[The Programme was published as a leaflet issued with Journal 3.]

Simplified Spelling Society
Fifth International Conference: Spelling for Efficiency

PROGRAMME

FRIDAY 24 JULY	
All plenary sessions in Conference Room 2	
15:00–18:00	Main Entrance: Arrival, registration, tea
20:00	Welcome and introduction
Tom McArthur, Editor English Today: **Form and Reform: the four great communicative shifts**.	
Reported though not advertised beforehand:	**Discussion**
John M Fletcher & Christopher A Upton	**The end of shortcuts, Oxford 1483–1660.**
SATURDAY 25 JULY	
09:15–10:45	
Thomas R Hofmann, Hokuriku University, Japan: **Foreign Learning of English**.	
Adam Brown, Language Studies Unit, Aston University: **English spelling and non-native speakers: the example of Singapore**	
11:15–12:45	
David Stark, Cumbermauld, Scotland: **Maximizing the alphabetic efficiency of English orthography**.	
Ronald Threadgall, General Secretary, United Kingdom i.t.a. Federation: **The Initial Teaching Alphabet: proven efficiency and future prospects.**	
14:00–16:00	
Patrick Hanks, *Editor Collins English Dictionary,* Collins Birmingham University International Language Database (COBUILD): **The hyphen in written English: conventionality and efficiency**.	
Frank Knowles, Professor of Language, Department of Modem Languages, Aston University: **Comparative efficiency of Slavonic orthographies and the lessons for**	
16:30–18:00	
John Kerr, Dept. of Vision Sciences & Road Signal Perception Group, Aston University: **Experimental methodology for investigating reading efficiency**.	
Chris Jolly, Chairman, Simplified Spelling Society, & Marketing Consultant: **The marketability of spelling reform**.	
20:00	
Julius Nyikos, Dept. of Languages, Washington and Jefferson College, Washington, Pennsylvania: **A sibilant extravaganza epitomizing our spelling non-system.**	
20:30	Syndicate groups
SUNDAY 26 JULY	
09:15–10:45	
Edgar Gregersen, Dept. of Anthropology, Queens College of the City University of New York: **The strategy of spelling reform in stages: pros and cons**.	
Chris Upward, *Editor Journal of the Simplified Spelling Society,* & Dept. of Modem Languages, Aston University: **Conflicting efficiency criteria in Cut Spelling**.	
11:15	
Closing discussion: Where do we go from here?	
End of Conference	

First Announcement and Call for Papers

VENUE:	Aston University, Birmingham: James Gracie Conference Centre, Birmingham.
DATES:	Friday – Sunday 24 – 26 July 1987
COST:	For conference facilities, full board, with accommodation at conference centre, £60 for 48 hours, £30 for 24 hours; non-residential with all meals. £40 for 2 days, £20 for 1 day; single meals by arrangement.
ORGANIZERS	Chris Upward (host organizer) Chris Jolly (chairman, Simplified Spelling Society)
ENQUIRIES TO:	Chris Upward.

BACKGROUND

It was long thought English spelling reform just meant writing words by their sound. But the obstacles to this procedure are now clear: above all the variations in pronunciation and the need to ensure continuity of literacy.

Instead of phonographic representation, the principle now proposed is efficiency, i.e. the convenience of all categories of user. The task facing orthographers is thus to determine what kind of spelling best meets this criterion.

The requirements are complex and often conflicting. How can the needs of children and adults, native speakers and foreign learners, backward readers and skilled professionals, keyboard operators and sign-writers, poets and journalists, graphic designers and secretaries, scholars and publishers all be reconciled?

The conference therefore invites linguists and psychologists, educationists and typographers, theorists and practitioners to help develop such an orthography. The starting point will be the report of the Society's working party which is now updating *New Spelling,* as revised by Daniel Jones and Harold Orton in 1948. The report will be available before the conference.

The conference aims to collate insights from teaching, publishing, linguistics, psychology, and related fields to develop a common understanding of the different expectations and constraints which any proposal for reforming English spelling must take into account if it is to attract support.

It is hoped the 1987 conference will renew the pressure for English spelling reform. More is now expected of written English than ever: maximum effectiveness of individuals, maximum literacy in society, an easy-to-master language for world use. Yet its spelling remains a major, though remediable, barrier to the achievement of these aims. It is time to reconsider how it might best be improved in the light of present knowledge, needs and circumstances.

The conference will extend the Society's role as a forum for all those interested in improved writing systems. The question has several dimensions: international, because English is a world-language; interdisciplinary, because it involves mental processes, social interaction, autonomous systems, and advances in technology; and presentational, because although requiring sophisticated analysis, it must still be accessible to those of below-average intelligence. But the Society has a practical aim too: to *bring about a* reform of English spelling; and it is hoped the conference will not only enable ideas on spelling reform to be exchanged, but also consider ways of developing public awareness of the issue and influencing the key decision-makers in the field.

[Simplified Spelling Society, Journal 6, 1987/3 p7 in the printed version]
[Chris Upward: see **Journals**, **Newsletters**, **Pamflet**, **Leaflets**, **Media**, **Book and Papers**.]

A Report in Brief. Christopher Upward

The Simplified Spelling Society held its Fifth International Conference at Aston University's James Gracie Conference Centre in Birmingham 24–26 July 1987. Conference papers will appear in the *Journal of the Simplified Spelling Society* in 1988.

THE PLACE
The Society picked a rare fine weekend in a grey summer to hold its 1987 conference in the agreeable James Gracie Conference Centre, with its trim lawns, mature trees, and comfortable part-modem, part-victorian-mansion buildings. Excellent food and friendly, helpful staff complemented the surroundings and provided a pleasantly relaxed environment conducive to the fruitful exchange of ideas and experience.

THE PROGRAMME
The conference theme *Spelling for Efficiency* itself implies certain concept of the purpose of spelling: spelling for use. In other words, spelling less as an abstract system of sound-symbol correspondence, than as a system that people have to learn and then make use of for the highly practical purpose of communication, whether as receivers or as transmitters of messages. The need to consider the spelling of English, of all languages, in this perspective, arises from its international function: not merely is it used by hundreds of millions of native speakers with very different accents (which itself rules out any straightforward sound-symbol correspondence), but it is also learnt by even more non-native speakers for communication around the world, and their needs are scarcely less important. The benefits of a regular system have been shown from the experience with teaching orthographies like i.t.a. and *Writing to Read* and in other languages (Hungarian, for instance). But how to get from the present fragmented mosaic of English spelling to a lucidly and logically patterned system is the problem that has defeated spelling-reformers in the past. It is not only teachers and linguists who today have an interest in and a vital contribution to make to the question, but publishers, printers, lexicographers, psychologists and business people who have perhaps the most rigorous concept of efficiency of all. The conference theme was intended as a focus for these many facets of the question.

THE PARTICIPANTS
And if the facets of the question were varied, so were the participants, even though their numbers were small. They ranged from young researchers in computational linguistics and experimental psychology to established professionals with many decades' experience in typography, printing, publishing, lexicography, editing (among whom the dynamic veteran New York typographer Ed Rondthaler must be mentioned by name); they included speakers of many languages of eastern, western and northern Europe and beyond to the Middle East and the Indian subcontinent — not to mention speakers of English of the American, English, Indian and Scots varieties; there were teachers of English to native-speaking children, to teenage backward readers, to adult illiterates, to foreign learners, and to other teachers; there were information scientists, translators, administrators and historians versed in the techniques of paleography. By no means all arrived convinced of the case for simplifying English spelling, but more left convinced than arrived.

THE PAPERS. Summary omitted as all papers are included in full.

THE PROSPECTS
The conference ended with a discussion of the Society's future strategy. Ongoing work on the revision of 'New Spelling' as a complete reform scheme and the development of Cut Spelling as a first stage was to continue toward publication, while contacts with other organisations, particularly in the literacy field**,** were to be furthered.

[Simplified Spelling Society, Journal 7, 1988/1 pp5–8 in the printed version]

Form and Reform: the Four Great Communicative Shifts

Tom McArthur

Born in 1938 and a graduate of both Glasgow and Edinburgh Universities, Tom McArthur has held varied educational posts: in the British Army, in schools in England, Scotland, and India, and at the Universities of Edinburgh and Quebec. He now edits *English Today* and is preparing a major new work: *The Oxford Companion to the English Language.* We here print with his permission an edited transcript of the talk with which he opened the Society's Fifth International Conference in July 1987.

0 Abstract
This general description of a new way of looking at the history of writing will not provide a solution to all the problems of spelling reform, but may provide a framework within which traditional problems can be re-examined. The four great historical communicative shifts are:

1. the acquisition of speech, including its storage by mnemonic means
2. the acquisition of script, including the alphabet
3. the acquisition of print, with its appearance of perfection and standardizing tendencies
4. the acquisition of other media, esp. electronic, including keyboard and screen.

1. Public views of spelling reform
Working with Cambridge University Press, my particular concern is the magazine *English Today,* which has if nothing else a variety of picturesque covers. It is what we call 'the international review of the English language', that is, its subject matter is everything conceivably to do with English. One of the topics that has emerged, not through editorial planning, but through the persistence of a variety of correspondents, is spelling reform. Reactions range from curiosity and in some cases respectful interest to total disdain and utter amusement.

As editor of *English Today* I am constrained and personally inclined to try to be nice to everybody. That means that I talk with the most radical and the most reactionary of people with views on what English should be and what people should be doing with or to English, and why other people should stop doing what they are doing to English. So we have had a rich correspondence on the subject of spelling, and almost every issue has a weird letter in it. It is weird not because of its content, but in terms of its presentation, because it is in somebody's conception of what a simplified or reformed spelling should look like, and of course every one is different. The readers see that every one is different, and certain readers draw certain conclusions from this. Some might say, isn't it fascinating, every one is different, and others say, isn't it stupid, every one is different. I thought that the magazine ought to do something about simplified spelling at some stage, because it seems to be such a central issue in the English language.

Working with Oxford University Press, my particular concern is the *Oxford Companion to the English Language,* to stand alongside the very well known *Oxford Companion to English Literature,* recently revised by Margaret Drabble. We hope to publish in 1990–91. Again, one of the things I feel we have to do in that volume is describe the history and the nature of the spelling reform movement adequately and with respect.

2. A personal view
This does not mean that I am personally convinced that spelling reform is either worth having or likely to happen. I think I can safely say that I have an open mind in the matter, but I am extremely curious about the attitudes involved, not only of those who are committed to spelling reform, but also of the majority of people with their very puzzled and often disdainful attitudes. I am interested in the reform movement as a phenomenon with all the ripples, all the effects it has, as it occurs in the late twentieth century.

In recent years, from the scholarly point of view, I have also become more and more interested in the history of reference materials, which has forced me as a linguist to become interested in the language and the formatting of reference materials over not decades or centuries, but millennia. I sometimes describe this approach as 'cosmic'. Some of the ideas are by no means my own ideas alone, although I like to think I have cornered part of the market, but they have come, and are coming, from a number of different scholars, most of whom do not know each other personally. A trend is developing.

3. Scholarly views: Eisenstein and Ong
For example, we have the American scholar Elizabeth L Eisenstein who has published with Cambridge University Press a wonderful book, *The Printing Press as an Agent of Change.* She has said that lip-service has been paid to the importance of the printing press, but people have not seriously looked at why the printing press is important and at what social, cultural and psychological effects the printing of language has had on our activities and our mentalities.

Another seminal book is by a Jesuit scholar from St Louis, Walter Ong. He has written a number of interesting books on the subject, but the main one is *Orality and Literacy.* Walter Ong has in particular pointed out to our civilisation that we are "far-gone literates". We are almost so "far-gone" into literacy that we have forgotten the roots from which we come, which he calls "orality". It's not that we are not 'oral', it's not that we don't talk to each other, but he argues that we have become so committed to literacy that we cannot conceive the previous much longer span of time when people had no conception of literacy. We cannot conceive of that time except as a variant of literacy. He gives as one of his examples of this the phrase "oral literature", and he says it is a ridiculous term, and it is a ridiculous term. It is a hindsight term.

4. Text-bound thinking
It is used when people look from the ivory tower or from the printing press or from the world of education outward to *aboriginal* ethnic types who haven't managed to get their foot on the ladder of literacy. They are thought of as illiterate, unlettered, or pre-literate, which is an interesting state, because to be pre-literate implies inferiority. Ong says, the concept of oral literature is projected backwards from literate societies, whose thinking is text-bound, on to people who had no conception of text.

It is interesting that Ong and others have not offered an alternative expression for oral literature. There are people in the business of discussing orality who continue to use the expression 'oral literature', although Walter Ong indicated that they should not. I am fascinated that two different people in two different parts of the world, myself and a scholar at the University of Nairobi in Kenya, have invented the same word at almost the same time for what people are calling oral literature (see below).

5. The historical perspective
In addition to Eisenstein and Ong there are such commentators as Antony Smith in *Goodbye Gutenberg – the Newspaper Revolution of the 1980's* who is concerned with newspapers, with the printing press, and with orality in these matters, and Roy Harris at the University of Oxford who is concerned with the origin of writing. Each of them recognises that they are dealing with part of a matrix, a cluster of much larger issues, all of which are dependent on each other.

I approached the same issues from the point of view of a maker of dictionaries. My profession tends to take the dictionary as given, it doesn't think too much about it, it tends to look at the last one and then prepare the next one. Over the fifteen years or so in which I've been involved in lexicography, however, I began to delve further and further back into its origins, and finally produced, published by Cambridge, *Worlds of Reference,* which is much more than just a book about dictionaries. I found that I couldn't talk about dictionaries without bringing in encyclopedias. I began to be curious about why we have books at all, and whether their shape was the only shape the human race had tried. Parchments and papyrus and clay tablets and various other things came into the circle of my interest. But not only those, because all of those were successful in some

sense. I also became interested in the failed technologies. There have been a number of failed structures for the presentation of knowledge described in *Worlds of Reference.*

6. Revolutions and shifts
In the process I tried to synthesise two conceptions: one was the word 'revolution', especially in the phrase 'communication revolution', and the other was the word 'shift'. 'This led to the idea that you could have an enormous upward movement in the experience of the human race, as if we were lifted from one rung to another of a ladder (which sounds dangerously like Social Darwinism). Because there's a ladder, people who are one rung higher up tend to look down with smug condescension on the people on the rungs below, whether they still exist, or whether they were there in the past.

Out of this I tried to create a model of what I call the four great communicative shifts. This is not a platonic ideal model. I don't believe that somewhere up in a comer of the galaxy there are chiselled among the stars the four great communicative shifts. This is just a model. It is useful or not, it is more useful or less useful, it is simply something to help us reflect on this particular phenomenon.

7. The first shift
The first of the great communicative shifts happened so long ago that it is almost pointless trying to date it. Let us suppose it was something like 50–100,000 years ago. The acquisition of speech is interesting because all the equipment was there long before speech itself evolved. In the anatomical and physiological arrangement of the human being, you have the primary apparatus for breathing, eating, drinking, spitting, grunting; and over a long period of time this primary apparatus acquired a secondary set of functions. It took a long time, but compared with the much longer duration of physical evolution this first shift was short and sharp.

Within that shift there was a subshift, which I call 'storage speech'. We can store our speech today by using modern technology, but at the time of the original first shift human beings had no external means of holding on to anything that you could call knowledge, except possibly through cave art and the like. Our ancestors and the diminishing oral societies around the world today needed storage speech.

8. Storage speech and orature
I think one can describe the phenomenon of storage speech in some detail, but I'll only mention one or two of the main points here. Stylisation is a marker of this kind of speech, as are rehearsal and training. You don't normally stylise conversation. But when I give a formal talk, I'm doing various things which are quite stylised, although they're fluent. My body movements are synchronised with my speech in a conventionalised way. What I do as such a performer goes back to the creation of storage speech thousands of years ago. It is something human beings have learnt to do and have transmitted down the generations, and as Walter Ong says, we have not been able to think about it enough because the other shifts get in our way. Storage speech is stylised, rehearsed, formulaic, and repetitive; it is fitted together with formulas, as for example most obviously in poetry.

Storage speech is rhythmic. I don't use storage speech when I give a talk; I use something which the Greeks called rhetoric: a delivery system. But if we didn't have any other supports, I couldn't give a talk in quite that way. Instead, would be reciting in the way I was taught Homer's *Iliad* in Glasgow many years ago. But even the way I was required to memorise Homer was not the style of the ancient Greeks. When I recite, I'm regurgitating text. But before there was text, people bolted formulas large and small together, and no second or third performance was ever the same. They had no yardstick, nothing permanent, yet they created enormous projections of genealogy and epic and other cultural databases, plot driven, to enable their cultures to survive, and to believe in themselves, to value themselves, and maybe to wage war with their neighbours who had a different set of plot-driven techniques.

That's where we all came from, that is orality. But there are certain kinds of storage speech which need to be called something more delicate than that. The word that the lady in Kenya and I

simultaneously created is 'orature': which is a blend of oral literature. It overcomes the idea of literature being superordinate and oral literature subordinate, because orature came before literature. There is no question of superiority.

9. The second shift: script and scribal culture
Normally people talk about the second shift as being the invention of writing. I would like to be more specific and talk about it as the invention of the technology of script. We have a strong tendency in our society to talk about writing, and use it as a generic term to include print. We talk about reading and writing, not about reading and typing, or reading and typesetting and so on. Writing is a useful generic term, but I'd like to talk about script and scribal cultures, following Eisenstein and Ong.

Eisenstein said it is very difficult for members of a print culture to imagine what the world was like before print. Scribal cultures are marked by many things, but one of the most important points about them is that nobody in a scribal culture expects universal literacy. The idea of universal literacy doesn't come until late in the third shift. In a scribal culture it is a matter of pride and expectation that only a very small number of people, almost entirely male, and eventually religious males in many cultures, is responsible for recording on surfaces. They were also responsible for the copying — they controlled whether it was done individually as in Umberto Eco's *The Name of the Rose,* with a single copyist making a single copy, or whether someone dictated and twenty copyists took it down, all slightly differently, all doing their best, all getting it slightly wrong. This is how the idea of corrupt texts came into the world.

10. The alphabet
The second shift had a subshift that is of particular interest to spelling reformers. The second shift began round about 3500 BC in Sumer in the south of Iraq. Quite a long time passed until about 1500 BC, 1000 BC, when half way between Egypt and Babylonia the alphabet was created.

The alphabet arose in three main stages, from the ideogram, through the syllabogram, to what we call a letter. An ideogram is an idea expressed in a symbolic fashion. The number 5 is an ideogram, because it can be pronounced *cinq, cinco, five, fünf,* whatever you want, and you interpret it as the Chinese interpret their ideograms, according to your own phonic system. First there were ideograms, and in a kind of evolution you move to syllabaries, syllabograms, and then comes the breakthrough.

Evidently this breakthrough only occurred once in the history of the world. Only one basic clutch of primitive alphabets arose, around Phoenicia and Canaan, but they were the key to the future. I would like to suggest that the alphabet was a bit like the creation of the computer. It spread in all directions. All the alphabets derived from that one source, as far as we know.

The alphabet achieved a particular impetus when it reached Greece, because the Greeks put vowels in. We have often wondered how the Greeks managed to develop so rapidly round the sixth, fifth, fourth century BC. A major factor that facilitated the creation of Greek philosophy, logic, grammar, and a whole range of other things, was the availability of alphabetic writing. We have been so impressed with it that many of us in the western world think that an alphabet is the supreme writing system, and that because alphabets are rather good, syllabaries are a bit suspect, and ideograms are useless. We therefore dismiss the Chinese with their 40,000 ideograms; and the Chinese today have said that they will have to do something about them.

11. Printing
The second shift lasted for quite a long time, from the fourth millennium BC up to 1450 AD, when Gutenberg is credited with inventing the printing press. The remarkable thing about movable type was its beauty. The calligraphy of the scribes was beautiful as well, but the printing press was beautiful in certain rather special ways. You could produce enormous numbers of copies, and none of them was corrupt unless the original was corrupt (and you could argue about that). You could also create in stages: you could start using longhand, then you could process it into the first copy, and it could be proofread, and then it would come out looking beautiful.

This vision of unaltering type has had an enormous impact on our own culture, because for the first time in human history we had a clearcut conception of 'proper' language — proper language not just for the little guild of scribes, but for anybody who claimed to be educated and anybody who claimed to use the standard language.

12. Orthography and standard languages
The idea of a standard language was largely influenced by orthography, which means 'the right way of writing'. Not long after the word orthography entered our culture, so did the word orthoepy. Most people have never heard of orthoepy because it died out, but one of its cousins, elocution, still survives. The idea of orthoepy was that if the printed page could be so beautiful, so could the spoken word.

Those languages that dominate education — in the western world at least — are the languages which got into print first, and stayed there. Dialects, junior languages like Scots and Gaelic, Catalan and Occitan and so on, got into print later and had much more trouble staying there. Of course the idea of a standard print language made the alphabet much more interesting than it was before — you met it everywhere you went.

The curious thing about these forms of language is that people tend to canonise or classicise or divinise them. Just as Homer came to be thought the greatest epic writer ever, and just as people worship Shakespeare, so also many people worship the earlier forms, not only of literature, but of orthography. Those forms were created for practical, technological purposes by printers in collaboration with writers — Caxton was a good example of this. They created and filtered and processed and finally fixed. Fix was a word loved in the seventeenth and eighteenth centuries. They 'fixed' the written language, and Samuel Johnson wanted to and was encouraged to 'fix' the spoken language, but discovered he couldn't do it. Dictionary-makers and others continue to try. Writing does have an effect on the standard language at least.

In the course of time with any language, as it becomes the language of print, its orthography is either created for that purpose, or the existing orthography is polished a bit, and then freezes, and becomes holy. And if not holy, it becomes *familiar.* That is one of the biggest single obstacles to spelling reform.

13. The fourth shift
The fourth shift is actually a whole cluster of subshifts, the central one of which is the computer. There is photography, cinematography, the telephone and telecommunication, television, radio, audio-recording, the whole battery of high-technological activities which have blessed the twentieth century. Social Darwinians believe that all this is a process of continuous improvement, but it can also be argued that you lose things along the way.

The centrepiece of the fourth shift is the computer, a most demanding instrument. It will do wonderful things for us, it terrifies us and it excites us, and we haven't begun to discover its full potential — we're still on the edge of this new shift. The fourth shift enables us to see the other shifts more clearly. Here at the end of the twentieth century English spans the globe (like Latin during the second shift in Europe). English spans the globe and so does the computer; they go together: English is the primary language of the computer. That is something which must be extremely important in any discussion of the adaptation of spelling.

14. Reform or re-form?
The tide I gave this talk was *Form and Reform,* but we could put in a hyphen, giving us *Re-form. Reform* means there's something wrong with what went before, but some people insist there's nothing wrong with our English spelling as it is: they say that it is beautiful, it has been polished over the generations, it is a heritage we must hand on, and in any case, how can you change all the existing literature? I suspect that *reform* is less likely than *re-form.*

Just as storage speech declined in value when script was created, and that is a technological matter, just as script declined in value when print was created, and that is a technological matter too, so print and the orthographies traditionally connected nowadays with print and script may cease to be as interesting and as important, as we move into a world where writing and computers become inseparable.

At the moment computers can cope with the peculiarities of English or French spelling, because the computer is not being asked to do anything truly human. But as time goes on we shall be asking computers to do things that resemble more human activities, one of which is voice recognition, and the translation of the voice into computer language. Another thing we shall ask computers to do is not simply to present language that we have already given to them, but to create language responses of their own. It may turn out that the people who prime or program the new technology for such purposes will discover that our orthography is not good enough. They will not primarily be interested in education or logic. They will be interested in whether the machine can do the job, just as people were interested in what a printing press could do, or what a scribe could do, or what a Homeric bard could do, in days gone by.

15. Technological motivation for reform

Such bodies as the Simplified Spelling Society are logically concerned with the shaping or re-forming of English orthography for practical purposes like education and international communication. I suspect we should be thinking towards the day when their aims coincide ' with commercial and technological need. I suspect that only technological pressure will make any difference. Reform will come when that pressure is so great that the commercial and technological people who want things done will want to talk with people like the Simplified Spelling Society, for their own reasons. In the process, the Simplified Spelling Society might get done some of the things that it wants done, for *its* reasons.

16. The Japanese factor

I would like to finish by pointing to one community in the world which is becoming obviously important now in a way that ten years ago was not so obvious. That community is the Japanese, who are extremely interested in high technology. The Japanese are also among the people in the world who use ideograms — kanji, minimally adapted from Chinese. If you can read kanji, you can read a lot of Chinese. That is one of the bonuses for learners of Japanese: they learn to read a bit of Chinese.

The Japanese have got kanji, or ideograms, as well as two sets of syllabograms, the kanas. One set, hiragana, is for traditional syllables of Japanese, the other set, katakana, is for foreign words in the Japanese language, which are syllabified in the Japanese style. Written Japanese mixes all three, kanji, hiragana and katakana. This isn't apparent to the foreigner who has not learnt to read Japanese, but the Japanese themselves see the three running together. This affects them neurologically, psychologically, culturally, in ways of which we have little conception.

The Japanese are also experimenting with romaji, that is, representing their language in our roman alphabet, so that they end up with four sets of symbols. And a very large number of Japanese learn all four. Which if you think about it is a great deal more than Westerners do. They're doing it by the million, they have a lot of money, and they have a lot of computers. We should watch them. They are learning English in equally large numbers, and may well have a say in the reformation, if and when it comes, of English orthography.

[Simplified Spelling Society, Journal 7, 1988/1 pp9–12 in the printed version]

Discussion

Tom McArthur's talk was followed by extensive and wide-ranging discussion both of matters he raised and of other issues concerning spelling reform. The main points made are here presented in edited, anonymous form, but the chief contributors to the discussion were, beside Tom McArthur himself, Govind Deodhekar, Edgar Gregersen, Patrick Hanks, Chris Jolly, Julius Nyikos, Edward Rondthaler, David Stark, Ronald Threadgall, Chris Upward.

1. The origin of printing

Gutenberg's genius was not so much the invention of the printing press, which already existed, as of moveable type cast from a single matrix. He put the binding machine used for binding codices together with the use of matrices in a cyclical rhythm. If we look at cuneiform in ancient Sumer, we can see the ancestry. Archeologists have dug up some of the tokens which were the ancestors of cuneiform. If we look at Egyptian hieroglyphics, we can see the pictographic ancestors. In the same way we can go to China and Korea, and find antecedents for what Gutenberg and his friends did. The term printing press is interesting because both words come from the same Latin verb, meaning 'to squeeze'. One might argue that the cyclic squeezing process is the earliest stage of the industrial revolution, although it was not automated. It was mechanical, but it was much later before it could be properly automated, that is, driven by anything other than human arms. However it was a cyclic, repetitive, industrial process.

There is no evidence that the Chinese proto-press itself ever reached Europe; it was news of that press that reached Europe. The Moslems were not interested in it because they didn't want to go beyond script: they had the words of god and the hand could handle them. They didn't want to use the Chinese technique for printing the Koran, which was by and large the main thing they wanted to publish. They had the opportunity: they used paper, good paper, but not the press. The Europeans got better paper from the Moslems among other things, and they heard about the Chinese press. They recreated it, put it together with the bindery, introduced the metal letters, and created a cyclic activity. And of course the consequences were so enormous that we take them for granted. Because we take them for granted, we don't think about the impact of the page on our minds and the idea of constant, continuous, perfectly structured lines.

2. The invention of the alphabet

On the question of whether the alphabet was invented only once, there is some evidence it was really invented three times, independently. One of course was the famous middle-eastern Greek alphabet. But there was also an invention in the Sudan by the Meroitic-speaking people, which of course had no consequence for the rest of mankind; but it was in fact an instance of a real alphabet. Egyptian writing was probably the dominant influence on the development of the alphabet, and there are pre-alphabetic qualities in the late hieroglyphs, hieratic script and so on.

Then the Koreans also invented an alphabet. Its origin is evidently rather like that of printing press. The Korean king who is credited with their alphabet is believed to have heard of, if not seen, European lettering. That is what we call stimulus diffusion, and reminds one of Sequoya, the Cherokee who created a syllabary after seeing alphabetic writing. There is a form of writing found in West Africa which is speculably a form of diffusion from the Sequoya syllabary. But it is perfectly possible that there were two peoples who didn't know about each other but who were moving along the same lines. Discussion of this whole question must always carry the qualification "as far as we know".

3. Japanese

The Japanese have a great advantage. Some Japanese claim that Japanese writing gives them an advantage over everybody else because it uses both cerebral hemispheres. Language is located in the main in the left hemisphere if you're right-handed. In Japanese it is a matter of the spatial,

physical layout, the calligraphic, artistic aspect of their writing system, which must in all probability also make use of aspects of the right hemisphere which is concerned with vision and space.

4. The keyboard. past, present and future

We may regard the keyboard as a late development in the third shift in the use of printing. It arose when an American, Christoper Latham Sholes, invented the typewriter. The keyboard of course is crucial to the fourth shift. The history of the typewriter is interesting socially. The word *typewriter* was also used for some time for the typist, of whom the vast majority were women. They became modern versions of scribes and copyists. They were not creative in terms of content, but in terms of presentation, which was a lower grade activity. Secretarial work needs touch-typing, but most other people, journalists included, don't touch-type, they bash. Perhaps they bash because they don't want to be associated with typists as such. There may ultimately be an element of sexism about it. In the early days the keyboard was an ancillary tool: text was first handwritten, it was then handed to an intermediary who typed it, who handed it to another intermediary who set it, who handed it to the publisher who smiled, and it was the author and the publisher who got all the glory. But you hear managers, who run everything, say, "and thanks of course to my secretary, who runs everything". Similarly we find "the person without whom this book could never have been produced" mentioned in small letters at the bottom of the page or credits. However on the whole upper management won't touch the keyboard, because it seems to be beneath their dignity.

But the keyboard has been revolutionised and is becoming more and more important. Hitherto when we talked about literacy we meant using something like a pen. But in France they now have a means of interfacing with the computer where you don't need to type. They call it a 'slate' and it is a means of using a computer for idiots. And the idiots are the managers, in this respect, because the managers sit there and handwrite, and up it goes on the screen, because these fellows haven't got round to the remarkable idea of actually pressing down keys with their fingers. Not because that is difficult, but because of the status of the person at the keyboard.

But the keyboard is going to win. Oval lights and tracker bags and slates and other things will no doubt be very important, but the keyboard is going to be very central and important for quite some time. That I think will be part of the literacy we now require. My friend and colleague David Crystal wrote an article on literacy in *English Today,* and he said the problem of people who are not literate is that the literates constantly raise the ante. Literacy is becoming constantly more complex. Whereas even at the beginning of this century, to be literate it was sufficient to be able to read a book and produce handwriting. Today to be wholly functionally literate, there is a host of things you have to be able to do, and do well. To be orally articulate, people are regularly expected now to be able and willing to take part in phone-ins, to use the phone, to be on radio, to be in a television studio audience, if not out front, to be met in the street and asked for an instant opinion. That is the degree of spoken articulacy that is now expected. A similar extension of expectations applies to literacy, and many present-day literates are frightened by the prospect.

5. Spelling and elitism

The idea has been suggested that spelling reformers have been too much involved in spelling invention and alphabet invention, when probably it's society that needs changing. By making reading and writing easier we expect to democratise society. Yet paradoxically the two languages which have advanced democracy most have been French and English which are probably the most difficult alphabetic languages to learn. Perhaps this is no coincidence: if only certain people who have the ability or the means or the privilege are able to become literate in French and English, it stops too many people getting to the top, and it would not do for too many people to be vying for power at any one time. The same might apply to Japanese. Because English is full of syllabic and morphographic elements, literacy has a strong visual component, and is not just phonetic. Thus, it is suggested, perhaps the type of people who get to the top in British society can visualise things in an abstract fashion.

6. Do phonemes exist?
Roy Harris, who is a professor of linguistics at Oxford, has written a book *The Origin of Writing,* published by Duckworth, in which he says some most interesting things about writing. People assume that writing is a simple parallel to speech, and he argues that writing is really something rather different, although it happens to be analogous to speech on occasion. He says that the alphabetic achievement conditions our way of thinking about sound: because the sounds of language were once separated out into between twenty and thirty letters, we assume there are analogous units in sound, which we call phonemes, and that they number between twenty and fifty. Harris even says it would be difficult to create a theory of phonemes unless you were already alphabetic. This however would imply that the Chinese could never have conceived of phonemes.

7. Phonemes and spelling
Perhaps spelling reformers put too much emphasis on the phoneme-grapheme relationship, whereas regularity should be their prime target, which can also be achieved by means of morphographic and syllabic elements. It is in the nature of communication that you must be able to handle it atomistically, or in clusters, and that even if you set out to produce a perfectly phonemic script, there would develop clusters in due course in relation to psychological assumptions about how elements work in the language. We would end up with iconographic and other elements, whatever we tried to do, because we communicate in part in that way. If you have a message, consisting of element, element, element, element, element, you will always cluster some of the elements, and then interpret them holistically, without atomising them. This appears to be inherent in human thought-patterns.

8. Text layout: spaces and directions
Another development in the use of the alphabet concerns spaces between words, which were not part of the earliest writing. We regard words as separate entities today because we're used to seeing them in writing, but the spaces do not exist in speech, they are just aids to reading. Reading Ancient Hebrew for instance is difficult simply because there are no spaces. Spacing came into its own with the printing press, although it existed before.

The arrangement of text in lines all going the same way was a development from the middle of the second shift, the scribal period. Previously there was no set direction — alternate lines might be written in opposite directions.

9. Women and literacy
Among the Tuareg in the Sahara — a little ethnographic detail — it's the women who are literate. Evidently Hiragana, the dominant syllabary in Japan, developed among women in the Han period. The men in Japan were too busy struggling with Chinese.

The novel, one might argue, is the product of the printing press in the third shift, but the novel is not easy to define. The word itself, which means new, came in a little after the printing press. But the novel has appealed very much to women, who were kept out of education and the learning of Latin and various other fields in the Middle Ages and the Renaissance. It's only now that we're beginning to rediscover the early women novelists, like Aphra Behn in the seventeenth century, who were very literate, and you notice that the novel nowadays is very much something by and for women. It would be interesting to pursue the ethnography of male and female approaches to a variety of things.

We may recall the title page of Robert Cawdrey's A *Table Alphabeticall* (1604), which says it is intended for "gentlewomen or any other unskilful person." He was not necessarily being condescending, but he represented the social fabric of the time, because the Latin words were only known by the male population, who'd been educated in it.

In fact, he was one of the people who was opening education up, and literacy in the third shift has been an enormous benefit to women, although we're not necessarily aware of it because so much of their history has been submerged over the last 300 years. Women's presses and groups are rediscovering a large number of women who were quite prominent in their day, and who have for one reason or another been overlooked since then, leaving just Jane Austen and the Brontës.

10. Romanisation of Chinese, Japanese

The question of whether there are technical reasons why Chinese and Japanese have not gone over entirely to the roman alphabet is one thing. General MacArthur wanted to impose it on Japan after World War II, and it does take the Japanese a long time to learn the prescribed number of kanji characters. But when languages adopt the roman alphabet, they may do so not primarily because it is efficient for them, but rather because it is the dominant writing system worldwide. Alphabets are pretty efficient, but then so can syllabaries be.

11. Debating the advantages of simpler spelling

The inconvenience of a highly irregular orthography such as English is particularly apparent to those who have been educated initially in a highly regular orthography such as Hungarian or Finnish, with their one-to-one relationship between phonemes and graphemes. In such languages learning to read is a relatively straightforward business. Not merely does English spelling lack logical transparency, but learners are subjected to the learning of illogic. To make matters even more complicated, in English the names of the letters often do not correspond to the sounds they represent, thus introducing a third level of inconsistency. To overcome this, many English-speaking children are taught letters by their sounds and not by their traditional names.

It is however sometimes asserted that in languages such as Hungarian there is no literacy problem whatsoever, except where schooling may be inadequate; but this claim is also challenged, on the grounds that the evidence is anecdotal. Such was the case quoted of the American boy educated in Mexico, who on being asked how he learned to read and write in Spanish reported that at the beginning of the year the teacher explains the sounds of letters, after which the children can read or write anything they can say.

One should not think that there is a true analogue between symbols on paper and the sounds of a language. Literacy may well come more easily to Hungarian or Spanish children as well as in a number of other languages. However the difference is relative. There are inherent problems in recognising communicated material visually from symbols, no matter how well they are supposed to correspond to the analysis of a language. Some people, who are educationally disadvantaged in whatever way, will have problems in any language.

We can see a continuum from the languages which have a neater system to the languages which have abominable systems, with innumerable intermediate degrees. But one cannot argue that there is no illiteracy whatever in any language, because the problems are much more complex than that, even though such a view may be denounced as arrogantly anglocentric.

Two further instances of the advantages of a highly phonographic orthography like Hungarian are cited. Hungarian children read translations of Dickens, Mark Twain, etc., years earlier than English-speaking children can read them in the original. (One would need to be confident the style of the translation was of equivalent difficulty to the original. Thus modernised Dickens would also be easier to read in English than the original text.) A second instance is of the Hungarian grandfather with fading eyesight asking his six-year-old grandchild to read him an article about nuclear physics: the child will read it fluently and correctly, and the grandfather will understand everything he wants, even though the child does not.

Apparently 70% of Spanish children learn to read and write before they go to school, which must also be significant.

It may come as a revelation to English-speakers when they first try to learn a language with a relatively regular orthography such as Greek or Hebrew: they may realise for the first time that logic can be applied to writing.

Likewise it makes a great difference in teaching English if the learner can rely, as with the Initial Teaching Alphabet, on being able to use a given symbol to represent a given sound. Children who are i.t.a.-trained enjoy reading more, and therefore they go on reading — and one 'must not forget that a lot of English people only read and write because they have to, not for the sheer joy of it, in fact large numbers of children give it up before they leave school.

It is only to be expected that a simpler system will achieve its effects faster, but it is not necessarily easy to believe that many people will turn to reading and writing with pleasure simply because the writing system no longer places such barriers in their way.

Even if one accepts many objections to the arguments in favour of simplified spelling, such as that the Germans only read more Shakespeare than the English because their translations are modern and they don't need an explanation for every other word, or that the Cambodian and Hungarian writing systems are modern, nevertheless one must concede that in some countries there is an enormous amount of illiteracy. If we confront an average child with a writing system that is basically consistent and another average child with a system like that of English, the first child will be able to read much more quickly and read much more advanced kinds of writing.

Those with experience of teaching adult illiterates will know the frustration of having to spend two years teaching somebody written English, and only to make limited progress. That is reason enough to want spelling reform. Another argument is precisely that English is an international language, and the world needs it to be simpler.

Much of the resistance to the idea of spelling reform comes from the widespread but mistaken idea that the writing system *is* the language.

To test the validity of the criticism of English spelling, an experiment was carried out. A selection of reading pieces from one of the most used American 6th grade readers was translated into German, and it was found that German-speaking children from the sixth grade, the fifth, the fourth, the third, the second and even the end of the first grade could read them. The results are all recorded on tape, and even without understanding a word of German, one can hear the fluent, beautifully intonated reading. And then all these children were able to answer questions on the passages that were designed for American sixth graders. There is a vast quantity of such evidence. Korean children did exactly the same, and the same experiments are to be conducted for French and Italian and Polish.

One may ask what effect the different dialects of Hungarian have on the acquisition of literacy. Dialect speakers have to learn the literary language, which is then consistently represented in the writing system, and is in turn perpetuated in the writing system.

12. Standards, norms and strategies

Part of the problem of English spelling is that it was based upon the elevated form of the East Midland dialect, as used around about the time of Caxton and Shakespeare, and was more or less fixed by people like Addison and Steele and Pope and Dryden. But for a reformed orthography today we probably need a standard English which is roughly agreed with the nations of the English-speaking world. And that is a problem. Perhaps such a standard is only likely to be achieved if there's a technological impetus behind it. If on the other hand reforms are introduced which are not based on such a standard, there is a danger of breaking up the English language community, and dictionaries would need different spellings for different dialects. A standard on the other hand need not be based on any one dialect, nor need it be considered as a dialect itself.

A standard is a norm, in this case a literary norm, a print norm, a script norm, whatever one wishes to call it. And undeniably the current norm for written English is exceedingly difficult, in fact it is 400 years out of date. But if the norm is to be changed, the problem is to decide what it should be changed to. Should it be changed to match an existing pronunciation, and if so, how is a consensus to be obtained? The problem is very nearly, but not quite, insoluble. One might think in terms of omitting most of the vowels, which is where most of the variations between accents lie; but probably that is not the answer. Probably it will be economic and technological pressure that will bring about the breakthrough.

13. Pronunciation norms

To allow speech-recognition by machine, people would need to speak to the machine clearly, with each syllable distinct. And then it would be necessary for the speaker to accept a standard, regular pronunciation, such as RP, Especially for the vowels. But as we know, it is not easy to teach people to reproduce a given pronunciation. It is much easier to design a machine to speak with a given pronunciation than to get people to use one in such a way that the machine can recognise their words. Dryden and Addison believed spelling could standardise speech, and Johnson believed it when he started his dictionary, though not when he finished. Speech changes independently, even RP has changed within living memory. RP is disintegrating in terms of the pronunciation taken by Daniel Jones in 1917 in the *English Pronouncing Dictionary* which for many years was a kind of bible. One can tell that that RP isn't spoken any more by listening to the old second world war newsreels. Very few people have that clipped way of speaking any more.

There is an argument that such changes have occurred because there is no regular orthography which can be used as a yardstick. There are observable tendencies to spelling — pronunciation, and speaking 'proper' means speaking more closely in line with the spelling, rather than in dialect. On the other hand an example from the foreign learner's point of view shows how great the divergence is: a foreign learner is generally persuaded that the following sentence is spoken English: "You should not have done that" Now what native English speakers in fact say is: "You shouldn't 'v done that." That has to do with the rhythm of the language rather than the orthography which does not depict rhythm.

14. Speech synthesis

A computer will believe in writing, but not in speech. And that's part of the problem. At the moment computers are taught speech backwards, if you like, in terms of writing, but the sound is like the voice of a Dalek. A lot of work has been done on this speech synthesis, and a lot of the most successful speech synthesis doesn't deal in phonemes. It deals in what we call parameters, which produces something like this. You have a basic rhythmic sound such *as eu-eu-eu-eu,* and then you put another parameter on top of it, and it becomes *heu-neu-beu-keu,* and then you put another one on and it becomes *hau-nau-bau-kau,* you take out the nasality, and you get *how now brown cow.* That is possibly how we create speech too.

15. Political and technological dimensions

As well as a technological motivation for spelling reform, there is a political dimension, in the sense that decisions have to be taken, perhaps by individuals in their private writing practices, but particularly by policy-makers and professional decision-makers. And here, besides possible pressure from industry, science, technology, there can also be pressure from the educational sector, where the shortcomings of the present spelling of English are most acutely felt. It is here perhaps that the traditional spelling reform movement feels most at home, and where its campaigning role is most obvious. The biggest obstacle to reform at present is the sheer weight of public ignorance about the nature of the problem and the possibilities of reducing it, if not of completely overcoming it. If the spelling reform movement can now enlist a new constituency of support, that of technology, it will have taken an important step forward.

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The End of Short Cuts: The use of abbreviated English by the fellows of Merton College, Oxford 1483–1660

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1. Spread and standardising of the vernacular

The Tudor and early Stuart periods brought great modifications in the use and character of the English language. By 1660, the vernacular had largely ousted reliance on Latin by the church in England and had challenged its supremacy in the universities. The position of Norman-French as a language spoken by the aristocracy had been totally undermined and its survival in law seemed an anachronism. The substantial contribution to literature made by the major figures of the English Renaissance had ensured that the vernacular was now used by most writers of se and poetry. Disputes within the English church had discouraged the role of the vernacular even in theological controversy. English by 1660 had become more fixed in its grammar and spelling. During the period 1483–1660, the use of abbreviated English illustrates the rapid development of the language towards the more standardised form that we have today.

2. The Merton College Register

The appointment of Richard FitzJames, master of arts and doctor of theology of the university of Oxford, as warden of Merton College on 20 March 1483 inaugurated an important period in the history of the college. Amongst his many contributions to the development of its structure, administration and wealth was his inauguration of a register of college decisions and activities, the Registrum Annalium Collegii Mertonensis. [1] The register has been kept from 5 March 1483 until the present.

3. Latin and English

For our purposes, reference will be made to the register from its beginnings until the Restoration, 1660. During this time, entries were hand-written usually by the subwarden of the college. The normal medium was Latin which remained throughout this period dominant in the universities. From time to time, however, the compilers of the Merton register were compelled to insert lengthy sections in English. Correspondence with non-academics that contained important information relevant to the college, legal decisions and such documents as contracts, indentures or agreements with estate officials were necessarily recorded in the register for future use; such material was usually in English. The different compilers had before them the written examples left by their predecessors since 1483; in consulting these entries, fellows making particular insertions may have been influenced to copy an outmoded style of writing. Also, the continuous use of Latin written in the early days in a much abbreviated form, perhaps encouraged fellows to maintain a similar style for their entries in English. Nevertheless, the survival of this register, compiled, by well educated academics over a long period of time, enables us to make some estimate of the wider changes in the use of abbreviations during these years.

4. Abbreviations

The early fellows of Merton had been trained in a style of writing that had been developed with great sophistication during the medieval period. The need to economise on expensive parchment and vellum and the absence of supplies of cheap paper had encouraged the use of a highly abbreviated style of writing in Latin. Individual scribes, communities and nations naturally introduced their own special techniques in writing, but this occurred against the background of a commonly inherited and understood system of abbreviations recognisable to all educated readers. The spread of schools and universities in the later medieval period strengthened and expanded the use of this Latin 'shorthand'. Not only were scholars eager to reproduce as rapidly and as cheaply

as possible the textbooks that were required in large numbers in all universities, but the introduction of new technical terms known to all working in a particular field enabled scribes to extend their use of abbreviations. Alongside shortened words that can easily be deciphered by readers with a small acquaintance with medieval calligraphy occur those abbreviations and symbols that only the expert aware of the meaning of the text can understand. For example, it was usual to omit the letters <m> or <n> that occur so frequently in Latin words: *poetā (poetam), assēsu (assensu)*; such abbreviations present little difficulty. On the other hand, the writer of, for instance, a logical tractate could use such shortenings as *u^{a} (universalia), b^{or} (minor) a^{or} (maior)* which are not at all clear to an inexperienced reader. Those fellows who compiled the register at Merton in the late fifteenth century were accustomed to read mostly manuscript books and write for dissemination in such books. Even when early printed books were known, they too usually employed the abbreviated Latin used by scribes in the contemporary universities. When Merton fellows wrote in the vernacular, it is not surprising that, where possible, they adopted the types of abbreviation that they were accustomed to utilise when writing Latin.

5. Uncertainty of interpretation

On 3 March 1484, Merton College made a presentation to Stratton St. Margaret [2] The writer of this entry leaves any editor with several major problems of transcription. It is impossible to know whether at the end of several words *(Stratton, nominacion)* one or two letters are intended. The compiler writes these words with what seems to be a suspension sign after the final <n>, in this manner: *Stratton^{ɔ}*.

Elsewhere, it is difficult to know exactly how the writer intends that words should be spelt. Is *owr^{ɔ}* to be lengthened as *ower*, *owre* or *owrr*? Is *ther^{ɔ}* to be *there* or *theer*? Is *for^{ɔ}* to be *fore* or *forr*? Is *vicar^{ɔ}* to be *vicarr* or *vicare*? The suspension sign at the end of *sam^{ɔ}*, however can hardly be intended to indicate anything but *same*.

6. Influence of Latin abbreviations

The presentation also shows clearly the influence of a style of writing derived from Latin usage. The omission of <er> in the centre of words or at the end is marked, as in Latin: *mast^{ɔ} (master), M^{ɔ}ton (Merton).* The common practice of abbreviating *pre, pro* and *par* or *per,* especially at the beginning of Latin words, is continued in the written English: *p^{ɔ}sent (present).* In a letter written a few years later, on 19 March 1484, [3] and copied into the register because it contained complaints about the chaplain of Burmington, this pattern of abbreviation is more strongly evident. Again we find *þyshons (paryshon[er]s)* and *p^{ɔ}st (prest),* with the Latin abbreviation of the prefix. The heavily abbreviated *ꝯmēde (commende)* and *ꝯ^{a}ry (contrary)* are clearly derived from contemporary Latin usage as are *w^{t} (with)* and *ſvants (servants).* The omission of <er> occurs in *lov^{ɔ} (lover)* and *man^{ɔ}) (maner)* and of a letter in *commende,* as above, and *thē (then).* The scribe here has simply treated the English words as he would his normal Latin vocabulary. We also find suspensions for which we can give no definite spelling: *for^{ɔ}, her^{ɔ}, mor^{ɔ}, own^{ɔ}, or^{ɔ}.*

7. Reluctance to spell endings

It will already be apparent that one of the major difficulties in transcribing such extracts in English concerns the treatment of the endings of abbreviated words. A letter from the college on 16 August 1484 [4] illustrates the problem, with some further indication of the different approach to the use of abbreviations by different compilers. Here, again, we have the usual insertion of a suspension sign at the end of words ending in <r> *(pleasur^{ɔ}, brother^{ɔ}, wothe^{ɔ} [other]),* but also for some words ending in <m> *(whom^{ɔ}).* Somewhat unexpected is the Latin form adopted in an abbreviation of another <er> ending: yo^{2}, presumably this is intended to be *yoer (your),* but there is no certainty about this. There seems a marked reluctance to spell out such endings in detail. In an indenture concerning the sale of timber on 20 October 1485 [5] we find wycħ (perhaps wyche) and *sprynggₑ;* the second suspension seems to be derived from the Latin, but, whereas in that language the <-es> ending for many third declension nouns in the plural is fixed**,** for the English word we are unable to say whether sprynges or sprynggs is intended. Similarly, in a note of legal advice in July 1486, [6] we are unable to determine whether the written word *wryting^{ɔ}* is meant to inform us that the word should end with an <e>, or when *strengtħ* is so written in an indenture of 15 June 1486 [7] if the abbreviation sign over the <h> indicates a letter to follow.

8. Patterns of abbreviation
The constant introduction into the writing of English of abbreviations derived from medieval Latin continues throughout these years. Sometimes omitted letters are indicated in brief above the remnants of the word: *p^{a}y (pray), g^{e}te (greate* or *grete), w^{t}yn (withyn).* The omission of <er> is often indicated by an abbreviation sign: *div$^{ͦ}$se (diverse).* Reference to the common Latin word-ending <-io> or <-iones> with the replacement of the <i> by an abbreviation sign is repeated in a similar way in English: c*ondicōn, obligacōn.* Occasionally the Latin form is combined with a reluctance to state the ending of the word: *pīor$^{ͦ}$ (prior* or *priore* or *prioer).*

The readiness of compilers to use forms that were familiar to them from their reading of Latin manuscripts was perhaps strengthened also by the character of the documents they were transcribing in English. Presentations, indentures and such formal legal transactions had themselves usually their sources in a Latin or Norman-French original; they had by their nature at an early date often become stereotyped, so that only the relevant names and dates had to be changed to fit a different situation. The entry of abbreviated, standard forms into the English language can easily be understood. However, of more significance to the development of the language itself is the result of such a method of writing, that it absolved the writer from the necessity of spelling out in detail all the letters of the word he was forming. In the case of one of our examples above, for instance, the scribe did not have to make a decision about whether to write *greate* or *grete* since the abbreviated form of the word did not expect this of him. So long as such short cuts were employed, many of the niceties of spelling could be ignored, especially as the grammatical structure of the English Language, unlike that of Latin, did not require a firm decision about the exact ending of each word.

9. Examples from the 1480s
Although fellows of Merton in the late fifteenth century abbreviated many English words when compiling their entries for the college register, they never rivalled the extent of their contemporaries' use of abbreviation in Latin. An indenture of 4 January 1487 [8] in English begins as follows:

> Thys endenture made betwene mast$^{ͦ}$ Rychard FfitzJames clerk & warden off Marton College in Oxford & y^{e} felysshiþ of yē same place on y^{t} oon þtie and Johñ Warley of Coreh^{a}m ī y^{e} counte of Surr$^{ͦ}$ gētilmā and Thom^{a}s Warley off London goldsmyth...

A few months before this, in August 1486 [9] an indenture written in Latin commences:

> Hec indentura fĉa int$^{ͦ}$ Ric$^{ͦ}$ Ffitziames custodē collegii de M$^{ͦ}$ton$^{ͦ}$ in Oxoñ & eiusd$_{ͻ}$ collegii scolares ex una þte & Iohe$_{ͻ}$ Leverens de Chessindon in com̄ Surr$^{ͦ}$ husbandman$^{ͦ}$ ex alt^{a} þte testat^{2} q dict$^{ͦ}$ custos & scolar$^{ͦ}$s unanimi assēsu & $_{ͻ}$sensu $_{ͻ}$cesserūt...

The similarity in the use of abbreviations in both passages is clear, but the writer has a much easier task in shortening the Latin version by his reliance on an accepted code of practice.

10. Growing use of books after 1500
The long wardenship of Richard FitzJames, from 1483 until 1507, coincided with a time of noticeable change in the character of Oxford intellectual life. The printed book, rare in 1483, had begun to appear in rapidly increasing numbers in the university bookshops. The donation of John Neele to Magdalen College library in 1489 contains many printed books amongst its forty two items. [10] At Merton, it was thought useful to repair the manuscript books in 1504, [11] but the last distribution to the fellows of books from the unchained collection seems to have been made in 1519. [12]

By 1520, shortly before FitzJames' death, John Dorne could list for sale in Oxford over two thousand books, most of which were printed texts. [13] The scribes and their techniques were no longer required for the mass production of academic works, nor was it so necessary for scholars to master the art of writing and reading the Latin shorthand of the schools. Indeed, this style of writing had itself ceased to be fashionable amongst learned academics influenced by the impact of the New Learning. As numerous surviving documents, and the Merton register itself, show clearly,

scholars who wished to be considered as members of the contemporary society of humanists, wrote in an italic hand.

Here the earlier, highly technical abbreviated Latin of the medieval academic was scorned, as were often the subjects he had studied. FitzJames was probably born around the year 1445; at the time of his death in 1522 these changes had been affecting Oxford society for some years.

It would not be surprising, therefore, to see the warden's method approach to the writing of English in his old age reflecting a tradition that was rapidly disappearing. In 1503, when he was perhaps in his middle or late fifties, he wrote a letter to the subwarden fortunately pasted into the register, so giving us a copy of his own hand: [14]

> Mastº subwardenº y ɔmēde me to you. And whereº y wrot to you the last wyke that y trouyde itt good to differrº thelectionº ovº to quīdenaº tⁱnitatis y have be thoughȶt me synº that itt woll be thenº a bowte mydsomº. Whereº fforº y se ytt kanº not be so ɔveniētly synº oº scolersº midsomº yff we doo well to goddₑ pleaȝ and o² founders intent which synº ys so y pᵃy you kepe fforth yo² day off electionº appoyntyde whereº y kumº orº not as off lyklihode y schaƚƚ not the worse...

11. Medieval yields to 'modern'

Clearly, the aging warden is writing in the manner of a scholar trained in the traditions associated with the Latin shorthand of the manuscript book.

If the style of FitzJames' letter is compared with that of an indenture also written in English and entered in the register shortly afterwards [15], the differences are striking:

> Allso itt is agreed atwix the said þtys thᵗ the said Gilbᵗ shall well & trwly content & pay to the said warden & scolers thereº successors or assignes for all the said wood undº foʳme above rºhersid bowgȶht.

Traditional Latin abbreviations, especially suspensions of <er> or <e> and the contraction of <par>, remain. The general appearance of the first passage is certainly 'medieval' while that of the second is 'modern', if we may be allowed to use these terms. Significantly, the writer of the indenture does not replace the first syllable of 'content' with a symbol, as FitzJarnes would probably have done.

12. Stereotyping

The style of writing of the English entries in the register for the first half of the sixteenth century becomes more stereotyped. A few standard abbreviations deriving from the Latin remain in use and there is still a tendency to avoid any commitment to the exact ending of certain words. As an example, here is the entry of a condition relating to an obligacion of November 1516: [16]

> The condicion of this obligacionº is suche that if the above bounden Richard Symonds and Oswald Mitford onº theyr partie well & truly þfoʳme obȝve fulfill and kepe all & singlre covenᵃntₑ grauᵃntₑ...

However, as late as 1544, an official document in English appointing an attorney to act on behalf of the college against those damaging flood-gates in Cambridgeshire is written in the following Style: [17]

> ... to þcure entº & psecute aƚƚ suche wrytₑ, actions þcesses as ys or shalbe thowghte nedefull & necessarie for o² behofe ɔcºnyng the wrongefull & iniuste vexatīōn & molestatīōn don to & aienste the sayde warden).

This entry seems to hark back to the manner of writing of the late fifteenth century. It is so different in character to other contemporary entries that we must suspect that the writer placing in the register what was a formal, legal document imitated not only the words but also the abbreviated form of an older original. Archaic styles of writing could survive and individuals could adopt an older abbreviation as a deliberate indication of their interest in the past.

13. Fewer abbreviations in late 1500s
The great majority of entries for the second half of the century show a marked tendency to reduce the use of abbreviations. But commonly used words such as *with, your* and *our* are regularly abbreviated to forms *w^{t}*, *yo^{r}* and *o^{r}*; occasionally an <m> or <n> is omitted and the loss indicated by a stroke above the word; the prefix <par-> is often shortened. The appearance of such entries is shown, for example, in a letter of complaint from the college in 1556: [18]

> These are to doo yow to wete that I w^{t} mye cōpanie off Merton$^{ͦ}$ Colledge have certayne knowlege that ye alter and change at yo^{r} pleasure the gleebe lands off ou^{2} þsonage of Pontelande in such wyse that in fewe yeres to cūme ou^{2} land$_{e}$ shall nott be knowen fro$^{ͦ}$ yo^{re} and others...

Sometimes not even these few, and easily decipherable, abbreviations are used. A condition for an obligation of 1578, [19], for example, contains only one shortened English word: y^{e} for *the,* a usage which was to persist for several generations.

14. Seventeenth century
Entries for the early seventeenth century in English contain only a few, clearly standard abbreviations. In 1610 the warden and fellows wrote to accept the offer of a donation to increase the allowances made to the postmasters — undergraduate scholars of the college. [20] This letter contains only the following abbreviated words: *y^{e} (the), w^{ch} (which), þportion (proportion), ev$^{ͦ}$y (every), wth (with), þtestation (protestation), ev$^{ͦ}$ (ever).* Paradoxically, in view of the original medieval motive for the use of abbreviations, it is, with few exceptions, the shorter rather than the longer words that are now reduced. Similarly, in a protest made by a fellow against the election of new members in 1642, [21] the only shortened words are *y^{e} (the), m^{tie} (majesty), w^{ch} (which), m^{r} (master)* and *o^{r} (our).* On the eve of the Restoration, the warden, detained at Gresham College in London, wrote to the fellows on 20 July 1658 excusing his absence at the annual election of new officials; the letter was in English and was copied into the register. [22] The writing is clear, and the construction of the words and sentences presents little difficulty to the modern reader. The warden shortens *college* to *coll, which* to *w^{ch}* and writes *y^{e}* for *the;* otherwise there are no abbreviations. When compared with the written English of his late fifteenth century predecessor, Warden FitzJames, it is clear that the calligraphy of Warden Goddard in 1658 reflects the attitudes of a different literary and scholarly world.

15. Moving towards a standard
Such a development has some implications for the establishment of a recognised form of the English language. When it became usual to write out in full almost all words, especially the longest, and to give in detail the precise endings of words that had earlier been only vaguely and indefinitely indicated, then the move to accept a standard, 'correct' form of any particular word must have been strengthened. Earlier writers did not have to consider this, since a stroke of the pen to indicate a contraction avoided the need to make such decisions. The virtual abandonment of the use of abbreviations in writing English by the middle of the seventeenth century, therefore, marks a move away from a flexible treatment of the form of the language and towards a gradual acceptance of a convention in spelling that, for good or ill, we have inherited today.

16. Changing needs and writing practices
Finally, we must consider why the fellows of Merton over this period of time curtailed their use of abbreviations when writing both English and Latin. The medieval forms evolved in response to special circumstances, especially in the academic world of the fourteenth and fifteenth centuries. The cost of the handwritten book was prohibitive, yet no university could function without ready access to at least the fundamental works required as set reading by the various faculties. Lecturers could pass on a certain amount of information, but lecturers needed texts and both masters and students required to make notes. Such scholars had little time or need to produce the beautiful manuscripts commissioned from the well-rewarded professional scribes. The copies they made were for utilitarian purposes, written as quickly as possible on as little paper or parchment as possible. Hence the need to evolve a highly abbreviated script often comprehensible only to readers themselves expert in the subject. The advent of the printed book ended these special circumstances. By the middle of the sixteenth century, many scholars were in possession of

considerable libraries. The printing industry consumed large amounts of paper, itself stimulating an outburst of manufacturing activity. Oxford scholars, now without worries about the cost and accessibility of paper, writing for those publishers who would print their works, had no reason to continue to use the abbreviated forms obligatory for their predecessors. Moreover, humanists encouraged the use of an 'italic' as against a 'gothic' script; the latter came to symbolise all that was associated with the 'obscurity' and 'backwardness' of medieval scholasticism. Shorthand became a means of transferring quickly the spoken word to the written word, an intermediate form between what was said and what was printed rather than itself a form to be reproduced.

17. Conclusion

We have examined here the written texts produced by a group of individuals, highly educated academics, in a special context, a well organised and long established institution. It would be interesting to learn if the abandonment of abbreviated English proceeded more rapidly or more slowly elsewhere; would, for example, literate members of societies in northern and western regions, less open to the influences of London and the universities, retain older usages longer? Did lawyers and clergymen, whose daily routine required the writing of many similar documents whose form had been long since determined, retain not only older words and constructions but also earlier abbreviations? Do we have the same pattern of development in universities — on the continent and in Scotland, also affected by movements we have discussed above? We have no space to consider such problems here, but we hope to have drawn attention to a minor but interesting and neglected aspect of the development of the English language during the Renaissance.

NOTES

[1] The register has been edited in three volumes for the period 1483–1603 for the Oxford Historial Society. However, since these editions do not always include full transcripts of the English material contained in the register and give no idea of the abbreviations, of Latin or English, used by the compilers, all references here are to the first two MS volumes of the register kept in the college archives. The notes refer to both volumes as RA.; folio references are to the first volume and page references to the second. We are grateful to the warden and fellows of the college for permission to consult their records and sincerely thank the archivist, Dr J. R. L. Highfield, and the assistant librarian, John Burgass, for their ready help and cooperation. Our secretary, Françoise Bannister, as always, gave us her ready assistance

[2] RA., f. Sv.
[3] Ibid., f. 9.
[4] Ibid., f. 14.
[5] Ibid., ff. 22–22v.
[6] Ibid., ff. 25v–26
[7] Ibid., f. 27.
[8] Ibid., f. 31.
[9] Ibid., f. 29–29v.
[10] J. M. Fletcher, 'A Fifteenth Century Benefaction to Magdalen College Library', Bodleian Library Record, 9 (1974), 169–72.
[11] J. M. Fletcher and C. A. Upton, 'The Repair of Manuscript Books in Merton College Library 1504', Archives, 17 (75) (1986), 138–43.
[12] F. M. Powicke, The Medieval Books of Merton College, Oxford, 1931, p. 248.
[13] The list is printed in Collectanea 1 (O.H.S.), Oxford, 1885, and Collectanea 2 (O.H.S.), Oxford, 1890.
[14] RA., f. 139
[15] Ibid., f. 139v.
[16] Ibid., f. 234
[17] Ibid., f. 293.
[18] Ibid., f. 310.
[19] RA., p. 64
[20] Ibid., p. 234.
[21] Ibid., p. 348.
[22] Ibid., p. 414.

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[Thomas Hoffman: see **Bulletin Summer 1978**. Items 3 & 4, **Journals**, Newsletter **News 5 Item 21**.

Foreign Learning of English
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Spelling reform: why & how?
For the last few hundred years, there has been a growing desire to reform the spelling of English, sometimes stronger & sometimes weaker. One reason is that greater portions of the people are expected to be able to read & write, & that the irregularities & conflicting aspects of standard English spelling cause serious problems for children & undoubtedly slow their education. Also, there are slow but unavoidable changes in the pronunciation of any language from generation to generation, so if its writing is based on pronunciation, but does not change, there is an ever increasing disparity between spelling & pronunciation, until eventually 'die dam breaks' & an entirely new system of spelling is adopted.

Many interested people have proposed changes, often specialists of language (e.g. O Jespersen), literature (e.g. G B Shaw), or education (e.g. G Dewey), or merely people who have suffered from the system as it stands. Sometimes the proposals are for radical change, as in Shaw's new alphabet, based on the belief that the dam must break soon. Others propose only minor, but planned, changes hoping that by letting some water over the dam in a controlled fashion **[2]**, we will be able to relieve the pressure slowly, & keep as much continuity as possible in our written language, often fearing a complete break with the past. I will argue here that only this latter way is possible, from the present uses of English as well as from a more modern understanding of what language is & how it changes, with som additional notes on how its changes can be encouraged & guided.

In this last 50 years, English has become effectively the world language, a fact that is beneficial to the whole world as well as to people whose native language is English. However, it means that far more people that ever before devote much time & energy to learning it, with its archaic & haphazard orthography. This is annoying to many native English speaking peoples at least, for its inefficiency as well as its potential for increasing errors in communication. Nevertheless, this international character of modem English places definite limitations on the types of change that ar now possible.

Basic assumption: success as criterion
In any proposal for spelling reform, success is the most critical thing: *a reform without success might as well not hav been proposed*. This can not be said too loudly or too often by anyone who is serious about wanting to actually get som reform. Even a perfect system or merely an ideal reform is only somthing to fill magazine pages or books with unless it has a chance of success. It will only take people's energy & time arguing about it, drawing them away from reforms that would be more likely to succeed, though perhaps less perfect.

For practical people who want to see improvement in our spelling, then, I think they must look first at the chances of success of a reform, & only if it is, conceivable in 10 or 50 or 100 years, will they

bother about how good it is, & whether it can be made better. From this perspective, then, I want to consider what is possible, that is, what has a chance of succeeding, in the present era where English is used in many countries.

Limits
I am convinced that no thoro-going reform of spelling is possible for English at the present, with its present blush of success as *the* world language, & also because many different countries use it as a native language.

Rather, the only hope with any promise of success seems to lie in a series of small reforms that will take root & be adopted by other countries—reforms that make the present system more logical & remove at the same time som of the more confusing aspects of English spelling. Such reforms can be resisted only on the grounds of etymology (which few care about), or simple dislike of change. Yet with every such reform that is successful, i.e. it becomes the new standard & is preferred by most people under 30 years old, then the pressure for further reform, as well as the number of further proposals, will multiply.

Successful reforms
As language is only a convention or agreement, existing in the form it does only because its users agree that it does (& because they do it by habit), a writing system can be modified quite radically if a strong government forces it on a people who ar willing to change. Thus Turkey changed from the Arabic script to a roman alphabet in very few years, as Korea has largely abandoned kanji ('Chinese' characters) in the last few decades in favor of the native script, or Vietnamese not so long ago. Less than radical changes can be effected quickly & easily by authoritarian governments, as in both Russia & China after their revolutions.

Factors that favor systematic reforms can be gleaned from these examples:

1. an authoritarian government
2. a largely illiterate populace
3. a shift of political power away from the literate classes.

These ar not conditions we can expect in English-speaking countries in the near future. It appears, indeed, that *no*where, at *no* time, has a systematic reform of more than 1 or 2 spelling patterns been successful, in any democratic country. **[3]** Obviously we cannot advocate dictatorships for the sake of spelling reform.

Moreover, even if we had dictatorships in the English speaking countries & illiterate populations that could look forward to a change, each country would undoubtedly choose to make different reforms. First, each country has identifiable differences in pronunciation, tho these ar not very significant. However, & 2nd, ther ar strong forces of nationalism that will lead many to want a distinctive brand of writing for their own country, as the US did partly to cut its ties with England & partly to make, more profits for its publishers. Even where overt nationalism & publishers' interests ar absent, it is easy to imagine a general feeling, for example in Australia, that ther is no need to write the way Brits write, if the LTK alone makes a revision. And predictably ther will be a movement in Scotland (as well as other countries), to hav their own distinctive variety.

In contrast to this, Dutch has successfully pursued a series of reforms over many decades, in spite of being a national language in 3 countries (Netherlands, Belgium & South Africa **[4]**), multitudes of dialects, literate people & democratic governments. English, used in many more countries, has successfully reformed the spellings of many individual words (e.g. *show, draft, jail* [Am.]), but few systematic changes like <-our> to <-or> in *colour* &c) because they became associated with

nationalistic feelings. The ‘American spellings’ wer successful in the US because of nationalism, but wer unsuccessful in the rest of the English world for precisely the same reason. The minor differences that resulted hav encouraged som (especially the French) to distinguish the ‘American language’ from the English language.

Because of the forces of nationalism, then, as well as a lack of a single authoritarian government over all the English-speaking nations, many reforms will hav the effect of splitting English into a family of languages, as Latin was split into Spanish, Italian, Portuguese & French. This excludes many reforms (especially for the vowels that ar pronounced differently in different regions, tho <-augh> & <-ough> should go, as well as nearly all thoro-going reforms.

English as the world language

For fear of sabotaging the status of English as the world language (in spite of its atrocious spelling), we must & the people will resist any reform that might not be adopted in both major centers of English, namely the USA & England.

English is the world language today largely because it is the native language of so many people & so much money & so much science. If som extensive reform wer adopted on one side of the Atlantic Ocean that was refused on the other, neither variety would be so predominant over other countries of the world, & scientists in Japan would not be half so likely to publish their work in English, for far less people would read it – they might as well publish in Japanese, far easier for them, & still hav nearly as many people read it. The French & the Russians the same. Today, anyone, in any field, from commerce to politics, to science or sports, who wants to talk to the world, must do it in English. As a result, any world-class action is in English, & all aspiring people must learn English—even the Russian government. We & our children hav an advantage from this, for we don’t hav to learn Russian or Japanese. True, English spelling is difficult, but the whole world is better off if it does not change too rapidly, for it saves everybody the need of learning several foreign languages.

If, on the other hand, ther wer 2 Englishes (as the French continually try to suggest), this whole structure will collapse like a house of cards. They would be 2 languages among many others, & we should hav to return to learning foreign languages (learning our horrible spelling is easier than that). Learning to read the other varieties of English might be easier than learning our present system of spelling, but we should also hav to learn Russian or Spanish or perhaps both, & Japanese for som purposes.

Practical reformers & practical people seem to sense this disadvantage inherent in reforms that might not be acceptable to all the English nations. Altho our present spelling is quite troublesome ther is considerable advantage to the whole world in not changing it too fast or in a way that splits the English nations into 2 or more ways of writing.

When?

If the only reforms that can be successful while English is both very dominant in the world, yet split among many nations, ar small limited reforms, then we cannot hope to see a really rational spelling system in common use in our lifetimes. But we can make a start that will be followed by others if it is successful. My feeling is that altho it is a long journey, & one which may never be finished, we must start, & that means taking a 1st step, as small as it may be.

A note of hope, however. Linguistics has discovered in the last 20 years that altho languages change their pronunciation in simple & systematic ways over hundreds of years, the pronunciation changes 1st in one word, & then in an other, & so on thru the vocabulary, over several lifetimes. Over the centuries, a language changes in a systematic way, but only by changing one word, then

an other, then an other, & so on. Ther ar powerful forces at work here, for nobody guides or pushes these changes, but the people as a mass keep at them until they ar complete. If we fight these forces, we ar bound to lose, but if we can harness them, they will do our work for us.

In fact, all the successful reforms of English spelling hav also been of this nature, word by word **[5]**. Thus we may suspect that the most immediate success would be for small groups of especially difficult spellings to be replaced by systematic spellings.

How?

How to go about it? Because English is a rather democratic language, I once believed that the only way to go was to begin using a reform & encourage others to use it too. Precious little success hav I had, & the same result was obtained for reforms put into practice by the major educator G Dewey (spelling <-ive> as <-iv>), & a major Chicago newspaper (spelling *freight* as *frate* &c). Others hav advocated systematic reforms that touch nearly every word, & som make the language unrecognizable. They hav seldom gained adherents, & it is now more generally accepted that to be successful, a change must maintain the readability of present writing. I would now like to suggest a new, more promising way.

Suppose that a small reform (preferably as a list of 10 or so words, each obviously in need of reform) wer given legal sanction as being equivalent to the present-day standard forms for all laws & government affairs in the US, & that these forms should be used in all governmental documents if & when the British Parliament approves the same list. We can see this (or vice versa, as the case may be) standing a serious chance of success of being approved on both sides of the Atlantic—within 3 or 4 years!

Law is a serious stumbling-block for reform. If ther is no enabling legislation to define the new forms as equivalent to the old ones, lawyers and law-makers must refuse to use a reformed word for fear that som sharp lawyer might argue that it is meaningless in som contract or business agreement, or to hav som other meaning (based for example on som Old English word). Without such legislation, then, a reform cannot be used in business correspondence, on traffic tickets, on road signs, & in short for anything that has financial consequences in daily life. This could condemn a reform to be a toy for personal letters & maybe som literature (especially comic books). Even newspapers might be sued for libel by misconstruing a reformed word! However, enabling legislation of this sort should not be hard to come by; the US has had laws allowing the use of metric measures for many years.

Once a reform is adopted by both the UK & US governments, it will soon be common in all English speaking countries, with the rest of the world following quickly. If a government uses an identifiable style, that alone accounts for much usage, & the organizations that deal with the government will quickly fall into line. With a major government’s adoption, even just legal sanction, dictionaries will begin including it, & if it is used & a good reform, people will fall into its use in private & public communication almost without noticing it. It will indeed be hard to resist.

Recap

Beginning from the position that it is worse than pointless to propose a reform that has no (significant) chance of success, I hav argued that any reform that will divide English into 2 or more camps has little chance of success for that reason alone. And if in spite of such resistance, a reform that split English wer adopted, then English would lose much of its status & use as a world language. We should not only hav to learn the other way(s) of writing English, but also the foreign languages that non-English people would use when they no longer hav English to write in, but must choose between American & British. This will be worse for us, as well as for non-English people, than learning our present atrocious spelling.

Instead, I argue that a short list of reformed spellings for words that ar universally seen as troublesom for everyone (e.g. *laugh, laughter, cough* & the like) should be proposed to parliaments, 1st as legal equivalents, & later as the forms to be used in governmental work, providing that the same list is adopted on both sides of the Atlantic. This will guarantee that English retains its status as the world language, & it matches closely the way that languages change naturally. Being a small change, ther can hardly be an easier pill to swallow, & being both small & well-defined, publishers & writers will find it easy to conform to. Further, it is the only kind of reform that has had notable success in democratic countries yet.

With one small success, the pent-up pressure for reform in English spelling will rise in all English countries, & the march to a better spelling system will hav begun. As much fun as it may be to plan a journey, no trip can begin without taking a 1st step, so I hope that we will be able to compromise on a short list of words that can be reformed similarly in all countries, that all people can be convinced need reforming.

In short, I believe that the time for grand schemes & plans is past, & to get any reform at all, we must settle on a small but realistic plans that will succeed.

NOTES

[1] available from HokuShin, 1-1 Oh-machi, Toyama, Japan 920–30 for 2660 yen or $US 21.30 (or yen equivalent in sterling).

[2] One such moderate reform, DUE or Drop Useless E's, would revise systematically the spellings of all words that end in <e> where the <e> does not indicate the correct (modern) pronunciation, as *are* is not pronounced like *care* but like *car*, & should therfore be spelled as *ar*. In the remainder of this discussion, partly as a demonstration, I apply it to *are*, *were, there, have* & *some*, making *ar, wer, ther, hav* & *som*, as well as adopting the short, informal & phonetic (the so-called 'American') spellings of *though, through* & *thorough*, making *tho, thru* & *thoro* respectively.

[3] Japan might be seen as exceptional, for it reformed its phonetic writing & limited the use of kanji after having lost the Pacific War. Altho it was under US occupation, the occupation authorities apparently stopped encouraging reform after they discovered that illiteracy in Japan was significantly lower than in the US. That is, altho the 1st factor is true, it was more or less irrelevant in this case. More significant was the general feeling of failure of the old ways, & thus the willingness to change. This case might motivate a 4th factor: 'general desire to abandon the old ways'. This was surely contributory to other radical changes, such as in China & Russia after their revolutions.

[4] The South African variety, Afrikaans, is felt by its speakers to be a separate language, & becomes more so when it rejects the reforms in the Netherlands & its Belgian variety, Flemish.

[5] The change of <-ick> to <-ic> might seem to be an exception, but properly speaking, it was only a single suffix that was changed. More technically, we should state this fact as 'morpheme by morpheme'. Thus the British scholars wer replacing <-our> endings (not a suffix) by <-or> until the American rebels did it systematically, & blocked further reform in loyal areas.

See **Journal**, **Newsletter**, **Anthology**, **Bulletin** articles, about G B Shaw.
See **Journal 32**, **Anthology** and **Bulletin** articles, and Essay in **Pamphlet** by Godfrey Dewey.

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[Adam Brown: see **Journals**, **Media**, **Book**]

A Singaporean Corpus of Misspellings: Analysis and Implications

Adam Brown

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Abstract
The purpose of this paper is to present an analysis of a corpus of 1,392 misspellings by 360 fifteen-year-old Singaporeans. This is preceded by a discussion of the many analytical problems involved in such an analysis. In particular, it is noted that phonological explanations of misspelling phenomena have often been overlooked, and that non-native speakers have greater difficulties than native speakers in spelling English, owing to underdifferentiation of the phonological system. Implications for language teaching and spelling reform are discussed.

Introduction
It is a common attitude among native speakers of English that the English language belongs to us. For example, the paradigm of English language teaching has long seemed to be one of 'us' (native speakers) teaching 'our' language to 'them' (non-native speakers). In this way, English language reaching around the world has been likened to the export of any other commodity or service. We native speakers export the language as an income-earner and vehicle for Western culture.

However, in recent years, people's attitudes have changed. The English language is no longer seen as the property of native speakers, but as something which is learnt and used by large numbers of people around the world, and is thus a part of their lives just as much as of ours. It has been estimated (**Strevens, 1982**) that there are around 300 million native speakers of English, but that nowadays these are outnumbered by the more than 375 million non-native speakers. Such estimates must necessarily be approximate, but it is clear that non-native speakers are in the majority.

There are also significant differences in the use made of English in non-native situations. The main distinction is between situations where English is a *second language* (ESL), and those where it is a *foreign* language (EFL). In. ESL situations, English has some official status, e.g. in government, schools, by its use in the media. Fiji, Ghana, Singapore and Uganda are examples of ESL countries. In EFL situations, however, English is generally learnt only for international communication, and its use within the country is small. Most of the nations of the world fall in this category. The United Nations, for example, has 150 members, of which all but 33 are EFL (**Moag, 1982**). (This is a simplified picture of the situation. For example, in some situations, definition of the term *native language* becomes difficult. In Singapore, always referred to as an ESL country, there are many people who speak no language other than English.)

In short then, there are nowadays more non-native speakers of English than native. Problems of English spelling confronting non-native learners ought thus to be investigated in parallel to those of native English children learning the system.

Problems of analysis
Several problems arise in the analysis of misspellings. A distinction must first be drawn between those misspellings which writers consistently make, and those which they only make on isolated occasions. In the first case, the writer either (i) does not know the correct spelling of the word, or (ii) is very unsure between alternative possibilities, or (iii) is convinced that the word is spelt in some way other than its correct form. In the second case, however, the writer does in fact know the correct spelling of the word, but for reasons of inattention, fatigue, pressure of time, etc., on a

particular occasion fails to spell the word correctly; if we draw his attention to the misspelling, he will therefore be able to supply the correct form immediately and without doubt. The former are thus consistent errors of competence, while the latter are momentary errors of performance. The term *slips of the pen* is used for the latter kind (**Hotopf, 1980**), on analogy with the term *slips of the tongue* for the corresponding phenomenon in the spoken medium. There does not seem to be any established term for the former category; I shall use Wing & Baddeley's (1980) term *convention errors.*

However, it is often impossible to distinguish slips from convention errors, given the written material as the only source of data. Since I had no opportunity to check with the writers in the analysis of the corpus in this paper, I do not distinguish between slips and convention errors, but use the term *misspelling* to subsume both.

It is a well known phenomenon in studies of second language acquisition that students will avoid using items which they are not sure of. The same is true in studies of misspellings. **Sterling (1983:355)** points out that a student who is unsure, for example, of the number of <p>s, <n>s and <s>s in the word *happiness* may avoid the problem altogether by substituting the synonym *joy*, which is far simpler to spell. Given the written work as the sole source of data, there is no way of knowing if this has happened. The frequency of errors involving doubled consonants in a corpus where a student has employed such an avoidance strategy will therefore give a false picture of the extent of the problem.

In corpora of misspellings, certain examples may be misspelt in the same incorrect way on more than one occasion. This may be taken as a clear indication that the misspelling is a convention error rather than a slip. However, it is not clear on what principle an analyst should base his calculations. There seem to be three possibilities. He may (i) count the number of different kinds of misspellings in the data, or (ii) count the number of instances of misspellings, or (iii) somehow weight the calculation so that those misspellings which occur more than once are assigned greater importance than those which occur only once. That is, it seems sensible to distinguish between misspelling-*types* and misspelling-*tokens,* although how this may best be taken into account in a calculation of errors is not obvious. It is clear that calculations based solely on misspelling-tokens may lead to biassed statements of tendencies; **Yannakoudakis & Fawthrop (1983a:91)** admit that their figure for errors in 10-letter words (calculated by token) is deceptive, in that one subject misspelt *monitoring* as **monitering* 47 times in their corpus.

For reasons such as the above, too great importance should not be assigned to *quantitative* analyses of the frequency of particular kinds of error in a corpus of data, even though the quantity of such errors contributes greatly to the stigmatisation of poor spellers. *Qualitative* analyses, which concentrate instead on the nature of the errors rather than their relative frequencies, are in many ways more insightful as indications of writers' problems.

The analysis which the investigator performs on the corpus of data may be pitched at different linguistic levels. Various methods of analysis have been used in the literature, the choice of a particular analysis being determined largely by the analyst's purpose.

An analysis at the surface graphological level was used by **Lecours (1966)** in his study of the diary of Lee Harvey Oswald. Four categories are used:

I. Addition	e.g. **serveral (several),*
II. Deletion	e.g. **eldery (elderly),*
III. Substitution	e.g. **mignight (midnight),*
IV. Inversion	e.g. **presenec (presence).*

Nearly all of the few hundred erroneous words found in the diary, several of which contain more than one misspelling (e.g. **foriengress for foreigners),* can be classified under these headings." **(Lecours, 1966:221)**

Since the only conceivable examples which could not be discussed under the above four categories would be grossly incongruous misspellings (e.g. the present corpus **[Siew, 1984]** contains *"slnight for snake),* it is not surprising that these four categories handle virtually all

examples. However, to say that an analytical system is descriptively adequate (i.e. that "nearly all ... erroneous words ... *can* be classified" somehow according to this system) does not necessarily imply that it is at all explanatory (i.e. that it explains the causes of the errors, or that the errors *should* be classified this way). Two cases are sufficient to illustrate this limitation.

Firstly, **Lecours (1966:224)** analyses the misspelling *"scolls* for *scolds* as an example of substitution: 'a letter is erroneously repeated, but ... the faulty doublet takes the place of another component of the involved sequence'. On a purely surface graphological level, this is a descriptively adequate analysis; the <d> is replaced by an <l>, and the preceding letter is also an <l>. However, it fails to capture the seemingly obvious observation that the /d/ of a final /ldz/ consonant cluster is often lost in connected speech **(Temperley, 1983)**. That is, for many speakers the /d/ of a word like *holds* is often elided, making it homophonous with the word *holes.* Such an articulatory analysis may explain the absence of a <d> in *"scolls.*

The second illustration concerns Lecours' examples *"promisis (promises)* and *"expensis (expenses).* These would seem to be clear examples of the same phenomenon, namely the plural suffix being spelt <-is> instead of the correct <-es>. This substitution has a natural explanation, in that this suffix is pronounced /iz/, and the vowel phoneme /ɪ/ is conceptually associated with the grapheme <i>. However, Lecours assigns them different analyses; *"promisis* is called a type I error, since it creates a pair of identical letters (i.e. there is an <i> earlier in the word which is implicitly considered to be an interference factor), whereas *"expensis* is a type II error, destroying a pair of identical letters (i.e. there is an <e> earlier in the word). A surface graphological analysis which ignores such obvious morphophonological explanations is thus restricted in its usefulness, but may be of importance in certain fields, notably in the devising of spelling-checking devices for word-processors (**Yannakoadakis & Fawthrop, 1983b**).

Other writers have used analyses at different levels. **Wing & Baddeley's (1980)** study of university entrance examination scripts investigated, among other factors, the importance of the position of the error within the word, and of the word within the sentence, and of the line within the script. They concluded that errors are most common word-medially, rather than -initially or -finally, and that the position of the word within the sentence and of the line within the script is not statistically significant Levels of general fatigue do not therefore seem to affect the incidence of misspellings.

Sterling's (1983) work includes an analysis of the role of various factors in the spelling of inflected words, among them morphological structure, syllable structure, and other features of phonology. In terms of phonology, he notes (1983:359) that certain errors such as *"probally* and *"samwiches* "are not incorrect spellings of the correct sounds but rather correct spellings of the incorrect sounds" (by "incorrect sounds" is meant that the subject relies on a colloquial or regional pronunciation rather than a more standard or deliberate articulation). This neat formulation of the cause of these errors is not without its problems, however, in that it implies that English orthography corresponds to the correct spellings of the correct sounds. This is patently not the case, as witnessed by the many-to-one and one-to-many relationship between English graphemes and phonemes, and by the fact that English spelling does not represent any particular accent of English better than the rest.

Similar phonological considerations are appealed to by **Ibrahim (1977)** and **G. Abbott (1979)**. However, there is an important difference, namely that these works deal with non-native speakers (writers) of English. When foreigners' problems are under examination, an extra category of misspelling becomes apparent, namely those errors which reflect the writer's phonology of English, which contains interference features from the writer's native language phonology. For example, **Ibrahim (1977:208)** points out that English has two separate phonemes /p/ and /b/ while Arabic has only one (/b/). Misspellings involving substitution of <b> for <p> (e.g. *"Jaban, "bombous*) as well as hypercorrections (e.g. *"compination, "distripution*) are common in his Jordanian corpus. Such misspellings, which one would not expect from native English speakers, occur in addition to those caused by the lack of a close graphemic-phonemic fit in English, which one would expect from native speakers.

Four hypotheses concerning misspellings by non-native speakers were investigated by **Tesdell (1987)**, with groups of Arabic, Chinese, Malay and Spanish speakers attending EFL courses at

Iowa State University. His conclusions are as follows. Firstly, non-native speakers make more errors than native speakers; results ranged from 1.13% word error rate for the Malay speakers to 2.55% for the Arabic speakers, compared with the 1.1% found for native speakers by **Chédru & Geschwind (1972)**. "Second, non-native speakers at this proficiency level make more habitual errors than slips [although no indication is given how the two are distinguished]. Third, there may be no significant difference in error percentage between non-Roman [Arabic and Chinese] and Roman [Malay and Spanish] alphabet language speakers" (**Tesdell, 1987:83**). Finally, **Wing & Baddeley's (1980)** finding that native speaker misspellings occur most frequently word-medially was replicated with these non-native speaker groups.

E. Abbott (1976), following **Haas (1970)**, uses an analytical system pitched entirely at the phonological level. Misspellings are analysed in terms of the graphemic-phonemic correspondence between the correct written form, the RP phonemic transcription of the intended word, and the incorrect written form. Misspellings are then classified according to the relationship between (i) the pronunciation of the intended word and (ii) a plausible pronunciation of the misspelling. For example, the misspellings **cot* and **throt (*for *caught* and *throat)* are analysed as follows:

Correct written form	c	augh	t	th	r	oa	t
RP phonemic	/k	ɔ	t/	/θ	r	ə ʊ	t/
Misspelt form	*c	o	t	*th	r	o	t

Misspellings can thus be categorised as substitutions, omissions, insertions and transpositions of the graphemic representation of phonemes (cf. Lecours' surface graphemic system discussed above). **cot* and **throt* are therefore substitutions of representations of /ɒ/ for /ɔ/ and / ə ʊ/ respectively (assuming pronunciations of /k ɒ t/ and /θ r ɒ t/).

E. Abbott (1976) stresses that the graphemic-phonemic relationships can be used as a system for *classifying* types of misspelling, but that the subsequent *explanation* of the causes of misspellings may be found at other non-phonological levels. One situation where this system leads to counter-intuitive classifications is in examples such as **striper, *liking (stripper, licking).* Since misspellings are categorised by reference to a plausible pronunciation of the misspelt form, these examples are both analysed as substitutions of an /a ɪ/ representation (/ˈstraɪpə, ˈlaɪkɪŋ/) for an /t/ representation (/ˈstrɪpə, ˈlɪkɪŋ/). However, the error has clearly been caused solely at the graphemic level, by failure to double the <p>, and use <ck> instead of <k>, after the short /ɪ/ vowel.

The potential importance of phonological factors in explaining misspellings has been underestimated by some writers. **Lecours (1966:223)** found that 13% of all errors involved purely phonological or lexical factors. However, since his analysis avoids plausible phonological explanations for certain examples (e.g. see **scolls, *promisis, *expensis* discussed above), this figure may be questioned; he calls it "a relatively small proportions, and considers phonological factors to be only "a reinforcing element" (p.237) rather than the root cause of many misspellings.

From the above discussion, it should be clear that there are many possible ways of analysing misspellings, just as there are many different reasons for wanting to analyse them. The investigator should therefore select his analytical system to match his purpose. A surface graphological analysis, although criticised above as failing to be explanatory of the causes of misspellings, nevertheless is appropriate for someone devising an automatic spelling checker. However, any analysis which purports to be explanatory should be pitched at as many levels as are necessary, since spellers' errors do not lie at only one linguistic level. Rather, misspellings "are intimately connected with a number of representations, structures and processes involved in writing and spelling" (**Sterling, 1983:364**).

Even so, it is not always possible to categorise with certainty the cause of a misspelling. **E. Abbott (1976:126)** notes that, in the preliminary analysis of her Ugandan data,
"the following had been classed as spelling errors:
*a *fructured jaw (fractured)*
**tear-gus was used (tear-gas)*

the following as grammatical (morphological) errors:
*they *drunk the water (drank)*
*they *begun buying books (began)*
and the following as lexical errors:
*the car *crushed into the wall (crashed)*
*dressed in *rugs (rags)*

In some cases the substitution of <u> for <a> has 'produced' a form which, although inappropriate in the context, is actually another English word, and in other cases the substitution has produced a 'non-word', but this might be merely fortuitous".

If a speller in the present (**Siew, 1984**) corpus writes **grapped* for *grabbed,* this may be analysed as a case of phoneme confusion (of the sound /p/ and its voiced counterpart /b/), or of grapheme confusion (of the letter-shapes <p> and <b>). Similarly, the example **your* for *yours* may represent a phonological omission of final /z/, or may manifest a grammatical confusion. The misspelling **principle* (for *principao* may be considered a matter of phonology or of lexis. The use of analogy with other observed errors may not always help to disambiguate the cause; further examples of all the above competing causes may be found in the corpus.

The corpus
The present corpus was collected by **Siew Sook Yee (1984)**. It consists of 1,392 misspelling-tokens of 870 types, made by 360 fifteen-year-old Chinese Singaporeans in classwork essays. The corpus has been added to the collection of misspelling corpora compiled by **Mitton (1985)**; it is available in computer-readable form from the Oxford University Computing Service, Text Archive No.643. If we define idiosyncrasies as features which do not clearly correlate with other features of the language-producing process, then the corpus contains much in the way of idiosyncratic data. And, as I have just pointed out above, many examples admit of more than one explanation. The following analysis therefore presents those misspelling types which occur with sufficient regularity for them to be considered as general categories; these are then of use to language teachers, spelling reformers and other language experts.

The occurrence figures given below can be taken as rough indications of the relative importance of the different misspelling categories. It should be clear, though, that misspelt words may contain more than one instance of misspelling. For instance, the example **serouding (surrounding)* in the present corpus contains three errors: (i) wrong graphemic representation of the unstressed schwa vowel, (ii) failure to double the <r>, and (iii) omission (probably phonemic in origin) of <n>.

1. Phonemic conflations
I have elsewhere (**Brown, 1986**, **1988**) described the phonemic system typical of Singaporean English. It is sufficient here to note that many of the phonemic vowel and consonant distinctions of RP and other native accents of English are conflated (technically known as *underdifferentiation).*

In general, consonant phonemes are represented more regularly than vowels in English spelling. For this reason, consonant conflations can be analysed in the data with greater confidence than vowels.

The main consonant conflations are as follows:

*Conflation	tokens/types	Example
/t, d/	12/11	**intented (intended)*
/p, b/	13/9	**blank (plank)*
/f, v/	12/6	**grief (grieve)*
/t, θ/	10/7	**Baltazar (Balthazar)*
/s, z/	18/4	**noice (noise)*
/l, r/	14/7	**breeze (breeze)*
/s, f/	7/7	**finised (finished)*
/m, n/	7/4	**noon (moon)*

The main vowel conflations are as follows:

Conflation	tokens/types	Example
/ɛ, æ/	45/23	**demage (damage)*
/i, ɪ/	27/10	**leaving (living)*
/ɔ, ɒ	9/6	**boll (ball)*
/ʌ, ɒ/	5/4	**botton (button)*
/ɪ, ə/	4/4	**accept (except)*
/æ, ʌ/	4/4	**crashed (crushed)*
/əʊ, u/	3/3	**stoove (stove)*
/əʊ, ɔ/	3/3	**deport (depot)*

With regard to **E. Abbott's (1976)** Ugandan data, **G. Abbott (1979:174)** notes that "the indeterminacy of pronunciation ... is echoed in the results of the analysis by what the researcher calls 'pairing'. Here is one example:

/æ/ for /ʌ/		/ʌ/ for /æ/	
**stamped*	*stumped*	**truck*	*track*
**back*	*buck*	**drugs*	*drags*
**tag*	*tug*	**stump*	*stamp*
**flash*	*flush*	**flushes*	*flashes*
**shaffles*	*shuffles*	**scrumble*	*scramble*
etc. (n=60)		etc. (n=65)	

Not only do the mistakes occur 'in reverse', as it were; but the 'reverse' mistakes actually tend to balance the others numerically".

Similar 'pairing' is found in the Singaporean data.

/æ/ for /ɛ/		/ɛ/ for /æ/	
**man*	*men*	**men*	*man*
**back*	*peck*	**beg*	*pack*
**massy*	*messy*	**stepped*	*tapped*
etc. (n=28)		etc. (n=17)	
/i/ for /ɪ/		/ɪ/ for /i/	
**these*	*this*	**this*	*these*
**seat*	*sit*	**sits*	*seats*
**leaving*	*living*	**linking*	*leaking*
etc. (n=20)		etc.(n=7)	

So, if a Singaporean does not distinguish /i/ and /ɪ/ as in *seat* and *sit,* then these two words are in effect homophones for that speaker, and he cannot use any phonological basis for deciding on the correct spelling for the intended word. Instead, the two spellings must be learnt individually by rote on the basis of semantic and syntactic features.

2. Homophones

While on the subject of homophones, we may note that these are a problem for non-native speakers (as indeed for natives). The Singaporean corpus contains 40 occurrences of 13 types, including **strait (straight), *weather (whether), *principle (principal), *here (hear) and *soul (sole).*

3. Suffixes

It is appropriate, when discussing omission and insertion of consonant graphemes/phonemes, to treat the English suffix morphemes as a separate category. The English inflectional suffixes for past tense/past participle, and plurals/3rd person singular present tense verbs/possessives account for the majority of (although not, of course, all) cases of omission/insertion of word-final /t, d, s, z/. Morphemic and non-morphemic examples are given below:

	Omission token/types	*Examples*	Insertion token/types	*Examples*
/t/	51/19	**differen* **loss*	36/28	**felt (fell)* **influenced (influence [noun])*
/d/	15/8	**fine (find)* **simile (smiled)*	25/25	**childrend* **replied (reply [noun])*
/ɪd/	2/2	**crowed (crowded)*	8/6	**importanted (important)*
/s/	14/6	**strait (straits)* **respon (response)*	8/8	**sports (spot)* **sicks (sick)*
/z/	48/15	**other (others)* **alway (always)*	19/13	**others (other)* **expensives (expensive)*
/ɪz/	1/1	**banded (bandages)*	2/2	**difficulties (difficult)*

4. Other consonantal omissions & insertions
Of all the other consonant phonemes of English, the problems created by three (/l, r, n/) far outweigh all the others.

/l/ and /r/ were often substituted for each other, as seen in section 1 above. This confusion is a common feature of Chinese learners of low proficiency. These two phonemes were also often omitted and inserted:

Omitted Word-modially tokens/types: /l/ 10/10 /r/ 13/12
*/l/*softy (softly) /r/*childen (children)*
Word-finally tokens/types: /l/ 8/6 /r/ -
*/l/*cancer (cancel)*
Inserted Word-medially tokens/types: /l/ 15/12 /r/ 33/6
*/l/*accordling (according) *elephrant (elephant)*
Word-finally tokens/types: /l/ 7/6 /r/ -
*/l/*ful (fur)*

No examples are given for word-final /r/ since Singaporean English, Re RP, is non-rhotic, i.e. syllable-finally /r/ is not pronounced in words like *quarter.* Altogether, there are 76 tokens of 61 types where <r> is inserted or omitted in potentially rhotic position, e.g. **surpport (support), *suprised (surprised), *merlingerer (malingerer), *Mecedes (Mercedes) *humoursexual (homosexual), *hazad (hazard).*

Instances where <l> and <r> are involved, either as phonemic /l, r/ or graphemic <l, r> (or both), and whether as part of a substitution, transposition, omission or insertion, total 90 tokens of 65 types for <l>, and 193 tokens of 130 types for *<r>.*

Misspellings involving <n> (indeed all 3 nasals /m, n, ŋ/) were also very common.

Omitted
Word-medially tokens/types: /m/ /1/1, /n/ 24/19, /ŋ/ 2/2
**remeber (remember),*covert (convert),*back (bank)*
Word-finally tokens/types: /m/ 1/1, /n/ 3/3, /ŋ/ -
**for (form) *garder (garden)*
Inserted
Word-medially tokens/types: /m/ -, /n/ 16/11, /ŋ/ 1/1
**throwning (throwing) *linking (leaking)*
Word-finally tokens/types: /m/ -, /n/ 3/2, /ŋ/ -
**own (owe)*

The grand total of cases involving graphemic/phonemic <m, n> in any capacity was 23 tokens of 18 types for <m>, and 129 tokens of 90 types for <n> (including 12 tokens of 9 types where <n> represented /ŋ/).

An interesting parallel is seen with a specific spelling problem of native speakers discovered in some adults attending literacy courses, some schoolchildren and three neurological patients by Marcel (1980). "It concerns liquids (/l/ and /r/) when preceded in initial consonant clusters by a stop, and liquids and nasals (/m/ and /n/) when followed by a stop or fricative in terminal consonant clusters" (**Marcel, 1980:376**). Omissions, insertions and transpositions involving these consonants are taken to be caused by difficulties in phonetic segmentation, since it has been argued "that the consonant further from the vowel in 2-consonant clusters is the basic one and the one nearer the vowel is the affix" (1980:395–6). That is, the /n/ of *men* is more basic (and therefore more obviously present to the speaker/listener) than that of *meant* or *mend* (similarly the /l/ *of coal* vs. *colt, cold).*

A further complication is added, in that many Singaporeans do not pronounce syllable-final /l/ as a voiced alveolar lateral (**Brown, 1986**, and **forthcoming**). Instead, one of three things may happen:

(i) The alveolar tongue contact is lost, leaving a vocalic articulation of the [ ] type.

(ii) Where this follows a back vowel such as [ɔ, o, ʊ, u] the vocalic articulation may be absorbed by the vowel, giving rise to misspellings such as **aways (always), *pour (pool)* and hypercorrections like **all (or), *scole (score), *wool* (*woo*).

(iii) The articulation may be dropped following other vowels, leading to omissions as in **chid (child), *weath (wealth),* and unnecessary insertions such as **oval (over), *fomel (former).*

Mention should also be made in this section of the widespread use in Singaporean English of the glottal stop as a replacement for syllable-final /p, b, t, d, k, g/ and rarely /tʃ, dʒ/. Since the glotal stop is not a phoneme of English, and therefore has no regular written representation, confusion will arise in Singaporean spelling of final stops and affricates. The glottal stop is a plausible contributory factor in many of the examples of /p, b; t, d; k, g/ conflation, e.g. **jumb (jump), *graid (great), *beg (pack),* as well as numerous others, e.g. **acept (accept), *suceed (succeed), *pinic (picnic), *basis (basics), *destrution (destruction), *bombarment (bombardment), *din't (didn't), *part (park), *blandly (blankly), *breadfast (breakfast), as* well as possibly **speech (speed), *snapped (snatched).*

5. Glides
Several misspellings involved glides. Certain variation is possible in the phonological interpretation of these examples. I will treat them in 3 categories.

The majority of glide misspellings involved the palatal glide transcribable as /i, ɪ, j/. In this category are included /ju/ examples such as **continised (continued), *unsual (usual), *suitation (situation), *humulate (humiliate).* There were 35 tokens of 32 types in this category. Most involved omission of the glide, e.g. **curosity (curiosity), *victorous (victorious), *testmimonal (testimonial), *strenous (strenuous), *unniversity (university),* although some involved insertion, e.g. **toliet (toilet), *disadventiage (disadvantage).*

(ii) As a sub-category of the above phenomenon, 15 tokens of 12 types involved palatalisation, i.e. the process whereby palalo-alveolar consonants /ʃ, ʒ, tʃ, dʒ/ are created, usually from historical sequences of alveolar consonants /s, z, t, d/ plus /i, ɪ, j/. For many words, the two pronunciations are alternatives, the sequence being considered perhaps more precise or archaic, e.g. *Christian* /krs ɪtjən — krɪ stʃən/. All but 2 of these examples involved deletion of the palatisation element, e.g. **christain/*christan (Christian), *efficently (efficiently), *Venetain (Venetian), *compassinate (compassionate), *solider (soldier).* The 2 examples of insertion of palatalisation were **prision (prison) and *sprange (sprang).* Some of the above examples could be analysed simply as graphemic transpositions my point is that the effect of this is to destroy the phonological palatalisation element.

(iii) The final category involves the velar glide transcribable as /u, ʊ, w/. There were only 5 tokens of 5 types, mostly involving the word *language* as the target or as the interfering factor, e.g. **langesage (language), *languges (languages), *laguage (luggage).*

6. Syllable structure
a) Stressed vowel omission
In a number of misspellings (16 tokens of 14 types), a (primarily or secondarily) stressed vowel was omitted. This was surprising, since stressed vowels are thought to play an important part in the way words are stored and retrieved from a speaker's memory. Certain of these errors can be explained in that stress is sometimes placed differently in Singaporean English from RP, e.g. **devloping (developing),*exmination (examination), *graunto (guarantor),* where, the stress is shifted or given far less prominence than in RP.

Other examples cannot be explained in this way, though: **alrm (alarm), *aplogise (apologise), *avarcious avaricious), *brigde (brigade), *reprimded (reprimanded), *scond (second), *very (every).*

b) Unstressed vowels
A larger number of examples involved misspelling of unstressed vowels. One would expect this, because the commonest unstressed vowel, schwa, may be represented by a wide variety of graphemes. Such errors are also common, therefore, among native speakers.

57 tokens of 40 types contained a substitution of the wrong vowel grapheme, e.g. **appearence, *referance, *passangers, *pleasently, *handsame, *scenary, *discribed, *inspecter, *oppurtunity, *buffolo, *envolope* (noun).

18 tokens of 14 types omitted the unstressed vowel grapheme. In many cases, this occurred where the unstressed vowel might well be lost (elided) in fluent connected speech; the misspelling thus represented an acute observation on the actual pronunciation of the word, e.g. *beautful, *displine, *monastry, *opptunity, *restraunt, *sevral. However, not all cases can be explained in this way, e.g. *civilzation, *everwhere, *interst, *vist (visit).

19 tokens of 7 types contained an <l> which, as a consequence of the above omission of an unstressed vowel grapheme, might be considered to have become syllabic. For example, *buffaloes* is misspelt as *buffloes. On analogy with *shuffling,* which may be thought of as containing 2 or 3 syllables, a 3-syllable interpretation of *buffloes* is still possible. Further examples include *accidently, *happly and *luckly.

In total, a whole syllable (stressed or unstressed) was omitted in 56 tokens of 37 types. That is, a plausible pronunciation of the misspellings contained fewer syllables than the target word.

7. Doubled consonant graphemes
The graphemic phenomenon of doubling consonants is a well-known difficulty for native speakers. It is thus not unexpected that the present corpus from Singaporean writers also contained many such errors. In 85 tokens of 40 types, a doubled consonant was made single. Many of these involved failure to double with suffixes, e.g. *begining, *grabed, *unforgetable, *normaly, while others involved different structures, e.g. *asuming, *atitudes, *corupt, *embarasing, *inteligent, *rabit.

An unnecessary doubling of consonants was found in 50 tokens of 34 types. Most involved suffixation, e.g. *arrangging, *hangged, *listenning, *bidding, *writting, *morallity. Others included *appologise, *banannal *bannana and *fillial.

5 tokens in this category were misspellings of the word *cigarette,* as *cigerrette, *ciggarette* and *ciggerette.

8. Silent <e>
A graphemic phenomenon of similar notoriety is the silent <e>. Examples in the present corpus were common. In 60 tokens of 35 types, the <e> was omitted. Most of these occurred in situations where the <e> performs an easily specifiable role, e.g. *amusment, *arrangment, *cloths (clothes), *extremly, *practic, *prepard, *reptils, *sincerly. For others, the role of the <e> is not so clear, e.g. *advertisment, *heros, *mor, *unfortunatly.

Hypercorrection by unnecessarily inserting an <e>, occurred in 14 tokens of 10 types. In 3 types, this constituted failure to delete the <e> in appropriate circumstances — **arguement*, *changeing,* **rescueing*. Other examples included **punishement*, **slowely* and **stomaches*.

Observations and proposals
Of the above 8 categories of major causes of misspellings by Singaporeans, a reasonably clear line can be drawn between those problems which are caused by anomalies inherent in the English spelling system, and those relating to features specific to Singaporean pronunciation. The former kind are therefore to be found in the spelling of native as well as non-native speakers, whereas the latter category will be unique to Singaporeans.

Problems inherent in the writing system clearly include consonant doubling and silent <e> (which are in fact often related phenomena, both dealing with the graphemic representation of long vs.

short vowels). These should therefore be a major concern of any reformed spelling proposal. In the present corpus, far more mistakes are made by making double consonants single and omitting the silent <e> than by hypercorrections of these; this would therefore seem to be the preferable solution (as in *Cut Speling).*

A writing system with a perfect one-to-one correspondence between graphemes and phonemes would contain no homophones or homographs, although it might have total homonyms (where both spelling and pronunciation were the same). The existence of homophones and homographs may be taken to indicate the extent of this lack of fit, and they are therefore a source of misspellings for native and non-native speakers alike.

The difficulties associated with /l, r, m, n, ŋ/ may originate in higher-level language processes, and relate to difficulties in phonetic segmentation. Indeed, **Marcel (1980)** raises doubts about the traditional view of phonemic-graphemic representation, i.e. that speech is composed of basic phonemic units, of which speakers are consciously aware, and that spelling corresponds to the graphemic representation of these phonemes. Rather, it is much more of a 'chicken and egg' situation: "although the alphabet is the most efficient way of reading and writing, [it has been suggested] that it has been invented only once in all history. This would imply that the representation of speech on which it relies (the phoneme) is rather unnatural. In whatever way the alphabet was first invented, it is possible that for each learner today, the concept of the phoneme (tacit if not explicit) comes from rather than leads to the particular alphabetic system, with which he or she is confronted" (**Marcel, 1980:401–2**).

The remaining four categories of misspelling are specific to Singaporean speakers. Suffixation is a widespread problem but may be thought of as a grammatical (morphological) phenomenon as much as a phonological one. In the corpus there were 46 tokens of 23 types of omission/insertion of the <-s> suffix, and 79 tokens of 54 types for <-ed>. 19 tokens of 18 types involved other affixes, all but one (*unconsiderate [inconsiderate])* being suffixes.

Nevertheless, in certain examples, similar confusion in spelling may be found among native speakers, owing to the process of elision, as when syllable-final /d/ is commonly elided in native speech where it is surrounded by other consonants, which may lead to confusion over morphology (and thus spelling) of certain phrases. For instance, should one talk about a *one-arm bandit* or a *one-armed bandit?* The comparison between native and non-native confusions cannot be drawn too far, though, since suffix-dropping is far more extensive for non-native speakers than the limited native possibilities just mentioned.

The importance of stress and other suprasegmental features (rhythm, intonation, voice quality) is increasingly being emphasised by English language teachers. The stress system of English is viewed as the basic framework of the spoken form of the language, within the bounds of which the individual segmental vowel and consonant articulations are performed; it plays a major role in the achievement of sounding like an English speaker. The surprisingly large number of misspellings relating to stressed vowels shows that stress commands far less importance in Singaporean English than it does for native accents.

At segmental level, teachers of Singaporeans should pay particular attention to the following features of Singaporean pronunciation (roughly in descending order of importance):

1. /e, æ/
2. /i, ɪ/
3. The voiced/voiceless distinction, in particular /t, d; p, b; f, v; s, z/, and the widespread use of the glottal stop
4. Glides, including palatalisation
5. All nasals
6. /l, r/
7. /t, θ)/
8. /ɔ, ɒ)/

Christopher Upward has pointed out (personal communication) that "one might conclude that no reformed English orthography can cater for interference from other languages, but that reforms designed specifically for native speakers will also benefit foreign learners. Therefore, there is no point in taking the needs of specific foreign learners into account' [in any spelling reform].

The above proposals for Singaporeans are based on analysis of the corpus of misspellings, and therefore are directly relevant to minimising problems of spelling. They should also improve the intelligibility of spoken communication. The two media cannot, of course, be divorced for foreign learners but, whereas language teachers are usually quick to rectify misspellings, they often allow unacceptably large variation in students' pronunciation to go uncorrected. Following **G. Abbott (1979:175)**, we might therefore conclude that "an 'adequate' pronunciation is one which facilitates accurate spelling".

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[Simplified Spelling Society, Journal 7, 1988/1 p17 in the printed version]
[David Stark: see **Journals**, **Newsletters**]

Defining a Literary Phonetic Standard for World English

David Stark

David Stark is an architect who has been grappling with the design problems of English orthography over the last ten years, since he started tutoring adult illiterates. The following is a summary of the paper he presented at the Simplified Spelling Society's Fifth International Conference in July 1987. The ideas it contains were also discussed in previous issues of the Society's *Newsletter,* subsequently Journal.

In the history of spelling reform, it has usually been assumed that spoken language is the base from which regular spellings are formed. Perhaps this is to be expected when so many spelling reformers have been scholars of phonetics, and no conference on spelling reform would be the same if it were not for the moments when discussion is diverted to argue the 'correct' pronunciation of a word.

The premise of my series of articles for the *Journal* and my address at Conference was that the written word is the basis of alphabetic orthography in a multi-dialect language, and not the spoken word. The latter is too variable and indefinable for most people for it to be used as any more than a rough guide to the 'approved' pronunciations which can be used for spelling.

For example, if we decide RP should be the reference dialect, how do we know who speaks it? the Queen? Frank Bough? all middle-class people brought up in SE England? Even if we could define it, how can we ensure that it is familiar to every person throughout the world who wishes to read and write English? If the standard pronunciation is based on one dialect, how do we counter the resentment felt by adherents of other dialects to the increased importance of the one chosen?

In any major language with an alphabetic orthography, the written word, which is available to all who wish to read and write, is the starting point. From this, hopefully with the aid of regular alphabetic rules, a spelling pronunciation can be defined. I call this the Standardised Spelling Pronunciation or SSP. The SSP is learned, and with the alphabetic rules, converted back into written form when required. Any help from one's one knowledge of the spoken word, where this may happen to coincide with a part or the whole of the SSP, will be regarded as a bonus in helping one to remember the SSP.

The SSP's used for spelling are frozen abstracts and not living speech. They form a literary standard which cannot be a mere transcription of dialect. Phonetic experts must realise that budding literates will not analyse word pronunciations in the same way that they do. An ordinary person will know that there are 26 letters in the alphabet but will have no idea how many phonemes there are in his dialect.

The unstressed vowel schwa will not exist for most people as there is no letter to represent it. A phonetic expert would analyse the word *Sanfrancisco* as having at least two unstressed or schwa vowels. However, a speller will need to split a long word like this into manageable units (usually syllables) in order to process it. If he has heard Frank Sinatra sing that he has left his heart in

San/fran/cis/co, he will have no problem spelling the vowels in the word. Taken syllable by syllable, all vowels are stressed.

The scholar eager to learn to spell will not bother if many words indicate an SSP which does not accord with a familiar spoken pronunciation. An extreme example is the word *meringue* which can easily be learned by remembering the SSP /meringyoo/. However, this aspect is more important to a spelling reformer, who, wishing to keep the revised spelling of a word like *tune* as close as possible to the t.o. spelling, can safely suggest an increasingly obsolescent pronunciation as the SSP, rather than re-spell the word as <choon>.

If English existed in only one small geographical area with a relatively homogeneous dialect community, the SSP's could be designed to relate, more or less, to well known spoken pronunciations. Unless we accept that different spellings are possible for different parts of the English-speaking world, the spelling reformer will find it impossible to match the SSP's and the spoken word for more than a minority of English literates.

However, if we adopt a 'loose fit' strategy in the rules which form SSP'S, we can introduce some leeway into the relationship between SSP's and familiar pronunciations. If in these rules we adopt a minimalist approach in the number of phoneme contrasts we recognise, we can match SSP's to more dialects.

For example, the vowels in the words *lass* and *pass* are different in RP. The sound split from a previously single vowel did not occur in General American or in many other dialects. In some dialects, where the split has occurred, it has taken place in different ways to RP. Many Australians use the shorter vowel whenever /n/ or /m/ follows. Other Australians, West Indians, New Zealanders and South Africans always use the longer vowel. Scottish and Northern Irish accents always use the shorter one. If one grapheme were given to both phonemes, the relevant SSP's would be less dialect-specific, and more people would get more help from their own accent in memorising the SSP's.

There are several, potentially confusing pairs of phonemes which can get the same treatment. However, we will be limited in this by considering the number and importance of the minimal pairs involved. These are pairs of words in which the particular phoneme contrast is the only difference between them. If there are only a few minimal pairs like *aunt/ant* the possible confusion between such words when they are spelled the same will be no greater than when we spell homophonic pairs identically in a revised spelling system.

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The Initial Teaching Alphabet: Proven Efficiency and Future Prospects

Ronald A Threadgall

Ronald Threadgall is General Secretary of the United Kingdom i.t.a. Federation, Editor of the Federation's Newsletter, and former Head of the Remedial Department at Clacton County High School, Essex.

Few Spelling Reformers can be unaware of the Initial Teaching Alphabet, and some will have used it and enjoyed doing so. Essentially it is a phonetic alphabet consisting of 44 letters to represent the 40+ sounds of English, so that spelling is consistent. It is not intended to replace our traditional orthography, but to be used as an initial learning medium so that reading and writing can be more easily learnt.

It began with Sir Isaac Pitman. Shorthand, up to his time, had been based on the written word, but his shorthand was based on the sounds of the language, and we know how successful that idea was. Sir James Pitman had a very close relationship with his grandfather, and took a great interest in his work. It was from this beginning that he developed i.t.a. After working with Bernard Shaw and others on a new alphabet, he felt that, laudable as this was, a new alphabet was not a viable proposition, and that even a simplified spelling structure was not likely to commend itself in the foreseeable future. He therefore invented i.t.a. to help people learn to read.

I stress that i.t.a. is not a method for the teaching of reading and writing, but an initial learning medium. There are many ways of using it. Among our National Committee members there are at least four very different ways in which it is used. One of its strengths is that it is flexible and can be adapted to all kinds of circumstances.

From 1961 it was used experimentally in Oldham and other places, under the auspices of the University of London. The last President of the Simplified Spelling Society, the late John Downing, was heavily involved at this stage and produced the Downing Readers which are still widely used today. All the schools taking part were infant schools, and there it had immediate success. It was very well researched, involving such people as Vera Southgate, John Blackie and Donald Sadler.

Considerable advantages were soon noticed. The beginning stages of reading were completed much faster, and children very quickly took to writing. Because reading was easier in this medium, the children read much more, thereby gaining a greater facility for it and a greater enjoyment from it. Much, and much better, creative writing flowed from their pens. I meet a number of people who know little about i.t.a. but are aware of this fact. Just as the children 'enjoyed their reading and writing, and such enjoyment is a great spur to learning, so the teachers

gained enjoyment from the teaching. No longer was there the eternal queue of children at the teacher's desk to ask "Miss, how do you spell ... ?". The teacher was now free to go among the children and help with style and vocabulary and ideas. There was also no waste of time on the children's part, less opportunity for fooling about, and no break in their concentration.

There was limited use with older children, with adults, in the army, and in prisons; but the full potential of i.t.a. in these situations was not fully realised, as infant material was used, and even material specially written was very dull. It was not fully grasped that with i.t.a. the repetition of words was not necessary, nor did vocabulary need to be restricted.

I began using i.t.a. in 1965. 1 was involved in Remedial Education, and was not satisfied with what I was achieving. I was not happy while there was one child who was illiterate or even semi-literate. I came across i.t.a. and thought it might be some answer to the problem. After a course by Peter Daffyn, and some time in making myself proficient in this new medium as well as working out how I could use it in my rather different situation, I experimented by teaching one class with i.t.a. and another parallel one with T.O. It was soon clear to anyone that the i.t.a. class was romping ahead of the other. We found it to be just as successful in a multi-ability situation as in a streamed set-up. At last one could abandon the 'cat sat on the mat' type of literature, and give these older children material within their interests and vocabulary. You can read the account of all this in the leaflet "Sir's Magic Alphabet".

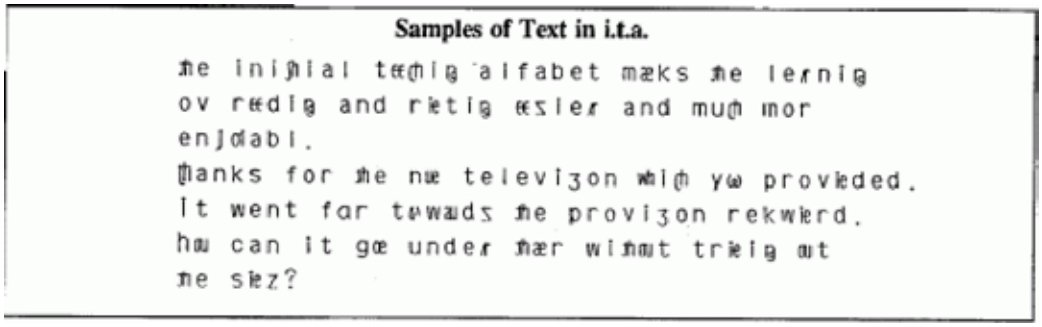
One of the great benefits of i.t.a. for older children was the speed at which they learnt to read. In six months to a year they were all proficient at reading and writing in T.O., and could keep up with their peers, instead of drifting further and further behind as previously was the case, because their reading and writing no longer held them back, as all the difficult or special subject words could easily be written in i.t.a. Discipline rapidly improved because the children were now too busy to misbehave.

Why is it then that i.t.a. seems to have failed? Firstly, I think, it was too successful at the beginning. The news of its success escaped from the experimental situation, and many teachers and educational authorities grabbed at it as the panacea for all ills, and without adequate training and preparation dived in. I.t.a. is a tool and as such needs careful and skilful handling. Giving someone a chisel without any directive as to how to use it could produce very poor work and would probably be very dangerous.

A Foundation had been set up to foster the work of i.t.a. During the 1970s this foundered for lack of funds and other reasons, so there was a lack of support for teachers and schools. Some were unaware of the range of materials available. Also the bad ideas about teaching reading re-surfaced in new guises, and i.t.a. was considered to be out-dated. 'New' ideas took over, promulgated by H.M.I.s and advisers who were wholly ignorant of i.t.a. and what it had achieved.

The United Kingdom Initial Teaching Alphabet Federation was formed in 1978 by teachers who were using i.t.a., for the support of schools using this medium and for the promotion of further use of it. It has gradually taken over the functions of the Foundation in this country. It gives advice and help to schools, teachers, parents and students; provides books and other materials, training courses and an annual conference, as well as advertising and generally promoting the use of i.t.a.

We are not just propping a system up. We are looking ahead and working hard for the future. We are working for the time when the efficacy of i.t.a. will be widely recognized, and our skills be more in demand.



Samples of Text in i.t.a.

ðe iniʃial teɵiŋ alfabet mæks ðe lerniŋ
ov reɵiŋ and riting ezier and muɵ mor
enjʊabl.
ðanks for ðe nue televiʒon whiɵ yu provided.
It went far towards ðe proviʒon rekwierd.
hu can it gœ under ðær without triŋ out
ðe siz?

We have recently produced a pre-reading phonic kit, which has awakened considerable interest. We have produced, and are continuing to produce, materials with older vocabulary and interest levels for older children and adults. We have produced a literacy pack for adults with cassette tapes, and we are about to revise that. We are making contacts with parliament and politicians. We have recently made a submission to the Kingman Committee. We are involved in teacher training, both in courses we run ourselves and in lectures and courses run in teacher training establishments. We are becoming more involved in adult education, and are endeavouring to get i.t.a. used in prisons again. We are beginning an experiment in the use of i.t.a. to help parents to teach their children to read before they go to school. Our Annual Conference brings many people together to discuss and consider literacy in its many aspects. In all we are doing much to combat illiteracy.

Its strength lies in its sound educational basis. In every subject except English one begins with what is simple and moves to the complications later. One does not start teaching mathematics with logarithms! I.t.a. begins in a simple phonetic way, and when confidence and facility have been gained it moves on to the complications of our orthography. In a remedial situation it provides a real new start, and this has a great psychological effect, raising confidence in all directions. The great thing is that it engenders an interest and enjoyment in reading and writing that continues beyond school. This does not show up in research, but I find that those taught by i.t.a. go on enjoying their reading and writing and thus gaining greater proficiency while many taught using T.O. give up using such skills and so they atrophy. Another strength is its adaptability to all kinds of uses and situations, such as learning English as a second language, and the learning of foreign languages. It could even adapt to Cut Spelling!

Further Reading

John Blackie & Donald Sadler *i.t.a.: An independent Evaluation*
John Downing *The Initial Teaching Alphabet Explained and Illustrated*
O M Gayford *i.t.a. in Primary Education*
Maurice Harrison *Teaching Reading — An i.t.a. Approach*
Sir James Pitman *Alphabets and Reading*

[Simplified Spelling Society, Journal 8, 1988/2 pp5–10 in the printed version]

Conventionality and Efficiency in Written English: the Hyphen

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Patrick Hanks is Chief Editor of Collins English Dictionaries and a Research Fellow in the University of Birmingham. He edited *Collins English Dictionary* (1979) and is managing editor of the *Collins Cobuild English Language Dictionary* (1987). The Cobuild Project is a research project in the University of Birmingham in which 18 million words of contemporary English have been analysed for a learners' dictionary. Current work includes preparation of an English grammar on the basis of this data and designing computational tools for linguistic analysis.

This article is based on a paper given at the Society's Fifth International Conference held in July 1987.

Abstract
To start with, the notion of the convention in written forms is examined, and some examples are given of variations and inconsistencies that occur in traditional orthography. Conventions of spelling are contrasted with the relative freedom of punctuation in British English. The hyphen is taken as an example of inconsistency in written forms. It is argued that inconsistencies, in the form of competing conventions, lead to inefficiencies, and competing conventions in the use of the hyphen are an extreme example of this.

Use of the hyphen in English contrasts with spelling, in that the rules for its use are *not* clearly conventionalized. This in itself is a source of inefficiency. Evidence will be given of the major current inconsistencies in the use of hyphens and some resulting inefficiencies.

A few simple rules for standardizing the use of hyphens in English could be associated with proposals for simplifying spelling, leading to greater communicative efficiency.

Conventionality and Spelling
The title of this paper is 'Conventionality and Efficiency', but it might well have been 'A Case Study in Orthographic Inefficiency', since it is the orthographic inefficiency of English punctuation, and in particular of the use of such marks as the hyphen, to which I wish to draw your attention.

I would like to start with a brief discussion of conventionality, using examples from English orthography by way of illustrative material. I shall then go on to contrast the state of conventionality in English orthography with the state of conventionality in English punctuation.

In British English in particular, we have a situation in which orthography is highly conventionalized. Whatever we may think of the queer old conventions of English spelling, one can at least say that there is a wide measure of agreement as to what they are. It is important to draw a distinction between a situation in which conventions exist, even though individual members of the community may not know them, and a situation in which conventions do not exist at all, or are so little known that they might as well not exist. I think the latter situation is more fertile soil for reform than the former.

To the extent that conventions exist at all, they can lay claim to a modicum of efficiency, however weak their foundations in logic or their connections with other modes, such as phonology, may be. Members of the Simplified Spelling Society will surely have considered the potential difficulties of a situation in which different segments of the writing and publishing community are aspiring to different conventions.

In modern English, published texts such as books and newspapers do not, as a general rule, cause their readers to spend time puzzling over a written form and wondering what word might be represented. Book and newspaper publishers employ copyeditors and proofreaders who have the specific duty, inter alia, of ensuring that the conventions are adhered to. In less formal situations, too, users of written English have ways of agreeing among themselves what the conventional spellings are, and of ironing out disagreements in such a way as to preserve the convention rather than allowing the continued co-existence of more than one orthographic form.

To take a more or less random example, there is widespread agreement that the conventional spelling of *consensus* is with the three <s>s and one <c>, rather than with two of each. However, many people outside the world of printed and published texts spell the word with two <c>s. In my experience, when users of the spelling *concensus,* with two <c>s, discover that their practice is at odds with that of other members of the English-writing world, and that the others are supported by weighty tomes such as dictionaries, they surrender. They do not continue to insist that their form is as good as or better than the other one (as well they might); instead they fall meekly into line, confessing the error of their ways. That is, they themselves will agree that the spelling they have used is erroneous. How is this decided? The appeal to the authority of a dictionary is usually taken as sufficient to clinch the matter, even though most respectable lexicographers devote quite a lot of energy to disclaiming any authoritarian status. Within the dictionary, the etymology is often consulted and is regarded as a source of evidence for correctness. The fact that *consensus* is derived from *sentire* 'to feel' is regarded as conclusive evidence in favour of the 3-<s> spelling. However, the appeal to etymology is not in fact sufficient evidence by itself of conventionality in matter of spelling. The <-ant> ending of the noun *descendant,* for example, is etymologically indefensible, although it is undeniably conventional. Latinists will be able to think of many other examples. I do not know whether, etymologically speaking, the word *address* should have one <d> or two <d>s, but English has two and French has one: surely they can't both rely on the appeal to etymology to support their different conventions? At moments like these anyone can sympathize with those who feel exasperation with the discrepancies in the conventions.

Here, of course, I am preaching to the converted. Spelling reformers have long been pointing out the discrepancies in English spelling conventions; my purpose in mentioning them is merely to draw your attention to the distinction between discrepancies in established conventions on the one hand and discrepancies in practice, where no strong conventions exist, on the other.

Are there any examples in English of genuine discrepancies of belief and practice as to what the spelling convention actually is?

There are several, of course. The most striking is the more or less free choice in British English between <-ize> and <-ise> spellings for verbs such as *conventionalize. The* form <-ise> is not in common use in American English, and there is a belief among some British users of <-ise> that <-ize> is American. This is in line with the general British belief that any unfamiliar bit of language must be American. In fact, of course, there is plenty of evidence that <-ize> is in conventional use in British English.

This particular case of competing conventions is irritating, time-wasting, and costly for publishers. In dictionaries, it can also be very costly in terms of precious space. In the case of the Cobuild dictionary, for example, the first drafts of the explanations were written freely in the researchers' own preferred spellings. Time and effort then had to be expended on normalizing all uses of <-ise> to the <-ize> that eventually came to be preferred. In the case of dictionaries, of course, there is a need to practise what one preaches: since one or other form must be entered first in the dictionary

and be the main entry, the assumption arises among users that the form carrying the main entry is the preferred form for some principled reason.

I am not sure why it is considered undesirable to have free variation within the same book, but consistency in such matters seems to matter to many people, especially publishers and reviewers. Perhaps there is a fear that some distinction will be perceived where none is intended. Support for this hypothesis can be gleaned from the case of *program(me),* where, in British English, the <mme> spelling has become specialized for programmes of music and broadcasting, while the single <-m> spelling has become specialized for computing uses. I leave you to ponder the confusion that has resulted in inflected forms of the verb: just how many <m>s do you use in *program(m)ed* and *program(m)ing,* and do you associate a distinction in meaning with a distinction in spelling here too? As far as I can see, the trend in British English, which is towards doubling the <m> in all cases, is matched by a trend in the opposite direction in American English. However, the evidence is by no means clear.

Regional differences can, of course, provide many examples of coexisting conventions in spelling: British *colour* vs. American *color,* and so on. But regional differences are not competing conventions in the sense under discussion here; they represent rather a signal as to which segment of the speech community a writer belongs to.

More interesting, for present purposes, are competing plurals. Consider first words such as *index and appendix, cactus and corpus.* What is the conventional plural of these words? As a committed user of the morphologically English plurals *indexes and appendixes, I* would like to believe that there really are competing conventions here. Unfortunately, the facts do not support this hope.

One of the advantages for a committed descriptivist of working with a large body of evidence such as the computerized Birmingham Corpus of English Texts is that one can actually interrogate the corpus and get answers that help in judging the state of conventionality, The corpus is constantly growing and being improved. The version that was used for research on the dictionary consisted of 18 million words of running English text, taken from a wide variety of sources.

This corpus, then, contains 9 cases of *appendices,* but only 2 of *appendixes,* both from the same writer. It seems that this writer and I are in a minority in our preferences: when it comes to deciding what is most conventional, there is no contest. The story is much the same with *index.* There are 29 cases of *indices,* from 15 or 16 different sources; there are only 5 cases of *indexes,* and these are from just 2 sources.

The corpus does not contain enough evidence to enable one to judge what the conventional plural of *corpus* is*;* there is only one example of *corpora* and there are none at all for *corpuses.* The evidence from general English texts is not sufficiently specialized to shed light on an abstruse problem with a rather technical word.

More interesting is the plural of *cactus. Pace the* Cobuild dictionary, there is no evidence at all in the corpus for *cactuses;* this was clearly put into the dictionary by an editor who shares my own prejudices. Perhaps it will be taken out in the next edition. The corpus contains 7 cases of *cacti,* which should clinch the matter. However, careful examination of the 36 lines for *cactus* itself reveals some that are indisputably plural: for example,

Some cactus only open their blossoms at night.

There are other lines where cactus seems to be being used as a mass noun: for example, large growths of palm and cactus.

In still other cases, there is no way of telling whether the writer intended to use a mass noun or a plural noun, e.g.

giant tortoises lumber through the cactus.

Thus there does appear to be some doubt as to what the conventional plural of *cactus* is, but it is not the doubt that we were hoping for. It is more a grammatical doubt than a choice between two morphologically established forms.

This brings me to my final orthographic example in the search for genuine uncertainty as to what the conventions of English spelling might be. It concerns the word *diocese.* For etymological and other reasons, the singular noun is conventionally spelled ending in <-ese>, although ignorant persons such as myself may believe (until shown evidence to the contrary) that it is spelled in <-is>, on the analogy of such words as *thesis* and *basis.* The Cobuild corpus shows 23 examples of the spelling *diocese* and none at all for *diocis.* OK, we were wrong, then. So far so good: the convention survives, unscathed by our ignorance.

But what about the plural?

The fact that *diocese* is a count noun, supported by the real-world observation that episcopal churches have more than one bishop and therefore presumably more than one diocese, leads us to expect realistically that there will be a plural.

The Cobuild corpus shows not a single example of any morphologically plural form — neither *dioceses,* which is presumably what the dictionaries predict, since they are silent on the issue, nor *dioces,* which users of the <-sis> spelling might expect by analogy with *bases* and *theses.*

Morphologically, there is no orthographic evidence in the Cobuild corpus for a separate plural form of this word. However, if we examine all the lines for the type *diocese* carefully, we find that two of them appear to be plural.
They are:

the diocese of Gibraltar and London...

We're much closer connected with diocese and Christians outside than we were.

This evidence is supported by evidence from straw-polling and comparison of intuitions (a time-honoured lexicographical technique, first mentioned explicitly by Noah Webster in his 1828 preface, in which he comments that he "fortified his opinion with that of some gentlemen in whose opinion he had confidence").

I have confidence in the intuitions of my colleagues, at any rate as a way of supplementing corpus evidence, so I asked them (orally) what is the plural of *diocese.* Eight out of twelve members of the COBUILD team offered /daiasi:z/. They were quite uncertain about how this might be spelled, although all of them were quite sure about the conventional spelling of the singular. In particular, one colleague who was in this majority had what she describes as 'an ecclesiastical childhood' (she is a vicar's daughter); the word, in both singular and plural forms, is therefore in her active vocabulary. The other team members gave answers which may be summarized as ranging from 'don't know' to wrestling with the tongue-twisting *dioceses* in ways that raised the suspicion that they had never had occasion to use the word, let alone the plural.

I think, then, that the plural of *diocese* may be a case where the convention of written English is unclear. There are very few such, and I am arguing that this is probably a good thing. More competing conventions may introduce more inefficiency and wasteful expense.

Conventionality and Punctuation
English punctuation, by contrast, is much less trammelled by conventionality. I do not know whether this is a good thing or a bad thing. In some ways, I think it is probably a bad thing.

To take a fairly obvious example, the distinction between restrictive and nonrestrictive relative clauses is regularly and unconsciously made in the intonation pattern of English. How useful and efficient it would be if the same distinction were made by the conventional use of commas in written English.

There is a vital distinction between, these examples:

To my daughter Judith I leave my collection of gold coins, which are in my bank vault.

To my daughter Judith I leave my collection of gold coins which are in my bank vault.

Suppose that at some time before his death the testator removed some but not all of the coins from the bank vault and left them in his son Peter's room. Presence or absence of the comma could make all the difference if the will were contested. Peter's claim to the gold coins would be much stronger if the will did not contain a comma after gold. The relative clause would be restrictive, and Judith would be entitled to only the gold coins which were in the bank vault and no others. The restrictive status of the relative clause allows or encourages the implication that the testator may have other collections of gold coins which are not in the bank vault. If the comma is present, however, the relative clause is nonrestrictive, and can be read merely as helpful guidance to the legatee as to where to find her bequest. Judith's case would be strengthened by presence of the comma.

Of course, no self-respecting lawyer would allow a client to write such a clause in a will, but it is the occurrence of such clauses in home-made wills that can result in lawsuits. No doubt this is one reason why the legal profession in Britain some years ago took to writing all its legal documents without any punctuation in them at all. This draconian solution could hardly be called helpful, and in fact of course even more ambiguities arise in totally unpunctuated text.

Examination of a large body of published texts supports the view that even professional copyeditors and proofreaders in Britain have a rather hazy view of punctuation, let alone lawyers and the general public. There are such widespread discrepancies in the use of punctuation such as the comma in English published usage that it would be hard if not impossible to describe in detail what the conventions are. Usage is highly idiosyncratic. The situation for literate texts in the U.S.A. seems to be different: American punctuation in published texts is recognizably more consistent and logical. This, then, may be an example of an area in which linguistic prescriptivism in Britain is desirable.

The best that can be said of British punctuation at present is that at least the rather random use of commas does not seem to be costing anyone very much in terms of money or wasted effort.

I shall be arguing that associated with any proposals for spelling reform and more efficient use of written English should be proposals for more efficient use of punctuation. I use for illustrative purposes the hyphen.

The stopped Hyphen
Three uses of the hyphen may be distinguished: orthographic, grammatical, and end-of-line. Principles for each kind of use are discussed. Within the context of simplified spelling, the principle is proposed that the hyphen should not be used at all, except when there is some clear justification for its existence.

Orthographic hyphens are those sometimes seen in the middle of lexical items that could equally well be regarded as single words or as two independent words, eg *sign-writer.* We may compare current usage (as observed in the Cobuild corpus) with principles of efficiency and consistency. This entails an examination of the relationship between the two or more morphemes making up a 'word' such as *farm-hand, farm-house, far-reaching, far-off,* and so on. Orthographic criteria must also be considered, as in *fire-engine* and *fire-eater,* where the co-occurrence of the letter <e> inhibits coalescence. Also discussed under the heading of the orthographic hyphen are hyphens which represent some phonological point, for example those in *co-operate* and *re-enter.* It will readily be seen that omission of hyphens between consonants should not present a problem within Cut Spelling. They may indeed be among the few cases where a doubled consonant survives.

The grammatical hyphen, as in expressions such as *an easy-to-master language,* may well have a function in promoting efficiency of understanding in complex syntactic units. Compare a *machine-tool minder* with a *machine tool-minder.* Is the hyphen sufficient to indicate that in one case the referent is human and animate, while in the other it is inanimate?

End of line hyphenation

End-of-line hyphenation is probably the source of more wasted effort than anything else in the typesetting industry. Printers' readers are very fond of objecting to compositors' break points. There are conflicting principles at work in current practice. For example, should we hyphenate etymologically (eg *speedo-meter)* or should we hyphenate phonologically (eg *spee-dom-eter)?* Does it matter? If not, why do master printers allow their readers to make so many expensive alterations in this area? But where should the line be drawn? Can we really accept a hyphen in a word such as *mo-re?* Is it any more objectionable than *id-ol?*

The question arises, could the hyphen be abolished completely? Would we actually be better off without it? To simplify the symbol inventory by removing one of the symbols would certainly be a step in the direction of greater efficiency from the point of view of text producers; would it lead to difficulties of comprehension, and therefore inefficiency, from the point of view of readers? If there are good reasons to keep the hyphen, what are they? What rules for conventional use of the hyphen can be proposed that would maximize efficiency and minimize waste?

Let us look in more detail at the end-of-line hyphen. Hyphens are used at the end of lines in printed texts in order to keep the right-hand margin straight (known as 'right justification'), without increasing the amount of inter-word spacing in any given line beyond acceptable limits. One clear way of avoiding the need for end-of-line hyphenation is to abandon right justification, accepting a ragged right margin. This is the solution, I see, adopted on the second page of your conference programme: on the page headed 'Background'. The main objection to an unjustified right margin is that it is quite wasteful of space.

BACKGROUND

It was long thought English spelling reform just meant of writing words by their sound. But the obstacles to this procedure are now clear: above all the variations in pronunciation and the need to ensure continuity of literacy. Instead of phonographic representation, the principle now proposed is efficiency, i.e. the convenience of all categories of user. The task facing orthographers is thus to determine what kind of spelling best meets this criterion.

Space wasted by unjustified right margin: excerpt from the Simplified Spelling Society's conference programme

For example, the first paragraph of the 'Background' section could well have been one line shorter if right justification, with end-of-line hyphen, had been used. Over the extent of a whole book, the difference can amount to several pages. In a book such as a dictionary, where space is at a premium, a ragged right margin is not normally an acceptable option. Double-column setting, which of course is standard in dictionaries, increases the need for end-of-line hyphenation; many more words get hyphenated in a narrow column than in a wide one. Space is also the main reason why double-column setting is standard in dictionaries: it allows the publisher to adopt a smaller typesize on a large page without losing readability, and it reduces the amount of space lost through short lines at the end of paragraphs. This is even more true of newspaper setting, where the use of several columns on a very large page greatly increases editorial flexibility.

It seems unlikely, therefore, that we could abolish end-of-line hyphenation completely. What principles can be recommended for those who are forced to use it?

Proofreaders both in printing houses and publisher, houses have traditionally always devoted a great deal of energy to trying to ensure that end-of-line hyphenation is 'correct'. It is worth noting just how costly this obsession can be. In order to move a single letter forwards or backwards from one line to the next or to the preceding, both lines have to be reset (with the possibility of further errors arising within them), the original lines have to be cut out of the text (with the possibility of accidentally damaging the lines above and below the cut), and the new lines have to be stripped in (with the possibility of poor alignment and, if the material being used is film, the possibility of a nasty thin black line being visible in the published text). Wise printers and wise publishers brief their readers to be very conservative before insisting on a change in the end-of-line hyphenation. It is, perhaps, hardly surprising that in at least one printing house a compositor and a printer's reader actually came to blows over the reader's persistent objections to the compositor's chosen break points in what was otherwise a very clean text!

End-of-line hyphenation has long been a steady source of wasteful expenditure in the typesetting industry, although with the growing use of computers in typesetting, some of them with quite sophisticated look-up tables for hyphenation points, the problem is no longer as widespread as it was.

If, as I am suggesting, there are circumstances in which end-of-line hyphenation is unavoidable, what suggestions should we make for conventionalizing the circumstances in which it is used? Perhaps the best starting principle, from the point of view of efficiency, would be that end-of-line hyphenation should be as liberal as possible. Printers and publishers should accept any break point unless there is a good reason not to. They should discourage their proofreaders from altering any end-of-line hyphenation point that comes out of the typesetter without very good reasons. The good sense of this is supported by the fact that there are at least two competing principled systems of end-of-line hyphenation in operation in British English: one which is phonologically based, adopted for example by Collins, and one which is etymologically based, promulgated by Oxford among others. The former would opt for *spee-dom-eter,* while the latter would prefer *speed-o-meter.* My suggestion is that any of six possible break points in this word should be regarded as acceptable: *spee-d-o-m-e-t-er.*

What constraints, then, should be placed on this liberal proposal?

We might wish to say that 'obvious' syllable boundaries should count as preferred break points. The question then arises, what counts as an 'obvious' syllable boundary? *Keyw-ord and mainfr-ame* are unacceptable to everyone, since the composition of the compound in each case is transparent. But should we accept *disg-usted, di-stress, and distr-ess? The* liberal proposal

depends in part on acknowledging that syllable boundaries are unclear, but some seem clearer than others.

Another commonsensical suggestion might be that there should be no hyphenation within, say, 2 characters of the end of a word. Obviously, this means that no four-letter word would be hyphenated. I did once see an English book typeset in Czechoslovakia in which the word *mo-re had* been hyphenated after the <o>. This is absurd because the word is a monosyllable. But from a typographical point of view it would be equally pointless to hyphenate *idol* or *idle;* the space saved does not justify the effort involved. But then, what about the *-ed* of *disgusted?* In traditional typography, the only other acceptable break point is after dis-. However, under the more liberal policy being suggested here, *disgus-ted,* for example, would be acceptable.

A less controversial suggestion would be that there should be at least one full syllable both before and after the hyphen: this would rule out *mo-re,* but it would also rule out *strai-ght and str-aight.*

Without prejudice to what might be decided about syllable boundaries, it might be possible to identify certain clusters where it would clearly be undesirable to introduce a hyphen and line break. For example, presumably everyone would agree that it is undesirable by any standard to introduce a break in the middle of an orthographic cluster representing a single phoneme: <ph>, <sh>, and <th> are cases in point. An adaptation of the same rule would discourage hyphenation in the middle of a diphthong, ruling *out stra-ight and proce-ed.* In fact, *straight* is probably about the longest word which, under these proposals, would not be hyphenated at all at the end of a line.

There are many other modifications to the set of liberal guidelines being proposed here that should be considered. For example, it is often said that one should not break a line in such a way that a misleading first element of a word appears at the end of a line: after the <d> in *read-just or* after the <e> in *arse-nic,* for example. But how serious is this as a source of potential problems for a reader reading sequential text? The objection seems to based on a notion that people read texts letter by letter and word by word. But do they? If they read in larger units — for example clause by clause, phrase by phrase, or tone unit by tone unit — the objection falls. In addition, the desirability of keeping things simple is worth bearing in mind: the more complex a set of rules is, the less likely it is to be implemented efficiently.

Enough has been said to illustrate the dimensions of the problem of the end-of-line hyphen.

The Orthographic Hyphen

At a rough estimate, there are between 800 and 1000 words in the Cobuild dictionary for which, if we go back to the corpus, we can observe variation, for no very clear reasons of principle, in the written form. Some people write these lexemes as one word, some as two words, and some compromise with a hyphen. For example, there are 5 occurrences of *sledge hammer* written as two words, 7 where it is written solid (i.e. as one word), and 6 where it has a hyphen. In considering spelling and.efficiency, this seems to be an area where some recommendations in the direction of standardization of usage might be appropriate. In most (though not all) cases, no meaning distinction is at stake. Where a meaning distinction is at stake, especially where what is in question is some grammatical point, which I shall discuss under the heading of 'the grammatical hyphen', the distinction is often obliterated by the random variations in the base form.

Let us again start with the proposal that the hyphen should not be used at all, in order to test whether it does in fact have any useful function.

It is possible to distinguish 3 main classes of words in which the possibility of a mid-word hyphen is at issue. These are: noun-noun compounds, nominal derivatives of phrasal verbs, and words

containing prefixes. There are a number of less frequent classes around the edges, such as verbs from noun+verb compounds (e.g. *gatecrash),* and oddities such as *offlicence* and *unputdownable.* I shall concentrate on examples from the three main classes, starting with words containing a prefix.

As Tom McArthur has pointed out, the orthographic hyphen seems to be doing a very useful job in making a written distinction between two quite distinct words: *reform* and *re-form.* Another example is *recreation* and *re-creation.* This is analogous to the useful function of the apostrophe in distinguishing between well and we'll, as opposed to all the rather pointless uses objected to by George Bernard Shaw amongst others.

I am much less convinced by arguments in favour of the orthographic hyphen to make some phonological point, as in the case of *microorganism, cooperate, antiimmigration, readjust* and even *nonnuclear. I* would be glad to see this particular hyphen abolished in any spelling system. I wonder whether the hyphen in these words really does aid phonological recognition and realization? In testing this, it would of course be important to rule out the influence of familiarity of one form rather than other. No doubt every spelling reformer would agree that it takes a short while to get used to a new system.

We must, however, recognize that the balance of usage is against us, at any rate in British English. *Microorganism,* for example, is spelled 21 times with a hyphen and only 11 times as one word in the Cobuild corpus. Well, at least this is evidence of competing conventions — a clear case for resolution by prescription, even if the balance of usage is siding (as usual in English, it seems) with the least efficient convention. We should also note in passing that this proposal, which would lead to abandonment of the hyphen in *cooperative,* would create an anomaly with its short form *co-op,* which would retain its hyphen under the *reform/re-form* rule mentioned above.

Less defensible, in my opinion, is the widespread use of the hyphen in words such as *coexist, reuse, antisemitic, panamerican:* no real ambiguity or phonological difficulty is at stake. *Nonnuclear* falls into this class: it is generally hyphenated in current written English, although the doubled <n> presents no more difficulty than that in *unnatural,* which is apparently never written with a hyphen.

At the far end of this particular cline lie words such as *subcategory, subhuman, antihero, antimatter* and *postwar.* Here, the only justification for the widespread use of the hyphen is that people do not seem willing to give up the notion that the bound morpheme *(sub-, anti-, or post-)* has some independent status as a meaningful element. The cases of *pseudo* and *quasi* are interesting in this respect: in British English they fall into this class, although in American English, for some writers at least, they apparently count as independent words.

Noun compounds

The chaotic state of British English as regards hyphenation of noun compounds may be judged from the following tiny random selection from a list of more than 500 words in the Cobuild corpus.

WORD	SOLID	HYPHENATED	2 WORDS
sledgehammer	7	6	5
stepping stones	2	7	3
saddlebag	17	7	3
test tube	5	17	4
treetops	12	13	6
videotape	14	9	13
windowbox	5	8	7
windowpane	7	15	4
passerby	12	71	5

In the context of spelling reform, total abolition of the orthographic hyphen for noun compounds might be desirable. Writers would simply have to choose between writing one or two words. The choice would depend on several factors, not least the writer's perception of whether the lexeme was functioning as a single unit at the word rank, or whether it could be satisfactorily accepted as a word + word group. So, for example, a writer might spell *sledgehammer* as one word since very few people think of *sledge* as a semantically independent unit modifying hammer, whereas *gas fire* might be more satisfactory as two words, since it falls neatly into the well-known English pattern of noun modifier + noun.

A similar view might be taken of nouns and adjectives derived from phrasal verbs *(pickup, makeup, ripoff, getaway, takeoff* and so on). It is important to distinguish these from the phrasal verb itself, which (if I may be permitted a momentary prescriptive outburst) SHOULD *NEVER* BE SPELLED WITH A HYPHEN. The noun and adjective derivatives could, in my view, always be written as one word.

The Grammatical Hyphen

This process of noun derivation from phrasal verbs brings me to what I call the grammatical hyphen. This category overlaps to some extent with the category of orthographic hyphens just discussed.

Many writers, myself included, like to use hyphens to indicate a certain kind of rank shift, where a group of words has been assigned the grammatical function of a single word. Examples are:

a never-to-be-forgotten experience
end-of-line hyphen
an easy-to-read text *vs*. This text is easy to read.

The question arises whether any genuine ambiguity or difficulty of understanding would arise from omitting these hyphens. I think we would be hard put to it to show that it would, but I would be glad to have the views of others. Earlier, I invented a case where some genuine meaningful consequences might follow from placement of a hyphen in different positions in a phrase *(machine-tool minder* vs. *machine tool-minder).* I have to confess that in browsing through the hyphens in the Cobuild corpus I have not come across one case of such a distinction in actual language use. It seems that, no doubt wisely, people rarely rely on punctuation to make such subtle points of meaning.

Some conventional uses of grammatical hyphens seem both hard to learn and singularly pointless: for example the attributive/predicative distinction made in: *a well-intentioned gesture* vs*. the gesture was well-intentioned.*

In British English, as I have tried to show, I think we are suffering — or at any rate, suffered in the past — from creeping hyphen-mania. My recommendation is that most of them should be avoided. I close with a widespread but, to me, particularly irksome example of what might be called a pseudo-hyphen that seems to be becoming increasingly widespread. It is the hyphen that joins a submodifier to a modifier, as in *highly-strung* — or *increasingly-widespread.* Here again, I think we have a circumstance in which HYPHEN SHOULD NEVER BE USED where the choice of orthographic form in English seems to be more or less arbitrary.

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[Francis Knowles: see **Journal articles**]

Morphology versus Phonology in the Spelling of Slavonic Languages

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0 ABSTRACT

A brief synopsis is first given of the 'size and shape' of the Slavonic languages. This is followed by a description of the Cyrillic and (modified) Roman alphabetic systems used by these languages. Consideration is given to the way in which certain structural characteristics in these languages are or are not reflected in the various orthographic systems used by them. In this paper particular attention is devoted to Russian and some attention is given to Byelorussian, .*issh and Serbo-Croat.

I THE SLAVONIC LANGUAGES

1.1 Branches and orthographic origins

The Slavonic languages are a major branch (in the so-called Isatem' cluster) of the Indo-European family of languages: today their most important representative is Russian (technically known as 'Great Russian', 'velikorusskij jazyk', which belongs to the East Slavonic group, together with Ukrainian and Byelorussian. Byelorussian is sometimes known as White Russian — its literal meaning — and, historically, Ukrainian was also known as 'Little Russian' in Tsarist times. The other two branches of the Slavonic languages are: the Western branch, today comprising Polish, Czech, Slovak, Upper and Lower Lusatian — also known as Sorbian — and Kashubian (Polabian became extinct in the eighteenth century); and ivre is South Slavonic, represented today by Bulgarian, Serbian, Croat, Slovenian and Macedonian.

Some of these languages are reasonably well documented over the last millennium, but for others written monuments are, sparse. Mention must, however, be made of Old Church Slavonic, the language into which Saints Cyril and Methodius, active in the territory of modern-day Bulgaria 1100 years ago, translated the Gospels and other Biblical and liturgical texts. Old Church Slavonic was, effectively, created as a 'superstructure' on the South Slavonic speech used in that area at that time, but it has played a central role, cultural as well as religious, in Eastern and South-Eastem Europe since those days. Saint Cyril was responsible, of course, for creating an appropriate alphabet for Old Church Slavonic, choosing a good set of correspondences between phoneme and grapheme. It is not clear which of the two ancient alphabets St. Cyril actually invented, Glagolitic or Cyrillic, even though the latter bears his name! One thing is, however, in no doubt at all: the Orthodox Church's faith and teaching were brought to and took firm root among the Slavs of the Balkans and Eastern Europe via the medium of the vernacular Slavonic speech and of the scriptural and liturgical texts recorded in the Slavonic alphabets, initially in both of them but ultimately in Cyrillic alone.

1.2 The USSR

Let us now move to modem times and present the chief statistics and salient characteristics appertaining to certain Slavonic languages.

The USSR, acknowledged as one of the two so-called super-powers, has a growing population already within striking distance of 300 million people, inhabiting territory which amounts to one sixth of the globe's land surface. It is a multinational state with the Russians themselves enjoying only a slender absolute majority (approx. 52%) among the total population. The largest 'minority', the Ukrainians, are over forty million strong and represent 14% of the USSR's population. The Byelorussians number over seven and a half million, representing a further 3% of Slavs in the country. As for the rest, approximately 130 different languages (including, incidentally, Polish, Slovak and Bulgarian) are spoken in the USSR: belletristic writing is published in 77 of them', newspapers come out in 55 different languages, and magazines in 46; and 52 different languages are used in Soviet educational establishments. It is clear, therefore, that there is a multi-lingual ambience in the USSR that cannot be ignored in spite of the pre-eminent position of Russian as a language of communication between the ethnic minorities of the country.

1.3 Other Slavonic languages

A brief review of certain other Slavonic languages will now be given, together with summary statistics from 1985.

In the case of Poland, 36.5 million people live in the Polish state, the vast majority speaking Polish. This is quite unlike the pre-war period where three out of every ten people who had Polish passports, were not actually Polish at all. Today Ukrainian and Byelorussian constitute very small minorities and they do not impinge on the life of the Polish state to any extent. Polish is also spoken by up to 8 million speakers in diaspora, notably in the USA.

Czechoslovakia, with 15.5 million people, has two major languages, Czech and Slovak, but there are also about 3 million speakers of Hungarian, and a residual number of speakers of German.

Bulgaria has nearly 9 million people, 90% of them speaking Bulgarian, but there is also a sizeable Turkish minority.

Finally, in Yugoslavia Serbo-Croat accounts for 15 million of the 23 million inhabitants, while Slovenia has 7% of the population, Macedonia about 6%. There is also a considerable Albanian minority, and a number of other languages are spoken, such as Hungarian, Turkish, Romanian, Greek, Italian and Romany, thereby making up a 'rump' containing a large group of people. The ratio of alphabet usage within Serbo-Croat is that for every five people using the Cyrillic alphabet, three use the Latin alphabet, although those figures are reportedly changing. Sociolinguists have in fact commented on a shift towards the Latin alphabet even in some of the strongly Serbian areas.

2 DEFICIENCIES OF ORTHOGRAPHIES

2.1 Tasks of orthography

One may say it is the primary duty of orthography to lay down the representation of sounds by letters. It should also lay down whether words are to be written solid, hyphenated or separately. It has to regulate upper and lower case usage, line-breaks, soft versus hard hyphens, the use of other symbols, the apostrophe, punctuation marks and so on. Especially in a language like Russian the representation of foreign borrowings and in particular the representation of foreign proper names can cause considerable problems.

2.2 Common deficiences

As is well known, orthographic systems tend to have a number of deficiencies that appear to crop up disappointingly often. Seven contingencies are listed here:

1. various letters represent the same sound
2. the same letter represents various sounds
3. a letter-combination represents one sound
4. one letter represents a combination of sounds
5. acoustic peculiarities are represented obliquely:

thus in the phrase for *I love*

(1), l'ubRl'u — in Russian orthography 1) л ю б л ю

It is obvious where the grapheme boundaries are, but they do not in fact precisely correspond to the phoneme boundaries. The repeated vowel-letter is split down the middle, so to speak, because it performs two functions: it indicates a vowel, but it also indicates the precise timbre of the preceding consonant. Dennis Ward, in his excellent monograph *The Russian language today* (Hutchinson, 1965) sums up these salient features thus: "The value of most of the consonant letters is not known unless what follows them is also known. ... Apart from that, the full value of most of the consonant letters followed by a vowel letter is known only if we also know what that vowel letter is. ... The vowel letters and most of the consonant letters, therefore, are used in what might be called a syllabic mode."

What this means is that one cannot read Russian by a purely sequential, phonic method: it requires a combination of the phonic and 'look-and-say' methods. This is the case with almost all the Slavonic orthographies.

6. Acoustic peculiarities can remain unrepresented, as in the case of these two Russian words *svalka* (2) meaning a *rubbish-dump* or *tip, and s'v'az'* (3) meaning *communication.* The first two consonant-letters are identical:

   (2) с в а л к а (3) с в я з ь

   and there is no indication whatsoever that in (3) the /s'/ is palatal. The spelling simply does not transmit that information.
7. Certain letters are written which do not represent any sound whatsoever. The following two examples (4) terminate in the so-called soft sign, which in both of these words is completely redundant and does not affect the pronunciation one jot. They are purely historical.

   (4) м ы ш ь р о ж ь (m y š, r o ž — mouse, rye)

   Similarly there is relaxation in the case of some consonant cornbination: thus the /d/ in the word for *heart* (5), and the /l/ in the word for *sun* (6), are not pronounced (the silent letter is bracketed):

   (5) с е р (д) ц е (6) с о (л) н ц е

In general, Russian is not affected at all by case 3, it has one instance, < щ >, of case 4, and it is affected by case 1 only in a positional sense. Case 2 is, however, ubiquitous but — in Russian — case 2 is virtually subsumed under case 5**.**

3 PHONEMES AND GRAPHEMES

3.1 How many phonemes?

A general feature of Slavonic orthographies, as of many others, is that there are not enough letters for all the phonemes. An additional problem in the case of nearly all Slavonic languages is that there is no agreement even among professional scholars of linguistics about how many phonemes there actually are in the language. Very reputable and authoritative writers are in print as saying that Russian possesses somewhere between 37 and 41 different phonemes, and that of those phonemes either 5 or 6 are vowels. (To see this disagreement about the number of phonemes in

perspective, one should remember that there is no agreement for English either.) The number of phonemes identified and 'claimed' can depend, in part, on which of the different styles of Russian pronunciation is being used, although it must be immediately pointed out that in spite of the vastness of the Soviet Union, there is no major dialect problem on the level of the national standard language. There is a clearly defined national standard which is accepted throughout the country and which is of course enjoined and enforced by the education system and the mass media as well. In this respect the USSR is remarkably unlike German-speaking areas, where dialect problems obtrude quite seriously.

3.2 How many graphemes?

Rather more surprising than the uncertainty about the number of phonemes is the uncertainty about the number of graphemes in Russian. Two signs, the soft sign we have already noted and the hard sign are not regarded as graphemes proper. They are not letters of the alphabet in the sense that they represent sounds — they are only used as auxiliary symbols to resolve spelling cruces. In the case of the symbol <ë>, the two dots are hardly ever used, except by learners of the language and in cases where disambiguation is highly desirable. A standard example is the word *vs'o* (7) which can be an adverb meaning *all the time* or *increasingly,* as opposed to *vs'e* (8) with the meaning of *all,* and it is sometimes quite important contextually to make that distinction.

(7) в с ё (8) в с є

But even then there is no guarantee the dots will actually be used. There is hence a number of problems.

а	a	р	r	и	i	ш	š *or* sh
б	b	с	s	к	k	ъ	" *or* "
в	v	т	t	л	l	ы	y
г	g	у	u	м	m	ь	' *or* '
д	d	ф	f	н	n	э	e *or* é
е (ё)	e (ë)	х	h *or* kh	о	o	ю	ju *or* yu
ж	ž *or* zh	ц	c *or* ts	п	p	я	ja *or* ya
з	z	ч	č *or* ch	й	j or ĭ	щ	šč *or* shch

Transliterating Russian into English

3.3 Vowel symbols

One surprising feature of Russian orthography is that there are 10 vowel symbols, even though there are only 5 actual vowel phonemes. That is because vowel symbols are used to indicate the correct pronunciation of the preceding consonant. That is the fundamental feature of Russian commented on above.

4 SOUNDS AND SYMBOLS IN RUSSIAN

4.1 Shifting stress

Two further points have to be made about Russian spelling. The first is that the stress in words is mobile, and to pronounce any written form correctly, one has to know exactly where the stress falls. This may need to be determined contextually. A slightly outrageous example of an utterance pronounceable in two totally different ways and yielding two totally different meanings (with its transliteration) would be:

с т р е л к и	н а	б а ш е н н ы х	ч а с а х	с т о я л и	н е л о д в и ж н о
s t r e l k I	n a	b a š e n n y x	č a s a x	s t o j l i	n e p o d v i ž n o

If the pronunciation of the first word is *strelki,* the sentence means *the hands on the tower-clock were motionless;* but if the stress on the first word moves to the last syllable, *strelki,* it now means *the riflemen on sentry duty at the tower were standing motionless.* A far-fetched example certainly, but it does show the importance of stress. The essential point is the concept of Russian as a

stress-controlled language: this means in practice that speakers of the language must place enormous emphasis on the stressed vowel — and mumble everything else in the word! This leads on to the concept of strong and weak positions in words, the latter producing in their train a whole set of vowel-reductions which complicate sound-symbol correspondences very considerably.

We all know vodka (9), a word in which the <o> clearly carries the stress. Like the word whisky, vodka is the diminutive of the word voda (10) meaning water.

(9) в о д к а (10) в о д а

However in voda the stress has shifted from the /o/ in *vodka* to the final /a/, and in the process the sound-value of the <o> has changed to /a/, so that the word is now pronounced /vada/. However, in certain unstressed or weak positions, as in the polysyllabic word *navodnenie* (11) meaning *flood*

(11) н а о д н е н и е

that same /o/ is reduced to just shwa. That is a fundamental feature of Russian phonology which is not reflected by the spelling system, either directly or obliquely.

There are also weak positions for consonants, chiefly in word-endings and when juxtaposed with other consonants. Thus we have a word meaning an *oak-tree* (12), spelt *dub.*

(12) д у б

Because that <b> is final, the realised pronunciation is /dup/, but as soon as the word is declined, as say in the genitive singular, the <b> is voiced, /duba/. Then we have a verb, *otbit'* (13), meaning *to beat off*

(13) о т б и т ь

The spelling of the first syllable, which is a clearly defined verbal prefix meaning *off*, is <ot>, but because of its position, its phonetic realisation is as /od/.

There is a word meaning *area, oblast'* (14),

(14) о б л а с т ь

but because the letter <s> precedes the palatalised /t'/ it too acquires palatalisation and is pronounced as /s't'/.

We have the word for *dark* (15), *temny*, with its first syllable stressed:

(15) т ё м н ы й

But the word for *to go dark* is *temnet'* with the second syllable stressed, and the word for darkness is *temnota,* with the third syllable stressed and the first syllable's vowel 'reduced' in pronunciation to /i/.

These examples show very clearly that such shifts represent a major system in Russian which — ideally — would need to be captured somehow or other by the spelling, but is not captured at all in actuality. There are thus a number of phonological features of Russian, some of which virtually play a key role counter to the way the spelling system works.

When it comes to putting a language down on paper by means of an alphabetic script, there are two basic methods, plus the antithesis of a method. Firstly, a phonetic-phonemic principle can be applied; in this system the less allophonic variation there is, the better. Secondly, a morphemic principle can be applied, in the sense that the spelling system makes an attempt to freeze the appearance of morphemes on paper, whatever their pronunciation is. Finally and regrettably, of course, it is possible to use an 'anti-system' — what English possesses to excess - a traditional or historical conglomeration of sui generis idiosyncrasies. Russian opts for the second, the morphemic principle, but also betrays some allegiance to the phonemic approach; it does, admittedly, have some asymmetries of a historical and traditional kind, but they do not burden the system as whole to any great extent.

Russian has its own history of spelling reforms, the most illustrious being immediately after the October Revolution, when the hard sign was removed from the alphabet, along with a number of

other letters. Prior to that time all consonants had to be marked for either hardness or softness; the position today is that they are marked for softness only, although two consonants are admittedly 'innately' soft. After the hard sign disappeared one particular edition of *Anna Karenina* became 35 pages shorter in consequence, it is reported!

4.2 System of vowel-letters in Russian

The ten vowel signs (five pairs) with their approximate phonemic representations are:

1	а	/a	я	/j a/
2	э	/ɛ/	е	/j ɛ/
3	ы	/ə i/	и	/j i/
4	о	/ɒ/	ё	/j ɒ/
5	у	/uː/	ю	/j uː/

The five second members of these pairs represent either an added preceding yot or the secondary articulation of palatalisation 'imposed' on a preceding consonant, followed by the appropriate vowel. There is some slight potential confusion in this pattern, but in general it is quite an efficient system. To observe it in operation, consider the two Russian words, mat' (16) meaning *mother,* and m'at' (17), meaning *to crumple.*

(16) м а т ь (17) м я т ь

We can see that the phonemic difference lies in the palatalisation feature of the initial consonant, yet graphemically it is the vowel letter that differs.

The hard and soft signs **<**ъ ь**>** are merely auxiliary signs which are also used as separators, because in a spelling system such as has just been described it may be necessary to protect the preceding consonant from being pronounced palatally.

4.3 Morphemic stability

To appreciate the importance of the morphological principle in Russian, we may take the Russian root *kaz* (18) as an example. It means *to point* or *to show.* There are a number of derivatives, such as one that is occasionally used in English, where it is sometimes spelt *ukase* (19), meaning a government directive. The verb *ukazat'* (20) means to *indicate, point out.*

(18) к а з (19) у к а з (20) у к а з а т ь (21) (22) с к а з а т ь
(23) с к а з о ч н ы й (24) р а с с к а з ы в а т ь
(25) р а с с к а з ч и к (26) р а с с к а ж

The verb *skazat'* (21) logically means *to point out by saying,* in other words, just *to say,* while *skazka* (22) means a fairy-tale and *skazočny* (23) is an adjective referring to a fairy-tale. The verb *rasskazyvat' (24)* means *to relate, to recount,* while *rasskazčik* (25) is a person who recounts, in other words a *raconteur, story-teller.* So far, the spelling of this morpheme, *kaz*, has been preserved intact whatever its pronunciation: the /z/ in (25) is, in fact, phonetical palatalised, devoiced and merged with the following consonantal sound. On the other hand the morphophonemic system comes into play in the form *I will say* which is *rasskažu* (26): here Russian changes the grapheme <z> into the grapheme for /ž/, as a result of phonemic laws once active but now fossilised on the level of grammatical and word-derivational morphology. Even if it cannot achieve it in this circumstance, Russian tries via its spelling system to protect the integrity of the morpheme: that is its primary aim.

It cannot be said that there are no spelling problems at all in Russian. One problem is the use of geminated (doubled) consonants in foreign words. The occurrence and pronunciation of geminated consonants in native Russian words is very rare, but in borrowed words geminate spellings are very frequent. In almost every case pronunciation norms ignore such spellings and mentally convert geminates to singletons.

4.4 Russification of foreign words
Another major crux is the incorporation and russification of foreign words. In a word like *kodeks* (27) the <d> ought, according to spelling rules, to be pronounced palatally, but it is in fact pronounced without any palatalisation.

(27) к о д е к с

A good deal of uncertainty exists with regard to the pronunciation of many words in this category: spelling pronunciations are gradually gaining the upper hand, ousting the 'alien' phonetic practices retained by the older generations of Russian speakers, partly in deference to such foreign borrowings and certainly in defiance of the normal rules of sound-symbol correspondence. Hence in these cases a russification process is being carried through. There are very full statistics, collected by sociolinguists, about words like these, giving a snapshot of what stage they are at on the cline towards complete russification.

4.5 Non-morphemic spellings
There is one situation where Russian departs from its morphemic spelling principle and descends — if one may use that word — to the phonemic principle, and that is in the use of verbal prefixes. The verbal prefect *ras-/raz-* (28) is equivalent to the English *dis-* or *de-*. There is a verb *razvivat'* (29) meaning *to develop,* and another verb *raspustit'* (30), meaning *to disperse*.

(28) р а с - / р а з - (29) р а з в и в а ь (30) р а с л у с т и т ь

We can see here that the root in (29) begins with the voiced /v/ and in (30) with unvoiced /p/, and that an accommodation has taken place, with the spelling of the sibilant in the prefix indicating voicing before a voiced consonant, and non-voicing before an unvoiced consonant. The same accommodation occurs with most prefixes, and it must therefore be regarded as a subsystem that slightly blurs the integrity of the larger system, in which the morphemic principle of spelling prevails.

4.6 Acronyms
Russian is a language that abounds in acronyms: there are many thousands of them alive and kicking in normal discourse. It often happens in 'stump words', or in concatenated initials which are pronounced as words, rather than as single letters, that unusual or misleading juxtapositions of vowels and consonants appear: some counterintuitive pronunciations appear as a result. *Detyasli* (31) means a *creche,* a junior kindergarten, and it is a blend of two words (32) *deti* and *yasli* put together rather like *smog* in English, made up from *smoke* and *fog.*

(31) д е т я с л и (32) д е т и, я с л и

According to spelling conventions the compound ought to be pronounced with a palatal /t/**,** but infact the /t/ is retained as hard, and theme is almost a distinct juncture in the pronunciation as a result.

4.7 Problems and their reform in Russian
There is a number of other small problems which conspire to create a spelling black list in Russian: these items are always adduced as 'warts' whenever the question of spelling reform rears its head in the USSR, but none of them has yet fallen prey to the zeal of reformers.

There are traditional spellings, the most common one being the use of the letters <-ogo>, which is the genitive singular inflection of masculine and neuter adjectives and which is pronounced as though it were <-ovo>.

By and large the Russians are quite satisfied with their spelling system. Although there are occasional proposals for reforming it, they are intended to clear out a ragbag of minor inconsistencies rather than to attack fundamentals.

5 OTHER SLAVONIC LANGUAGES

5.1 Byelorussian

We will now turn to Byelorussian, which, although very similar to Russian, is nevertheless a separate language, having experienced a different evolution. Here the major systems of morphology, syntax, semantics and lexis are exactly the same as in Russian. The same can be said to all intents and purposes of Byelorussian phonology. However in their spelling the Byelorussians have adopted a system which does *not* fully protect the integrity of morphemes, but rather partly overrides them with the help of a system that spells according to pronunciation.

Let us now look below at a little table of words: on the left are three Russian words — their English translation appears on the right. In the middle are the Byelorussian equivalents of these words. The Byelorussian orthographic system prescribes, by spelling alone, that in Byelorussian an /o/ is pronounced only where it is written. When it loses its stress and is pronounced /a/, then, unlike the pattern in Russian, the spelling changes to /a/ too.

(34)	г о р о д	ґ о р а д	town
(35)	г о р о д о к	ґ а р а д о к	townlet
(36)	г о р о д с к о й	ґ а р а д с к і	municipal

Yet Byelorussian has only adopted this principle for vowels, not consonants.

This is an interesting contrast between Russian and Byelorussian, and it is claimed that this particular spelling system has helped to improve literacy in Byelorussia. Before we leave Byelorussian, it is worth mentioning that there are the same sorts of disagreements as in Russian about numbers. Experts are clear that there are 39 consonant phonemes and 5 vowel phonemes, but there is argument about how many graphemes there are, because Byelorussian, among the East Slavonic languages, 'descends' to the use of the digraphs <dz> and <dž>. There is further ambiguity because the former digraph may be soft, but this can be decided only by inspection of the following grapheme, either vowel or soft sign.

5.2 Polish

Polish uses the Roman alphabet which it modifies either by the addition of diacritics, by the introduction of modified letters, or by the use of letter combinations. Polish, like all the West Slavonic languages, has a fixed word-stress — in this case on the penultimate syllable. Whereas Russian is isochronous (phrases rather than syllables tend to be of equal duration), Polish is isosyllabic (syllables tend to have a fixed duration), and as a result there are no weak or strong syllables and, obviously, no vowel reductions. Nonetheless Polish has the same problem as Russian, i.e. how to represent the palatal consonants, which incidentally occur in a positionally more restricted way than in Russian. Their representation is achieved by two methods. If a palatal consonant occurs before a consonant or at the end of the word, it acquires a diacritic, as in *a request* (37) or *to take* (38).

(37) prośba (38) brač

If it occurs before any vowel except /i/, the ordinary hard equivalent of the letter is used, with an /i/ after it, as in small (39) v. they (f.) had (40).

(39) maly (40) mialy

If it occurs before /i/, the ordinary hard consonant letter is used, as in *to beat* (4 1) v. *to be* (42).

(41) bić (42) być

There is not the space here to do full justice to Polish, but the comment should be added that there are cases of orthographic dilemma in Polish and learners have to consult mental black lists. For instance the pronunciations of <h> and <ch> are absolutely equivalent in standard Polish (though not in certain dialects); and <ż> and <rz> are also absolutely indistinguishable in pronunciation. Etymologically it is very easy for a scholarly linguist to distinguish them, but Polish layfolk cannot do that. The word for *heating, ogrzewanie,* for instance is quite commonly spelt as (43) below. The

letters <ó> and <u> have exactly the same value, but in some cases they cause difficulty**.** Words like *wieczny* (*eternal*) and *wietrzny* (windy) have identical pronunciations. The protection of morphemic integrity in Polish grammatical or derivational families does not extend to quite the same extent as in Russian, and some odd cases occur: there is no integrity between the word for *to cut off* (44) in Polish and the word for *I will cut off* (45) — not a single letter is the same. That is, of course, a very awkward case, but it is by no means untypical.

(43) ogżewanie (44) ściąć (45) zetnę

5.3 Serbo-Croat

There are two alphabets in use in Serbo-Croat, the Cyrillic alphabet and the Roman alphabet — unusually, they have a one-to-one correspondence table but this is the result of the work of Vuk Karadzic a century ago. Admittedly, the corresponding letters in the two alphabets occur in a different order, so words are found in different positions in the dictionary, depending on the alphabet. In Serbo-Croat the phonetic principle reigns supreme and there is hence no such concept as the integrity of the morpheme. The word for *sweet* is *sladek* in the singular, with a medial /d/, but in the plural, *slatki,* the /d/ has become a /t/. Alternations of this type are very common and are therefore clearly indicated in the spelling. The word for a *Serb,* which is *Srbin,* has a <b>, but the adjective *Serbian* has a <p>, *srpski.* This system blurs morphologically important information, so that in a form like *dovesti* it is not clear from spelling which of two verbs, *dovoditi (to conduct),* or *dovoziti (to convey),* is actually being used — only the context can resolve the ambiguity.

6 CONCLUSIONS

It is evident, then, that in the Slavonic languages a spectrum of spelling systems exists, from the predominantly morphemic (Russian) to the predominantly phonemic (Serbo-Croat); there is no representative of the English 'anti-system'! Each of these systems is the result of its own linguistic environment, its own problems, its own struggles, even internecine warfare.

There are muted proposals for spelling reform in a few Slavonic languages but opinions are agreed that, although Russian spelling may well be further systematised, Polish spelling stands virtually no chance of being reformed. There are some lessons to be learned perhaps in the English-speaking world, in the sense that there is a virtual obsession with what is known as 'speech culture', or the cultivation of educated speech accompanied by a war of prescription and proscription on substandard usage. This is very firmly part and parcel of the sociolinguistic environment, and has sociological and even political origins. It was, to begin with, part of the battle against the influx of foreign words and concepts which have permeated these languages to varying extents. But there is a still a strong view that a cohesive national language is helpful to the body politic, creating feelings of solidarity among the populace. The prospects for spelling reform on linguistic grounds alone are very meagre, not least because no reliable indices have yet been elaborated and implemented for testing the efficiency of orthographies. The prospects for spelling reform based on socio-political considerations are less easy to judge — no proposals are really topical at the present time, but one must always remember that spelling reforms have taken place in Eastern Europe in the past and that appeals have been made to just such socio-political grounds in the process.

а	a	j	j	с	s	ђ	đ	н	n	х	h
б	b	к	k	т	t	е	e	њ	nj	-	c
в	v	л	l	ћ	ć	ж	ž	о	o	ч	č
г	g	љ	lj	у	u	з	z	п	p	ц	dz
д	d	м	m	ф	f	и	i	р	r	ш	š

Serbo-Croatian Transliteration

[Simplified Spelling Society, Journal 8, 1988/2 p20 in the printed version]

The Implications of Spelling Reform for Skilled Readers

John S Kerr

Dr Kerr is a cognitive psychologist by training and a researcher in various fields by necessity. At present completing a project on the optimum design of traffic signals at Aston University in Birmingham, he will shortly be taking up the post of research fellow in the Human Psychopharmacology unit at Leeds University. The following contains some of the ideas he presented at the Society's Fifth International Conference in July 1987.

Introduction

Simplified spelling is not of obvious benefit to the reader already skilled at using traditional orthography. In fact it must be expected to be detrimental, at least initially. What might be the effects of reformed spelling on the reading process? This short article consists of the initial reactions of a psycholinguist to the implications of simplified spelling. Some of the ideas presented here are hypotheses rather than facts, and remain to be tested empirically.

Concepts, not letters

Most of the time spent during reading is taken up by the processes involved in understanding the text rather than simply decoding the symbols: cognition rather than perception. This is the case with text which presents both simple and complex ideas. In one common view of the reading process, the readers create a mental model of what the text is about from their own knowledge and experience, and use this model in conjunction with the information contained in the text to build an accurate representation of the discourse. This is rather slow compared with the tasks 'downline' involved in recognising the actual words. Alternatively the 'autonomy' position argues that the reading process consists of discrete operations: recognising patterns, retrieving meanings, parsing, integrating and understanding: again, decoding the symbols and recognising words is only a small, if essential, part of the process.

Word recognition can occur with or without phonological mediation (turning the word into its sound). Skilled readers will tend to by-pass this stage whereas learners and poor readers can be seen to be 'sounding out' the words, even using sub-vocal speech (the reason why *Sun* readers' lips are said to move). When confronted with new or lengthy words, skilled readers will revert to this strategy and use the grapheme to phoneme conversion rules (although this procedure will not necessarily yield the correct answer – a fact that is the raison d'être of the Simplified Spelling Society). This effect will probably account for most of any detriment that readers have initially with revised spelling; they will be unable to use the faster access mode. Disruption of smooth reading will occur with new forms which look like old ones e.g. the Cut Spelling form *add* (added). Other CS forms may present problems in that they become very short (e.g. *qy* for *quay*) and can therefore be 'missed', although this will be countered to an extent related to their importance in the text.

Changing the spelling will have different effects depending on where the change occurs: certain parts of words, notably the beginnings and ends, are more important than others. In general changes here are more detrimental to reading than alterations of medial letters. An implication of this is that information from peripheral vision will not contribute: readers use information to the right

of what they are looking at to 'prime' the upcoming words, so that when seen they are already part processed. The information is mostly based on the shape of the words and the initial and final letters. The changes in word shape themselves may be disruptive. Any differences in reading speed that these effects cause however will be small compared with the process of conceptual understanding, which will not change with spelling: a rose is a roze is a rohz. Conversely readers of a system like CS which economises on letters may not read faster, for the same reasons.

Polysemy & Context

When spelling is simplified, there will probably be an increase in the number of words with two or more meanings: words which sound alike (presumably in a standard pronunciation) would be spelt alike in any phonographic system (with exceptions for special cases perhaps). This will result in an increase in lexical ambiguity, though this will not be a problem, at least for skilled readers, since polysemous words already abound in English e.g. *rose* has over a hundred distinct meanings.

One reason why lexical ambiguity is not a problem is the way that context influences the interpretation of words at a number of levels, even in unstructured lists such as *knitters, seamstresses & sewers* versus *drainpipes, gutters & sewers*. The effect of information contained in the text and in the reader's memory about what to expect in the discourse can be very constraining, and is a major aspect of understanding written language. *The skier was buried by the sudden*... raspberry or avalanche? In fact readers are rarely aware of the alternative possibilities of what they are reading. *The Smiths saw the Rocky Mountains flying to California* is straightforward until it is pointed out that the sentence could be part of a science fiction story about aliens rearranging the geography of North America using anti-gravity machines. (Note also the assumption that the Smiths were flying in an aeroplane and not by flapping their arms.) Language is rarely used without some context, and context will rarely fail to disambiguate the language.

Conclusion

Revised spelling (depending on the nature of the revisions) will have little effect on the reader who is already familiar with traditional orthography: a conclusion which is supported empirically by some of the work of Valerie Yule. It is not yet clear whether reformed spelling will confer any advantage on the reader who becomes familiar with it. The advantages of simplified spelling are more clearly in language learning, with certain systems also economising on production and storage.

Useful Readings

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[Simplified Spelling Society, Journal 8, 1988/2 pp17–19 in the printed version]
[Chris Jolly: see **Bulletins**, **Journals**, **Newsletters**, **Media**, **Books**.]

The Marketability of Spelling Reform

C J H Jolly

Chris Jolly has been Chairman of the Simplified Spelling Society since 1982 and has extensive professional experience in marketing. He has started a company developing learning products which is publishing and marketing innovatory reading materials. The following paper was presented at the Society's Fifth International Conference in July 1987.

The Survey

For spelling reform to take place it must be what people want. If not, it will simply be rejected. To find out what people want we must ask them, and this paper reports on some research that was carried out with that in mind. It set out to find if spelling reform could appeal to a majority of the population, and if so on what basis.

The survey took the form of street interviews using a questionnaire. (The questionnaire, showing the exact wording used, is given at the end of this article.) It represents only the views of 50 people in one London suburb (Loughton) on a day in July 1987. With such a small sample, the results should be taken only as a useful guide rather than any kind of definitive assessment.

However the results were both encouraging and had some surprises. Important among the findings was that:

- Most people expected spelling reforms to take place — even those who did not support the idea themselves.
- The main fear of spelling reform was that it would produce enormous confusion. Respondents thought there would be chaos if different systems were in use at the same time, or if, say, adults and children spelt differently.
- People recognised that English spellings were 'a mess' and yet had never really thought about reform.

The Respondents

Among the 50 people interviewed a high proportion was younger, female and in clerical/administrative work, all of which may have biased the results against spelling reform.

The Respondents (figures in %)

Sex	Men	32	Women	68
Age	16–25	24	26–35	20
	36–45	20	46–55	22
	56–65	10	66+	4
Class	AB	26	Management/Professiona	
	C1	34	Clerical/Administrative	
	C2	30	Skilled Manual	
	DE	10	Semi-skilled/Unskilled	

The Results

Most people considered themselves average spellers, but with more women than men claiming to be good spellers:

Self-assessment of spelling proficiency
(figures in %)

	Total	Men	Women
Good spellers	22	6	29
Average spellers	60	75	53
Poor spellers	18	19	18

However most people thought it was very important to spell correctly. If anything, such views were held more strongly by women and those over 45:

Importance attached to correct spelling
(figures in %)

	Total	Men	Women	16–45	46+
Very important	60	56	62	56	67
Quite important	36	38	35	38	33
Not important	4	6	3	6	-

Both good spellers and average spellers saw correct spelling as important in the same proportion. Only poor spellers were inclined to see it as not important.

Most people (68%) had seen spellings that were deliberately different. The most common were advertising and product names (32%) and American spellings (30%).

Surprisingly perhaps, most people did not think that spelling should never be changed:

Should spelling ever be changed?
(figures in %)

	Total	Men	Women
Should never be changed	40	31	47
Could be changed in certain circumstances	60	69	53

Men were more prepared to see change than women. Those who were good spellers were just as ready to see change as those who were average or poor spellers. Similarly, those who thought correct spelling was very important were just as ready to see change as those who thought correct spelling was only quite important or not important.

Surprisingly it was the younger people who were the most resistant to change. Similarly it was the higher socio-economic classes, particularly as we shall see later the clerical and administrative Cl class, that did not wish to have spelling changed:

Should spelling ever be changed?
(figures in %)

By age	Total	16–25	26–35	36–45	56+
Should never be changed	40	58	40	38	14
Could be changed in certain circumstances	60	42	60	62	86
By class	Total	AB	C1	C2	DE
Should never be changed	40	46	47	33	20
Could be changed in certain circumstances	60	54	53	67	80

When asked *why* they did not want to see change, there was no simple answer. Indeed a questionnaire of this sort is not the best way of exploring this point. However there was an overriding fear of *confusion,* a belief that different schemes would cause chaos, nobody would know where they were and everything would get very complicated. Above all, while they would be prepared to change their spelling to help children and immigrants it would have to be a change they were part of. They did not wish to have different spellings for different people.

Respondents were prepared to see spellings that were deliberately different, more so in personal letters or notes than in, say, reading schemes for children:

Deliberately different spellings acceptable (figures in %)	
In advertisements	52
In a letter from a friend	52
In notes a friend makes for himself	70
In special reading schemes for children	38
In an ordinary novel	18

One of the objections to different spelling in advertisements was that it would encourage children to spelling incorrectly. The figures suggest that spelling reform might be most readily accepted for use in personal notes.

Asked whether it would be a good idea to reform *illogical* spellings, only half the people thought so:

Changing illogical spellings desirable (figures in %)							
By sex & age	Total	Men	Women	16–25	26–35	36–45	56+
Yes	52	56	50	42	60	48	72
No	48	44	50	58	40	52	28
By class	Total	AB	C1	C2	DE		
Yes	52	54	24	73	80		
No	48	46	76	27	20		

Again it is the younger, and particularly the clerical C1 class, that is not in favour of change.

However respondents' view of people who set out to reform English spelling was mostly favourable when asked whether they were:

Speling reformers (figures in %)	
Misguided	42
On the right lines	58

It was put to respondents that decimalisation had come and that metrication was well under way. Against this background most thought there would be some change in spelling in their lifetime, though not very much:

Spelling reform in our lifetime?			
(figures in %)	Total	Men	Women
Not at all	18	31	12
Possibly a few words	64	50	70
Some significant changes	18	19	18
A wholesale reform	-	-	-

Women were more prepared to believe that there will be some change than men (despite the fact they would welcome it less).

Those who were good spellers, and those who believed correct spelling to be very important, thought that spelling reform was only likely to stretch to 'possibly a few words'. It was the average/poor spellers, and those who saw correct spelling as quite important/not important, who thought that spelling reform was likely to include 'some significant changes'. In other words it was those who were less happy with spelling who expected greatest change:

Spelling reform in our lifetime? (figures in %)			
By spelling proficiency	Total	Good	Average/poor
Not at all	18	18	18
Possibly a few words	64	73	62
Some significant changes	18	9	20
A wholesale reform	-	-	-
By importance attached to correct spelling	Total	V. important	Quite/not important
Not at all	18	20	15
Possibly a few words	64	70	55
Some significant changes	18	10	30
A wholesale reform	-	-	-

Some of the potential benefits of spelling reform were welcomed much more than others. We have already seen than reforming illogical spelling was thought to be a good idea by 52%.

Conditions for welcoming spelling reform (figures in %)	
If words needed fewer letters	32%
If words were spelt more like they sound	64%
If some of the confusing spellings were made less confusing	74%

So a system based simply on reducing the number of letters (an abbreviation system) would not have the same support as one based on more phonetic spelling. Note again that the avoidance of confusion appears the strongest motivator.

However it should be noted that these replies were from street interviews with people who did not have much time to think it through, and no examples to work with. The results should be considered only as an outline guide and one that could help in future research.

With these reservations in mind, consider the figures more closely. The welcome for spelling reform is maintained, at much the same level, even among those who had least support for spelling reform:

Conditions for welcoming spelling reform (figures in %)						
By various indicators	Total	Women	Age 16–25	Class C1	Good spellers	Correctness v.imp'tnt
If words needed fewer letters	32	26	33	6	9	43
If words were spelt more like they sound	64	59	58	47	55	67
If confusing spellings less confusing	74	74	83	59	73	77

It is in the clerical, C1 class that there are fewest people who would welcome spelling reform. However even in this group a majority would welcome reforms that would make confusing spellings less confusing.

Earlier in the questionnaire, many respondents thought spelling 'should never be changed'. Even so, a surprising number of them would welcome some of the possible benefits of spelling reform when it was put to them later on:

Conclusion

Some of the results of spelling reform would attract a wide level of support, others less so. These preferences have only been broadly indicated in this research but should be taken into account in the development and promotion of spelling reform schemes.

QUESTIONNAIRE			
Could I ask you some questions about spelling of?			
Q.1	Do you consider yourself a		
		Good speller	A
		Average speller	B
		Poor speller	C
Q.2	How important do you think it is to spell correctly?		
		Very important	D
		Quite important	E
		Not important	F
Q.3	Forgetting for a moment the mistakes at children or the newspapers make, have you ever seen words deliberately spelt in a different way?		
		Yes	Y
		No	N
	If Yes, where?		
		In advertisements	G
		In product names	H
		In books teaching children to read	I
		Used to help show the pronunciation	J
Q.4	In general, and do you think that spellings:		
		Should never be changed	K
		Could be changed in certain circumstances	L
Q.5	If never, why?		
		Like it as it is	M
		Spoils the language	N
		Taken so long to learn no wish to change	O
		Other	P
Q.6	Would you be prepared to see spellings that are deliberately different:		
		In advertisements	Q
		In a letter from a friend	R
		In the notes a friend makes for himself	S
		In special reading schemes for children	T
		In an ordinary novel	U
Q.7	Do you think it is a good idea to reform some of the more illogical English spellings?		
		Yes	Y
		No	N
Q.8	What is your view of people who set out to reform English spelling? Are they:		
		Misguided	A
		On the right lines	B
Q.9	Now that decimalization has come, and metrication is well under way, how much do you think spelling will be reformed in your lifetime?		
		Not at all	
		Possibly a few words	
		Some significant changes	
		A wholesale reform	
Q.10	Would you welcome spelling reform if, as a result		
		Words would be written with fewer letters	Y/N
		Words were spelt more like they sound	Y/N
		Some of the confusing spellings were made less confusing	Y/N

[Simplified Spelling Society, Journal 9, 1988/3 pp13–16 in the printed version]

A Sibilant Extravaganza, or How on Earth could Johnny Read?

Julius Nyikos

Prof. Nyikos had the benefit of education in the phonographic Hungarian orthography, and soon mastered the writing of Latin, German and Finnish. He resumed learning English orthography on emigrating to the USA in 1949, and hopes to be comfortable with it by 2030. He is Prof. of German and Gen. Linguistics at Washington & Jefferson College, Washington, Pennsylvania, and founder-president of the New English Orthography Institute. He is now engaged on a major study*, Complete Overview of the Enigmatic English Spelling System: the First Definitive Survey of the English Phonemes in Search of all their Graphemes,* from which comes the following paper (given at the Society's 5th International Conference, July 1987). "Johnny" refers to Rudolf Flesch's critique of look-and-say teaching methods*, Why Johnny Can't Read: And What You Can Do about It,* Harper and Row, 1985.

Still-spreading and never-ceasing functional illiteracy can be eliminated only if a substantially simplified, circumspectly systematized and succinctly standardized spelling system is introduced.

The scientific term for spelling system is 'orthography'. A new orthography's assignment must be to sustain the suitable, simple and/or consistent, systematic written symbols of our speech sounds and its task to dismiss the thousands of exceedingly stupid and unnecessary idiosyncrasies of the existing obsolete nonsystem to axe them mercilessly. This disastrously mixed-up nonsystem should be supplanted not in months but through years, step by step, so as to facilitate a sensibly slow and smooth switchover, absolutely devoid of any hustle and bustle. Nothing less makes sense and nothing else but sweet persuasion seems necessary, since such a new orthography's simplicity and conduciveness to learning are decidedly susceptible to enthusiastic acceptance. Good will ambassadorship, circumspect negotiations and expert craftsmanship can smooth its successful implementation, without any exhortations. No swords need be drawn: no danger of anyone going berserk in overheated debates.

We can certainly count on the students' massive support; in fact, a radically simplified system will be the answer to the sincere requests and SOS signals of countless hapless youngsters, all the way from Leicester and Worcester, Massachusetts and the Chesapeake Bay through Charleston, South Carolina, and Robinsonville, Mississippi, to Tucson, Arizona, and Crescent City, California. A truly systematic system will be a dream come true to foreign students of English from the isthmus of Panama to Szechwan Province and the Yangtze River of China.

The existence of the present spelling mess has been extended for centuries by arch-conservatives who sentimentally reminisced and considered all stuff inherited from deceased ancestors sacrosanct. Behind the façade of mostly pseudoscientific historicism, they obstinately refused to assess how unnecessarily immense Johnny's task was. With instinctive finesse and a selfish exclusive-club-philosophy, these phalanx-like forces persistently refused to exscind all that had obsolesced over time. The docile grass roots masses listened to them as meekly as serfs to the czar (also spelled: tzar and tsar).

Eventually the principle crystallized with icy clarity: whoever has the audacity to mess with English spelling is an iconoclast. This is how our spelling became an orthodoxy, nursed and pampered with the TLC usually reserved for a nice old granddad with Alzheimer's disease.

Most of us have acquiesced in this mess, largely, I suppose, because we have been persuaded by the school establishment — who likewise had been convinced by their teachers and the professors — that, since historic developments had forced this spelling complexity on our language, it is an unavoidable necessity … We have been swallowing this doctrine like hungry sixth graders gulping down pizza or french fries smothered in catchup, like Oktoberfest beer guzzlers downing schnitzel or knockwurst.

Linguists whose speciality is the study of the essence of spelling systems, say this is grievously false and indefensible. English, as a *language,* has no weakness: certainly none which could prevent specialists from transforming the existing spelling chaos into an ABC system whose simplicity will make it easy to learn to read and write correctly. A simple — or complex — orthography can be devised and revised for any language. English is no exception. The magnificence and exquisite beauty of our richest language will only be enhanced by a streamlined, rule-governed orthography.

Let's face it: the disturbing schism that has been gaping betwixt English speech and English spelling is now at an impasse, brought about by the sudden and swift advance and expansion — one might say: blitz — of the deluxe TV and the fancy computer. This schizophrenia is concisely demonstrated by this treatise. Notice, please: these sentences, which have been purposely worded in what might boastfully be termed Nyikos' (spelled also: Nyikos's) self-illustrating style, effervesce with the constant emergence of the hissing *s* speech sound, but they are also cursed with 58 ways of spelling this simple sibilating consonant. Of these, some are easily recognizable; others are less obvious but readily substantiated. (For complete listings and explanation see pages 3–5.)

Surprised?... — Linguists' and lexicographers' surprise is almost as great. Only recently has all-encompassing refined research been able to approximate a comprehensive classification of nigh all letters and letter combinations English uses to represent its 40 speech sounds. The count to date is somewhere between 900 and 1,000. No wonder it took you and me twelve of our best years to master an incredible average of 23–24 unpredictable diverse ways of spelling each of our speech sounds. Fifty-eight ways of writing the sound *s* is just one gross example exhibited here to give substance to our question, "How on earth could Johnny read?!..."

Had the psychological warfare unit of the Nazis tried to devise something to cause a standstill in our ranks, they could scarcely have come up with a spelling non-system worse than the one in use. It's sad that blue ribbon commissions, which excellently assessed miscellaneous causes for much incompetence in our schools, missed assigning the greatest importance to substituting a sensible spelling system for the existing monstrosity. Not only was it not their principal concern, it totally escaped their probing X-ray vision. The density of the forest of problems hopelessly obscured the root cause…

Yet that is the crux of saving our schools from the menace of the ever-rising incidence of functional illiteracy and a subtly progressing bankruptcy of the learning process. A basic, simplifying restructuring of English spelling is our greatest chance for a stupendous reversal of the sadly sagging standards of America's schools. Its importance and urgency transcend all else.

It might serve as a postscript to say: Some oh-so-sensitive souls might suspect that a systematizing simplification of our spelling would make English script exsanguine, depriving it of its "rich Greek and Latin elements and its Shakespearean etcetera heritage". — All those in favor of keeping our spelling a collection of museum pieces should be consistent enough to exchange their state-of-the-art automobiles for chintzy chariots and their word processors for clay tablets and styluses. Only then should they venture to pontificate, about what Johnny's part should be in the preservation of exsiccated orthographical mummies of past centuries. Respect is due historical artifacts, but they should be on exhibition in our museums and archives and certainly not in our youth's spelling lessons.

You do not feel any remorse when discarding wastepaper into a wastebasket. But it should be felt as a grievous loss to keep wasting billions and trillions of man-hours of strenuous effort on rote memorization of thousands of whimsical, illogical and contradictory sequences of letters and letter combinations.

Curiosity for learning ought to serve higher purposes: incomparably higher ones. Our children should not have to go to such unnatural lengths to learn to read the words that they so effortlessly and joyously learned to speak. Nor should native speakers of all other tongues of the world have to endure such exorbitant exertions in order to learn to read and write our beloved English.

Statistics of the 58 Letters/Letter Combinations representing the Speech Sound /s/ as used in this Article

5 whole letters

1) <s> The single letter <s> has occurred 245 times, representing the sound /s/ in altogether 216 words, counting prefixed, suffixed and compound versions as separate words. (Of these words, 14 were repeated once, 4 three times, one four times, 3 six times and one — the word *spelling* — 17 times.)

2) <c> *never-ceasing, illiteracy, circumspectly, succinctly, unnecessary, mercilessly, facilitate, necessary, simplicity, conduciveness, decidedly, acceptance, circumspect, successful, certainly, sincere, city, centuries, deceased, sequences, ancestors, historicism, unnecessarily, forces, docile, principle, audacity, necessity, certainly, magnificence, fancy, concisely sentences, recently, principal, concern, incidence, process, urgency, etcetera, pieces, processors*

3) <t> *negotiations:* in the use of countless speakers of English who pronounce it 'negosiashunz' (rather than 'negoshiashunz')

4) <z> *czar, tzar, pizza, schnitzel, blitz, chintzy:* In *schnitzel* and in *blitz* the letter <z> and in *pizza* the second letter <z> clearly represents the sound /s/ *schnitsel (*or *snitsel)* and *blits* being their only recorded ways of pronounciation. The letter <z> represents the sound /s/ also in the words *czar, tzar* and *chintzy* in the use of most speakers of English who pronounce them *tsahr* and *chintsee* respectively.

5) <x> *phalanx:* in the use of countless speakers of English who pronounce it *falans* (rather than *falanks*)

2 apostrophized versions of a letter and one letter with a diacritic mark

6) <*s'*> *students', linguists', Nyikos'*
7) <'s> *let's, it's, youth's*
8) <ç> *façade*

The first halves of 2 letters and the second halves of 3 letters

9)  Since the *name* of the *letter* <c> is pronounced *see,* it represents two *sounds,* namely /s/ and <ee>. Hence, the *sound* /s/ is symbolized only by the first half of the letter <c> in TLC and ABC.

10)  In the use of many speakers of English who pronounce *Nyikos's Nikosiz* (as they pronounce *'Venus's* flytrap' *'Veenusiz* flytrap'), only the first half of the first, apostrophized letter <s>, represents the *sound* /s/ because the second half of this letter <s> and the last letter <s> together symbolize the sound sequence *iz* in *Nikosiz.*

11)  Since the *name* of the *letter* <s> is pronounced *es*, it represents two *sounds.* Hence the *sound* /s/ is symbolized only by the second half of the letter <s> in *SOS.*

12)  Since the letter <x> represents two sounds, namely /ks/, in the following words, the sound /s/ is symbolized in them only by the second half of the letter <x>: *mixed-up, expert, extended, exclusive, orthodoxy, complexity, complex, exquisite, betwixt, expansion, lexicographers, crux, exchange,*

13)  Since the letter <z> represents two *sounds,* namely /ts/, in the words *Al<u>z</u>heimer's* disease, *schi<u>z</u>ophrenia, Na<u>z</u>is,* the *sound* /s/ is symbolized in these words only by the second half of the letter <z>.

The last third of one letter and the first third of an apostrophized letter

14)  Since the name of the *letter* <x> is pronounced /eks/, this letters *name* represents three sounds. Hence the *sound* /s/ is actually symbolized by only the last third of this letter in <u>X</u>-ray.

15)  The *sound /s/* is represented by only the first third of the apostrophized letter <s> in the use of many speakers who pronounce *Nyikos'* as *Nyikosiz* (as they pronounce Saint *Agnes'* Eve as Saint *Agnesiz* Eev, e.g. in John Keats' poem) because the other two thirds of this letter <s> symbolize the sound sequence /iz/.

17 two-letter combinations, based on letter <s>

16) <ss> assignment, dismiss, unnecessary, mercilessly, less, necessary, conduciveness, ambassadorship, successful, massive, countless, hapless, Massachusetts, mess, assess, grass, masses, professors, essence, weakness, hissing, all-encompassing, classification, gross, assessed, missed, assigning, hopelessly, progressing, process, lessons, effortlessly, loss
17) <se> sense, else, deceased, immense, nursed, false, concisely, treatise, purposely, please, cursed, diverse, worse, use, remorse
18) <sc> scientific, susceptible, Crescent City, pseudoscientific, unsusceptible, miscellaneous, transcend
19) <s's> The apostrophized letter <s> plus the following letter <s> in Nyikos's represent the sound /s/ together, whenever pronounced Nikos, the preferred choice of most speakers of English when using the possessives of many names ending in <s>, for instance, Venus's flytrap, when pronounced Veenus flytrap.
20) <st> hustle, bustle, listened, postscript
21) <sw> swords, answer
22) <sz> Szechwan
23) <ps> pseudoscientific, psychological
24) <es> Charleston, Shakespearean

No speakers of standard English pronounce certain letters which immediately follow or immediately precede the letter <s> in particular words. These so-called silent letters are silent now, but they were used to represent actual sounds which, through the centuries, became slurred over by increasing numbers of speakers. We just listed several such two-letter combinations based on the letter <s>: <sc, st, sw, ps, es> Countless speakers of today's standard English do not pronounce eight other similarly situated letters either, that is to say, they slur over eight other sounds in the same way that their forebears skipped over the /w/ sound in <u>*sword*</u>, the /t/ sound in *listen* and the /p/ sound in *psychology.* Most of these speakers are absolutely not aware of their slurring, (nor are their listeners), but precise recordings by lexicographers and linguists confirm not only the existence but also the extent of such habits. They are so widespread as to be considered within the limits of acceptability. This is why these variants are included in this survey. (Exclusively such variants have been quoted whose acceptability is unquestionably attested by the authoritative *Webster's Ninth New Collegiate Dictionary, 1984.)*

25) <si> density, curiosity: pronounced by many denstee and kyooriostee respectively
26) <ts> craftsmanship, tsar: pronounced by many krafsmanship and sahr respectively
27) <sa> Chesapeake Bay: pronounced by many Chespeek Bay

28) <so> philosophy: pronounced by many filosfee
29) <su> suppose: pronounced by many spohz
30) <ns> Robinsonville: pronounced by many Robisunvil
31) <rs> berserk, knockwurst: pronounced by many beserk and nokwoost respectively
32) <t's> let's: pronounced by many in rapid speech as les

9 three-letter combinations and 2 four-letter combinations, all based on the letter <s>
33) <sce> reminisced, obsolesced, acquiesced, effervesce
34) <sse> finesse, impasse
35) <ssa> ambassadorship, Massachusetts: pronounced by many, especially in rapid speech, as ambasdorship and Masschoosets, respectively
36) <ssi> necessity, classification: pronounced by many, especially in rapid speech, as nesestee and klasfikaishun respectively
37) <sch> schnitzel and schism: pronounced by many snitsl and sizm respectively
38) <sth> isthmus
39) <sts> postscript: pronounced by many pohscript
40) <ste> wastepaper, wastebasket: pronounced by many wasepaper — wasebasket
41) <ths> months, lengths pronounced by many mons and lengs respectively
42) <ssis> Mississippi: pronounced by many, especially in rapid speech, as Missipee
43) <rces> Worcester: Wooster — its only recorded pronunciation

7 two-letter combinations and one three-letter combination, based on the letter <c>
44) <ce> introduced, since, acceptance, existence, nice, convinced, forced, essence, magnificence, enhanced, face, advance, notice, emergence, substance, scarcely, incompetence, menace, incidence, chance, importance
45) <ci> simplicity, principle, principal: pronounced by many, especially in rapid speech, as simplistee and prinspl respectively
46) <cc> succinct: pronounced by many susinkt
47) <ch> catchup: pronounced by many katsup
48) <cs> Tucson: Tooson, its only recorded pronunciation
49) <cz> czar pronounced by many sahr
50) <tc> bankruptcy: pronounced by many bankrupsee
51) <ces> Leicester: Lester, its only recorded pronunciation

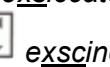
4 combinations with one-and-a-half-letters, 2 with two-and-a-half, all based on the letter <x>
Since the letter <x> represents the sound combination /ks/, only the second half of this letter symbolizes a component of the sound /s/, the other component of the /s/ sound being symbolized by the letter (or by two letters) following th letter <x> in each of these combinations:

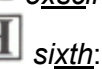
52)  *ex<u>c</u>eedingly, ex<u>c</u>eption, ex<u>c</u>ellently*

53)  *a<u>xe</u>, delu<u>xe</u>*

54)  *e<u>xh</u>ortations, e<u>xh</u>ibition*

55)  *e<u>xs</u>iccated, exsertions*

56)  *e<u>xsc</u>ind*

57)  *si<u>xth</u>*: pronounced by many *sik<u>s</u>*

One two-letter combination, based on letter <z>
58) <tz> Yangtze River: the only English pronunciation being *Yang<u>s</u>ee* River, and *<u>tz</u>ar* and *chin<u>tz</u>y:* pronounced by many *<u>s</u>ahr* and *chin<u>s</u>ee* respectively.

[Simplified Spelling Society, Journal 9, 1988/3 pp11–13 in the printed version]
[Edgar Gregersen: see **Journals**, **News5**]

The Strategy of Spelling Reform in Stages: Pros and Cons

Edgar Gregersen

Edgar Gregersen is Professor of Anthropology at Queens College and Graduate Center of the City University of New York. He has a special knowledge of accents of English, Egyptian hieroglyphics, the alphabetization of West African languages, and the spelling of Norwegian. This article is based on a paper given at the Society's 1987 Conference 'Spelling for Efficiency'.

Advocates of reform by stages — and objections

The Simplified Spelling Society has recently proposed a series of modest reforms rather than a radical one-step overhaul of the present orthography of English. These proposals have been set forth in the Society's leaflet *Tough Though Thought.* As an alternative, some members of the Society have urged that Cut Spelling be promoted as a first step.

In a similar vein, Harry Lindgren, in his *Spelling Reform: A New Approach* (1969), specifically called for a 50-stage reform, to take at least 50 years. Actually, the time period for the full reform would probably — even under optimal conditions — be considerably longer because the very first step may take several years all by itself.

On the other hand, Edward Rondthaler, the proponent of 'Simplified American Spelling', has changed his mind and is now against stages. Originally he proposed about three, but now he feels that anything less than a total overhaul would cause a great deal of confusion, if only because many words would have multiple representations.

My own view is that an overnight total reform would be the most efficient and desirable approach in the long run. But barring enlightened despotism, a Kemal-Atatürk-style revolution, or persuading Oliver North to divert funds from the Contras to stage an orthographic coup in the USA, this is unlikely.

I am not against stages, however, if used as a tactic to arouse public interest in reform. Certainly the use of stages in private publications and in propaganda is quite justified. But getting governments in English-speaking countries to go along with a piecemeal approach is something else.

Let us consider two practical situations.

Russian

The first of these is the spelling reform of Russian that occurred shortly after the Revolution. Altho initially planned by a commission under the last tsar, Nicholas II, the reform was carried out under the Communists, many of whom saw it as a first step towards their international-minded goal of romanization. In fact, the Soviets created decent roman orthographies for many non-Russian-speaking native peoples in Siberia and elsewhere. Ultimately, Russian nationalism triumphed over Communist internationalism: plans for romanization were abandoned and modified cyrillic alphabets replaced the roman ones set up just a few years before. Since the major spelling reform for Russian (in which several letters believed to be superfluous were dropped, including <i> and <θ>), only occasional and trivial changes have taken place, e.g. и д т и *(idti) for* и т т и *(itti), to go.*

Improvements of a more thorogoing kind, such as the marking of stress, have apparently not even been considered.

The basic moral from the Russian situation is that if stages of reform are indeed accepted, each stage had better be selfcontained because it may be the last one carried out.

Norwegian

The second practical situation I shall consider is that of Norwegian riksmål/bokmål. The Norwegian situation has considerably more complications than most other languages, in large part because of a powerplay involving social classes and geographic regions. A large part of the controversy that has inflamed the Norwegian reforms does not involve spelling as such, but rather what is to be regarded as the standard spoken Norwegian, which the spelling would reflect.

In the early 19th century, most Norwegians wrote following Danish conventions even tho they did not use Danish pronunciation. Let us consider the changes that occurred in the three major reforms of the 20th century, those of 1907, 1917, and 1938, by examining the following five words, given first in their older Danish spellings (a spelling reform in Denmark occurred after World War II, two of the major features of which were abandoning the use of initial capital letters for nouns and the introduction of the letter <å> from Swedish and Norwegian for older <aa>): *Blæk (ink), bleg (pale), Kagen (the cake), Gaden (the street), Gaade (riddle).*

	Blæk	bleg	Kagen	Gaden	Gaade
1907	blek	blek	kaken	gaten	gaate
1917	blekk				gåte
1938				(gata)	
	blekk	blek	kaken	gaten	gate

The reform of 1907 tried to introduce as the standard it reflected the language of educated speakers from Oslo using a relatively formal style. The spelling therefore abandoned for the most part <d, g> between vowels, to reflect the current unaffected pronunciation with <t, k>. The reform also very greatly restricted the use of the letter <æ> (unless it occurred before <r>) and generally substituted <e>. Further, the reform did not deal with vowel length consistently; hence *Blæk* with a short vowel and *bleg* with a long one both wound up as *blek.* This confusion of long and short vowels before final consonants was systematic, so that except for the earlier capitalization distinction, men *(Men) (damage)* and *men (but)* have traditionally been written the same til this day. (But note *menn [men],* former *Mænd*, with a short vowel, pronounced the same as *men [but].)*

This systematic confusion was a major defect of the writing system. In 1917 it was resolved by usually doubling a final consonant after a short vowel (as had been done within a word, e.g., 1907 *blek [ink]* but *blekken (the ink],* 1917 *blekk [ink], blekken [the ink]).* The 1907 orthographic peculiarity was memorialized in the phrase:

> "Hvad trenger du med pen [penn] og blek [blekk], du som er saa pen og blek?"
> (Why do you need pen and ink, you who are so beautiful and pale?)

The 1938 reform introduced few new spelling rules, but tried to change the standard used from upper middle class dialects to urban working class dialects (e.g. *gata).* Altho such forms are official they have met considerable resistance.

The result of all these changes is that people in different age groups may continue to write using spellings that are no longer official. Until quite recently (and possibly still), some older people even used the 19th century Danish conventions. For the most part, people take all this in their stride. Dictionary makers usually just ignore older variants. Even if they didn't, the result would be only slightly fatter dictionaries and considerably more cross-referencing than commonly found.

The moral for us is that reform in stages is not an impossible option, altho it is a messy one. The Norwegian situation got more complicated than need be by juggling nationalism with linguistic requirements (e.g. dropping <w> to become more Norwegian-looking — or at least less Danish-looking — vs. marking length of vowels).

The Simplified Spelling Society
Let us now consider various reforms in stages as proposed for English.

The Simplified Spelling Society in its ***Tough Though, Thought*** leaflet suggested a reform it labeled 'SR:ough'. In line with this reform, the following changes were to be made:

drought	→drout	plough	→plou
thorough	→thurra	though	→tho
dough	→doh	cough	→cof
bought	→baut		

Everyone agrees that traditional spellings with <-ough> are horrible, but an enormous number of problems confront us in solving them.

The least objectionable change is from *drought* to *drout,* since all that is involved is dropping the totally superfluous letters <gh>. With *plough,* one might argue that the same thing applies. But note that another spelling already exists: *plow.* British and Commonwealth speakers of English may brand this as an Americanism — and certainly cultural feelings of this sort must be taken into account. But are we to reject all reasonable forms because they are American? Furthermore, *plou* has a decidedly unenglish look to it because <-ou> normally doesn't occur finally, only <-ow> *(how, now, cow,* etc).

The form *thurra for thorough* is not Nue Speling (where it is written as *thurro).* And the suggested spelling of the final vowel opens a whole new kettle of fish that I'm afraid is more unfortunate than one might think. Altho the RP pronunciation of the word ends on the same vowel as *China,* the normal US and Canadian pronunciation of the word has the final syllable the same as in *follow, sorrow.* To spell this word (and also *borough)* with final <-a> rather than a compromise <-o> would tend to split the English-speaking world. I think it unwise to introduce such complications into the earliest stages of reform and probably into any stage of spelling, which it seems to me should be as internationally acceptable as possible.

The spelling *tho* is fine (tho I myself prefer *dho).* But *doh* for *dough* is just out of the blue and certainly goes nowhere. The Nue Speling form *doe* would have made sense, but no spelling system for English I know advocates <oh> for the vowel sound in *go.*

The spellings *cof* and *baut for cough* and *bought* again introduce dialect differences. In the speech of older RP speakers the vowels of both words are often pronounced the same, and this is also true probably for most Americans. To use different vowels in the spelling without any further clarification is therefore quite unfortunate. (By the way, words such as *bought, ought, fought,*

frought, wrought could perhaps better be spelt as *boht, oht, foht, froht, roht* in a first stage: dropping the <ug> should appeal to proponents of Cut Spelling and it more nearly approaches an international value for vowel representations.)

To sum up this rather tortuous discussion: 'SR:ough' is simply too complicated to be a desirable early stage of reform. A considerable number of decisions of unequal value have to be made at once. Sometimes the changes made do not suggest the general direction reform is going (as most obviously with doh *for dough).* In short, 'SR:ough' should be abandoned.

Harry Lindgren

The suggestions made by Harry Lindgren have much that is admirable to my mind. For example, he maintains that each and every step must be unambiguous and complete. He seems also to suggest that there must be a concern for the sequence of stages. I for one think it would be very unfortunate to change *hence to hens* before present *hens* had become *henz;* or to change *off* to *of* before present *of* had become *ov*. Lindgren in effect acknowledges the same sorts of problems, but without actually giving the details about specific stages, except for SR:I, which always writes stressed short /e/ as <e>.

However, his scheme does present serious problems, most notably in his insistence that the 'obscure' unstressed vowel shwa [a] as found in *about, China,* and so on, be consistently shown (as <'>). This decision immediately confronts us with a very fundamental question: preserving the unity of the English language community. Enormous variation exists with regard to how unstressed vowels are pronounced. Consider simply the following few examples contrasting usage in RP and one variety of American English.

	RP	*General American*
baboon	bə'buwn	bæ'buwn
python	'pajθn	'pajθan
omit	ə'mit	o'mit
	ow'mit	
	o'mit (moribund?)	
cocaine	kə'kejn	ko'kejn
	ko'kejn (moribund?)	
literary	'litərəri	'litərenij
	'litrəri	
	litrri	
testimony	'testiməni	testimownij

Another drawback to showing shwa is that doing so obscures the relationship between related forms as in *phətógrapher vs phótəgraph,* or *históric*al *vs híst(ə)ry.*

Whatever the final judgment as to how such unstressed vowels should be shown, any decisions that would tend to break up the unity of the English-language community should be weighed very seriously and delayed until the very last stage of reform — if ever adopted at all.

In other words, it strikes me that the approach used at present in Russian of not showing vowel reduction could be adopted in English — or rather retained, since traditional English spelling does precisely that for the most part. (In more technical terms, I'm advocating the orthographic inviolability of the morpheme, the smallest unit with meaning — e.g. the *photo* part of *photograph[er].)*

The danger of having to reverse reforms

A third and last situation to be considered comes from a Cut-Spelling-like approach to reform. (Chris Upward assures that this particular solution is not advocated by proponents of Cut Spelling, however*). Consider the traditional English spelling *breathe.* One possible reduction within a Cut Spelling approach would certainly seem to be *brethe.* Since this is so, forms such as *sleepy, sleeping,* and *sleeper* might be cut to the shorter forms *slepy, sleping,* and *sleper,* even tho the underlying form *sleep* would have to be retained unchanged. Here we have, first of all, a problem of unnecessarily breaking up related forms (i.e. we would violate the integrity of the morpheme). But what about the final stage of reform? What if we decide that the vowel sound of *sleep* is always to be written <ee>? We would go back to the traditional spelling.

An even worse situation could occur with the two words *who* and *hoe:**

TO	*who*		*hoe*
	\		/
Intervening stage (CS)		*ho*	
	/		\
Final stage (NS)	*huu*		*hoe*

Here the intervening reform stage lumps together two words pronounced differently only to have them re-differentiated in the final stage.

To avoid such awkward situations, which could only invite scorn from people opposed to spelling reform, stages must be planned with an eye to the final comprehensive system. It has been said that the proposals of the Simplified Spelling Board of the United States (now defunct) failed precisely because it proposed no final comprehensive scheme and gave the impression of wandering in the dark with some very ad hoc solutions. (See their *Handbook of simplified spelling,* 1920). For example, for the sound of the vowel in *sleep* no clear direction was given. Words ending in <-ceed> *(proceed, succeed, exceed)* were to coalesce with the <-cede> suffix (like *precede);* hence*, procede, succede, excede.* Words with <ei> were to be rewritten with <ie> *(reciev* for *receive);* words with <ae> and <oe> were to be cut to <e> at the beginning and middle of a word but not finally: *fenix for phoenix, enciclopedia* for *encyclopaedia,* but *alumnae* unchanged. This approach is the way of madness.

Let me restate my position: any kind of piecemeal changes, even if single words, may be a justifiable strategy for jarring the public into an awareness and eventual acceptance of rational spelling. But these changes should be self-contained and most of all should not have to be undone in later stages. My own preference for a stage one reform would simply introduce new symbols that are necessary for a decent spelling of English but have no tradition behind them such as accent marks to indicate stress, or the Klasik Nue Speling forms <dh, zh, ngg, aa, uu>. To do so would in effect get the most difficult job done relatively then have the embarrassing situation where the end result painlessly.

However, once a momentum for change is achieved, spelling reformers should abandon a strategy of stages and push for a comprehensive, one-time reform.

[*Pt 2 of 'Conflicting Eficiency Criteria in Cut Speling' in Journal 1989/1 J10, will discuss how CS could treat these long vowels and potential ambiguities such as who:hoe. — Ed.]

[Simplified Spelling Society, Journal 9, 1988/3 pp17–23 in the printed version]
[Chris Upward: see **Journals**, **Newsletters**, **Pamflet**, **Leaflets**, **Media**, **Book and Papers**]

Conflicting Eficiency Criteria in Cut Spelling —1

Christopher Upward

Most of this paper was presentd at th Societys Fifth Intrnationl Confrnce in july 1987; furthr aspects of th question wil be examnd in a sequel in th 1989/1 isu of th *Jurnl.* Th Cut Speling used here is fairly radicl, and readrs wil find many of its mor problmatic forms discussd in th articl belo (or in th sequel).

0 ABSTRACT

With its 3 rules for removing redundnt letrs, th Cut Speling tecniqe for reforming english speling substantialy improves th eficiency of th ritn languaj in respect of econmy, simplicity and fonografic regularity, wile ensuring th new orthografy and th old ar mutuly compatbl. Howevr these criteria of econmy, simplicity, regularity and compatbility conflict with each othr in certn wel-defined orthografic environmnts, and decisions then hav to be made as to wich criteria shud take precednce. Thus: exessiv econmy benefits th riter at th expense of th readr; th visul disturbnce of removing silent initial letrs (as in *naw, nee, rong)* reduces compatbility between old and new forms; and mecanicl aplication of th 3 cuting rules somtimes blurs crucial distinctions (as between long and short vowls). Sub-rules ar therfor required, to alow exeptions to th main rules. This articl discusss th main circmstnces in wich such conflicts arise and makes som tentativ sujestions as to how they may best be resolvd.

1. INTRODUCTION

1.1 Th rationale of Cut Speling (CS)

Th CS aproach to english speling reform, as orijnly conceved by Valerie Yule and subsequently systmatised by th presnt authr, primarily involvs th omission of redundnt letrs, rathr than any holesale respeling of words or sounds. This.aproach has sevrl importnt featurs to comend it.

- Historically: As shown in th articl *Cut Spelling — a Linguistic Universl?,* **[1]** th riting systms of many languajs (including english) hav evolvd particulrly by omiting symbls that hav outlivd ther usefulness; omission is thus a comn manifestation of orthografic progress.
- Sycolojicly: Omiting redundnt letrs preservs th familir apearance of words (gestalt) betr than dos substituting letrs; as a result, readrs skild in Traditionl Orthografy (TO) can read CS without instruction, and children educated in CS cud stil read TO.
- Educationly: Omiting redundnt letrs elimnates many of th most dificlt featurs of TO wich ar especialy err-prone, as demnstrated in th articl *Can Cut Speling Cut Mispeling?* **[2]**
- Intrnationly: Omiting redundnt letrs not only restors many mor fonografic spelings used in elizabethan or chaucerian times, but it also brings many english words closer to th speling of related words in othr european languajs, so helping english speakrs lern foren languajs and non-nativ speakrs lern english.
- Foneticly: Omiting redundnt letrs rarely encountrs problms with conflicting accents, since it starts by asking wat is rong with TO rathr than how words ar pronounced.
- Economicly: CS makes th hole riting systm of english less cumbrsm, al riting tasks (wethr handriting, typing, printing, etc) can be performd 10%+ fastr, and corespondingly less space and fewr materials ar needd; in an eficiency- and econrny-concius world, that is an importnt benefit.

1.2 Th rules of CS

To establish wich letrs ar redundnt, th definition used is: 'letrs ofring no sycolojicl asistnce to th human readr or riter'. They nearly al fal into one of 3 categris:

1. Som, like <b> in *debt,* ar totaly irelevnt to pronunciation. Rule I of CS therfor produces th form *det*. Many, like th alternativ spelings for th 'obscure' vowl shwa wen it precedes final <1, m, n, r> ar hyly unpredictbl; similrly th insertion of <e> in many inflexions givs rise to frequent speling

uncertnty. TO itself somtimes omits these vowl-letrs anyway (as in *apple, spasm, isn't, centre, hated,* rathr than *appele, spasem, isen't, centere, hateed),* but CS dos so regulrly. Rule 2 of CS thus produces th forms *apl: chapl, spasm: fathm, isnt: presnt, centr: entr, hated: hatd, puts: pushs, volubl: valubl.*

2. TO dubls consnnts frequently but inconsistntly and usuly unecesrly. Rule 3 of CS says that consnnts ar not normly dubld, so regulrising numerus spelings that difr by singl or dubld consnnts in TO, as *copr: propr, rabit: habit, ad: bad, abreviate: abrij, afraid: afray, inoculate: inocuus.*

With a litl practice these rules ar soon mastrd, and once lernt can be aplyd straitforwrdly across th languaj. Howevr ther ar circmstnces wher such cuts ar fonograficly misleading, or hav disadvantajs that may outwei th advantajs, and this study wil try and catalog them. Readrs ho hav not atemtd to use CS may form th impression that th hole systm is ridld with problms; but this is not in fact so, th systrn is jenrly clear-cut and simpl to oprate, and it must be remembrd that no speling systm has yet been devised for english that avoids al problms. CS has to be jujd not by th legacy of problms it inherits from TO, but by how much it improves on TO. Th problms ar points of detail, and ar not centrl to CS as a systm; but they do need furthr discussion and reserch. Nevrthless, despite som remaining uncertntis in th detail, th CS systm as a hole has been refined and basicly proved itself thru years of practicl experience, as readrs wil apreciate if they hav folod its developmnt in th pajes of th SSS *Newsletter and Journal* since 1985.

In adition to th 3 rules for cuting letrs, th authr curently aplys 3 limitd letr-chanjing rules wich also remove serius inconsistncis in TO and at th same time shortn th speling of many words. These letr-chanjing rules ar:

- Wen TO spels /f/ as <gh> or <ph>, CS substitutes *<f>: tuf, fotograf.*
- Wen TO represents th vowl in *high, sign* by <ig>, CS substitutes <y>: *hy, syn.*
- Th sound of <j> is always ritn <j>, nevr *<g, dg>: juj, jinir.*

These letr-chanjing rules ar not an esential part of CS, but ar curently included because th coresponding TO spelings create considrbl uncertnty and dificlty, and, unlike most othr letr-chanjing rules, these thre ar simpl and self-containd, and do not giv rise to a chain of complications elsewher in th systm.

2. BREVITY vs READBILITY

2.1 Brevity as eficiency

Brevity itself can mean eficiency, altho it dos not necesrly do so. We can se this if we compare th 3 alternativ ritn forms of th names of years: arabic numerals (e.g. *1957),* roman numerals (e.g. *MDCCCXLVII),* and alfabetic letrs (e.g. *nineteen-hundred-and-forty-seven*). Th arabic numerals take up least space, ar red and ritn fast and acuratly, and do not require a nolej of english. Relativly short and also intrnationly undrstood, but awkwrd both to en- and decode, ar th roman numerals: most readrs wil probbly not imediatly recognise wethr or not th abov exampl represents th same year as th arabic numerals or th alfabetic rendring. Th alfabetic form by contrast requires a nolej of english and is cumbrsm both for readrs, ho require at least two y- fixations, and for riters, ho need nearly 8 times as long to rite it as th arabic numerals. In these exampls, th most economicl form is th most eficient for both readrs and riters.

2.2 Exessiv brevity

Howevr, a conflict of eficiency criteria can arise from th difrnt needs of riters and readrs. For th riter th shortst posbl representation of words may be th most eficient; but, as with shorthand, exessiv brevity can impede reading.

Th potential problms of exessiv brevity ar seen in Ayb Citrons *SPD SPLG,* **[3]** wich acheves much gretr econmy than CS, but at th cost of ful sound-symbl corespondnce. *SPD SPLG* uses 100 wordsyns (singl letrs, digrafs, trigrafs and som longr forms, each representing a hole word hose TO form is much longr), but th script is hard, if not imposbl, to decifer, unless one lerns th code. Considr th sentnce

D u hav t x tu fays t cmty n c u d t job?
wich shud be red as
"Do u hav th experience to face th comitee and can u do th job?"

As wel as needing to memrize th 100 word-syns, th readr may face sevrl perceptul dificltis with this script: ???

- a string of singl-letr words like *n c u d t* is not esy to distinguish from a singl word with widely spaced letrs.
- a 1 letr misprint may disrupt th meaning of a hole sentnce, insted of slytly distorting th apearance of a singl word, wich is usul th worst efect of misprints in TO (se Knowles on Information Theory [4]).
- a succession of short words of equal length may be hardr to read fluently than words of mor varid length — tho th sycolojy of reading in chinese and japnese, hose caractrs normly ocupy a square blok of similr size, may hav mor to tel us about that.

2.3 How myt CS afect reading speed?
Wat efect CS myt hav on reading speeds is a complex question. John Kerr gave a sycolojists vew: [5] "Most of the time spent during reading is taken up by the processes involved in understanding the text rather than simply decoding the symbols ... readers of a system like CS may not read faster, for the same reasons." Valerie Yules experimnts [6] at least demnstrated that adult readrs quikly overcom th setbak caused by th initial unfamiliarity of CS. Th presnt riter has no experimentl evidnce, but he needs furthr persuading that no time at al can be saved if fewr y-fixations ar required (th fastr reading of arabic numerals in year-names shos that brevity can help at least somtimes).

Ther is howevr a rathr difrnt reasn wy th gretr brevity of CS may not produce corespondingly fastr reading. Wen word-length is reduced, it autmaticly folos that th *variety* of word-length is reduced too; but length is in itself one of th distinctiv featurs of words in ther ritn form, so that th words *their written form* (5, 7, 4 letrs respectiviy) ar in that respect mor obviusly distinct than ar *ther ritn form* (4 letrs each). Therfor it is posbl that with mor uniform word-length, a givn line-length may hav to be red mor sloly and with gretr concentration, altho, even if 100 lines of text take longer, this dos not mean that 100 words canot stil be red fastr in CS. Only sycolojists can resolv such questions; th experimnts cud be conductd in TO to establish wethr readrs scan texts mor sloly wen word-length is mor uniform.

Th foloing sentnees hylyt by exajration certn efects on th apearance of text that can arise wen word-length is cut.

1 CS: *Confrnces ar pland anuly in Lestr.* (28 letrs)
TO: *Conferences are planned annually in Leicester.* (40 letrs)
2 CS: *He ot to go to th in if lo clouds threin.* (30 letrs, 9 consecutiv 2-letr words)
TO: *He ought to go to the inn if low clouds threaten.* (38 letrs, maximm 3 consecutiv 2-letr words)
3 TO: *The two men had now put the big box in the hut.* (11/12 words of 3 letrs)

Sentnce 1 is over 40% shortr in CS than in TO, and readrs, wil observ how much fastr th y scans th CS version. Sentnce 2 shos how, by shortning spelings jenrly, CS reduces words to a mor uniform length; in this extreme case th long string of 2-letr words makes them visuly less distinctiv and therfor perhaps requires mor concentrated reading (with th add dificlty here of frequent repetition of <o, t> in a very short space); but th 27% longr TO version may stil take longr to read. TO itself can of corse also contain a succession of words of equal length, as in Sentnce 3; th readr may like to considr wethr it apears hardr to read than mor varid text myt. If experimnts proved that strings of 2-

letr words, as in CS sentnce 2, do impede reading, th dificlty cud be reduced by leving th definit articl and som othr comn short words uncut.

It is thus clear that th brevity of CS benefits th riter, but it is not yet clear how far, if at al, such brevity helps th skild readr. But even if th skild readr is scarcely helpd, th lernr wil benefit from th much gretr regularity of CS and its relativ lak of dificlt spelings compared with TO.

2.4 Letrs redundnt in som accents only

A very difrnt kind of conflict between brevity and readbility in CS arises from discrepncis in pronunciation between accents. One of th advantajs of CS is that it dos not usuly favor a particulr accent by implying one exclusiv pronunciation for a word — most redundnt letrs ar redundnt in al accents. Thus no accent pronounces <b> in *debt* or <e> in *apple,* nor dos any accent require dubld consnnts in *accommodate.* Likewise few problms arise in CS, as they do in many reform proposals, over how th vowls ar pronounced (and hence how they shud be spelt) in sets of words like *but, put, truth, suit, hue,* or in *blood, good, room, food, new.*

Howevr ther ar a few patrns wher a letr pronounced in one accent is silent in anothr. Shud CS then encuraj som speakrs to cut letrs out wich othr speakrs wud want to keep? In jenrl alternativ spelings must be undesirebl, as they wud undrmine th world-wide unity of ritn english as a comunication standrd; and foren lernrs wud presumably then hav to lern alternativ spelings (as to som extent they do now).

One exampl of a patrn wher perceptions of redundncy vary between accents is found in words like *secretary, monastery, raspberry, territory, armoury, jewellery.* Many british peple find th speling of th penultimat vowl-grafeme in such words unpredictbl, since they eithr totaly elide th vowl, or at least reduce it to shwa. For these speakrs it wud be very helpful if th letrs concernd wer cut, giving th CS forms *secretry, monastry, rasbry, teritry, armry* (cf. CS *armr), jewlry;* a modl for this cut is perhaps seen in *wintry,* wich has entirely suplantd th oldr alternativ *wintery*. Howevr americns oftn giv these vowls a clear valu and myt find th cut unreasnbl, tho paradoxicly they alredy rite *jewelry.*

A reverse anglo-americn exampl is that of th <-ile> words such as *fertile, hostile, missile, volatile,* hose final sylabl americns tend to reduce to sylabic <l>, so making homofones of *hostel:hostile, missal:missile.* Th cut forms *fertl, hostl, missl, volatl* shud therfor be apropriat for americns, if not for th british. It is howevr worth noting that formr speling of *fossil* as *fossile.*

Th <wh> words ar similrly contentius. Th distinction between <w> and <wh>, not much made in England, may be insistd upon by americn and scotish teachrs. Shud one therfor rite *wat, wen, wich,* wy for th sake of those ho do not distinguish th voiced/unvoiced valus of <w, wh>, or shud one keep th <h> in those words to preserv a distinction that for many english is a major speling-trap? (Th authr always hesitates between *weather:whether, and* much prefers *wethr* for both.) An argumnt for merjing both spelings as <w> is that al users wud benefit from th econmy and certnty of these forms, wich no mor need to be disfinguishd than do th voiced and unvoiced valus of <th>.

Alredy in TO ther ar ocasionl difrnces of speling between Britn and America wich reflect th absnce of a vowl-foneme in americn english that is presnt in british english:

british aeroplane, aluminium
americn airplane, aluminum.

If worldwide uniformity was not regardd as paramount, such speling distinctions cud provide a modl for difrnt CS forms too: if th british now rite *aluminium* with one more <i> than th americns, they cud do th same with *fertile*.

Yet mor dificlt to resolv is th question of redundncy in th word *your.* Al speakrs agree that TO *your* shud not apear to rym with *our;* but ther is no agreemnt as to wethr th form *yor* or *yur* best reflects th pronunciation. In jenrl CS trys to cut <ou> wen it dos not represent th vowl in *out, as* shown by th foloing words:

TO *sour, source, scour, course, our, journey*
CS *sour, sorce, scour, corse, our, jurny*

For *your* CS curently proposes th compromise wordsyn yr, alredy farnilir as an abreviation.

These exampls concern variations between th domnnt pronunciations of english, RP and jenrl americn. Not surprisingly, discrepncis can also arise between these major accents on th one hand and local accents used by only a few milion peple on th othr; such is th distinction made by som welsh speakrs between th last sylabl of *principal* and of *principle,* or th scots pronunciation of *plaid* as ryming with *made* rathr than with *bad.* No global speling systin can atemt to reflect al local variations, and CS here rites *principl, plad;* but it is not always obvius wher th line shud be drawn. Shud we for instnce, as Robert Craig and Edgar Gregersen hav haf — seriusly sujestd, no longr rite th aspirated <h> because many english peple do not pronounce it (e.g *ouse* for *house)?* Such a cut wud doutless be stigmatised by 'educated' speakrs of th major accents, but systemicly it is no difrnt from droping th <h> from th <wh> grafeme. Ultimatly it seems inevitbl that ther shud be a ranje of pronunciations of words that ar aproved as having to be representd by th speling, wile othr pronunciations fal outside orthografic bounds (a point acceptd, from a scotish point of vew, by David Stark).

Howevr, wile speling reforms that start by defining pronunciation constntly fal foul of this probim, CS dos so rathr rarely, th abov patrns being th most widespred.

2.5 Conclusion: CS brevity no obstacl

Pending furthr evidnce, wethr from sycolojicl experimnts or from major accents of english, ther wud seem to be no grounds for fearing that CS has been systemicly too drastic jenrly in its treatmnt of TO. One reasn for this optimism is that CS (unlike som forms of speedriting) sets out to respect that fundament principl of alfabetic script: that it shud spel out th ful fonemic structur of words, so giving gidance to riters as to speling, and to readrs as to pronunciation.

Readrs may howevr question wethr this principt is observd in a CS form like *opration,* wher th pronounced <e> is cut out from TO *operation.* Later sections of this articl and its sequel wil discuss this patrn and othrs wher cuts may indeed at first syt apear exessiv.

3. ACTIV TRANSFER EFICIENCY

3.1 Ho needs to lern th cuting rules?

An importnt eficiency-criterion for CS, as for any reform that claims to be suitbl for imediat implantation, is th simplicity of its rules for th lernr. We may cal this Activ Transfer Eficiency: how esily th systm can be lernt by adults skild in TO ho wish to use th new systm. Here we must undrstand that th numbr of peple needing to lern th cuting rules wud be very smal. Scoolchildrcn wud lern CS straitaway as th norm, and nevr need to cut TO: TO for them wud just be a mor complicated systm stil used by adults. Th vast majority of adults wud only need to read th new spelings, and wud nevr be oblijed to rite them. Th only peple ho wud need to mastr th cuting rules as such wud be th relativly few adults ho for professionl reasns had to lern to rite th new systm themselvs; they wud necesrly include teachrs, and in du corse perhaps jurnlists, typ-setrs, secretris, and som othr categris. We myt howevr anticipate that many othr adults wud find th simplicity and brevity of CS an incentiv for lerning it voluntrly.

3.2 Simpl transfr from TO

For adult lernrs a ke eficiency criterion wud be th simplicity of th rules: th fact that just 3 main rules ar suficient for converting most english words from TO to CS. These rules ar far simplr for instnce than th rules for lerning a ful fonemic orthografy, wich requires 40+ grafemes to be lernt for an agreed set of fonemes, as wel as a standrd pronunciation — for al of wich a major reeducation exrcise wud be necesry. It is esy to se how much closer CS is to TO than a fuly fonemic orthografy, if we compare a short text ritn in th two systms. Th Simplified Spelling Societys *New Spelling* (NS), th fuly fonemic proposal publishd in 1948 [7], included th foloing sentnce:

NS Agaen let us not forget huu form dhe graet majorrity ov dhoez dhat lurn to reed and riet.
CS Again, let us not forget ho form th gret majority of those that lern to read and rite.

In NS, th speling of 11/18 words has been chanjed, 2 of them shortnd and I lengthnd. In CS, a new speling is needd in only 5 words, and is acheved in evry case merely by omiting a letr from TO. In th fonemic systm adult lernrs hav conciusly to create th speling of each word, wile in CS they only hav to monitr and cut th familir TO form.

3.3 Total mastry unecesry for adults
Adults lerning to aply th CS rules start by monitring th letrs in words as they rite them, omiting those that ar redundnt. But especialy if first atemts ar chekd and errs corectd, th systm is quikly lernt and confidnce gaind, indeed th relief at dispensing with many uncertntis of TO soon becoms a positiv incentiv to using th systm. Befor long th CS forms becom automatic, indeed one user even abandnd CS because he was afraid he myt be unable to return to TO. No dout adult professionls lik teachrs ho had to mastr CS wud need training, but it wud be less elabrat than th training teachrs receved for i.t.a. For one thing total mastry of CS wud be unecesry — only th words needd in th classroom wud hav to be practiced.

In jenrl, an importnt practicl advantaj of CS over a comprehensiv or fonemic reform is that even if not al redundnt letrs ar omitd, words ar stil imediatly recognisebl. Thus if we compare TO *accommodate, CS acomodate* with th two posbl intrmediat forms *accomodate, acommodate,* we se that al four forms ar equaly readbl. Here th moto "if in dout, dont leve out" is a useful safegard, in that it ensures that th speling used wil lie somwher on th continuum between TO and CS, and wil not be randmly mangld.

3.4 Ar ther any othr redundnt letrs?
Ar al redundnt letrs covrd by th 3 rules? Brodly speaking they ar, but a few patrns of redundncy may not be entirely self-evidnt and so may require special lerning — or even be too controversial to be, acceptbl:

- th definit articl is cut to th, partly for th sake of econmy, but partly also to avoid th apearance of ryming with words like *be, me, se, ke.*
- *you* is cut to just u, because th TO form has th apearance of ryming with *thou,* wile its sound is merely that of th first sylabl of, say, *unit (u* also creates an intrnationl link, as it has th same meaning in duch).
- th TO forms of th trio *break, great, steak* ar hyly misleading, and by cuting out <a> CS at least produces th valu of <e> found in such words as *alegro, elite,* and *brek* machs its fuly fonografic countrpart in *brekfast;* these CS forms ar ofrd as an improvemnt on TO, altho they ar stil not perfect.
- similrly *broad* misleadingly resembls *road,* wile th CS form *brod* indicates not quite th short valu as in *rod,* but not too disimilr valu of <o> found in *or,* in *off* in som accents, and *ot* (th CS form of *ought).*
- in th same way, *group, soup* apear to contain th vowl *of south,* and by cuting them to *grup, sup* they aquire th valu of <u> found in *gruel, super;* howevr, it may be objectd of these forms that th valu of u is too reminisnt of its valu in *up*, and it myt therfor be wiser not to cut *group, soup* at al.

Th abov forms ar inevitbly among th most controversial proposed by CS. Esentialy th justification for forms like *u, brek, brod, grup* is that th TO digrafs <ou, ea, oa> ar seriusly misleading here, and altho th CS vowl-letrs may not represent th sound unambiguusly or precisely, they ar closer to it and so at least constitute an improvemnt over TO. It wud howevr be esy for CS not to make these cuts, if ther wer a consensus against them.

3.5 Eficiency for beginrs: consnnt strings
It must also be askd wethr any particulr lerning dificlis can be forseen for childrn or forenrs in CS, wich ar not alredy presnt in TO. Th advantajs of CS over TO (econmy, regularity) for th lernr ar evidnt, but som teachrs fear problms with consnnt-strings. Because CS cuts out mor vowl- than

consnnt-letrs, consnnt strings tend to be longr and mor frequent than in TO, and since children find consnnt-strings dificlt in TO, teachrs wondr wethr th problm myt be agravated in CS. TO contains som complex 5-letr consnnt-strings, as in *eighths, strengths,* but they ar fairly rare. In CS, on th othr hand, strings ocur quite regulrly with up to 7 consnnt-letrs, as in *govrnmnts, circmstnce, aftrwrds, complmnts.* Ther ar howevr sevrl reasns for beleving that, watevr trubl consnnt-strings in jenrl may cause, in CS they make th speling esir rathr than hardr to handl:

- th new CS strings corespond to foneme-strings (evry letr in *complmnts* is predictbly pronounced) and so can be soundd out; but in TO th pronunciation is litl gide to th speling of th consnnt-string in *eighths.*
- th cut vowl-letrs in th CS consnnt-strings do not reflect pronunciation, and ar therfor ofn mispelt in TO; ther is for instnce no obvius reasn for th difrnt final vowl-letr in *adamant, government;* this problm disapears in CS *admnt, govrnmnt.*
- th long strings ar made up of identifybl morfemes wich can be taut. So *aftrwrds* consists of th familr *aftr* folod by th comn sufix *-wrds;* and *govrnmnts* ends in th norml plural inflexions, preceded by th comn sufix *-(m)nt,* wich is atachd to th root, th verb *to govrn,* wich teachrs can pronounce roticly to sho that it dos not rym with *ovn.*
- as wel as creating new consnnt-strings, CS also reduces strings that cause particuir trubl in TO, as wen *caught, ,fetch, scene* becom *caut, ,fech, sene.*
- ther ar significntly fewr letrs in CS altogethr, so that th overal lerning load is reduced.

3.6 Conclusion: inherent simplicity

This section has tryd to sho that th CS rules ar inherently simpl to lern and to oprate. Howevr, ther ar cases wher this criterion of Activ Transfer Eficiency conflicts with othr criteria, and wher rathr sutlr discriminations hav to be made than th 3 basic rules themselvs cater for.

4 PASSIV YRANSFER EFICIENCY

4.1 Compatbility

Next to be considrd is th criterion of compatbility between old and new orthografis. CS is based on th premiss that a Staje 1 reform that wud radicly chanje th apearance of ritn english is politicly unrealistic and sycolojicly unwise. Th old and new orthografis must be compatbl with each othr in both directions: adults must be able to read th new systm esily (forwrds compatbility), and children must be able to read th old systm esily (bakwrds compatbility), without extensiv re-education. This two-way compatbility between new and old, wich we may cal Passiv Transfer Eficiency, means that words must remain esily recognisebl. CS acheves this by its tecniqe of mainly just omiting sycolojicly and fonograficly redundnt letrg, wheras a reform that chanjes many letrs, especialy stressd vowls, is visuly or disturbing and hence less compatbl, as wil now be shown.

4.2 Forwrds compatbility

Th sentnce *"To the learner interested in the history of the language the old spelling would be easily accessible" is* now givn in 3 reformd orthografis, 1 as quoted from th 1948 *New Spelling,* 2 in Simplified American Spelling, **[8]** and 3 in CS, togethr with statistics indicating th degree of chanje from TO:

1 *To dhe lurner interested in dhe history ov dhe langgwej dhe oeld speling wood be eezily aksesibl.*
15/80 chanjed letrs, length = TO –5%
2 *To th lurner interested in th history of th langgwej th oeld speling wuud be eezily acsesibl.*
10/76 chanjed letrs, length = TO –10%
3 *To th lernr intrestd in th histry of th languaj th old speling wud be esily accessbl.*
1 chanjed letr out of 68, length = TO –20%

First reactions to th thre difrnt spelings wil be impressionistic, but almost certnly th readr wil hav found th first version hardst to read, th secnd version esir, and th CS version esiest th <j> in *languaj* being th only unfamilir letr. Th implication is clearly that th mor chanjed letrs an orthografy contains, th hardr it is to read unprepared. CS indeed positivly lends itself to imediat fluent reading: th esentials of th TO gestalt of most words ar preservd, and th fastr one reads, th less one notices that letrs ar missing. Th eficiency observd here, then, is a matr of how fluently th uninstructd readr

scans text in th reformd orthografy. But altho this forwrds compatbility is a gret strength of CS, it may somtimes conflict with th first eficiency criterion, that of Activ Transfer Eficiency for adults, in othr words with th regularity of th 3 cuting rules.

4.3 Degrees of forwrds compatbility in CS

Ocasionly th regulr aplication of th 3 CS rules results in considrbl disturbnce to th familir apearance of words in TO. Th foloing grups of words sho a progressivly increasing degree, of visul disturbnce, from th very slyt to th seriusly disruptiv. In th first grup, th cut is not very conspicuus:

unconstitutionl
receit (cf deceit — also *etymolojicl eficiency*)
leve, sleve, receve, beleve (cf *eve, but receit, belief*)

In th next grup of words th cut is visuly mor disturbing because th initial letr (i.e. th most promnnt letr) is dropd from th TO form:
nat, neel, nemonic, syche, rong

As wel as undrgoing a 50% cut and losing both its first and last letrs, th foloing speling introduces an aditionl elemnt of disturbnce by merjing th homofones *know, no:*
know → CS no

Perhaps th most severely cut words of al (if th norml CS rules ar mecanicly aplyd) ar th foloing, th first indeed losing 66% of its letrs:
eye → y, eyesight → CS ysyt
honour → CS onr, honourable → CS onrbl.

Th absnce of a letr from th midl of a word of medium length or longr may not even be noticed in fluent reading (any mor than we notice many misprints), because most of th time we read wat we expect to read. Th conflict of criteria we observ in th mor disturbing of th abov exampls is between compatbility with TO, wich is rathr lo, and regularity both of th cuting-rules and of sound-symbl corespondnce, wich is hy; and we hav to ask wich criterion shud hav priority. Shud we say that for instnce th word *y* shud keep its first fonograficly redundnt <e>, and *onr* keep its redundnt initial <h> *(ey, honrbl,* in ordr to remain esily recognisebl, or shud *eye* be spelt regulrly, as *my* without th <m>, and *honour* like *on* with a sylabografic <r> add? Speling reformrs may prefer regularity in these circmstnces, but th public, wich must be persuaded to accept th forms, is likely to atach hyr priority to familiarity, in othr words to forwrds compatbility.

4.4 Repeatd consonnts

At first syt disturbing in CS ar th repeatd consonnts with repeatd pronunciation, as in *probbl, needd, maximm, linn, terr.* This fonografic device dos not ocur at al in TO, and is therfor a complete novlty for th readr encountring it for th first time. Such repeatd consnnts must be clearly distinguishd from th dubld consnnt letrs that ar such a comn but iregulr and trublsm featur of TO; but they do hav som afinity with th repeatd <c> with difrnt pronunciations in words like *accent, success.*

Th visul disturbnce of repeatd consnnts in CS is a direct conseqence of th regularity of th systm. Th speling of th last sylabl of words like *hooligan, beaten, cotton, important, different* is regulrised by reduction to sylabografic <n> *(hoolign, beatn, cotn, importnt, difrnt).* Regularity then requires th same reduction even if, as in *linen, cannon* etc, th preceding letr is also <n>: *linn, cann.* Th dilema we face is wethr to complicate th cuting rules and introduce systemic iregularitis by making exeptions in these cases for th short term benefit of readrs transfering from TO, or wethr th visul disturbnce for these readrs is a price worth paying for th long term regularity of th systm. Readrs do aftr al soon becom acustmd to new forms.

Two aditionl peculiaritis shud be mentiond in this context. Th first arises if, as apears necesry, final <ss> is not simplifyd in CS, as in words like *class, miss.* In that case, forming inflexions by th adition of just <s>, as is th norml CS patrn, rathr than with <es> as in TO *(classes, misses),* results

in endings with 3 consecutiv <s>s: *classs, misss.* Like th othr repeatd consnnts, this patrn is not in itself a problm, and th readr soon becoms acustmd to it; but at first syt it undoutdly apears stranje. Mor awkwrd on transfer from TO is th past tense inflexion of th verb *to ad,* wich by th regulr CS rule becoms add (cf. *needd*). If this word is taken out of context, ambiguity dos apear to constitute a real problm of both forwrds and bakwrds compatbility between TO and CS. Howevr, th context usuly makes th meaning clear, as in th sentnce: *to form th past tense, in CS, th letr <d> is simply add to th root,* but a sentnce like *we add <d> to th root* myt at first be misundrstood as th presnt rathr than th past tense.

4.5 Bakwrds compatbility

Now let us considr bakwrds cornpatbility. How esy wud it be for children ho had lernt CS to read TO? They wud aftr al need to be able to do so for many years, since ther parents wud mostly stil use it, as wud al erlir printd material. We can esily juj forwrds compatbility just by considring how hard we ourselvs find it to read text in th new speling; but asessing bakwrds compatbility is mor dificit, as we hav to imajn ourseivs having lern to read and rite in a mor fonografic orthografy than TO, and then looking at TO with difrnt ys from our own.

John Downing pointd to th kind of problm that can arise, wen he described **[9]** how on transfer from i.t.a. children tend to misread TO *shoe* as *show,* since *show* is spelt <shoe> in i.t.a. TO *one* can also be such a trap if its speling is reformd to represent its pronunciation: if th lernr is familir with 'majic' <e> aftr a consonnt as a way of indicating a preceding long vowl (as in *bone),* th form <one> must apear to be pronounced as *own* (just as in TO beginrs ofn pronounce the word *once* as tho it wer spelt *onki).* Anothr problm wud arise with miniml pairs if childrn wer taut <s> for th unvoiced siblnt and <z> for th <s> inflexion in TO: a child ho lerns *hence* with th speling *hens* is bound to be confused on encountring TO <hens>. Similrly th TO forms *come, comb, comma, coma* contain th seeds of multipl confusion if a reformd orthografy atemtd to spel them fonemicly. Even CS wud merj *coma, comma* if Rule 2 for simplifying dubld consnnts wer aplyd rijidly (it is here asumed that in such cases th dubld consonnt has to be kept, and in jenrl that CS shud not cut letrs if hetrofones wud result). Th abov exampls sho th dificltis of bakwrds compatbility that wud arise particulrly from a speling reform that actuly chanjed th letrs in words.

4.6 Bakwrds compatbility of CS

By not changing many letrs, CS larjly avoids this problm. One way to visulise how TO myt apear to those ho had been taut CS is to look at elizabethan speling, wich difrs from TO much as TO difrs from CS: mainly by extra letrs. Th foloing sentnce has been selectd from th 1588 *Bishops Bible* for its particulrly markd deviation from TO, with th TO and CS versions aftr it for comparisn:

> *BB Beholde the fowles of the ayre: for they sowe not, neyther doo they reape, nor carrie into barnes. (77 letrs),*
> *TO Behold the fowls of the air: for they sow not, neither do they reap, nor carry into barns. (69 letrs)*
> *CS Behold th fowls of th air: for they so not, neithr do they reap, nor cary into barns. (64 letrs)*

Th 1588 version is not dificlt to read today, and it contains a similr proportion (about 11%) of letrs that ar cut in TO as TO jenrly contains letrs that ar cut in CS. From this comparisn we can convincingly imajn how TO wud apear to a readr educated in CS: not hard to undrstand, but arcaicly grotesq in th irationality of its forms.

A slyt dificlty myt be th gretr variety of letrs CS cuts from TO, including special hazrds like <gh>; but it is probbly no mor serius than our momentry puzlmnt wen confrontd with th Elizabethan habit of using <i, j> and <u, v> intrchanjebly in forms like *ivdge, Iesvs* for *judge, Jesus.* Th foloing sentnce has been composed to exajrate th dificlty that cud arise if a TO text containd an exeptionl density of unprodictbl extra letrs:

CS: Tho thot tuf, english speling ot to be taut ryt enuf. (41 letrs = TO −30%)
TO: Though thought tough, English spelling ought to be taught right enough. (59 letrs = CS + 44%)

This exampl incidently demnstrates poor compatbility both bakwrds and forwrds. Th econmy of th CS version is striking, but it is particulrly th many non-fonolojicly motivated extra letrs in th TO version wich reduce bakwrds compatbility (i.e. make reading hardr for CS-educated readrs). Obviusly, howevr, such an absurdly artificial exampl dos not imply that CS-educated readrs wud normly hav dificlty in decoding TO in a real reading situation; and presumably in th erly years of reform they wud be warnd of th <gh> anomly in TO, altho they wud not hav to lern it.

4.7 Conclusion

We hav here examnd conflicts between Activ Transfer Eficiency (mecanicly aplying th 3 cuting rules) and Passiv Transfer Eficiency (bakwrds and forwrds compatbility, making CS as esy as posbl for adults, and TO as esy as posbl for children). We hav found that ther is a dilema: if we try to minmise difrnces in apearance between TO and CS, we need exeptions to th main cuting rules of CS; but if we want to make CS as simpl, regulr, fonografic and predictbl as posbl, then we shud giv priority to th 3 main CS rules, howevr stranje th resulting speling may look. We wud then hav a betr speling-systm for futur jenrations — but probbly at th expense of imediat public acceptbility.

ENDING PART 1, INTRODUCING PART 2

Part 1 of Conflicting Eficiency Criteria in CS ends by stating the dilema that now arises for th furthr developmnt and promotion of CS. In fact it is a dilema wich faces al speling reform scemes: wethr to giv priority to a systm that is linguisticly and sycolojicly sound in itself, or to make concessions at th outset to expectd public dislike of th weirdr-looking forms proposed. This paper has atemtd to catalog som of th detaild choices that wil hav to be made, along with th considrations that need to be born in mind in making those choices. Th secnd part of th study, to apear in isu 1989/1 of th *Jurnl,* wil then deal with furthr importnt choices that th CS systrn presents; th most importnt hav to do with th distinction between short and long vowls and with th hierarchy of ambiguitis in TO and CS (homofones, homografs, etc).

Meanwile, readrs ar urjd to considr th points alredy made, and send in ther observations.

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