their practical value for the educated adult, do add enormously to the difficulty of learning to read and write. The waste of time in education caused by the want of consistent relation between written and spoken word is a serious evil which urgently calls for a remedy."

It was to be 50 years before Sir James Pitman introduced a remedy, namely i.t.a., into British schools. This is the best thing that has happened so far to simplifying the task of teaching children to read.

5. *If it were decided to introduce spelling reform, which type of alphabet would be best for this country?* This is a decision which would be made, by a responsible body of knowledgeable people, taking into consideration all the advantages, disadvantages, and observations I have listed, and selecting the type of alphabet best suited to the needs of the world at the time in question.

The alphabets I have studied appear to fall into four categories. (see **Appendix II**, Comparison of alphabets)

1. A medium for teaching beginners to read and write, and designed specifically to facilitate the transfer to traditional orthography. (i.t.a.)
2. A new system of regularised spelling using the present 26 letter alphabet without the addition of new characters. (New Spelling, Wurld Inglish, and Consistent Spelling).
3. A new system of regularised spelling using some of the 26 letters of our present alphabet singly or as digraphs, with a few additional characters. (simpl speling).
4. A new system with sufficient augmentation of the Roman letters to achieve highly consistent matching of sounds and letters with one symbol to each given sound, and no double or treble letter combinations used as at present. (Readspell, Torskript).. Or in addition,
5. A compromise between traditional orthography and total reform. (Lindgren's SR 1, and Wijk's Regularized Inglish).

6. *What then is to be the future of our unsystematic spelling? Must we suffer indefinitely?*
"When once the public mind is prepared to accept reform in principle, and the government is stirred up to action, it is clear there will have to be some official enquiry into the best method of reform."

Echoing these words of William Archer in an interview in the Daily Chronicle (November 1911), it was felt at the First International Conference of the Simplified Spelling Society that although representation had been made to Parliament by the Society in the past, and to the Bullock Committee, nothing positive would be done in this country without definite proof of a successful alphabet — one which could be brought into use with the minimum effect on the public.

Perhaps it will be considered after the future trials that such an alphabet is among those I have mentioned, and a gradual and unobtrusive transfer to its use will be employed in this country, learning too from any problems which may arise during the Australian Spelling Reform. But in making a decision about Spelling Reform the main consideration must be the welfare of future generations of readers and writers, not our own, as we can finish our lives using the traditional print.

Until then phonologists and linguists will continue to search for one standard pattern of written English with Kingsley Read's (1975) words echoing in their minds:

"The time for endless and often petty-fogging research is over. The need is for CONTROLLED TESTING, FORWARD THINKING, and ACTION!"

Appendix I

(1) *Different sounds for the same letter:*

a c*a*t b*a*by c*a*ll c*a*lf w*a*nt m*a*ny err*a*nd im*a*ging *a*bout
e b*e* b*e*d pr*e*tty serg*e*ant D*e*rby ov*e*r
o w*o*man w*o*men f*o*r *o*ther n*o* *o*live d*o* lab*o*ur d*o*wn
u *u*p *u*se p*u*t b*u*t r*u*le b*u*sy r*u*le b*u*sy b*u*ry q*u*ite

(2) *Different groups of letters for the same sound:*

sh o*c*ean *sh*ip herba*ce*ous *ch*ef stan*ch*ion ca*ch*ou fu*chs*ia spe*ci*al vi*ci*ous *psh*aw exemp*ti*on *s*ugar fa*sc*ist sene*sch*al cu*sh*ion *sch*otti*sch*e con*sci*ence con*sci*ous pen*si*on *sj*ambok i*ss*ue mi*ss*ion sa*ti*ate, tortoise*sh*ell na*ti*on cau*ti*ous lu*x*ury fle*x*ion an*x*ious

ə *a*bout th*e* moth*e*r capt*ai*n pag*ea*nt nuis*a*nce lunch*eo*n speci*a*l regi*o*n err*a*nd cupb*oa*rd

(3) *Silent letters:*

a, de*a*d, *b*, dou*b*t, *c*, ba*c*k, *d*, a*d*just, *e*, hav*e*, *f*, sta*f*f, *g*, rei*g*n, *h*, *h*onor, *i*, rece*i*ve, *j*, ha*j*ji, *k*, *k*now, *l*, ta*l*k, *m*, *m*nemonic, *n*, condem*n*, *o*, j*o*urnal, *p*, *p*sychology, *q*, lac*q*uer, *r*, car*r*y, *s*, i*s*land, *t,* wa*t*ch, *u*, b*u*ild, *v*, nav*v*y, *w*, *w*ho, *x*, billet-dou*x*, *y*, pla*y*ed. *z*, puz*z*le.

Appendix II

Comparison of Alphabet Symbols

Wurld Inglish	i.t.a.	TORSKRIPT	Consistent Spelling	Readspel	simpl speling
A a	a	A	A a/ae	a	a
B b	b	B b	B b	b	b
- —	c	- -	- -	.	.
D d	d	D	D d	d	d
E e	e	E e	E e/+dbl	e	e
F f	f	F f	F f	f	f
G g	g	G g	G g	g	g
H h	h	H h	H h	h	h
I i	i	I	I i/y	i	i
J j	j	J j	J j	j	j
K k	k	K k	K k	k	k
L l	l	L l	L l	L	l
M m	m	M m	M m	m	m
N n	n	N n	N n	n	n
O o	o	O o	O o/+dbl	o	o
P p	p	P p	P p	p	p
- -	-	- -	- -	-	-
R r	r	R r	R r	r	r
S s	s	S s	S s	s	s
T t	t	T t	T t	t	t
U u	u	Ʉ u	U u/+dbl	u	u
V v	v	V v	V v	v	v
W w	w	W w	W w	w	w
— —	—	— —	— x	—	—
Y y	y	Y y	Y y	y	y
Z z	z	Z z	Z z	z	z
— —	ʓ	— —	— —	—	—
ch	ʧ	Ч ч	– ch	ch	c
sh	ʃh	Σ Σ	sh	sh	sc
th	ʒh	D ð	C c	th	ð
th	th	ñ ɲ	th	th	θ
wh	wh	hw	hw	wh	hw
zh	ʒ	Ж ж	zh	ç	–
au	au	or	au/aw	ɤ	or
or	or	–	or/awr	–	–
ou	ou	au	ou/ow	ou	uw
oi	oi	oi	oi/oy	ɔi	oi
ae	æ	ei	ai/ay	ᴀ	ei
ee	ee	i	ee/ea	é	ii
ie	ie	ai	ui/uy	i	ai
oe	œ	ou	oa/oe	•	ow
ue	ue	U u	eu/ew	–	iw
uu	ω	U u	oo/uu	ɷ	ww
oo	ω	Ø ø	w/+dbl	ʊ	w
ng	ŋ	ŋ g	ng	ŋ	ng
nk	–	–	nk	–	–
aa	ɑ	ᴀ a	ah/aah	ɑ	a
—	—	—	aa/d+dbl	—	—
—	ʌ	ɜ r	ir/yr	—	—
ar	—	—	ar/aar	ɑr	—
—	—	—	ehr/eyr	—	—
—	—	—	ihr/ear	—	—
—	—	—	uir/uyr	—	—
—	—	—	our/owr	—	
—	—	—	uhr/uur	—	
—	—	—	ywr/uer	—	—
er ur	—	—	a/q	ə	—
—	—	—	o/q	—	—
—	—	—	er	—	—
—	—	—	ue	—	—

Comments

Wurld Inglish, New Spelling, Torskript, and Consistent Spelling all keep the capital letters.

i.t a. retains c to keep the similarity with traditional orthography and uses or and au as these are sounded differently in some countries.

Consistent.Spelling uses X for the ks sound and q for the neutral vowel sound.

In simpl speling, one symbol represents more than one sound, e.g. (hit, year) and a (a, hat, pass)

In Consistent Spelling and simpl speling, both oo (book) and w (wet), are represented by w.
New Spelling differs from Wurld Inglish in that W.I. adds diacritical marks to th (them) and th (thin) in place of N.S. *dh* and *th*. Also N.S. uses *oo* and *uu* as in *good fuud* whereas W.I. uses them as *guud food*.

Torskript and simpl speling use ð for the *th* sound in (them) and Consistent Spelling uses *c* for that sound.

The authors of these systems are:

- New Spelling: Walter Ripman and William Archer
- Wurld Inglish: Herbert S. Wilkinson
- i.t.a.: Sir James Pitman
- Torsikript:. Victor P. Paulsen
- Consistent Spelling: Dr. Walter Gassner
- Readspel: Kingsley Read
- simpl speling: Edward Smith

Appendix III

The way to spelling reform — a brief history of spelling reform over seven centuries.
[#1 should be a square, #2 should be a circle with a dot in the middle.]

13th century An Augustine Canon named ORM distinguished short vowels from long by doubling the succeeding consonants, or when not feasible, by marking the short vowels with a superimposed breve.

1476 WILLIAM CAXTON deliberately adopted certain spellings in the interests of consistency and uniformity.

1568 Sir THOMAS SMITH proposed an extended set of symbols (Alphabetum Angelicum), with 34 characters.

1569 JOHN HART used diacritical marks to distinguish vowel sounds and devised new symbols for consonants.

— WILLIAM BULLOKAR used numerous marks both above and below letters to assist readers. He suggested that vowels should have marks to indicate length and quality; vowels should be doubled for long sounds e.g. oo, and that some silent letters (e, b, i, o) should disappear.

1530–1611 RICHARD MULCASTER recommended no change in the existing 24 letters (j and v were still included under i and u). Mulcaster's influence was considerable and he listed the first rules of spelling.

1621 ALEXANDER GILL thought spelling should be phonetic but made allowance for derivation, difference of meaning, accepted usage and dialect.

1634 CHARLES BUTLER was particularly keen on single characters or the ligature for the existing double or doubled symbols, but he was completely unphonetic.

1640 SIMON DAINE was interested in letter names and referred to the changing pronunciation of the time with its relationship to spelling.

1644 RICHARD HODGES highlighted homophones. He disliked unnecessary double consonants and was concerned about the different sounds of vowels in different words. He used diacritic marks and separated syllables by a hyphen.

1668 JOHN WILKINS was concerned with word confusion. He had 450 characters in his system.
1768 Dr BENJAMIN FRANKLIN dispensed with c, j, q, w, x, y and added 6 new characters, but he relied on digraphs and for a long vowel he doubled the short vowels.

— Dr. WILLIAM THORNTON aimed at one symbol for each spoken sound and included □ for sh, #1 for aw, and #2 for wh.

1840 Sir ISAAC PITMAN. In his Phonography in Writing by Sound, being a New and Natural System of Shorthand, the signs and symbols were consistently phonetically and emphasised the anomalies of English spelling. In Pitman's Shorthand we have a phonetic spelling that for consistency and accuracy, has stood the test of time.

1866 Dr. EDWIN LEIGH invented Fonotypy and carried out experiments in it and with an alphabet that indicated all sounds and silent letters without respelling.

1908 PITMAN's enthusiasm and inventiveness encouraged the formation of the Simplified Spelling Society.

1912 ROBERT BRIDGES (Poet Laureate) belonged to the Society for Pure English. He removed mute letters, e.g. hav, liv, coud, etc.

1914 Miss McCALLUM successfully taught a reading system based on the 'International Phonetic Alphabet', at a school in Cowdenbeath.

1856–1950 GEORGE BERNARD SHAW was interested "in the introduction of a new English alphabet containing between 40 and 50 new letters to be used and taught concurrently with the old alphabet until one or the other proves the fitter to survive,"
In his own writings he dropped the u in our endings and apostrophes in noun possessives, and abbreviated words and phrases. After his death part of his estate was used for the alphabet scheme in which in

1962 Androcles and the Lion was published.
The 'Shaw Contest Alphabet' was of 40 letters and 8 digraphs. Shaw provided money in his will for the inauguration of a "British alphabet of at least 40 letters" to be devised by a qualified phonetician.

1949 Dr. MONT FOLLICK, Labour M.P. for Loughborough introduced a private members' Spelling Reform Bill into the House of Commons, seconded by Sir JAMES PITMAN. The Bill was defeated in a small house by a vote of 84 to 87.

Since the formation of the Simplified Spelling Society there have been 16 attempts to simplify the teaching of English by a variety of methods, notably:

- WORDS IN COLOUR (Gattegno, 1940)
- COLOR STORY READING (Jones, 1965)
- DIACRITICAL MARKING SYSTEM (Fry, 1966)

Thirteen new alphabets have been formulated including:

- NEW SPELLING (Simplified Spelling Society, 1948)
- REGULARIZED INGLISH (Wijk, 1958)
- i.t.a. (Pitman, 1961)
- The SHAW CONTEST ALPHABET (composit of 4 winners, 1962.)
- MALONE SINGLE-SOUND ALPHABET (1962)
- TORSKRIPT (Paulsen, 1963)
- SENSUBLE SPELLING (Jamieson, 1973)
- WURLD INGLISH (Wilkinson, 1970)

These have all received a certain amount of publicity.

At the First International Conference of the Simplified Spelling Society (London, 1975), it was decided that trials should be organised at some future date when Phonetic Alphabets should be compared for usefulness in teaching English, and the evidence set before the Government with a suggestion of Spelling Reform.

The alphabets offered for the trials were nos. 2 through 7 listed above in Appendix II.

-o0o-

*[Spelling Progress Bulletin, Summer 1980, pp17–20 in printed version] [Robert Baker: see **Journal**, **Bulletins**.]*

Spelling reform and the psychological reality of English spelling rules,

by Robert G. Baker.*

*Dep't of Electronics, Univ. of Southampton, England.
*Presented at the 2nd International Conf. of S.S.S. at Nene College, July 29, 1979.

Introduction.
The starting point of this research was not a zeal for spelling reform. It was rather an attempt to gather psychological evidence for some of the counter-reformist arguments put forward by transformational and structural linguists in recent years (notably **Chomsky and Halle, 1968; [5] Albrow 1972).** [1] Table I provides some examples of English spelling conventions. These examples illustrate some of the main points made in favour of the traditional spelling system. It is not only claimed to be more regular than is generally supposed (see especially the examples on the "phonotactic level" in Table 1, where spelling conventions are seen to be regularly determined by phonological context), but also to be capable of carrying information on a number of different linguistic levels, albeit at the expense of failing to provide a straightforward representation of English phonemes. Such an analysis suggests that English is not and is not intended to be a phonemic orthography, but rather a "mixed-level" orthography.

If we look at the spelling systems of other languages, we see that they each have over time and in interaction with the spoken language, come to represent selected structural aspects of language on various linguistic levels.

Table 1.
Higher order regularities of English spelling

Graphemic level	give freeze	(English words do not end in v or z)
Phonotactic level	fetch vs peach	(/tʃ/ is represented by tch when preceded by a lax vowel, ch when preceded by a tense vowel)
	wan wash vs wag	a is pronounced /ɔ/ when preceded by w, except when followed by a velar stop)
Morphemic level	walked warned waited	(past tense morpheme is regularly represented by -ed in spite of phonemic alternations)
	cats dogs horses	noun plural morpheme is represented by -s in spite of phonemic alterations)
Syntactic level	please vs pleas raise vs rays goose vs zoos	(only plural nouns and 3rd person singular verbs regularly end in -s)
	at vs add in vs inn	('Content' words always have more than 2 letters)
Semantic level	seam vs seem	(Homophones are regularly kept distinct in spelling)
	sign vs signal	(Derivationally related words are regularly similar in spelling in spite of phonemic differentiation)

Thus Chinese generally represents lexical items by single ideographic symbols, although many of these symbols can also be broken down into subcomponents, some of which are phonological in nature **(Gleitman and Rozin, 1977)**. [7] Many familiar European orthographies such as Spanish operate almost entirely on the phonemic level. German appears to have a slightly mixed orthography in which morpho-phonemes are represented by single symbols, e.g.

Bund/bunt/ "Federation"
Bunde/bundə/ "Federations"
and initial capital letters are used as syntactic form class markers (all nouns begin with capital letters).

Japanese has three quite separate orthographic components used in parallel: an ideography similar to that of Chinese; and two syllabaries, one for native syllables, representing mainly grammatical morphemes, and one for foreign loan-words.

While English is similarly a mixed orthography, the different components are not as clearly delineated as they are in Japanese, but rather merge into one another. Furthermore, higher-order regularities such as those shown in Table I appear to be somewhat haphazardly distributed. Indeed, a full description of English orthography has not yet appeared. It is therefore not surprising that children have difficulty mastering the system, and educational failure is, of course the trump card held by those who advocate reform. It has been argued **(Chomsky, 1970)** [3] that the reason for educational failure may be precisely the fact that English spelling is not generally taught as a mixed-level system, but rather as a faulty phonemic representation.

In the research to be reported, it was decided in the first instance to sidestep the educational issue and to focus on the extent to which English spelling makes sense to people who have already acquired spelling competence. Are the higher-order regularities apparent to literate adults who nevertheless have had no training in linguistics? Are they highly valued or merely doggedly tolerated?

Evidence has been presented at this conference **(Smith, 1979)** [13] that people can and do use such types of linguistic information when placed in the experimental situation — or, it might be argued, when necessary. Therefore, an attempt was made to find a more direct way of tapping peoples' knowledge about how English spelling works (or fails to work). One obvious method would be to simply ask ordinary people to carry out their own spelling reforms of English words.

Spelling reform and the spelling reform task.
The history of spelling reform in English-speaking countries clearly indicates that the rationalization of our spelling system is no simple matter. There appear to be almost as many suggested reformed systems as there are pleas for reform. This difficulty may be partly inherent in the structure of the English language. As J. R. Firth pointed out 45 years ago: "the main argument against phonetic spelling ... (is that) ... it removes phonetic ambiguity and creates other functional ambiguities" **(Firth, 1935)** [6]

It has been argued **(Yule, 1978)** [16] that, in quantitative terms, the higher order regularities discussed above can hardly be called regularities, since in many cases there are more instances of rule-breaking than of rule-following. This is not at issue here. What is at issue is whether any of these non-phonemic orthographic patterns are synchronically well-motivated. If so, the onus is on the spelling reformer to justify the necessary loss of linguistic information entailed by a phonemic orthography.

Another difficulty is simply that of doing linguistics. Different spelling reformers will come up with different phonemic analyses. It has not even been agreed among linguists precisely how many phonemes are contained in the English repertoire. This is not surprising since the status of the

concept, "phoneme," is by no means firmly established **(Twaddell, 1958; [15] Chomsky, 1964; [4] Prieto, 1969 [12]).**

Is it a physically identifiable unit in the acoustic signal, a psychological construct abstracted or idealized from the acoustic signal or the articulatory complex, or an illusion induced by over-familiarity with linear alphabetic writing systems? Even if a repertoire of English phonemes and a policy of reform by phonemicization could be agreed upon, the problems would not be solved. We must also agree on the "domain" of phonemicization. For example, we may wish a "word" to be defined in the spelling system (e.g. bound by spaces) and phonemicization to be restricted to "words" as if pronounced in isolation. On the other hand, those who are unwilling to make assumptions about syntactic/semantic units may wish the orthography to take account of phonological processes obtaining across word boundaries, e.g. the assimilation in:
n Southampton *m* Portsmouth *ng* Cambridge.

Examination of the proliferation of proposals for spelling reform reveals many different approaches to the resolution of such problems and to the treatment of higher-order regularities. Thus the initial teaching alphabet preserves, in the name of concessions to traditional orthography, for the sake of an easy transfer, a large number of lexical derivational relationships in spite of phonemic differentiation (e.g. kwest, kwestion). On the other hand, i.t.a. is determined to differentiate the phonemes θ and ð, although, if syntactic considerations are allowed, the rules for their distribution are so straightforward that they may be treated as allophones of a single phoneme (e.g. "th"). [1]

It is the author's view that of all the possible solutions for reformed English spelling, those will succeed which are most in tune with the man-in-the-street's notions of how spelling should work. It was therefore decided to ask people to act as amateur spelling reformers. In analysing the results, it would be assumed that those spelling conventions which the subjects changed would be less psychologically real than the reformed versions which replaced them, and that those conventions left unchanged had comparative psychological integrity.

Twenty-three university undergraduates were presented with a list of 111 words. The students were all literate, moderately good spellers, but with no formal phonetic or linguistic training. The words in the lists were not intended to be a representative sample of written English but were representative of the kinds of higher-order orthographic regularities exemplified in Table 1. Each student was asked in the first place to give every word a rating on a five-point scale, according to how "rationally" the words were thought to be spelt. The definition of the term "rationally" was left to the students. They were then asked to provide a "more rational" spelling for those words which were not considered to be completely rational. The full instructions and rating scale are shown below (Table 2).

Table 2
Instructions for spelling reform task.

I would like you to try and imagine that you have been employed as an Arbitrator for a government-sponsored "Committee for the reform of English spelling", i.e. your job is to find the best way of spelling, English words.

Assumption: English spelling is, at least in part, an irrational and inadequate system for representing spoken English. You may not personally agree with this assumption. Do you?

Answer YES or NO on the dotted line).
Please look at each of the words below in turn. First of all give the word a score from 1 to 5 according to how "rationally" you think it is spelt. If you think the traditional spelling is the best possible, give it a 5; if you think it leaves much to be desired, give it a 1. Scores of 2, 3, and 4 will be intermediate points on the scale. (Try and use as many points on the scale as possible.)

Then, if you have given the word a score of less than 5, try to suggest a possible "more rational" alternative spelling. In some cases you may not be able to think of one (then leave a blank).

Try to work consistently through the list and try not to miss any words out. You may at any time refer back to words you have already dealt with, but, if you make any alterations in your "reformed" spellings, please make it quite clear what you have done by crossing out the altered form with one line. Examples: night= 3, nite. tough= 2, tuf tuff

The number of words rated less than perfect differed greatly from student to student (from 17 out of 111 to 100 out of 111) although all the students considered that English spelling was at least in part an inadequate and irrational system for representing spoken English. In order to gain some idea of how the rating scale was being used, the average "rationality rating" for each word was computed and then correlated with an objective measure of the word's spelling regularity. This measure was derived from a frequency count of sound to spelling correspondences (Hanna et al, 1965). Thus if the sound /s/ is represented by "ss" in 442 out of 6326 occasions sampled, a score of 442/6336 for /s/="ss" was given. Scores for all phoneme-grapheme correspondences in each word were summed and divided by the number of phoneme-grapheme correspondences in the word in order to provide an average regularity score. The correlation between regularity scores and average rationality ratings was positive and highly statistically significant (Spearman's rho=0.44, n=111, p< 0.001). Thus words which are rated as highly rational were also highly regular and we may infer that the students were making meaningful judgements about the words' spellings.

The reformed spellings were analysed primarily in terms of the extent to which they maintained or destroyed the higher-order regularities. Table 3 shows the extent of rule preservation for the different types of regularities in Table 1. The average rationality ratings in, Table 3 cannot be considered to relate directly to the spelling conventions of interest since the ratings are applied to whole words. In general, however, those word types which are highly rated also show preservation of higher-order regularities.

Two results stand out particularly from the percentages of rule-preservation. The use of syntactic final "-e" after "s" to indicate single nouns is not highly valued (29.3% preservation). On the other hand, use of "s" for phonemic /z/ in plural nouns, i.e. preservation of morphemic "s" plural in spite of phonemic variation is highly valued (87.9% preservation). In the majority of other cases, rule-preservation is close to 50% and it is difficult to draw practical conclusions for the benefit of spelling reformers.

However, the overall data may be examined in a different way. We may ask to what extent there is agreement between students on particular reformed spellings. In fact, for 42 out of the 111 words (36%) there was exact agreement on the reformed version between at least one third (> 8 out of 23) of students. While this result is not world-shattering, it is likely that such "popular" spellings represent forms of high psychological plausibility and spelling reformers would do well to take cognizance of them. Examples of such reforms are "apeer" (for "appear", 8/23), "oger" (for "ogre", 13/23), "peech" (for "peach", 19/23).

Conclusions and recommendations from the spelling reform task.

'The above selection of results from a single study is not offered as a definitive guide for spelling reformers. The subjects and words which were sampled were far from representative. It is however suggested that larger scale empirical studies of popular attitudes towards spelling adequacy would provide valuable insights into the pragmatics of spelling reform. It could be that every elegant creation by linguistically or educationally sophisticated spelling reformers is bound to fail when transferred from the study or the committee room to the market place or the classroom. Or more important, will any of these creations ever get as far as the market place or classroom? On the other hand, if some degree of popular consensus on the substance of rational spelling could be

achieved, then the popular view of spelling reformers as ineffectual cranks would accordingly be diminished. It may be argued that a "democratically" achieved spelling reform would not necessarily be the best to work in practice, but would merely reflect a collection of mass prejudices. On the other hand, it can be counter-argued that a reform, once adopted, will be modified and optimized by usage; but it must first be adopted! People may accept, at least for a while, what they think they want.

Table 3.
Average rationality ratings and proportion of occasions when higher order regularities are preserved in spelling reform task

Rule level	*Spelling*	*Average rationality rating*	*% of occasions rule is preserved*
Graphemic	give *not* giv	3.71	42.7
	freeze *not* freez	4.29	67.8
Phonotactic	fetch *not* fech	4.18	66.7
	wash *not* wosh	4.01	52.2
Morphemic	walked *not* walkt	3.22	60.9
	dogs *not* dogz	4.71	87.9
Syntactic	goose *not* goos	3.78	29.3
	add not ad	3.53	52.2
Semantic	'g' retained in sign and signal	3.53	46.1
	seem and seam differentiated	3.80	57.2

A further problem concerning data from the spelling reform task is that the man-in-the-street may have traditional spelling so deeply ingrained in his mind that he cannot took beyond it. How can he be objective? However, the question remains as to how deeply engrained different aspects of the spelling system are. Surely, those aspects which are most deeply ingrained will be most resistant to change. It is as well to know what these obstacles to reform will be. Furthermore, those most resistant spelling conventions are no doubt those which made most sense to the child as he/she was learning to use the system, and they are most likely to make most sense to him as an adult.

Children's use and understanding of spelling rules.
It would be valuable to be able to trace the development of spelling rule knowledge in children. Accordingly a number of simplified pilot versions of the spelling reform task were tried out with young children (6–8 years), but without much success. In general, young children do not seem prepared to discuss the pros and cons of less or more rational spelling conventions. This may reflect cognitive immaturity or an unwillingness to question the authority of English spelling. For these children, a word is either spelt right or wrong and there is no ground for debate.

Since these young children were unable or unwilling to manipulate correct spellings, it was decided to examine their attitudes towards incorrect spellings. A diagnostic spelling test (**Peters, 1970**) [11] was administered to two classes of primary school children, a Primary 3 class (n = 16) and a Primary 5 class (n = 29). The children's errors were analysed and related to test data on their reading ages made available by their teachers. After completing the spelling test, each child was given a structured interview centered on the errors he/she made in the test. The children were asked to try and explain their particular difficulties with the words and to talk, about why they thought they had made these particular errors. This approach provided considerable insights into the children's approaches to spelling and to the testing situation. The results of this study are reported in greater detail elsewhere (**Smith et al, 1979**), [14] but some general points will be made here.

Table 4
Reasons given for spelling errors made by primary school children

Class of explanation	*Example*	*Frequency of occurrence:*		
		Primary 3	*Primary 5*	*Total*
(Un)familiarity	"I don't know that word"	37	44	81
Perception	"It looks OK my way"	29	46	75
Test situation	"I'd have got it right if I'd had more time"	25	36	61
Difficulty	"It's a hard word"	18	35	53
Performance	"My pen slipped"	14	16	30
Rule	"I got mixed up about the rule"	0	22	22
Phonic strategy	"I tried sounding it out"	2	10	12
Bad speller self image	"I'm just careless"	0	4	4

In Table 4, the classes of explanation are given in the overall order of frequency in which they occurred. Two of these classes are particularly relevant to this discussion of English orthography; the use of a phonic strategy and the use of rules. It is noteworthy that the phonic strategy explanation is not particularly frequent. This may be either because it is such a useful strategy that it does not generally lead to errors (see **McBride, 1977**) [9] or because the children do not often consciously use it as a strategy. Also noteworthy is the status of "rules" in this situation. Only the older class of children referred to rules at all. This may merely reflect the stage they had reached in their reading and spelling schemes. In the Primary 5 class, the rule explanation was used in three different ways. Sometimes it was used quite appropriately, for example, "I forgot the doubling rule" (for "spining" = "spinning"), sometimes apparently quite inappropriately, e.g. "I don't know the rule" (for "svicetoin" ="satisfaction"), and some times appropriately but erroneously, e.g. "I spelt it like that because it's got 'high' in it" (for "hight"). This last example is evidence of the false overextension of a higher-order lexical derivational relationship rule. The children who offered rule explanations inappropriately and/or incorrectly were predominantly in the lower third of the reading/spelling ability range in their class. Furthermore, for these children and for these children only, the rule explanation was always associated with the difficulty explanation. It appears that children with lesser reading/spelling ability will resort to rules but are likely to be led astray by them.

Overall, this study did not provide much evidence for or against the psychological reality of *particular* spelling rules in young children. There were occasions on which statements such as "e usually has an 'a' next to it (for "neaver" = "never") were made, but these were too sporadic to be given much weight in the main analysis. This study has, however, given a clearer picture of the child's general approach to spelling and a framework for further research. The kinds of explanations given by children to account for their own failures in spelling tests could be of use to teachers in assessing their teaching procedures and in evaluating the testing situation. Tests always take place in a context. In particular, different children will not be equally familiar with the words they are asked to spell. They may have experience in spelling a word, or they may have only encountered it in reading, or they may not know the word at all. One Primary 3 child made a further distinction between having spelt a word on his own initiative and having copied its spelling as part of an exercise. These different degrees of experience are likely to be associated with different types of spelling error. Furthermore, the effects of imposing time constraints on a rest will differ from child to child. The explanations classed as "Perception" will relate to those classifications of spelling errors made in terms of information encoding (e.g. **Avakian-Whitaker and Whitaker, 1973**) [2] and may help to validate such classifications.

Self-characterizations as a "careless speller" are fortunately rare in this group of children. The dangers of allowing a child to continue with the notion that he/she is a bad or careless speller have been pointed out (**Peters, 1967**). [10] Members of this society will of course be amongst the first to stress the role that English orthography plays in generating spelling difficulties and to press the more urgently for reform. In the meantime, however, we would do well to explore ways of putting

across the complexities of our spelling system, taking into consideration the child's own expectations and intuitions about the task. Such explorations will in turn guide spelling reformers towards the most highly motivated and usable alternative system.

References.

[1] Albrow, K. H. (1972) *The English Writing System, notes towards a description*. London: Longmans.

[2] Avakian-Whitaker, H. and Whitaker, H. A. (1973) "The spelling errors of children with communication disorders: a preliminary classification." *Linguistics*, 115, p.103–118.

[3] Chomsky, C. (1970) "Reading, writing and phonology." *Harvard Educational Review*, 40, 2 p.287–309.

[4] Chomsky, N. (1964) *Current Issues in Linguistic Theory*. The Hague: Mouton.

[5] Chomsky, N. and Halle, M. (1968) *The Sound Pattern of English*. New York: Harper & Row.

[6] Firth, J. R. (1935) "The technique of semantics." *Transactions of the Philological Society*, p.36–72.

[7] Gleitman L. R. and Rozin, P. (1977) "The structure and acquisition of reading." in A.S. Reber & D.L. Scarborough: *Towards a Psychology of Reading*. Hillsdale, N. J. Lawrence Erlbaum.

[8] Hanna, P. R., Hanna, J. S., Hodges, R. E., & Rudorf, E. H., Jr. (1966) *Phoneme-grapheme correspondences as cues to spelling improvement*. Washington, D.C.: U.S. Government Printing Office.

[9] McBride, J. F. (1977) *Phonics in the teaching of reading*. Paper presented to the Reading Assoc. of Ireland.

[10] Peters, M. L. (1967) *Spelling: caught or taught*. London: Routledge & Kegan Paul.

[11] Peters, M. L. (1970) *Success in Spelling*. Cambridge: Institute of Education.

[12] Prieto, L. J. (1969) "La découverte du phonème: Interprétation epistemologique." *La Pensée*, 148, p.35–53.

[13] Smith, P. T. (1979) *In defence of conservatism in English spelling*. Paper presented at SSS Conference, Northampton.

[14] Smith, P. T., Baker, R. G. and Groat, A. (1979) *Spelling as a source of information about children's linguistic knowledge*. Paper presented at "Beyond Description in Child Language Research," Nijmegen, Holland.

[15] Twaddell, W.F. (1958) "On defining the phoneme," in M. Joos. *Readings in Linguistic 1*. New York: American Council of Learned Societies.

[16] Yule, V. (1978) "Is there evidence for Chomsky's interpretation of English spelling?" *Spelling Progress Bulletin* 18, 4, p.10–12. [Yule: see **Bulletins**.]

Acknowledgements: This research was carried out while the author was working on an SSRC supported project in the Dept. of Psychology, Univ. of Stirling. Thanks are due to Dunblane Primary School, Perthshire, for their help and cooperation in the project.

[1] Note:

1. th= ð in word-medial position and in initial position in function words, (e.g. this, there, etc.) but not in content words (e.g. thin, theme, etc.)
2. th= θ elsewhere.

The exceptions are the set of minimal pairs, "wreath, wreathe, sooth, soothe, etc" Here it is noteworthy that the *orthographic* representations place the voiced alternant in non-final position in the word, thus conforming to rule 1.)

-o0o-

[Spelling Progress Bulletin, Spring 1980 pp6–8 in printed version]
*[Axel Wijk: see **Bulletins**.]*

The Right to Read,

by Axel Wijk, Docent.*

*Stockholm, Sweden.
*Presented at the 2nd International Conf. of S.S.S. at Nene College, July 29, 1979

Introduction.
I would like to tell you how much I appreciate having the opportunity of reading my husband's lecture to you. My husband, Axel Wijk, passed away July 2 this month. The thought of coming here to deliver his lecture never occurred to me at first, but then I got a call from three of Axel's colleagues, professors of English at the Univ. of Stockholm, urging me to do so. I feel honoured and deeply grateful to be here today. For so many, many years my husband has been working on and devoting his main interest and thinking to the same problem that you all have come to Northampton to discuss and try to solve. My husband's lecture is entitled:

The Right to Read.
In my book, *Regularized English/Regularized Inglish*, published in 1977 by Almqvist & Wiksell International, Stockholm, I have described the outlines of an entirely new approach to the English reading problem. It is suggested that an experiment should be undertaken to test whether English reading and writing can be taught more efficiently and successfully by the aid of the proposed new method than by the various combined whole-word and phonic reading schemes that are now in general use. In view of the wide-spread dissatisfaction with the results of the existing methods of teaching reading it seems to me that we owe it to our children to leave no stone unturned in order to make it easier for them to learn to read and write. Since there can be no denying that the principle cause of the difficulty of learning to read English is the confused and antiquated spelling system of the language, it seems highly probable that a temporary regularization of the spelling for the period during which children are learning to read, may offer the most effective solution to the problem. In the proposed new spelling system, Regularized Inglish, we may have the tool that is required to solve the problem. By the aid of this spelling system which preserves the present spelling in from 90 to 95% of the vocabulary and only changes the present spelling in from 5 to 10% of the words, we shall be able to teach all the regular phonic units of the language before starting to teach the numerous exceptional spellings. In spite of the impression of hopeless confusion that the English language at first makes on the young beginner, a closer examination reveals that its pronunciation and spelling are not nearly so confused as most people are apt to think. It is only among the 3,000 commonest words that we find an exceptionally high percentage of irregular spellings, amounting to between 20 and 30%.. Since the majority of the important anomalous spellings — between 400 and 500 in all — are to be found among these 3,000 words, it is actually a comparatively simple matter to change the present irregular spelling system into a fairly regular one. This is what has been done in the proposed transitional spelling system called Regularized Inglish.

Analogy Spelling.
The great jester, G. B. Shaw, who took a keen interest in the science of phonetics and who when he died bequeathed some of his money to try to bring about an English spelling reform, once stated that the spelling of English was so grotesque that the word 'fish' could be rendered by the spelling ghoti. There can be little doubt that he made this statement with his tongue in his cheek, but a great many people and even scholars have evidently regarded it as a statement of fact. Actually the spelling gh for the f-sound which we find in such words as enough, laugh, cough, is never used in English at the beginning of words. The spelling o for the short sound of i is only found in one single word: 'women', and whereas the spelling ti for the sh-sound is found in a large number of words, such as 'nation, action,' etc., it is never found in final position.

The spelling ghoti can only be regarded as a grotesque, humerous invention by Shaw, but there are a very considerable number of actual spellings in English which deviate from the general rules

of the spelling system and which will therefore have to be learnt by heart, such words for example as the following:

any, many/ half, calm/ talk, water, want, was, wash/ scarcely, says, said/ aunt, laugh/ pretty, there, where, were/ bread, head, pleasure, weather, ready, heavy/ break, great/ bear, wear, heart/ eye, key, seize/ give, climb/ friend/ do, who, lose, woman, women/ come, son, among, one, once, love, move/ word, work/ broad, does, shoe, blood/ enough, though, through/ could, should, would/ you, young, four, journal/ pull, put, bury, busy/ debt, sugar, two, whole, etc.

Since the spellings of the above words, and of a great many more, constitute infringements of the general rules, it is no wonder that children who have often a strong sense of logic, are bound to get the impression that there are no reliable rules for the connection between spelling and pronunciation in their language. The question then arises whether they should be told openly that the words are irregular or whether they should be told to learn them by heart, as is usually the case in the existing reading schemes. The latter procedure which implies a kind of indoctrination, leads to the harmful effect that the children cannot distinguish between regular and irregular spellings.

Owing to the confused spelling system, a large proportion of English children experience immense difficulties in learning to read. According to an official investigation into reading ability which was carried out in 1948 by a committee of experts at the request of the then Minister of Education, Mr. George Tomlinson, and which was reported in the Ministry of Education Pamphlet no. 18, entitled *Reading Ability*, no less than 307 of all 15-year-olds were classified as backward readers, i.e. as having reading ages 20% below their real ages. Furthermore 1.4% of these were illiterate and 4.3% semi-literate with reading ages of below 7 years and between 7 and 9 years respectively. Very similar conditions occur in America, as may be seen from Rudolf Flesch's book, *Why Johnny Can't Read*, published in 1955, which became a best seller, evidently because so many parents had found that their children had great difficulties in learning to read. Judging from recent official investigations into reading ability, we have no reason to think that conditions have materially changed since the above-mentioned investigation was carried out about 30 years ago.

In order to try to find a solution to the reading problem, special organizations have been founded in recent times. Thus the International Reading Assoc., IRA, was founded in USA in 1956 through amalgamation of a number of separate associations in various American states, and soon after, in 1963, the United Kingdom Reading Assoc. was founded in Great Britain. Besides other activities, these associations hold annual conferences, which are intended to provide an opportunity for discussions of common problems and at which members may present papers concerning research that has been done in the field. So far, however, it can hardly be said that these activities have led to any tangible results as regards an improvement in the general standards of reading and writing in the various countries.

In this connection we should further draw attention to the "Right To Read" movement which was started in the USA towards the end of the 1960's and which has set up as its goal solving the reading problem and hoping to do away with virtual illiteracy in the course of the 1970's. A brief account of the movement will be found in the article, "*The Right to Read*," by Prof. Alton Raygor, published in the proceedings of the UKRA conference in Manchester in 1971 (pp. 21–23). According to this article, the American educational authorities were planning to spend about ten million dollars of federal money and in addition some 460 million dollars from the various states for the fiscal year of 1972 in order to help solve this problem. Similar sums were probably intended to be spent for each of the following years during the 1970's, but there seems to be no reason why this immense expenditure should stop by 1980, since new millions of children desiring to learn to read will continue entering schools every year. The problem of reaching children to read English is, however, not one that requires an enormous expenditure of money for its solution in the first place. It is instead a question of hitting upon the best method to deal with the problem.

Experiment Needed.

Since it is generally recognized that the principle cause of the reading problem is the exceptionally large number of irregular spellings among the commonest words, the most rational and very likely also the simplest and most efficient solution to the problem would seem to be to eliminate these

irregular spellings and replace them by regular ones for the period during which children are learning to read. That's why I have suggested that an experiment should be carried out to teach reading by the aid of Regularized Inglish which can be used as a transitional stage before passing on to ordinary English spelling. Unfortunately my proposal has not so far met with much response from the British and American reading associations. No one has, however, maintained that I am wrong in my ideas, nor has anyone tried to refute my arguments. Seeing that the associations have been founded for the purpose of finding a solution to the reading problem and seeing that they have no other solution to offer than the existing unsatisfactory reading schemes, it is difficult to understand why they should be unwilling to carry out an experiment with a regularized system of spelling. It is perhaps not altogether unlikely that such an experiment might lead to demands for a reform of English spelling, but since there is nothing in the plan itself that must of necessity lead to reform, this can hardly be regarded as a serious objection to the experiment. In view of the enormous difficulties to which the existing reading schemes expose a very large proportion of the children and considering the immense pedagogical and financial advantages of a satisfactory solution to the problem, it is difficult to see why we should hesitate to undertake the suggested experiment.

A New Approach.
One may of course feel sceptical as to the possibility of discovering an approach to the reading problem which will enable children to learn to read more or less exclusively by the aid of phonic methods, but since Regularized Inglish would seem to offer such a possibility, there can be no valid reason why the suggested solution should not be investigated. In order to try to convince sceptical teachers, I will give a brief account of the main features of my suggested reading scheme accompanied by references to the copy of the scheme on view at the Book Exhibition.
The reading scheme consists of two parts, Book One for the introductory stage and Book Two for the more advanced stage. For each book there is a table of contents which indicates the phonic details in the progress of the reading ability. The reading scheme is accompanied by a Teachers, Manual which offers running comments on the General Plan to be followed for teaching reading by the aid of the new method. The whole manual has been written in Regularized Inglish so as to illustrate that anybody who can read traditional English will be able to read the new regularized form of the language without any difficulty.

Book One.
Book One is intended to lay the foundations of the art of reading by first teaching the commonest sounds of the alphabet, i.e. the short sounds of the five simple vowel letters and the normal sounds of the 21 simple consonant letters. When these have been taught, it will be convenient to pass on to the sounds of the various consonant digraphs and further to the sounds of the combinations ar and or at the end of words and before consonants in stressed syllables. Towards the end of Book One we may finally also deal with the vowel and consonant sounds that are found in the unstressed endings -y, -ies, -ied, -er, -ed and with the sound of the combination et at the end of words and before consonants in stressed syllables. As will be seen from the Table of Contents, Book One comprises, besides the introductory page displaying the English alphabet in small and capital letters, just over 80 lessons in all, generally of one page each.

The first 25 lessons are devoted to teaching the short sounds of the simple vowel letters in combination with various consonant sounds. The pace is extremely slow. For each vowel there are four pages with three short words only, illustrated by pictures in colour and ending in the consonant sound. The short lists of additional words at the bottom of the page should at first be omitted altogether. When reviewing the lessons, some of the words enumerated at the bottom of the page may, at the discretion of the teacher, be added to increase the vocabulary, but great care should be taken not to force the pace. Although these lessons are mainly intended to teach the short sounds of the five simple vowel letters, it goes without saying that the children are bound to get familiar with a fair number of consonant sounds as well, both in initial and final position.

From the short sounds of the simple vowel letters, we pass on to a systematic study of the consonant letters. As may be seen from the Table of Contents, the consonants have been divided into four groups of from 4 to 7 consonants each. The first group compromises lessons 26–32 and

deals with the letters m, n, r, h, voiceless and voiced s, z, which can all easily be joined to vowel letters. Each letter is illustrated with examples of the different positions in which the letters occur. It should be pointed out that for nearly all the words which have been illustrated by pictures in lessons 1–32, the spellings are the same in regularized and traditional English. Generally speaking this is actually characteristic of the whole of Book One.

It should be further emphasized that owing to the regular spelling system and to the slow steady progress, it ought to be very easy to teach children to read by the aid of this reading scheme. It seems indeed highly probable that by the aid of a regularized spelling system, parents would themselves often be able to help their children to learn to read without the assistance of trained teachers.

Having become familiar with the short sounds of the five simple vowel letters and with a fair number of consonant sounds as well as with a fairly large number of short simple everyday words, the children should now be ready to learn their first two sight words, the indefinite and definite articles, and to join words together into short phrases and short simple sentences. Lessons 33–38 are devoted to their first exercises in reading with such words as 'and, in, on, Tom and Ann, Jim and Sal, has,' etc.

In the three next following sections of Book One we pass on to the remaining consonant sounds. In lessons 39–45 we deal with the fricatives and liquids: f, v, w, l, -le, in lessons 46–54 with the plosive consonants, b, d, hard g, p, t, hard c, k, ck, and in lessons 55–60 with j, voiceless and voiced x, y, soft c, soft g. At the end of each section follows a number of sentences for reading practice.

The remainder of Book One is devoted to a similar systematic account of the various consonant digraphs, ng, nk/ sh, ch, th/ wh, qu, to the sounds of the combinations ar, or, er, in final and preconsonantal position and to the vowel and consonant sounds that are found in the unstressed endings -y, -ies, -ied, -er, -ed. With the continued increase of new phonic units, it becomes increasingly easier to compose suitable material for practice in reading.

Book Two.
Book Two is mainly devoted to a similar systematic account of the long sounds of the five simple vowel letters and to the sounds of the various vowel digraphs, the details of which may be studied at the Book Exhibition.

If English speaking children were to learn to read by the aid of Regularized Inglish during their first, school years, I am personally convinced that the great majority would learn to read just as easily as children who have other European languages as their mother tongue. In all probability they would in this way save a whole year's work. The spelling systems of Swedish, Italian, German, Spanish and other European languages are fairly regular. — Knowing from experience how much easier it is to learn to read by a regular spelling system, I created Regulariz Inglish.

-o0o-

So far, my husband's words. And now, allow me to add a few words.
There are in this society so many members who have shown great interest in Axel's work, and who have encouraged him, who believe in his theories and who in this way have helped him to think it worth while struggling on. I want to thank you from the bottom of my heart.

During the last few years Axel realized more and more that he would never during his lifetime have the great satisfaction of seeing an experiment with Regularized Inglish carried out.

But by no means did this affect his fighting spirit for a cause in which he believed so firmly. He was convinced that sooner or later, maybe sometime in the future, his system would be adopted, or at least given a fair trial. I sincerely hope so too. Thank you for listening.

-o0o-

[Spelling Progress Bulletin Summer 1980 p7–13 in printed version]
*[John Beech: see **Journal**, **Newsletter**, **Bulletins**.]*

Some Proposed Principles for Simplifying English Orthography,

by John R. Beech, Ph.D.*

*Dept. of Psychology, New Univ. of Ulster, Coleraine, N. Ireland. Presented at the 1979 Conf. on Reading & Spelling, Nene College.

The English language is exceedingly difficult to learn to read because of a spelling structure which is very complicated and which is not altogether consistent. Consequently, when a child tries to learn to read, it would be a grave mistake for him to draw generalizations and rules about how a symbol might be pronounced, for before too long he is likely to encounter another word which contradicts the rules. To save space, I will not go any further into the reasons why we should reform our spelling system. Instead, I will begin immediately with three main criteria which should be considered in adopting a new spelling system.

Criteria for Reform.
1. Obviously the main criteria is that it should enable children to learn to read much faster and more easily. This also implies that most children who would not have been able, to read the traditional system should now be able to read the new system. This criterion is probably fulfilled by most suggested spelling reform schemes and is the easiest to satisfy.

2. The next criterion is very important from the point of view of achieving reform: would the public be able to read the new system easily? The agonizing aspect of this point is that it runs counter to criterion 1. If I were to propose a law about the relation between these two criteria, it might run: the less rules of spelling one proposes (e.g. a system like WES), the more unlike traditional spelling text becomes; conversely, the more rules one proposes, the more one's text becomes like traditional spelling. Consequently a system that has the least rules would be the one in which each symbol or combination of symbols represents only one phoneme (i.e. the sound of a letter) but which also would be the least readable from the point of view of the public. A compromise has to be achieved in which these two opposing aims are delicately counterbalanced.

3. The third criterion would be that it should be reasonably easy to spell within the new system from the point of view of both the layman already familiar with traditional spelling and the child learning to read. One major reason for proposing this criterion is that a great deal of time is wasted by children having to learn literally thousands of spellings. Just take the long-e sound. This sound is represented by several different spellings: *ea, ee, e, ie, e-e, eo, ey. ei*, and so, although the learner knows that the long-e sound in a particular word could have a range of spellings, he has to decide which is the particular correct spelling for that word. Consequently he has to memorize a large proportion of the spellings of the words with the long-e sound. Furthermore, it is unlikely that the public will want to change to a spelling system which is overcomplicated or to one which is so compromised that one has to learn a large number of exceptions.

Proposed guidelines for regularizing English spelling.
In devising a spelling scheme one should bear in mind the likely disruption to English text brought about by any spelling reform. The first guideline therefore is designed to minimize disruption:

1. One would examine the way words are presently spelt and where several symbols or combinations of symbols represent the same sound, adopt the rule most frequently used.

However, in English spelling, it is sometimes the case that the type of spelling is contingent on the position of the sound in the word. For example, the spelling *ou* represents the *ow* sound (as in 'house') most frequently in the middle of a word, but *ow* represents the same sound at the end of

the word. Consequently, *the most frequent spelling for a particular position* should be employed. This first principle ensures that disruption is reasonably minimal. It also means that symbol combinations which are not particularly phonetic should be retained, e.g. *-tion* at the end of a word and *qu* at the beginning or middle of a word. However, if the rule occurs for too few a number of words, even though it is the most frequent one, the rule is not necessarily applied. This is in order to cut down on the total number of rules that have to be learned. For example, in my own scheme to be described later, I have opted not to retain *gu* for the *gw* sound as the complication of learning that spelling rule out-weighs the number of words with that sound combination. To conclude this first principle: the aim here is that there is only one spelling for a particular sound and that that particular spelling, if so imposed, will prove to be the least disruptive when the new text is compared to the same text in traditional spelling.

The advantages of least disruption are two-fold. Firstly, the public would probably be more willing to change to a system which is similar to the present one, and secondly, children taught in the new system would still be able to read books in the old spelling if necessary, without it appearing to be completely different.

2. If it were at all possible, that is, in circumstances in which it would not be too disruptive, a spelling combination should be as simple as possible in order to aid the learner. To illustrate with the author's scheme to be described later, if *u-e* is used to represent the *ue* sound (e.g. 'tune'), it would be more straightforward to learn if the *ue* sound is also represented at the end of the word by *u* rather than by *ew*, even though *ew* is presently used the most frequently at the end of the word. Thus instead of 'new', the spelling would be *nu*.

3. This next principle has a two-fold purpose to make spelling both more efficient and easier. While marking exam scripts for my course in Cognitive Psychology this June, I made a note of a sample of the student's spelling errors. The most common error was with the double consonant. Here are some examples: chanel, sylable, interpretted, aggreed, etc. Therefore the double consonant should be abolished, except in a few cases (e.g. midday).

4. Subtle distinctions in sounds should be ignored. For instance, some spelling reform systems seek to distinguish the *th* sound in 'theory' from that in 'these.' These distinctions would place a burden on learners, especially those with difficulties such as poor auditory discrimination (Yule, personal communication). Sometimes traditional spelling makes a half hearted attempt at differentiating one sound from another. For instance, the *s* and *z* sounds are largely undifferentiated (e.g. the 's' in 'is' and in 'result' should be spelt with a 'z'). Also, it is difficult to differentiate the *s* from the *x* sound in plurals. My solution in this case would be that the letter 's' would conveniently represent both categories of sound, except at the beginning of the word.

5. We should aim to arrive at a situation in which, given the rules of spelling, anyone could correctly generate the spelling of a new word given that (a) he knows how it is pronounced formally (and this is a problem even with the most phonetic system); (b) he has mastered the set of spelling rules for that system. In situations in which there are ambiguities, the devisors of a new spelling scheme would fall back on asking ordinary people to generate new words, having previously instructed them in the new spelling scheme, and the form of spelling which would be adopted would be the most frequently used form for each word. Alternately, or in addition, if a word can be spelt in more than one way, then each version might be acceptable.

6. If spelling reform takes place, it should be done simultaneously by all English speaking nations. This next point is perhaps debatable, but bearing in mind the dominant role of English in the communication of science and in other spheres, the spelling and punctuation structure should be as standard as possible across nations. This will be a problem with the different pronunciation between English and American. There is also a problem of different regional accents. However, traditional spelling has tolerated these differences remarkably well, so a new spelling scheme

should try not to aggravate the problem. One example of how well present spelling copes with English versus American pronunciations is that the '-ew' ending represents the *ue* and *oo* sounds, enabling Americans to pronounce 'new' as *noo* and the British to pronounce it as *nue*.

I have devised a spelling scheme based on the above principles and there now follows a very brief description of the scheme as it might be presented to the *British* layman (the layman would actually receive an expanded version). A list of rules for reading could be constructed along similar lines. Comments on and analyses of the scheme will follow afterwards.

A brief summary of the spelling rules of the new scheme.
In this scheme, spelling is based on the sound of words as pronounced in formal speech. So here are some of the words which change in a straightforward manner in the new schemer *bred, hart, cigaret, giv, hav, ar, gon, involv, twelv, carv, frend, bilding*. Most words in the English language may be spelt unambiguously from the rules given below:

General Rules.
1. Most silent letters are abolished or substituted, e.g. *thum* instead of 'thumb,' *parm* instead of 'palm.' Most double consonants are abolished, e.g. *bel* ('bell'), *comunity*. But note that only a few cases in words like midday, cannot, withhold, etc. is the double consonant retained as these are really two words joined together.

2. Ten words which should be spelt rather differently in the new scheme are kept the same as in traditional spelling. These can be memorized by learning the following somewhat gruesome rhyme which incorporates all the ten words (which are italicized):

I was one of the ones who was there who tride to pul out *all your* hair.

The consonant sounds.
The consonants are spelt exactly as before with the following qualifications:

1. *The j sound*: j represents the *j* sound in all cases, e.g. *jam, chanj* ('change'), *jigantic*, etc.
2. *The k sound*: the *k* sound is always represented by *c*, so *k* is abolished.
3, *The qu sound*: As in traditional spelling, *qu* represents the *qu* (or kw) sound, e.g. *quality, liquid, equater*, etc.
4. *The s sound*. *s* represents the *s* sound in all cases, e.g. *les* ('less'), *chans* ('chance'), *stand*, sit, etc.
5. *The z sound*: *z* represents the *z* sound only at the beginning of a word, e.g. *zip*, otherwise *s* represents the *z* sound in all other positions, e.g. *visual, jas* ('jazz'),etc.;
6. *The ex sound*: the *ex* sound (and the *gz* sound as in 'exact') at the beginning of a word continues to be spelt *ex*, e.g. *exclame, exempt*, (except for 'Xmas' and 'X-ray'), as is the case in traditional spelling. Similarly, *x* is employed in the same way as in traditional spelling for other positions in the word, e.g. *mix, ax, conexion*, (conection is an alternative spelling).

The vowel sounds.
The simple single vowels (*a, e, i, o, u*) are spelt exactly the same as in traditional spelling (e.g. *flag, bet, thin, spot, thug*) but other vowel sounds are spelt as follows:

1.* The *long a* sound is represented by *a-e* (e.g. *mate, vane*) except at the end of a word where it is represented by *ay*, e.g. (*day, say, thay* ('they').
2. The *long a plus r* sound is represented by *air*, e.g. *fairy, mair*, ('mayor' and 'mare'), *scairs* ('scarce' and 'scares'). But note: *layer, servayer* ('surveyor'), *player*.
3. The *ar* sound is only differentiated from the intermediate *a* sound if necessary, for instance, these words are spelt with *ar*: *card, farm, harm, carm* but these words are not spelt with *ar*: *casal* ('castle'), *bath, gras, cast, last*. In other words, for Southern English speakers, the *ar*

sound in front of the hissing ending is pronounced with the intermediate *a* (e.g. 'grass' is pronounced *grahss*), but is spelt with an 'a' in the new scheme. For other English speakers, this vowel sound is pronounced as *a* in *cat* and is spelt, accordingly (e.g. *gras*).

4. The *long e* sound is represented by *ea*, e.g. *meal, sleap*. In the case in which the *e* in the word, as spelt in the new scheme, has more than one letter between itself and the end of the word, it is spelt just as *e*, e.g. *experiens* ('experience'), *feld* ('field'), *equal, secret*. However, when the word ends in *ch, st* or *th*, *ea* is still used: e.g. *teach, east, teath*. In the case of the word ending in the *long e* sound, this is spelt as *e*, e.g. *me, be, ne* ('knee'), *fe, ple*, ('plea'), *we, he, she, tre* ('tree').
5.* The *long i* sound is represented by *i-e* in the middle of the word, e.g. *tribe, nite*, and is represented by *y* at end of a word, e.g. *by, scy* ('sky').
6.* The *long o* sound is represented by *o-e*, e.g. *throte, gote, rote, throne, those, coxe* ('coax'), and by *o* at the end of the word, e.g. *solo, helo, belo, bo, tho, so, go*.
7. The *oi* sound is represented by *oi*, e.g. *coin, emploiment, groin*, and by *oy* at the end of a word, e.g. *boy, coy, toy*, etc.
8. The *oo digraph* continues to represent the two different sounds in words such as *brood, booc*, ('book'). Here are some examples: *boo, doo, zoo, groo, scroo, troo, bloo, rood, tooc, looc, hooc*, etc.
9. The *awe* sound (or 'or' sound in Rec'd Standard) is represented by *or*, e.g. *horl* ('hall' and 'haul'), *story, for* ('for' and 'four'), *por* ('pore, 'poor', 'pour'), *orltogether, orlso*.
10. The diphthongal *intermediate vowel plus long oo* sound is represented by *ou* in the middle of a word and by *ow* at the end, e.g. *hous, proud, cow, sow*. Note the following: *pouer, touer, ouer* ('power', 'tower', 'our', respectively).
11.* The *long u* sound is represented by *u-e*, e.g. *fume, use, huge*, except at the end of the word where it is spelt *u*, e.g. *nu, fu* ('new', 'few'), *valu, continu, retinu*.

*Note that in the *silent e* rule, when the vowel (*a, i, o*, or *u*) is separated from the end *e* by more than one consonant, the vowel is left unqualified, e.g. *utensal* ('utensil'), *human*, *ulogy* ('eulogy') *criterion, blind, child, sical* ('cycle'), *stranj, broch* ('brooch'), *tost, most, loth*, etc.

Word Endings.

1. The *-er, -or* and *-ar* endings: many words are pronounced as a slurred *er* at the end even though they are presently spelt '-ar' or '-er.' These are all spelt *er* in the new scheme, e.g. *tracter, raser* ('razor').
2. Words ending in the *l* sound: these words are all spelt *l* at the end, e.g. *pil, fil, lul, butiful*, etc. But note that when there is a slurred vowel sound between the last consonant before *l* and *l* itself, this slurred vowel is always spelt with an *a*. Here are some examples to illustrate: *pepal* ('people'), *reliabal, viabal, prinsipal, political*, etc. Note that the *silent e* rule continues as before, e.g. *pole, role, gole, pile, mule*, etc.
3. The *-sion, -tion, -zion* and *-ion* endings: the *-tion* ending represents the *shun, zhun* and *chun* sounds, e.g. *pention ration, divition, futions, question*. The *xion* ending can represent the *exshun* sound, e.g. *conexion, sexion*, but these words may alternatively be spelt *collection* and *section*, respectively.
4. The *-y ending*: this continues to represent both the short *i* and long *ie* sounds at the end of words, e.g. *sily, scy* ('sky').
5. Other endings: these are spelt as in traditional spelling, e.g. *ed, er, ing, ist*, etc., e.g. *sealed, oner* ('owner' and 'honour'), *sealing* ('ceiling' and 'sealing'), *sicling* ('cycling'), *tacing* ('tacking' and 'taking'). As in traditional spelling, the final *e* of the root word should be dropped when adding an ending beginning with a vowel, but the *e* should be kept before a consonant, e.g. *drive, driving, driven, live, lived, lively, liven, living*, etc. Note the change in the *-y* ending: *spy, spied, try, tried*, etc. The rules for plurals are the same as in traditional spelling, e.g. *booc-boocs, lady-ladies, hero-heroes*; and for plurals of words with a hissing ending: *gas-gases, wish-wishes, church-churches, fox-foxes*, etc. Other endings have been described when necessary under the heading "Vowels" listed above.

An example of some text in the new scheme is given in **Appendix 1**. The scheme was devised keeping the proposed principles in mind and using **Wijk (1959)**, the spelling counts of **Dewey (1970)** which were of some limited use, and my own spelling counts on a modest scale from ordinary text. The pronunciations are based on **Hornby (1978)**, which has both English and American pronunciations and is prepared with foreigners in mind.

Comments on the new scheme.

General comments.

The application of the "most frequent spelling" rule means that 's' represents the *z* sound except at the beginning of a word. In Dewey's corpus of 364,381 sampled words, out of 11,089 occurences of the *z* sound, only 247 were spelt 'z' whereas 10,695 were spelt 's'. However, to clarify the beginning of a word — an important part for the learner — *z* is used for the *z* sound. In the case of the *k* sound, out of 10,010 occurences, 6403 were spelt 'c' compared to 1,854 which were spelt as 'k', so *c* represents the *k* sound in all cases in the new scheme and 'c' is no longer used for any other sound. In the case of the *j* sound, an exception to the "most frequent spelling" rule was made because there were only 1,582 instances of the sound and although 948 were spelt with a 'g', it was considered that in view of the infrequency of this sound, it would not be too disruptive to spell it as *j*. Furthermore, unlike the *s* and *z* sounds, *j* and *g* are not so similar to each other so it should be easier for the beginning reader to differentiate one from the other. On the other hand, with the *s* and *z* sounds, it can be difficult to distinguish one sound from the other, especially for those people with poor auditory discrimination, as mentioned previously. It might be noted that the *sion* and *zion* endings are not differentiated for much the same reasoning and are both spelt tion.

There was a problem with the *ea* and *oa* endings in that there seemed to be much variability in the way these words ended. The eventual decision to represent these sounds by just *e* and *o*, respectively, was based on several considerations. Firstly, some very high frequency words end this way. Secondly, this spelling is the most economical and is an abbreviation for the other common alternatives, and thirdly, the layman can easily guess how they are supposed to be pronounced. The *ue* sound ending as in 'few', continue', etc. is represented by *ew* 199 times and by *ue* 45 times according to Dewey. It was decided that these occasions were sufficiently few to warrant spelling this sound with *u* alone so as to make spelling easier for learners, rather than spelling it with *ew* which looks rather different from *u* elsewhere in the word. Furthermore, this means that words ending in the three long vowels *e, o*, and *u* all follow the same rule and end the word with their respective single vowel. This should be an aid to learning the system.

As has been noted previously, the spelling combination *gu* which usually represents the *gw* sound, as in 'language, languish', etc. has not been adopted because the rule applies to too small a set of words. The same applies to the *ue* sound at the beginning of a word which is sometimes spelt as 'eu' as in 'eulogy' etc. Again, the set of words here is far too small for this rule to be worthy of adoption. For the same kind of reasons, it was decided to change the 'le' ending, which is common after a consonant in traditional spelling, to *al* because the 'le' ending is not very frequent (684 occurences in Dewey's corpus), although it is more frequent than the 'al' ending. A further reason for this was that *e* on the end of a word is already serving the functions of (a) making a vowel long in sound (e.g. *cote*) and (b) making a long *e* sound (e.g. *she*). Adding the third function of a silent, non-functional *e* as in the 'le' ending would have produced an added complication for the beginning reader.

Slurred sounds.

The slurred vowel sound (the schwa), which is the seventh most frequently occurring phoneme out of 41 (see **Dewey 1970**, Table 3), and the second most frequent vowel sound, has presented something of a problem. In traditional spelling, the schwa vowel presents quite a spelling problem as Dewey lists 23 graphemic representations for it! Dewey found that the schwa sound is represented, in order of frequency, by 'a' which accounts for 5602 occurrences, by 'e' which occurs

5027 times, by 'o' which occurs 2901 times, and by 'u' which occurs 369 times. There is a total of 15,024 occurences of the schwa sound, or 4.1% of Dewey's corpus of phonemes. My solution has been aimed at tampering as little as possible with existing spelling because I found in practice that changing the schwa vowel would be moderately disruptive. Therefore for the endings '-er', '-ed', and '-at' which are often slurred (and 'er' in the middle of a word), these are left exactly as they are at present except that words which end in '-le' (e.g. 'principle') are changed to an *-al* ending (e.g. *prinsipal, pepal*, etc.). The remaining slurred vowel sounds are spelt exactly as they are in traditional spelling, for instance, here are some words spelt in the new scheme: *seven, student, hundred, dificult*, etc. The main advantage of this scheme is that the layman familiar with traditional spelling does not have to keep deciding whether a sound is sufficiently slurred for it to be spelt with a uniform schwa vowel such as 'a' or 'e'. Unfortunately it means that the child learning to spell will have to learn the different spellings for these words. But in relation to the enormous reduction in the overall spelling problems, this should be a minor burden and it should present no problem in reading. Note that there are still many vowel sounds which will be spelt phonetically in the new scheme, e.g. *imerged, bineath, devotion, marcit*, etc., because they are clearly pronounced differently from the vowels presently used to represent them.

The homograph problem.

Inevitably, the new system creates more homographs (i.e. words with the same spelling but different meanings, such as air for 'air' and 'heir') than previously because traditional spelling occasionally tries to differentiate between words of the same sound but of different meaning. But this creation of more homographs is seen as a major strength by the author because one major spelling burden for children is learning how to spell the different homonyms. The particularly difficult homonyms to learn tend to be the more abstract ones, for instance, 'their' and 'there', 'to' and 'too', etc. So if people were able to spell homonyms the same (e.g. 'some' and 'sum' both become *sum*) then a major spelling difficulty would be eliminated. Furthermore, a reading problem would not be created due to increased ambiguity because the context of the running words should aid identification. The spoken homophone is not normally difficult to identify, and to put the problem into context, there are now a few hundred homophones which are differentiated by their spelling (e.g. 'grate' and 'great'), but there are thousands of words with different meanings but with the same sound and spelling. Here are a few examples from **Dewey (1971)** with the number of meanings of each word in brackets: 'bay' (5), 'fair' (3), 'right' (3), 'sound' (3), 'spring' (3), etc. There is another group of homographs in which the words are spelt the same in traditional spelling but sounded differently. Many of these now become differentiated in the new spelling scheme e.g. 'bow' (*bo, bow*), 'row' (*ro, row*), 'read' (*read, red*), 'live' (*liv, live*), 'tear' (*tair, tear*), 'wound' (*woond, wound*).

The ten words retained in old spelling.

In the new scheme, ten common words remain the same because if they were changed, the spellings would be changed too drastically and this would not smooth the transition from the traditional spelling to the new scheme. This is important from the point of view of the layman reading the scheme for the first time — there should be as much similarity as possible between the two schemes or he may give up straight away. This idea is not new — for instance, Zachrisson (1932) in his spelling scheme "Anglic" left 43 words unchanged. In the new scheme, the ten words are incorporated into a rhyme to facilitate memorization so learning these exceptions would present only a minor problem for the layman. For the beginning reader, these exceptions would be minute in relation to what the beginning reader today has to face. The ten words are derived from the word frequency count of Kucera and Francis (1967) based on a million words. Here are the words with their frequency rank included in brackets: *the* (1), *of* (2), *to* (4), *was* (9), *I* (20), *one* (32), *you* (33), *all* (36), *there* (38), *who* (46). Note that the following words spelt here in traditional spelling would now have the same core spelling as the previous ten words: 'into', 'two', too', 'towards'('together', 'today', etc.), 'whom', 'whose'. These words would be spelt: *into, to, to, towards (together, today etc.), there, whom, whos*, respectively. These words are all derivatives of the three words who, there and to, and as a further memory aid, the following sentence might help:

Whos plase is *there* car going *into today*?
However, derivatives of some of the rest of the remaining ten words will be spelt phonetically, e.g. 'once' (*wuns*), 'aye' (*ie*), 'eye' (*ie*), 'altogether' (*orltogether*), 'although' (*orltho*), 'also' (*orlso*), 'ewe' (*yoo*).

Advantages.
There are several advantages to the new scheme, as will be seen mainly in the next sections. However, at this point it might be noted that the almost universal application of the silent *e* rule will make the learning of the new scheme easy for the layman; he doesn't need to learn a vowel combination for each long vowel sound, except for the long *e* and *air* sounds. As for the beginning reader, the fact that long vowels in polysyllable words are not specified (e.g. the *u* in utensal) may not be a problem because in the early reading stages, mainly monosyllabic words are learned. By the time the longer words are being learned, the pronunciation problems will have been reduced. A similar kind of advantage of the scheme, mentioned earlier, is that three long vowel sounds all follow the same rule at the end of the word by being represented by the single vowel letter (e.g. *she, blo*, and *nu*). This is a rule which intuitively makes sense and is simple to apply. This rule cannot be applied to the other two vowels 'a' and 'i' because these two vowel sounds occur in both long and short forms at the end of a word whereas the other three vowels do not (e.g. *data, play, pity, sly*). Another advantage of the scheme is that like traditional orthography, it attempts to minimize the differences between British and American pronunciations. For instance, in the new scheme, the *ar* sound is spelt 'ar' only when strictly necessary, for instance, *lard, bark*, and *hard*; but in words such as *casal* and *gras*, the 'ar' spelling is not used.

Analyses on the new scheme.
Reading the new scheme.
For the child or foreigner learning to read this scheme, there would be the problem that several symbols represent more than one sound. For instance, 'i' in the middle or at the beginning of a word could represent the short or long *i* sound. In fact, there are nine symbols or symbol combinations (out of 56 including the vowels in certain positions) which represent more than one sound: 'a' (in certain positions can represent *short a, long a*, or *ar*), 's' (represents *s* or *z*), 'oo' (represents two different sounds as in *look* and *aloof*), 'th' (represents the two different sounds as in *that* and *thesis*), the four remaining vowels 'e', 'i', 'o' and 'u' which can represent their respective long and short sounds (e.g. *equal, mention, situation, criterion*, etc.), and finally, at the end of the word, 'y' represents both the long and short *i.*

However, an analysis of specimen texts containing 1,345 words (used by Wijk and others) was undergone to discover whether a reader, given a knowledge of the words in the English language, could mistake any words for words of a different sound. Out of this sample, only seven examples were found, which represents 0% of the sample. This is a negligible amount. It should be added that none of these alternatives would have been remotely appropriate in the context of the passage. The seven words were: *fiting*, ('fighting', 'fitting'), *halo* ('halo', 'hallow'), *cors* ('cause', 'course'), *fase* ('face', 'phase') — occurred twice, *raped* ('raped', 'wrapped'), *grase* ('graze', 'grace'). This lack of a one-to-one relationship between a symbol and a phoneme is far less than in traditional spelling. These ambiguities are retained because in some cases, a change would produce considerable disruptions to the text when comparing the new scheme with traditional spelling (e.g. changing all *z* sounds from 's' to 'z'). In some cases it would mean that extra symbols would have to be put in to clarify a sound (e.g. exp*ea*riens instead of exp*e*riens); this would be cumbersome and inefficient. Furthermore, our traditional spelling system has exactly the same ambiguities and many, many more besides. As for the foreign learner who would like the spelling structure to enable him to know *completely* how to pronounce a word, a good textbook giving him guides to the ambiguous pronunciations in his early stages of learning should serve this purpose.

In order to gauge the degree of disturbance in the text from the point of view of the layman who is used to traditional orthography and is trying to read the new spelling, the same text of 1,345 words was examined. It was found that 69% of the words in the text remained unchanged, which is quite good. Then the first 1,000 more frequent words were examined from the count of over one million words by **Kucera and Francis (1967)**. This sample of 1,000 words represents 68% of the sampled million words, correcting for the omission of non-words and proper names, and so it represents a good proportion of vocabulary. In this sample, 48% of the words remained unchanged. This reduction is mainly because in the new spelling scheme, ten very frequent words remained unchanged and in ordinary text these occur with sufficient frequency to inflate the proportion of words unaffected by a change in spelling scheme. The words that were changed were scored according to how many letters of the word in traditional spelling were deleted as part of the transition to the new spelling. The purpose of this scoring was to ascertain the amount of context that would remain unchanged under the new scheme. A preliminary analysis revealed that 84% of the words in the sample of 1,000 remain unchanged or had only one letter deleted as a result of the change. Table 1 shows the % of words in the sample as a function of the % of deletion. This table reveals that it is comparatively rare to have over 40% of the word deleted.

Table 1.
*The % of the 1,000 most frequent words from **Kucera and Francis (1967)** as a function of the % of letters deleted by changing from traditional to new spelling.*

% of letters deleted	1%–20%	21%–40%	41%–60%	61%–80%	81%–100%
% of word	27%	19%	4%	1%	0%

The average % of a word deleted, if a part was deleted, was 25%, the standard deviation was 12.9%. The average word length was 6.1 letters for words that had to be changed, and 5.1 letters for words that remained unchanged. An examination of frequency distributions according to length showed that the most frequent word length (i.e. the mode) was four letters for the unchanged words and five letters for the words that were changed. Furthermore, for all word lengths under five letters, more words were unchanged than changed; conversely, for all word lengths from 5 to 11 letters, there were more words changed than unchanged.

Spelling in the new scheme.
The question to pose here is: how many rules would the beginning reader (i.e. child or foreigner) have to learn before he could spell most words in the English language without difficulty. In order to obtain an objective measure, the new scheme was considered in terms of the number of simple propositional statements that would have to be learned. Also, all words which are exceptions to the scheme (e.g. *I, was, one*, etc.) count as one statement each. To illustrate, the rules concerning the *z* sound may be expressed by the following statements:

1. The *z* sound at the beginning of a word is spelt *z*.
2. The *z* sound is spelt as *s* except at the beginning of the word.

So this would count as two statements covering the *z* sound. Altogether, it was estimated that the beginner would need to learn about at least 97 propositions. This included 22 propositions for consonants and 32 for vowels. The task for the layman familiar with traditional orthography was a total of 72 propositions which included 8 propositions for consonants and 32 for vowels. However in this case, these propositions were in the main highly familiar to the reader as they constituted the most frequent spelling rules in traditional spelling. The words retained in their traditional spelling were estimated to be 20, which included the ten common words and most of their derivatives. In the case of the beginner, all the individual spellings of the schwa sounds would have to be learned; by contrast, the layman would already know these spellings. The author and his wife found the system easy to learn, but clearly an experiment is needed to find out how quickly the system can be mastered by others.

An analysis was undertaken to work out the economy of spelling in the new scheme. It was found that in the 1,000 most frequent words, when the spelling was changed, the word length was reduced by 14%. The mean length of the traditionally spelt word to be changed was 6.0 letters, and this was reduced to 5.2 letters when the word was spelt in the new form. To put this another way, on average, words that had to be changed were six letters in length and they lost one letter when changed. Further analyses on the spelling economy of the scheme are described in the last section of this paper.

Comparisons with other spelling schemes.
Here are very brief descriptions of some major schemes:

World English Spelling (WES). This is from the Simplified Spelling Assoc. and is an almost completely phonetic spelling system which is very similar to i.t.a. except that it uses the Roman alphabet. Here is an example: "... or eni naeshon soe konseevd and soe dedikaeted, kan long enduer." Spelling in WES is quite straightforward to learn but it is very different in appearance from traditional spelling. For instance, translation into Lincoln's address only leaves 41% of words unchanged. But the system would probably be just as useful as i.t.a. as a spelling medium to start children reading.

Anglic. Proposed by Prof. Zachrisson (1932) is again a phonetic system like WES and in fact, the above sample text for WES would be identical in Anglic. But the main difference is that 43 common words are allowed to remain unchanged in Anglic.

Wijk's Regularized English (Regularized Inglish). This is a good system from the point of view of minimal disruption from old spelling to new. The advantage of this scheme is that it retains most of the rules of traditional spelling and also creates some new rules so that, given that one knows these rules, one has a very good idea about how a word should be pronounced. This is obviously a big advantage for the foreigner learning English. The major criticism of the scheme is that it tolerates to a large extent, the wide range of spellings for each sound. Consequently, learning how to spell in the scheme is complicated and similarly the foreign reader would have to learn a large number of rules before he would have mastered how to pronounce all words. A minor criticism of the scheme is that subtle sound distinctions are differentiated by different spellings which probably would be difficult to learn for people used to traditional spelling and for those with poor auditory discrimination. Here is a sample of Wijk's spelling: "... or eny nation so conceevd and so dedicated, can long endure."

Yule's spelling scheme. This is again a good system from the view point that a scheme should not be too disruptive compared to the old spelling system. Unlike the previous schemes, this is not a fixed scheme but suggests a series of minor reforms of spelling over time which should take place until a more nearly phonetic system is reached. The ideas for the early stages have a lot to offer and at a certain stage of development, come close in appearance to the scheme presented in this paper, as can be seen in the following example: "... eny nation so conseevd and so dedicated can long enduer." The differences between it and my scheme are that this version of Yule's scheme involves the eventual abolition of the silent e rule, omission of unstressed schwa letters, the use of 'k' instead of 'c' under certain conditions, 'ee' instead of 'ea' and the possibility of a limited number of distinctions for homonyms with other minor differences. There is also a tolerance of roughly the same common words spelt in traditional spellings. Valerie Yule kindly translated Lincoln's address for me into her scheme and 71% of the words remained unchanged.

The author's scheme.
To summarize this scheme; it attempts to disturb traditional spelling as little as possible by adopting the most frequent spelling rules and by using as few spelling rules as possible. Thus, each sound can be spelt by only one type of spelling (unlike Wijk's scheme). Ten common words, incorporated into a rhyme, are left unchanged. The advantages of the scheme are that it is one of

the best in terms of minimal disturbance from traditional to new spelling and it is relatively simple to learn to spell. Here is a sample of the scheme: "... or eny nation so conseaved and so dedicated can long endure."

Some comparisons across the scheme.

Disruption.

Table 5 illustrates the % of words that remain unchanged in the sampled texts of 1,345 words. The % from Yule and WES were not available. WES would probably be slightly worse than Anglic in terms of the amount of disruption.

Table 5: *The percentages of words which remain unchanged in sampled text for three schemes.*

Wijk's	Beech's	Anglic
71%	69%	58%

Titles, proper names and non-words were not included in this analysis. So the author's scheme is almost as good as Wijk's and Yule's in terms of minimal disruption produced by changing to a new scheme. This disruption criterion is by far the most important criterion in assessing a spelling scheme because the layman is going to be reluctant to give up his well-established reading habits to transfer to a system which is too different from what he is used to seeing.

Number of spelling rules.

Figure 1 is a rough schematic representation of the number of rules of spelling that would have to be learned by a child learning each new scheme. It can be seen that Wijk's scheme would produce the greatest amount of difficulties.

Figure 1: Schematic diagram of the number of rules that would have to be learned by the layman to master each scheme.

Minimum number of rules	*Present number of rules*
WES Anglic, Beech	Wijk
i.t.a.	Yule

It should be noted that the line should be ten (or more) times its length between Beech and Wijk to be truly representational.

Ambiguities in reading.

Figure 2 is a rough schematic representation of the number of ambiguities which might be encountered in reading each scheme. For instance, in the author's scheme, 's' in a word might be pronounced *s* or *z*. It can be seen that most of the schemes are almost perfect in this regard but Yule's and Beech's do not, for instance, disambiguate the two sounds represented by 'th.' On the other hand, it could be argued that the other schemes overspecify sounds and that these schemes may slightly confuse the child with hearing difficulties.

Figure 2: Schematic diagram to the extent to which a letter or combination of letters represent one phoneme in the different spelling schemes.

Complete phoneme to grapheme correspondence i.e. no ambiguities.	*Ambiguities to the same extent as in traditional spelling*
WES Wijk Yule i.t.a. Beech Anglic	

Ambiguities in writing.
Figure 3 shows the amount of ambiguities which might be encountered in writing each scheme. Because Wijk has several ways of spelling each long vowel sound, it poses problems on the learner's memory just like traditional spelling.

Figure 3: Schematic diagram of the extent to which a sound is represented by one grapheme (letter or combination of letters.)

Complete grapheme to phoneme correspondence	*Ambiguities to the same extent as in trad. spell.*
WES Anglic Yule i.t.a.	Beech Wijk

Economy.
The economy of a spelling system refers to the % of extra or fewer letters that have to be used in the system. A system using more letters than previously probably has less ambiguity when the words are read, but it can be more cumbersome to write and consequently may be more unpopular with the layman. A system employing fewer letters may have more ambiguity, but it is more efficient to write, and this could be a factor greatly favoured by the public. Figure 4 is a schematic diagram of how the various systems would compare in terms of their respective efficiencies. Yule's scheme is similar to the author's in terms of efficiency.

Figure 4: Schematic diagram of how many extra or fewer letters are used in the various spelling schemes. The % are based on Lincoln's Gettysburg address.

Extra letters required	*Present spelling system*			*Fewer letters required*
Wijk	T.O.	WES	Anglic	Beech -4.6%
+1.8%	0%	-1.4%	-2.3%	Yule -4.5%

The efficiency of Beech's system for the whole sampled text of 1,345 words was a reduction of 4.1% letters and on the 1,000 most frequent words, there was a reduction of 8.1% of letters overall. Another advantage of efficiency in any reading scheme is that it implies a financial saving and, using the kind of calculation employed by Dewey (1971), an efficiency of 5% would mean a saving of 50 million dollars out of one billion dollars of writing and printing costs.

Conclusion.
An author of a spelling system is perhaps not in the position to give an unbiased appraisal of his and other systems. However it does seem to me that the new system presented in this paper, or one that is similar in approach, has sufficient advantages to be put forward as a candidate for a spelling reform that is both likely to be accepted by the public and is likely to put an end to much of the misery which children are subjected to when trying to learn to read.

Acknowledgements.
I am very grateful to Valerie Yule for many useful comments on earlier versions of the spelling scheme and also to my wife, Jenny, who carried out most of the counts.

References.
Dewey, G. *Relative frequency of English spellings*. Teachers College Press, New York, 1970.
Dewey, G. *English spelling: Roadblock to reading*. Teachers College Press, New York, 1971.
Hornby, A.S. *Oxford student's dictionary of current English*. Oxford Univ. Press, 1978.

Kucera, H. and Francis, W.N. *Computational analysis of present-day American English*. Brown. Univ. Press, Providence, R.I., 1967.
Wijk, A. *Regularized English-Regularized Inglish*. Almqvist and Wiksell, Stockholm, Sweden, 1959.
Yule, V. 'Let us be practical about spelling reform.' ***Spelling Progress Bulletin*, 1979**, v.19, no.1, Item 6.
Zachrisson, R.E. *Anglic, an international language, with a survey of English spelling reform*. W. Heffner & Sons, 1932.

Appendix 1.
Lincoln's Gettysburg Address in the author's new scheme.
Forscor and seven years ago ouer fathers brort forth on this continent a nu nation, conseaved in liberty, and dedicated to the proposition that all men ar created equal.

Now we ar engajed in a grate sivil wor, testing wether that nation, or eny nation so conseaved and so dedicated can long endure. We ar met on a grate batle-feld of that wor. We hav cum to dedicate a portion of that feld as a final resting plase for those who hear gave there lives that that nation mite liv. It is orltogether fiting and proper that we shood doo this.
But in a larjer sens, we cannot dedicate — we cannot consicrate — we cannot halo — this ground. The brave men, living and ded, who strugled hear, hav consecrated it far abuv ouer poor power to ad or ditract. The world wil lital note, nor long rimember wot we say hear, but it can never forget wot thay did hear. It is for us, the living, rather to be dedicated hear to the unfinished werc wich thay who fort hear hav thus far so nobly advansed. It is rather for us to be dedicated to the grate tasc rimaning before us — that from theas onored ded we tace increased divotion to that cors for wich thay gave the last ful mesure of divotion; that we hear hyly risolv that theas ded shal not hav died in vane; that this nation, under God, shal hav a nu berth of fredom; and that guvement of the pepal, by the pepal, for the pepal, shal not perish from the erth.

Appendix 2.
Reciting the alphabet.
The alphabet as it is presently recited would be misleading to the child in the case of the letters 'c' and 'g'; these are pronounced *see* and *jee*, respectively and so do not represent their actual sounds in the new scheme. Therefore these would be changed to *ce* (sounding like 'key') and *ge* (hard g). The letter *k* (pronounced *cay*) would be retained so that children could read the old spelling if necessary. Here are the pronunciations of the alphabet spelt in the new scheme: ae, be, ce, de, ea, ef, ge, ach, ic, jay, kay, el, em, en, oe, pe, pe, ar, es, te, yoo, dubal-yoo, ex, wy, zed.

Note that *kay* would be the only word spelt with a *k* in the whole of the new scheme.

However, if the alphabet is going to be changed in its pronunciation, it might be a good idea to make further changes so that all names of the letters incorporated the sound of the letter in their pronunciation. In the traditional alphabet, 'h', 'q', and 'w' do not contain the pronunciation of the letters they represent. I would suggest that the following pronunciations of these letters would not destroy the rhythm of reciting the alphabet: *hay, que* (pronounced 'kwee') and *wed*. So a phonetic alphabet, in the sense that the name of each letter is contained in the pronunciation of the letter, would sound as follows spelt in the new scheme: ae, be, ce, de, ea, ef, ge, hay, ie, jay, kay, el, em, en, oe, pe, que, ar, es, te, yoo, ve, wed, ex, wy, zed.

Or spelt in traditional spelling: ay, bee, kee, dee, ee, ef, gee, hay, ie, jay, kay, el, em, en, oe, pe, kwee, ar, es, tee, yoo, vee, wed, ex, why, zed.

As a footnote this new alphabet is called 'abece' (pronounced 'aibeekee').

-o0o-

[Spelling Reform Anthology §6.8 pp99–101 in printed version]
[Spelling Progress Bulletin, Fall 1980, pp7–10 in printed version]
*[Valerie Yule: see **Book**, **Journals**, **Newsletters**, **Media**, Personal Views **10**, **16**, **Anthology**, **Bulletins**.]*

A Transitional Spelling Reformed for Adults and Learners — using 12 rules to regularise present English spelling, by Valerie Yule, Aberdeen, Scotland. (SR-1 used).

Introduction.
Although everyone assumes that 'spelling reforms means phonetic spelling, other features may also need investigation to produce the 'best fit' orthography that can meet the sometimes conflicting requirements of learners, machines, and fluent users of English, of the educated elite and the 'educationally handicapped', of native speakers and second language learners, of the changing English language and of maintained continuity with past and present English spelling.

This paper presents the type of reform that might meet those conditions, although the final form would need to be based on empirical research, not armchair theory and informal observation. Its details are set out in a form that can be used to describe other proposals too, so that schemes can be more easily compared in their rationale and details such as sound-symbol representation.

A. ***A Summary of Proposals.***
A highly regular 'transition' spelling can be used easily by both learners and fluent readers of present English spelling.

Learners start with a sound-symbol correspondence 'Learners' Spelling' following the lines of world English Spelling, and then modify it with 12 rules and 12 sight-words as soon as the basic principles of reading are comprehended.

Current print can modify present spelling in four stages, which unmodified by the 12 rules and 12 sight words, would lead directly to Learners' Spelling. With them, 80% of running text can remain unchanged — but the problem spellings are cleared up. As it is a reform by stages, enyone can begin now, with Harry Lindgren's SR-1, (short e always spelt with the single e), and later features can be modified according to research and experience.

Electronic machines can be programmed to write and speak using the 12 rules and 12 exceptions.

More effective techniques to teach reading and writing are included as proposals in the full scheme, once present 'unreliable' spelling no longer complicates 'the reading process.'

B. ***Assumptions.***
i) Research rather than dogmatic assertion is needed about the optimum spelling for different needs — reading and writing, learners and fluent users, English-speakers and the foreign-born, machines, 'average people' and handicapped learners.
Details of the issues that need to be settled are given in the paper following this one: "How to implement spelling reform."
ii) Continuity with present spelling is essential.

iii) A perfect reform is humanly impossible. The question is not to reject reforms that are not perfect, but to work for one that will work, and that the public can accept.

iv) Spelling reformers will never he unanimous in agreement on the kind or extent of reform, and all must be prepared to make some concessions from their own preferences.

C. ***Specific proposals.***
Specific proposals can fit on one page, or, in example form, on a card for the pocket, as can be done with most major languages — except English, French and Chinese. The first two rules produce the phonemic-based *Lerners' Speling*:

1. *All consonants* have one sound each, broadly interpreted (e.g., no distinction between voiced and unvoiced *th*). Digrafs are: *ch, sh, th, wh, zh, ng, nk*.

2. *Vowels*:

a	e	i	o	
ae	ee	ie	oe	
ar/aa	er	air	or/au	u
ou	oi	uu	oo	ue

The next ten rules modify Lerners' Speling to produce *Transition Speling*. As the public gradually adjusts to the changes, these rules might be progressively dropped, starting from the last.

3. Standard formal speech is represented, as in dictionary pronunciation. Where there are regional differences, preference is for that closest to present spelling, e.g*., after, dog, remember, exampl*. Unclear vowels are written e or er, without distinction between stressed and unstressed schwa, unless there is a reason learners can be told, e.g., *metal-metalic, aebl-capabl*.

4. Represent diphthongs and tripthongs by digrafs only. Place in word affects pronunciation.

	ea-*real*, *iedea*	ia-*dial*, *India*		
ae-*maelstrom*	ei-*deity*, *seing*	ii-*tiing*		ua-*dual*
ai-*dais*, *plaing*	eo-*peon*, *radeo*	io-*iota*, *Ohio*	oa-*oasis*	ui-*gluing*
ao-*caos*	eu-*mueseum*	iu-*glorius*	oi-*oil*, *going*	uo-*duo*

5. Medial and final vowels:
Long vowels. Within polysyllables spelt with single letters, e.g., *inovation*. -*e* construction in final syllables without consonant blend endings, e.g., *hope, hopes*, (but *biend, fienal*).

Final vowels:

banan*a*			--	--
w*ay*	--	hap*y*	n*o*	n*ue*
ar/a	m*e*	h*i*-f*i*	*or/saw*	
c*ow*	*er*	*air*	b*oy*	thr*u*

A 'pocket card' setting out the vowel rules through examples could look like this:

		p*i*t*y*	n*o*t	
b*a*nan*a*	b*e*t	h*ie*ding/	n*oe*ting/	
s*ae*ling/s*a*l*e*/say	m*ee*ting/m*e*	h*i*d*e*/h*i*	n*o*t*e*/n*o*	n*u*t
f*ar*/kr*aa*l/sp*a*	h*er*	*air*	t*au*t/f*or*/saw	c*u*t*e*/c*ue*
*ou*t/c*ow*	b*oi*l/b*oy*	m*uu*n/thr*u*	t*oo*k	

6. 12 *homonyms* shown to be confusable in real life are distinguished by spellings that are still arguably phonemic (legitimate), e.g., *too, tuw* (and sight-word *to*), *bi, biy, ther, thair, thay'r*.

7. 12 *'sight-words'* retained, with their related words: *to*/ into/ towards/together, *of off, was what, who, put, -ful, I, you, -ion* ending, *one*/onse/only. *?coud/shoud/woud*?

8. *Double consonants. rr* if possible confusion with er/ar/or, e.g., *carrot, erring*. Other possible uses, e.g., for stress distinctions, e.g., *comitty-comity, desert-dessert*.

9. Verb endings standardised d/ed, e.g., *lifted, jumpd, crepd.*

10. *s* for sounds *s/z* and all plurals, except for initial *z* and words like *buz, fiz, jaz*. Voiceless final *ce* replaced by *se*, e.g., *danse, silense*, or *ss*, e.g., *class, silenss?*

11. *c* for sound *k* except to close word-roots, e.g., *clok, basking, provoke*.

12. *qu* and *gu* for sounds *cw* and *gw*.

b) *Four* stages for changing the printed word, and for adult users to change their written spelling, each at his own individual pace:

1. Spelling reform one. (the Australian Harry Lindgren's SR-1) Spell *e* for the short *e* sound, as in: *bet, ded, sed, frend, meny, bery, gess*.

2. "*When in doubt (dout), cut it out*." Simply omit unnecessary silent letters: *gess, led*.

3. *Use sensible consonants*, e.g., *folograty, jeneral, enuf*. For transition Speling, modify with rules 8–12.

4. *Use a consistent vowel system*. Lerner Speling vowels modified by rules 3–5.

For minimum disruption of the present appearance of English spelling, add the special spellings listed in rules 6–7, and use rule 3 for the standard of speech.

D. *Rationale*.
How meny rules are needed for a reformed spelling? Answers range from: "only one rule: one-sound-one-symbol," to Dr. Wijk's Regularized English, which accepts almost eny English spelling if a rule can be found to cover it, since the major problem is the 500 odd maverick words for which no rules are possible.

"12-rule spelling" tries to reconcile the needs and abilities of lerners and fluent readers. The key is "Easy to remember," hence the arbitrary limit, the systematic setting-out, and catchy slogans. A stage at a time for adults means minimal disruption of the appearance of English text, gradual acclimatisation of users, and reform that can begin concurrently with research.

a) *Rationale of specific proposals*.

1. "Diaphonic" broad-band rather than precise phonetic sound-symbol correspondence, to minimise lerners' difficulties in sound-discrimination and problems with regional differences. Spelling as reasonable conventions to represent sounds — not "photographs."

2. *Vowels*. World English Spelling is the guide, except that unclear vowels are spelt with *e/er* rather than *u/ur* on the grounds that excess of the less familiar letters produces more affront in the present readers. *ue/uu/u* are the suggested pattern for *due/muun/tabu* rather than *ue/oo/oo*, To avoid the print disturbance of *puut* and *-ful* which 'look shocking', *put* and *-ful* are sight-words in Transition Speling.

3. Children and foreigners learning to read English are often baffled in pro*nun*ciation of words when they do not follow the usual principle of stress on the first syllable. Written ma*ter*ial for learners can therefore use under*lin*ing or i*tal*ics to show how to read words with ir*reg*ular stress.

Learners will naturally be*gin* to write ac*cord*ing to how they speak, but ma*ter*ial for them to read will be as close as possible to standard formal speech. They may have reading books with large print Lerner Speling and small print Transitional, later reversed, but Lerner Speling remains for rendering pro*nun*ciation.

Everyone comprehends standard speech on the media and on tapes, whatever their own dialect English, and so it will be easy for children to lern to spell it as they become accustomed to transition reading and lern the reliable rules of transition spelling.

4. *Diphthongs and tripthongs*. Eny spelling reform will still leave a few odd words difficult to manage, but they are no reason for abandoning a partial reform. The best solution may be ellipsis of letters rather than excessive clumsiness, e.g., *poetry, co-operation, dieresis, medieval*.

5. *Modifications to the basic vowel pattern* seek to preserve as much as possible of the appearance of English text by using the most common patterns applying to different positions in words and following modern trends to economy. However, experiment is needed about the value of frequency as a guide to retention of spelling forms — and if frequency, what sort? Of letters, of blends, of rhyming forms, or position in words?

Since lerners' difficulty is known to increase with length of words, experiments may show that lerners as well as fluent readers identify polysyllabic words more easily if medial long vowels are spelt with single letters, e.g., *education* rather than *educaetion*.

A word-count might also show that Chomskian principles of representing 'lexical structure' operated as much or more often in transitional spelling as it does so haphazardly in present English spelling: e.g., *fli-flies-fliet, apli-aplies-apliense-aplication, ferosity-feroshus-feerse*, (*fly-flies-flight, apply-applies-appliance-application, ferocity-ferocious-fierce*). Note also the economy of paper, time, and memory.

"Magic e". The *-e* construction for long vowels is a clumsy strategy and troubles learners. It should be dropped as soon as adult readers can be acclimatised to an improvement that does not affect letter sequence.

6. *Homografs*. Should eny homografs, future or existing now, be distinguished to prevent possible confusion? (e.g. *letter*, or *reader* — the person and the book). Most suppositious confusions never occur in practice, e.g., you *cannot* say, "The sun's rays meet," and you don't say, "The sons raise meat," altho you *could* say, "The engine has a tender behind." The odds are a hundred to one that you have not noticed the homografs alredy on this page as typewritten. Even excluding verb-noun pairs and the multiple distinctions made by a good dictionary, there are 35 of them, from *standard, speech, spell, rules, can, will, to present, distinguished, book, practice, page, type, even*, and only 18 of them are homofones thretend by reform, e.g., *their, so, be, for, to, no, all, by*.

7. *Sight-words.* A major barrier to spelling reform is that some very common and very irregular words would look very odd for a while. The interim solution is to leave a few 'sight-words' that occur very frequently in running text. An arbitrary number of 12 is easy to remember, and dull learners who at present cannot cope with 40 sight-words, let alone thousands, can confidently learn and remember merely 12. The *-ion* construction is included because it occurs continually in newspapers and textbooks, and is shared in similar forms by all modem languages with Western links, particularly in the international relm of science. Lerners can be shown how our *shn, schn, zhn* pronunciations of *-tion, -stion, -sion* endings are slurrings from a more precise enunciation.

9. Some *grammatical markers* are retained pending research on the actual value for fluent reading and learner-ease. The latter point could be clarified by analysis of i.t.a. children's spelling, since they have the options of *-t* and *-d* for participles and a reversed *z* which looks like *s* for plurals and verbs. And how do they transfer to present spelling on these?

10. Experiments may support the observation that child and foreign learners who initially pronounce all *s* spellings of *z* sound as voiceless actually sound no worse than Welsh. But there is evidence that adult readers are affronted by the greater use of the relatively unfamiliar *z* in spelling reforms, and it may be expedient while first obtaining regularity to generalise more familiar letters except where the rarer letters are normally expected.

The expedient of using *-se* to indicate final voiceless s except in plurals, to avoid frequent confusions such as *peace* and *peas*, is a clumsy interim mesure to make the best of the current alternatives English readers accept at present: *-impasse, glass, rinse, dance, coalesce*. What would be better?

11. In eny complete spelling reform, *k* will almost certainly be a significant letter, and so must be retained. However, at present it can affront, like *z*, since *c* is more familiar, so the attempt is to provide the most simple rule possible to govern maximum occurence in a familiar position. *K* should be used, insted of *c*, before *e* and *i,* when sounded as *k*.

12. In the interim, the present invariable rule of spelling the sounds *cw* and *gw* with *qu* and *gu* are retained to maintain the present appearance of print. However, anomalies like *queue, lacquer and guess* are changed, altho *cue, racer* and *gess* will appear as minor oddities while they are still unfamiliar.

Summary.
This is a simple and economical reform, that requires popular support but not vast funds to be adopted gradually.

It maintains the basic appearance and continuity of English spelling while cutting out much of the unpredictability. The table below compares word changes in transliterated passages from:

A. Running text from the introduction to *New Spelling*, in transition spelling.
B. Running text from "the *worst* English spelling possible," collected in The story of the Beautiful Princess' (**Appendix 1**), i.e., maximum change needed.
C. *New Spelling* introduction, excluding repeated words, in transition spelling.
D. The same in Dr. Wijk's *Regularized English* (Wijk, p.324).
E. Transition spelling, excluding repeated words, 'The Beautiful Princess.'
F. The same for the first three paragraphs of the Gettysburg Address.

	A	B	C	D	E	F
No change except omission of surplus letters	83%	81%	81%	79%	46%	71%
Total words shortened (including changed)	20%	22%	22%	10%	41%	30%
Total words lengthened	2%	3%	3%	5%	3%	2%
Total words with letter changes	15%	18%	18%	21%	52%	28%
Total words completely retained	66%	63%	63%	72%	30%	54%

Conclusion

Transition spelling is designed to be easily read and learnt from both directions, by those just beginning from an initial Lerners' Speling and by alredy fluent readers. It seeks to be as close to present spelling as possible with as few rules as possible. Twelve rules plus 12 sight-words can achieve close similarity to the appearance of the printed word today while cutting out the brambles and ded wood that, world-wide, hinder literacy in the English language.

Reform can begin now, by everyone, with Lindgren's e for the short e sound, as in bet, concurrent with action research on the next steps.

The scheme is set out in a form that could be a useful structure for the presentation and comparison of all schemes for spelling improvement.

Acknowledgements: This paper is the product of discussion and correspondence with meny spelling reform colleagues, including those at the 1979 Conference, where Dr. John Beech, particularly, influenced my thinking.

Key background reading:

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

Chomsky, C. "Reading, Writing and Phonology" *Harvard Educational Review*, 1970, v. 40, pp. 287–310.

Lindgren, Harry, *Spelling Reform, a new Approach*. Alpha Books, Sydney, Australia, 1969.

Pitman, Sir James, and St. John, J. *Alphabets and Reading*, London: Pitman, 1969.

Wijk, Axel. *Regularized English*. Stockholm: Almqvist & Wiksell, 1959.

Yule, Valerie. "Is there evidence for Chomsky's interpretation of English spelling?", ***Spelling Progress Bulletin*** v. 18, n. 4, 1978, Item 6.

Appendix 1.

An example of Transition Speling, showing an average degree of change in running text:

"The worst spelling possible," the story of the Beautiful Princess, is recommended for spelling reformers in fun or ernest, to see the maximum change that their reforms could produce. Here it is in transition spelling:

"Onse upon a time the buetiful dauter of a grate majition wonted more perls to put among her trezhers. 'Look thru the senter of the muun when it is blu,' sed her muther in anser to her question. 'Yu mite fiend yor hart's desier.' The prinsese lafd becos she douted these werds. Insted she used her imagination, muuvd into the fotografy bisnese and took pictuers of the luuner sfere in culer. 'I perseve moest sertenly that it aulways aperes hoely white,' she thaut. She aulso found that she coud ern enuf muny in ate munths to biy herself tuw luvly, huje, enormus nue juwels tuu."

[Spelling Progress Bulletin, Fall, 1980 pp16,17 in printed version]
*[Sinclair Eustace: see **Newsletter**, item 12 **Bulletins**.]*

Es Es Es /FONIK/,

by S. S. Eustace.*

*London, England.
*A paper presented at the 2nd Simplified Spelling Society Conference, Nene College, Northampton, July, 1979.

SSS /FONIK/ is a way of spelling standard British and other English phonemes with as much accuracy as is possible with a simple form of the International Phonetic Alphabet, but without using special types. (SSS /FONIK/ is not a spelling reform and is utterly unsuitable as such.) Its purpose is to permit accurate discussion of pronunciation privately and in dictionaries, etc., and so to spread phonological knowledge, a prerequisite for any spelling reform scheme. SSS /FONIK/ adapts a very ancient idea to the limitations of the ordinary, cheap typewriter.

For the inumerable symbolizations of a particular sound in English, the IPA and SSS /FONIK/ each have but one. For instance, the /Sh/ sound, written *sh*, etc. in conventional English spelling, *si* in Welsh, *ch* in French, *sch* in German, *sc* in Italian, *sz* in Polish, *sk, ski* in Swedish, and plain *s* in Hungarian, not to mention the untypable spellings of Czech, Croat or Russian, is spelt one way in the IPA, a symbol like an italic *f* with no crossbar. But in ordinary typescript this letter must be added by hand, which is slow, untidy and conducive to error. Now SSS /FONIK/ just has /Sh/, which has none of these drawbacks.

/Sh/ contains what you might call a postposed diacritical. The diacritical /h/ is a minuscule (or small) letter, so for this and other reasons, the letter being differenced must be majuscule (or capital). SSS /FONIK/ symbols, standing for phonemes, are placed between diagonals. Similarly the IPA letter of the voiced velar nasal, like an inverted G, as in Sing, could be written /Nh/. But since the minuscule g is not otherwise used in SSS /FONIK/, it might as well be /Ng/ not /Nh/. /h/ and /g/ are the only diacriticals used.

The consonants of SSS /FONIK/ are P, T, K, Q (the glottal stop or hamza), B, D, G, M, N, Ng, F, Th (*Th*in), S, Sh, H, V, Dh (*Th*is), Z, Zh (Mea*s*ure), R, L, W, and Y (*Y*et).

There is no provision for sylabic consonants (or consonantal vowels, if you prefer). Structurally these are sequences of /3/ (explained here later) plus the consonant and are so written, as Litt*l*e ('LIT3L). This incidentally corresponds with the speech of those, many now of school age, who have no sylabic consonants.

The vowels are more difficult. In English we have seven short-vowel sounds, as in P*i*t, P*u*t, P*e*t, P*a*trol (shvaa), P*o*t, P*u*tt and P*a*t, and only five letters, A, E, I, O, U.

The first three short vowels are P*i*t /I/, P*u*t /U/ and P*e*t /E/.

As for the fourth vowel, the shvaa (Daniel Jones's English Vowel No. 12, EV12), the obvious choice is capital yer, as in SSS Simplifiyd Ingglish, which looks like a C backwards with a cross-bar. On typewriters without this letter, the best substitute is figure "3", as suggested by Mr. Leo G. Davis, California. Thus, Amid /3'MID/, Together /T3'GEDh3/.

You can say that /3/ is never fully stressed (a characteristic it shares with /I/ and /U/ not before a consonant). If there was a means of marking secondary stress, a symbol for /3/ might not be needed, because /3/ is arguably nothing more than /U/ (explained later) with secondary stress. But what you gain on the swings you lose on the roundabouts, and risk making a mistake as well. For "secondary stress" is an awkward idea to entertain.

It would save the necessary intelectual contortions to recognise that in East English; the third vowels in Omnib*u*s and Minib*u*s are quite different in vowel colour, forget about any stress difference, and write them /'OMNIB3S, 'MINIBUS/.

The fifth vowel is EV12, as in c*u*t. On the typewriter the symbol has to be built up, "U" plus "-" superimposed. In ordinary printing it is impossible to superimpose, so for once we must break with the principle of no diacritics in the second dimension (in the plane of the paper at right angles to the writing line) and use some kind of differenced "U", such as italic, grave or umlaut.

The sixth short vowel, as in C*o*t, is /O/.

The seventh is as in C*a*t, /A/.

The four long vowels which are never diphthongs, are shown with /h/, thus F*ee* /Ih/, Fur /3h/, F*our* /Oh/, F*ar* /Ah/. (But "never" is a risky word. What about the variants Thought /ThOhUT/ or Four /FOh3/? However, these are unnecessary for say a foreigner to learn in order to speak corect English. The needs of the foreign student are a useful criterion of corectness.)

The long vowels which are sometimes diphthongs, may be so written, thus, T*oo* /UW/. A Yorkshireman might prefer /Uh/ to the standard diphthong /UW/. /Ih/ might be written /IY/, but I prefer /Ih/ to /IY/ because, unlike /UW/, the simple vowel ocurs more often than /IY/ in my speech. A theory might demand that /Ih/ and /Uh/ should be diphthonged symetrically, to preserve the beauty of the diagram. But this theory does not acord with the fact. So much the worse for the theory. Speech is part of human behavior and humans do not always behave symetrically. The Cockney long E, meaning /Ih/, could be /3I/. At this point I will ask those familiar with Cockney, /'S3I W3Q 3 'M3IN?/ (See and Mean both have the rising intonation.)

The long vowels which are always (but see "never" above) diphthongs are:

(1) Ending in /I/, B*a*y /EI/, B*u*y /AI/, B*o*y /OI/.

(2) Ending in /3/, P*ee*r /I3/, P*air* /E3/, P*ure* /U3/.

(3) Ending in /U=W/, Wh*o* /UW/, H*oe* /3U/, H*ow* /AU/.

For Scotch and West English including American dialects, the diphthongs ending in /3/, (2) above, must be omitted.

The great and inconvenient complexity of the East English vowel system is a fact of nature and cannot be ignored. Please note:

Firstly, this complexity is quite recent, say 1780 onwards. Secondly, as SSS member J. Windsor Lewis has pointed out, it is partly geographical. For nearby languages including Welsh, French, German, and Swedish also have exeptionally elaborate vowel systems, in contrast with more distant languages, seven vowel phonemes in Italian, five in Spanish, Greek and Russian, three, as you may say, in Classical Arabic. The system developed fully after the settling of North America but before that of Africa and Australasia, hence its absence in the former but its presence in the latter.

Stress can be marked in the same way as in IPA spelling, that is, with a vertical mark, the typewriter apostrophe before the stressed syllable, thus, /Dh3 'STREST 'SIL3B3L/.

SSS /FONIK/ cannot show refinements such as secondary or other degress of stress, or intonation.

Here are some propositions which can be discussed using SSS /FONIK/: Entirely is sometimes /IN'TAI3LI/ but more often /IN'TUhLI/. There are many who say People as /'PIhPU/, Technical as /'TEQNIKU/. Lightly and Likely are often sounded alike, /'LAIQLI/. If Dr. Johnson's pronunciation of Contemplate had survived, we should now be saying /K3N'TEMPLEIT/ not /'KONT3MPLEIT/. Part of the River Nene is /NIhN/, another part /NEN/. The variants of the word Controversy include /'KONTR3V3SI, 'KONTR3V3hSI, K3N'TROV3SI, and K3N'TR3UV3SI/. While those who know the London borough of Southwark call it /'SUDh3K/, others may say /'SAUThWAhK/. Historically Birmingham is /'BRUMIDZh3M/, and coruptly pronounced, in England /'B3hMINg3M/ and in the USA /'BURMINgHAM/.

The following examples are selected with a view to providing both enlightenment and moral uplift. /'WUN 'VAIS IZ 'MOhR 3k'SPENSIV Dh3N 'TEN 'V3hTShUWZ. DhEZ 'N3U 'RIhZ3NINg WIDh 3 'F3U, 'OhR 3 'MADM3N. F3 'WOTShUW K3N 'DUW YOhSELF 'D3UNQ DI'PEND ON 3'NUDh3. 'HIh HAZ 3 'GUD 'DZhUDZhM3NQ Dh3Q 'DUZ3NQ R3'LAI ON IZ '3UN./

Summary.
/A/ Pat, /Ah/ Far, /AI/ Buy, /AU/ Bough, /Dh/ That, /EI/ Bay, /E3/ Pair, /I/ Pit, /Ih/ Feet, /I3/ Peer, /O/ Cot, /Oh/ Caught, /OI/ Boy, /Q/ glottal stop, /Sh/ She, /Th/ Thin, /U/ Put, /U3/ Poor, /U/ Cut, /X/ Loch, /Y/ Yet, /Zh/ Measure, /3/ About, /3h/ Fur, /3U/ So, /'/ placed before stressed syllable, /.../ enclose SSS /FONIK/.

Reference.
Gleichen, Major-General Lord Edward. Alphabets of Foreign Languages, R.G.S. Technical Series: No. 2. 2nd. Ed. 1944, London: The Royal Geographical Society.

-o0o-

[Spelling Progress Bulletin, Fall, 1980 p14 in printed version]

Reading and Writing in English,

by S. Bakowski.*

*Leicester, England.
Presented at the Second International SSS Conference on Reading and Spelling held July 1979 at Nene College, Northampton.

To begin with, I should explain why, being Polish, with limited knowledge of English, I got involved with a problem which might seem mainly the business of English-speaking people. I was always interested in the question of a so-called international language, that could be understood by the whole world. I would choose English as the most suitable. It has very simple grammar, no declensions and logical conjugation. The weak side of English is its extremely complicated orthography, or so-called spelling.

Most other languages are 'phonetic' or nearly so. Letter *a* is pronounced as in 'art', *e* as in 'let', etc. But not so in English. The letter *a* is pronounced in 8 different ways, the letter *e* in 6 ways, the letter *i* in 5 ways, letter *o* in 9 ways, letter *u* in 8 ways, as in *quite, bury, busy, but, full, rule, turn, use*. This leads to many difficulties in reading and writing. The results of the difference between spelling and pronunciation can be illustrated by examination papers of students in a further education college, as described in the Daily Telegraph of 7.8.77, with spelling 'errors' such as burch, crum, duct, enormus, slac, saiv, werst, awfull, rinckles, experteese.

The situation is explained as due to overcrowded classrooms, laziness of pupils and students, and lack of discipline. All this may be true, but I think the most important factor is complexity of English spelling. As you know, English was formed from a few completely different languages several centuries ago. At the beginning, it was probably more or less phonetic. Gradually with time both pronunciation and spelling were changing. There was a time when the word such was read and spelt differently in various parts of the country.

Eventually the spelling became stabilised but the speaking continued to change; so now we have two languages, one living and spoken, the other the old obsolete spelling. How can we get out of this situation? Since we cannot change the spoken language itself, we can only reform the spelling.

My proposals are for a phonetic spelling, with a dictionary that should be checked by linguists and accepted by the Parliament. The following are my ideas, as someone who has had to learn English the hard way, not as his native tongue.

English contains 27 sounds which can be represented by the same number of letters. Most of them, like *b, d, f, k, m, n, p, s, t, v* and *z* retain their usual straightforward pronunciations. From the other sounds, *ch* is pronounced as in *church*, *g* as in *giv*, *e* as in *get*, *h* — with a slight blow, *i* as in *it*, *ng* and *nk* as at present; *r* is pronounced less distinctly or even totally omitted in the middle and particularly at the end of some words. Double consonants are written as single ones as they are not needed to show the short vowels, and so are double vowels unless the difference is distinctly audible. The effect of so-called 'long vowels' is not taken into account.

The so-called 'silent letters' are omitted. If the proper pronunciation of the word is unknown, it can be found in one of the specialised dictionaries: Daniel Jones' *'Everyman's English Dictionary'* (1975), or J. Windsor Lewis' *'A Concise Pronouncing Dictionary of British and American English'* (1972).

Words can be compiled in the form of a special dictionary (see **appendix**). Each page is divided into 3 columns. On the left is the usual spelling, in the middle as they are pronounced or written using one possible spelling system (B), on the right using another system (Z), closer to usual spelling and which might be used as a transition to (B).

The disadvantage of system B is that it differs considerably from the present system to which people are accustomed. To make things easier, further symbols can be added: c=k as in cat, c=s as in cent, ch=k as in chemist, g=j as general. *y* in place of *i* as in *sticky* or *boy*. *x* is sounded as *ks* in *six*, or *gz* as in *exam*. For *ph* use *f*.

Here are some examples using this spelling system Z with its compromises with the present system:
Numbers: wan, twu, thrii, foor, six, thertiin, foortiin, forty.
Drinks: woter, tii, coffi, shery, gin
Animals: cat, caw, shiip, giraf, eip

For comparision, here are some sentences written in System B and System Z.
System B. Aur family konsists of for pipl, maiself, mai waif and tu children, Jorj and Airin. Jorj is sikstiin. Hi attends e ferder ediukeishn kolej. In de fiucher Jorj laiks to bikam e kemist. Airin pleis with adher gerls and bois in e plei-grup.

System Z. Aur family consists of foor pipl, mayself, may waif and twu children, George and Airin. George is sixtiin. Hi attends e ferdher ediuceishen college. In dhe fiucher hi laiks to bicam e chemist. Airin pleys with adher gerls and boys in e pley-gruup.

Appendix.
Phonetic Dictionary.

Present Spelling	**Pronunciation Spelling B**	**Proposed Spelling Z**	**Present Spelling**	**Pronunciation Spelling B**	**Proposed Spelling Z**
I	ai	I (exception)	minute (adj.)	mainiut	mainiut
under	ander	ander	minute (noun)	minit	minit
beautiful	biutiful	biutiful	knight	nait >	(k)nait
change	cheinj	cheinge	all	ol	oll
cheque	chek	cheq	always	olweis	olweys
direction	direkshn	direcshen	people	pipl	pipl
photograph	fotograf	photograph	write	rait >	(w)rait
girl	gerl	gerl	true	tru	tru
here	hi e(r)	hier	weep	wip	wiip
hear	hi(r)	hir	water	wote(r)	woter
electric	elektrik	electric	when	when	when
general	genral	genral	where	whe(r)	wher
character	karakte(r)	character	why	whai	whay
queen	kwin	quiin			

Note: In parentheses= sometimes not pronounced.

Editorial comment:
The lesson to be derived from this paper is that a foreigner with an imperfect command of English is so appalled by our inconsistent spelling that he wants to help us change it. And no wonder that he found it difficult!
We should be ashamed of our system of spelling and appreciate the fact that some foreigners want to do something about it to make it easier for them to learn English.

-o0o-

[Spelling Progress Bulletin, Fall, 1980 pp15,16 in the printed version]

The Sensible Solution to Simplified Spelling: One Sound-One Symbol,

by Hugh V. Jamieson.*

*Dallas, Tx.
*A paper presented at the 2nd Simplified Spelling Society Conference, Nene College, Northampton, July, 1979.

What is functional literacy? According to one modern dictionary, it is the ability to read well enough to function in a complex society. In Dallas the School Board has also included mathematics, citizenship, science, and health as part of a basic education.

A functional ability in mathematics, citizenship, science, and health has, by the very nature of things, to be accomplished by a functional use of reading and writing. However, the broad use of mis functional symbols to form words has been a tormenting handicap during the whole development of language.

A child is born with an amazing instinct for logic, starting with how he gets his first meal and lasting until he begins learning to write words he has just learned to speak. From then on he is forced to cultivate illogical reasoning by our present spelling system.

Students representing thirty North Texas Counties, for many years, have been attending the Dallas News Spelling Bee. They misspell an average of one out of fifteen words. For the thirty best out of one hundred thousand, that is not a very good indication of a high literacy average.

And there is one development occuring, as seen in magazine advertisements, on which educators should take prompt action. Before long printing machines will be turning out newspapers one completely spelled word at a time from a bank of prespelled words, all using the present illogical spelling system.

Believe it or not, by a thirty-thousand word 'one sound-one symbol' dictionary, I have shown that there are over sixty-thousand misuse of symbols in our present spelling system. That is why it takes from kindergarten through high school for the average child to become functional in reading and spelling.

I have discovered that our alphabet has an even forty symbols that are each recognized universally for one particular sound. Unfortunately, they are misused so very often for other sounds in other words that our spelling has to be learned by rote and not by a system.

In this presentation, I will describe a workable 'one sound-one symbol' system for spelling the English language.

The first thing we require are symbols to exclusively represent the Long Vowel sounds. The capital letters A, E, I, O, and U (but don't say yU) are the best symbols for the long vowel sounds because they invariably are responded to with those sounds.

Here are some examples:

Long A: bA kr (baker), e ju kA shun (education), 47 stAts (47 states), dAn jr (danger), bAthh (bathe).

Long E: frE (free), siks tEn (sixteen), ab sun tE (Absentee), rEd ing (reading), prE am bul (preamble), u grEd (agreed).

Long I: be hind (behind), ek sIt ing (exciting), rIt ov lIf (right of life), tIm (time).

Long O: chOk (choke), sOl (soul), felO (fellow), fOr un (foreign), wOr (wore), fOrs (force), Or u tOri (oratory).

Long U: mUv munt (movement), trUthh (truth), sank chU eri, (sanctuary), kon stu tUshun (constitution), skU nr (schooner).

In our present spelling system, the vowel letters are used to represent a wide variety of different sounds. Using the capital letters to represent the *long vowel* sounds provides a unique and readily recognized symbol for pronunciation and spelling.

However, it is equally important that the lower case vowel letters also each have one unique sound represented by that symbol. Thus, we must learn to use the little *a* as in *at*, little *e* as in *end*, little *i* as in *it*, little *o* as in *on*, little *u* as in *up*. That is: *a*(t), *e*(nd), *i*(t), *o*(n), and *u*(p).

Here are some examples:

short *a*: gr*a*t tu tUd (gratitude), *a*lfu bet ik (alphabetic), pl*a*t fOrm, *a*vu nU (avenue), f*a*sh un (fashion).

short *e*: r*e*g yu lAt (regulate), n*e*v r (never), b*e*n u fak tr (benefactor), sin s*e*r uti (sincerity), *e*r (air).

short *i*: dam ij (damage), d*i* rekt l*i*nk (direct link), r*i* stOr (restore), *yirz* (years), h*i*r (here), f*i*r (fear).

short *o*: p*o*l usi (policy), h*o*rd (hard), k*o*m mun welth (commonwealth), k*o*n grus (congress), p*o*rti (party).

short *u*: in n*u*f (enough), s*u*g jes tid (suggested), sov r*u*n (sovereign), *u*n dr (under), dek *u* dunt (decadent).

In our present spelling there is no way of telling whether a capital vowel letter at the beginning of a word or the beginning of a sentence is to be pronounced as a *long* or *short* vowel. In my phonetics this will be corrected by a singular quote mark after the capital letter meaning it is to be pronounced as a short vowel.

For example:
Hiz nAm iz A'nderson (His name is Anderson). E'vrithing iz redE tU gO (Everything is ready to go).

So much for the long and short vowels. Now we come to the one letter in our alphabet that is never identified as a letter with the same sound it identifies in words. Whether you realize it or not, the response to 'r' is always the same as 'ur'. Therefore the 'r' symbol is always the sound with or without a preceeding vowel such as *burn* or *bring*.

Here are some examples:
letter r in klOz h*r* (enclosure), fig y*r*z (figures), w*r*k (work), ad v*r* tIz *r*z (advertisers), w*r*ld (world).

The next symbol to examine is 'au'. The 'au' sound is a definite vowel sound, probably as well identified in the word *automobile* as any. Why does a dictionary use a confusing diacritic over a symbol that normally represents another sound, to represent identically the same sound in words like *walk, talk*, and *balk*?

Here are some examples of the 'au' sound: *au* thhr (author), *au*l (all), n*au*t (nought); w*au*k (walk), l*au* lus nus (lawlessness).

symbol 'oo': The double-o symbol in our present spelling represents so many sounds in so many different words few people can think off-hand of a single definite sound for it. Well, it has one exemplified in the word 'book,' and another in 'boot.' The teaching of English has never included the teaching of individual parts of words. It should be done and is easy to do for the first time in 'one sound-one symbol' spelling.

*Here are some uses of the oo-symbo*l: st*oo*d (stood), r*oo*rul (rural), sik y*oo*r uti (security), p*oo*r (poor), in sh*oo*r uns (insurance).

Now let's examine the digraph symbols. The 'ch', 'sh', 'th', 'thh' are digraph symbols that have been accepted in our language for over 500 years and their combined sound is different from the sound of any of the letters alone.

symbol 'ch': vou*ch* (vouch), *ch*er uti (charity), kwes *ch*un (question), *ch*al unjd (challenged), mon or *k*i (monarchy).

symbol 'sh': wa*sh*ing (washing), *sh*In (shine), ri tal EA *sh*un (retaliation), *sh*al (shall), *sh*Av (shave).

symbol 'th': *th*at (that), *th*en (then), *th*er (there), *th*Oz (those), *th*Ez (these).

symbol 'thh': hel*thh* (health), hundre*thh* (hundredth), br*thh*dA (birthday), grO*thh* (growth), streng*thh* (strength).

The only difference between 'sh' and 'zh' is that 'zh' is voiced.

symbol 'zh': kon fyU *zh*un (confusion), du vr *zh*un (diversion), ri vi*zh* un (revision), imr *zh*un (immersion), eks trU*zh*un (extrusion).

For the symbol 'ng' you need no diacritic. Just use the plain 'ng.'

symbol 'ng': gOi*ng* (going), yu*ng* (young), ba*ng*k (bank), ba*ng* (bang), swi*ng* (swing).

The dictionaries show the two symbols 'oi' and 'ou' in their pronunciation keys, so just listen to the sounds as spoken by men of unquestioned literacy.

symbol 'oi': v*oi*s (voice), ch*oi*s (choice), v*oi*d (void), im br*oi*l (imbroil), s*oi*l (soil).

symbol 'ou': u l*ou* (allow), h*ou* (how), u b*ou*t (about), h*ou*s (house), p*ou*r (power), d*ou*t (doubt).

Here are two more sounds using digraph symbols:

symbol 'yU': kon trib *yU*t (contribute), u b*yU* zd (abused), f*yU* (few), b*yU* ti (beauty), h*yU*j (huge).

symbol 'yu': mil *yu*n (million), man *yu* fak chr (manufacture), reg *yu* lAt (regulate).

In the last four symbols, 'oi', 'ou', 'yU', and 'yu', the individual letter sounds are recognizable, but are so blended in pronunciation they seem justified in being listed as separate sounds. If desired, the following digraphs might also be considered as separate sounds: 'er' for 'air', 'ir' for 'ear', 'Ir' in 'tire', 'or' for 'are', and 'Or' for 'ore'.

This presentation was made primarily to show and convince you that we do have a perfect sound-to-symbol relationship which would completely eliminate the confusing relationships in our present spelling.

If anyone thinks any English word cannot be spelled correctly using these symbols exclusively for the one sound herewith assigned to them, please send them with your pronunciation on tape and I will show you how with 'one sound-one symbol' it can be done.

Now ladies and gentlemen of the Second International Conference on Reading and Spelling you have the means to bring our spelling out of its 400 year old morass of confusion.

I will give you free distribution rights for use in England for all the material I have, if you recognize that 'one sound-one symbol' fonetic spelling is the only correct logical system for English. I strongly urge its adoption and use, beginning right away with the new spelling of all two letter words. After that gets a good start, introduce the three letter words. If that much catches on, future adoption of the whole system is assured. If it doesn't catch on, let them continue riding in the 16th century ox cart.

-o0o-

[Spelling Reform Anthology §7.1 pp109–111 in the printed version]
[Spelling Progress Bulletin, Fall 1980, pp10–12 in the printed version]
*[Valerie Yule: see **Book**, **Journals**, **Newsletters**, **Media**, Personal Views **10**, **16**, **Anthology**, **Bulletins**.]*

How to Implement Spelling Reform,

by Valerie Yule.

Presented at the Second International SSS Conference on Reading and Spelling held July 1979 at Nene College, Northampton.

Spelling reformers must consider the needs, attitudes, and abilities of the people who are to use reformed spelling. A theoretically perfect phonemic spelling might prove impractical for general and technological use even if public resistance to its introduction were overcome.

This paper looks at aspects of 'the psychology of spelling' — practical criteria to consider in designing a more efficient orthografy and planning its introduction, with techniques of consumer education and marketing.

Most of the ideas in this paper are not my own — they have come from meny colleagues in spelling reform — Kingsley Read, William Reed, Sir James Pitman, Axel Wijk, Newell Tune, Helen Bisgard, Arnold Rupert, Reg. Deans, Vic Paulsen, Harry Lindgren — and none of them may agree with all of it. It also brings in concepts from my own discipline of psychology and its concern for human communication.

The time for spelling reform is now riper than it has been for hundreds of years. The old snob arguments are ridiculed and empty, while the mass illiteracy problem is increasingly serious. The audiovisual media which threten to supplant print have their own advantages but cannot supply the dimension that reading and writing contribute to civilisation. The sacred cow of English spelling stands wobbling while all around the rest of the world is changing dramatically, faster and faster, and nowhere faster than in the field of communications. How can the drive for change, efficiency, economy, and logic be directed to spelling — this vital tool, — or idol?

How can the remaining impediments to spelling reform be tackled? The old arguments keep reappearing despite their continuing refutation, and reappear dressed in new words too, so that it would be worth while to devise one-page sheets that could be patiently, silently, handed out whenever someone glibly recites "Homophones!" or "Etymology" or "Dialects" or "Our English Heritage!" or "the beauty of funny spelling!" or "Chomsky!" or "Multi-Systematic Information Processing!" or "Finance!" or "Impossible!"

The basic argument behind these excuses is the vested interests agenst change of those who have learnt present spelling and imagine enything new would be just as tortuous agen as their original learning experiences. As people become less cultured, they either hang on to English spelling as the empty shell of their culture, or 'couldn't care less' for either maintenance or improvement of spelling. Yet the varying motives that impede reform could also in varying degrees be turned to its support, and the insights and techniques even if not the money, of commercial marketing can be directed towards the changing public's attitudes.

Public rejection of spelling reform has been helped by the public image for which spelling reformers have been responsible — a multitude of schemes which almost completely change the appearance of 'the word as we know it,' some seeming almost perverse in their determination to use the familiar in contrary ways. The immediate 'Ugh!' reaction prevents eny further enquiry or attention.

While the neat new script of i.t.a. probably attracted as well as repelled support, its special type has prevented i.t.a. spelling from percolating into the word beyond school.

Spelling reform can only be achieved by looking at what is practicable, not at dogmatic idealism about what would be perfect; arguments must deal in evidence rather than in opinion. Public participation is crucial for reform — unless we become so generally illiterate that literacy has to be

brought in agen like a new thing in the Dark Ages after the fall of the Roman Empire, or we are so socially disrupted that a dictatorship takes over, or big business discovers a spelling tecnology for its machines that will save millions. The latter is quite possible, in which case a sweeping change in the whole orthography could occur irrespective of human needs. Certainly no change in the alfabet itself has a chance unless it meets the needs of international electronic tecnology, and all spelling reformers interested in this area should develop communications expertise and the right contacts.

The need for facts and evidence.
I think Harry Lindgren is right in saying, "Let's get on with Spelling Reform 1, short *e* spelt e as in *bet*, and not get bogged down with excuses for research." But while we are getting on with it, concurrently we should be finding out facts and promoting experiments to ensure that the next steps are not based on armchair philosophising so that time is wasted on doctrinaire argument or in finding out too late that what is ideal in theory is bugged in practice.

It has been assumed that an essential criterion for English spelling reform is accurate sound-symbol correspondence. Experiments in initial teaching media prove that this makes English easier to learn to read and to write. But what makes one system eny better than another system? You can invent yourself in an afternoon a script that would be easier to learn to read and write than present spelling, e.g., Tolkien's Middle Earth script, which teenagers pick up quickly for their private communication. But what is a basis for comparison?

We need to find the reformed spelling that is the 'best fit' for a number of possibly competing requirements. We need re-analysis of the vast volumes on spelling research which have mostly focused on the problems of 'bad spellers' rather than the problems of 'bad spelling.' We should devise and publicise a list of 'research on spelling that needs to be done' not only in laboratories but in schools and the market-place, by teachers and the general public as well as by linguists, psychologists and educators. Every dogmatic statement by every expert needs to be tested, not quoted. To make English spelling an effective tool for human beings to use, we need to collate the evidence on the essential requirements for the following:

1. Easily mastered by the present literate population, and presented so well that they quickly discover how easy and beneficial it is. Without this, nothing can happen. This includes immediate 'face validity' and comprehension, rapid development of superior reading fluency, and easy stages to learn to write if necessary.

2. Easy to learn to read and write (not identical demands) by learners who are bright, dull, handicapped, adult failures, second language learners (agen, not identical demands).

3. Useful for modern tecnology — for machines, their human operators and human users, easy, efficient and economical for machine-processing, typing, and handwriting.

4. Easy and cheap to get started, "saving millions and costing next to nothing," and demonstrably saving millions.

5. For the present at least, resembling present spelling as sufficiently closely, to keep books currently in print accessible as Medieval English in the future, with its greater changes.

6. A composite standard English spelling that crosses dialects, and enables children and foreigners to pronounce the new vocabulary learnt thru reading. Action research can teach and can change attitudes and provide feedback for further change, in the very process of testing and experimentation on how and what changes can be made.

Psychological research on human abilities may prove more relevant than linguistic research. The human capacity to switch set is a crucial area to resolve arguments about spelling transition — whether co-existing alternatives would confuse, about homografs in context, and dialectal variations in vowel representation, and the possibility of 'bi-literate' books in learning, and spelling conventions that can represent a common 'speech' across wide dialectal variations. We alredy know how we adapt without conscious effort to reading regardless of typeface, handwriting or letter-case, and how practised spelling reformers can switch from their own to conventional

spelling, reading both with equal ease, and how children and adults can switch the languages they speak according to the situation.

We need to be well-informed on the 'natural trends' of spelling today, as shown in common spelling mistakes, experiments in free choice of spelling, and commercial and tecnological trends. Can this 'organic' change be accelerated constructively? (See Appendix 3 for some of the questions that require answers from practically-oriented research.')

I would like to see the proposals of spelling reformers set out in a standard form for easier comparability and investigation (See the previous paper).

Some ideas that have been popular with individual reformers may fail on the practicability account, however ingenious. It would be better to develop 'better' new letters than to divert existing letters to other strange purposes, which would make it fiendishly impossible even for scholars to read old books. Schemes start off handicapped if they require new keyboards or complicate writing and typing, and diacritics, etc. need research about what happens to visual scanning fluency.

Experience shows that you cannot assume that a thoroly reformed system adopted in schools will spred to the community around them as the children grow up. The children have to adapt to the world of print around them, not vice versa.

Stages in spelling reform.
We are left with the example of other countries that have successfully reformed their spelling in stages. In the previous paper I describe the stages of a possible scheme and how it could operate from two directions — learning with a basically phonemic initial learning spelling in schools, and a first stage of reform that could be begun by enyone, everyone, enywhere at eny time, consistently or more likely, inconsistently, causing no more disruption to the appearance of print than the usual misprints in your favorite daily newspaper. I have taken Harry Lindgren's SR-1 as the starting point: spell short *e* with e as in *bet* — because it is a reform that has alredy made a start, it operates as a logical principle, not a slippery list; it acclimatises the public gently to the idea of change as a good thing and how easily it could operate, and it is likely to be a part of almost eny eventual full reform. Even if it were not, switching the single spelling *e* would be easier with the cleaning up of the present tangle of *ai, ea, ei, ie, oe, e, ay*, and *eu, ue*.

My own hypothesis is that it is likely that learners will prove to have different needs than fluent users, as occurs in all fields of skill, from flying and motor-racing to sewing, and Learner Spelling will need to include steps that can be omitted and elided for greater fluency in skilled reading and writing.

Stages of spelling reform (e.g., the 4 stages I suggest) will inevitably be adopted unevenly thru the community, as even the government-sponsored switch to metrication has to percolate, with some areas changing faster than others and the few intransigents who will never take to it. For every group there are different incentives for change as well as resistance, and this is the encouraging thing to guide present action in attitude-changing and starting actual change. These stages could be:

1. Good for you if you can get the support of politicians, big business, millionaires, publishers and public figures who can promote Stage 1 as house-rules on a large scale, and promote research and initial learning media.

2. Educators who do not actually teach children (or are such superb teachers it doesn't matter what they teach) are often vested interests agenst change, just as the horse trade opposed motorcars. Teachers who are nearer the nits and grits, faced with educationally disadvantaged children or even their own spelling or teaching problems, commonly sigh for rescue in a hopeless sort of way. If they could be shown how to teach the underlying structure of English, so that they and the children could distinguish it from the ded wood and brambles, both teachers and children will become aware of how easy spelling reform could be, and how spelling could be changed. (Most adults today have had present spelling conditioned into them, without understanding it, and have an unspoken fear, "Don't touch it, it might explode.") There would be the spin-off and incentive too, that children would be more confident in successful criticising of conventional spelling. "That word

is sensible, that word is silly, but I'm not silly," is far better than so meny children's present hopelessness, "I can't understand it, so I must be silly."

Marketing spelling reform to the public.
On initial presentation of an innovation, habit strength operate agenst it, but the more people are able to actually try it out, i.e., act positively, the more chance that negative habit strength is reduced and alien feelings change to personal identification, particularly if a band-wagon effect can develop.

Other aims of marketing are to strengthen the mental reach and change the set idea that there is only one proper way to spell, while the freedom of choice prevents the trigger-reaction to eny schemes with 'compulsion' whatever the public good may be. Public and expert contribution of ideas could be valuable when spelling reform is a fashionable subject for public discussion, play and even private experiment, insted of a sacred cow, paper tiger or tabu too horrible to touch. 'Bugs' in proposals can be weeded out. 'Democratic' spelling reform could become a painless fait accompli, that could be tidied up and ratified on an official basis or an improved system then introduced to a now more open-minded public.

Some marketing proposals.
a. Promote books for libraries, e.g., Godfrey Dewey, Pitman & St. John, Harry Lindgren. Light-hearted books of 'Spelling Games' and Penguin-type books for the general on the Psychology of Spelling, and Spelling and Society, are also desirable. A set of one-page Answers to Everything. A set of research topics for investigation, for tertiary institutions and students seeking useful topics.

b. Articles across as wide a spectrum of the media as possible, inviting public participation and comment-stimulating, amusing and informative, e.g.:

"Permissive spelling, how far would you go?"
"Your child and That Spelling"
"Your spellingscope".
"Shocking or Fascinating? Try your hand at spelling reform."
"Britain's Industrial Fossil." "Do you remember ... ? Readers recall spelling incidents in their childhood.
"How YOU can help in bringing about spelling reform."

c. *TV documentary on Spelling*. Includes colorful history, scenes of past and present teaching, audience participation in demonstration of some of the astonishing facts about how we read and spell, a procession of current reading-teaching equipment, interviews with boffins, children, social workers, remedial readers, adult illiterates, delinquents, in flash-scenes from all over the country.

d. *Panel games for radio and TV*. A weekly five minutes on radio could also *follow the progress* of children and foreners learning to read conventional spelling and a consistent spelling.

e. *Radio playlets*, comic and satirical, in which one character speaks exactly what he reads, e.g., "Onky upon a timmy," "The miggrant whoe spelt likky an angle," "The miggrant's traggedye,"

f. *Word games* and other party games, including ways to use spelling reform in games alredy on the market, e.g., Scrabl; A book of Party and Family Games.

g. *Pop lyrics* for pop groups, e.g., "Break the Spell," "As difficult as ABC," "Reading turns you on." Comic verses, e.g., "I get my kicks when I try to spell."

h. Cartoons and catchy cards for sale.

i. Materials, gifts, gajets and gimiks for Christmas, birthdays and Spelling Day. An angle for "the person who has everything." New items appear to keep up interest. Souvenirs of Spelling Reform. A Spelender Calender. Magic Spell wrapping paper, Weirdo writing kits, T-shirts, badges, stickers, spelling kits, the conservation and energy-saving angle, contributions to Small Planet and Responsible Living groups. A mascot doll, a logo for spelling reform with a catchy title, how-to-do-it pocket cards, posters and friezes, desk-stuff.

j. *Stamps and stickers* for correspondence, letterheds, envelopes, etc.

k. Try to get *bi-literate reading books* on trial, and 'spelling cribs' for learners' reading books. Trial runs of modified spelling for social services information, regulations, parent education, etc. for semi-literate groups.

i. *Support by word and action* every sign you see of improved spelling, e.g., SR-1 in journals, mor sensible spelling in ads, trademarks, work-manuals, etc. Whatever your profession, encourage your trade journal and local media to try SR-1 (with or without publicity, to see if enyone notices/objects). Write letters to newspapers. Be a lobbyist. Encourage organizations working for related issues, e.g., Better English, International Communication, etc. to make their English and communication better still. Bring spelling and spelling reform as a live issue into professional journals and conferences. Keep a supply of relevant literature yourself so you are 'always prepared,' with a handy publicity package and background facts. Keep your eyes open, in personal observation and personal experiments, and contribute your own findings to your spelling reform group records.

m. *Obtain sponsorship* for whatever you can.

n. *Spelling Day*, September 30. The idea of Australian Dr. Doug. Everingham, M.H.R., former Labor Government Minister for Helth (sic) was for SR-1 Day, so that every year there can be another wave of publicity and promotion, with the ideas alredy suggested. Press releases can be sent out and notices put up on the lines of "Appendix 2."

(The ideas in this paper follow from previous articles in Spelling Progress Bulletin:
"The causes of illiteracy and recommendations for action," **1975/4**. Item 3,
"Spelling reform: arguments pro and con," **1976/1**. Item 6
"Let us be practical about spelling reform," **1979/1** Item 6.

The third article contains some further essential detail not included here.)

Appendix 3: *Some recommendations for research*.
So meny researchers take trivial topics that at least we could publicise needed ones — experiments, surveys, questionnaires, observational analyses, for every relevant discipline in universities, teachers' colleges, etc. Background courses on orthografies at secondary level can enlighten Anglo-Saxons on what the rest of the world can do, and how it is done. Surveys can put ideas into the heds of participants, and make them think, if they did not before.

The field is not just for linguists and reading academics, but requires working with communications engineers, teachers, publishers, psychologists, media boffins, learners, foreners.

What actual value in *using* spelling are semantic, morphemic, syntactic, lexical, etc. factors, above and beyond phonemic correspondences? Should English spelling be reformed to make at least consistent the benefits that linguistic supporters claim are reasons to maintain it as it is?

How meny of the complex factors in 'the reading process' would be superflous in a reliable, predictable spelling system? Are these factors those which most handicap poor learners at present? Are we handicapping the alredy handicapped for the sake of the verbally proficient who need additional help least?

How efficient a spelling would the trends of 'natural spelling change' develop enyway if custom slackend so that dictionaries caught up with current practices? Are people just a bit mystical about 'organic language change' when they call upon 'instinctive forces' rather than rational endevour?

(And see the complementary paper preceding this which puts forward specific details which require more objective evaluation than personal judgements, e.g., re: accuracy of phonemic representation, usefulness of phonics in conventional spelling, the value of economy of space, etc.)

-o0o-

SSS Conference 2: Fotos

by Vic Paulsen.

1

2 3

4

5

6

7

1. Margaret Reed
2. (l. to r.) Pia Wijk, John Downing.
3. Katherine Betts.
4. (l. to r.) D. G Scragg, Alun Bye.
5. Emmett Betts.
6. Robert Baker.
7. (l. to r.) John Beech, Philip Smith.

8. (facing camera, l. to r.) Fergus McBride, Helen Bisgard, Sydney Rosenberg.
9. Mona Cross.
10. (l. to r.) George O'Halloran, Will Reed.
11. (l. to r.) Derek Thackray, Fergus McBride.
12. (l. to r.) Christine Lord, Elsie Oakensen.
13. Abe Citron.
14. Valerie Yule.
15. (l. to r. facing camera) Alun Bye, Mrs. Sydney Rosenberg, Elsie Oakensen, Mona Cross, Walter Gassner, Mrs Gassner.