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0. Preface

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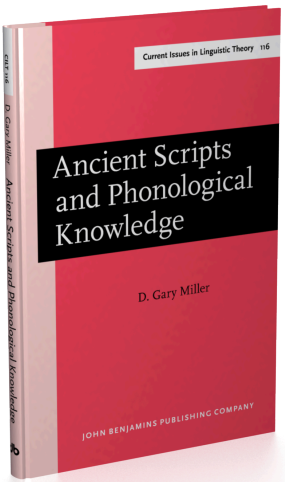

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Ancient Scripts and Phonological Knowledge
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0. PREFACE

0.1 *Objectives of the Study*

The topic of this study is both more and less than the title suggests. Since the target is the phonological knowledge that underlies segmental scripts, especially of the linear variety ('alphabets'), and, since the only verifiable instance of the (spontaneous) creation of an alphabet involves the Northwest Semitic script and its derivatives (Diringer 1968: 164, 435; Sampson 1985: 77; R. Harris 1986:27; Sass 1988:167; Cross 1989:77), our concentration will be on early Western scripts with segmental coding. Because two syllabic scripts from Ancient Greece provide clues to the development of the Greek alphabet, they will also be examined. The objective in each case is to demonstrate the high degree of segmental awareness that was coded in the scripts and their orthographic conventions. Some ancient Western scripts are thus examined for theoretical implications — assumptions about phonology that underlie them.

It has been the standard assumption of Western culture that the alphabet is the greatest invention since the wheel.[1] Some scholars, such as Roy Harris (1986:37), have challenged this "ethnocentric bias of a European approach to non-European languages". Nevertheless, very few researchers have seriously disputed the prevailing notion that the alphabet is superior to other (e.g., syllabic) scripts; see the references in Coulmas (1989:44), who challenges this view as "simplistic". Yet that is not enough of a criticism. Coulmas goes

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[1] The present work is exclusively linguistic. We will not get into the politics that have attributed the technocratic supremacy of the West to the alphabet (see Olson 1994). Already Plato (*Phaedrus* 274-275) had the king respond to Thoth's legendary invention of writing that it would inhibit wisdom. For criticism of the still voguish view that the alphabet was literally responsible for the development of civilization, see Powell (1981), Finnegan (1988), Bloch (1989), Coulmas (1989), Larsen (1989), Thomas (1992), and especially Maranzana (1993); cf. Barton (1994). As stated by Coulmas (p.160), "What is surprising about this approach is that it was ever taken seriously and discussed by serious scholars."

For the development of writing, see, for the older literature, the indispensable studies by Gelb (1963), Diringer (1968), and Jensen (1969). More recent approaches are found in Naveh (1982), Sampson (1985), R. Harris (1986), Coulmas (1989), Healey (1990), and the articles in Senner (1989) and Hooker (1990). Technical studies include Dietrich & Loretz (1988), Sass (1988), Schmandt-Besserat (1992), Segert (1993).

on to assert that the alphabet is "the most economical system" (cf. Diringer 1968:13) but hastens to stress that it is better equipped to handle languages like Greek than tone languages. However, accentual distinctions in Greek, e.g., φῶς *pʰɔ̃s* /pʰóos/ "light" : φώς *pʰɔ́s* /pʰoós/ "man" are no better handled by any of the world's usual scripts. Sampson (1985:107) claims it does not matter because the FUNCTIONAL YIELD of accent in Ancient Greek was low (which is not clear; see Bubeník 1983:134ff). That of course misses the point that in a language in which accent has a higher functional load, a strictly linear segmental script is woefully inadequate, as Sampson (pp. 37-38) notes in conjunction with English intonation. In fact, an alphabet is not the most economical system, nor is it necessarily the simplest to learn just because it contains the fewest symbols (Gelb 1963:184ff; Diringer 1968:13; Sass 1988: 167-168, with reservations). To some extent, as several scholars have tried to maintain, there is a trade-off in complexity with respect to linguistic (specifically phonological/segmental) knowledge. That is, some have claimed that alphabets are harder to learn because segments are not salient. We will argue that (1) this is only partially true, and (2) alphabets may be easier to learn but (for separate reasons) not simpler to read — despite the ostensible advantage adduced by Harris (1986:119), that alphabets not only reduce the number of symbols but simultaneously "lose few or none of the facilities of 'word identification' which the previous writing system afforded."

An important principle that will be employed throughout, though rejected by Gelb (1963: 140-143, 251), is the ACROPHONIC PRINCIPLE defined by Coulmas (1989:33) as the principle "whereby a word acquires the phonetic value of the beginning of the whole word for whose writing it was originally used." A weaker version is generally adopted, whereby "*A* as in *apple*" exemplifies a modified (non-iconic to the symbol) acrophonic principle, the source of the ancient letter-names (Diringer 1968:168-169; Jensen 1969:53; Gessman 1975:14; Sampson 1985: 78, 101; Harris 1986:31), analogous to modern radio alphabets like *able, baker, charlie*, etc. (Gelb 1963:142; Faber 1992:126). Compare the Slavic glagolitic letter-names *az* "I", *buky* "letter", *vědi* "knowledge", *glagol'* "speech", etc. (Gelb 1963:141; Gessman 1975:75).

0.2 *Scripts as Representation*

What do scripts mirror? Coulmas (1989:47) challenges the view that scripts mirror speech, the underlying assumption of which is that "a good writing system is an isomorphic mapping of speech." That is, there is a one-to-one correspondence between sounds and signs (cf. Diringer 1968: 12-13, 163; Jensen 1969:583). Coulmas argues, following the tradition of Gelb

(1963: 15, 224ff), Jensen (1969:583-586), and others, that this ignores three important points: (1) this ideal is probably not realizable for any script; (2) the script user is not interested in the same precision mapping as the linguist [and would actually be slowed down by it — D.G.M.]; and (3) orthography is normative. In actuality, there are no 'pure' scripts because of the conflict pinpointed by SPE (p.49):

> Orthography is a system designed for readers who know the language, who understand sentences and therefore know the surface structure of sentences. [...] It would be quite pointless for the orthography to indicate [...] predictable variants. Except for unpredictable variants (e.g., *man – men, buy – bought*), an optimal orthography would have one representation for each lexical entry. Up to ambiguity, then, such a system would maintain a close correspondence between semantic units and orthographic representations. A system of this sort is of little use for one who wishes to produce tolerable speech without knowing the language [...].

The conflict is thus whether a script is going to mirror the lexical entry (semantic pole) or the output (phonetic pole) or some combination or a more abstract level of representation. Some scripts are close to phonemic (e.g., Spanish, Latvian), some encode morphophonemic information (e.g., Dutch, German, Russian), and some contain a large amount of morphemic, lexical, and even heuristic information, e.g., English (cf. Sampson 1985:194-213; Coulmas 1989:175-176; §6.12 below). Spelling in English is often lexical-semantic or logographic,[2] viz. *new* ≠ *knew* ≠ *gnu* ≠ *pneu-*, or *main* ≠ *mane* ≠ *mein* ≠ *Maine*. Note also differences among identical spellings, e.g., *-omb* of *bomb, tomb, comb*, or the notorious *-ough* of *through, though, thought, trough, tough, bough, hiccough*. And so on.

Since antiquity (e.g., Aristotle, *de Interpretatione* 1.4-6), it is customary to conceptualize writing as a representation of speech (see Harris 1986:83-86) but Harris (pp. 91-92) argues that writing cannot be simply a representation of speech because different writing systems are associated with different neurolinguistic problems. For instance, Japanese dyslexics familiar with the syllabic *kana* script and the logographic (Chinese) *kanji* script do not have the same difficulties (but see Morais 1991:17-18; Mann 1991:57ff). More to the point, no system so far devised comes close to representing all of our phonological knowledge, presumably because most nonpictographic systems are linear attempts at representing something nonlinear/multiplanar.

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[2] On the loose use of the term *logographic* in connection with English orthography, see, e.g., Powell (1991: 75, 116); cf. Gelb (1963:15) on 'visual morphemes'. For a useful overview of English orthographic conventions and their history, see Jespersen (1948:146-149).

A body of evidence for the autonomy of writing systems is presented in Harris (1986:105-108). For instance, scripts may contain non-phonologically or non-morphologically realized (i.e., unpronounced and/or unpronounceable) symbols, such as classificatory determinative signs, extremely frequent in hieroglyphic and cuneiform systems, signs for people (male, female, queen, etc.), wooden objects, and so on. In our own system, botanists intersperse amid ordinary writing special symbols for male, female, etc.; astronomers, chemists, mathematicians, and other professionals use special symbols (Gelb 1963:15-20; Gessman 1975:8). Differences between upper and lower case letters most frequently correspond to nothing in the spoken language at all. Occasionally, there is a semantic difference, as in *Smith* : *smith*, *Democratic* : *democratic, AIDS* : *aids*, etc. (cf. Gessman 1975:15); a message in ALL CAPS may express the attitude or intonation of the speaker. And so on. Sequential restrictions, such as *q* only before *u*, are synchronically arbitrary and correspond to nothing linguistic (Harris, p. 115; more in §6.11). Another factor, extensively discussed by Jensen (1969:587-592; cf. Gessman 1975:98-102), involves stylistic developments, especially those motivated by considerations of speed, such as shorthands, abbreviations, cursive stenography, brachygraphy, tachygraphy. 'Fonts' constitute another stylistic difference (Gessman 1975: 15, 87-95). All of this very strongly suggests that scripts have an autonomy of their own and are not merely representational systems of spoken language. As emphasized by Harris (1986:119), writing "as writing" has for millennia been "independent of the spoken word".

While all of this is undeniable, one must not get too carried away with the independence of scripts and language. The independence could allow us to forget that the entire point of a script is in fact to represent graphically some aspect or aspects of the linguistic knowledge of native speakers of a language (on which, see Chomsky 1986). The conflict will always be on what kind of knowledge will be mirrored, whether it will be exclusively phonological (and which aspects of that — syllables and/or segments), partly morphological, partly lexical or semantic. Thus viewed, writing systems are attempts at representing different, 'competing' aspects of language (more specifically, language knowledge), some phonetic (noncontrastive), some phonemic (contrast and opposition), some lexical/morphological (root or affix unity), some morphophonemic (in the broad sense). Such competing goals are apt to yield discrepancies and irregularities in graphic conventions.

This study will investigate the properties of several ancient syllabic and linear segmental scripts to make explicit the aspects of linguistic knowledge which they are attempting to represent. Chapter 6 will present independent evidence for the types of knowledge identified in the previous chapters.

0.3 *Plan of the Book*

Recent work on scripts (discussed in chap.6) has tended to support the age-old prejudice that alphabets impart a knowledge of segments, and that people without alphabets have no knowledge of words, much less segments. Linguistic analysis of the Greek Linear B syllabary (chap.2) and Cyprian syllabary (chap.3) shows that nothing could be farther from the truth. The spelling conventions of these two ancient scripts are based on the Sonority Hierarchy (SH), and presuppose a sophisticated (at least implicit) knowledge of the arrangement of segments according to the SH. Specifically, the sophistication of developing and using a script based on the SH, consistently performing exhaustive SH analyses of each word and spelling individual segments according to their position in the SH, devising solutions to problems like SH onsets in coda position or codas in onset position, handling problems of syllable adjuncts and SH violations in the language, and occasionally trying to represent compositional information as well, go lightyears beyond anything predicted by proponents of privileged alphabet knowledge.

To assess the development of alphabets and their adaptation to particular phonological systems, the history of the Greek alphabet is explored in chapter 4. Its Phoenician source fits letter-by-letter into a phonetic matrix analogous to the Byblos and Ras Shamra matrices (chap.5), in which segments are arranged as follows: laryngeals > labials > alveolars > velars > dentals. Again, the question arises, how can there be a phonetic-order conception of segments without a concept of segments? Similarly, the Germanic runic *fuþark* (chap.5) fits a matrix arranged: lip-rounded > dental > (alveo)palatal > velar. The changes and adaptations in the creation and ordering of that script reveal a knowledge of segments and their phonetic/phonological properties.

Chapter 6 discusses some recent experimental research which has denied the very linguistic knowledge demonstrated to underlie the ancient scripts. Independent corroborative evidence for that knowledge is presented, forcing the conclusion that the experiments are faulty in their design and results. They do not begin to access the linguistic knowledge possessed by native speakers. Consequently, that type of research does a disservice to humanity and the scholarly community in claiming to validate age-old prejudices under a pseudoscientific guise. The concluding chapter discusses some implications for the design of scripts and for future experimental work.

0.4 ***Dating Conventions***

To avoid problems of time reckoning, I will follow Sampson (1985) in using a date like 1980 for the modern era (= A.D./C.E.) and –1980 for antiquity (= 1980 B.C./B.C.E.). Also, for generic ancient dating, the convention of Roman numerals is used, e.g., Naxos, VI = Naxos, sixth century B.C./B.C.E., or –6c.