Spelling Progress Bulletin Winter 1964

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

"A closed mind gathers no knowledge; an open mind is the key to progress."

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i/t/a Teacher-Training Workshops

The two day workshop covers the development of i/t/a; training in how to write and spell in i/t/a; a discussion of i/t/a in the teaching of reading, creative writing, and its impact on curriculum; a review of the language arts skills developed in the i/t/a program; recent research results, with special attention to transition and spelling.

An educational consultant from Pitman's Initial Teaching Alphabet Publications, Inc. will conduct the course.

Each participant will be given a complete set of i/t/a readers, workbooks, teacher's manuals, 3-ring binder, teacher alphabet book, and the Handbook on How to Write and Spell (list price $35).

Registration is limited to 30 for all workshops *except New York City, which is limited to* 12. Please send in your registration immediately, if you dont want to be disappointed, Details will be mailed to you in recipt of your reply.

Registration fee (includes materials) is $50.00 per person. (If you already own a set of i/t/a materials, the registration fee would be $25,00).

i/t/a Workshop Schedule.

January 6-7. Philadelphia, Penna.	16-17. Dayton, Ohio.
12-13. St. Louis, Missouri.	March 23-24. Minneapolis, Minn.
19-20. York City, N.Y.	30-31. New York City, N.Y.
February 2-3. Des Moines, Iowa.	April 13-14. Chicago, Illinois.
9-10. Pittsburgh, Penna.	May 11-12. Evansville, Indiana.
23-24. Albany, N.Y.	18-19. Milwaukee, Wisconsin.
25-26. New York City, N.Y.	25-26. New York City, N.Y.
March 9-10. Ann Arbor, Michigan.	June 2-3. Denver, Colorado.

i/t/a workshops are sponsored by Initial Teaching Alphabet Publications, Inc. New York, N.Y.

Late News

United States Airforce children are being taught to read by i/t/a in England, at the school of Preliminary Education, Basil Hill Baracks, Corsham, Wiltshire, Eng. under the direction of Lt. Col. J. 11. Green, R.A.E.C. We are hoping to have an article about this in a future issue.

i/t/a to teach English to Spanish speaking youths in Tex. One of the earliest and most difficult barriers to quick learning English has been the fact that a student will tend to apply the values of similarly written Spanish letter sounds to their English equivalents. Altho the importance of overcoming this barrier is obvious, as yet no conventional method of doing this has met with any real success.

This year, 16 students were successfully taught English by the use of disorientation, disassociation, regression and cross-over techniques so that they entered the 10th grade in competition with native English speakers. It is believed this was the first use of these techniques for educational purposes in the U.S.A.

J. Larick, Kingsville, Texas.

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[Spelling Progress Bulletin Winter 1964 p2,3 in the printed version]

2. British and American Spelling, by Newell W. Tune.

One might think that because our spoken languages are so nearly the same that British spelling would be the same as American. Unfortunately, there are quite a few words in which the American spelling has been simplified due to the influence of Noah Webster, while the British still has some unnecessary silent letters or is spelled differently due to the French influence. In fact, there are sufficient differences so that a book was published in England by O. V. Carey: "*American into English – a handbook for* translators (and he wasn't kidding either), 1953, by Wm. Heinemann, Ltd. London. These differences are also called to our attention in a new dictionary: *Webster's Home University Dictionary,* published in 1964 by Books, Inc., New York. On page xiii there is a disertation on this subject, which is included in its entirety:

"British and American styles in spelling are steadily coming together. True, a slip of paper mailed from London as a *cheque* would be received in New York as a *check.* The sender would write that it had *travelled* across the Atlantic; the receiver, that it had *traveled*. The Briton would speak of its *colour*; the American, of its *color*. Such are the traditional differences between British and American styles in spelling.

There was a time, and not many years ago, when a book published in Britain or America had to be reprinted, one might almost say translated, to have any general sale in the other country. That was due to the difference in spelling. In British print, for example, the reader met up with *apologise, visualise*; in American usage, words of this class ended in *-ize*. Today, the *z* forms are practically universal.

Such differences as still exist are of the simplest nature. An Englishman goes to the *theatre*. The American to the *theater*. One spelling preserves the French original; the other goes by sound.

In America today there is a swing toward British pronunciations, correcting the speech-carelessness of earlier times. The radio has played an important part in this change. Announcers, skilled in diction and keen students of its niceties, are influencing popular practice.

In England, writers, editors, and publishers are adopting more and more American spellings; the British dictionaries give preferential entry to many.

These two trends promote harmony in usage. They work together for good. They have made it possible for all English-speaking peoples to use one dictionary with satisfaction.

In the making of this new dictionary, effort has been made to provide a simplified, readily usable volume for those who desire

(1) to speak the best English,
(2) to understand the printed word, and
(3) to write with correct spelling, grammar, and choice of words.

In the subjoined list, Canadian readers will find examples of the principal differences between the British and American styles of spelling, many of which are included in the vocabulary.

In making the list, it actually proved surprising to find how much searching had to be done in the great British dictionaries to find more than a bare half-dozen classes of words in which practice varies.

Study of this list will demonstrate that the gap between British and American styles of spelling is narrowing.

abridgement	colour	grey	quarrelled
accoutrements	connexion	homeopath	sabre
acknowledgement	councillor	homeopathy	sceptre
aeon	cyclopaedia	honour	spectre
aesthetic	defence	inflexion	skilful
aestivate	deflexion	instalment	smoulder
anaemia	dolour	jeweller	splendour
apologise	dolourous	jewellery	theatre
apparelled	dulness	judgement	tiro
ardour	empanel	labour	travelled
axe	empanelled	lustre	traveller
behaviour	encase	metre	tyre
biassed	enfold	mould	valour
calibre	enrol	moult	valourous
capitalise	enrolment	odour	vapour
carburetter	favour	odourous	vapourous
centre	favourite	oecumenical	vigour
centred	fibre	oesophagus	vigourous
centring	fledgeling	offence	visualise
cheque	focalise	plough	wilful
chequers	fulfil	practise (v.)	wilfulness
clamour	fulfilment	pretence	
clamourous	glamourous	pyjamas	

The *-ise* words of this group are given in the traditional British form, with s, but in the leading British dictionary every one in the list appears with the z spelling.

In the *ou, ll, s*, and *ss* words, British tradition still prevails, but indicates change in process by giving alternative forms, as *colo(u)ration*, and *enrol, enroll*.

Instalment, skilful, and *wilful* are given without alternatives, while *woolen* (one *l*) is given, but not *woollen*. It prefers *jeweller* and *jewellery*, but recognizes *jewelry* as a possibility.

The *re* form, as in *theatre*, holds firmly. England still likes the *-ge* forms, as in *abridgement,* and the *-ou* spellings in words like *mould*. British usage holds to the diphthongs *ae* and *oe*, as in *aesthetic* and *homoeopath,* and to such spellings as *cheque, grey, inflexion."*

Carey's book is more thoro and better arranged. It lists the classes of words as follows:

(i) Words ending in *-our* in British, and their derivitives are spelt (in America, usually "spelled") *-or* in American: e.g. *color, favorite, neighborhood.* (Note that in general where American spelling differs from the British, American tends to be more phonetic.)

(ii) Where the British preserves the French *-re* termination, American prefers *-er*; e.g. *center, fiber, meager, somber, theater.*

(iii) *-ce, -se*. For *defence, offence, pretence*, the regular American spelling is *defense,* etc. British uses *licence* (generally) for the noun, *license* for the verb; American uses *license* for both. About *practice* (*se*), Corey finds it hard to be positive. Again the regular British usage is *practice* for the noun, *practise* for the verb. In American, he found occasional instances of the exact opposite, and could not discover any consistent principle in the spelling of this word, as between noun and verb.

(iv) *-l-, -ll-.* Here American spelling seems, to English eyes, a little perverse. It refuses to double the *l* where British invariably does so, for instance when adding a syllable to the *-el* termination, and insists on *traveler, reveled. marveled, marvelous* and the like. On the other hand, where British usually though not invariably drops one of two *l*s. American often keeps them both, e.g. fulfill, instill, installment,, skillful.

(v) *ise, ize.* In American *-ize* is by far the more common, if not the invariable form, In British, both forms are almost equally common, the choice depending to some extent on the house rules of printers and publishers, Certain University Presses in England, for instance, and also *The Times*, favour *-ize*, doubtless on the ground that this spelling, e.g. in *baptize, organize, synchronize*, keeps closer to the Greek from which a number of such words are derived. The trouble is that a knowledge of Greek is not universal: and analyze, and analyze for example, found frequently in American and or occasionally in British, are completely at variance with their Greek derivation which happens here to demand an s whilst several words of this class, (such as *civilise, recognise*) are not derived from Greek at all, Almost all of them however have come to us through the French language, in which *-iser* is the regular termination, so there is nothing etymologically criminal about the *-ise* spelling. Thus there is something to be said for those British printers and publishers who prefer to play safe and plump for *organise, realise, recognise, colonise*, and all the rest – even *baptise*.

Inasmuch as no clean line can be drawn between British and American practice in this matter, it has not been attempted to include in the glossary any words of this class,

(vi) Diphthongs. American is more sparing of diphthongs (and presumably less heedful here of Greek derivation) than British, Such spellings as *anemic*, *esthete*, *hemorrhage, orthopedics* are comparatively common though not invariable in American, but very rare in British.

(vii) Accents. Similarly American is not very scrupulous about accents in common woods borrowed from the French: *cafe elite fete, matinee, negligee* and the like are found much more frequently in American than in British.

be	do	do	rna	pa	pea	to	ye
bet	doe	don	mae	pat	pear	tow	yea
beta	does	don’t	maenad	path	pearl	towel	year
betal	doeskin	donor	maestro	pathan			yearn

(viii) Hyphens, admittedly are not very amenable to hard and fast (or, if you prefer it, hard-and-fast) rules, either in American or British usage, and personal taste will no doubt always have its say in their employment. Yet a general line of divergence between American and British taste here can be readily noted by the observant. American tends to cold-shoulder – or as they would probably write it, *to cold shoulder* if not to *coldshoulder* – the hyphen. A certain number of words that in British are commonly hyphenated are in American printed as separate words; and a much larger number of words that in British are almost invariably separated at least by a hyphen, if not completely, in American are joined into compound words. Thus the American hyphen, as compared with the British one, comes off poorly either way.

The book goes on to discuss different words used in the two countries for the same meaning. Then follows a 66 page glossary of words in which the two countries differ. Some of these are spelling differences, and in other cases are different words, as *epigram* and *epigramme*, Some are different words for the same meaning, and some are grammatical usage differences. Among the former are *to mail* (Am.), *to post* (Br.), *thumbtack* (Am.), *drawing pin* (Br.). In the latter, an American *told* his secretary "good morning," but the British *said* "good morning" to his. An American says, "Have you made your reservation?", but a Britisher says, "Have you booked your room?"

However, both of these books overlooked two classes of words that always differ: *amme, – am*; and *-ogue, -og*. In the first, the American spellings are: *aerogram, cablegram, centigram, decigram, diagramed, program, radiogram, telegram;* in the second group: *catalog, decalog, dialog, dialog, monolog, pedagog, prolog, synagog*. And even the Americans do not always follow this *og* ending. The more conservative press still use the British spellings while most newspapers and popular magazines use the simpler spellings. Most American dictionaries prefer the *-ogue* spellings but give the shorter as alternatives.

There are some words in which the British are more nearly phonetic than the Americans. That is, wherein the Americans spell the past participle *spelled* while the British use *spelt*.

Are there any other spelling differences we have overlooked? overlookt?.

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[Spelling Progress Bulletin Winter 1964 p3 in the printed version]

3. The Role of c in a Minimal Change System of Spelling Reform
by Frank T. du Feu, M.A.

When one tries to devise a minimal change system of spelling reform one comes to the dual role of the letter *c* and its some what complicated rules. The rule that *c* is soft [1] before *e, i* or *y* and hard when it is followed by a consonant, is final, or is followed by *a, o*, or *u* is one of the most reliable of all the rules of English pronunciation. Indeed it is astonishingly so, as we proceed to demonstrate.

From a large number of adjectives like *authentic, catholic, electric* in which *c* being final, is hard, abstract nouns are derived by adding *ity* and the *c*, now followed by an *i*, always soft.

The double c in *accident* is not an exception to the rule for the first *c*, being followed by a consonant, is hard while the second being followed by an *i* is soft.

C is hard in *focus* and *locus* but in accordance with the rule is soft in the plurals *foci* and *loci* respectively of these nouns. The rule is not infringed in 1 of the 1000 commonest, words given in *The Teacher' s Word Book* by Thorndyke and Lorge. It is true that the words *Celtic* and *sceptic* are generally pronounced with a hard initial *c* but the purist is free to replace this *c* by a *k* in each word if he wishes.

We retain the final *e* before adding *able* to a few words like *peace* and *notice*, while we inflect *panic mimic and picnic*, when the final *c* has to remain hard by adding *king* instead of *ing*.

The relation between the noun *mouse* and its plural *mice* is shown more clearly if we re-spell the first word *mouce*; while the relation between *gross* and *grocer* (one who sells by the gross) is shown more clearly if the first of these words; which must be re-spelt in any case because the vowel is wrong, is re-spelt *groce*.

The soft *c* occurs in 27 of the 850 words of Basic English. To eliminate it we should have to replace *c* by *s* in these 27 words & the *s* by *z* in 10 more because if we are to have *entise* for *entice*, we must also have *wize* for *wise* – a total of 37 re-spellings, or nearly 50. On the other hand, if we retain the soft *c*, it will only be necessary to replace *s* by *c* in 7 words; and this is less than 1%.

It follows that in any system of reformed spelling where we are committed to the avoidance of unnecessary respelling, *c*, which is a double *duty* consonant in French, Spanish and Italian, and presents no real difficulties in traditional orthography, should be retained as a double duty consonant in a minimal change system of English spelling reform. At least this is my carefully considered opinion.

[1] The pronunciation of *c* is called soft when it is sounded as *s*, and called hard when sounded as *k*

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[Spelling Progress Bulletin Winter 1964 pp4,5 in the printed version]

4. Where is our Business Sense – Where is our Knowhow? by Helen Bowyer.

Perhaps our schools do need more money – but not for the teaching of reading. They are already squandering unconscionable billions on that.

Take the children who entered first grade this last September. All the reading their teachers will attempt to teach them is contained in a series of primers and readers whose total word count seldom exceeds 360. I say attempt, because they know from the start, that only a small minority of their moppets will achieve anything like this total. In most neighborhoods, Miss Browne and Mrs. Grey will consider their year well spent if the majority come thru with a fairly certain recognition of 200-250 words – and that all too often, only in the context of the pictures and the Dick and Jane, or Alice and Jerry in which they have learned them. And experience predicts that about a quarter of their pupils will range down from there to a dozen words or less.

Something will depend upon the intelligence and temperament of the individual child, something on the culture and morale of the home from which he comes, something on the teacher's personality and skill. But it will all work out that thru the country as a whole, this September's beginners will turn up next September with a retained recognition averaging less than 200 words.

But the cost this year will average some $300 per child. How much of that can be charged to this reading achievement?

Most of it, certainly if what we are paying for is education – a sound beginning in knowledge, skill, mind-training beyond what six-year-olds would just naturally pick up for themselves. Then, you ask what of arithmetic? That ought certainly to qualify as education – but how far does it? Till recently it seldom got beyond the adding and subtracting of numbers whose sum did not exceed 9. Rarely did the the first grader tackle problems beyond 4+3=?; 9-3=?, 6+1=? And what child above moronic wouldn't get that much figuring just living thru his seventh year in the ordinary family at play with his small neighbors, spending his pickles, dimes and pennies at the candy counter of the corner store? To be sure, the "new mathematics" has spiced instruction up a lit, and it is to he hoped, the children's realization of what they are doing with those digits and signs. But compared with reading and writing, it still occupies a minor and relatively inexpensive role. As for the paper cutting and weaving, drawing and coloring, plasticine moulding, etc., which fills in the time between sessions of formal instruction in primer and number books, what do they constitute but just that? – time-fillers, busy work, to keep the rest of the class occupied and more or less orderly while the teacher is engaging this or that group on the pictures or print or digits of the day. Rarely does it rise to a level of art or craftmanship beyond what Johnny or Jill would achieve for themselves with the aid of their families, their playmates and the stimulating material of the Ten Cent Store. But in deference to its alleged value to "the whole child" if carried on in the classroom, lets lump all these activities together with the feeble number work and assign them a third of the first year per capita cost. That leaves $200 for the reading – an average thru the nation of a dollar per word per child.

With the job of learning to read scarcely started, and with nothing in sight for next year but a national average of some 250-300 more words – at a cost but a little less. And probably even more. For September, 1965 will start out with scores of thousands of second graders in whom reading retardation in Grade One has wrought mental and emotional damage for which we are going to pay more and more, every grade thereafter.

Now look at the U.S.S.R., from Baltic Leningrad to Pacific Vladivostok. Its hard to equate educational costs in that vast multilingual realm with ours, but let's suppose that for first graders it averages the same – 300 American dollars. Arithmetic could really claim to be education there. It occupies six of the 24 weekly class periods and goes well beyond what most children would pick up for themselves. The one hour each of drawing, singing, and "practical exercises" are serious

beginnings of courses which will build up thru grade six, but there as here, let's lump all non-verbal activities together and debit them with a third of the first year's cost. That leaves the same $200 for the teaching of reading. But what about the cost per word per child?

Just this! By the end of their first school year, almost all Soviet children have a reading recognition not only of the 2000 words in their reader; but of their *whole speaking-understanding vocabulary,* which there as here, approximates 12,000 words (according to Dr. Arther S. Trace, in *What Ivan Knows that Johnny Doesnt*). So that, as against our dollar a word, teaching first grade reading costs the Soviets less than two cents a word per child.

Incredible? Not a bit. Much the same state of things exists in Italy, Turkey, Spain and the whole Spanish-speaking world beyond the Rio Grande. Next time you tourist down in Mexico, drop in on some standard first grade. Even if you dont know any Spanish, you can see that these *ninos* are *reading,* not working their laborious way thru picture books with three or four big letter lines to the page. Leaf thru the first thirty pages of their *libro* and look at the length of the words they've been taking in their stride – *trabajador, recibimos, carinosamente.* While back home, our little gringo is doing well if he can negotiate an occasional *funny, bunny* breaking in on his *oh, look; see him run, go.* And these Mexican sentences approach the length of those of the ordinary newspaper, in place of our choppy *See Puff jump down. See* Puff *jump and go. Jump down, funny Puff. Jump down. Go, go, go.*" What can be the content of this surprising vocabulary, these interesting sentences? Fortunately, the senorita professora de la clase knows enough English to give you a pretty fair idea. Briefly, a little boy and his sister on their way to school find a blind old beggar asleep by the roadside. Moved by compassion, the little brother takes a copper coin from his pocket and is about to wake up the poor old fellow to take it. "No, no," said the little girl. He looks so tired. Just put it in his hand." But," protested her brother, "then, he wont know it was I who gave it to him." "That wont matter," replied his little sister," your heart will know.

Just where in their curriculum do they take on this? – by Christmas of their first school year. Our children wont be reading its like by Christmas of their *second* year.

Naturally, they wont. Nor would these young mejicanos if they had to do it thru the chaos of the unreliable printed symbols and the poorly related speech sounds with which our moppets are bogged down.

Take the first letter of their fairly similar alphabets. When Juanito has learned to recognize and write his *a* and sound it like our *ah*, he has mastered it once for all. Let it face him in any Spanish word from *la, arte, nacional* to *incoagulable,* and he will never sound it other than as *ah*, nor spell that sound by anything but *a*. But as for our poor Johnny, his *a* will deepen thru *fat, father, fall, was,* and lighten to *waver.* With the spelling of these five sounds running wild thru *at, alum, alley, aunt, plaid, have – father, sergeant, hearth, calm, are, car, guard, large – all, also, caw, cause, caustic, aught, naught – what, yacht – eh, aye, hay, grey, ail, Gael, guage, language, gable, great, fete, eight, reign, seine, vein, campaign, cafe, matinee, crochet.* An aggregate (not complete at that) of 41 spellings to be learned and remembered for his five *a*-sounds, as against Juanito's one for one. His other vowel sounds, long, short, and special will bring this load up to 116 as against his Mexican compeer's 6 (a, e, i, o, u, y) and never any uncertainty as to when to use y in place of i.

As for the consonants of the two lingos, here again Juanito is blessed with an almost perfect regularity. Never a worry does he have over their doubling or not doubling, such as bedevils our youngsters in *egg, beg, kitty, pity, very, merry, model, toddle, humming, coming,* and hundreds more of their capricious like. And never for him will a silent *b, c, g, k, l, p, s, t, w,* turn otherwise reasonable spellings into traps like *debt, dumb, science, gnat, knot, calm, psalm, island, listen, wrist* and only the printer knows how many others of their needless ilk. It is only for our memory – burdened young that *ch* will skip about from *chore* to *choral,* from *chef* to *chemist* and the simple *sh* sound cavort thru transcriptions as unpredictable as *fashion, passion, ocean,, motion, musician, anxious, nauseus, machine, pshaw, sugar, issue, conscience, schist.*

Is it any wonder, then, that Johnny can't read? You can brush aside all the pedagogic blah-blah about sibling rivalry, lefthandedness, righteyedness, etc, etc. and lay it squarely to the fact that Johnny can't spell – and he can't spell because in its present form our spelling is too redundant and too generally wrongheaded for the ordinary child to master. And for that matter, the ordinary adult. What would you and I do without a dictionary?

Whose fault is it then if Johnny finishes his tenth grade a sorry two years behind Juanito, in about every subject which demands quick and accurate comprehension of the printed page? And, of still more concern to us, a comparable two years behind Russia's young Vanya? For it is all the more deplorable because it is easily within our power to give him an even break with them, in this, his basic learning tool. Turkey did it for her Abdul in just one summer vacation back in 1929, taking in her stride as well, the switch from Arab symbols to our simpler Roman letters.

Try out our possibilities on the demonstration which follows. Sound *ae, ee, ie, oe, ue,* as in *maelstrom, heel, hie, hoe, hue – aa* and *au* as in *bazaar* and *bauble – oo* and *uu* as in *fool* and *full – oi* and *ou* as in *oil* and *out – th* as in *then, thh* as in *think* and *zh* as in *Persian.* Give all other letters and digraphs the values they most commonly have as things are. But notice that short-*i* replaces *y* in such words as *perfectly,* and that *t* and z replace *d* and s whenever they more truly represent the sounds.

"Ue aar oeld, Faather Wilyam," the yung man sed,
"And uer haer haz bekum veri hwiet,
And yet ue insesantli stand on uer hed.
Doo ue thhink, at uer aej, it iz riet?"

"In mie uethh," Faather Wilyam replied too hiz sun,
"Ie feerd it miet injer the braen,
But nou that Ie'm purfektli shoor that Ie hav nun,
Hwie Ie doo it agen and agen."

"Buuli for him," chortld oeld Gramp Roibaut, kiking wun Purzhan sliper tordz the seeling, thee uther thhroo the dor.

Here in these 85 running words we have all our forty basic speech sounds, each matched with a symbol-vowel, consonant or digraph which is never used for any other. Together they constitute an alphabet even more trustworthy than the Spanish or Russian. Given this approximately even break with their signs and sounds, couldn't our youngsters, too, finish first grade with a reading recognition of their entire speaking-understanding vocabulary – some 12,000 words, at least? And with them, the magic key to those further thousands on thousands which the rest of their school life will – or should – demand of them.

Then we who footed the bill for this gratifying achievement, would have the further gratification of getting a fair return on the hundreds of millions we taxed ourselves for it. In place of a dollar per word per child for the worst showing in the whole literate world, we should be paying a penny or two for what might well become the best.

And this would be but the beginning of our clean-up of the wastage, cultural and financial, in which our schools are weltering now. For it is in the failure and frustration of first grade reading that the seeds of most of their later, and yet more costly problems are sown.

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[Spelling Progress Bulletin Winter 1964 p5 in the printed version]

From Rimes Without Reason

Breaking it ough
There once was a man who for hiccough
Tried all of the cures he could piccough,
And the best without doubt,
As at last he found oubt,
Is warm water and salt in a ticough.

He never eard
A wise old owl lived in an oak;
The more he saw the less he spoak,
The less he spoak the more he heard.
Why can't we be like that old beard.

He was?
A spelling reformer indicted
For fudge was before the court cicted.
The Judge said: "Enough
His candle we'll snough
And his sepulchre shall not be whicted."

From the Devil's Dictionary, by Ambrose Bierce.
ORTHOGRAPHY. The science of spelling by the eye instead of the ear. Advocated with more heat than light by the outmates of every asylum for the insane. They have had to concede a few things since the time of Chaucer, but are none the less hot in defence of those to be conceded hereafter.

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[Spelling Progress Bulletin Winter 1964 pp6–10 in the printed version]

5. Relativity and Spelling: Two Departures from Logic, by John E. Chappell.

The following introduction to the fantastic situation prevailing today in theoretical physics is offered as a case study in the kind of confused systematization which pervades many areas of modern thought, of which the situation in our spelling is another example, and one which has been well treated in many articles appearing on these pages.

Naturally, it would be too much to declare that a reform in English spelling would suddenly clear the mental atmosphere sufficiently to allow our physicists to cease making philosophical blunders; but it would also be absurd to suggest that such a reform would not contribute towards that end materially. Comparisons between the two subjects will be offered at times in the following discussion, in order to illustrate my convictions that both if them are manifestations of a kind of mental sloppiness which has plagued modern civilization the more, the further it has advanced towards its present materialistic and unreflective condition.

Readers of this *Bulletin,* although presumably including very few natural scientists, need not fear reading about the Theory of Relativity. It is a fact that nature's truths are essentially clear and simple, although the road to discovering them may be complex. It is *not* a fact that only a few men in the world have ever thoroughly understood relativity.

No one has ever thoroughly understood relativity, *insofar as it is a phenomenon or set of relationships existing in nature.* For relativity, in the Einsteinian sense, does not exist in nature. It exists only in paper-and-ink equations and in *interpretations* which men have given them. The confusion arose when men decided that their interpretations reflected nature. They made the mistake of taking the easy road to a complex and bewildering "truth".

At first they were reluctant to take this road. The Lorentz transformations, arising from a modification of Maxwell's theory of electromagnetic radiation, became the mathematical core of relativity. But they were seen by their author as merely a set of mathematical tools for dealing with data, not as a dogmatic statement that intuition deceives us and that time and space are not objective facts for all observers. Other ways out of the theoretical bind, consistent with good sense and with time honored principles in physics such as conservation of mass, were sought.

One of the alternatives was the so-called "Fitzgerald contraction", the subject of as many satirical limericks as relativity itself. Fitzgerald suggested, and Lorentz tended to agree with him, that matter contracts in the direction of motion by a fixed amount, just sufficient to prevent any measuring stick, which also so contracts, from measuring the change. This answer was rejected by most physicists as too artificial, and was finally disproved experimentally in 1919-31 by Kennedy and Thorndike.

But in 1905, Einstein declared boldly that if objective time and space were given up (along with conservation of mass, d'Alembert's principle, and other keystones of the science), one could reinterpret the universe in purely relativistic terms What Einstein was saying, in effect, was that there are an infinite number of correct values for any given quantity in nature, but that only the ones made by a given observer are valid for that observer (and for those at rest relative to him). Of course, physicists have been reluctant to admit just how solipsistic (self-centered) relativity really is. Nor have they readily admitted that it gives rise to all sorts of unanswerable paradoxes.

However, the situation shows signs of returning to good health, Certain French and Spanish scholars have been raising their voices (or their pens) in criticism, Prof. Herbert Dingle in London and Prof. V. A. Fok in Moscow, both expert physicists, have been trying to accomodate relativity with their intuitive notions of absolute space and time (which means that relativity must yield), Harvard's Gerald Holton, a leading expert on relativity, concedes that there is room for a new theory, although he cannot define the form it is to take.

But the unfortunate fact is that most practising physicists are so involved in getting "results" that they cannot afford to cast aside the mathematical tools of relativity and spend time in search for a neater theory. For relativity does work, in a kind of garbled way, by use of compensating errors and unexplained changes in values. It was the mental path to the atomic bomb, which is a fact even though the famous equation $e=mc^2$ should be replaced by the classical one $e=\frac{1}{2}mv^2$, where v is the *variable* speed of light (experimental results from nuclear explosions have indeed yielded somewhat less energy than predicted by relativity and no one can come close to measuring this energy precisely).

In short, there is an unproductive set of forces at work which act to keep down the theoretical understanding of physicists. Perhaps nowhere is this more evident than in high energy physics, where masses of new data on subatomic particles is accumulating, with only partial and questionable theoretical explanations. Yet this same mass of data would obviously yield to much clearer analysis if high energy physicists would give up the ridiculous fiction which follows from relativity, such as; that a photon (light particle) weighs nothing before it is released, but carries off weight when it does.

The science of physics today seems something like the impatient farmer who instructs his hands, "Never mind about plowing, sowing, fertilizing, and weeding; just show me where I can harvest a crop!" The available crops are obviously going to get scarce in short order. At some point a reevaluation will have to be made, and we can only hope it will be made before the diminishing, returns of true understanding become perilously low.

Spelling reform advocates will recognize a parallel with the situation in English spelling, which Benjamin Franklin long ago characterized as bound to become like the Chinese if it were only allowed to go unreformed long enough. In one sense at least, relativity has already set back physics over 300 years. In the sixteenth century, most scientists followed the naive physics of Aristotle, which declared that the velocity of light is infinite. Curiously, the only way relativity can be made to conform to logic is to assume that the velocity of light is infinite (which we now know it is not).

Another parallel is in the kind of people who are working on the search for a true theory. The most technically competent people to devise a new spelling system are undoubtedly the professional linguists, but invariably, with few exceptions, these men are deeply involved in academic work, fearful of ridicule by colleagues if they champion an advanced cause, etc. And so the task is left to people who know less about phonetics, but who feel the need for reform most keenly. Many of these, of course, are amateurs who are sincere but who have done little "homework" or research on linguistics; therefore their schemes fail to impress the academics, who might be in a better position to put decisive influence behind the adoption of spelling reform. It is so easy to devise a better spelling system than the one we have that many reformers stop short of an adequate job of reform as soon as they have produced an improvement; or they stop short of an adequate knowledge of limiting conditions which would teach them just how much and what kinds of reform are practical.

In physics, it is by no means easy to produce a superior theory to relativity: but it is, for anyone who insists on good clear logic, not too difficult to prove that something is wrong with relativity. Consequently, the most enthusiastic advocates of reform in theoretical physics are amateurs, who have approached the subject without the many preconceived ideas which have been drummed into the heads of well-trained physicists over the years, and which must be, with great effort, reexamined thoroughly in order to understand what is wrong with relativity. Similarly also to the situation in spelling reform, the academic physicists are usually timid about casting doubt on the generally accepted modes of thought, for fear of ridicule or loss of position. Therefore the few well-trained physicists who are aware of the problem and are trying to solve it are generally those without secure academic posts. This all results in the fact that the people working hardest to reform theoretical physics are by and large not professional theoretical physicists, but a hodge-podge of amateurs, philosophers, psychologists, historians, and exiled Hungarian physicists living in Brazil.

The vast sums of federal and foundation research money which could well be spent on encouraging them is, instead, earmarked for "safe" projects which have little likelihood of meeting suspicion or ridicule, as any drastic new reform inevitably must., Recently, I talked with a professor who has sat on the committee which award such grants, and he told me somewhat resignedly that these committees know the shortcomings of their system, but are helpless to assist these large-scale, drastically-needed reforms, since they feel they must waste 50 grants for every one of this type which would prove worthwhile.

However, these "outsiders" have been industrious in their own way They have published numerous books and articles, mostly with private funds or in small journals (such as this one). Such publications are sent frequently to the academic physicists, who, as soon as they see the subject under discussion, file them under number 13, along with various obviously dubious proposals to produce perpetual motion machines, etc. which also happen into their mail from time to time.

Leading scientific journals automatically refuse papers criticizing relativity, usually without giving reasons in the form of detailed criticism; thus a kind of unofficial thought control is set up which prevents the issue from coming before the members of the profession in a dignified manner, and contributes to their disdain towards the whole thing. One such journal is the *Journal of the Optical Society of America.* This is rather surprising, since a past president of this Society contributed many

papers to its journal up to his death in 1953, designed to combat the theory of relativity and to help find a reasonable alternative. This man, Herbert Ives, was a first rate physicist in his own right.

Among other things, he was one of the leading figures in the development of television back in the 1920's. In problems of theory, however, he is considered simply one of a stubborn old generation which was never able to adjust to modern ideas.

There were others like Ives, such as Dayton C. Miller (1866–1941), who is considered today as one of the most tragic figures in the recent history of science. Why? Miller, a very gifted experimenter, spent most of his time in a single-minded, stubborn effort: to disprove the chief experimental evidence for the theory of relativity. This was the famous Michelson-Morley experiment of 1887, which failed to detect the motion of the earth through the "ether" (the medium formerly thought to exist everywhere for the purpose of transmitting electromagnetic waves). Miller redid this experiment numerous times, refining his procedure each time, and effectively devoted his career to it. He never obtained anywhere near the results Michelson and Morley had expected, which would have proved against the theory of relativity. But Miller did claim to have a small trace of evidence which disproved relativity. His main trouble was that he clung to the outdated notion of the ether, and could not frame an adequate substitute theory for his results. Still, it does not seem unreasonable to pay serious attention to his insight into the physical reality, since he was such an accomplished experimental physicist. Einstein himself never performed an important experiment in his life, but merely shuffled equations around on paper, to obtain his so-called insight into physical reality.

And yet, it may be that a non-experimentalist physicist will be the one to come up with the definitive substitute for relativity. Newton, after all, developed his theory of motion and gravitation by means of mathematical skill rather than as a result of experimenting; but he did spend much time with experiments in optics, and made acute theoretical advances in that area of physics as a result of them.

Prof. Gerald Bolton, now at Harvard Univ., a historian of science as well as a physicist, recognizes the tendency for theory and experiment to be separate. In a letter to me last summer, he said that "I do not think that special relativity theory will be replaced by assembling all the contradictions, incompletenesses, etc. What may well happen is what usually happens; someone will either find out something entirely new by experiment which is both very important within physics and too difficult to accomodate within relativity, or much more likely, someone who like Einstein does no experiments himself and does not much care about what has or has not been written in the past, will produce a new formulation. In both cases the accent will be on doing and thinking new things rather than going over old ground."

I would not fully agree with Prof. Holton on his suggestion of the role which respect for the past will play in the change to be accomplished. But it does seem clear that what he says generally corresponds with historical evidence, and if such is the case, the amateurs and non-physicists now working on relativity are the ones most likely to come up with its replacement.

I have seen a few of the published items by the growing crop of anti-relativist theorists. The better trained physicists among them usually seem most concerned with the illogical situation in present theory which assigns a "zero rest mass" to a photon. They may argue that an atom weighs less after emitting photons; therefore the photons must weigh something while confined to the atom. It is truly surprising that contemporary physicists can accept this anomaly so easily. They accept many others as well, most forced on them by relativity. For instance, there is an unexplained change o£ mass connected with the Doppler effect (change of frequency with motion). On the other hand there is the age-old problem, which baffled Newton as well, that light seems to be both particle and wave

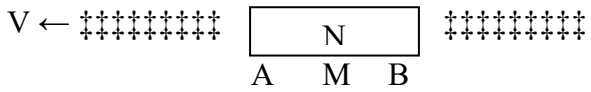
at the same time. The trouble with the attitude of modern physicists to this issue is that it seems no longer to be regarded as a problem to be solved, but as a logical impossibility to be quietly accepted, because that is the only "safe" way to treat it.

Now these alternative theories which come from trained or semi trained physicists are unfortunately much less acute than the criticisms of relativity which accompany them They are liable to go off on wild tangents, such as one theory which hypothesizes various forms of inertia such as spiral, elliptical, circular, etc., as well as the straight-line inertia which has been the only kind of inertia in physics since Newton. In other words, these theories state that when I give a body a push, it will go in a circle, straight-line, spiral, etc., depending on some mysterious quality (and they don't mean "English") which has yet to be defined. No wonder that such a theory is cast aside by serious physicists; they are not totally at fault for their lack of attention to the reformers, as long as the reformers are so careless in their speculation.

More is likely to be achieved by the results of such men as the late Dr. Arthur Otis, developer of the intelligence tests just before his death in 1903, Dr Otis published a book in which he pointed out the unanswerable paradoxes in relativity and called for young physicists to develop a new theory. He put his finger on the central problem, evidence exists which says that light does not vary in forward velocity with the velocity of the source; yet the energy of light, which should depend upon its speed, clearly does vary depending on the relative velocity of the source. (It would appear to me that the key to the solution lies in distinguishing between absolute speed and forward velocity which would be the case if light particles travelled in zigzag paths). Otis, unfortunately, made a few minor slips in terms of his knowledge of physics, and so the hundreds of copies which he mailed out to physicists have virtually all, as far as I know, been met with disdain, and ignored.

Perhaps even more perspicacious in the matter are a small handful of academic philosophers who have not, as have many of the big names in the field, limited their philosophizing to what Einstein has told them are the incontrovertible results of experiment, A few have dared to go beyond the interpretations which Einstein and other physicists have given to the experimental results, and have seen that something is amiss, And indeed, it should be. since physics has taken the stance that philosophy is unnecessary, and that only quantitative readings and equations are really important (the so-called "positivist" or "operationalist" approach), They have ignored the fact that it is extremely important to decide how one is to interpret such readings and equations, and for this task one must be something of a philosopher. Indeed, Newton was not a physicist or a scientist; he was a "natural philosopher." "Scientists" did not really make their appearance until the nineteenth century, after a philosophical and social revolution in which it was decided that philosophy and science had better go their separate paths.

These present-day critical philosophers include such men as Prof Colin Wright of Carleton College in Minnesota. Dr. Wright recently showed me a paper he is preparing which seeks to prove that all talk of "curved space," of which there is much in connection with relativity, is meaningless. Indeed, space itself cannot be curved; only lines and surfaces in space can be (when we speak of space in the general sense, as the dimension). Another is Prof. Melbourne Evans of the Univ. of New Mexico, who has apparently been convinced ever since his student days at the Univ. of California that the theory of relativity was a fraud, Lately he has managed to work out an excellent argument showing that Einstein's 1905 derivation o£ the "Relativity of simultaneity" rests on an "illicit, covert shift of hypotheses" in the middle of the argument. I shall go through this argument briefly for the benefit of readers who are skeptical enough to demand proof of the position I have taken, or who may simply want to know more about the issues. I am convinced that Prof. Evans' argument, or its equivalent, will assume historical importance in the impending revolution in scientific thinking.



The above diagram represents a familiar picture of a "thought experiment" used by Einstein and others to illustrate the "relativity of simultaneity." Observer N is on a train car moving at velocity V to the left, past observer M on the platform. When N and M are directly opposite each other, lightning strikes at points A and B. The flashes are seen by M. located midway between A and B, simultaneously. He therfore concludes that they occured simultaneously, since their velocity is constant. So far, relativity and classical physics agree.

But N, moving to the left, intercepts the light from A before the light from B reaches him. Therefore he does not see both at the same time. Still, relativity agrees with Newton, But, says Einstein, this means that for N, the flashes did not occur simultaneously, since they occurred at points equidistant from N (as N can determine by examining the charred paint on the car); and they reached him at *different* times. So they must have *occured* at different times, because the velocity of light is constant within his "coordinate system' just as it is within his coordinate system. In other words, the velocity of light is constant with respect to the train and it is also constant with respect to the platform – a conclusion which may be drawn from the results of the Michelson-Morley experiment and the many repeats of it by Miller and others, and from the de Sitter "double star" paper of 1913, which shows that starlight reaches the Earth at velocities independent of the velocity of the star.

Over the course of 60 years, physicists have come to accept this interpretation. They say that it must be true because the evidence supports it. They see no reason for philosophical quibbling beyond such "evidence."

But Prof. Evans did. He realized quite properly that evidence means nothing unless it is properly interpreted. Now in this case, Einstein makes a grievous error in his argument. He begins by assuming that the velocity of light is additive; that is, he adds the velocity of the source to that of light. This is an "emission theory" of light consistent with Newtonian mechanics, which treats light as a kind of particle. In the example, he says the net velocity of light from A to N is c+v, since N is approaching A at velocity v, likewise, the net velocity of light from B to N is c-v. This results in non-simultaneous reception of the light by N. But *then* Einstein makes his "illicit, covert shift," and assumes that the velocity of light from both A and B to N has been c, and exactly c, all along. Only thus can he reason backwards and describe the occurence of the flashes as non-simultaneous in N's system. But this is clearly a contradiction of his own principles. If the velocity of light is indeed constant in each system, and N can determine, by inspecting charred paint, or some other means, that each flash occured at an equal distance from him on his train, then he must have seen them at the same time, and not at different times as deduced from the additive values used by Einstein.

If simultaneity is absolute, then the theory of relativity does not hold, since the relativity of simultaneity follows directly from the two basic postulates of Special Relativity.

There are further refinements on the above argument which need not be explored here. The chief of these is to attempt to employ two-way velocities of light, since even relativists acknowledge that these are the only velocities which have been accurately tested; all such attempts fail to demonstrate relativity of simultaneity. It may also be shown that the conclusions of relativity about contraction of length make – *even the discussion* of the two lightning bolts impossible to conduct, since no second pair of bolts could ever strike coincident points in the two systems {which itself would make a simultaneous event in both systems).

Prof Evans attempted to publish these results in this country, and failed to convince any publisher. He managed to get his paper into print in *Dialectica,* a Swedish journal in 1962, He told me that he

sent a copy to a colleague, who wrote back claiming that Einstein never used the additive velocities c+v and c-v in his own examples. Prof Evans merely cited several examples where Einstein had indeed done so, and heard no further rebuttal. Interested readers can examine Einstein's demonstrations in various writings, such as his non-technical *Evolution of Physics*, written in 1938 with Leopold Infeld.

It happens that this particular professor, the one who argued with Evans about his conclusions, once disbelieved in relativity himself, as a youth. Now teaching at a midwestern university, he explained to me that his father, his major professor (Prof, Ernest Nagel of Columbia), and Einstein himself had finally argued him out of it. Another philosopher, now teaching at Dartmouth, recently completed his Ph.D. Thesis at Harvard on the subject of relativity. In it, he directs some very penetrating criticism at leading proponents of relativity, but accepts the theory itself. When I wrote to him asking why he did not carry his criticism to the theory itself, he said that he once attempted to, having been unable to accept its illogical implications, but was finally persuaded to believe in it.

Why this willingness to abandon native good sense on the part of keen and well-informed minds in philosophy as well as in physics? The answer is simple: the "evidence" is too strong. Physicists declare solemnly that experimental proof exists which can not be denied. They are admittedly modest about these claims as regards general relativity.

The part of the theory which covers non-uniform velocity but they do not hedge on special relativity. "It has been proven true once and for all", they say, and produce lists of papers which present the evidence. No wonder that philosophers who are not also trained in experimental physics bow before this onslaught. But it is not impossible, as Prof. Evans has proved, even with a fairly limited knowledge of math and physics, to get behind these claims at the real truth.

It is possible, for instance, to attack even the huge pile of evidence which is adduced to "prove" that mass increases with velocity. But to do so, one must challenge the electro-magnetic theory of Maxwell, one of the demigods in the history of physics. As long ago as 1908, a Swiss physicist named Walthe Ritz published the foundations of a new electromagnetic theory, building on the sound Newtonian concepts of Wilhelm Weber and Karl Friedrich Gauss rather than on the vague, semi-mystical notions of "field" which were promoted by the Englishmen Faraday and Maxwell. He showed clearly that all that was needed was to prove that mass is always constant is to assume that the velocity of light is additive, i.e. it is added to the velocity of the source relative to the observer. Then the so-called relativistic increase in mass fades away to zero in the calculations.

Prof: Robert Katz of Kansas State Univ., a former associate of Prof. Holton, directed me to a work by Alfred 0' Rahilly, a clever Irish theoretical physicist: *Electromagnetics,* published in 1938. Here O'Rahilly accepts and develops Ritz's theory and shows how all so-called proofs of special relativity are based upon false reasoning or on mathematics with built-in compensating errors. O'Rahilly curtly dismisses, without argument, the evidence adduced by de Sitter in 1913 on the light from double stars, which has been responsible for consigning the Ritz theory to oblivion. This one weakness in O'Rahilly's book may have prevented physicists from taking it seriously. But it is not a weakness which is insurmountable. The analysis of this double star problem in terms of relatively moving media (the "empty" space being a medium itself) yields results consistent with well-known theories and experiments of nineteenth-century pioneers like Fizeau, Fresnel, and Stokes, if the last and controversial term of Fresnel's "drag coefficient" is eliminated whereever no nearby "at rest" media occur.

I checked myself on the original paper which established what seems to be the most convincing and astounding proof of Special Relativity: the variation of the period of meson decay with velocity. This is the type of evidence (there are also later, similar experiments) which tells us that people

may"live longer;' as mesons do, the faster they travel. This paper, published in the Physical *Review* of 1941, actually rested its argument not on direct measurement of velocity but on computations of momentum, the product of mass times velocity. I worked through the mathematics involved in this experiment, which is not above high-school level. and found the following: if one assumes that mass increases with velocity, it is absolutely necessary that mesons "live longer" the faster they travel. But if one assumes, as Ritz and O'Rahilly maintain, that mass is constant, the experiment proves nothing. The compensating error in the math is gone.

This is not the only experiment made since 1905 which needs re-interpreting. Herbert Ives already performed one rather startling re-interpretation in 1937 when he showed that the Kennedy-Thorndike experiment, which was boldly trumpeted in 1932 as "Proof of the Relativity of Time," proved no such thing. It proved that the specific hypothesis of the Fitzgerald contraction could not be true, but did not disprove various other possible contractions, and therefore did not prove the relativity of time (whatever that means). But Ives in 1938 with his own ingenious experiment and with his co-worker Stilwell, *did* disprove those other possible contractions; Still, he did not concede that time was relative, insisting that he had proved only that frequency of emission of photons was relative. Unfortunately, this interpretation still falls short of an adequate argument against relativity, since Ives could not accept any kind of additive velocity for the velocity of light.

It is possible to be very cynical and abusive towards modern physics for its persistence in error. But we must not forget that Einstein was a capable scientist who made other sound contributions to physics, or that his confusion was only a part of the general confusion of the times, which has produced not a few erroneous and over-simplified doctrines over the course of the last century or so. We have been too ready to overthrow the tried and true logic of the ages, and have wound up befogged and confused, not only in physics but also in art, in music, in literature, in psychology, in philosophy, in economics, and in some parts of the world even in biology. But there is obviously hope to emerge on sound footing again in these various spheres of endeavor, and nothing could more dramatically signify that we are ready to do so than accomplishment of the needed revisions in the theory of physical science.

Does this evaluation hold any lesson for spelling reformers, as regards the origin of their problem? Certainly, the lesson is not that the old spelling of Samuel Johnson must be followed lest we depart into confusion with a new revision. On the contrary, Johnson's system was itself a departure from the basic rationale of writing, that it should reflect as closely as possible the spoken language (just as relativity is a departure from the basic rationale of nature). Johnson's specific objective was to standardize spelling, and he chose the conservative course: to reflect the most frequent, current usage. He thus preformed a great service which improved communication – but a greater service is to be done by those who standardize spelling, not in terms of a "usage" which has remained inflexible in the face of centuries of natural development of the spoken language but instead in terms of a logical and phonetic system.

One might speculate on the possible influence of spelling anomalies on the history of physics, and come up with the fact that both Faraday and Maxwell, who developed the idea of "field" along mystical, un-Newtonian lines, spoke and wrote the orthographically confused language of English. Perhaps this tended to confuse their admittedly great contributions to physical science. Yet it was Einstein, a speaker of phonetically written German, who decided to transform this concept into a physical dogma (of course, Einstein wound up in an English-speaking land himself.)

And today, as noted above, criticism of relativity comes largely from nations with phonetic spelling systems – such as Hungary, France. Spain, and the Soviet Union (where relativity was very strongly criticized until an official decision in the 1950's that Einstein could co-exist with Marx). Readers of the *Bulletin* recall comparisons of Russia's phonetic spelling with her scientific advances, Does

relativity and its criticism fit into the same picture? Of course, English-speaking scholars are also criticizing relativity and not all of them are spelling reformers, as I am.

Another lesson which might be drawn from the above by spelling reformers is this: your new systems may be easily better than the old system, but it will not convince the experts unless you can talk their language, and avoid making slips which seem crude to them. In the case of spelling reform this means learning phonetics, and studying the known facts about language learning. The science of phonetics is not so simple or self-evident as it may seem. Many men spend lifetimes on it. Just as they do in the case of physics. They may seem blind, in many cases, to the need for change, but it is sure that their knowledge must be used, and used wisely, when the changes are made.

It is true, admittedly, that spelling reform does not lean as heavily on professional linguists, nor need it do so, as physical theory depends on physicists. Educators, psychologists, and others with limited phonetic training, have very important roles to play in reforming English spelling. And a knowledge of the printing trade, of economics, and of politics is part of the spelling reform picture as well; what "convincing" needs to be done is in fact largely the convincing of politicians, not only the academics.

Still, everything is to be gained and nothing is to be lost by reformers who increase their knowledge of phonetics, and who move beyond the somewhat static and outdated analysis of sounds which is reflected in many of the works of the earlier, pioneer spelling reformers. Since that time, of course, wider appreciation of regional and "average" speech has corrected many older notions of the proper pronunciation of certain words. In America, Eastern dialects, which for decades formed the only basis of standard pronunciation in the Merriam-Webster dictionaries, have been supplanted by notations of the more realistic standard, Middle Western American speech – the speech we hear daily from radio and T-V announcers all over the country. There is yet the task of choosing between certain alternate pronunciations, but we now at least have a more realistic basis on which to work towards a comprehensive spelling reform.

I am grateful to Mr. Tune for giving me this opportunity to publicize the information I have laboriously gathered on the relativity problem over the last few years. I hope it will not only interest spelling reformers but also somehow come to the attention of physicists. Based on a philosophical analysis of the problem, I have no doubt that in the near future the statements made above will be fully vindicated. And nothing could give me greater pleasure than to have this article serve ultimately as an indication of the sound logic and foresight of the advocates of spelling reform, as represented by the *Spelling Progress Bulletin.*

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In printing this article, the Editor realizes that this subject is quite far afield from our scope and is tied into spelling reform only superficially. Nevertheless, there is some ground for thinking that a lot of persons have had their sense of logical reasoning destroyed in grade one – by forcing them to learn to spell in a system so erratic that logical reasoning must be tost out of the window and the spelling of each word learned individually, by rote, as if a person had a photographic memory. Instead of nurturing our children's inherent sense of logic by using a consistently regular system of spelling, we force them to discard logic. No wonder our people grow up with so little sense of logic and with such muddled thinking.

[Spelling Progress Bulletin Winter 1964 pp11–15 in the printed version]

6. Teaching Reading with "Words in Colour" by Joan Dean.*

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Words in Colour is an approach to the teaching of reading which has been devised by Dr. Caleb Gattegno, who is well known for his work with Cuisenaire rods. A number of schools both in England and the U.S.A. are now using this approach both with normal beginners in reading and with older groups of slow learners, and although many people concerned with the teaching of reading have some reservations about this scheme, we are, nevertheless, finding the results of it most interesting.

There are several important points about the work I am describing which readers should bear in mind. There have not yet, to my knowledge, been any controlled experiments to compare this approach to reading with others. The opinions expressed are simply opinions, with nothing but subjective observation to support them. My second point is that English children begin learning to read at five, when they begin school. This makes us very conscious of the need for informal methods and good opportunities for play; and in fact, much work in reading and writing grows out of play and out of the children's activity. It is in this context that many teachers have reservations about *Words in Color*, since this scheme imposes a more formal approach at the beginning than is usual in British schools. The third point is that the British head teacher of a school has a very large measure of autonomy. Nothing is laid down for him or her about the way in which reading is to be taught. The programme used is chosen by the head teacher, and although in practice many schools use the same programmes, the head teacher of any school has the right to change to a different scheme or to experiment with a new one. The schools experimenting with *Words in Colour* are doing so simply because their head teachers and teachers wish it. This means on the one hand that they are especially keen to make the scheme succeed, and on the other hand that they may be working in isolation at this stage, without contact with any other schools using the scheme.

The English language sets a child learning to read a very difficult task, because in English each sound may be represented in many ways, although we actually use between forty and fifty sounds, we have nearly 300 ways of representing them. The Initial Teaching Alphabet sets out to simplify this situation by increasing the number of symbols. In this, each symbol represents only one sound and excepting for two duplicates, each sound is represented by only one symbol. *Words in Colour* creates a less variable way of representing speech by using a colour for each sound. The letter *a*, coloured white, represents the sound of *a* in *hat*, but when the symbol *a* is coloured blue-green it represents the sound of a as found in lane, and this sound will always be blue-green whatever the letters used for it. Thus in gain the *ai* will be blue-green; in rein, the *ei* will be blue-green and so on.

This gives consistency to the representation of sounds, but the child learning to read is still faced with the problem of dealing with a number of different symbols for each sound. This approach deals with the introduction of these sounds and symbols. However, each sound and colour is introduced and used in such a way that it is easily remembered. The steps the children are asked to take are small ones, which almost every child can negotiate successfully. With each step taken, the child is able to read and write more words. A great deal of emphasis is laid on combining sounds and symbols in as many ways as possible. Emphasis is also given to putting the child in a position where he can discover for himself; and on the child learning rather than on the teacher teaching.

We seldom find beginners who know the alphabet. I would expect children starting in *Words in Colour* classes to start with no preconceived idea about letters or letter names – or almost none.

To operate this scheme, the teacher will need chalks of many colours, because each symbol is introduced by writing it in colour on the blackboard. The scheme starts with the introduction of the first vowel sounds, each in one of its various pronunciations. The first signs given are *a* (as in *hat*), which is white; *u* (as in *hut*), which is yellow, *i* (as in *pin),* which is red; *e* (as in *pet*), which is blue; and *o* (as in *pot*), which is orange. These are introduced one at a time. The teacher starts by writing the white *a* on the board and telling the children that this is *a* (as in *hat*). She asks them to repeat this and works with them to get the idea that each time she points to this symbol they should say the sound it represents. Very soon she adds the next sound *u* which she writes in yellow, and with these two sounds the children build letter combinations. The other vowel sounds given are then introduced and a good deal of work is done in combining them, even though the combinations of letters are not words. This is done through a process which Gattegno calls "visual dictation" which means that the children and the teacher make words by pointing out combinations of sounds from the letters written on the blackboard, for the rest of the class to say. The idea of repeating sounds is also introduced at this stage.

When the children have gained some skill in recognising these symbols and giving them their appropriate sounds, the first consonant is introduced. This is *p*, the brown one. The teacher writes it on the board and, using the visual dictation process, which is by now familiar, she tells the children that the letters *ap* is pronounced *ap*. She then goes on to ask what the other sounds they know make combined with the brown ones, pointing them out from the letters on the board. The children next build up combinations of sounds the other way around, getting *pa, pu, pe, pi, po*. Once this idea has been grasped, they go on to combine the sounds they know in as many ways as possible. One or two of these combinations form words, but although these are discussed, the emphasis is on saying the sounds the symbols represent. It should he noted that the consonant sounds are never pronounced alone. They are always given in combination with a vowel sound, since it is in fact almost impossible to pronounce many of them apart from vowel sounds. As a result, children appear to experience no difficulty in blending sounds when working with this scheme.

The next sound to be introduced is *t*, the purple one, and with these letters it is possible to make a number of words – *pit, pat, pot, tip, top, tap*. By making all kinds of combinations of sounds the children learn to deal with words and sounds in a flexible way and learn to look carefully at each and to discriminate by detail. The visual dictation method forces the children to see the words and to hear them in the right temporal sequence. When they themselves point out words for others to read, they discover whether they have matched the sequence of symbols with their own images of the sequence of sounds. They are able to do this by matching the sounds uttered by the rest of the children with their own images. If the sequence pointed out was wrong, the words uttered will sound wrong. So from the beginning, there is a great deal of emphasis on listening and on making images, both visual and aural, of words under discussion.

The children are also asked from the beginning, to write down what they hear; i.e. to write from dictation. This means that some attention must be given to the beginning of writing.

Charts are provided which can be used as teaching material and which can also provide reference for the children. The charts are in colour and the introduction of the sounds on the blackboard is also in colour. The books and all other materials and the work is in black and white, [1] for the

scheme relies on colour imagery to recall the colour in relation to the sound. The images of the colours are established through work with them. The teacher may tell the children "Close your eyes. What do these make – the brown one, the white one, and the purple one?" If she gets the answer, *'pat'* she may perhaps go on to say, "Now turn them around, so that the purple one comes first. What do we have now? Now put the red one in the middle instead of the white one. What does this make?" In this way she establishes imagery and helps the flexibility in the use of words mentioned earlier.

The next sound to be introduced is the dark lilac sound *s* (as in *is*) and then the green sound *s* (as in *us*). The double letter *ss* (as in *mess*) is introduced at the same time and is shown as another sign for the green sound *s*. The use of these is explored in the same way as before. When the dark orange sound *m*, and *n*, a pale mauve sound are added, the children have enough sounds and symbols to write sentences as well as words. At this stage, some teachers start making special books for their children, so that they can gain additional practice in reading. These are in black and white. It is easy to produce graded materials in a scheme of this kind, because the scheme itself is so carefully graded. In some cases it has been possible to produce books which have something special for particular children perhaps making use of their names as soon as the sounds for these have been learnt. At first the texts are limited, but this is true of the texts of all first reading books. Here are three examples of these books. The first is for children very near the beginning of the scheme:

is it a teddy it is pat's teddy sit up teddy teddy sits up

The next was written for children who had been using the scheme for about a term:

I like to help mummy I can make my bed I can dress my self I can carry the plates
I can set the table I can tidy myself mummy thanks me

The last example was written for children who had been working with the scheme for about two terms, although, of course, some children were much further advanced than others:

ann has a red umberella.
mummy gave it to her for her birthday.
ann was five a week ago but it has not been wet yet.
ann is sad and she cannot take her umberella in the street.
daddy tells her it can be a sunshade and that makes her happy.
she rushes to get her umberella to show it to pat and tess.
pat tells ann she is silly as it is not wet.
tess likes the umberella and gets under it with ann.
pat is cross and sulky so she goes home.
suddenly wet splashes on the umberella, but it keeps ann and tess dry.
it is daddy with his hose.
everyone thinks it is a funny trick.

In the early stages of this scheme, the children's ability to write about their own interests is limited by the sounds they know. Once they have grasped the principle that each sound can be represented by a symbol, however, and that all words can be written according to a logical system, they begin to write fluently and are prepared to tackle any word, whether or not they have learnt the sounds which compose it.

The scheme continues introducing sounds, one at a time and using them with those the children already know. A number of games are introduced which help to make the approach to words more flexible. Children play the game of making one word into another by changing a sign at a time. Thus one might get from *hat* to *men* in this way:

hat mat man men

Children are also asked to fill in gaps in words is as many ways as possible. They might be given the outline s--m and might complete it in many ways and make such words as *seam, seem, stem, slim, slam, scum, skim* and so on. These games are valuable and there is no reason why they should not be used whatever the method used for learning to read.

Capital letters are not introduced at the beginning of this scheme, but are dealt with some way through and their use explained. This seems to be no less satisfactory than the more usual practice of using them from the beginning and it helps to eliminate another variable.

In addition to the charts already mentioned, there are various books which go with the scheme. The *Background Book* explains to teachers the ideas behind the scheme, and the *Teacher's Guide* gives a step by step account of how the work is built up. The charts give all the sounds in colour, putting them into words as soon as this is possible. There are 22 of these, and also a series of charts which give, in colour, all the combinations of letters used to represent the sounds of English. These are arranged in columns, classified according to sound and so according to colour. Thus one group of sounds, coloured dark orange, gives all the possible ways of spelling the sound of *m* as in *mat.* These are: *m, mn, me, mme, mb, lm.*

The silent letters among these are introduced with the letters they accompany, and each group of letters is introduced as one sign with one sound. All of the letters in one group are therefore the same colour. Thus *me* in *game* would be coloured dark orange and these two letters together would be preserved as a new way of spelling the sound of *m.*

This *Teacher's Guide is* a most interesting summary which gives a lot of food for thought. A good deal of value can be gained from attempting to think of words containing each spelling of each sound. This summary is built up gradually for the children in the *Word Building Book.*

There are also three graded reading books for the children which come as something of a shock to teachers used attractive and well-illustrated books, because they are printed entirely in black and white and are *not illustrated at all.* Furthermore, they contain no subject matter which is likely to interest children in terms of its meaning. The purpose of these books is to present to the children all the possible spellings of English sounds and words. Pictures are intentionally omitted in order to concentrate the children's attention on words. I must admit that I do not like these books at all, although in practice the children do not seem to find them as dull as one might imagine. Dr. Gattegno would say that this was because they enjoy the intellectual stimulus of sorting out sounds and making them into words. This is probably at least partly true, but one feels that it would be even more stimulating and valuable if the text were of interest to them in itself.

In addition to the three basic books, there is also the *Book of Stories.* The title explains itself. This would, I think, be better broken up into a series of shorter books, and one could do with a great deal more material of this kind on which children could practice at the level they had reached. Fortunately, in practice children do quite rapidly reach the stage when they can use all kinds of

reading material. There are also a number of work sheets which suggest many of the games with words which are something of a feature of this approach.

There are several practical aspects of this scheme which sometimes worry teachers. The most usual enquiry is about the number of colours needed. There are 48 colours in the scheme, but in practice they are introduced so carefully and systematically that children have no trouble in distinguishing them. Even the problem of finding 48 different coloured chalks can be overcome by going over some letters with more than one colour. Naming the colours causes no difficulty either, because in practice the children name them. In one school, for example, the various greens are known as: pretty green, dirty green, tree green and so on. A child who is colour-blind, [1] will of course, not get the same benefit from the scheme as a normal child will get, but anyone who is colour-blind will, in the course of adjusting himself to the needs of daily life, learn to discriminate by shape where others will discriminate by colour. In using this scheme, the colour-blind child will be using only one element for discrimination where other children are using two. Since discrimination by shape is the normal practice in learning to read, he will, at worse, be no worse off by learning with this method than he will in learning with any other. He may in fact, still gain more, because of the systematic quality of this approach and because of the emphasis on imagery and flexibility. There is no doubt, however, that for most children, the colour element in this approach is very valuable. Children who cannot remember sounds from their shapes, seem to be able to remember them when they are reminded of the colour.

Differences in pronunciation also present some difficulties, but these can be overcome fairly easily. The American edition of this scheme contains, I believe, some differences in the colours given to certain sounds, so that the confusion which might arise from differences in American and British pronunciation is avoided.

I have been watching this scheme in action in two schools and have been given a fair amount of information about some work Dr. Gattegno himself has done in another school in my area. Of the two schools where I have been observing this scheme, one caters only for children from five to seven years. This is a school on a housing estate on the outskirts o£ a large city and it contains in the main the children of skilled workers of various kinds, with a sprinkling of children of professional people and some children of unskilled workers. The general standard of ability is probably about average. There are six classes in the school. The present headmistress came new to the school two years ago and when she came the teaching of reading was based on a scheme which involved a mainly phonic approach. At this point, *Words in Colour* was very new indeed. Although she wished to introduce the scheme, she felt it to be something of a risk and decided that she would at the same time, with another group of children, introduce another new scheme, which was mainly based on a *Look-Say* approach. This would give some measure of comparison, although it must be appreciated that the two groups were in no sense matched. At first the group using *Words in Colour* were slow to get started, but once started, both teacher and children appeared to make much more rapid progress than those using the new *Look-Say* scheme, or those who had used the previous phonic scheme. On the other hand, we should note that the teacher working with *Words in Colour* was, on her own admission, spending much more time on reading and giving it far more attention than she had done with the other schemes. The accompanying chart shows the breakdown by age of the six classes in the school and the number in each reading age group, compared with chronological ages of the children using the various schemes in July last. This was calculated on a Schonell Word Recognition Test. The oldest four classes were mainly using a phonic scheme. The one next using Words in *Colour* and the youngest class using a *Look-Say* scheme. In visiting the school, I was impressed by the children's ability to discriminate sounds and symbols both visually

and aurally. I know of schools using other methods where the standard of reading and writing is comparable, but the ability here to discriminate and to play with words was outstanding.

When I last visited the school, the group using *Words in Colour* had completed the scheme. As can be seen from the chart, every child had started to read and the best were reading fluently. The teacher was most enthusiastic, but had found out her own ability to discriminate sounds was inadequate.

The children's written work revealed a logical approach to spelling and word building, although, of course, there were still mistakes which would only be overcome with further experience and reading. During my visit, for example, a group of children were trying to decide how to spell 'message.' The first part of the word was easily managed, but they were having difficulty in deciding how to spell the latter part of the word, since there is no logical reason for spelling it one way in this word and differently in *midge* and *carriage.* In fact there are 13 ways of spelling the short *i*-sound and 5 ways of spelling *dge.* These children were in a position to review all the possibilities and to select from them, but they needed experience to help them decide which spelling to select.

I have also been observing the progress of a remedial class of children. This consists mainly of children of eight, with one or two older ones and one child who is very seriously disturbed and who found difficulty in distinguishing any symbol or sound. This group started work in January and from the beginning made rapid progress, even though they only worked on the scheme twice a week. By July nearly all were reading at their normal level and even the disturbed child had made considerable progress.

Dr. Gattegno himself recently carried out a two day experiment in a school in my area. This was a secondary school and he was working with a group of 12 to 15 year old children who were seriously retarded in reading. This was a concentrated effort in which he spent the whole of the two days working with the children on this scheme. During this short time, the average reading age for the group rose from 6.7 to 7.8 years as shown by Schonell Word Recognition Tests. All the children improved, and some made as much as 18 months progress in reading age. More important than this in some ways, however, was the gain in confidence reported by the teacher who found that the children concerned now felt that reading was something they could do. This change of attitude was summed up by one boy who said,

'If I had had another couple of days, I think I would have been able to read the newspapers.'

What conclusions can we make about this scheme? It makes children look carefully at words and listen carefully to them. It helps them to be interested in both sound and visual relationships between words. It creates an attitude of mind towards reading as well as giving the child a complete tool for deciphering and writing words. It would also seem possible that children who have used this scheme would become good spellers, and would be more conscious than others of the need for clear articulation. One danger of the scheme is that children may read without understanding, but this is really a criticism of the teacher rather than a criticism of the scheme. The other disadvantage seen by teachers of young children in this country, is the formality of the beginning and its necessary divorce from the child's interests and activities. Whatever one's conclusions, it is certainly a scheme worthy of examination and study.

Comparison of Classes

Chronological Ages											
DoB	6.4	6.5	6.6	6.7	6.8	6.9	6.10	6.11	7.0		
C1											
C2											
C3							1	7	2		
C4											
C5	3	1		3	8	8	9				
C6	8	7	8	2	2						
DoB	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	M		
C1					7	4	11	9	7.67		
C2		5	12	9	3	5			7.38		
C3	6	13	12	2		1			7.24		
C4	7	8			1	1		3	7.12		
C5									6.83		
C6									6.54		
Reading Ages											
	Nil	5.0	6.1	7.1	8.1	9.1	10.1	11.1	12.1	Med.	AA
	4.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0		
C1	2	8	1	7	4	6	3			7.57	-.10
C2	2	8	8	7	5	2	2			7.06	-.32
C3	4	9	7	11	2	1				6.53	-.71
C4	4	8	9	4	3	2				6.50	-.62
C5	-	4	4	6	8	2	3	4	1	8.44	1.61
C6	5	12	10							5.69	-.85

C1. Class 1. Sept. 56-Dec. 56 Classes 1 to 4. Phonic scheme
C2. Class 2. Nov. 56-Mar. 57
C3. Class 3. Dec. 56-May 57
C4. Class 4. Oct. 56-Aug. 57
C5. Class 5. Sept. 57-Mar. 58 Class 5. Words in Colour
C6. Class 6. Dec. 57-Mar. 58 Class 6. Look-Say scheme.

Med. Median.
AA. Av. achievement above Chron. age.

[1] So far as I know, no books are printed in the whole colour scheme. We couldn't afford them even if they were available.

[2] I think it is true that seldom are children found who are totally colour-blind. Most colour-blind children only have difficulty in distinguishing certain pairs of colours-blue and green being the commonest blindness.

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[Spelling Progress Bulletin Winter 1964 p15 in the printed version]

7. Professor P. Dantick's Dictum on Spelling,
(as caught by this arrant reformer, H.B.)

Sacred is the *b* in *limb,*
Hallowed is the *n* in *hymn,*
Sanctified the *k* in *knot,*
The gh in *laugh* and *thought,*
Consecrate the g in *gem,*
The *ph* in *phone* and *phlegm,*
Yet there be irreverent meddlers
From Bernard Shaw to ice-cream pedlars,
Who would respell even *busy*
Just to line it up with *dizzy.*
Who'd e'en contest the right of *who*
To start itself with *w*,
And would chop the final *e*'s
From *give* and *have* and *please* and *freeze.*

WHY?

They claim the shocking frequency
Of juvenile delinquency
Stems largely from poor Mat and Milly
Who simply cannot get the silly
Inconsistency of *whole,*
With *knoll* and *goal* and *bowl* and *soul....*

STUFF AND NONSENSE! FIDDLESTICKS!

Where in 1776
Were there lads behind the bars
For purloining motor cars,
For smashing neon lights with rocks,
Or shop-lifting nylon socks?
Yet they were faced with *cruel* and *ghoul*
(Those of them who went to school).
Not for them did some screwball
Respell *fall* and *haul* and *shawl;*
How much harm had *one, son, nun,*
Done to young George Washington?

No, the quirks of *yours* and *ours*
Did but nurture his young powers;
Who can say what contribution
To our coming revolution,
Climb and *rhyme* may not have made,
Dozen, cousin not have paid?
"But," say these pestiferous cranks,
(Some, mind you, from our own ranks)
"Never mind the Washingtons,
The Adamses and Jeffersons,
But turn your eyes upon the lad
Who finds the vowels of *said, laid, plaid*
Beyond his skill to tell apart,
(Along with *hear* and *heard* and *heart)*
There's not a peril to this nation
Greater than the detestation
We create in him for school
By making him look such a fool.
'Tis to assuage his ego pang
He joins up with some alley gang
And takes out his humiliation
In thievery and depredation,
But did we but reform our spelling,"
They babble on, "There's just no telling,..."

BAH!!

Let profs who hold forth in this vein
Straightway pack their bags for Spain,
Or some such dull phonemic shore
Where our vowels in *pour, soar, door*
Monotonously spell like *for.*
And leave to us who glory in
Our English wealth of homonym
The job of teaching to our young
The spelling of their mother tongue.
We'll write another book or two
Explicating you, *blew, shoe,*
And call another conference
To justify on *rinse*, *since, scents*
Or do some more profound research
Upon the why of *birch, perch, church....*

– If this won't bring young Mat to tee,
'Twas God who made him and not we.

Helen Bowyer)

For more on Prof. P. Dantick, see issues of **October, 1961** and **June, 1962**

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[Spelling Progress Bulletin Winter 1964 pp15–16 in the printed version]

Book Reviews

8. Anguish Languish, by Howard Chace, with further enlargements by Ivor Darreg

When we first read Howard Chace's delightful book, we thought the title, *Anguish Languish,* was quite original. Now we are not quite so sure, [1] but – original or not – the title is apt and clever. Clever also are the illustrations, the frontpiece, with its strikingly original idea and caption, being worth a review all by itself – but we dare not give the secret away! Suffice it to say, that to a hopelessly confirmed punster like the present writer, it takes real fortitude to resist the temptation.

A short introduction to the book states that one of the stories, *Ladle Rat Rotten Hut,* was read by Arthur Godfrey on his program several years ago (and what an experience *that* would have been, had we known about it!) and public demand forced the publication of *Anguish Languish* in book form.

The introduction goes on to tell how one learns to talk *Anguish:* one simply gives all the words in the selections their usual dictionary pronunciations. But this is the catch: ALL the original words in the stories and poems have been replaced by other words which sound similar to them, but do not sound identical to them. That is, this is neither rhyming nor punning, but a drastic, thoroughgoing substitution – it may have been done before on a small scale – in fact, we will quote a few examples later on – but in this case we get the effect of a heavy foreign accent (though you will be darned if you can place the country!) without any foreign words actually being used.

Mr. Chace says that his book is intended to be read *out loud;* and this is a wise precaution, for the silent reader may see nothing but gibberish far more advanced in unintelligibility than anything by James Joyce or Gertrude Stein. Believe it or not, the *listener understands everything much sooner than the reader does.*

Here is an example to try on your voice:

> "....Ladle Rat Rotten Hut a raft attar cordage, an ranker dough ball.
> 'Comb ink, sweat hard', setter wicket woof, disgracing is verse.
> "Ladle Rat Rotten Hut entity bet rum, an stud buyer groin-murder's bet.
> 'O, Grammar!' crater ladle gull historically, 'Water bag icer gut! A nervous sausage bag ice!'
> 'Battered lucky chew whiff, sweat hard,' setter bloat-Thursday woof, wetter wicket small honors phase.
> 'O, Grammar! water bag noise! A nervous sore suture anomalous prognosis!'

After that, one could wonder whether some of the stories in *Anguish Languish* were written during a stay in a hospital, so authentically medical-sounding are some of the sentences. As a matter of fact, near the beginning of the book is a picture of a lady telling her friends about her latest operation. Also, in the just-quoted passage it is hard to overlook the titillating Freudian implications of the "nervous sausage"!

If anything, other passages in the book heighten the "medicalese" impression. For example, take this rendering of the chorus from a well-known cowboy song:

"Harm, hormone derange,
Warder dare enter envelopes ply,
Ware soiled 'em assured adage cur-itching ward,
An disguise earn it cloty oil dye."

...or maybe that one sounds as much veterinary as medical! But there is another aspect of *Anguish* that Mr. Chace's book does not reveal: while it is remarkable enough that one can replace *every word by* another word and still have something intelligible to the ear, on mulling the matter over, we made a still more surprising discovery: *One can take almost any "Anguish" text and derive a parallel version (in some cases, more than one such) using no words of the original nor yet any words of the first "Anguish" version.*

So:

Whom, human door ranch,
Widow tear under handle-up pray,
Weir sail-dam ease hoard Hades care-etching wood,
Indies guys oar nut clod a eel they.

Perhaps the reader would like to try still another version, using none of the words we have used, nor yet any words of the original. Allowances, of course, must be made for dialect differences': we speak the General American dialect, while it is obvious that Mr. Chace speaks one of the "R-less" dialects, such as that of New York City, New England, and parts of the South.

Bolder than we would have thought, Mr. Chace actually essays two Anguish versions of French-language verses. We had no difficulty appreciating his clever treatment of *Frere Jacques,* but we do feel some consideration is owed the readers in regard to *Alley wetter, jaunty alley wetter.* Frankly, we were stumped for two whole months before we guessed this had to do with *gentil alouette.* Perhaps Anguish would be a suitable secret language for the Agony Column.

At the beginning of the article, we referred to other schemes of this kind. Bob Lemme sent us what he says was an old Scotch telegram:

BRUISES HURT: ERASED AFFORD; ERECTED. ANALYSIS HERETO: INFECTIOUS DEAD.– SANDY.

Allowing for the fact that Sandy couldn't abbreviate his name, he accomplished the unprecedented feat of compressing nineteen words into nine.

Then Dr. Rich called to our attention an old attempt to respell *I love you* in various ways: *Isle of view, eye low few, aisle oaf ewe;* and other ways besides those are possible.

Before we enter on the more serious part of our discussion, you might care to read (out loud, remember!) some of our own efforts along this line:

WADES END – MAZE-YOURS.
Dirty-nigh end dirty sebum hunter's itches inkwell wan Meteor.

Dew points inkwell wan quirt.
Dwell finches muck worn fought.
Dare oar tree fit inner ye-awed.
Fife sousing due-under-date-eye fit mock won mall.
Fir quoits inkwell wan gay-lawn.

They leader ease bag-air den any-more-again quirt, bought ease smeller done door Breed-age ampere-hey-awl quirt, bay-caws You As lick-weed quirts heave dirty-due flew-wade ouches, wear-adze an Grade Breeding day you-say ford-hay-ouch quoit.

Won meteor inkwells or hunted cinder-meteors.
Won cinder-meteor canteens tin melee-meteors.
Won mealy-meteor canteens won sousing my-groans.
Hay meel-yen my-groans inkwell won meteor.
Won cinder-meteor mocks a-proximity tree-hates often itch,

We could go quite a while with this sort of thing, but its time now to draw some conclusions. The very possibility of such a phenomenon as *Anguish* reveals a great deal about the structure of the English language. One might compare other languages with English on this basis: is such play-on-words (as distinguished from punning, of course) possible in them, or not?

Our guess, with what data we have at the present time, is that this could be done so easily in French that it would be trivial; that it would be quite effective and interesting in Spanish and Russian (though puns are difficult in the latter languages); and that it would be rather difficult to do in German.

At first glance, Anguish might seem to depend upon the chaotic nature of English spelling for its effect. (For examples of English spelling effects, see the pamphlet *Rimes Without Reason,* obtainable from the Simpler Spelling Association, Lake Placid Club, New York.) Well, not quite, in this case: spelling difficulties may add the "finishing touch" to the *Anguish* effect, but the real conflict is that between the visual-memory-associations of words, which is quite different when they are read one at a time, from the auditory memory-patterns of whole phrases and sentences, which these seemingly – but only seemingly – incoherent sequences of written words, *when and only when read* aloud, call up to us, because they, taken as wholes, sound enough like the habitual spoken sentence-patterns that they awaken them in our mind.

Of importance to everyone is the fact that words develop their full meanings *only in context.* We have been so trained to use the dictionary and otherwise to revere isolated words, that we are apt to forget this important fact. In pun-making, the effect usually turns on a pair of homonyms. Here, however, every single word is an *imperfect* homonym. Perfect homonyms, with which it might be possible to continue for a sentence or two (because there are only relatively few of them) if one had the time and patience to make up such examples, would not give the *Anguish* effect at all. As we mentioned already, Mr. Chace says that Anguish sounds as though someone were speaking with a foreign accent. To our ears, Chace's version sounds more like a Brooklyn accent (such as Milt Gross used to write in so entertainingly) than anything else, although we see how one might just as easily suggest a French, Spanish, or Italian accent by merely choosing the proper "orchestration" of words. An interesting question, though, is: would Anguish produce the foreign-accent effect on a person who seldom or never heard foreigners trying to speak English? Be that as it may, the

production of such a good imitation of foreign accent without employing a single non-English word is a tremendous achievement.

Probably the foreign-sounding effect results from crossing phoneme boundaries – that is, the appearance of an unexpected sound in otherwise familiar surroundings suffices to make the whole utter ance sound foreign without actually using foreign sounds or words. For example changing from long-o to long-oo and from j to ch in the first line of the second cowboy song is what gave it the accent.

Anyway, all this has much practical bearing on some contemporary problems! How to write unambiguously; what contributes to ambiguity in spoken and written language; coining new trade-names and advertizing slogans; which foreign words should be borrowed and which others should be translated before adopting them into our language; the design of a "robot stenographer" that would type out a dictated letter; the efficiency and the defects of written and spoken English as a means of transmitting information; the choice of synonyms when one is otherwise undecided.

Nor is that all: dramatic and vocal instructors should be aware of this phenomenon. Children often mishear words and phrases, particularly those used in prayers, and they grow up to adult-hood before finding out what the words and phrases are, and actually mean. Dramatists and songwriters often produce unexpected and distracting effects by accidentally choosing words that can be thus misheard. Another application of this principle will be in psychology. The Gestalt school in particular should find much room here for experiment. Equally important, the peculiar conflict that this kind of language produces between visual and auditory associations affords a unique opportunity to study the so-called "visile" and "audile" personality-patterns.

Quite a distance to come, isn't it? Thus it is that we can wholeheartedly recommend that you read *Anguish Lang*uish – we know you will be entertained, and – who knows – you may come up with even more interesting conclusions than ours.

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[1] Perhaps the term *"Anguish Languish"* is not so original after all, as we located the following in Walsh's *Handy-Book of Literary Curiosities,* a book over 65 years old, so the quoted anonymous poem must be still older:

> When I, sir, play at cricket, sick it makes me feel;
> For I the wicket kick it backward with my heel.
> Then, oh! such rollers bowlers always give to me,
> And the rounders, grounders, too, rise and strike my knee;
> Then I in *Anguish languish,* try to force a smile,
> While laughing critics round me sound me on my style.

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[Spelling Progress Bulletin Winter 1964 pp17,18 in the printed version]

9. Sprechen and Spuren, by Dr. Gottfried Rahn, reviewed by Ivor Darreg

The Kunowski system of "speech tracing" has been enjoying considerable use and recognition in Germany, according to the periodical *Sprechen and Spuren* (Speaking and Tracing). Recently two issues (Dec., 1963 and Sept., 1964) were sent to the *Bulletin's* office accompanied by a circular addressed to members of The Phonetic Alphabet Assoc., and there was also a school workbook such as children would use for practicing speech-tracing. This booklet gives the speech-tracing for some 475 of the more common German words – a good start in learning this type of shorthand.

The circular quoted Sir James Pitman's letter of 1959 to the London *Times,* in which he stresses the importance of co-ordinating any new alphabet reform with the requirements electronic computers and allied equipment. The two issues of *Sprechen and Spuren* sent with this circular are dedicated to this purpose, and give actual examples of a serious and thorough effort to have a new alphabet conform to the requirements of modern data-processing devices.

While the articles are in German and the schemes explained are keyed to the German sound system, ample provision is made for English speech-sounds, such as the two th's and w – and indeed, speech-tracing has been adapted to many other languages than German and English. Statistical data are presented, showing the decided gain in efficiency (in terms of bits per character) when German speech-sounds, rather than traditional German spelling, are made the basis of a binary computer code. If this is true of German with its rather consistent spelling, what must be the tremendous improvement we could expect in the case of English! Economy and efficiency in machine-coding mean definite dollars-and-cents savings, from which everyone will ultimately benefit, as computers and their accessories become more and more an integral part of our daily lives. Thus the subject (machine-compatibility of reformed spelling) is one that no spelling reformer dare ignore.

The articles mention the definite possibility of an international phonetic code – so that, eventually, machines could be built that would take dictation in *any* language, natural or artificial. How distant such a goal may be, perhaps electronic engineers may determine. In the meantime, the moneysaving ability of phonetic coding will soon override all the objections to alphabet reform on financial grounds, particularly where the English language is concerned.

For *Bulletin* readers, a brief comparison of Kunowski *Speech-Tracing* with the Shaw Alphabet would not be out of place – *Speech-Tracing* is adaptable to many languages, whereas the Shaw Alphabet (though probably adaptable) has not been put forth as a representation for anything but English. Both *Speech-Tracing* and the Shaw Alphabet are non-Roman schemes, completely different from ordinary Latin letters. Both schemes abolish capital letters. Both systems stand somewhere midway between longhand and shorthand, as regards their outward forms, comparative ease of writing, and space-saving qualities. *Speech-tracing* looks toward handwriting, stressing a kinesthetic affinity between its hand-movements and the movements of the speech-organs in talking; the Shaw Alphabet looks toward printing and typewriting, with separated characters and a principle of classifying sounds by their size and direction. Both systems are designed to be used *beside* conventional orthography, with a minimum of interference, cross-association, and confusion.

Speech-Tracing is evidently not unalterably fixed in form; the magazines contain proposals for typewritable and machine-recognizable modifications of the system. A comprehensive table lists such a system modified by Dr. Rahn, in comparison with nine others, which include: the original Speech-Tracing, International Phonetic Alphabet (IPA), Braille, Morse, Otto Jespersen's, Traditional Orthography, and a reformed spelling that might be considered the German cousin of certain of our American systems.

Mention is made of a book called *Speech and Writing in the Age of Cybernetics,* printed mostly in a reformed spelling. Whatever the merits of this particular system for German may or not be, the fact still remains that right here and now *is* the Age of Cybernetics, and it behooves us to get busy and *do something about it.*

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10. The Developmental Reading Series, edited by Guy L. Bond, reviewed by Denham Court

**Published by Lyons & Carnahan, Chicago.*

The thing about this basal reading program which most interests this reviewer is that, from its first pre-primer thru its eighth [grade] reader, all its texts come in two editions, one for the more verbally gifted pupils, and a simplified version of it for the less so. In both, the stories are the same, but in the simplified edition they are told in fewer running words, in a more restricted vocabulary and in briefer sentences and paragraphs. It would seem to be an excellent device for handling that disparity of ability to deal with the mechanics [of reading] which most classes exhibit, and yet keep all their members together in the enjoyment of the story content and in the discussions, games and other activities based upon that. And thus soften the hurt and humiliation, silent or obstreperous, which not even the kindest and most skilful teacher can wholly obviate when the same basic text is used for both the more and less capable of her pupils.

It is with this simplified edition that this review will deal, and primarily with only the first grade texts of it. These are known as the *Companion Edition* and come in the form of four preprimers, a primer and a first grade reader. To be sure, they are preceded by a readiness book *Pictures to Read* – which is shared by the entire class and which probably plays a considerable part in deciding which children shall graduate there from into the regular first preprimer and which into the *Companion* edition. For its 67 big pages of pictures, some of which run up to 16 foci of attention, are skilfully designed to call forth in the child what he has of those abilities of eye, ear and mind which reading is going to demand of him. Among these abilities, *Pictures to Read* stresses the recognition of likenesses and differences in the looks of things, the detection of the initial sounds of words, the assembling of items relevant to a situation or to the orderly sequence of a story. Also it keeps the whole class together in delight in its immemorial heritage of childhood verse and story – the Three Little Kittens, Goldilocks, the Elves and the Shoemaker, etc., – as read by the teacher and retold, illustrated and dramatised by the youngsters themselves.

From the last few pages of this readiness book, the class gets a sight recognition of *Billy*, *Jane* and *Ann,* the names of the three main characters of their coming primers, and of *Skip* and *Rex*, the canine playmates of this lively trio. The *Companion* edition of these four little texts take the slower children thru 4597 running words of stories, based upon a vocabulary of 69 words, all but 11 of which are monosyllables. The average repetition of words, therefore is 66 and even in preprimer four, few sentences run the length of seven words. But the liveliness of the pictures, which take up a good deal more than half of the total page space goes a long way to compensate for the stiltedness of the print.

Accompanying the pre-primers is the first *Fun to Do* workbook. Its 96 big pages of pictures and print use the pre-primer vocabulary in situations sufficiently different to further develop those discriminations which *Pictures to Read* sought to call forth. If any *Bulletin* reader finds its content too simple, too repetitious, for the six year-olds he knows, it is probable that his six year olds are bright, and this work book was deliberately designed for the duller children.

Surprises for Us, the *Companion* primer runs to 4964 words, of which 66 are new. Along with these, it uses all the words of the four pre-primers, so that its total vocabulary adds up to 135. Its sentences not infrequently run to ten or a dozen words. Its *Fun to Do* workbook carries further the

work of lining up sentences, situations, words and initial sounds with its picture clues and adds thereto some exercise in relating pronouns to their antecedents.

Good Times for Us, the *Companion* first reader totals 9091 running words, of which 122 are new. Of these, a higher proportion are of two syllables, with *elephant, animals* and *another,* an avant garde of the longer words which future readers will bring. The last four stories of this reader, and the workbook exercises based on them, leave the actualities of the home, the yard, the circus, etc, and base themselves on some of those immemorial fables and folk tales of which the children got a taste during their readiness period.

To sum up: these six *Companion* texts have offered their small readers some 18,600 running words of stories and 271 pages of skillfully designed workbook activities based upon them. Yet the total vocabulary they set out to teach is only 257 words, most of which are monosyllables of three to five letters. Isn't this a bit like "The mountain labored and brought forth a molehill."?

To this out-and-out spelling reformer, it certainly is. But so it is with any look-say basic reading series which uses our traditional spelling which confronts an unwitting child with: "Mother does her work while we are at school," in place of: "Muther duz hur work hwiel wee ar at skool," or some such dependable consonance of symbol and sound. Put there are things to be said for these *Companion* readers and workbooks which can't be said for the first grade texts of most of the widely used basic series. The first of these is the frankness with which they face up to the difference in verbal ability which our children bring to their first school year and which in greater or less degree is likely to persist thru their eighth. A second is a dealing with this difference which may have an incalculable effect on the children most concerned – the one or two at the top of the class and the four, five or six at the bottom. As things are in most schools today, the former are destined to the envy and resentment of their more average grademates, and the latter to their contempt. The longer therefore, these differences of ability can be camouflaged, the better for all the children, including the average themselves. And the better for the nation. For the age is dawning upon us when a happy acceptance of our mental superiors may be vital to our very survival – and a fraternal understanding of our mental inferiors equally so. And what better foundation could the schools lay for this than an equal sharing by all the class of the pictures and stories of their primers and readers, even if for some the print must be shortened and simplified a bit?

As long, therefore, as they persist in their present unconscionable spelling, it mightn't be a bad idea for all the widely used basic series to run a simplified edition of their wares. This reviewer has heard of no objective research into the matter, but here's dollars to donuts that 257 words are a lot more than the less able fifty percent of our first graders salt down from the one-edition primers, readers and workbooks now in vogue.

But how much better if they based their wares on the root principle of the *Early to Read* series now in use in two thirds of the first grades in Bethlehem, Pa., and in various other places thruout the land. Its seven readers crescend to a vocabulary of 1557 words-three to five times the number at which most first graders get a chance. As for their content, they early take the child "from his backyard and mother's kitchen" (as a recent correspondent put it) and transport him into the past, present and probable future of this world from its giants, elves, and wizards to the exploration of its ocean floors and its outer space.

And this is not because the Bethlehem children are more culturally advantaged than in most of our other school systems, or that their teachers are inherently any better. It is because their books and workbooks come to them in the wun-simbol-wun-sound initial teaching alphabet which Sir James Pitman devised and got into action in England in Sept. 1961. Isn't it self-evident that, for instance, *oh, go, flow, know, sew, beau, owe, though,* could be mastered three to five times as easily if they met the eye with the consistency of *oe, goe, floe, noe, soe, boe, oe, thoe?* And that comparable results would follow if *who*, *do, blew, you, through, true,* smiled up from the page as *hoo, doo, bloo, yoo, throo, troo,* and *eye, fly, buy, lie, dye, high* followed suit as *ie, flie, bie, lie, die, hie?* **[1]**

No one is willing to recognize more than this reviewer the ingenuity and skill of the writers of these *Companion* books in making a 257 word vocabulary serve thru 18,600 running words of stories. It is a near miracle that they should be even as "readable" as they are. And no one acknowledges more sincerely the intent of the publishers to ease the road to reading for the less able beginners. But here's to the day when that road will be fundamentally eased by the nation-wide use of wun-simbol-wun-sound spelling and the skill and ingenuity of text-book writers can be applied to making that road as royal as the receptiveness of its little travellers will permit.

[1] Editor's note: for want of an i/t/a keyboard, these respellings must use the less picturesque roman letters.

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11. i/t/a books #1a and 1b, reviewed by Helen Bowyer

In the brief period which the i/t/a six-year-olds spend upon Book 1 of the 7 they will study this first year, they are specifically taught the recognition and writing of 49 words. But in the learning of these, they have "experienced" so many more, they are ready to tackle a "really" story. So *Dinosaur Ben* and *houses* have been written for them and listed for use between Books 1 & 2.

Not for millions of years has a small boy had a dinosaur for a pet, so it is not surprising that Ben finds the modern home inadequate for his bulk and tonnage, and no bed in it sizeable enough for more than a fraction of his person at any one time. How Ed, with the help of his father and big brother solved the problem of comfortable quarters for this stray from their far geologic past, has proved a fascinating tale to every six year old on whom the *Bulletin* has tried it.

Houses does more than merely entertain the child. Beginning with the one family home or the apartment in which he lives, it takes him on a tour of the big communal dwellings of the Pueblo Indians, the teepees of the Indians of the Plains, the far away tents of the Bedouins, the igloos of the Eskimos, and the little thatched roof circular pavillions of the Samoan islanders. If the teacher can get into the burgeoning minds of her small charges any considerable part of the background provided her on the life which centers around these primitive abodes, who knows what she may be contributing to "Peace on Earth, Good Will to All Men."

How much this spirit motivates the publishers of the i/t/a series may be glimpsed from the lead article of the latest i/t/a *Bulletin* (Winter 1964-65). Briefly, it tells how the children have been unshackled from the chains of the stilted backyard subject matter and given wings with which to fly on the backs of the largest words to all over the world – and even to outer space. A copy of this may be obtained from Pitman i/t/a Publications, Inc. New York, N.Y.

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12. Webster's Home University Dictionary,
edited by Edward N. Teall, Lewis M. Adams, C. Ralph Taylor.
Published by Books, Inc. New York.
Reviewed by Newell W. Tune.

This new large book the size of an unabridged dictionary has 1241 pages plus an introduction of 32 pages and 16 pages with many pictures in color on outer space, our solar system, brought up to date by the most recent rocket and satellite explorations and 16 pages of very fine color maps of the main countries of the world. The printing is of excellent quality thruout. It includes more than 60,0 definitions of words.

Taking it all together, this is much more than the usual dictionary – it is a gathering of information to supply the needs of school pupils or home students. It appears to be made expressly with this objective in mind, because not only is it printed in larger type (12 point) than the collegiate dictionaries with their eye-straining 6 point type, but it has eliminated the obsolete, archaic and unused pedantic words. Yet children of grammar school or high school age will find in here all the words they are likely to encounter in their studies, including such unexpected things as foreign words and phrases. Then we find the feature that is responsible for the name – home Dictionary – a Guide to self-education thru the use of the dictionary.

This important section is divided into: Making use of the tools –

1. Self education,
2. Grammar made interesting and easy to remember,
3. Vocabulary tests to improve your knowledge of English,
4. Answers to exercises in English structure.
5. Danger signals in the use of words in the proper manner.
6. Punctuation, the lubricating agent in the conveyance of thought – the means of making clear expressions and correct understanding,
7. Pronunciation, the personal magnet or the exposure of your knowledge. A brief exposition of the mechanics of speech and an explanation of good American speech is given. Naturally following this is
8. Words often mispronounced. You are cautioned to check these words to see if you have been careless with them or have the wrong ideas of pronunciation, and
9. The Pronunciation of Latin and Greek names.

Then follows 10. Spelling by rules that remain vivid. They admit that all rules for English spelling have exceptions and that there is a difference in the spelling in America and England. In fact page xiii from this book was reprinted in the leading article in this issue of the SPB on page 2.

The next section, 11. Words commonly misspelled is not the listing of such spelling demons that bother the 3rd and 4th grader but those kinds of words that give trouble to older pupils and adults.

In 12, are the rules for Capitalization,

13. Hyphens – compounding and separating for effectiveness. These rules are also reinforced by the principles of syllabication.

And section 14 gives a test of your ingenuity in the use of prefixes and suffixes.

15 is the use of italics type. This is quite helpful to writers who want their writings to have effective and forceful expression.

The section on abbreviations commonly used in writing and printing covers 10 pages. A section on Mottos, maxims quotations and foreign phrases translated into English covers another 10 pages. The pages of signs and symbols for special purposes makes us wonder how far we have come the way to making our language into the style of the Chinese ideographic construction. There are 24 signs of the Zodiac, 10 signs of the Moon's phases, 11 symbols for the Sun and Planets, 13 Astronomical signs for their positions, 6 Medical signs, 20 Monetary signs to represent the better known currencies thruout the world, 8 Musical signs, altho these are not all that are needed for an ordinary knowledge of music, 14 Commercial signs, 11 Ecclesiastical signs, and a whopping list of 102 Mathematical signs and symbolsmore than I ever dreamed existed. A table of Weights and Measures (even including ancient measures) competes the list of tables.

The key to pronunciation is the most simple this reviewer has yet seen, yet is completely phonetic. It uses diacritical marks to distinguish the long and intermediate vowels from the short vowels but uses consonant digraphs whenever possible to correctly indicate the pronunciation. This makes for the easiest learning and reading key yet offered in a dictionary.

The makers of this book have strived to make a dictionary in which all the things needed for a home education course can easily be found. Thus:

1. The definitions have been made as brief and compact as possible without sacrificing clearness of expression and fullness of meaning
2. Comment on the history and peculiar uses of words has been held down to the minimum required by the needs of consultants.
3. The chief merit claimed for this book is the *completeness* of its individual entries. *It is seldom necessary to run the eye back up the pages to find the key to a word's pronunciation.*
4. *Pronunciation is simple, almost automatic, avoiding the use of involved diacritical marks or complicated "key."*
5. Definitions are composed in simple phraseology.
6. The book's time and patience saving methods make it in fact what its name implies – a home university dictionary.

To some people such a book is a reference work to be consulted when in need of a spelling, a pronunciation or a definition. To others it may represent merely a source of words needed for crossword puzzles. But to many others, it is hoped this book will be found to be a source of a liberal home education in the roper and effective use of words – a means of bettering ones education.

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13. My Book House* edited by Olive Beaupré Miller, reviewed by Newell Tune.
*Published by the Book House for Children, Lake Bluff. Ill.

This 8 volume set of children's stories, each of which has 22.4 pages, bound in cloth covers, has been published since 1920 with additions thru the years, the latest of which is 1963. Each volume is written for a certain period in a child's life. Volume 1, *In the Nursery,* has hundreds of verses, short jingles, Mother Goose Rhymes and stories gathered from all over the world. These represent a rich heritage of experience for the youngest child. Most of them are funny or exciting, but some are instructional – of dress or custom. Famous authors such as Keats, Burns, Tennyson, Stevenson.

When the child is a little older, he is ready for Book 2, *Story Time,* with short rhythmic stories in prose of the simplest possible plot:, construction and wording. It is well illustrated with many color and some b & w pictures. *Up One Pair of Stairs is* the fitting title of volume 3, in which it leads the child out of the nursery into the larger world. The 4th book, *Through the Gate,* indicates the child is now ready to go into the nearby world. Actually the stories do not strictly hold to this limitation, for it includes such as Cinderella, Hansel & Grethel, Snow White, as well as a Chinese folk tale. Grammar and word size are still kept down to a size the child should be able to understand. In book 5, *Over the Hills,* the child journeys still farther afield in his adventures. It contains some phantasies within the child's reasoning, like the Pony Engine & the Pacific Express, Casey Jones, Why the sea is salt. The vocabulary is still in the realm of a 4 year old.

In Book 6, *Through Fairy Halls,* it is expected that the child has reached an age when they are more interested in the fantastic adventure and wonder tales. Boys especially have need for stories with more dramatic, violent action, as Jack the Giant Killer.

But in Book 7, *the Magic Garden,* they expect the child to cope with folk tales from many lands, some of which have phraseology and construction quite foreign to our children's ears. Imagine how much sense a child can get from this: "Ere I marry, I'll see what my bride can do. Here is my wedding shirt, but on it are three spots of tallow. I'll have no other for a bride save her who can wash it clean." Many archaic words are used, as: trolls, lass, hospodar, crave, crag, sulphurous, anoint, thence, slang a stone and smite.

Book 8, *Flying Sails,* is adventure on the high seas. It has some heros for a child to emulate – a roundout for the education of a child.