

**ISLS:
THE INSTITUTE FOR THE STUDY OF LANGUAGE &
SOCIETY**

**DIRECTOR
John Gaffney BA MA DPhil**

**ADVISORY GROUP
Professor Christopher I Brumfit BA MA DipEd
Sir Adrian Cadbury MA HonDSc HonLLD CBIM
Professor Douglas W J Johnson BA BLitt
Professor Kurt Kohn DrPhil
Professor Juliet Lodge BA MA MPhil PhD FRSA
Professor Sir Randolph Quirk CBE DLitt FBA
John M Raisman CBE MA HonLLD HonDUniv HonDSc
Vincent Wright BSc PhD**

Christopher Upward

**WRITING SYSTEMS:
WHY AND HOW THEY NEED TO BE STUDIED**

**Aston Papers in Language Studies and Discourse
Analysis (No. 3)**

ISLS

© The author.

ISSN 1350 - 2654
ISBN 1 854491105

Published by ISLS (The Institute for the Study of Language & Society),
Aston University, Aston Triangle, Birmingham, B4 7ET, United Kingdom.

Printed by Graphics Services, Aston University.

First published in 1993.

**This paper has been produced in association with the
Simplified Spelling Society.**

Riting systms: wy and how they need to be studid [1]

Christopher Upward

1. Wat ar riting systms and wat dos ther study entail?

Altho th words ‘riting’ and ‘systm’ ar very widely used, ther combnation in th frase ‘riting systm’ may be less familir. Riting systms ar nevtrhless part of th evryday experience of evry litrat persn. Th term refers, most obviusly, to th (primarily) visbl form wich languajs can be givn, so that infrmation expresd in them can be preservd thru time and across space. Riting systms thus enable quantitis of data to be recordd beyond th capacity of th individul human memry, and to be transmitd over distnces beyond th carrying powr of th individul human voice. Such systms, in th plural because ther ar many difrnt typs, hav a self-evidntly crucial function in almost evry presnt-day society, but like al tecnolojis they ar artifacts, not forces of natur, and ther opration requires exprtise and study — on varius levls for varius purposes. This paper wil present a vew of th importnce of such study, along with th main aspects of th subject wich it is considrd need to be covrd. Th importnce of studying riting systms is seen as ultmatly practice, being necesry for th efficient developmnt and aplication of litracy skills and efficient non-oral communication jenrly; but it is hoped this paper wil also sho that ther study enhances cultrl and mor jenrl human awareness, and that it can provide som quite rigrus trainng in analytic methods and sientific thinkng. It is intlectuly demandng because it produces no simpl ryt-or-rong ansrs, but constntly requires a balanced asesmnt of ofn conflictng factrs. It provides a perspectiv of th hole of human histry, it asks politicl, econmic and social questions about civiliztions past and presnt, it considrs how th human brain processes infrmation, it anlyzs how infrmation can be structurd, and it requires valu jujmnts about wat ar sycolojicy, socialy and politicly desirebl policis.

[1] This paper is ritn in Cut Spelng, a simplfyd spelng systm wich difrs from traditionl english orthografy chiefly by th omission of th latrs redundnt lettrs. A handbook to Cut Spelng is th chief product to date of the authors reserchs into riting systms.

2 CHRISTOPHER UPWARD

2. Levels of study

People have studied writing systems for at least 5,000 years, and are still doing so at the end of the 20th century. The level of their studies ranges from the acquisition of elementary literacy skills in their mother tongue to the decipherment of newly unearthed scripts from bygone civilizations, from learning foreign languages to encoding or decrypting coded texts, from getting in touch with Braille to rehearsing the rhythms of Morse or the choreography of semaphore, from grasping the use of mathematical symbols to acquiring the skills of reading or composing music. On an everyday level, writing systems are the medium by which non-oral communication takes place between individuals, or between a writer and numerous mostly unknown readers, or between anonymous sources such as the state and whole populations, and they are studied for a correspondingly wide variety of reasons. Yet one further reason must be mentioned, which, it will be argued, has not hitherto been given the public attention it should receive in the English-speaking world: that is for the purpose of language planning. For the arguments in this paper will lead to the conclusion that all writing systems—like other artifacts—need to be subjected to critical scrutiny and, where appropriate, modified to meet the new needs which social change generates. Otherwise they will suffer the common fate of everything manmade, that they become out of date and cease to serve their intended purpose satisfactorily. To prevent this happening the systems concerned have to be studied, but applying a deeper and broader perspective than for any of the more limited, practical aims mentioned above. Furthermore, while such study may be found educative and enlightening in itself, and may be needed to satisfy immediate language-planning requirements, it needs also to be seen as providing the necessary training for planning and managing the progress of writing systems into the future.

3. Writing system (un)awareness

In the previous section various types and functions of writing systems were listed individually, which is also how they are primarily perceived by their users—in isolation. The beginning reader for instance approaches a particular writing system, and not writing systems collectively, or generically, or abstractly. Users of writing systems normally accept them unquestioningly in the form in which they first learnt them from their teachers, and even unnecessary difficulties and defects are soon or later

mostly accepted as inherent in the system. At the first, 'cognitive' stage of learning, beginners lack the necessary ability to think critically about the system; at the second stage, that of 'practise the aim of mastering the system dominates learners awareness to the extent even of overshading such traps as they may fall into; and once learners achieve the final skill-level of 'automaticity', critical questions of structure and order are usually relegated, at best, to the subconscious. A new writing system, such as those developed under the aegis of Information Technology (which then go by the name of computer 'languages'), can admittedly be subjected to rigorous analysis in terms of its logic and efficiency (if not always in terms of its suitability for the human operator, lack of 'user-friendliness' being often deplored). But long-established systems, such as the Roman alphabet applied to the spelling of natural languages like English, are more often prey to unthinking habit, convention and conservatism. Of no language is this truer than of English, which today serves as the mother tongue of a good 300 million people and as a first foreign language to hundreds of millions (possibly over a billion) more. English is the prime language of communication for humankind as a whole, and critical consideration of the way in which it is written should therefore be no less a matter of concern than the representations of computer logic. The vocabulary and structures of English have been refined for specific purposes, as in AIRSPEAK and SEASPEAK, and its writing system has been adapted for specific categories of user, as for Braille and telecommunication; but for general purposes it has scarcely benefited from such systematic review. There would seem to be no good reason for that neglect, and judged by the criteria which this paper will be putting forward, such appraisal should be seen as long overdue.

4. The analogy of air pollution

The study of gases will now be presented as an analogy for the study of writing systems. Scientists and engineers have long studied and handled specific gases for specific purposes, and while the bulk of humankind benefits from that expertise, it needs no specialist understanding of the subject. But there is a vital, universal gas which is normally taken for granted by us all: the air we breathe. Its quality is of direct concern for human survival, and today that quality is recognized to be under threat. The air therefore needs to be studied and plans developed to ensure its quality for the future. If we now substitute the study of 'general purpose writing systems' for 'air', the force of the analogy may become apparent.

4 CHRISTOPHER UPWARD

Literate members of society absorb, deeply or superficially, the intellectual content of whatever texts pass before their eyes, just as the lungs absorb oxygen from the air and pass it into the bloodstream. This paper puts forward the notion that, unless writing systems are properly managed, text (like air) can become systemically polluted, and that just as polluted air reduces the physical efficiency of the body, so systemically polluted text reduces the intellectual efficiency of the mind. The damage occurs on two levels: firstly, mastery of the system itself is impaired; but secondly, non-systemic visual clutter, like background noise suffered by telecommunications, blurs the image of the text (resulting in failure to spot misprints, for instance). A profounder and more worrying manifestation of such 'damaging textual pollution' will be referred to towards the end of this paper. The nature of both types of pollution, gaseous and textual, demands specialist study and expertise.

5. The long term historical perspective

While air is a natural element, writing systems are human artifacts created in specific social environments which have to be taken into account when such systems are studied. Social environments arise from the interplay of historic conditions, and the study of writing systems involves the broadest and longest of historical perspectives. History is by definition writing (there can be no historical records if they are not, somehow, written down), and writing systems have of necessity accompanied the development of human civilization from its inception. Writing was a precondition for the growth of complex human societies with cities and states, though 'which came first?', writing or cities, is no doubt a chicken-and-egg question, which fails to acknowledge the development of agriculture as a prerequisite. Civilization, cities and states depend on the production of an agricultural surplus to feed those whose lives are not exclusively taken up with food production for self-sufficiency. 'That surplus has to be organized, which firstly means simply counting the produce, but that in turn means keeping records, and records mean writing. Writing first arose in the Mesopotamian basin (modern Iraq) gradually over a period from perhaps — 5000 to — 3000, apparently out of 'accounting' systems (tally marks and tokens) for managing foodstuffs and other produce in those economic sectors which were not based on subsistence farming. From the outset, therefore, we see writing having a practical function, and the study of writing systems has to keep that essential functionality in mind in

formng its jujmnts on al riting systms, past and presnt. Th peaks of litry achevemnt of past civilizations must not mislead us, as they hav somtimes don in th past, into considng fine litratur as the raison d'être for rating systms. As th orijnl riting-for-acountng-purposes became mor sofisticated, it sloly developd tecniqs for relating numbrs to things by picturng them (at first, typicly by symbls recognizably depictng crops and livestock), and then for representng things in othr meanngful contexts. In du corse th system of represntation became mor and mor extensive eventuly allowng a wide repertry of words and concepts to be recordd in wat is now nown as th cuniform riting systm, a process of impresng wej-shaped marks into soft clay. Mastry of such a system, with at least potentialy thousnds of syns for difrnt words, became an arcane craft requiring a lifetimes dedication beginng with long and specialized trainng. It thus conferd powr and privlej on an elite of practitionrs (scribes), and was ofn asociated with kingship and relijn: such wer th eivilizations of ancient Mesopotamia and Ejjypt. Here we hav anothr jenrl mesaj for th study of riting systms in al times and places, that litracy givs powr and leves th ilitrat relativly powrless; oposition to its spred has thus ofn been explicitly asociated with oposition to th dispersl of powr.

6. Th alfabetic brekthru

Th orijn of egyptian hieroglyfics is much less wel undrstood than that of cuniform, but it led to a qualitativ shift in th natur and potential of riting; for out of its complexity came forth simplicity. By th —2nd milenium both cuniform and hieroglyfics had developd a tecniqe for using syns to represent speech sounds, wich in th case of cuniform wer typicly sylabls and in th case of hieroglyfics wer typicly just consnnts. Th invention of th alfabet around —1700 by a semitic peple undr egyptian rule (ho wer therfor familir with hieroglyfics) systmatized this capacity of riting to represent speech sounds by reducing th numbr of difrnt symbls from many hundreds to a set of litl mor than 20, with each symbl aplyd exclusivly to th represntation of a singl speech sound. This inovation had revolutionry implications for human litracy in th long term. Firstly, it ofrd a riting systm hos few symbls (its letrs) cud be quikly lernt by anyone without years of aprenticeship. Secndly, th use of th syns was deternind not by som mysterius lor handd down from on hy, but in a transparent and

6 CHRISTOPHER UPWARD

predictable way by the speech sounds that were part of every person's experience. What the alphabet meant was that if you know the sound value of the phonographic signs, you can in principle write down any word you wish to communicate and read any known word you come across in writing.

7. The social psychology of writing systems

As such, one might hypothesize that the alphabet was a precondition for universal literacy, and thus also a precondition for societies in which any individual could have access to information and ideas and hence, potentially, to some degree of power. This alphabetic principle that letters should reflect speech sounds in a predictable way, is here posited as the sociolinguistic cornerstone of the study of writing systems. Alphabets are not just one type of intellectual construct among many possible alternatives, as one may say that cuneiform and hieroglyphics and Chinese are (or were), but rather they mesh directly with the essentially and uniquely human faculty of speech. One might, for the sake of argument, put forward the proposition that an alphabetic writing system therefore offers a potential for democracy and individual emancipation which more arcane writing systems by their very nature do not. (One may like to use this conception of the socio-political implications of the alphabet to interpret the recent fashion for allowing British schoolchildren to begin to acquire the skill of writing by spelling words according to their own best judgment—'children's invented spellings'—rather than according to the dictates of conventional 'correctness'.) Certainly, once a well-designed alphabetic writing system has been learned, it gives the learner untrammelled scope for self-expression and written communication: whatever can be thought and spoken in words, can also be written and read without reference to a higher scriptorial authority. Such individualism is an aspect of the story of ancient Greece and Rome, and in modern times alphabetic writing systems are a medium through which literacy, mass education, economic liberalism, and democracy are achieved. Claims for an absolute, deterministic connection between an alphabetic writing system and such sociopolitical desiderata may be considered at least exaggerated, and perhaps suspect, but it is nevertheless worth asking what effect different writing systems may have on the societies that use them: what effect do they have on development psychology, what effect do they have on standards of education? That they might have some effect is at least plausible. The critical examination of writing systems thus implies asking what function they have in a society, both in theory and in practice. If they permit universal literacy, they provide the foundation

for a civil society in which all can participate; if they obstruct universal literacy, those who are denied its full fruits are imprisoned within more limited horizons and are ipso facto deprived of the rights of active citizenship. Bodies like UNESCO and OECD are concerned with literacy as a world issue, as a factor that can inhibit the political and economic development of countries, but their studies of comparative standards of literacy need to take account of the effect of different writing systems on actual and potential levels of achievement.

8. Factors affecting change and inertia in writing systems

Whether or not alphabets contain within them all the virtuous potential proposed above, it is clear that they have not so far ushered in any utopias. The study of writing systems therefore has to consider how they have been actually applied by different societies. Every writing system is unique: each social organization imposes its own requirements, and writing systems evolve accordingly. There may be forces that resist change to established scriptorial traditions, such as the association of a script with ideas of the eternal validity of sacred texts in their received form, or with educational institutions who explicitly or implicitly see their function in preserving and reproducing themselves. There may by contrast be forces that are able totally to replace one writing system with another, with the express aim of transforming the society concerned, as when Atatürk replaced the Arabic by the Roman alphabet in Turkey in 1928 in order to assist the westernization and modernization of his country, or when missionaries introduced the Roman alphabet to England in the seventh century in order to Christianize pagan kingdoms and in the process first marginalized and ultimately put an end to the use of Germanic runes. There may be forces working to turn the clock back, despising the writing of the present and trying to restore classical models from the past, as happened with English and French in the 16th century under the influence of the rediscovery of Greek and Latin writings; the result was a legacy of confusion that contrasts starkly with the effects of the opposite tendency in Italian and Spanish, which systematically rejected Greek and Latin spelling models. There may be forces deliberately trying to limit the potential of a writing system to give a society a world perspective rather than merely a local or national one, as happened under Stalin with his insistence on the Cyrillic rather than the Roman alphabet especially for the subject peoples of the USSR. There may be forces that insist on distinctive writing systems to create frontiers or even barriers between peoples or faiths, as between the languages of Scandinavia, or the alphabets of Serbs and Croats or of Urdu and Hindi. Or there may be forces aiming for the reverse, to bring peoples closer together, as when Malaysia and Indonesia collaborated to

8 CHRISTOPHER UPWARD

harmnize the previously conflicting english-based and dutch-based writing systems in 1972, or as when the dutch of the Netherlands and Belgium set out to remove differences between their spelling systems (*Nederlandse Taalunie*). There may be technological innovations, such as the introduction of print, whose commercial interest lies in the widest possible distribution of text and which therefore standardize written forms to achieve maximum acceptability to the literate public. There may be educational pressures, perhaps politically motivated, wanting to weld the previously disparate writing traditions of a language together into a single norm so that future generations will form a single literacy-nation, as happened in Germany in the decades after unification in 1871; or perhaps pedagogical considerations will be foremost, simplifying the system to facilitate literacy acquisition, which was the motivation behind the changes introduced in greek in 1982 and proposed for french in 1990. There may be institutions, such as a language academy, whose brief is to guard the purity or consistency of a writing system. But always there are non-institutionalized forces tending to create inertia (the supertanker syndrome): once a writing system is operating on a large scale, through universal literacy or internationally as a lingua franca, then change may be harder to bring about than in a more restricted environment (unlike english, dutch has had little difficulty with change in the 20th century); one obstacle may be organizational (the political will to implement change may be lacking), but another obstacle is bound to be that literate adults are very rarely going to be able or willing to make the effort to change the writing habits of a lifetime, which means that the timetable for change in writing systems is indissolubly bound up with the change of generations. The student of writing systems needs to bear in mind the strength of these diverse forces, which can far outweigh any intrinsic linguistic factors in determining the type of writing system a society uses.

9. Systemic perspectives

Writing systems have so far been considered in their historic and socio-political context. A no less important aspect is however that they only operate across societies through the medium of individuals functioning as writers and readers. How individual users' brains process language into and out of the written form is a central psychological question for the student of writing systems, and its answer depends on the intrinsic features of each particular system. We have already noted the consequences of the introduction of the alphabet had for the potential of the individual in society as a whole,

and that this shift arose from the simplicity of the alphabetic concept of fonographicity (symbols representing sounds) compared with previous systems. Such simplicity meant easier mastery of the system by the learner without excessive investment of time, and easier handing of it by writers and readers alike. The study of writing systems highlights this advantage of the alphabet by comparing its effects with writing in non-alphabetic systems such as Chinese and Japanese, where even skilled readers do not expect to be able to read every word in every text, nor do writers expect to be able to write down whatever word they may wish to represent (though for various reasons such limitations are in practice less serious than this account may make them sound). In theory, at least, the alphabet by contrast enables every word in a text (whether familiar or unfamiliar, understood or not understood) to be pronounced by the reader, and enables every word that a writer can speak then also to be written down. However, this facility, which in theory the alphabet should by its very nature provide, is seen not to be present to an equal degree in every language whose writing system uses the alphabet. Languages which have only recently adopted the Roman alphabet (like some in Africa in the 20th century, or some in Eastern Europe only a few centuries ago), or which through the centuries have radically changed their spellings to maintain the match with pronunciation (Italian and Spanish for instance, in their evolution from Latin), exploit the advantages of the alphabetic system very effectively: once one knows what sounds the letters standardly represent in the system, most words can be written and read with confidence and accuracy. Modern English by contrast can be seen widely to ignore the alphabetic principle of having a predictable relationship between the written and spoken form of words. Comparing the writing systems of different languages in this way enables the systemic strengths and weaknesses of each to be identified.

10. Fonographic perspectives

So we approach the core of the study of writing systems, which has to do with the precise ways in which languages are represented in writing. For an alphabetic writing system, where the letters in principle stand for sounds, a standard analysis will first establish two lists. One will show the symbols, which may, as in English, largely consist of the 26 letters of the alphabet, but may in other languages consist of a larger or smaller set of letters, or include variants on the letters, as shown by diacritic marks (accents). The other list will show the sounds (phonemes) that make up the sound-system (phonology) of the language concerned; the resulting list usually looks

10 CHRISTOPHER UPWARD

simpl, but in practis fonemic analysis ofn throws up such problms as to cal th very concept of a foneme into question (eg ar ‘Wh’ and ‘W’ or th U of *but/put* sepat fonemes in english?); nevrthless, th concept is undoutdly a useful tool for deciding how words shud be spelt. Th next stajc in th analysis is to alyn th two lists, to se how far th letrs and fonemes corespond. Wher an alfabet has been desynd specifically for a languaj, as was th case with ancient greek and latn, a hy degree of corespondnce can be expectd, and th systm then tends to be straitforwrd. Wher an alfabet is borod for use with a new languaj, as hapnd wen Old English adoptd th latn alfabet in th 7th century, th systm is usuly stil quite straitforwrd, but som difictis may arise if th new languaj contains sounds for wich th givn alfabet has no suitbl letrs. In those circmstnces, sevrl devices may be employd: new letrs may be introduced, or a singl letr may serv to represent mor than one sound (both of these devices ar found in Old English); or a singl letr may be givn altemativ sound valus distinguishd by diacritics (such as E ritn altemativly as *é, ê, è, e*, in French), or two letrs may be used togethr as a digraph to represent a singl sound (such as Ch, Th or Sh in modrn english). Digrafs ar howevr inherently ambiguous as th letrs may also hav ther sepat valus (contrast th digraf Sh in *bishop* with th sepat valus of S + H in *mishap*). If th abov spelng devices ar used in a regulr way to represent th sounds of a languaj predictbly, th riting systm may stil be esy to lern and to use acording to socialy aproved conventions. Th student of riting systms wil in that case probbly not wish to do much mor than rejistr th abov sound-symbbl corespondnces and any particulr patms of diverjncc from them. Part of th study of any riting systm howevr also involvs examng th sorcc and status of spelngs: ar they laid down by an oficially recognized authority based on detaild study of th linguistic data, or ar they th pragmatic outcom of centuris of custm and practis by riters, printrs and teachrs? Ar ther aknolejd sorccs of refrnce based on oficial spelng principls and givng authoritativ gidance on questions of difictly, or is ther a ranje of sorccs that do not always agree, and set out merely to record observd usaj? Wat mecnisms myt ther be for atendng to any problms that users may experience with th systm?

11. The problem with English

This concept of ‘attending to any problems’ implies, as was already maintained earlier in this paper, that all writing systems need to be studied for the purpose of keeping them under review and making adjustments from time to time in response to user demand. Yet such thinking has for long been quite foreign to the English-speaking world, where students of writing systems have in recent years tended to adopt a purely academic rather than a practical approach, although English spelling is recognized worldwide as constituting a severe problem for learners and users alike, attracting verdicts like “The world’s most awful mess” (Mario Pei) or “An insult to human intelligence” (Mario Wandruschka). From straightforward origins over 1,000 years ago, English spelling has steadily degenerated ever since, above all thanks to massive admixtures from other writing systems, most notably French and Greek (as transliterated through Latin) which both use letters according to quite different rules from native English (the alien use of letters in the spellings *blancmange* and *psychology* well illustrates the point). Not merely have these (and many other) imports never been assimilated into the native English writing system, but radical changes in the pronunciation of English around the 15th century (especially the Great Vowel Shift) have largely undermined the latter’s earlier regularity too (hence anomalies such as the different values of EA in *to read*, *he read*, or the silent letters in *knight*). On top of that came the influence, especially in the 16th century, of scholars keen to indicate the etymology of words through their spelling (‘scolastication’ of spelling), in defiance of regular sound-symbol correspondence (hence B in *debt*, *doubt*) and (as it turned out) sometimes on the basis of mistaken etymological analysis as well (*island* should have no S!), and a general failure to ensure consistency (hence *speak* with EA but *speech* with EE). In yet other cases the reason for a spelling is simply not known (why G in *foreign*, *sovereign*?). The few examples of unpredictable spelling just given are in no way exceptional, but are fundamentally characteristic of the way the English language is written; and the categories of regularity described represent merely the tip of a large iceberg. No other major language has a writing system that uses the alphabet with remotely comparable unpredictability.

12. Empirical and psychological perspectives

The prime motivation for the study of writing systems needs to be the conviction (commonplace enough, one would have thought) that literacy is of crucial importance for the fulfillment of individual lives and for the attainment of social wellbeing. We may consider that early applications of the alphabet in the design of writing systems were marked by a kind of primal innocence: they used letters as letters were first intended to be used, to represent the sounds of speech. But as the centuries went by and the European tradition of literacy was built up, like Troy, on foundations after foundations of accumulated remains from the past, so the temptation to forget the primal rationale of the alphabetic principle grew ever greater in some languages, in none more so than in English. We then need to examine the consequences of this development for the stated goal of maximizing literacy. There have been comparative studies showing that standards of education in English-speaking countries lag behind those elsewhere. There have been comparative studies showing that individuals find the acquisition of literacy skills far harder in English than in other languages. There is widespread, indeed growing concern about standards of literacy in English-speaking countries, alongside profound and bitter disagreement as to the best way to teach literacy skills in English. Indeed this disagreement might be better described as confusion, as methodological fashions swing from one extreme to another (from phonics to visual and back again) without, it appears, solving the problem of effectively teaching the young the skills of literacy in an alphabetic writing system. The ultimate proof of this has been provided repeatedly over the past 150 years by the dramatic success of learners in acquiring initial literacy skills via regularized English writing systems, the most recent and best researched of which has been the Initial Teaching Alphabet (i.t.a.). Its design and the analysis of its effects over the past 30 years is one of the proudest practical achievements of the study of writing systems, but its message is today in danger of being forgotten. An incidental finding of the research into effects of the i.t.a. was perhaps more disturbing than its main conclusion that regular writing systems are more easily mastered than irregular: it was the suggestion that being forced to learn a fundamentally irregular writing system actually damages the intellectual development of the young learner, by comparison with the training in accurate observation and logical thinking which mastering a regular writing system entails. Here we have the point of the earlier analogy with air: human beings are damaged by polluted writing systems, much as they are by polluted air.

13. An international perspective

The specific problems of English are of enormous importance, in the first place for standards of education in English speaking countries, but perhaps no less importantly for the future of English as the prime medium of international communication. It is through the English language more than any other that countries and organizations and individuals communicate with each other across frontiers, and for this communication to occur, those involved have to have acquired an appropriate command of the language. The handicap that English spelling imposes on learners varies with the learners' circumstances. When learners are trying to master their first literacy skills through English as a foreign language, the difficulty is immensely greater than for native speakers: they have merely to learn the written forms for words they mostly already know, in other words they have the support of the familiar sounds of words; but they are trying at one and the same time to learn the skills of decoding and encoding writing, to learn unfamiliar vocabulary, and to link the sounds of those unfamiliar words to written forms when in many cases there is inadequate correspondence between the two; the task is all too often proved beyond such learners. A second category experiences less difficulty: these are the learners who are already literate in their own language, so at least they are not trying to master the mechanics of reading and writing at the same time as learning a foreign language, and in that respect they may even have an advantage over native speaking learners; but again the lack of a predictable correspondence between the written and spoken forms of words causes difficulty, especially for learning the correct pronunciation of words. So when the writing system of English is being studied with a view to its modification, the needs of non-native speaking learners have to be taken into account as well as of native speakers. It is self-evidently also to the advantage of native speakers that non-native speakers should find it easier than now to acquire a good command of English. One of the difficulties faced particularly by speakers of other European languages (and equally by English speaking learners of those languages) lies in arbitrary variation between the written forms of related words from one language to another. This kind of variation is seen above all in patterns of consonant doubling (already notorious as a problem of English), as seen between English *accommodate*, French *accommoder*, Italian *accomodare* and Spanish *acomodar*. The student of writing systems therefore needs to examine related languages to see how they deal with sound-symbol correspondence in the case of internationally cognate forms. Indeed in the European context at least there could be a useful long-term objective to bring the written form of different languages as close together as the differences in their spoken forms would allow, with the aim of facilitating written communication between

14 CHRISTOPHER UPWARD

languages. Not merely would the learners' task be made easier, but the right form of words would become generally more intelligible to non-native speakers.

Their 'grammar of legibility' would be improved.

14. Writing systems: an interdisciplinary study of permanent importance

The study of writing systems is an interdisciplinary activity. It requires a broad view of the place of literacy in human history worldwide, a concept of its role in society today, and a basic understanding of its psychology, involving the infraction of ear and eye, and the bi-directional processing pathways of reading and writing. It also requires a knowledge of language and languages, and the ability to undertake fairly precise phonetic and phonological analyses. This paper has implicitly argued that the study of writing systems should be undertaken in a humanistic spirit and with a sense of social responsibility. It should go beyond merely observing how writing systems work, and demand valuable judgments, asking how well suited particular writing systems are to their purposes. Their purposes must have to do with how individuals use writing systems, each in their own social situation, with the underlying presumption that the quality of a writing system should be judged by how well it matches the needs and abilities of its users. The starting point for the author of this paper happens to be the English language, the gross deficiencies of whose writing system have naturally been a major spur to his studies; but the world as a whole has an equal interest in a critical appraisal of English. Not merely are there today serious literacy deficits in English-speaking countries, with a concomitant general educational shortfall (those with specific learning difficulties being most severely affected) and constant irritations (to say the least) in everyday tasks of written communication; but the task of learning English as a non-native speaker is made unnecessarily difficult by the spelling, with, at a fairly trivial level, the recurrent danger of mispronunciation and, more seriously, often insuperable obstacles for learners trying to acquire their first literacy skills in English as a foreign language. But if many immediate concerns stem from the particular problems of the English writing system today, that should not allow us to lose sight of the fact that, as a French prime minister recently said in the context of French spelling, current writing systems need to be kept permanently under review. For their most fundamental feature is their tendency to become out of date. Writing is a way of representing language, whose ultimate manifestation is the spoken word, and the pronunciation of words changes through time, sometimes very slowly, sometimes with bewildering rapidity (as English did in the 15th century). If a writing system that was originally designed to match the

sounds of speech remains unchanged despite such changes in pronunciation, then it loses the transparency of reflecting the spoken word; and then difficulties begin to set in. So even the best designed, most modern writing system requires careful monitoring, to ensure it can be kept up to date. Put thus, the task may seem simple, which it is most certainly not, but it is the fundamental, continuing justification for the study of writing systems. Just as the quality of air needs to be studied to ensure human health, so the quality of writing systems needs to be studied to ensure human literacy.

16 CHRISTOPHER UPWARD

Select bibliography

D. Abercrombie, *Elements of General Phonetics* (Edinburgh University Press, Edinburgh, 1967)

W. Sidney Allen, *Vox Graeca: the pronunciation of classical Greek* (Cambridge University Press, Cambridge, 1968)

W. Sidney Allen, *Vox Latina: the pronunciation of classical Latin* (Cambridge University Press, Cambridge 1965)

C. Baugh & T. Cable, *A History of the English Language* (Routledge, London, 1993)

F. Bodmer, *The Loom of Language* (George Allen & Unwin, London, 1944)

G. Brooks & A. K. Pugh (eds), *Studies in the History of Reading* (Reading: Centre for the Teaching of Reading (University of Reading School of Education) with the United Kingdom Reading Association, Reading, 1984)

A. Brown, *Pronunciation Models* (Singapore University Press, Singapore, 1991)

Sir Alan Bullock (chair), *A Language for Life* (Her Majesty's Stationery Office, Department of Education and Science, London, 1975)

N. Catach, *L'Orthographe* (PNF, Paris, 1988)

Conseil International de la Langue Française, *Pour l'harmonisation des dictionnaires* (Paris, 1988)

F. Coulmas, *The Writing Systems of the World* (Basil Blackwell, Oxford, 1989)

C. B. Cox, *English for ages 5 to 16* (Department of Education and Science and the Welsh Office, London, 1989)

R. G. Crowder, *The Psychology of Reading: An Introduction* (Oxford University Press, New York, 1982)

D. Crystal, *The Cambridge Encyclopedia of Language* (Cambridge University Press, Cambridge, 1987, pp. 177-218)

Department of Education and Science, *A Language for Life: Report of the Committee of Inquiry appointed by the Secretary of State for Education and Science under the Chairmanship of Sir Alan Bullock* (Her Majesty's Stationery Office, London, 1975)

G. Dewey, *Relative Frequency of English Speech Sounds* (Harvard University Press, Cambridge, Mass, 1923)

G. Dewey, *Relative Frequency of English Spellings* (Teachers College Press, New York, 1970)

- E.J. Dobson, *English Pronunciation 1500-1700* (The Clarendon Press, Oxford, 1967)
- J. Downing (ed.), *Comparative Reading: Cross-National Studies of Behavior and Processes in Reading and Writing*, (The Macmillan Publishing Company Inc, New York, 1973)
- J. Downing, *Evaluating the Initial Teaching Alphabet* (Cassell, London, 1967)
- J., Downing and Che Kan Leong, *Psychology of Reading* (The Macmillan Publishing Company Inc, New York, 1982)
- J. Downing (ed), *Cognitive Psychology and Reading in the USSR* (North-Holland, Amsterdam, 1988)
- R.W.V. Elliott, *Runes: an introduction* (Manchester University Press, Manchester, 1989)
- A.W. Ellis, *Reading, Writing and Dyslexia: A Cognitive Analysis* (Lawrence Erlbaum Associates, London, 1984)
- D. Emery, *Variant Spellings in Modern American Dictionaries* (National Council of Teachers of English, USA, 1973)
- V. Espérandieu, Antoine Lion & J P Bénichou, *Des illettrés en France — rapport au premier ministre* (La Documentation Fran@aaise, Paris, 1984)
- A. Ewart, *The French Language* (Faber & Faber, London, 1943), Chapter 4
- C. Faulmann, (ed.), *Das Buch der Schrift* (Greno Verlagsgesellschaft mbH, reprint nach der Wiener Ausgabe von 1880, Nördlingen, 1985)
- R. Fergusson, *The Penguin Rhyming Dictionary* (Penguin Books, Harmondsworth 1985)
- K. Forster, *A Pronouncing Dictionary of English Place-Names including standard local and archaic variants* (Routledge and Kegan Paul, London, 1981)
- H.W. Fowler, *Modern English Usage* (Oxford University Press, Oxford, 1926, revised by Sir Ernest Gowers, 1965)
- J. Fritzsche, *Rechtschreibunterricht* (Franz Steiner Vlg, Stuttgart, 1984)
- U. Frith (ed.), *Cognitive Processes in Spelling* (Academic Press, London, 1980)
- A. Gaur, *A History of Writing* The British Library, London, 1984)
- A.C. Gimson, *An Introduction to the Pronunciation of English* (Edward Arnold, London, 1980)
- K. S. Goodman, *Language & Literacy* (Routledge & Kegan Paul, Boston, 1992, 2 vols)

18 CHRISTOPHER UPWARD

C. H. Gordon, *Forgotten Scripts: Their Ongoing Discovery and Decipherment* (Dorset Press, New York, 1987)

M. Görlach (ed.), Wilhelm Bavch 'Max and Moritz' in *English dialects and creoles* (Helmut Buske Verlag, Hamburg, 1986)

D.B. Gregor, *Celtic: a comparative study* (The Oleander Press, Cambridge, 1980)

W. Haas (ed.), *Alphabets for English* (Manchester University Press, Manchester, 1969)

W. Haas, *Phono-Graphic Translation* (Manchester University Press, Manchester, 1970)

W. Haas, *Writing without Letters* (Manchester University Press, Manchester, 1976)

S. F. Hagan, *Which is which? A manual of homophones* (The Macmillan Press Ltd, London, 1982)

R. Harris, *The Origin of Writing* (Gerald Duckworth & Co. Ltd, London, 1986)

W.V. Harris, *Ancient Literacy* (Harvard University Press, Cambridge, Massachusetts, 1989)

Hart's Rules for Compositors and Readers at the University Press (Oxford University Press, Oxford, 1983)

P. Hawkins, *Introducing Phonology* (Hutchinson, London, 1984)

L. Henderson, *Orthographies and Reading* (Lawrence Erlbaum Associates, London, 1984)

L. Henderson, *Orthography and Word Recognition in Reading* (Academic Press Inc., London, 1982)

K. Hofland and S. Johannsen, *Word Frequencies in British and American English* (The Norwegian Computing Centre for the Humanities, Bergen, 1982)

J. T. Hooker (ed.), *Reading the Past* (British Museum Publications, London, 1990)

A.P.R. Howatt, *A History of English Language Teaching* (Oxford University Press, Oxford, 1984)

L. Hamilton Jeffery, *The Local Scripts of Archaic Greece* (Clarendon, Oxford, 1961, revised with a supplement by A W Johnston, 1990)

O. Jespersen, *A Modern English Grammar on Historical Principles: Sounds and Spellings* (George Allen and Unwin, London, 1970)

(Johnson, Samuel, 1773), [J. L. Clifford (ed.) (1978) Beirut: Librairie du Liban,] *Samuel Johnson, A Dictionary of the English language*, London, 1755.

- K. Katzner, *The Languages of the World* (Routledge & Kegan Paul, London, 1986)
- C. Kennedy (ed.), *Language Planning and Language Education* (George Allen & Unwin, London, 1984)
- Kommission für Rechtschreibfragen des Instituts für deutsche Sprache (ed.), *Zur Neuregelung der deutschen Rechtschreibung* (Pädagogischer Verlag Schwann-Bagel, Düsseldorf, 1989)
- H. Lindgren, *Spelling Reform - a New Approach* (Alpha Books, Sydney, Australia, 1969)
- C. Longley, *BBC Adult Literacy Handbook* (BBC, London, 1975)
- T. McArthur (ed.), *The Oxford Companion to the English Language* (Oxford University Press, Oxford, 1992)
- P. Mackridge, *The Modern Greek Language* (Oxford University Press, Oxford, 1985)
- D.C. McMurtrie, *The Book* (Bracken Books, London, 1989)
- I. Michael, *The Teaching of English from the sixteenth century to 1870*, (Cambridge University Press, Cambridge, 1987)
- B. Migliorini & T.G. Griffith, *The Italian Language* (Faber & Faber, London, 1994)
- D. Moseley & C. Nicol, *ACE (Aurally Coded English) Spelling Dictionary* (Learning Development Aids, Wisbech, 1989)
- D. Moseley, 'How Lack of Confidence in Spelling Affects Children's Written Expression' *Educational Psychology in Practice*, (April 1989)
- D. Nerijs (ed.), *Deutsche Orthographie* (VEB Bibliographisches Institut, Leipzig, 1987)
- The Oxford Dictionary for Writers and Editors* (Clarendon Press, Oxford, 1984)
- R.I. Page, *Runes* (British Museum Publications Ltd, London, 1987)
- L.R. Palmer, *The Greek Language* (Faber and Faber, London, 1980)
- L.R. Palmer, *The Latin Language* (Faber & Faber, London, 1954, reprinted Bristol Classical Press)
- M B. Parkes, *Pause and Effect: an Introduction to the History of Punctuation in the West* (Scolar Press, Aldershot, 1992)
- R. Penny, *A History of the Spanish Language* (Cambridge University Press, Cambridge, 1991)
- K. Perera, *Children's Writing and Reading* (Basil Blackwell in association with André Deutsch for the Language Library, Oxford, 1984)

20 CHRISTOPHER UPWARD

- M.L. Peters, *Spelling Caught or Taught* (Routledge & Kegan Paul, London, 1985)
- Sir James Pitman & John St John, *Alphabets & Reading* (Sir Isaac Pitman & Sons Ltd, London, 1969)
- G. E. Pointon (ed.), *BBC Pronouncing Dictionary of British Names* (Oxford University Press, Oxford, 1983)
- M. K. Pope, *From Latin to Modern French with Especial Consideration of Anglo-Norman* (Manchester University Press, Manchester, 1952)
- S. Potter, *Our Language* (Penguin Books, Harmondsworth, 1985)
- S. J. Prais, 'Education for productivity' in *Compare*, Vol 16/2, pp. 121-149, 1986
- R. Pratley, *Spelling it out* (BBC Books, London, 1988)
- T. Pyles & J. Algeo, *The Origins and Development of the English Language* (Harcourt Brace Jovanovich, New York, 1982)
- C. Read, *Children's Categorization of Speech Sounds in English* (NCTE National Council for Teachers of English Research Report 17, 1985)
- W. Ripman & William Archer, *New Spelling* (Sir Isaac Pitman & Sons Ltd, London revised by Daniel Jones and Harold Orton, 1948)
- E. Rondthaler & E.J. Lias (eds.), *Dictionary of American Spelling* (The American Language Academy, New York, 1986)
- A. Room, *Dictionary of translated names and titles* (Routledge & Kegan Paul, London, 1986)
- G. Sampson, *Writing Systems* (Hutchinson, London, 1985)
- D. G. Scragg, *A history of English spelling* (Manchester University Press, Manchester, 1975)
- B. Shaw, *Androcles and the Lion, printed in the Shaw Alphabet with a parallel transcription in traditional orthography* (Penguin Books, Harmondsworth, 1962)
- C. Smith, *Collins Spanish-English English-Spanish Dictionary* (Collins, London & Glasgow, 1971)
- C. Taylor, *Nkore-Kiga* (Croom Helm: Descriptive Grammars, London, 1985)
- G. Thorstad, 'The effect of orthography on the acquisition of literacy skills' in *British Journal of Psychology*, 82, 1991, pp. 527-37.
- L. Todd, *Pidgins and Creoles* (Routledge & Kegan Paul, London, 1974)
- L. Todd, & I. Hancock, *International English Usage* (Croom Helm, Beckenham, 1986)

C. Upward, *Cut Spelling: a handbook to the simplification of written English by omission of redundant letters* (Simplified Spelling Society, Birmingham, 1992)

G.H. Vallins, *Spelling* (André Deutsch, London, 1954; revised by Donald G Scragg, 1965)

R.L. Venezky, *The Structure of English Orthography* (The Hague: Mouton, 1970)

F.W. Warburton & V. Southgate, *i.t.a.: An Independent Evaluation* for the Schools Council (John Murray and W & R Chambers, London, 1969)

Webster's *Ninth New Collegiate Dictionary* (Merriam-Webster Inc, Springfield, Massachusetts, 1986)

H.H. Wellisch, *The Conversion of Scripts* (Wiley, New York, 1978)

J.C. Wells, *Accents of English* (Cambridge University Press, Cambridge, 1982, 3 vols)

J C. Wells, *Pronunciation Dictionary* (Longman, Harlow, 1990)

A. Wijk, *Regularized English* (Almqvist & Wiksell, Stockholm, 1959)

B. & R. Wileman, *Harraps Dictionary of English Spelling* (Harrap, London, 1990)

H.C. Wyld, *A History of Modern Colloquial English* (Basil Blackwell, Oxford, 1936)

V. Yule, (1986), 'The Design of Spelling to Match Needs and Abilities' in *Harvard Educational Review*, August 1986, pp. 278-307.

Serial: *Journal of the Simplified Spelling Society*, issues from 1987.

The author

Christopher Upward teaches courses in German Language, Advanced German-English translation, and Writing Systems & Written English in Aston University's Modern Languages Department. He is also Editor-in-Chief of the Simplified Spelling Society, and his publications include *Cut Spelling: a handbook to the simplification of written English by omission of redundant letters*.