

Spelling Progress Bulletin Winter 1980

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

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1. The 3rd International Conference on Reading & Spelling

sponsored by the Simplified Spelling Society
(Patron, H.R.H., the Duke of Edinburgh)

on Spelling – Research and Reform

to be held July 31-Aug. 3 in Edinburgh, Scotland.

Accommodations available at the Pollock Halls of Residence

Topics will include recent research on cognitive processes in spelling, comparative spelling in other languages and effects for learners and fluent readers, advances in spelling for electronic communication, improvements in teaching spelling, experiments testing propositions for spelling reform, and progress in the development and implementation of improvements in orthography. There will also be a lighter side.

The conference will follow after the 1981 U.K.R.A. Conference, also in Edinburgh. Participants can go on to the I.R.A. European Conference in Finland that follows it, and aspects of greatest interest to reading educators will be early in the programme to facilitate this. Pollock Halls offers: the advantage of a small, relaxed conference in central Edinburgh.

Call for Papers.

Early offers are invited, so that the programme can be drawn up, with provisional titles and abstracts of papers for consideration.

Provisional Bookings.

It would greatly assist conference planning if provisional bookings are made early, and before 15 January, 1981.

Addresses for papers and inquiries:

Valerie Yule, Dept. of Psychology, Univ. of Aberdeen, Scotland.

Fergus McBride, Edinburgh, Scotland.

Provisional cost under £14 per day (full residential, not including VAT).

Joint meeting of I.R.A. & S.S.S.

The International Reading Assoc. has invited Dr. John Downing to arrange a cosponsored meeting of The Simplified Spelling Society at the annual meeting of the I.R.A. in 1981 at New Orleans, Louisiana from Apr. 27 to May 1st.

Persons desiring to attend this meeting should write Dr. Downing for admission authorization at Univ. of Victoria, Victoria, B.C. Canada.

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Being formed: Special Interest Group, I.R.A. Convention, New Orleans. Session. 2:00-4:45 P.M. Thurs. Apr. 30, 1981. Belle Chasse Room, Hilton Hotel, New Orleans, La. Organizer: Emmett A. Betts, Ph.D, LL.D. Winter Haven, Fla.

Beginning in 1968, the Phonemic Spelling Council co-sponsored a meeting during the Annual Convention of the I.R.A. When the P.S.C. terminated these joint sessions after the St. Louis convention in May, 1980, IRA approved the organization of a Special Interest Group to continue the activities previously sponsored by PSC. This Special Interest Group serves two purposes:

1. To promote continued research on the writing system (orthography) and word perception in reading,
2. To translate research for effective instruction in classroom situations,

Research continues on the perceptual and cognitive processes at the phoneme-grapheme and higher linguistic levels:

- a. Types of perceptual learning,
- b. Factors in word perception,
- c. Both the phonemic and morphemic bases of spellings,
- d. Relationships between intonation and perception,
- e. Relationships between phonic rules and word perception,
- f. Relationships between perception and other facets of reading.
- g. Methodology.- application of word perception skills.

These are open-ended discussions guided by suggested questions to stimulate two-way discussions with conferees.

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2. Spelling as a Language Art, by Greg H. Frith Ed.D, & Janet W. Mitchell, Ed.D.*

(An Important Element of Individualized Education Plans for Educable Students)

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Abstract: Spelling is one of the "tool" subjects that comprise the major curriculum area known as language arts. As spelling is an important factor in fostering communication between individuals, the individualized education plans of educable mentally retarded students should contain specific instructional strategies leading to the acquisition of this skill. The purpose of this article is to review learning characteristics of educable students in regards to spelling as well as to present several instructional approaches.

A description of language arts as a segment of the academic curriculum normally includes such areas as reading, spelling, writing, speech, and sometimes listening. These "tool" skill areas are critically important instructional fields in that certain levels of proficiency are necessary if adequate communicative skills are to be developed. Students who perform in educable mentally retarded range of intellectual development exhibit particular deficiencies in learning specific competencies in several of the language art areas. Therefore, the individualized education plans (IEPS) that are required for these students as a result of P.L. 94-142, Education of All Handicapped Children Act of 1975, should include instructional strategies that address identified deficiencies in the language arts. A comprehensive discussion of all the language arts and their significance for IEPs of educable students would be too extensive for the scope of this article. As a result, the authors purport to concentrate primarily on spelling. A selective review of relevant literature will be provided as a rationale supporting the value of acquiring spelling skills. In addition, numerous instructional procedures will be provided.

A Selected Review of Pertinent Literature

Assessment

Educable mentally retarded students tend to display more difficulties with acquiring skills in spelling than normal students due to problems in such areas as interpretation, memorization, and phonetic reasoning. As appropriate instruction would need to account for specific deficiencies that occur in individual children, reliable research relating to diagnosis of clearly defined spelling skills should be reviewed.

Shores and Yee (1973) reviewed available spelling tests of a diagnostic nature that were included in Buro's Third, Fourth, Fifth, and Sixth Mental Measurements Yearbook. They criticized these instruments as measuring primarily "recall" processes and "proofreading-type" skills. As an alternative diagnostic instrument, they stressed the need for developing a more complex and comprehensive test that would yield evaluative information and recommendations for the classroom teacher.

Sofge (1977) suggested using the Wepman Test of Auditory Discrimination to evaluate the child's knowledge of consonant sounds and blends and the Thompson-Dzuiban Test of Auditory Discrimination for identifying skills or deficits with initial, medial, and final sounds including vowels. Both of these tests can be easily administered by teachers.

Rourke and Orr (1977) demonstrated that the Underling Test is a reasonable, reliable predictive instrument for use with seven and eight year old educable students in terms of the spelling skills they will possess within four years from time of test administration. Camp and Dolcourt (1977) provided information as to the diagnostic utility of the Boder in identifying spelling skills. They found a high reliability correlation with the Wide Range Achievement Test (WRAT).

Hill (1974) investigated the possibility of obtaining diagnostic information relating to the prediction of spelling abilities across exceptionalities. He concluded that more individual deficiencies in spelling skills occurred within a specific exceptionality than between exceptionalities. He also reported that educable students were reluctant to attempt to spell words that were verbally dictated to them.

A final predictive variable was cited by Kaufman (1976). He noted that a positive correlation may exist between spatial errors and deficits in spelling skills.

Diagnostic efforts frequently identify certain spelling errors which are relatively common. These include: (a) the omission of unstressed sounds; (b) difficulty with when to use double letters; (c) adding or deleting letters; (d) confusing words that sound alike; (e) reversing letters or syllables i.e., "ie" for "ei "; (f) overdependence on phonetics, which produces words that are spelled exactly as they sound.

Payne, Polloway, Smith, and Payne (1977) recommend the use of a visual scanning approach as a possible alternative to standardized tests. When scanning a student's work, the teacher should scrutinize the errors to determine if certain patterns are present. They also suggest making a simple diagnostic survey of words containing some of the most common spelling errors.

Edgington (1968) presented several error patterns which the teacher should carefully analyze; (a) reversals of whole words, vowels, consonant order, syllables, and consonant or vowel directionality; (b) addition of unneeded letters; (c) omission of needed letters; (d) reflections of child's mispronunciation; and (e) reflections of dialectal speech patterns.

General Spelling Concepts Applicable to Educable Students

Gentry and Henderson (1978) described learning to spell as being a function of knowledge rather than habit. The important key is to learn how the alphabet reflects meaningful language. They stressed encouraging the child to spell as accurately as possible, but that adult standards should not be used as a measurement of success. They also suggested that children should perhaps learn to write before learning to read.

Hillerich (1977) believed that educators have traditionally been responsible for teaching children to spell improperly as a result of the phonics approach. He advocated using a whole-word approach to spelling instruction, developing a "spelling conscience" in the student, teaching the student to spell by using a dictionary, providing large amounts of writing practice, and using a word list rather than a spelling book.

Hillerich stated that a well selected word list of 2500-3000 words would account, for 96% of the words most people will ever need to write. At least 10% of all printed words are very frequent words, such as "I", "and" and "the". Word lists with a certain grade level should be structured in such a manner that will equalize their relative difficulty. Children should be given assignments at specific levels on the word list where they are capable of spelling only a few of the words. Time should not be spent studying words that were previously learned. These words should be omitted from the list through the use of a pretest. Hillerich believed that the remaining words could be successfully learned by: (a) having the student look at each word and repeating it to himself; (b) closing his eyes: and visualizing it; (c) looking at the word to see if it was visualized correctly; (d) covering the word and writing it; (e) checking the written word for accuracy; and (f) repeating steps: "d" and "e" two more times. This is a multi-modality approach that employs visual, auditory, and kinesthetic skills. Hillerich also suggested a graphing procedure which represented graphically charting a student's spelling progress. He believed that proper spelling is a courtesy for those individuals who read what is being written. Furthermore, children should be encouraged to express themselves freely in writing without being overly concerned initially with making errors in spelling. They should be taught that spelling errors can be corrected once a thought has been expressed on

paper.

Rivers (1974) attributed many of society's spelling deficiencies to the use of different dialects in various regions of the country. For example, minority children spell words phonetically based on their respective dialects which might be different from standard pronunciations. Rivers also referred to problems with spelling attributed to a specific letter, or combinations of letters, having different sounds in various words.

Henderson (1974) believed that reading, memorization, phonics and programmed instruction were not easily learned, particularly by educable students. He advocated studying orthography (study of how the English language originated) as a means of improving spelling skills. The applicability of a regularized orthography for educable mentally retarded students has not been adequately addressed.

Instructional Strategies

Activities which facilitate instruction in spelling are numerous. They include such ideas as: (a) creating a dictionary comprised of the weekly spelling words; (b) listing and learning to spell words the child frequently uses when describing his home, pet, friends, etc.; (c) placing labels on common items in the learning environment; (d) conducting spelling "bees"; (e) using "find-a-word" and crossword puzzles; and (f) playing games like scrabble, spelling "tic-tac-toe", spelling relays, etc. These activities are limited only by the teacher's imagination and the student's interest, learning aptitude, and motivational level.

Multi-Sensory Approach

Smith (1968) believed that retarded children learned to spell best when several senses were collectively involved in the teaching/learning process. McEwen (1953) described this multi-sensory approach several years ago when he stated that learning to spell should include: (a) listening to the word being pronounced (auditory); (b) viewing the word in the mind and on paper (visual); and (c) writing the word (.kinesthetic). Hill and Martinis (1973); and Payne et al. (1977) also believed that instruction in spelling should include an individualized, multi-sensory approach.

Sofge (1977) advocated the Anna Gillingham Reading Method for students who need consistent and concrete, multisensory approaches for acquisition of spelling skills. Using graph paper, carousel slide projectors puzzles and motor involvement were suggested as methods for increasing student interest and motivation.

Phonetic Method

Rivers (1974) described the phonetic approach to teaching spelling and reading which has been widely accepted for several years by researchers and practitioners. This approach involves learning 40 different sounds for the 26 letters of the alphabet and when to appropriately use each phonetic sound. . Furness (1964) advocated the expansion of the present alphabet to include 40 letters to correspond to each of the phonetic sounds. The complexity of the phonetic approach has produced extensive confusion when used with some educable students.

Creative Writing Method

Gentry and Henderson (1978) discussed the merits of encouraging children to write words according to sound without regard to standard spelling. This approach would possibly reduce anxiety and frustration while encouraging creativity. The value of this approach in learning to successfully spell over significant periods of time has not been adequately determined

Other Approaches

Other approaches have also been used with varying degrees of success. Hoffmeister (1973) reported success in teaching educable students to spell by using an audio-tutorial approach. Consilia (1976) described a twenty step procedure for teaching spelling of "word families" (endings syllabifications, phonetic skills, etc.)

Payne et al. (1977) suggested the following approach for promoting learning and retention of spelling words: (a) present new words in a systematic manner such as linguistic word families; (b) be certain the child can pronounce a word before he attempts to spell it; and (c) the Phonovisual drills (Phonovisual Products, Washington, D.C.) for encouraging critical listening. Greene (1975) advocated using a typewriter with educable students to facilitate learning to spell. Improved motivation, hand-eye coordination, and finger dexterity would also result. Regardless of the approach used, the authors believe that instruction should be sequential, structured, and repetitious.

Conclusion

A singular approach for teaching educable students to learn to spell effectively has not been empirically demonstrated. An eclectic model that takes into consideration the particular learning modalities of the child appears to be advocated by most investigators. This eclectic approach appears to be particularly successful when a multi-sensory procedure is employed. Approaches that are highly structured, concrete, and that provide continuous and immediate feedback to the student also appear to further enhance learning. Regardless of approach, spelling should be taught in an integrated framework that includes: reading, writing, and listening, being taught concomitantly with spelling.

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[*Spelling Reform Anthology* §18.3 p242 in the printed version]
[*Spelling Progress Bulletin* Winter 1980 p4 in the printed version]

3. The Etymological Argument FOR Spelling Reform, by Valerie Yule*

*Old Aberdeen, Scotland.

Etymology has always been considered a good argument against spelling reform – so that the spelling of words should show their historical origin. This despite the fact that this demand is made of no other human tool, not even language itself. The occasional attempt, such as trying to make the first motor-cars look like horseless carriages, has always been laughed or shunted out of existence.

The 'etymological argument' also ignores the fact that English orthography is just about the only one in the world today, apart from French, where etymological interests are not expected to be sufficiently satisfied by looking up a dictionary, rather than daily handling fossils.

In the past, the spelling of words has even been made worse by attempts to bring back supposedly original spellings *which were mistaken* (e.g., the *ghost*, *doubt*, *debt*, *knight* arguments among scholars.)

However, the argument is still often made (e.g., Smelt 1975, Barnitz 1980) that a knowledge of etymology will make it easier to understand how words are spelt, and examples are given, often showing that while pronunciation has changed, the spelling has remained unchanged.

Yet the evidence given is always anecdotal, and as far as I know, no thorough count has ever been made of the relationship of present spellings to their historical analysis.

Suppose such an analysis should show how often the original spelling would conform more closely to our pronunciation today than do the corruptions it has undergone?

As an example of this empirical approach, a study has been made of all the words in the *Concise Oxford Dictionary* containing the pronunciation short *e* as in *bet*.

Most of these words are in fact spelt with *e* as in *bet*. 275 words are not. These consist of 67 root words and their variations. For example, there are 42 words in the dictionary that incorporate the root word *head*. These 275 words can be divided into four groups, according to their etymological origin.

36% of the word roots and 34% of the total words which are not now spelt with *e* to represent short *e*, were *originally spelt with e*. 27% of the word roots and 22% of the total words have the sound *e* spelt with different vowel combinations, but *none are the same as in their original versions*.

15% of the word roots and 12% of the total words come from Old English words originally spelt with joined *ae*, which is now reversed into the spelling *ea*.

Of the rest, only 22% of the word roots and 32% of the total words now containing the short *e* pronunciation use their original vowel spellings – (and 15% of these total words are variants of one word, *head*, and five of the root words are now almost archaic – *enfeoff*, *guelder*, *haecceity*, *pall mall*, and *seamstress*.)

Over a third of the words in English spelling in which the sound *e* is not simply spelt *e* would therefore be brought back to their original spelling of that vowel if Spelling Reform 1 were adopted: "Spell the short *e* sound *e* as in *bet*".

If we added words that were often spelt *e* in straight sound-symbol correspondence by writers such as Shakespeare and Milton before spelling was standardised, it is likely that more than half of the present irregular spellings of short *e* would justifiably revert to regularity. (e.g., *det*, *plesure*, *spred*, *medow*, *dremt*, *thret*.)

There have been too many arguments about English spelling based on only anecdotal evidence (cf Chomsky 1970, refuted by Downing 1979 and by Yule 1978, but still quoted regardless). There has been too much research on spelling that looked only at what is wrong with children who can't learn it.

It is now time for spelling research that checks out the arguments of anti-reformers, including the etymological argument. How often, in fact, could spelling difficulty be reduced by reverting to original spellings that still matched modern speech?

1. *Words with the short e sound originally spelt with e.*

24 root words plus 70 related words.

ate (O.E. etan)	leaven. (F. levain)
breadth (obs. brede)	measure (F. mesurer)
breakfast.(O.E. root, brecan)	pheasant (A.F. fesant)
dread (O.E. dredan)	said (O.E. secgan)
endeavour (F. en+devoir)	stealth (O.E. stelan)
guess (M.E. gessen)	thread (M.E. threden)
haemorrhage (F. emoragie)	treachery (O.F. trechereus)
heaven (O.E. hefen)	tread (O.E. tredan)
heavy (O.E. hefig)	treasure (O.F. tresor)
instead (O.E. root, stede)	wealth (O.E. wela)
jealous (O.E. gelos)	weather (O.E. weder)
leather (O.E. lether)	zealous (M.E. zele)

(Spellings of only 2 might be justified by pronunciation of related words: *break*, *say*)

2. *Words with present irregular spelling of short e sound not justified by spelling of origin* (17 root words + 41 related words)

any (O.E. aenig)

again (O.E. ongean)

breast ((.E. breost)

bury (O.E. byrgan)

feather (O.E. gefithrian)

friend (O.E. freond)

guest (O.E. giest)

heather (M.E. hathir)

heifer (O.E. heahfore)

jeopardy (O.F. iu parti)

leant (O.E. hlinian)

peasant (A.F. paisant)

realm (A.F. reaume)

sweat (O.E. swat)

threepence (O.E. threo/thri)

dreamt (cogn. G. traum)

pleasant (O.F. plaisant)

3. *Words with original Old English spelling æ joined.*

(10 root words + 24 related words) breach, cleanse, dealt, health, meadow, meant, read, ready, spread, weapon.

4. *Words with vowel spelling unchanged from original words.*

15 root words (5 almost archaic) + 41 associates to *head*, and 27 other related words. From Old English: bread, dead, deaf, lead, head, leapt, enfeoff, seamstress, threat, many. From others: leisure, leopard, guelder, haecceity, pall mall.

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It is also time, I think, to consider planning a complete issue of *Spelling Progress Bulletin* under the heading of "The evidence against anti-spelling Reform arguments" which would contain reprints and summaries of all the facts, research, etc. that need to be brought together for ready reference and more effective use.

4. Assimilation vs. Etymology, by Robert Seysmith*

*Toronto, Ont. Canada.

There is little doubt that the socio-political evolution of England and the merging of Anglo-Saxon and French, Latin and the various Anglo-Saxon dialects had a lot to do with the unassimilated state of English spelling, and hence with the irregularities this has caused. And if we look at it more closely, we can perhaps see how in the first place the Norman Conquest was the major factor. The Norman overlords of the Anglo-Saxons it seems, did not set out to impose the French language on the common lot and wipe out the Anglo-Saxon language, but, as the Norman monks were in charge of what education there was, and as the Court spoke French only, there seems to have been an almost studied neglect of the Anglo-Saxon language to the extent that two very useful letters, eth, (ð) and thorn (þ) (for voiced and unvoiced th-sound respectively), were purged from usage and a lot of the vocabulary of the native tongue was lost as the common folk began to pick up French words (altho these symbols still remain in Icelandic writing).

The Norman Conquest had a profound effect on the English nation that evolved afterward. The French language, obviously as a result of the Norman influence, has been historically regarded as superior to English, or at least to the, Anglo-Saxon core of it, and English, it seems to have been felt, could be improved only by the cultivation of French and Latin vocabulary. As a result of this trend, French and Latin spellings were retained or returned to if simple fonetic spellings were sometimes followed, as in the case of 'fisc' (physic). And not only that, but some Anglo-Saxon spellings were distorted apparently in an attempt to assimilate them to French spelling as 'middel', etc were changed to 'middle', etc. following 'couple' and 'tong' to 'tongue.'

The fact seems to be that, in medieval England, deference was paid to French, and Latin was virtually sacrosanct. And this has had a tremendous impact on the Psychology that has determined the orthographic peculiarities of the English language, Etymological spelling has been called a fad of the 18th century, but it had had a long history before that, and 18th-century spelling was really the culmination of a long process which, along with a general trend in the western vernaculars tended to maintain Latin alphabet usage against pronunciation, as for instance the usage of C and G in the Romance languages. But there seems to be something in the character of the English people which has pushed cultivation of this to the point of ideographic riting.

There has been a tendency to blame the anomalies in English spelling on the ignorance of the printer thru the ages, and on the lack in England of an academic body to regulate spelling, as is the case in most if not all of the other West-European countries. But the printer surely was printing what was handed to him, and if there were such an academic body in England, it would only put its stamp of approval on the status quo, because the same people who favor the T.O. would surely be on such a board.

The plain fact seems to be that the reason for the peculiarities of English spelling lies rather singularly in the classics-oriented schoolman and his domination of the orthography thruout the medieval and renaissance centuries, without regard to anywun's difficulties in lerning the riting of the language, or the ordinary usage of it. If it hadnt been for the meddlesome interference of the schoolman, assimilation would have gone, very likely anyway, as for as French words are concerned, in the opposite direction. Thus 'middel' would have remained and 'cuppel' (couple) would have been assimilated, and possibly also 'culler' (color), 'onner' (honor), etc.

It is true that we have to face what is called "literary derivation" shown in 'labor-laborious,' 'dictator-dictatorial.' This leads to what D. G. Scragg of the Univ. of Manchester has referred to as 'visual echo' in derivation. These are sometimes called lexicon spellings, and the language has a great deal of them, which reform on a fonemic basis would obliterate, or at least obscure. They are nearly all Latin or Greek derivatives, and reform within the standard alphabet could preserve the spelling connection in those words in which it might seem expedient, while riting them more simply.

What spelling reform is up against is not simply the conservative impulse or a disinclination to change. It faces a powerful emotional resistance of the same kind as that which cherishes religious teaching and ikons, and even a peculiar sistem of mesurement (witness the current resistance to metric mesurement in much of the English-speaking world). It is a passion against which reason is, apparently, quite without effect. Wun can appeal to economy (the obvious saving in time and materials if excess letters were eliminated), to the impediment to all children's lerning the orthografy and possible damage to the sense of rational thinking to the complement to the simplicity of English grammar which a simplified and more regular orthografy would provide, but seemingly to no avail.

As was noted earlier, the French-Latin influence has had a tremendous impact on the psychology that has determined the irregular forms of English spelling. It is possible that, the psychologist may be of more help to reform than the linguist. Within the reform camp (divided mainly between minimal reform advocates and those who prefer a thoro foneme-based reform), wun of the difficulties is finding a sistem on which all can agree, and which will stand the best chance of realization. But two principles seem to be involved. On wun side the traditionalists hold the principle of 'etymology,' on which Samuel Johnson defended the status quo with the argument that pronunciation was variable and constantly changing and therefore only the original spelling of words would guarantee stability. And on the other side, the reformers hold the principle of 'assimilation,' which does not necessarily deny etymology and its value as a guide, but says that the origin of words is not as important as a regular pattern for the graffic representation of speech. As the positions are fairly clear-cut, what the spelling reform movement may need right now is psychological insight into the evolution of English orthografy which differs so markedly from those of its sister Western languages, both Teutonic and Latin-derived, in its glaring irregularity.

The formidable power of the pedant seems to be as alive as ever. Hardly a week goes by but a letter-to-the-editor isnt objecting to a spelling because the Latin or Greek original means this or that. Words in *ise* and *ize* are a good example of pedantic perfectionism. The meaning of a word does not always depend upon its spelling (save in the case of homofones spelt differently). It is true that the Greek suffix *ize* has a definit meaning, and that words in *ise* have a different derivation. But does it make any difference if 'chastize' appears the same as 'organize'? Surely not. But the pedant insists that it would seem like the Greek usage of *ize*, which makes a verb out of a noun. (Chastise is, of course, a verb).

Latin derivatives are a big problem for reform, unless a partial reform is acceptable. A British linguist, Prof Simeon Potter, has noted that it is the large amount of Latin in the vocabulary that is holding up reform, pointing out a proposed fonetic spelling 'proseed' as an example of what reform would get into. The vigorous Latinizing of the 17th and 18th centuries has distorted the orthografy and made English largely a schoolman's, indeed a pedant's, language. But surely some reform is possible and practical.

[Spelling Reform Anthology §21.4 pp279–282 in the printed version]
[Spelling Progress Bulletin Winter 1980 pp6–9 in the printed version]

5. Arson and other Crimes, by Harvie Barnard.*

*Tacoma, Wa.

*It will be apparent that simplified spelling is used frequently thruout this narrativ to illustrate that it is readable without eny appreciable difficulty.

Arson, which is the malicious and intentional setting of fires, is a criminal act or felony committed usually by one of three types of persons: "fire-bugs", "fire-for-hire" people (professional fire-setters), and grudge guys – people who are trying to "get even."

Fire-bugs, as well as the grudge guys, are often youngsters – teenagers fascinated by the roar of flames, the crackle of burning timbers, the whining of sirens and the clanging of bells as the fire engines roar to the scene of conflagration! To these pyromaniacs, its all a great thrill – much as a doper's "trip" is a "maxi" experience for the drug addict. Such characters are not doing it for the money, nor are they intent upon physical harm or injury to others. They are principally thotless and irresponsible, looking for excitement and anticipating the thrill of having done something "big"!

Such psychopaths, whether bugs or grudges, are certainly potentially dangerous people to hav around. They usually ignite vacated properties garages, public buildings – such as schools – usually during periods of non-occupancy, like during holidays and over week-ends.

Some, if not most of the young persons involved in arson, are teenagers, often dropouts who carry a specific grudge against a teacher, a principal, or hold a feeling of vengeance towards schools in general. They usually feel very strongly that they've been abused, unfairly treated, or that society has rejected them. And in some cases these perceptions of misuse, whether deserved of not, may hav some foundation of fact.

The considerable number of arson cases related to school fires warrant consideration of the background of persons who set fires of this kind. Consider the case of Jonny Jackson (not his real name), who was caught in the act of fire-bombing his junior high school for "personal" reasons: at age 13. Jonny was found to be functionally illiterate, did not read, could only rite his name with difficulty. He had been passed thru to 7th grade, had a record of being a troublemaker in the classroom, liked baseball, was physically normal for his age, and rated an IQ of 93.

On checking his school record, it was found that Jonny had entered first grade at age 7 without benefit of kindergarten, had been recorded as: "Unready" and "Slow" by his 1st grade teacher. Since his case was not unusual, Jonny had been passed "On condition," and "Needs help." In second grade, it was more of the same – still below average and not improving in the basics (reading and writing). Still Jonny "passed", and there is no record of eny help or special aid. When he entered 3rd grade, it was discovered for the first time that Jonny was a non-reader, and he was not alone. Achievement tests were administered, and little surprise was expresst when it was revealed that about a third of Jonny's class were "below grade level" according to nationally standardized achievement tests. All that Jonny knew had been learned by listening and observation – not by reading. But he also was a non-writer and had no idea of how letters were put together to form words. When he tried – which was rarely – his spelling was less than 50% correct, and he was definitely confused by the pronunciation of words. He usually spelled, or tried to spell, according to sound (which was usually wrong), and his confusion led to frustration, which in turn led to non-cooperative behavior, which became more of a problem as time went on.

Jonny's 4th grade teacher classified him as a "typical Dyslexic"(simply did not read for any known reason), and that he should be placed in "Special Ed." But since the school levy had failed that year, there was no money for hiring a "Special" teacher or for setting up a class for retarded readers. Jonny's behavior went from poor to bad and from bad to worse. He was frequently sent to the office for a "conference" with the assistant principal who was the disciplinarian for the school. Jonny took his paddlings with appropriate stoicism, but as time wore on dismally, he vowed to "get even" altho he had no sure idea of just what he might do about it.

By the time our unhappy non-reader had passed along to seventh grade, he had become a confirmed scholastic failure, and in a kind of compensation, had become a standout as a "toughie" – a kid who wasn't afraid of "nobody." The "dyslectic" label had stuck, and Jonny was left pretty much on his own by the teaching staff. His only friend at school was the janitor, to whom Jonny was often assigned on his "bad days" for after school duty. Mr. Peters seemed to understand the lad's problem, and if Jonny learned anything in 7th grade, it was due to Mr. "Pete's" patience and shared work experience with our "problem boy."

Jonny's academic failure was not an isolated case. He had friends who were having the same or similar problems. Eduardo Perez, we'll call him Ed, and Jimmie Huertos, who would have to be Jim, because of non-English speaking backgrounds, were "dead-end-kids" as far as English was concerned. To them the alphabet was gibberish and the arts of communicate on spelling, reading and writing – a "never-never land", never to be learned, and probably never used. Both Ed and Jim had become truants at 4th grade, and as they were passed on, their teachers were relieved to have these unfortunates out of their classes. The "ass principal", as Ed and Jim designated the school disciplinarian, had broken his paddle on these lads in sheer frustration, and there had been several discussions at the administrative level about bi-lingual programs, but nothing had developed from such suggestions by the teaching staff.

There was a "dropout club" in Jonny's neighborhood which met informally and unpredictably on almost any day after school hours to "read" comics and to experiment – mostly with snipes (at first), and later with the "real stuff", grass, bennies, angel dust, or whatever they could beg, borrow, or steal. All three were in the beginning stages of delinquency and were learning fast – the life and language of the streets and back alleys. Of course they were being watched, not by anyone who really cared, but by "th fuzz." Their fathers were unknown to them; their mothers were busy and besides there were younger brothers and sisters to be fed and looked after. By the time a boy was 12, he was on his own, and seeking friendships in the out-of-the-way places.

The "Club", after a joint trip one afternoon, decided that the 7-11 Store across town would be an "easy lift" but in their euphoria of casing it out, neglected to note the automatic burglar alarm hidden behind the store's sign out in front. The result was pure disaster. While Ed was scooping up candy bars and Jim stuffing his shirt with cigs, Jonny inadvertently tripped the alarm while lugging a basket of wine out the back door.

At that moment, a neighborhood patrol cruiser picked up the beeps from the radio alarm system, and within 2 minutes had also picked up 3 young "break-and-enter" cases – all loaded with "the goods." Because of their ages, 12, 13, and 14, there was no court hearing and no trial. They "cooled off" overnight at the precinct station, were briefly questioned, and the arresting officers were instructed to deliver the kids to the school truant officer that same morning. It was useless to follow the addresses given – all were foney – which was later confirmed at the school office.

It was a routine pick-up for the police department, a nuisance for the school office, and a "bust" for the boys. Afterward they were secretly a bit proud of their "job." But they now had a "record," plus what they considered a real reason for revenge against the police, the school, and society in general. Following a discrete hide-out period of a week, the Club met in the alley back of the fast food joint where Jim's mother worked the late shift, and after cadging a couple of left over burgers, decided on a plan of action. They realized it was no good to be seen together after their "bust", so it was agreed that Ed would pick up a discarded beer bottle, fill it with gas at the corner station, and deliver same to Jim later that evening. Jim would rendezvous with Jonny, whose responsibilities included a medium sized rock, an appropriate paper sack, a rag for a wick, and a packet of safety matches.

The "gas bomb" would be passed on to Jonny while Ed and Jim were to take look-out posts at each end of the school block. After the nine o'clock cruise car had passed by, Ed was to whistle the "all set" signal; Jim would check out the situation at his end, and if all was clear, would give the "let's go" to Jonny who was waiting with the bomb in the alley.

All went as planned, except that Ed failed to note that the patrol car stopped a block away – even tho there was no "Stop" sign at the corner. Jim, on the run, heaved his rock thru the window of the principal's office, followed closely by Jonny who pitched his blazing fire-bomb thru the jagged opening left by Jim's rock. It was a "right on" pitch – but there was one serious mistake; the boys were running in the direction of the patrol car instead of away from it.

Officer Brown had been instructed to keep a sharp eye on school ground areas – especially those related to recent pickups, or where the delinquency rates were listed "High". Brown had turned his car around on hearing the first whistle, and met the trio practically head on about 3 seconds after the bomb hit the rug under Dr. Robertson's walnut desk. After sending out an "Immediate Assistance" radio call, the officer sized up the situation at a glance. After giving his locations he went after Ed, who was the youngest, slowest, and somewhat overweight, and collared the lad after a chase of about 100 yards. He then locked Ed in the rear of the patrol car, turned in a fire alarm, grabbed his emergency fire extinguisher, and headed for the school office. Brown was met at the entrance by the custodian, Mr. Peterson, who had already doused the beer bottle bomb. The rug had softened the shock so effectively that the bottle had not broken on impact; the rag "fuze" had been stuffed in too tightly to fall out; the burn was minimal and the attack a complete flop. And the blubbering young arsonist, Edwardo, was only too ready to confess that he was not alone in the conspiracy.

Following the arrest of Jonny and Jiminez, an unexpected turn of events occurred which might have altered the course of school history in Central City. While Principal Robertson's rug was being cleaned and patched, the bareness of the floor caused the good man to take an ignominious pratfall, which most unexpectedly brought on an inspiration! On regaining his composure he put thru a call to the new chairman of the board of education to complain about the super-slickness of the wax which had been used to polish the office floors. But instead of sympathy, Dr. Robertson was surprised to receive a brief but pointed lecture on what might have been a new and revolutionary idea about school problems -specifically, pupil problems and delinquency. When kids got into serious trouble, reasoned Mr. Fairley, there must be a reason. And the Board Chairman decided it *was* a matter of public concern to know not only *what* was going on, or not going on, in the schoolhouse, but *why* the dropout rate was going up, and *why* kids were having so much trouble with the "basics."

Fire bombing had also become far too common, and it was decided to zero-in on the problems of the three lads who had been detained for further questioning. Their problems were similar but not identical. Both Ed and Jim had language problems beginning at home – if it was fair to call their sleeping places "home." The parents were of Spanish speaking extraction, and both of the mothers worked. The fathers had disappeared at about the time the boys entered school. There was little

opportunity for the mothers to discipline the kids, altho they had tried. No English was spoken in the households, and altho their playmates had passed on a minimum of semi-English vocabulary, it was inadequate to prepare them for either kindergarten or first grade. Neither boy was "redy" for instruction simply because neither understood English well enuf to comprehend the teacher's attempts to "get thru" or communicate with them. The teachers were not bilingual, and in that regard were just as handicapped as their pupils.

During the course of several Board sessions it was decided that there were two possible solutions: 1) bilingual teachers could be hired, or, 2) special classes could be started in a kindergarten or head-start program planned especially for all children found to be verbally deficient in English, regardless of racial background. In either case, bilingual instruction would be needed for some areas if the preschool preparation plan was to succeed.

In addition to the rediness school, it was considered important that all primary pupils be encouraged to take advantage of the "early bird's breakfast" program in order that these children would have an incentive to get up in the morning in time for school and also have the energy for morning classwork. Altho there was some discussion of the effects of late TV watching on getting adequate sleep at home, it was decided that until there could be better cooperation with parents, little if anything could be done about this part of the problem.

Besides the bilingual problem, which did not apply to Jonny, there was still the matter of rediness for the first grade instruction, which did apply to all children coming from homes where communication was minimal at best. Unless these children could be brought up to certain minimum levels of understanding basic English – a basic vocabulary sufficient to follow simple instructions – kids from poor backgrounds would have little chance with any standardized program of normal primary procedures. Kindergarten was therefore a *must*, with a special section for those found to be verbally disadvantaged. And a "headstart" program with bilingual instruction was recommended for all children from homes where English was not the usual language. Furthermore, parents from non-English speaking homes were to be encouraged to attend evening classes for adults, taught by experienced bilingual instructors skilled in beginning English.

When it appeared that the school board was willing to support such a program, other concerns began to receive attention, such as text books, needed classroom supplies, and questions like, "Why were a lot of English speaking kids *not* learning standard 2nd and 3rd grade English? The answer to this latter question received response from an unexpected source, Jonny Jackson. It was probably the first time anyone had ever asked Jonny's opinion on something having to do with school or what he was supposed to be doing there.

When he had recovered from the shock of being asked what he thought, his answer set the text book committee back on its heels, altho the Board was really not too surprised. Jonny's "smack-on-the-kisser" answer was "A lotta stuff that they tell you don't make no sense!" When the murmuring had died down and he felt that a modest degree of academic dignity had been restored, the President of the Board asked the Principal what he thought of Jonny's reply. Dr. Robertson's response was equally surprising. "I would say, sir, that what Jonny meant, was that the stuff we teach, that is, I mean, our curriculum, our English program, is structured to. . . at which point he coughed weakly and began again; ". . . What we hope to accomplish in our language arts curriculum is to develop an appreciation, a sense of values, a comprehension of skills necessary to make communication in the English language. . . " But he didn't finish. At this point, the insurance salesman, who headed the Ways and Means Committee of the Board, cut in. "Our question to you, Dr. Robertson, is, does what Jonny says make any sense?" At this point he paused and spoke directly to Jonny. "You're O.K. kid, now what was it that you wanted to tell us about that doesn't make sense to you?"

When it appeared obvious that Jonny was confused beyond the ability to utter coherent speech, his former teacher – the one who discovered his non-reading problem in the 3rd grade – came to his rescue. She arose from obscurity and with a sudden release of pent-up emotion, decided the time had come to give all those assembled "both barrels."

"May I respond for jonny?" she asked, and without waiting for a reply, continued, "I doubt that few if any of you concerned people have taught 3rd grade, or for that matter, any grade; but jonny here happens to be very much correct. With our old, out-of-date readers, our spelling books based on 18th century dictionaries, and our methods just as ancient, it's next to a miracle that as many children learn to read, write or spell as well as they do. In 2nd grade we teachers spend more than half our time teaching spelling and spelling rules, and then in 3rd grade we are in the position of having to teach the exceptions to these same exceptions. By this time the kids have discovered that they must learn reading as well as spelling by memorizing each word individually – which is a slow and often discouraging process because it is complicated by having to unlearn rules which don't work; so that those who are already confused become frustrated and are about ready to give up, which is sometimes the way many teachers feel when spelling tests are graded."

A number of heads were nodded in sympathetic agreement, and Miss Rule continued, "Much of the 'stuff' and I use that term advisedly, thanks to you Jonny, is quite without rhyme, reason, or logic. Pupils spend many hours 'after school' writing misspelt words 10 or 20 times mainly because nearly half the words they are expected to know in order to manage 4th grade, readers are of the 'look-n-say' variety – which means that they are not phonetic are not spelled the way they are pronounced!, and cannot be pronounced according to the sounds of the letters which they have supposedly learned in 1st grade. So because of these non-phonetic exceptions, the children must memorize much of their spelling by the sheer drudgery of endless repetition – like teaching a monkey to ride a bicycle, or to master some other form of tricks, which is a waste of time both for the teacher and the pupil – not to mention the years lost in learning literacy in our English language, of which 20% to 30% of our grade school graduates – not to mention high school finishers never quite manage."

"And how long has this 'look-n-say' or 'monkey say, monkey do' kind of teaching been going on?", asked a Board member?

"As far as I know, ever since you started school, and probably for a couple of hundred years before that," responded Miss Rule, somewhat acidly.

"Hasn't anyone mentioned this before? ", inquired the President of the Board. "Who's responsible, around this place?"

"Now that's a good question! Who indeed?" Miss Rule continued, "We teach according to the book and the curriculum. And who buys the books, sets the style, and calls the tune? The Board! That's who! And who carries out the orders? That's a good question, too! And I want you to, know that if I didn't stay up until 10, or 11, or 12 almost every night, planning, "cutting out" pasting up, and making things: ready for the next school day, there wouldn't be half of my class learning half as much as they do. And that's why teachers get gray hair a lot sooner than janitors, bus drivers, and stenographers in the front office – although they're rather busy too – at least during the day."

"You mentioned books and spellers, Miss Rule. What seems to be the problem there?"

"Most of the newer reading books are reasonably satisfactory, but they're more or less geared to the spelling, and that's where our basic problem begins. Our spelling, as G. B. Shaw, Mark Twain,

Hemingway, Ben Franklin and dozens of other intellectuals hav tried to tell the American and English public for the past 100 or more years, is just plain 'crazy', difficult for kids and adults alike. As Mark Twain so clearly sed, 'English spelling is an insanity, an almost, impossible confusion of irregularities to learn, and a ridiculous waste of energy time, materials and money to use.' The years we lose in requiring the rote memorization of illogically spelt English words ads at least a year, and usually several years to the time required for the average child to become reasonably literate in English. And worse yet, there are hundreds, thousands, probably millions of boys – just like Jonny, Ed and Jim from our community – who never will learn to read or write well enuf to get or hold a decent job! And what are our better informed professional teachers saying about it? What they are saying – if anyone will listen – will erase that know-it-all smile right off some self-satisfied faces. You wont want to believe it, but the frankly speaking professionals hav called it "psychological child abuse," and it's this kind of irrational teaching – perhaps it could better be called "programming" – which causes our pupil behavior problems. In fairness to the teachers who for the most part are doing their best with what they are required to teach, it is certainly high time that someone in academia recognized the basic causes of pupil failure and rebellion which is resulting in drop-outs; and flunking these kids out of school."

"As Jonny tried to tell you, 'The stuff they try to teach us kids just don't make, no sense!' Of course you wont believe Jonny and you probably wont believe me.

Miss Rule paused for breth, walked slowly over to Jonny who was staring rather dazedly at Dr. Robertson, and placing her hand affectionately on Jonny's shoulder, drew in a long breth and let go with her final blast.

"Jonny," she sed quietly, "these people seem to hav forgotten the meny years they spent slavishly memorizing English spelling and all that 'stuff' they call grammar. They hav good paying jobs now, and *that's all they're really concerned about*; and they put the blame on you, criticize the teachers, complain about lack of parental training, and try to place the blame on *everyone but themselves*. If you fail, drop out of school and, get into trouble, the Board says it's everyone's fault but theirs. This is the very first time enyone has asked my opinion on the real cause of the delinquency problem, but I dout if enyone here is honestly interested in the truth or the facts."

Agen Miss Rule paused. No one seemed able or willing to respond. After what seemed like several minutes, the President of the Board cleared his throat, and turned slowly toward the perspiring Principal. Dr. Robertson seemed to shrink to about half his actual size. He coffered twice, and blew his nose. Finally he spoke in a croaking voice, "Are you – are you asking for my resignation sir, or, . . ." he hesitated, and continued, "What do you expect me to do about Miss Rule?"

It was now Mr. Fairley, the Board President, who hesitated. It was clearly his move, and he turned toward the other Board members for some show of support. There was a stony silence. "Well," he began after scratching his nose thotfully, "Miss Rule has been with us for quite some years, and as I understand it, has been directing the primary department and is therefore responsible for what goes on there. It seems to me that the Bond is not redy at this time to arrive at a decision on, er, such short notice. Is there a motion that we adjurn this meeting and reconvene at our usual time and place a week from next Friday?"

Dr. Robertson appeared to be getting his color back, and so moved. The Board members shuffled their papers briefly, and without further comment departed in what might best be described as hasty confusion.

Mr. Fairley, Board President, lingered, looking rather fixedly at the floor. He then observed that Miss Rule was crying quietly while at the same time attempting to offer Jonny a little sympathy – who sat uncomfortably kicking the legs of his chair and trying to appear unconcerned. It was obvious that Mr. F Fairley was just as embarrassed as Jonny, and when he finally spoke, it was with a kindly yet blunt sincerity.

"Miss Rule, in view of what has happened here this evening I am almost certain that the Board will recommend some changes, and in order to avoid embarrassment for the entire Board, I shall have to accept your resignation. I realize that what you have told us is not only true, but is an indictment of our whole educational program. But this irrational, ridiculous 'monkey look, monkey say' variety of teaching has been going on for as long as I can remember – and probably before that. It must have begun with the horn-books and continued down through the Blue Back spellers right down to the present state of spelling bees and semi-literacy. At least a year of schooling – and probably many more – has been wasted for every pupil who has attended public school over the past 200 years – which would add up to several hundred million years of lost time – utterly amazing, if anyone would stop to think about it. If a pupil's education is worth only \$100 per year – and I happen to know it's costing the taxpayers a lot more than that – the waste would be nearly enough to pay off the national debt!

Mr. Fairley paused, looked seriously at Miss Rule, who had stopped crying, and then continued, "It's worse than a sad situation – it's a damned shame, but I'm sure I can't change it – now, next month, or next year. Sometimes I wish I was a dictator! If I had the authority to do so, I'd change things tomorrow, or at least make an effort to start the wheels of progress turning!"

"I agree with you, Mark Twain, and G. B. Shaw; but the English lawyers robbed Shaw's trust until there was nothing left to work with, and poor old Sam Clemens was just getting started when he went broke, lost his health, and gave up. I also happen to know that our own Ben Franklin did what he could to get things going right back in the days of early education in this country. Even then there wasn't much real interest in children – except to keep them busy and literally hammer education into them. And when they gave trouble, which was probably a consequence of the psychological abuse you mentioned, the stock remedy was to 'beat the Hell out of them,' then kick them out of school as soon as possible."

Miss Rule was holding Jonny's two hands in her own and had started crying again, now quite openly. Even Jonny was becoming tearful and pent up tears were cutting little white channels down the lad's dirty cheeks.

Mr. Fairley continued, "That's the way it was, and that's pretty much the way it still is, and the way things look to me now, that's the way it's going to be – for how long I only wish I knew. It's a very sad reflection on our so-called modern society the way we operate our system of public education, yet I, as one who can see what's going on – and I was once a teacher myself – can't do very much if anything about it."

When he paused, Miss Rule quietly interrupted, "I believe I understand your situation. So you ran for the school board hoping to change things, and then this happened. I wonder, . . . have you tried working with the state legislators? Or what about the Dept. of Education in Washington, D.C.? Aren't they supposed to be interested in improving education – or is all that bureaucracy a kind of cover-up to preserve the status quo, or to make cushy jobs for political buddies – as many of the teachers seem to think? Have you ever written to Senator Woodhed, or Congressman Rockhard to see if they'd consider a change for the better?"

"Well, yes I did, and what do you think the Senator said in his reply? The response to my first letter, in which I proposed a bill to authorize a subcommittee to study the matter, was little more than a brush-off, saying 'It was good to hear from you; I appreciate your concern. Stop in and see me sometime when you're in Washington. I'm glad you took the trouble to write, and thank you for your interest and support.' And my follow-up letter on the same subject resulted in the following: 'It's always a pleasure to hear from you. Let me know when you have made some progress with your interesting project.' And then, after my third letter asking what steps should be taken to get some action, . . . no response at all. So I realized that there was no interest in Washington, and so, the project died."

"The Senator has been in office for 4 terms now, and has a 'following' plus assured financial support, which means that no matter what happens, or what doesn't happen, he'll be reelected every 6 years until he dies or unless some unforeseen catastrophe occurs. The fact is, we're in the middle of an educational crisis right now, but we've become so accustomed to it, like oil on the garage floor, or, as Mark Twain said; 'like cockroaches under the sink, we've become so accustomed to them that they are now an established part of the household'."

And so, to satisfy the conscience of the Board, Jonny was shipped off to the state reformatory for a year, escaped after the first month, and two weeks afterward was arrested for car theft. He was promptly acquitted by a sympathetic court, had no job and no skill to obtain one, and after "playing the street" for awhile, stole a gun and was again in trouble – this time for a real "stinger" – armed robbery, with a 10 year sentence.

Miss Rule, after 20 years with the school system and no provision for retirement, gave up teaching and promptly found herself a position with the personnel department of a large retail store where she has no homework to correct and no lesson plans to prepare every day – or night.

Dr. Robertson "graduated" to become state Superintendent of Education, and the manager of the local Chrysler agency is now heading up the school board.

Almost everybody seems to be back in the same old groove and appear happy, except for one peculiar happening. Fire broke out at the Junior High School, and altho arson was suspected, no one knows who might have been involved. So the Board fired the janitor who had, contrary to school regulations, been seen smoking a cigar that afternoon.

Nobody seemed to recall that the previous week three 7th graders had been given an especially "bad time" by the assistant principal, and had been truant for several days before the fire. "Good riddance" the Board members agreed, and proceeded to read and approve the minutes of the preceding meeting.

How much longer must we wait for our legislators to take some action on this problem? Shouldn't every concerned parent and teacher write to their congressman demanding action on this much needed legislation?

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6. Linguistic and Cultural Perspectives on Spelling Irregularity

John G. Barnitz

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"Scissors is one way of spelling 'sizurz.' One other way is *psozzyrrhzz* which is justified by *ps* in *psalm*; *o* in *women*; *z* in *buzz*; *yrrh* in *myrrh*. There are 81,977,919 other justifiable ways." – Benn Pitman

For centuries English speakers have grappled with their written language and for centuries reformers have proposed new spellings. Why is the English writing system "possessed" by so-called "spelling demons"? What have been some of the attempts through the centuries to regularize the spelling system? Why hasn't a complete spelling reform become a reality? In discussing these questions, we can understand the linguistic and cultural influences on English spelling.

At least three objectives for this discussion can be identified. 1) The reader will gain a deeper understanding and appreciation of English spelling, with which children struggle in learning to read and spell. 2) Some of this information could be shared with older students as cultural motivation for learning irregular spellings. 3) Teachers will increase their background of sources on the cultural and linguistic aspects of language.

Before discussing spelling "irregularity," we should first deal with this question: Is English really that irregular? Chao (1968) has pointed out that English does not have a one-to-one correspondence system as do some other languages (e.g., Spanish, Finnish). English has a "many to many" system. Thus, an individual phoneme can have a variety of spellings: *way, weigh, wait, fate, hey, ballet, fiancée, lady*. Likewise, an individual grapheme can have a variety of pronunciations: *one, do, dot, open, oven, women*.

If English orthography is viewed as a collection of isolated spelling-sound correspondences, then the spelling system is irregular. Yet researchers have viewed orthography in other ways to demonstrate the high degree of regularity. Hanna, Hodges and Hanna (1971) considered the *position* of a grapheme in a word as contributing to predictability. For example, out of a corpus of over 17,000 words, the long *ā* sound was found to be spelled *a* only 45% of the time; but when the long *ā* is in syllable final position in the middle of a word, the correspondence is more direct – 81%. Likewise, Bloomfield (1942) and Fries (1963) demonstrated that there are regularities of spelling "patterns":

<u>CVC</u>	<u>CVCV</u>
cat	Kate
fat	fate
rat	rate
mat	mate

Much more regularity can be found when we examine spelling in terms of meaningful relationships among roots or in terms of the "lexical" or "morphophonemic" structure of words (Venezky 1967,1970; Chomsky 1970; Dickerson 1978). The silent letters in *sign* and *bomb* are functional in

preserving their identity to *signal* and *bombard*. Similarly, the various spellings of the schwa sound in *author*, *polar*, and *composition* relate these words to *authority*, *polarity*, and *compose*. To summarize, English orthography is basically a regular system when we consider predictable patterns and lexical structure of words. Yet to say that English orthography is almost "optimal" does not account for many of the exceptions which are the result of the rich linguistic and cultural heritage of the language.

Toward Spelling Irregularity.

Many factors have contributed to spelling irregularity. The following factors have enriched modern spelling with vestiges of linguistic and cultural history.

[The discussion on spelling history is based on a synthesis of many works in historical linguistics. Many of the examples cited in this article may be found in Anttila(1972), Baugh (1935), Buck (1933), Fries (1963), Lehmann (1962), Maher (1969), Mencken (1919), Müller (1880), Pyles (1971), Sturtevant (1917), and Venezky (1970). The discussion on spelling reform is based on Craigie (1952, 1954). Ellis (1848), Krapp (1925), Laird (1963), March (1893), Mencken (1919), and Pitman (1905).]

Sound Change.

During the natural evolution of English, many words have undergone changes in pronunciation while their spellings remained unchanged. Thus, a direct correspondence is often lost. In the transition from Old English to Middle English, the language lost the /k/ sound in word initial position preceding a consonant, rendering the **k** in *knight* and *knife* silent. Similarly, the guttural sound /x/, a sound in Hebrew and Arabic today but lost from English, is represented in the ght spellings: *night*, *right*, and *brought*.

Borrowing.

Other factors affecting spelling are the borrowing of words from other languages, and the adaptation of new spelling conventions by scribes of a conquering people. Examples of the first type are plentiful: *bouquet*, *ballet*, *junta*, *macho*. This also exists in many American place names: *Champaign*, *Terre Haute*, *Michigan*, *Chicago*, *Salon Rouge*.

The second type of foreign influence occurred prior to the invention of the printing press, before spelling was standardized. During the early invasions of England by the Roman armies, the Latin alphabet, which was well fit for the five-vowel Latin sound system, was introduced in Britain. As a result, many vowel sounds had to be represented by a few letters. Another result was the replacing of the pre-Latin "runic" symbols Thorn þ and Eth ð by the Latin th. Thus, th corresponds to both a voiceless and a voiced phoneme. After the Norman invasion of 1066, Anglo-Norman scribes began using the French distinction of hard and soft c, corresponding to the modern sound values: /s/ preceding e, i, y (*cell*, *cylinder*, *city*) and /k/ preceding o, u, a, another consonant, or the end of a word (*coat*, *cup*, *cap*, *clap*, *frantic*).

Etymology.

A large number of silent letters have arisen from the resurrecting of Classical Latin spellings, even though they had become silent long before the words entered English through French. The Renaissance writers, in their zeal for giving classical languages and cultures a "re-birth," gave English fanciful learned spellings. Classic examples are the following. The silent *b* in *debt*, *doubt*, and *subtle*, though not even pronounced in the early French words from which the English words were borrowed (*dette*, *douter*, *soutil*) was inserted because the earlier Classical Latin forms had a pronounced *b* (*debitum*, *dubitare*, *subtilis*). Likewise, the silent *g* spelling in *sovereign* and *foreign* was based on Classical Latin *regnum* instead of Middle French *souverein* and *forein*. The case of

the silent *s* in *island* resulted through popular etymology. Old French /île/ *isle* [īl] (<Latin *insula*) became associated with Middle English *iland* so that the spelling of one influenced the other. The Old English compounds *ig-land*, *ea-land*, "water land" did not have an *s*. [Throughout this article, the symbol ">" is used to mean "developed into" or "became", while the symbol "<" will be used to mean 'developed from.']

Analogy or Inverse Spelling.

The most common non-etymological element in the orthography is the inverse spelling. The words *right*, *light* and *light* formed a strong spelling pattern. When the Old French *deleiter* (>M.E. *delyt* or *delite*) was borrowed into English, it was given an Anglo-Saxon spelling *delight*. This may have also occurred by popular etymology where the meaning of *delight* may be associated with the meaning of *light*, as in a "bright" disposition. Other cases of spelling analogies include *schooner* after the model *school* and *whole* after *who* and *whom*.

Spelling Pronunciations.

Spelling pronunciations occur when the print influences the pronunciation of the word, as with the *t* in *often*. During the Renaissance a silent *h* was inserted after *t* in many words: *throne*, *theatre*, *thesis*, *author*, even when the digraph indicated a dental stop (c.f. French *auteur*). This is a result of a reborn knowledge of Greek. The *h* in *author* was inserted by analogy to the words of Greek origin. Then, spelling pronunciation leads the *th* of *author* to be pronounced as in native English *thunder*. The print effected the pronunciation change. It is interesting to note that the original /t/ pronunciation and spelling often appear in alternate forms, as Pyles (1971, p. 65) pointed out:

Catherine / Kate	Arthur / Art
Anthony / Tony (c.f. Antoine, Antony, Antonio)	Dorothy / Dot
Elizabeth / Betty	

The shortened form retains the older pronunciation. However, an irregularity is created when not every *th* is given a spelling pronunciation: *Thomas/Tom*, *Theresa/Terry*.

Toward Spelling Regularity

Spelling reform history may be divided into two major parts. Earlier movements attempted to establish conformity among varying spellings in use; the later attempts were for changing the spellings once the previous conventions became established.

Two factors had strong impact upon the stabilization of various spelling practices: the invention of the printing press (c. 1450) and Samuel Johnson's *A Dictionary of the English Language* (1755). Johnson's dictionary attempted to stop divided usage: "every language has likewise its improprieties and absurdities, which it is the duty of the lexicographer to correct and proscribe" (Preface). Johnson used two criteria for deciding the "correct" spelling of a word: its etymology and its usage by the majority of educated writers. Thus, he chose *ch* in *enchant*, *enchantment* which English borrowed directly from French; but the *c* in *incantation* which came from Latin. Similarly, he chose *entire* over *intire*, as he recognized that the word came from French *entier*, not directly from Latin *integer*. When appealing to the usage of educated writers, Johnson chose the various spellings *convey/inveigh*, *deceit/receipt*, *fancy/phantom*. And sometimes Johnson entered a word twice if he couldn't decide on a correct form: *choak/choke*; *soap/sope*, *fewel/fuel*. According to Webster (1828, Preface), Johnson introduced *instructor* in place of *instructor* in opposition to the common usage of *-or* by Milton, Locke, Addison, and Johnson himself. Ironically, Johnson didn't change *collector*, *cultivator*, *objector* and *projector*.

Because these spelling variations were prescribed as correct, many inconsistencies became frozen into the spelling tradition. There were many attacks upon Johnson's dictionary by other authorities,

but the printers used the dictionary as their spelling "Bible." So despite an attempt to make the spelling system consistent, Johnson didn't always promote a one-to-one correspondence between spelling and speech.

While the 18th century was the epoch of conformity, the 19th century was the epoch of reform. A major spelling reform was effected by Noah Webster when the newborn American colonies were still in their infancy. The impetus for a reform proposal was the fervor of American nationalism after the colonies broke their political ties with England. Webster preached for an American government, an American culture, an American language, and an American orthography. An American spelling reform would encourage the publication of American Books (Webster 1789 p 397):

The inhabitants of the present generation would read the English impressions, but posterity being taught a different spelling, would prefer the American orthography ... besides this, a *national* language is a bond of *national* union. Every engine should be employed to render the people of this country *national* to call their attachments home to their own country; and to inspire them with the pride of national character .

Although many editions of Webster's *American Dictionary of the English Language* varied in consistency of reformed spellings, a few of his proposed changes were successful in breaking away from British traditions. The *-re* in *theatre*, *lustre*, *centre*, was replaced by *-er* yielding *theater*, *luster*, and *center*. The spelling *-ence* was changed to *-ense* as in *defence* > *defense*. Another change was *-our* being replaced by *-or*: *Saviour*, *colour*, *flavour*, *honour* > *Savior*, *color*, *flavor*, *honor*. Also, there was a simplification of double consonants in some words: *traveller*, *waggon* > *traveler*, *wagon*.

Despite Webster's plea for many more reforms (*definit*, *reezon*, *masheen*, *juce*), he was not totally consistent in the use of revised spellings in each edition of his dictionary. Like Johnson, Webster didn't level the irregularities completely. Lyman Cobb and Joseph Wenchester noticed inconsistencies in the 1828 edition of the American Dictionary: *acre* > *aker*, but *lucre*; deletion of final *f* in *bailiff*, *mastiff*, *plaintiff*, but not in *distaff*, deletion of final *k* in *frolick*, *physick*, but not in *frolicksome* (Mencken 1919, p. 386). Despite many inconsistencies, Webster made the greatest impact upon American spelling reform. The American plea for a simplified spelling continued through the turn of the present century. The American Philological Society, the Spelling Reform Association, and the Simplified Spelling Board published legions of documents and pamphlets to persuade the American public to accept reform. About the only simplification of spelling accepted in the present century occurs in many, but not all, newspapers: *rite*, *thru*, *tho*.

The type of spelling reform envisioned by Webster was a regularization of spelling into consistent conventions without adding new symbols to the alphabet. However, early in the 19th century a more radical movement of reform was started by an Englishman, Sir Isaac Pitman, who proposed in 1837 to add seventeen upper and lower case letters to the English writing system. Isaac Pitman was succeeded by Alexander John Ellis, who in 1848 published a *Plea for Phonetic Spelling*, 150 pages of arguments for reform. Pitman's son, Benn Pitman, brought the plea to America, while his grandson, James Pitman, designed the Initial Teaching Alphabet (i.t.a.), used in some primary grade classrooms to teach beginning reading. According to Downing (1965), the advantages of adding extra symbols were to achieve a more direct one-to-one correspondence in the writing system and to ease the task of beginning reading. Yet, the main criticism of using the i.t.a. system was that children would have difficulty making the transition to traditional orthography.

Against Spelling Reform

While spelling reform is an appealing idea, there are many strong cultural and linguistic factors

operating against it.

1) Instituting a new spelling convention would possibly handicap those who were accustomed to traditional spelling. This could affect the behavior of typists and printers. If new symbols were added, present-day typewriters and printing equipment would be rendered obsolete (Craigie 1954).

2) Alphabetical order in dictionaries may also need to be redone. *Filosofy* would come before *foren* (foreign). Translation dictionaries would also be complicated. For example, an English-French dictionary now distinguishes *rain/reign/rein*: *pluie/regne/frein*. But if these were written phonetically, the dictionary would need distinguishing phrases for some entries: *rain* (wauter): *pluie*; *rain* (ov a king: regne; *rain* (for a hors): *frein* (Graigie 1954).

3) Still another reason is that a phonetic spelling would destroy many morphological generalizations and would obscure semantic relationships among words. Consider the words *cats*, *dogz*, and *pachez*, each requiring a separate marker to indicate plurality. In a similar way, the learner may lose the visual relationship among allomorphs of the past tense morpheme: *printed*, *jumpt*, and *seemd*. Furthermore, a phonetic spelling will not preserve visually the semantic relationship of words with common root morphemes: *othər/ othority*, *polər/ pələerity*, *rijəkt/ rəjəkšən*, *nešən/ næšənəl*, *Spirəl/ inspərešan*. The meaningful relationships among words are preserved in the more abstract traditional spelling where the roots have common spellings even though they may be pronounced differently. [For counterexamples to several of the phonological rules postulated in generative phonology, see Steinberg (1973) and Ohala (1974).]

4) Finally, what is more important is that the close relationship between spelling and sound, although important in initial learning to read, may not be that crucial to comprehension in fluent reading (Gillooly 1973, Goodman 1967). Skilled reading involves primarily the interactions between the reader's and author's knowledge and language (Smith 1971, Goodman 1967, Rumelhart 1977, Anderson 1977). The fluent reader does not need to rely on all the graphic details of the page. Too much attention to visual-phonetic information will overload the reader's visual system, causing him/her to fail to get as much information as needed for comprehension (Smith 1973, p. 7).

Thus, many factors resist the efforts of spelling reformers.

Summary

English orthography has been demonstrated to be highly systematic when the relationship between speech and symbols is examined in terms of patterns and semantic relationships among words. Yet, English does have many spellings which exist because of its rich historical, linguistic and cultural heritage. Carl D. Buck (1933, p. 44) summarizes this best:

English spelling rests on an early mixture of Old English and French spelling, followed by various orthographical reforms inconsistently applied, with many letters not pronounced in English (as in *k* in *knight*. the *l* in *calm*), some etymologically correct, but never pronounced in English (as the *b* in *debt*), some not even etymologically justified (as the *s* in *island*) -- all together resulting in the most unphonetic spelling conceivable.

Although for centuries reformers tried to eradicate spelling inconsistencies, many factors resisted their efforts. Probably one of the strongest factors against spelling reform is the fluent reading process involving less reliance on specific graphical details and more reliance on the meaningful message.

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[*Spelling Progress Bulletin Winter 1980 p13 in the printed version*]

7. Sir James Pitman's comments on the Barnitz article.

There are a number of errors in the article by John C. Barnitz in the Journal of Reading, January 1980.

To begin with, his attribution to Benn Pitman of the 81,977,919 other justifiable ways of spelling *scissors* is not correct. My great uncle Benn Pitman must have been quoting from A.J. Ellis' *A Plea for Phonetic Spelling*, which was published in 1848 by Fred Pitman, the brother of Benn and Isaac. Benn was not the originator – it was Alexander John Ellis.

Surely Barnitz goes too far in seeking credence for the assertion that "English orthography is basically a regular system"? The best that can be said for it is that in the passive responses to its spellings, the human brain is so tolerant of even the bizarre that it understands what its eyes (and its ears) bring to it.

As Bernard Shaw wrote in his will:

"by infinitesimal movements of the tongue countless vowels can be produced, all of them in use among speakers of English who utter the vowel no oftener that they have the same finger prints. Never the less they can understand one another's speech *and writing* sufficiently to converse *and correspond*."

It is rather in the emissive visual form of the English language that the trouble most often arises. Without a strict orthography but with a permissive spelling conforming to an agreed systematic relationship between what is understandably spoken and what is written, we should all understand one another's spelling well enough, sufficiently to correspond and might even benefit from hearing (imaginatively) our correspondent speaking.

Why do we waste so much time forcing children to conform in spelling to a single form, varying incidentally significantly in some words on the two sides of the Atlantic? We in Britain get along

well enough with your *center, labor, honor, color*; you in America do not object to *centre, labour, honour, colour* and *flavour* though incidentally the most intelligent of us would question the wisdom of Andrew Carnegie and Theodore Roosevelt in having changed the spellings only of the final unstressed syllable and left unchanged the much more misleading first and accented syllables *cent, lab, on, col,* and *flav*.

After all, our most expensive teaching efforts are virtually a total failure. The great majority of educated Englishmen and Americans fail to spell correctly all ten of the following words in the spellings as given in their favorite dictionary.

Try them yourself and then check them. They are here not spelled orthographically but phonetically for better understandable reading:

vilifie, raerifie, inuendo, inocuelaet,, sueperseed, haras, embaras, plaegi, riveted, controelabl, inferabl.

Not all spelling reformers advocate turning homophones into homographs. There is no practical case for doing so. There is if anything a better case, if change is envisaged, for turning more homophones into heterographs. Homophones are poor units of communication. Heterographs are much better because they help context which is so important in the communication of those skilled in that language.

It can be only wishful thinking that has led Barnitz to report that "English orthography has been demonstrated to be highly systematic" seeing that there are over 2000 different spellings of the only 40 (?plus two) sounds of the language. Surely the spelling of *onky, wuhosse* and *eighuht* for *once, whose* and *eight* is unsystematic, particularly seeing that an *h* put before *eight* does not signify /hate/ but /height/.

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[*Spelling Progress Bulletin Winter 1980 pp13,14 in the printed version*]

8. Comments by Donald C. Scragg on the Barnitz article*

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One must applaud the aim of Barnitz's article. It is a good educational principle to explain the reason for a system rather than try to inculcate the system by rote learning alone, and there is no doubt that the history of spelling like the history of language, can be made fascinating as well as informative. It is worth observing too, that some features of English spelling have come into being as a result of conscious attempts to regularize it by bringing it more into line with speech patterns; or because writers have wished to avoid ambiguity in the written language through manipulation of spelling. Also, the history of spelling reform in English is a particularly long one, and knowledge of this fact may be useful to modern reformers, both as an illustration of what has been attempted in the past and as a warning against unwarranted optimism on their part. In many ways, then the history of English spelling has a contribution to make.

Barnitz makes it clear that his article is highly derivative. It is also, obviously, highly compressed. These two factors when combined, produce most of its faults. They involve him in stylistic flaws, which are particularly troublesome in material as technical as some of his is (e.g. he writes of an 'optimal' spelling system without fully explaining his use of Chomsky's term, and his discussion of 'the French distinction of hard and soft *c*' by 'Anglo-Norman scribes' is probably not meaningful to anyone not already familiar with the argument – apart from being wrong (through over-

simplification) in at least three respects. His phrase 'an Anglo-Saxon spelling *delight*' is particularly unfortunate since neither the word nor the use of *gh* is to be found in Anglo-Saxon.) His lack of primary knowledge of Early English is made clear in a variety of errors resulting from a misrepresentation of his sources: the symbol called 'eth', which is a *d* with a stroke through the ascender, is not, as he says, a 'pre-Latin runic symbol' but a development of the Latin alphabet introduced into Anglo-Saxon England by Irish scribes; there is no such thing as 'Middle French', only Old French and Modern French; the loss of the pronunciation of /k/ from *knight* occurs not in the transition from Old to Middle English (11th-12th century) but in that from Middle to Modern English (15th century).

Some of the views expressed are remarkably old-fashioned given the recent date of many of the works in the bibliography. No Old English scholar now believes that the symbols *thorn* and *eth* stood for voiceless and voiced phonemes. (There was, in fact, only one phoneme which could be represented by either symbol.) The credit given to Johnson for influencing the development of spelling, I and others have long ago suggested is ill-founded. Johnson's influence was negligible and his 'choice' of spellings restricted by that made by the printers who preceded him. Barnitz's whole section on the history of spelling reform is partial; he gives no sense either of successive tides of reform or of the development of reformers' thinking.

In short, I find the article misleading. Its presentation, with detailed bibliography (N.B. both citations are ten years out), gives the impression of a learned and detailed argument. Its content, by contrast, is extremely generalised, with sporadic illustrative examples, some of which are actually erroneous. I would urge anyone whose interest in the subject has been whetted by it to turn immediately to a more reliable source of information.

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[*Spelling Progress Bulletin Winter 1980 p14 in the printed version*]

9. Comments by Newell Tune on the above comments

I disagree in only one respect with Prof. Scragg: wherein he says that in Old English the *eth* and *thorn* stood for only one and the same sound. We are not sure now of the pronunciation of these two symbols. Besides, in those ancient days, few persons were as well versed in speech sounds as our modern educators. Therefore they wrote as much by rules as by their feeble interpretation of sounds. That accounts for some of the regularity found in old poetry.

In modern Icelandic, which appears to have come down almost unchanged from the middle ages, the two symbols stand for the two th-sounds, voiced and unvoiced. In Major General Lord Edward Gleichen's authoritative book (R.G.S. Tech. Series no. 2), *Alphabets of Foreign Languages*, 1933-38, page 9-10, this information is enlightening: "Icelandic belongs to the Scandinavian branch of the Teutonic languages, and is the direct descendent of Old Icelandic, the language spoken by colonists from Norway and *North Britain* before Old Norwegian developed as a separate tongue. The alphabet includes special characters for *dh* and *th*, ... *dh* is never initial and *th* (thorn) is always initial."

Surely this indicates that in Old English there were two th-sounds and that they were represented by *eth* and *thorn*. Otherwise why would the two symbols have been in use? The fact that they were not always used consistently (any more than many other spellings were not consistent, in ancient days) should not negate their intended usage.

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[Spelling Reform ed Newell Tune t13.5pp185–187 in the printed version]
[Spelling Progress Bulletin Winter 1980 pp14–16 in the printed version]

10. Toward a Spelling Reform, by Albert J. Mazurkiewicz, Ph.D.*

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*A paper presented at the First Internat. Conf. on Reading and Spelling, Aug. 1975, at College of All Saints, London.

If the reader-to-be of English, whether he/she is a child, illiterate adult, or foreign language speaker, is of concern at all, the problems inherent in the task need analysis and correction. We now recognize that if children have difficulty in telling time based on the circular 12-hour, 60-minute clock, for example, that the substitution of the digital clock eliminates the complex learnings involved in this type of telling time, and telling time is learned as the child learns to recognize and use numbers. The same process of analysis and substitution of a simpler procedure is not always the case in learning to read, though reformed orthography procedures exist and are an immediate solution to the problem.

While transition to reading the complex spellings of English is accomplished with relative ease from a reformed orthography, the child taught using a reformed orthography has some of the same problems of developing efficiency in commanding the printed page at later levels as the child taught using conventional print since teachers often fail to carry on the instruction necessary for the child to decode and internalize to the point of automaticity the remainder of the complex spellings of English. Developing efficiency in reading conventional print needs continuing attention since we cannot expect the reader to be self-motivated to puzzle out the complex grapheme-phoneme correspondences of increasingly more difficult matter. In fact, research has shown [\[1\]](#) that few young adults will even use dictionaries to determine the pronunciation of a word since the procedure is an interference in the reading act. Research also shows that if a child needs to refer constantly to other sources for aid in decoding print, he turns away from the task, just because it is a task and also because it is task which is often unrewarding.

The analysis of the learning to read activity (and reading well) indicates that the orthography as conventionally printed is a major handicap.

The work of Downing and colleagues [\[2\]](#) on the use of i.t.a. has demonstrated conclusively that traditional orthography is a significant handicap to the child's task of learning to read. Soffietti, [\[3\]](#), in his linguistic analysis of the language, demonstrated that traditional spelling was the primary cause of failure in learning to read. Makita [\[4\]](#), in a study of the extent of reading disability among Japanese children as compared with United States populations, demonstrated that the incidence of disability was about one-half of one percent as opposed to the average of twenty-five percent found in the U.S. and convincingly demonstrated that this difference could be attributed to the spellings of English. The phonemic form of Japanese, Romanji, was then compared with Pitman's i.t.a. to indicate that this reformed orthography compared favorably to Romanji and, as such, provided the basis for an attack on the problem.

Since the initial teaching alphabet in reading and writing instruction has been shown to be one viable alternative, why then a spelling reform? Like all alphabetic innovations of the past, gross misinformation, the pressure of the market place where large corporations with their huge staffs of representatives and investments of countless millions in conventional reading materials overwhelm the "opposition," insecure educational administrative staffs who are preservers, or believe they are

to be preservers, of the status quo and make administrative or public relation rather than educational decisions, parental concern that spelling might be negatively affected, etc. have combined to limit the employment of educationally sound alternatives and only a limited usage can be expected in the future.

Certainly spelling reform is not needed for those of us who are literate. But research has demonstrated that countless millions are barely literate, that millions of others read badly or, if able, read little, and that countless thousands of young children continue to suffer failure, ego-damage and frustration. Others continue to spell badly even after 12 or more years of education.

Additional research [1] examining another aspect of the development of literacy – learning to write (spell) the language – have demonstrated that children and young adults often choose to write a word they know how to spell rather than the word that first came to mind, rarely use a dictionary to check the spelling of a word ("since I can't find it because I don't know how it's spelled."), and suffer embarrassment because their spellings don't conform to the "accepted" ones.

Even the words "accepted spellings" indicate a problem since most children and adults are unaware that off-times their spellings are equally correct alternative spellings. Instruction on these is rarely, if ever given since teachers are as unaware of these alternatives as the children they teach and, if a choice is given, the more difficult of two alternatives is taught on the assumption that it is the "preferred" and therefore *the correct* spelling.

But conventional spelling is also racist and the *arbiter elegantiae* (supreme arbiter) of social class or status. There is a marked tendency to use the spellings a person writes as a measure of his literacy or social status: good spellers are associated with the well-educated upper class, poor spellers with the poorly-educated lower class. Rewards, in terms of employment, promotion, etc. are often related similarly for as Perrin and Smith [5] point out in their *Handbook on Current English*:

The man who writes with no misspelled words has prevented a first suspicion of the limits of his scholarship, or in the social world, of his general education and culture.

Recent Reform

Arguments against spelling reform abound in the literature, yet, as anyone familiar with the subject knows, each of these are errored on one or more bases and nearly all may be traced to sentiment. It is also true that enough attention to the peculiarities inherent in English spelling has been demonstrated or experienced so that one sample of 230 educators, business men, and secretaries [6] showed that 88% favor some type of spelling reform while another sample of almost 800 educators confirmed this finding [7], indicating a widespread current interest.

Responses such as that of a manager indicated that "In my high school graduating class, half of the class could hardly spell the easiest words," or of a teacher who stated that "Many times when I'm writing reports, I have to consistently refer to the dictionary to check spellings," or that of another teacher "the more phonetic the spelling, the easier it would be for children to succeed in spelling and related tasks," or still another "Modern spelling reform would prove an invaluable aid to better reading success by many who now find reading and related skills an impossible barrier," are illustrations of the felt need for spelling reform.

While the reformer has not been able to have much direct effect in recent years in producing change, it is notable that no research other than that cited above exists to support a change. Many reformers and alphabeteers exist but little evidence exists that these reformers have proceeded

logically to marshall support. In spite of this lack, reform, slowly and inexorably, has taken place with little or no outcry. Changes in spelling have occurred primarily in the realm of business and industry and these have been adopted by the public at large. *Yogurt*, popularized as a food by television commercials in the U.S., and spelled five different ways (all of which are equally correct) has been accepted as the standard spelling. In one study [\[8\]](#), a sample of 910 teachers and parents only vaguely recalled that yogourt and yoghurt were alternative spellings a few short years ago and none would replace the phonemic yogurt with any of the five previously used spellings. A group of psychologists when tested on the spelling of *donut* questioned whether there was another way of spelling it. When shown the spelling *doughnut*, individuals remarked "Oh yes, but we haven't used that for years; that's obsolete."

Oddly enough, the spelling of *draught*, mispronounced by many to rhyme with caught, for the game of checkers (draughts) is hardly recognized as the spelling for *draft* beer with the switch by beer manufacturers from the antique spelling to the phonemic *draft* only a few years ago. The wholesale abandonment of *ue* after *g* in epilog, analog, catalog, monolog, by millions and by publishers of catalogs, producers of analog computers, makers of television dramas, etc. is resisted by a relatively few. The American brand of catsup, pronounced /ketchup/, and alternatively and equally correctly spelled catchup, catsup, or ketchup, has been formalized as *ketchup* by industry. In fact, one study [\[9\]](#) of product names currently underway shows that over 300 different items have been respelled to represent their pronunciations more closely (e.g., *Snak-Pak*), are spelled to provide instant identification with the hope for or planned purpose of the product (Fab suggests fabulous, Duz – does everything, etc.), or show the most phonetic alternative of several available (ketchup). The use of the macron in Nodōz and Nestlē to indicate the pronunciation of the glided vowel is paralleled in corporate names: Apēco.

Resistance to spelling reform, identified by Lounsbury [\[10\]](#) as primarily based on sentiment, is often encouraged by managing editors of publishers whose style sheet or house manual indicates what spellings are acceptable in its publications. Equally correct alternative spellings as identified by Deighton [\[11\]](#) for 2000 words in four collegiate dictionaries are given short shift. *Catalogue* may still be foisted on children in spelling materials and workbooks, in readers and phonic programs, because editors believe that they are the final arbiters to keep the language "pure" and, if a choice is available, will apparently choose the more complex, the more unphonetic, the more irregular spelling.

The following is a sample of alternate spellings, both of which are correct:

antennas – antennae	gasolene – gasoline
aunty – auntie	gelatin – gelatine
buses – busses (for transportation)	glamor – glamour
practise – practice	defense – defence
busing – bussing (for transportation, not kissing)	instal – install
blond – blonde	license – licence
bluish – blueish	liquify – liquefy
brocoli – broccoli	beefs- beeves
brunet – brunette	bran-new – brand-new
calory – calorie	cagy – cagey
cigaret – cigarette	develop – developpe
curst – cursed	drou – drought
drafty – draughty	pinocl – pinochle
	past – passed

While it is commonly reported that there is only one correct spelling for every word in the language, the above list is representative of some 2400 words having alternatively correct spellings as found in various collegiate dictionaries. Although the belief that there is only one correct spelling has been supported by teachers in the spellings they accept, by the uniform usage to be observed in newspapers and magazines, resistance to such arbitrary behavior has also been noted. One publisher in its books has dropped the apostrophe in such words as *dont*, *wont*, *cant*; another allows its authors the freedom to spell *aids* as *aides* when referred to in instructional materials; another avoids teaching the so called "es rule after words ending in o" to indicate the plural spelling of *tomatos*, *zeros*, *potatos*, *tobaccos*, *nos*, *mottos*; newspapers generally use *buses* rather than *busses*, etc.

Oddly enough, teachers when informed that each spelling in a list similar to that above was correct [12] and asked what they would do as a result of this knowledge, were first surprised, indicated little knowledge of the availability of alternatives, and that they would modify their teaching behavior to include teaching "bright" children that there are equivalent spellings but would hold lesser able children to one spelling. When asked which spelling that would be, the uniform response was that which was shown in workbooks or spelling texts. The assumption that when the more phonetic, the more regularly spelled words found their way into lists or into spelling materials, then teachers would teach these spellings suggests one way to move spelling reform forward.

A replication of this study using parents, teachers and seventh and eighth grade children in one suburban community [8] indicated that only 4% of the population were aware of some of these alternatives, that responding to the questionnaire was a learning experience since most examined their dictionaries after completing the questionnaire and that parents often excused their spelling knowledge by pointing out that "I went to school some 20 or 30 years ago and spelling has changed."

The expectancy of change suggests a predisposition to accept change and reinforces the findings of Stern's study that spelling reform would be supported.

Direction for Change

It would certainly be incorrect for me to state "this is the way it should be" since no one individual's prejudices should dictate the direction for change. Rather we can rely on research and the documented views of many reformers in history to establish a commonality for direction. Rather than a reform of the orthography – if such it can be called since "unphonetic, irregular and illogical as it is, modern English spelling does not merit the name *orthography*, which is made up of two Greek words meaning 'correct writing'." [13] – it is my belief that a reform *in* orthography should be our aim.

If those words which do not consistently follow the consonant and vowel rules as established for reading instruction (Mazurkiewicz, 1976) were made to conform, learning to read and write would be vastly easier since no exceptions would exist and only 25 to 30 rules would be needed and readily mastered. We should move in the direction of an elimination of unnecessary silent letters and might start with those which were inserted based on false etymology (the *b* in *dumb* and *doubt*, for example), but not those which are morphophonemic (the *b* in *bomb*, *bombard*, the *g* in *sign-signal*); the elimination of the diacritic silent *e* (Mazurkiewicz, 1974) following *v*, *z*, etc. where the signal today is meaningless or redundant, the reduction of the number of alternative graphemes to represent the sounds of English, the addition of the diacritic *e* following vowels to provide digraphic representations; etc.

Since research has demonstrated that a moderate reform would be most acceptable at this time [7] by the largest number of people, if we care that children should not be subject to the risk of failure and unnecessary frustration in learning to read, should not risk ego damage and being turned off from the adventure of education, we can start moderately by shifting to the use of alternative and equally correct spelled words which use the past tense morpheme *t* in such words as *curst*, *spelt*, etc., to those which are more phonemic, less complex, etc.

We should encourage more business and industries to utilize additional phonetic spellings and expect that television and other advertizing media will establish these as the accepted spellings since nearly all of a sample of 500 adults [14] indicated that many of the words they now write have been learned from these sources.

Whatever the rationale we choose to adopt, there is little doubt that support for a reform exists, that we can effectively use modern means of exploitation and that a reform is possible if we take the initiative to move one to the fore.

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[David Moseley: see [Journals](#).]

11. Patterns of Spelling Errors: Some Problems of Test Design, by David Moseley*

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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) 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) and the Spar (Young, 1976). 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).

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) obtained a correlation of 0.9 between his own dictation spelling test and Schonell's Spelling Test (1932), 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). 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:

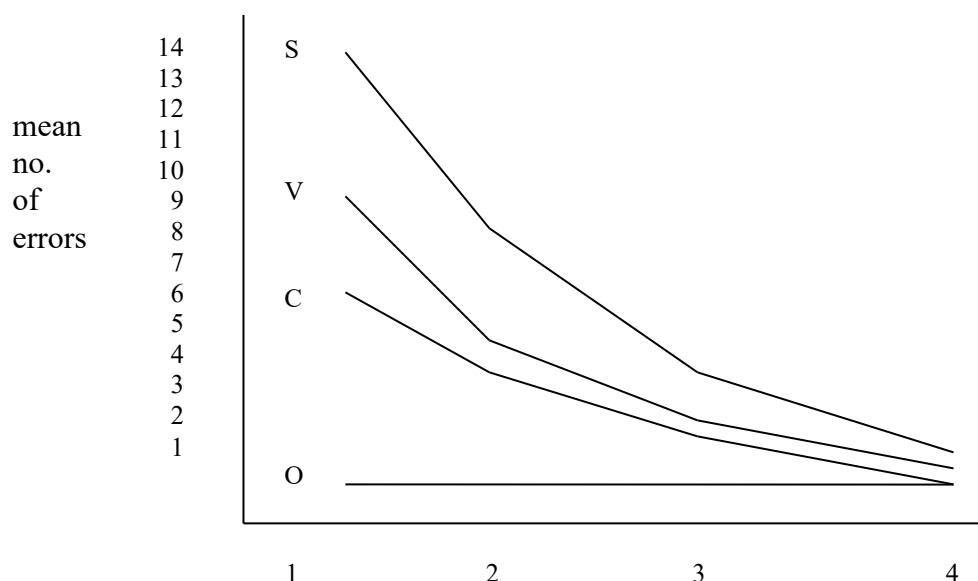
- 1) If the pupil's spelling contains fewer letters than the target word, score as 'S' (simplification error), and do not consider any other errors which may be present.
- 2) If all letters are present, but 'in the wrong order, score as 'O' (order error). Do not score 'O' if letters are omitted or added.
- 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. 1 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 $r_{tt} 0.90$. 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.

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12. Principles for an Economy Spelling System, by Kenneth H. Ives*

*Chicago, IL, Copyright 1975.

Why economy spelling? "English orthography. . . has long ceased to make proper use of the advantages of alphabetic writing." (W. Haas, 1969, 3-5) "In my own practice I use the phonetic alphabet of Isaac Pitman. It has saved me a prodigious quantity of manual labor." (G.B. Shaw, 1944)

Our present spelling costs each school child perhaps 400 hours and a year's delay in schooling. Preventable costs are at least \$3 per pupil per year in school taxes, and \$5 per pupil per year in printing and publishing costs. With about 30 million pupils in schools, this means about \$240 millions in costs per year to our nation.

Godfrey Dewey's "Criteria for a phonemic notation" (1971, 157-170) are revised as a basis for an economy spelling system that can save 10% of space and effort on regular typewriters, 3% more with achievable modifications. As revised, these criteria include:

1. A phonemic rather than a phonetic basis.
2. Standardized relations of symbols to sounds: World English Spelling (WES) is modified for economy.
3. Maximum economy with minimum difficulty is the goal, rather than maximum completeness, regularity, or compatibility with traditional spelling.
4. "Rapid, unambiguous speech" is the basis, rather than "careful, deliberate speech." The shortest, unambiguous version is favored. Daniel Jones' list of common shorter (unstressed) pronunciations (1964 127-133) is a major basis. Where two or more words have the same short pronunciation, only the most frequently occurring gets the shortest spelling. This avoids increasing the already considerable number of homographs in English.
5. Drop doubled consonants, and other silent letters.
6. Delete indistinct vowels where easily done. This offers substantial savings. Prefixes, suffixes, and unstressed syllables are common candidates.
7. Use "y" for "ie" sound, as in "why." This sound outnumbers "consonant y", and the latter is phonetically "i vowel." Ultimately "yes" can become "ies" as Mont Follick has proposed. (Haas, 1969, 43)
8. Shorten the commonest words first (!). WES and Harry Lindgren's SR-1 avoid changes in these. Yet the most savings with the fewest words to relearn are achieved by this method. Thus Economy Spelling 1 (ES1) changes only five words, saves 3.4%: "and, is, of, the, to" become "n, z, v, th, t."
9. Add symbols for the three commonest digraphs in the WES system: voiced th, ae, ee. These can replace # 1, fractions and "q" on present office keyboards. This change replaces nearly half of digraph occurrences by single letters, saves 3% in addition to other steps. For easy recognizability, these new letters should come from the SSA phonetic and the i.t.a. alphabets: ħ, æ, ε.
10. Change some pronunciation rules to fit these shorter and more consistent spellings. Thus prefixes b-, c-, d-, r-, i-, and suffixes: -d, -t, -z, retain present pronunciations, and so have an "intrusive schwa" between them and the following or preceding consonant. Similarly, some words in ES1-4 and ES-9 are pronounced with an intrusive schwa: *t; fr, hv, hz, wa; b, bn, bt, wr; cd, hd; ht, hs, hn.*

Previous American Reforms

Noah Webster, in 1789 and 1806, proposed many reformed spellings. Of these, "center, color, music" and some, others have been accepted. In 1898 the National Education Association proposed using 12 simpler forms. Of these, "program, catalog" are now dominant. "Thru, altho" have about .1% acceptance, probably from the Chicago Tribune's use of them. The Simpler Spelling Board in 1906 proposed simplifying 300 words. Most of these are now the preferred forms.

Problems of Adoption

Most spelling reforms have little to offer the adult who has learned to spell. Economy Spelling offers savings in effort – over 3% for ES1, 7% for steps possible on present typewriters, 9.5% with change of two keys. Another 4% saving is possible with change of one more key, and longer word lists.

Most spelling reformers (WES, New Spelling) seem to have become so enamored with the merits of their system that they lose sight of *ways of achieving adoption*, especially a step-by-step approach. Most simple initial steps (NEA's 12, SR1) are not part of a larger system. Hence they can be called "trivial" in view of the extent of disconformity between sounds and symbols in English. SR-1 holds back progressives, who can only wait or agitate until others adopt their first step too.

Economy Spelling avoids these two extremes by being a system of small steps. Thus people can adopt these as fast as they and their readers are ready.

Most spelling reforms plan to teach all to use the same reformed spellings. Economy Spelling uses three approaches. Economy Spelling Steps include the most saving of effort, and are recommended for all to adopt in sequence. Economy Spelling Lessons present the rules in more detail, and apply them to more words. They are recommended for elementary school students, who learned traditional spelling first, foreign learners of English, and progressive English speaking adults. Most words are easily recognized by people familiar with Economy Spelling Steps. Thus those fluent in present spelling need learn only a small number of changes (112 words) to achieve most of the savings possible in writing on present typewriters (7% out of 10%). Others can learn about 7 times as many words, making their spelling more phonemic and consistent, saving up to 3% more.

For students who have learned Pitman's Initial Teaching Alphabet, or World English Spelling, a transition directly to use of new letters for voiced *th*, *ae*, and *ee* sounds would be feasible. Both types of students, as they reach college, would be ready for materials in the full Economy Spelling vocabulary of over 1,000 words.

A program for adults of adopting one step a year would take 12 years (1981-1992?). This would ease learning problems. It would permit reprinting books as needed, several steps ahead of schedule. And it would change the spelling of over a third of the words in an average text, by easy stages. This would bring us to a far more consistent – and economical – relation of sounds to letters.

In Economy Spelling, use of "-r" endings for American "-er" and British "-re" provide a neutral change, shortening both, and bringing back conformity between the, two countries. Similarly, the use of the Simpler Spelling Association's "h" for voiced "th" sound provides a neutral economy from World English Spelling's use of "th" and New Spelling's "dh". The "ae" symbol is adopted from Pitman's i.t.a. and previous, now archaic, use of the symbol for a different sound.

The tables which follow provide illustration of these principles. The 12 steps of Economy Spelling with word counts from a sample of over a million words (Kucera n Francis, 1969), are recommended for adults proficient in spelling. The summary table shows, for each step and group, the savings, probable learning time, and the amount of use needed to repay the learning time from

the savings.

The full vocabulary of over 1,000 words: of Economy Spelling, for school children and others is presented in 6 phases of increasing difficulty (available from the author). These include all words affected by its rules which occur 51 or more times in the sample of over a million words.

Phase 1 changes endings, prefixes, drops silent letters and doubled consonants.

Phase 2 consists of ES1-4, respelling short spoken forms.

Phase 3 changes letters, as in ES7-8, but on more words.

Phase 4 includes more short forms, deletes short "u, oo" and the "h" in some "wh" words, including a few semi-phonetic abbreviations. These words involve more debatable changes than most others.

Phase 5 uses new letters for voiced "th" and "ae" sounds, as in ES9-12.

Phase 6 uses Anglo-Saxon "cw" for Norman-French "qu", and replaces "q" with a symbol for the "ee" sound: ε. Examples: cwic, ε(he), agrε, brεf, dεr, εch, fεl, kεp, mεt, nεd, pεpl, rεd, sε, hεz, wεk, yεr.

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Table 1. Economy Spelling Steps for English speaking adults

ES 1-4: Respelling words commonly pronounced in two or more ways.

ES 1: Words occurring 1% or more in a sample of over 1 million; with alternate pronunciations.

Schwa=ə.

word:	count:	%	pronunciation	economy #	savings %		
			stressed:	unstressed	spelling:		
and	28,252	2.80	and	ænd, nd, ən	n	2	.97
is	10,099	1.00	iz	s, z	z	1	.17
of	36,441	3.60	auv	əv, ə, v	v	1	.62
the	69,971	6.92	thee	thi, thə, th	th	1	1.18
to	<u>26,149</u>	<u>2.59</u>	too	tu, tə	t	1	.44
	171,512	16.91	% affected		net saving		3.38

ES 2

count	#:	econ.:	std.:
4,393	2	r	are
9,489	1	fr	for
3,941	2	hv	have
6,997	1	hz	his
9,816	1	wz	was
7,289	2	wi	with

ES 3

count	#:	econ.:	std.:
6,377	1	b	be
2,472	2	bn	been
4,381	1	bt	but
2,724	2	thr	there
205	3	thrf	-fore
109	2	thr'z	

ES 4

count	#:	econ.:	std.:
1,772	1	cn	can
1,599	3	cd	could
5,133	1	hd	had
888	3	shd	should
1,617	2	sm	some
127	2	smwht	-what

300	1	tymz
515	2	thaut
969	3	thru
680	2	wyl (while)
365	1	whyt
<u>359</u>	1	wii (within)
10,563		saving .27%

ES 10: other voiced th words.

ES II: æ sounds.

ES 12: more æ sounds.

count	#:	economy	count	#:	economy	count	#:	economy
319	2	bruhr	459	1	alwæz	294	1	næm
683	2	yhr	245	2	avælabl	84	1	næmd
73	3	fahr	456	1	awæ	89	1	næmz
284	2	furhr	246	2	bcæm	571	1	plæs
183	2	muhr	622	1	cæm	126	1	plæst
218	2	nyhr	362	1	cæs	100	1	plæsz
216	3	uhr	586	1	dae	686	1	sæm
141	2	uhrz	122	1	dæli	504	1	sæ
1,702	2	uhrwyz	384	1	dæz	113	2	sæin
323	3	rahr	371	1	fæs	808	1	stæt
86	2	suhrn	285	1	gæy	85	1	stætd
373	3	hen	665	1	græt	605	1	stæts
137	1	heez	98	1	grætest	141	2	stætmnt
1,377	1	hoez	62	1	grætli	68	2	stætmnts
1,573	1	ho	269	2	infrmæshn	611	1	tæk
850	1	hus	397	1	lætr	281	1	tækkn
442	1	tgehr	1,125	1	mæd	86	1	tæks
312	3	whehr	794	1	mæk	2,670	2	hær
267	2	wehr	172	1	mæks	3,618	2	hæ
268	2	saving .27%	255	1	mækin	65	2	hæ'r
<u>69</u>			<u>1,400</u>	1	mæ	284	2	tdæ
9,914			4,465		saving .17%	900	1	wæ
						<u>127</u>	1	wæz
						12,915		saving .34%

Table 2: Summary of Economy Spelling Steps

Step:	words respelled:	sample words affected:	hours to learn:	typing strokes saved:	hours use to break even:
ES 1	5	16.91 %	.5	3.38 %	15
ES 2	9	4.49	.9	1.14	78
ES 3	12	2.46	1.2	.71	169
ES 4	<u>14</u>	<u>1.63</u>	<u>1.4</u>	<u>.42</u>	<u>333</u>
1-4	40	25.49 %	4.0	5.65 %	71 w
ES 5	22	1.06	2.2	.21	1050
ES 6	18	.99	1.8	.27	670
ES 7	16	3.40	1.6	.54	295
ES 8	<u>16</u>	<u>1.04</u>	<u>1.6</u>	<u>.27</u>	<u>590</u>
5-8	72	6.49 %	7.2	1.29 %	560 w

ES 9	8	+	2.55	+	.9	1.84	49
ES10	21		.98		2.1	.27	780
ES11	21		.93		2.1	.17	1240
ES12	<u>23</u>		<u>1.28</u>		<u>2.3</u>	<u>.34</u>	<u>670</u>
9-12	73	+	4.74	%	7.4	2.62	280 w
1-12	185		36.72	%	18.6	9.56	194 w

w= weighted average far the steps listed.

Demonstration of Economy Spelling

Sum dæ we wl find h wæ t get a mæjr spelin rform adopted, i sevr l steps n fæzz. hen we cn sæv enuf tym t mor hn pæ h cost v mækin h chæn j. Scool childrn wl b sævd much confusion, hær teachers much tym. Secretaries cn typ fastr, n use dictionaries les. R u wilin t help wi hs?

-o0o-

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