

*The Linguistics of Literacy*. Edited by Pamela Downing, Susan D. Lima, and Michael Noonan, Amsterdam/Philadelphia: John Benjamins Publishing Company, 1992, xx, 334 pp. \$29.95 (paper)

Reviewed by

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Linguists have always been suspicious of traditional orthographies. After all, a traditional orthography directly competes with the linguist, offering its own morphophonological analysis of the language in question. This state of affairs is the more painful because it often happens that an orthography is, by any reasonable linguistic criteria, totally unsuited to the language it transcribes, and yet its users seem perfectly happy with it, and resist all attempts to simplify or rationalize it. The linguist is in the position of a highly-trained physician unable to persuade patients to give up their ineffective and unscientific folk nostrums.

It is thus no surprise that a book growing out of a Symposium whose theme was "the relationship between linguistics and literacy" (p. ix) should provide further evidence that this relationship is an uneasy one. The book includes fifteen papers presented at the Seventeenth Annual University of Wisconsin-Milwaukee Linguistics Symposium in Milwaukee, April 8—10, 1988. The editors have grouped the papers into three parts: "Written Language and Spoken Language Compared", "Orthographic Systems", and "Psychology of Orthography". A fourth part, "Consequences of Literacy", consists of a sixteenth paper, not presented at the Symposium, by Walter J. Ong.

Part I, comparing speech and writing, includes papers by Cecilia E. Ford, Wallace Chafe, Deborah Tannen, and Eleanor Berry. Ford compares the intonation of adverbial clauses in samples of conversation with the punctuation of such clauses in samples of Freshman writing. She finds that in the conversation samples, temporal clauses are more likely than conditional or causal clauses to be part of the same breath group as the main clause, or to be preceded by intonation contours signaling incompleteness, rather than being preceded by contours signaling completion. In the written samples, similarly, temporal clauses are more likely than conditional or causal clauses to be connected to the main clause with no punctuation, rather than being separated by commas, periods, or dashes. Thus, in this respect at least, writing parallels speech.

Tannen considers another similarity between writing and speech: Both literary artists and conversationalists make their effects by introducing striking details that may be logically superfluous to the apparent message. In support of this claim, she provides many impressive examples from both domains. Of course, the point is hardly novel. Schoolteachers and literary critics have always stressed the importance of imagery in literature, and literary history records the struggles of successive generations of poets to restore to poetic

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language the concreteness of common speech.

The attempts of American Modernist poets (Frost, Eliot, and Williams) in this direction are discussed by Berry. She finds that despite the professed allegiance of these poets to conversational speech, art keeps creeping into their work, even in poems that purport to be conversational narratives. Thus, repetitions, hesitations, replacements of words, and afterthoughts are much less frequent in their poetry than in actual conversation, and when present are apt to have an obvious artistic function. Modernist poetry is not a literal transcription of common speech, but a highly organized and densely structured rearrangement of it. Thus, for Berry, it is a *difference* between written and spoken language that is of interest.

Chafe offers evidence of another sort of difference, pointing to certain constraints on spoken language absent in written language. In his conversational samples, speakers present no more than one "new idea" per breath group, and this new idea is never embodied in the grammatical subject. But parallel constraints do not, of course, apply to written clauses, nor are these constraints adhered to in oral reading, even when a clause is divided into two or more breath groups. This freedom of written language he attributes to "(1) the reduced burden on readers made possible by their role as consumers rather than producers and (2) the freedom of readers to set their own pace" (p. 27).

All four of these papers are open to the objection that comparisons between speaking and writing are confounded with comparisons between modes of discourse (dialogue, narration, exposition, persuasion, etc.). Instead of comparing speech and writing within a particular mode, they compare spoken dialogue with writing in some other mode. A justification for this way of proceeding is offered by Chafe: ". . . ordinary casual conversation has a special position as the prototypical use of spoken language. . . It is helpful to be able to identify a use of language on which we can anchor our study, and with relation to which we can interpret other, less prototypical uses" (p. 19). But this is not entirely convincing, particularly as it turns out that "written language seems not to offer anything comparable [to conversation] as a prototype" (p. 23). But by assuming that only conversational speech is truly prototypical, Chafe is able to scoff at linguists who discuss examples not apt to be found there, like Sapir's (1921) *The farmer kills the duckling* (p. 82) or an unnamed linguist's *The managing of an office by Peter is liked by John*. Yet surely the interesting point is that, despite their alleged unutterability, these sentences are perfectly comprehensible and grammatically acceptable.

Part II, on writing systems, includes papers by Mark Aronoff, Peter T. Daniels, Alice Faber, Janine Scancarelli, Ronald P. Schaefer, and James D. McCawley. The first three authors consider the relation between phonological and orthographic units. Aronoff calls our attention to Baron Massias, an obscure nineteenth-century French philosopher who held that "writing, specifically alphabetic writing, lies at the heart of language" (p. 73). Although linguists would now agree that writing is just a secondary system, some of them, according to Aronoff (and so also Faber and, in Part III, Bruce Derwing), have inadvertently fallen into a way of thinking akin to that of Massias. The phonemic segment is a misconception to which they have been unwittingly led by their experience with alphabetic writing. This is not, as he acknowledges, a new idea, but "good ideas sometimes bear repeating" (fn. 2, p. 81). While phonemic segments are fair game, Aronoff is hardly justified in deriding Saussure, Sapir, and Chomsky and Halle as having been "caught in the

web of their own orthography" (p. 81). His evidence for this in Saussure's case is a passage from Baskin's translation of the *Course in General Linguistics* (1959, pp. 38—39) in which Saussure says that in Greek writing, letters correspond to auditory beats. But the passage shows only that Saussure believed that the existence of alphabetic writing was consistent with his notions about phonemic segments, not that his personal experience with alphabetic writing had shaped these notions. The evidence from Sapir (1933) and from Chomsky and Halle (1968) is unconvincing not only for similar reasons, but also because, in the passages cited from these authors, what is at issue is not the segmental character of phonemes but their level of abstraction.

It is doubtless true that these linguists, like most literate Westerners, originally acquired their notion of the phonemic segment through exposure to an alphabetic orthography. But they did not accept this notion uncritically or unreflectingly; they considered a great many linguistic data and, rightly or wrongly, determined that a segmental analysis best accommodated the observed regularities. Moreover, Chomsky and Halle, at any rate, were surely well aware of various counterproposals, such as those of Harris (1944) and Firth (1967), even though they did not yet see how to reconcile these proposals with the evidence for a segmental account. Aronoff views the recent trend toward nonlinear models in phonological theory as belatedly liberating phonology from the grip of the alphabet. But these new phonological models did not arise in a nonliterate culture, or even in one using a syllabary, but rather in the same alphabet-ridden culture that had produced segmental phonology; some of them, indeed, were encouraged by Halle himself, and they are more reasonably viewed as generalizations of the Chomsky and Halle (1968) model than as rejections of it.

For Daniels, the syllable is "the most salient unit of speech" (p. 84) and the Sumerian, Chinese, and Mayan syllabic writing systems could be invented because morphemes in these languages were generally monosyllabic. On the other hand, alphabets, being based on the phoneme, are quite unnatural. However, Daniels' rambling paper does not confine itself to these matters. He finds room for a great deal of material of questionable relevance, for the introduction of novel terminology of which he then makes no use, and for the accusation that when Martin Joos reprinted W. F. Twaddell's *On Defining the Phoneme* (1935) in *Readings in Linguistics I* (1966), he omitted passages on acoustic phonetics showing that phonemes were not manifest in the speech signal, thereby undermining Sapir's (1933) view that the phoneme was a mentalistic abstraction. This slur on Joos's scholarly integrity is unjust and reckless. A comparison of Twaddell (1935) with Joos's abridged version (Twaddell, 1966) shows that the omitted passages (1935, pp. 35—36, cf. 1966, p. 68; 1935, pp. 56—57, cf. 1966, p. 77) are quite adequately summarized in Twaddell (1966), either by Joos or by Twaddell himself. Anyway, Joos himself, a pioneer in the spectrographic analysis of speech, certainly did not share the simplistic view of the acoustic status of phonemic segments held by older American structuralists like Bloomfield (1933), as his classic monograph, *Acoustic Phonetics* (1948) testifies.

Faber sets herself the task of demonstrating how, given that phonology itself is not segmental, segmental writing could have arisen. She argues that it is not justifiable to attribute segmental awareness to the Phoenicians; they must have been aware of the consonants that they actually transcribed, but not necessarily of the different vocalic patterns, interdigitated with the consonants in speech, that they did not transcribe. Thus,

there is no reason to believe they would have analyzed a syllable such as /ba/ into two successive segments. To account for the emergence of the *plene* Greek alphabet, she adopts Sampson's (1985) proposal that the Greeks heard /ʔalpa/, /he/, /yoda/, and /ʔayna/, the Canaanite letter-names for the consonants /ʔ/, /h/, /y/, and /s/, as /alpa/, /e/, /ioda/, and /ayna/, because those consonants do not occur in Greek. Therefore, they took the corresponding letters to stand instead for the vowels /a/, /e/, /i/, /a/, and could interpret the Canaanite system as fully alphabetic. Thus segmental awareness arose in the Greeks for the same reason it has in all their successors: as a result of exposure to what appeared to be a segmental writing system. There is no need to assume on anyone's part a prior, phonologically rather than orthographically based, segmental awareness.

One cannot but admire Faber's ingenuity in avoiding an appeal to awareness of phonological segments, but certain questions arise. How would she explain the later Semitic writing systems for Aramaic and Hebrew, in which yod, waw and aleph were sometimes used to represent vowels (Cross and Freedman, 1952)? Hadn't segmental awareness crept in somehow by this stage? Or again, on Sampson's account, the Greeks would have seen Canaanite writing as a system in which only a minority of the vowels, those that were apparently syllable-initial, were transcribed. Didn't it require some prior segmental awareness on their part to generalize the principle to vowels in other positions?

Scancarelli takes a close look at Sequoyah's Cherokee syllabary. This writing system is not as ideal as it is often said to be. For example, separate signs are in a few cases provided for two CV syllables contrasting in aspiration, but not in many others. To account for this, she suggests, very plausibly, that Sequoyah minimized his inventory of symbols by assigning separate signs to the members of such a pair only when it seemed to him that their contrast carried a high functional load.

Schaefer describes the various strategies employed by naive users of the orthography devised for Emai (an Edoid language of Southern Nigeria) to transcribe phrases containing elisions of word-final vowels. These writers never represent the quality of the elided vowel, but sometimes they preserve the lexical shape of the word that contained it, of the word following, or of both. Thus *vbae eo* > *vba eo* and *vbi ogo* > *vbogo*, but *vbi ean* > *vbe an*, *eli eami* > *ele 'ami*, *re obo* > *ro obo*, *ze obo* > *zi obo*. Schaefer attributes these patterns to greater awareness of lexical shape than of phonemic shape. This may be so, but the fact that the writers did consistently indicate the elision suggests a degree of phonological awareness. And what more obvious indication is there than the omission of the letter for the elided vowel?

The last essay in this section, by McCawley, is a discussion of musical and mathematical notation. It is extremely lucid and at times brilliant, but seems out of place in this book concerned with linguistic writing and natural language. McCawley makes intriguing comparisons between the structures of these notations and linguistic structure, showing, for example, how music indicates constituents with beams and ligatures. He is rather less convincing when he suggests that the correspondence between the position of the notes on a staff and pitch height is a metaphor; why is this not just iconicity? Nor does there seem much point in regarding  $\sin^2 x$  as an "optional transformation" of  $(\sin x)^2$ . It would have been of greater value and relevance to compare mathematical or musical notation with linguistic writing, a notation for language, rather than with language itself. It is of considerable interest, for example, that, unlike these other notations, conventional lingu-

tic writing does *not* indicate constituent structure.

Part III, on the psychology of orthography, includes papers by Bruce Derwing, John Ohala, Laurie Feldman, Ram Frost, and J. Ronayne Cowan. On the basis of subjects' performance in such tasks as phonetic similarity judgment and segment counting, Derwing argues convincingly that the phonology of literate speakers is heavily impacted by their orthographic experience and that writing and reading cannot be set aside as merely parasitic on speaking and listening. (Is there then something to be said for Massias' views after all?) "This evidence suggests a kind of lexicon in which the phonological and orthographic representations are not sharply separated" (p. 197). Derwing also wants to argue, like Aronoff and Faber, that the orthography has beguiled linguists into setting up a unit, the phoneme, that is psychologically unreal. But these two views seem almost contradictory. Derwing seems to be saying, on the one hand, that the orthography has far more profound psycholinguistic effects than is commonly supposed, and on the other, that the units it implies are psycholinguistically irrelevant!

Ohala proposes a "cost-benefit" evaluation of generative phonology and argues that for most speakers, the cognitive cost (the effort required for phonological analysis) outweighs the benefit (identification of morphemes recurring in different form in different words). "Different pronunciations of the same morpheme . . . are largely nonfunctional and are rather to be viewed as an unfortunate but inevitable consequence of the ravages of sound change" (p. 229). He offers data — spelling errors and naive judgments whether pairs of words are historically related — showing that speakers do not, in fact, carry out phonological analysis consistently. According to Ohala, they need not and for the most part do not set up underlying forms. All that they really require are a few "cut-and-paste rules", i.e., analogies. Generative phonology is just disguised diachronic phonology.

Confronted with this hard-nosed stance, the generative phonologist might respond that he is concerned with the phonology of *ideal* speaker-hearers, for whom the only relevant "cost" is the complexity of the phonology. He would willingly concede that, no doubt for the various reasons Ohala gives, this ideal is realized very imperfectly in actual speakers. For someone who insists on doing traditional armchair phonology, the only possible alternative to this position is that of Twaddell (1935): The phoneme is a fiction.

But perhaps the prospect from the armchair is not so bleak after all. Feldman reviews the results of a number of repetition priming experiments carried out by her and her colleagues. In this technique, two related items are presented separately for lexical decision, with other trials intervening. For some types of relation, the second item is responded to faster than when no related item has preceded. Fowler, Napps, and Feldman (1985) found such a facilitating effect for priming with morphologically related words, and the effect was just as great when the pronunciation of the morpheme differed in the two words (*heal, health*), or both its spelling and its pronunciation differed (*clear, clarify*), as when spelling and pronunciation did not change (*heal, healer; clear, clearly*). This finding surely argues for the psychological reality of the constructs of generative phonology, at least for literate speakers. Ohala does refer to Fowler et al. (1985) and to Feldman's paper, but only to remark that "repetition priming . . . appears capable of providing behavioral evidence relevant to the issue" (p. 226).

Frost summarizes evidence for the effects of "orthographic depth" (Klima, 1972) on the reading process. An orthography is deep, according to Klima, if it appeals to the more

abstract level of morphophonology where morphemes have a constant shape, rather than to a level nearer the surface, such as the phonemic level of structuralist phonology. English orthography is thus deep, that of Hebrew even deeper, but that of Serbo-Croatian is shallow. Certain experimental tasks, for example, naming, are performed faster and more accurately for shallow than for deep orthographies (Frost, Katz, and Bentin, 1987), and it is clear that the dimension of orthographic depth has some psychological reality. Frost is careful, however, not to claim more for orthographic depth than is warranted. It is not to be concluded that deep orthographies are processed in some radically different, possibly more "visual" way than shallow ones.

In perhaps the only paper in this collection that has something positive to say about orthographies, Cowan offers evidence that American students make good use of the orthography of the second language they are learning. This is reflected both in the errors they make and in their greater ability to retain vocabulary words if the orthographic form of the word is presented along with spoken form. Moreover (though Cowan does not employ this terminology), shallow orthographies are more helpful than deep ones. But is this state of affairs really desirable? Apparently, these language learners, rather than confronting a new and strange phonology, are attempting to assimilate it as far as possible to their native phonology, and the orthography helps them to do this. Should they be allowed this crutch, if they are really to learn a foreign language?

In Part IV, Ong charges that writing has cut us off from the world of "primary oral culture". Writing separates the known from the knower, interpretation from data, word from sound, source from recipient, language from the plenum of existence, past from present, and so on. Before the advent of writing, each of these oppositions was a unity. Literacy has, indeed, some compensations: We can be objective and consciously aware of things in a way that was not possible before writing. Ong even grants, as Aronoff would not, that "writing can distance us from writing itself. . . Writing has the power to liberate us more and more from the chirographic bias and confusion it creates, though complete liberation is impossible" (p. 316).

But surely Ong unduly idealizes and oversimplifies oral cultures. Can we really be sure that they all are "basically conservative" (p. 295), "incapable of linear analysis" (p. 298), "mobile, warm, personally interactive" (p. 299), and that they all "view everything in terms of interpersonal struggle" (p. 298) and "use words less for information and more for optional, interpersonal purposes" (p. 306)? Ong's oral culture is unreal, a lost Eden to be nostalgically recalled: "Of course, the original innocence of the pristine empathetic identification can never be repossessed directly" (p. 317).

Orthography, particularly alphabetic orthography, it seems, has much to answer for. It is less natural than conversational speech (Chafe, Berry), it misleads linguists (Aronoff, Faber, Derwing), it relies on an unnatural unit (Daniels), it corrupts one's phonology (Derwing), and it has cut us off forever from primary oral culture (Ong). But it is hard to imagine giving it up. We are all hooked at an early age, and while our heads tell us that orthographies are merely secondary systems, our hearts say that Baron Massias was right.

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