CHAPTER FOUR

SCRIPTS AND TEXTS

J. D. HAWKINS

1. *Introduction*

The language Luwian has been transmitted to us written in two different scripts: one the Cuneiform script of Mesopotamian origin written on clay tablets recovered among the royal archives of Boğazköy-Hattusa and dating to the period of the Hittite kingdom, ca. 1650-1200 BCE; the second a Hieroglyphic script preserved on rock and dressed stone monuments, and miscellaneous metal artefacts, dating also to the Hittite kingdom but much more common for the period of the Neo-Hittite states, ca. 1100-700 BCE. This Hieroglyphic script is further found on seals and their impressions for the whole period, but it is seldom possible to characterize these short inscriptions (names and titles) specifically as Luwian.

'*Cuneiform Luwian*'. Luwian from the Cuneiform texts of Boğazköy has been recognized since the reading and decipherment of those documents ca. 1920 from the self-designation *luwili*, 'in Luwian', which is applied to connected passages of this language. Additional material has been collected from texts composed in the Hittite language, where words marked with one or two initial diagonal wedges (𒑰, 𒑱, '*Glossenkeil*') are now recognized as Luwian. Such words become common in the later Hittite texts, those of the 13th century BCE. Increasing knowledge of Luwian has recently permitted the further recognition of unglossed Luwian loanwords in earlier Hittite texts going back to the earliest period.

'*Hieroglyphic Luwian*'. The language of the Hieroglyphic texts has not yielded any such self-designation as 'Luwian', and the slow recognition of its Luwian character has advanced only step by step with its gradual decipherment (see below, section 3), but this has been fully recognized over the last thirty years.

So it is that we have in Luwian a language written in two different scripts over almost a millennium, and to this may be added the closely related Lycian of the period 500-300 BCE written in a third script, a form of the alphabet borrowed from the Greeks.

2. *Recognition*

2.1 *Cuneiform Luwian*

To the best of our knowledge, Hittite literacy goes back no further than the foundation of the Hittite kingdom of Hattusa by Hattusili I, ca. 1650 BCE. This king probably took the practice of writing in the Cuneiform script on clay tablets, along with the scribes who possessed the craft, from a north Syrian centre during his wars in the area. These scribes would have written principally in the Akkadian language, and this became and remained throughout the history of Hattusa its cultural language, linking it to the other powers of the Levant, Mesopotamia and Egypt. At Hattusa the scribes adapted the Cuneiform script for writing the principal language of the kingdom, Hittite (as we know it, *nešili* or *nešumnili*, the 'language of Nesa (Kanesh)/ the Nesians' to its speakers). Thus Hittite and Akkadian (*pabilili*, 'Babylonian') were the two main languages of the Hattusa archives.

The scribes of Hattusa also began to write down texts or shorter passages of other languages for special purposes: Hattian (*ḫattili*), the language of the pre-Hittite population (Klinger 1996 31-80); Hurrian (*ḫurlili*), the language of the Hittites' eastern neighbours (Wegner 2000 15-27); and the Hittite-related Luwian (*luwili*) and Palaic (*palaumnili*, Carruba 1970), from western and northwestern Anatolia respectively. We may assume that these languages were first committed to writing at Hattusa, with the exception of Hurrian which was certainly written earlier, the Hurrians being at least partially instrumental in transmitting literacy from Mesopotamia to Anatolia.

For writing Luwian, as for the other languages, the Hattusa scribes used the Cuneiform script, as already adapted for Hittite, and in the case of Luwian at least, this can have presented no problem, since they had been writing Luwian loanwords in Hittite from earliest times, as is now recognized. Indeed the writing down of Luwian texts and passages, until recently considered not to antedate ca. 1400 BCE,

has now been shown to go back to the late 16th century BCE (Starke 1985 21-31).

These Luwian 'texts' are mostly passages of the language quoted in Hittite texts as incantations and cultic songs, thus not specially coherent or intelligible, also not usually well preserved. For the initial period of Luwian studies (from the reading of the Boğazköy texts until after the Second World War), published Luwian material was notably scanty. The ground-breaking identification and classification by Forrer (principally 1922) was followed by studies from Friedrich (e.g. 1937, 1947) and Rosenkranz (1942 destroyed before publication during the War, reconstructed 1952).

A new period of Luwian studies was opened up by Otten's publication of a substantial new body of material as *KUB* XXXV (Otten 1953a) and his studies of this (1953b, 1953c). A dictionary soon followed: Laroche 1959. The relationship of Luwian to Lycian was already attracting notice: Tritsch 1950; Laroche 1957-58, 1960a, 1967.

2.2. *Hieroglyphic*[1]

Initial discovery and recognition of the Hieroglyphic texts long antedated the excavation of the Cuneiform archives of Boğazköy (1906 onwards), though meaningful access to the information contained in them came afterwards and slowly. Already in a lecture in 1876 Sayce was able to apply the term 'Hittite' (from Old Testament *ḥtym*, identified with Egyptian *ḫt'*, Assyrian *Ḫatti*) to the nascent corpus of inscriptions, the HAMA stones, ALEPPO 1, İVRİZ and the NINEVEH bullae (Sayce 1877), soon augmented by the first KARKAMIŠ inscriptions and the rediscovered TARKONDEMOS seal. Messerschmidt's *Corpus* (1900, 1902, 1906) included some 32 major and 29 minor inscriptions, a total nearly doubled by the KARKAMIŠ inscriptions excavated between 1911 and 1914 (Hogarth 1914 pls. A1-A11; Woolley 1921 pls. A12-A18).

The first attempts at decipherment were those of Sayce (1882, 1884) working from the digraphic (i.e. with parallel inscriptions in Cuneiform and Hieroglyphic) TARKONDEMOS seal (here Fig. 1a), but though he correctly identified Cun. LUGAL KUR, 'king of the land...', with the Hier. equivalents, the Cun. writings of the names of the king and the country were sufficiently ambiguous to defeat him.

[1] For details see Hawkins 2000 6-9.

(The correct readings were only achieved many years later, after the reading of the Boğazköy archives: Friedrich 1930a 367; Hawkins and Morpurgo Davies 1998.)

The recognition of the word-signs 'king' and 'land' did permit the identification of the toponyms Hamath (Hama), Carchemish (Jerablus), Gurgum (Maraş) and Tuwana (Niğde-Bor) in the inscriptions from those sites, as well as the names of several kings of these countries occurring in the Cuneiform (Assyrian) records. But in spite of this, would-be decipherers of the period 1880-1920 did not succeed in identifying enough clear and correct phonetic values (i.e. syllable signs) from the names to make any substantial progress into the script. Full and proper recognition of the script and its language came only with the successful stages of the decipherment.

3. *Decipherment of Hieroglyphic*[2]

3.1. *Initial considerations*

From what has been already said, it may be understood that this Hieroglyphic script, like other ancient writing systems, has two main classes of sign: (1) the word-signs ('logograms'), where one sign stands for one word, e.g. 'king', 'country': (2) the syllable-signs ('syllabograms'), where the signs stand for syllables that are used to spell out words phonetically, e.g. *tu-wa-na* (COUNTRY), 'the land of Tuwana'.

The first stage of decipherment consists of recognizing the logograms, which is facilitated with Hieroglyphic by its partly pictorial ('pictographic') character, and of assigning correct phonetic values to the syllabograms on the basis of the available evidence, which gives the only way into the language so written. The next stage involves identifying, analysing and understanding this language, whether known, belonging to a known group, or quite unknown. The decipherers of Hieroglyphic had as models the successful decipherments of Egyptian Hieroglyphic and Mesopotamian Cuneiform, both achieved in the early to mid-19th century, both also mixed logographic-syllabographic systems.

[2] For details see Hawkins 2000 13-17.

The early, largely unsuccessful decipherment attempts were overtaken by the excavation of the Boğazköy Cuneiform archives and the recognition of their Hittite and Luwian languages in the period 1906-1922. The publication and understanding of these texts and their historical background during the 1920's provided a much more secure base for substantial progress in decipherment.

3.2. *Successful entry*

From the beginning of the 1930's five scholars working largely independently published studies which constituted partly overlapping entries into the script: these were Meriggi (after preliminary studies, 1933, 1934a, 1934b), Gelb (1931, 1935, 1942), Forrer (1932), Bossert (1932) and Hrozný (preliminary studies, republished in 1933, 1934, 1937). Combining their results achieved by the end of the 1930's, we find that they had recognized many logograms, and evaluated many syllabograms correctly or approximately, but the reverse side of the achievement was the incorrect recognitions and evaluations, which persisted in too many cases, obscuring the character of the emerging language and rendering unreliable many translations attempted.

What the language of the Hieroglyphs might be was indeed discussed by these scholars. They generally used the terms translating into English as Hittite Hieroglyphs (for the script) and Hieroglyphic Hittite (language and inscriptions), and they frequently signalled the uncertainty by inverted commas around 'Hittite'. The view most generally expressed was that the language was related to but different from Hittite. Sometimes Luwian was mentioned as a comparison, but in view of the then state of knowledge of Cuneiform Luwian and the level of decipherment of Hieroglyphic, it would have been premature to press this. See Gelb (1931 80, 82f.) quoting Friedrich's well-founded suggestion of Luwian; Hrozný (1933 12-16); Forrer (1932 54ff.), suggesting the term 'Tabalian' (from the Assyrian designation of the southwest Anatolian plateau in the Iron Age); Meriggi 1935 (from a lecture in 1933) specifically used 'Luwian', but did not maintain this.

3.3. *Seals* (Boğazköy)

During the 1930's renewed German excavation at Boğazköy began to produce clay 'bullae' (sealings) stamped with impressions of royal and official seals. The former in the manner already seen on TAR-KONDEMOS were digraphic: that is a central circle bore the name and titles of the king, sometimes also the queen, in Hieroglyphic, and an outer ring or rings bore the same in Cuneiform, also with affiliation and epithets (see e.g. Fig. 1b). Official seals on the other hand are normally written only in Hieroglyphic, Cuneiform equivalents being rare.

These digraphic writings provide Cun. + Hier. equivalents which are extremely valuable, indeed one of the main sources of evidence for checking and extending the decipherment. After preliminary publications in annual reports, the sealings were published by Güterbock (1940, 1942), who himself utilized the new information to contribute to the decipherment.

3.4. *The Bilingual* (KARATEPE)

Immediately after the break of the Second World War, the great bilingual inscription KARATEPE (here Plate IIb-c) was discovered by Bossert and Halet Çambel in February 1946. This Hieroglyphic-Phoenician text is the longest in either script with a total of 75 clauses. Its word-for-word bilingual character both confirmed the general correctness of the pre-war decipherment and immensely extended a secure knowledge of the language's vocabulary, though Bossert published it only gradually, leaving it incomplete at his death in 1960 (see e.g. Hawkins 2000 46).

Retrospectively however it must be noted that KARATEPE failed to correct some serious on-going misapprehensions which attended the decipherment: the evidence was there, but unluckily it was masked by misleading considerations. These misapprehensions involved the two pairs of crucial signs  and  ,  and  already but incorrectly 'deciphered' as *i/ī* and *a/ā*, and the parallel pair   , incorrectly identified as variant forms of the sign for the relative pronoun. The effect of these misapprehensions was to prevent the identity of the language of the Hieroglyphs with Cuneiform Luwian being properly perceived, so that it continued to be regarded as a different if related language.

3.5. *Further seals* (Ras Shamra)

Another major contribution to the decipherment followed hard on the preliminary publications of KARATEPE: the discovery at Ras Shamra/Ugarit in 1953 and 1954 of an archive of the Hittite imperial admin-

istration (Schaeffer et al. 1956). The state documents, clay tablets inscribed in Cuneiform Akkadian, bore impressions of royal seals of the known digraphic type, and additionally of officials' seals inscribed only in Hieroglyphic but with identifying epigraphs in Cuneiform, NA_4.KIŠIB PN, 'seal of So-and-so', which effectively rendered them digraphic (Laroche apud Schaeffer 1956). But though these Cuneiform-Hieroglyphic equivalents gave confirmation of existing syllabic values and further new evidence, coincidentally these too failed to correct the misapprehensions noted above.

3.6. *Publications*

The combined accession of information from KARATEPE and the Ras Shamra seals was digested and presented by Laroche and Meriggi. Laroche had been working on Luwian and the relation to Lycian as noted above, section 2.1, including Hieroglyphic material. He stated (1957/58 160): 'La nature "louvite" de la langue des hiéroglyphs hittites n'est pas une théorie, main une constatation empirique, que le déchiffrement impose à chacun.' His book *Les Hiéroglyphes hittites. Première partie, L'écriture* (Paris 1960) is essentially a signary, listing the signs arranged in so far as possible into convenient groups (parts of the body, animals, vegetation etc.), giving their values along with excerpts of the most significant passages and a brief outline of the attempts at reading, failed and successful. The second part, which never appeared, was intended to present editions of the best-understood inscriptions, a grammatical description of the language and its position within the Anatolian language group.

Meriggi's *Hieroglyphisch-hethitisches Glossar* (Wiesbaden 1962) is a completely revised edition of the glossary to his earliest editions of the texts (Meriggi 1934b). Interestingly he noted (p. 1 n. 1) that he should have used the term 'hieroglyphisch-luwische', but had abandoned it for lack of support.

These two books have remained basic to the study of Hieroglyphic up the present, in spite of the element of obsolescence introduced by the developments outlined in the next section, 3.7. My *Corpus of Hieroglyphic Luwian Inscriptions* Volume III is at present (2002) in preparation, in which it is intended to include an updated signary and glossary.

Meriggi followed this *Glossar* with his *Manuale di Eteo Geroglifico* (1966, 1967, 1975), which presented all the texts in

copy, transliteration, translation and commentary. His texts though mostly collated by personal inspection are somewhat over-reliant on old and often inaccurate publications, and his transliterations are victims of the developments noted, as he himself acknowledged in his last works. Nevertheless this series of editions remained the main reference work on the subject for over 25 years, and still stands as a monument to this aspect of his wide-ranging life's work.

Mittelberger's review articles of Laroche 1960b and Meriggi 1962, together with a further article setting out his own views, still command attention (Mittelberger 1962, 1963, 1964). Significantly, he proposed a number of modifications of some important signs, transferring them from *a*-vocalization to the under-represented *i*-vocalization, and the re-reading of the sign 𓂋 from *ā* to *ia*.

Bossert in the last year of his life posed the question: 'Ist die B-L Schrift im wesentlichen entziffert?' (1960, 1961a, 1961b), where he explored the attractions of alternative values for the 'misapprehended' signs 𓀀, 𓀁 and 𓂋, but he was unable to carry this through or work out fully a convincing system.

3.7. *The 'new readings'*

The decisive evidence permitting the correction of the four crucial 'misapprehended signs' appeared from an unexpected quarter. Measures written on Urartian pithoi (storage jars) in Cuneiform were long known, but at Altıntepe, one of the most westerly Urartian sites, the same measures were found written in Hittite Hieroglyphs (Özgüç 1969), thus providing in effect another digraphic writing (noted by Laroche 1971a [1973]; Klein 1974). As correspondence for the Hier. sign 𓀁, at that time read *ī*, the Cun. parallels offered *si*, i.e. not a vowel sign but sibilant + vowel. The evidence of this digraph was sufficient to propose the 'new readings' for the two pairs of 'misapprehended' signs as follows:

𓀀 𓀁 formerly *i/ī*, new readings *zi/za*
𓀂 𓂋 formerly *a/ā*, new readings *i/ia*

The pairs of signs, each with one differentiated by the addition of the double strokes across the base, could be seen to be descended from originally undifferentiated single signs of the Empire period, respectively  and  , which should thus be read *zi/a* and *i(a)* (*zi* or *za* and *i* or *ia*) (Hawkins, Morpurgo Davies and Neumann 1973). The

differentiation by double strokes was seen to be based, following an original observation of Gelb (1942 2) that the double strokes represented a cursive form of the sign *a* (*e* to Gelb), on the use of a ligature indicating an *a*-vocalization (Hawkins and Morpurgo Davies 1978).

Confirmation that  = *za* was in fact available already from KARATEPE in the name of the author *á-za-ti-wa/i-tà-* = Phoen. *'ztwd* once it was realized that the LITUUS prefixed to the name, in which the equivalent of Phoen. *z* had been incorrectly sought, was in fact a logogram-determinative (Hawkins 1980b). But by fortunate archaeological chance, a further large find of digraphic seal impressions from Meskene during rescue excavations began to become available in 1976 (first described by Laroche in a paper at the XXXVI Rencontre Assyriologique Internationale in Birmingham that year; first publication, Laroche 1981; final publication only with Beyer 2001; cf. Gonnet 1991). These unlike the similar Ras Shamra digraphs produced clear evidence for the equations Cun. *zi* and *za* = Hier. *zi/a*, Cun. *i* and *ia*, also *e* = Hier. *i(a)*, e.g. in the following names:

zi/za	***Amzahi, Hilarizi, Aziya, Zimri-Ba'al, Maziya***
i	***Ibniya, Ibni-Dagan, Ilani, Imlik-Dagan, Ini-Tešub***
e	***Ebri-Tešub, Ehli-Kušuh, Elli***
ia	***Ibniya, Ehliya, Maziya***

A further Hier. recognition linked to the 'new readings' concerned the pair of signs  , which can be seen to parallel the pairs *zi/za* and *i/ia* in being a Late differentiated doublet of a single Empire original sign  . Formerly misidentified, this sign, following the appearance of new evidence showing with a value *ná*, could be proposed as the Hier. sign for the negative, thus NEG, with Late differentiation NEG_3/NEG_2 reading *ni/na*, parallel to *zi/za* and *i/ia*. This was confirmed by contextual examination, to which even bilingual evidence from KARATEPE contributed, showing Hier. NEG_2 = Phoen. *bl*, 'not', which again by mischance had been masked in the earlier interpretation (see Hawkins 1975). This recognition gave:

Empire Hier.	NEG-*wa/i* (factual negative),	NEG-*sa* (prohibitive)
=Cun. Luw.	*nāwa*	*niš*
Late Hier.	NEG_2 (*na*)	NEG_3 (*ni*)
disjunctives	NEG_2-*pa* (*napa*)	*ni-pa* (*nipa*)[3]

[3] See further Morpurgo Davies 1975, especially on the disjunctives.

The result of the 'new readings', together with the revelation of the negatives, was the (re)unification of the two branches of Luwian, Cuneiform and Hieroglyphic, and the main work of the period since 1975 has been the ever more detailed demonstration of how close indeed they are. The remaining differences are restricted to a few minor features, perhaps dialectal (see Chapter Five below for discussion). In fact this closeness is actually surprising, given the separation of the two corpuses in time, space and content: Cun. Luwian comprising mostly fragmentary and obscure incantations of the period 1600-1300 BCE, also single words (*Glossenkeil*) and miscellaneous loan stems in Hittite texts; and Hier. Luwian, commemorative inscriptions on stone and other durable materials, a few from 1300-1200 BCE but mostly ca. 1100-700 BCE. See further section 5, Texts.

4. *Luwian united: progress since 1975*

Acceptance of the 'new readings' has been general among interested scholars, most notably Meriggi (1980), Gelb (see Hawkins 2000 16 n. 163) and others (ibid. nn. 164-172). Progress in the understanding of the language as now perceived from the combined sources has been rapid and has resulted in substantial publications.

On the Cuneiform side, following a number of preliminary studies Starke's *Die keilschrift-luwischen Texte in Umschrift* (*StBoT* 30, 1985), and *Untersuchungen zur Stammbildung des keilschrift-luwischen Nomens* (*StBoT* 31, 1990) have set the subject on a new and secure footing. On the basis of the collection and reorganization of all the available material, Starke's thorough analysis has greatly extended our knowledge of the language. Melchert's *Cuneiform Luvian Lexicon* (1993) provides in provisional form (revision in progress) a much-needed glossary to the corpus as now assembled.

On the Hieroglyphic side, my own *Corpus of Hieroglyphic Luwian Inscriptions*, Volume I, parts 1-3 (2000), which also followed a number of preliminary studies by myself and by Anna Morpurgo Davies (ibid. p. 16 n. 176), joined with Volume II, Halet Çambel's definitive publication of the text of the KARATEPE bilingual, made available a complete revision and up-dating of all the material from the 'Iron Age' (i.e. post-Hittite Empire). The long time spent in press by this work (1990-2000) rendered somewhat problematic its relation to other important contributions appearing during this interval. A Volume

III to include Addenda of the new Iron Age material, the Empire period inscriptions, and a general Signary, Glossary and Grammar of Hieroglyphic is in preparation.

One book which came to hand after the *Corpus* had gone to press was Marazzi's *Il Geroglifico Anatolico. Problemi di analisi e prospettive di ricerca* (1990), which drew together the scattered material. Marazzi subsequently convened a colloquium held on the island of Procida in 1995 to agree and formalize the system of transliteration, the logograms in Latin and the values of the syllabograms. The proceedings appeared as Marazzi et al., *Il Geroglifico Anatolico. Sviluppi della ricerca a venti anni dalla sua 'ridecifrazione'* (1998 [2000]). The system as set out here has been generally adopted.

5. *The Texts*

5.1. *Cuneiform Luwian*

As noted above (section 2.1), apart from the supplements afforded by the *Glossenkeil* words (words marked as Luwian by glossing wedges 𒌷 or 𒌹 in Hittite texts of the 13th century BCE) and now recognizable Luwian loan stems borrowed into earlier Hittite, the only actual Cuneiform Luwian 'texts' are passages of incantation and cult songs of Hittite ritual and festival contexts of Luwian background. These are transmitted in often diverging, mostly fragmentary copies. Starke (1985) has done a remarkable job on reconstructing the comparatively few text groups and their dating, and has shown that, contrary to earlier opinion holding such texts hardly to date before 1400 BCE, the bulk of the compositions were written in the 16th-15th centuries BCE.

The rituals as is regular for such texts are usually attributed to the authorship of a named practitioner, often a woman. The most prominent of these is the hierodule (MUNUS.SUḪUR.LÁ) Kuwattalla, known as a contemporary of the king Arnuwanda I, and the author of these rituals. Other named practitioners are the 'Old Woman' (^{MUNUS}ŠU.GI) Tunnawi, Zarpiya the 'Doctor' (^{LÚ}A.ZU) of Kizzuwatna (see Plate Ia), and Purianni. The other main type of incantation occurring is those used for pregnancy, sometimes specifically so named, sometimes marked as the words of the goddess Kamrusepa.

The Luwian festival songs are found mostly in texts associated with the city Istanuwa, also Lallupiya, but there is also one for the Storm-god and Sun-goddess of Arinna which is specifically located in Hattusa.

Other Luwian texts have not been identified, apart from two possible fragments of letters. There remains of course a considerable group of unidentified and unclassified fragments. Thus Luwian text material is very limited in extent, content and vocabulary, and as incantations and cult songs, not strikingly intelligible.

5.2. *Hieroglyphic*

Hieroglyphic texts owe their survival to being executed on a durable medium, normally stone, occasionally metal, and this dictates their character: they are texts for which permanency is required, generally commemorative in nature. They divide into two chronological groups: one much larger and better known, dating ca. 1100-700 BCE, associated with the Neo-Hittite states of southeast Anatolia and north Syria; the other, small and poorly known, belonging to the late Hittite Empire of the 13th century BCE. This latter, it will be noted, is the only point at which Cun. and Hier. Luwian overlap.

5.2.1. *The Empire corpus*[4]

The few longer inscriptions are all associated with the last two generations of the Hattusa dynasty, namely Tudhaliya IV and his son Suppiluliuma II (with the possible exception of the ANKARA silver bowl, for which see below, 5.2.4). For Tudhaliya we have the EMİRGAZİ altars (see Plate Ic), base and fragment, YALBURT, KARAKUYU and probably KÖYLÜTOLU YAYLA; also three short stelae and a fragment, BOĞAZKÖY 3, BOĞAZKÖY 18, DELİHASANLİ and BOĞAZKÖY 24; for Suppiluliuma, BOĞAZKÖY 5 (NİŞANTAŞ) and BOĞAZKÖY 21 (SÜDBURG); for the eunuch Taprammi (contemporary of Ini-Teshub of Carchemish, probably an official of Tudhaliya), BOĞAZKÖY 1 and the probably connected BOĞAZKÖY 2, and the KINIK bronze bowl inscription.

For the generation preceding Tudhaliya, we have FRAKTİN and TAŞÇI from his father Hattusili III, SİRKELİ from his uncle Muwattalli II, and ALEPPO 1 from their first cousin Talmi-Sharruma

[4] New editions in preparation for *CHLI*, Volume III.

king of Aleppo. This group comprises the earliest datable Hieroglyphic inscriptions (except possibly the ANKARA silver bowl). Not datable in terms of relation to the Hattusa dynasty are BOĞAZKÖY 12, a small stele inscription of a king of Ishuwa (Hawkins 1998a 288), and KOCAOĞUZ, an unpublished stele from Afyon province in the Afyon Museum, the dedication of an unknown prince.

Other short inscriptions consisting only of names and titles are found attached to rock-cut figures, often a figure with bow and spear, sometimes but not always wearing the horned tiara of divinity: thus KARABEL (of Tarkasnawa king of Mira, Hawkins 1998b), HATİP (of Kuruntiya king of Tarhuntassa, Dinçol 1998a)—both contemporaries of Tudhaliya IV; İMAMKULU (of Kuwalanamuwa, also Storm-god—see Plate Ib), HANYERİ (of Kuwalanamuwa and another prince, also the god Sharruma), HEMITE (of ?). The west, besides KARABEL, has the two names attached probably at different times to the SIPYLOS/AKPINAR figure (Kuwalanamuwa, Zuwani), and now the extraordinary LATMOS inscriptions (Peschlow-Bindokat and Herbordt 2001). The MALKAYA graffiti are similar.

Comparable with these name + title epigraphs are a number of scribal inscriptions from Boğazköy, notably BOĞAZKÖY 8 ('Patisina' (Bentesina) and Samituli), also BOĞAZKÖY 14, 15, 22.

5.2.2 *Luwian character*

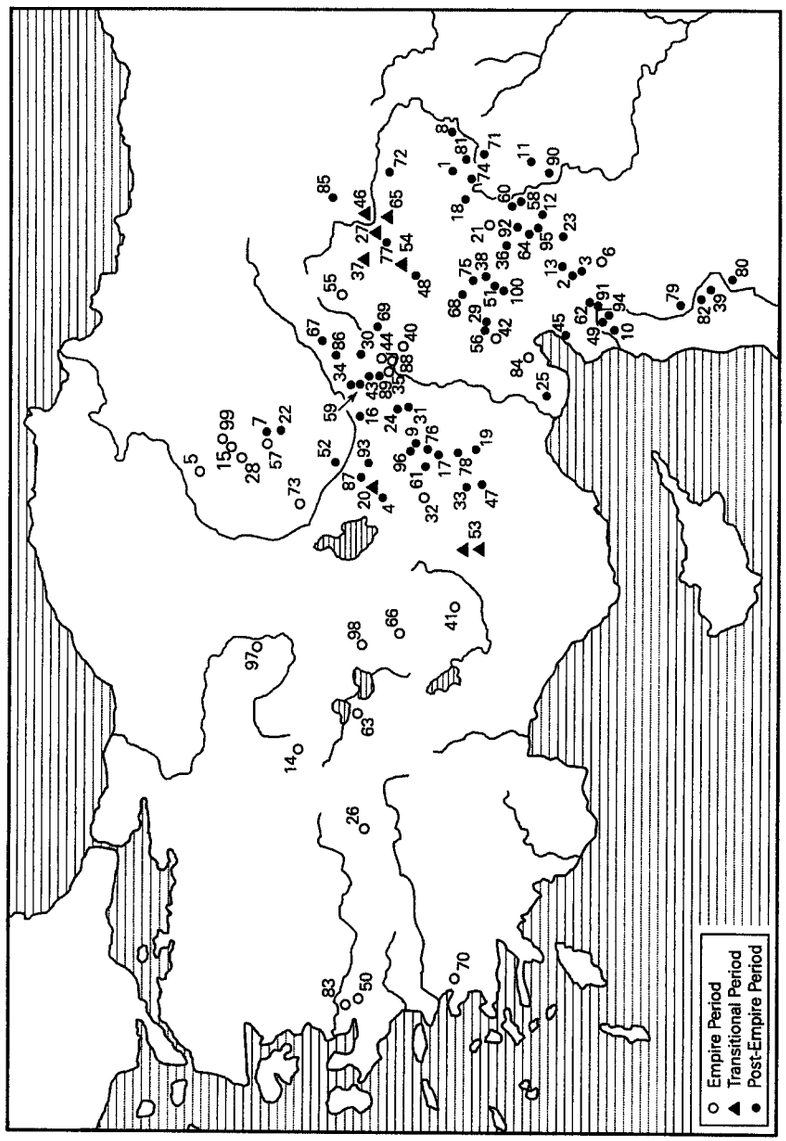
All the longer inscriptions are written in Luwian, as is shown by the presence of syllabically written words or noun and verb endings. These include EMİRGAZİ, YALBURT, KÖYLÜTOLU YAYLA, SÜDBURG, NİŞANTAŞ. Some of the shorter inscriptions may only indicate their Luwian reading with two or even one phonetic writings: FRAKTİN, ALEPPO 1, KINIK, KOCAOĞUZ. Yet others where the verb is written logographically lack any Luwian indication and could be read in Hittite: BOĞAZKÖY 1, 2.

The other inscriptions, a numerical majority, being names and titles of men, also gods, are of uncertain status: the names, though possibly attributable *to* a language, are not *in* a language, and the titles are written logographically, thus may be read in any appropriate language, effectively Hittite and/or Luwian (thus 'great king', 'hero', 'prince', 'scribe', 'eunuch', 'servant', 'son', 'daughter', 'grandson' etc.). In this category fall SİRKELİ, KARABEL, HATİP, all BOĞAZKÖY Tudhaliya stelae, TAŞÇI, İMAMKULU, HANYERİ, BOĞAZKÖY 12, SIPYLOS, LATMOS, and the BOĞAZKÖY scribal inscriptions, and apparently KARAKUYU.

To what extent should these be identified as Hieroglyphic Luwian, or indeed be included in a corpus of such inscriptions? In those inscriptions lacking any evidence for the language of reading, an attempt to draw a dividing line between Luwian and non-Luwian is likely to be arbitrary. It would be strange to exclude the western inscriptions, especially KARABEL, the work of a king of Mira. What of HATİP, the work of a king of Tarhuntassa, what of the Tudhaliya stelae from Boğazköy and the scribal inscriptions from the same site, what of the rock inscriptions attaching to the line of reliefs stretching through the Taurus passes from FRAKTİN to SİRKELİ? In the event the single Luwian words attested in FRAKTİN, KOCAOĞUZ and ALEPPO 1 will probably incline the balance to classifying all these as Luwian, together with the total absence on the other side of any evidence in favour of Hittite. In this context, we should however remember the Hieroglyphic epigraphs to the gods at YAZILIKAYA where all the phonetically written divine names seem to be Hurrian (Hebat, Shaushka, Astabi etc.), implying the Hurrian reading also for the logograms (Teshub, Shimegi, Kushuh etc.), and note especially the Hurrian phrase *tisupi hubiti*, 'bull-calf of Teshub', the sole example of the use of the Hieroglyphs for a language other than Luwian.

5.2.3. *Seals*

At this point a word must be said on seals—or rather their impressions from which they are mostly known to us. As noted above (sections 3.3, also 3.5), Empire royal seals have digraphic, Cun.-Hier. inscriptions while officials' seals are normally Hieroglyphic only. What was said above on the short Hieroglyphic stone inscriptions applies equally to seals: consisting as they do almost exclusively of names with logographically written titles, the seal inscriptions do not present us with any specific language (the seal of Kuzi-Teshub, below, section 5.2.5, is unique in bearing a syllabically written Luwian phrase), though doubtless they were read by their owners in their own language, one of several possible (Hittite, Luwian, Hurrian etc.). They are thus of no relevance to the study of Luwian as such, but they are of much relevance to the study and dating of the Hieroglyphic script as will be seen below, section 6.



Map 4: Locations of Hieroglyphic Inscriptions (H. C. Melchert)

Locations of Hieroglyphic Inscriptions

1. Adıyaman
2. Afrin
3. 'Ain Dara
4. Aksaray
5. Alacahöyük
6. Aleppo
7. Alişar
8. Ancoz
9. Andaval
10. Antakya
11. Arslantaş
12. Asmacık
13. 'Azaz
14. Beyköy
15. Boğazköy
16. Bohça
17. Bor
18. Boybeypınarı
19. Bulgarmaden
20. Burunkaya
21. Cağdin
22. Çalapverdi
23. Cekke
24. Çiftlik
25. Çineköy
26. Çivril
27. Darende
28. Delihasanli
29. Domuztepe
30. Eğrek
31. Eğriköy
32. Emirgazi
33. Ereğli
34. Erkilet
35. Fraktin
36. Gaziantep
37. Gürün
38. Hacibebekli
39. Hama
40. Hanyeri
41. Hatip
42. Hemite
43. Hisarcık
44. İmamkulu
45. İskenderun
46. İşpekçür
47. İvriz
48. Izgın
49. Jisr el Hadid
50. Karabel
51. Karaburçlu
52. Karaburun
53. Karadağ-Kızıldağ
54. Karahöyük
55. Karakuyu
56. Karatepe
57. Karga
58. Karkamiš
59. Kayseri
60. Kelekli
61. Keşlik Yayla
62. Kırçoğlu
63. Kocaoğuz
64. Körkün
65. Kötükale
66. Köylütolu Yayla
67. Kululu
68. Kürtül
69. Kurubel
70. Latmos
71. Lidar
72. Malatya
73. Malkaya
74. Malpınar
75. Maraş
76. Niğde
77. Palanga
78. Porsuk
79. Qal'at el Mudiq
80. Restan
81. Samsat
82. Sheizar-Meharde
83. Sipylos
84. Sirkeli
85. Şırzı
86. Sultanhan
87. Suvasa
88. Taşçı
89. Tekirderbent
90. Tell Ahmar
91. Tell Tayinat
92. Tilsevet
93. Topada
94. Tuleil
95. Tünp
96. Veliisa
97. Yağrı
98. Yalburt
99. Yazılıkaya
100. Zincirli

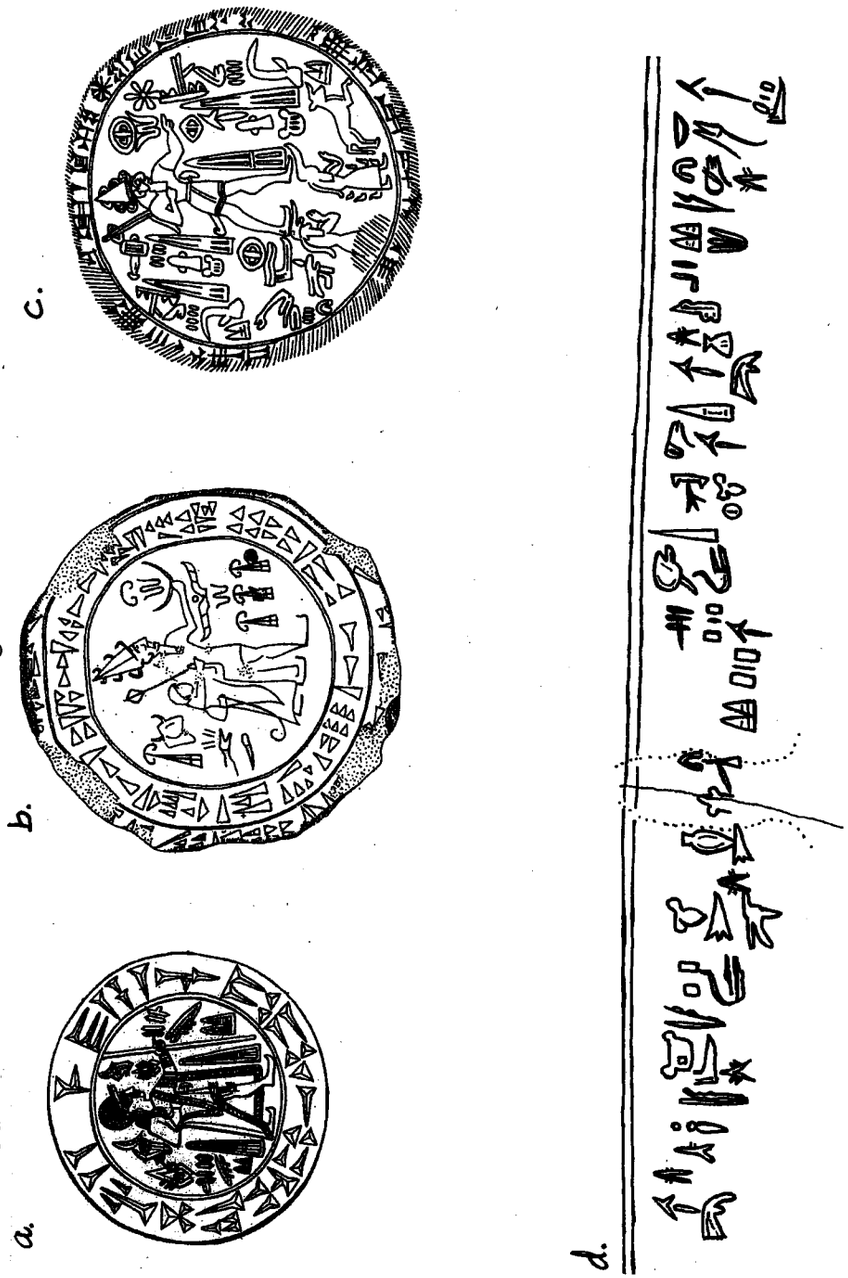


Figure 1

Figure 1

a. 'TARKONDEMOS' seal (drawing from Wright 1884 156). The silver seal is that of Tarkasnawa king of the land of Mira, a younger contemporary of Tudhaliya IV. The digraphic (Cuneiform-Hieroglyphic) inscription permitted the identification of the Hieroglyphic equivalents of Cuneiform LUGAL, 'king', and KUR, 'land'.

b. Impression of seal of Muwattalli II (drawing from Güterbock 1940 no. 38). Muwattalli was the first to introduce figure(s) into the centre along with the Hieroglyphic legend, and the seal-type with the god embracing the king is known as *Umarmungssiegel*. Only the inner ring of the Cuneiform legend is preserved.

c. Impression of seal of Kuzi-Teshub king of Carchemish, son of Talmi-Teshub who was hitherto the last known king (from Lidar-höyük, drawing from Hawkins 2000 pl. 328). The seal has an elaborate scene showing the Storm-god as at Yazılıkaya. The seal is unique in containing a phonetically written Luwian phrase, the epithet 'recognized by the gods'.

d. Legend engraved on the ANKARA silver bowl in largely syllabic Luwian (Hawkins 1997a 24). The dedication of the bowl is dated by reference to a victory of Tudhaliya *labarna*. Though the developed writing might suggest the identification as Tudhaliya IV, other factors may point to Tudhaliya I/II.

5.2.4. *Dating*

As noted above (section 5.2.1), all attributable stone inscriptions belong to the last three generations of the Hattusa dynasty, Muwattalli II to Suppiluliuma II, i.e. effectively the 13th century BCE. Nor are there any strong arguments for dating any of the non-attributable inscriptions any earlier.

The sole possible exception to this dating—yet if an exception, of immense significance—is the ANKARA silver bowl inscription (Hawkins 1997a; here Fig. 1d). The three-clause inscription dates the dedication of the object to the time of a Tudhaliya *labarna* and is written largely in syllabic Luwian. For this reason alone it would naturally be attributed to the time of Tudhaliya IV, yet strong arguments can be advanced for thinking that this should rather be Tudhaliya I/II, six generations earlier. That such an inscription might be written in Hieroglyphic at this date (ca. 1400 BCE) would have a revolutionary implication for our view of the origin of the script (see below, section 6.2.5), but it does not seem possible to exclude it.

5.2.5. *Empire-Late transition*

The fall of the Hittite Empire and the destruction of Hattusa (ca. 1200 BCE) terminated the Hittite Cuneiform tradition, including Cuneiform Luwian. The older perception was that after a dark age of some 300 years, the Neo-Hittite states of southeast Anatolia and north Syria revived, resurrecting the Empire traditions of architecture and monumental sculpture, and along with this the use of the Hieroglyphic script and Luwian language. Recent discoveries suggest that the earlier Neo-Hittite monuments should be dated back before ca. 900 BCE to the 10th and even 11th centuries, and point to a greater degree of continuity from the end of the Bronze Age than was previously believed.

Thus the discovery of impressions of the seal of Kuzi-Teshub (here Fig. 1c), king of Carchemish, son of Talmi-Teshub who was hitherto the last known king of the Empire dynasty of Carchemish (Sürenhagen 1986), added a fifth generation to this line descended from Suppiluliuma I. His subsequent identification in inscriptions of two different kings of the Neo-Hittite state of Malatya, where he is named as grandfather and entitled 'Great King, Hero' (GÜRÜN and İSPEKÇÜR, for which see Plate IIa), links the Empire dynasty of Carchemish to the early Malatya sculpture, including indirectly the Lion Gate (Hawkins 1988, also 2002; and following section). No such continuity however has been discovered at the site of Carchemish itself where the recovered monuments seem to go back no further than ca. 1000 BCE. The title 'Great King' claimed by three rulers on the early Carchemish inscriptions probably reflects descent claimed from Kuzi-Teshub.

In Cilicia a newly discovered statue with inscribed base ÇİNEKÖY (bilingual Hieroglyphic-Phoenician, see Tekoğlu and Lemaire 2000) reaffirms the claim of the ruling dynasty to be descended from Muksa (MPŠ), identified as the Mopsos of Greek legend (see Hawkins 1995c). This may well be a genuine link with the end of the Bronze Age, when the hero is related in Greek tradition to have migrated from western Anatolia, founding cities in Pamphylia and Cilicia.

On the Anatolian plateau, the information drawn from the Bronze Tablet treaty and the Hieroglyphic inscription YALBURT (both documents of Tudhaliya IV) serves to put in perspective the long known inscriptions of KARADAĞ-KIZILDAĞ (with BURUNKAYA), see Hawkins 1992. The author Hartapu, entitling himself 'Sun, Great King, Hero' (i.e. with the titulary of the Hattusa dynasty), seems likely to be a member of the dynasty of Tarhuntassa after the end of the Hittite Empire, or even before (Singer 1996a). It further seems that the claims of two 8th century kings of Tabal to this Hittite Empire titulary on the inscription TOPADA may be based on descent, real or imagined, from Hartapu over four centuries earlier.

Another notable inscription of transitional character is the KARAHÖYÜK (Elbistan) stele, erected in honour of the local Storm-god by an official on the occasion of a visit by an otherwise unknown 'Great King' (Hawkins 1993). This must belong to the post-Empire period, and the Great King in question could belong either to the Anatolian or the Carchemish line, more probably the former.

5.2.6. *The Late corpus*

The inscriptions of the Neo-Hittite states ca. 1100-700 BCE are much more numerous and wide-ranging than those of the Empire period, and they have been recently collected and re-edited in *Corpus of Hieroglyphic Luwian Inscriptions*, Volume I. *The Iron Age*, and Volume II. *Karatepe-Aslantaş*. Each of the states developed its own

epigraphic tradition, and their inscriptions may be grouped as the work of more or less datable rulers and dynasties. Since these have been repeatedly discussed, most recently in *CHLI* I, pp. 20-22, and in the presentation of the historical context of each of the regional chapters I-X, this information is only summarized here.

I. CILICIA. This kingdom Adana(wa) is represented mainly by the great KARATEPE bilingual in Hieroglyphic and Phoenician (see section 3.4), the work of a subordinate ruler Azatiwada, installed by Awariku king of Adana, and later apparently regent over Adana. Recently discovered and published is a smaller bilingual, ÇİNEKÖY, from near Adana (see preceding section), the work of Warika, identified with Awariku, probably also the Urikki king of Que (Plain Cilicia) named in the Assyrian inscriptions of Tiglath-pileser III and Sargon II (c. 738-709 BCE minimally). Azatiwada himself probably flourished in the reign of Sennacherib (705-681 BCE).

II. KARKAMIŠ (Carchemish). The main centre of Hittite civilization surviving the fall of the Hittite Empire with evidence of dynastic continuity, this imperfectly investigated site has not produced inscriptional evidence to fill the gap 1200-1000 BCE (see preceding section). The bulk of its inscriptions are associated with two dynastic lines; the house of Suhi, a four-generation line dating approximately to the 10th century BCE (see e.g. Plate IIIa) and connected in some way with the 'Great Kings' (Hawkins 1995d); and the house of Astiruwa, of at least three generations, ca. 800-717 BCE. There is also a number of inscriptions of private individuals, especially in the form of short epitaphs, which are less easy to date.

III. TELL AHMAR (ancient Masuwari, Assyrian Til-Barsip, later Kar-Shalmaneser). This small city state, some 20 km downstream from Carchemish on the opposite bank, has left sculpture and inscriptions very much under the influence of the Carchemish Suhi-Katuwa style, thus presumably dating also to the 10th century BCE. Dynastic narrative in one of the longer inscriptions (TELL AHMAR 1) suggests an alternation of power between two competing lines over some four generations. The names of the dynasts are not certainly attributable linguistically but could be Semitic and/or Hurrian. The most prominent ruler is Hamiyata, author of four stelae, three of which have appeared only recently, the latest TELL AHMAR 6 too late for

inclusion in *CHLI* I (see Hawkins, forthcoming), and he is further mentioned in three other inscriptions. A curious trilingual inscription in Assyrian Cuneiform, Hier. Luwian and Aramaic has recently been observed on the back of a portal lion slab (ARSLANTAŞ), apparently the work of an Assyrian provincial governor of the 8th century BCE.

IV. MARAŞ (ancient Gurgum, also (Assyrian) the city Marqas). Another city-state, notable for the seven-generation dynasty recorded on the Maraş Lion, the author of which, Halparuntiya III, and his grandfather and great-grandfather are known from Assyrian inscriptions which establish their dates, 805, 853 and 858 BCE respectively. Other members of the dynasty are attested in their own inscriptions, including (probably) Halparuntiya's father and great-great-great-great-grandfather, the founder of the dynasty. Other MARAŞ inscriptions are the work of individuals including a ruler's chief eunuch (MARAŞ 14). The environs of the modern city have produced a series of unusual funerary stelae, two of which are inscribed (MARAŞ 2 and 9).

V. MALATYA (ancient Malizi, Assyrian Milidia/Melid). The early inscriptions naming two rulers as grandsons of Kuzi-Teshub of Carchemish and continuing down to the grandson of one of these (GÜRÜN + KÖTÜKALE and İSPEKÇÜR + DARENDE) give a four-generation line which must fill the 12th century BCE (see previous section). The builder of the Lion Gate, portrayed and named on the reliefs (MALATYA 5-12), bears the same name as the son and great-grandson of Kuzi-Teshub and could be identified as either individual or a third of that name. The IZGIN stele from Elbistan together with the Lion Hunt (MALATYA 1) attests a further three generations more or less directly connected with the line of Kuzi-Teshub, and the Stag Hunt (MALATYA 3) a further two generations. These inscriptions and the associated sculpture must descend well into the 11th century BCE. A lonely rock inscription ŞIRZI names a further two generations of rulers, probably of the first half of the 8th century BCE.

VI. COMMAGENE (ancient Kummaha, Assyrian Kummuh). The capital of this kingdom, the site of Samsat (Assyrian 'the city Kummuh') yielded only fragments of inscriptions to excavation before being flooded, and most inscriptions come from the hill-top sanc-

tuary sites Boybepınarı and Ancoz. These are the work principally of the father-son pair Suppiluliuma and Hattusili, the former being probably the Ushpilulume named as an Assyrian client in the years 805 and 773 BCE. The inscriptions are dedications to the gods of Commagene, including a sacred mountain Hurtula, possibly Nimrud Dağ. The rock inscription MALPINAR is a memorial set up by a vassal of Hattusili for himself.

VII. AMUQ (Assyrian Unqi, also Patina). The inscriptions from Tell Tayinat (the probable capital of the plain of Antioch in the Iron Age) and its environs are poorly preserved, apparently as a result of deliberate destruction by the Assyrians. The dates are not precisely determinable, probably late 9th to early 8th centuries BCE. Miscellaneous pieces include a small statue with personal dedication (KIRÇOĞLU). The massive early Iron Age temple of 'Ain Dara, which may antedate the establishment of the Neo-Hittite state, has produced a fragment of an epigraph only.

VIII. ALEPPO (ancient Halab/Halpa). Under this heading are only three monuments, a stele and two stone bowls, found at Babylon, where they had been presumably taken as booty. They all share a dedication to the Storm-god of Aleppo, which is taken to indicate their original provenance.

IX. HAMA (ancient Hamath). A group of inscriptions from Hama and its environs is the work of a father-son pair Urhilina and Uratami, the former being identified with the Irhuleni named as an Assyrian opponent in the years 853-845 BCE. Urhilina's inscriptions concern the building and endowment of the city's temples, also the building of outlying cities: Uratami's the construction of the city's fortifications. An odd pair of archaic-looking stelae MEHARDE and SHEIZAR (from sites of those names) are memorial inscriptions for husband and wife.

X. TABAL. The transitional KARADAĞ-KIZILDAĞ inscriptions have been noted above (preceding section), dating to the early 12th or even late 13th centuries BCE. No further monuments are known from the area until the later 8th century BCE, when a northern group from Tabal proper (Assyrian Bit Burutash) and a southern group from Tyanitis (ancient Tuwana, Assyrian Tuhana) are distinguishable. The former are associated with a father-son pair, Tuwati and

Wasusarma, claiming the title 'Great King', and their servants, also lesser rulers and individuals. The claim to 'great kingship' has been suggested to connect with the Late Bronze Age kingdom of Tarhuntassa (see above, preceding section). Wasusarma is probably the Wassurme deposed by the Assyrians in 729 BCE. The southern group attach to Warpalawa of Tuwana, who is identified as the Urballa named in Assyrian sources for the period ca. 738-709 BCE. An inscription of his son Muwaharani would be one of the latest datable Hieroglyphic inscriptions.

Different styles of these Tabalian inscriptions are prominent. The most common northern style may be termed 'Kululu' from the site of that name, the most prolific source of inscriptions: a clear, incised linear script with 'cursive' sign-forms, as seen on the long SULTANHAN inscription and smaller KULULU stelae (Plate IIIb), also and significantly on the KULULU lead strips (Plate IIIc), as well as the ASSUR letters, the only surviving 'manuscript' documents of the corpus. A form of this style is also generally used in the Tuwana group. Other styles are represented only by isolated pieces: an ornate relief script with unusual syllabic values (KAYSERİ); and a bizarre incised style with even wilder values (TOPADA, SUVASA), apparently an attempt at archaism.

XI. ASSUR letters. Six letters incised on seven lead strips (four short, one long, one ultra-long) were excavated—surprisingly—at Assur, probably part of a correspondence of which the other end was Carchemish. Written like the KULULU lead strips, which are administrative documents, in the 'Kululu' style, these must also date to the late 8th century BCE, and with them they constitute the only known examples of an otherwise lost genre of practical documents.

XII. MISCELLANEOUS. A small, varied group of inscriptions, lacking evidence for provenance or associations with the main regional groups above.

XIII. SEALS (including impressions). A type of inscription curiously uncommon in the Iron Age compared with the large numbers known for the Late Bronze Age. The reason for the decline of evidence for seals is not obvious, but could be connected with the abandonment of clay in favour of perishable material(s) as the medium for writing.

6. *The Scripts*

6.1. *Cuneiform*

As noted above, section 2.1, the Hittites of Hattusa inaugurated their literacy by borrowing ready-made a script along with a cultural language, Cuneiform Akkadian, but also adapted the script for writing their own language. Later, but as now realized still early (16th century BCE), they began to write passages of Luwian incantations. The same adaptation of the Cuneiform script as had served for Hittite could have served as well for Luwian, and what may be said of the early use of the script probably applies equally to Hittite and Luwian. We must bear in mind that it was the same scribes writing both lots of texts, and while we have little positive evidence that the mother tongue of these experts was specifically Hittite, there is certainly no evidence that Luwian speakers wrote Cuneiform Luwian at any time anywhere.

Much progress has been made in recent years in dating Hittite texts from Old Kingdom through the Middle period to early and late Empire, in which the identification of the developing phases of the Cuneiform script plays a large part. This is achieved both through 'ductus', the shape and angle of the wedge impressions themselves, effectively distinguishing early from later 'handwritings'; and also through the recognition of early and later sign-forms. This then has been one of the tools applied to the dating of Luwian texts too, and has led to the realization that these go back much further than had been supposed. See especially Starke 1985 21-31.

The Cuneiform script employed signs in three main ways: (1) *logograms* (word-signs), conventionally and for convenience transcribed into (capitalized) Sumerian, the script's original language, thus LUGAL, 'king', LÚ, 'man', URU, 'city', UDU, 'sheep' etc.; (2) *determinatives*, common logograms placed before or after words marking them as belonging to a category as an aid to reading, thus ^{LÚ}X, 'man of such a profession/ethnic group', ^{URU}Y, '(the city) Y' (for a list see Neu and Rüster 1989 383f.); (3) *syllabograms* (syllable signs), permitting the phonetic writing of words, e.g. (Akkadian) ^{LÚ}*mu-un-na-ab-tu*, interpreted as ^{LÚ}*munnabtu*, 'fugitive'.

The Hattusa scribes in writing Luwian used logograms as in Hittite, but probably a much more limited repertoire: the list in Melchert 1993a 286-298 compiled from the indexed texts is doubtless representative if not comprehensive. Alternation of logograms with phonetic writings may give us the Luwian reading of the word, e.g. ŠEŠ ~ *na-a-ni(-ia)-*, 'brother'. But if this is not available, we may not know the word, e.g. EN, 'lord'; GEME, 'slave-girl'; GUŠKIN, 'gold'; KUR, 'land' are all of unknown reading, though in some cases the word may be confidently supplied from the Hieroglyphic equivalent, e.g. Cun. DUMU.MUNUS, 'daughter', Hier. *tuwatri-*.

The Cuneiform syllabary (system of syllable-signs) as borrowed by the Hittites consisted of five vowel signs *a*, *e*, *i*, *u*, *ú*, and a set of syllabograms of consonant + vowel (CV) and vowel + consonant (VC) types in a three vowel *a/i/u* series, with an incomplete *e*-series. In addition to this a miscellaneous collection of consonant-vowel-consonant (CVC) signs was also used, each of which could replace a CV + VC writing, e.g. *ḫar* for *ḫa-ar*.

The basic CV + VC syllabary borrowed by the Hittites contained the following signs, transliterated as for Sumero-Akkadian (acute accent distinguishes a second common sign of the same reading, *ú*, *ḫé*, *úr*):

Basic Cuneiform CV/VC Syllabary borrowed by Hittites

vowels	*a*	*e*	*i*	*u*, *ú*
CV/VC	*ba/ab*	*-/-*	*bi/ib*	*bu/ub*
	da/ad	*-/-*	*di/id*	*du/ud*
	ga/ag	*-/-*	*gi/ig*	*gu/ug*
	ḫa/aḫ	*ḫé/-*	*ḫi/(=aḫ)*	*ḫu/(=aḫ)*
	ka/(=ag)	*-/-*	*ki/(=ig)*	*ku/(=ug)*
	la/al	*-/el*	*li/il*	*lu/ul*
	ma/am	*me/-*	*mi/im*	*mu/um*
	na/an	*ne/en*	*ni/in*	*nu/un*
	pa/(=ab)	*-/-*	*(=bi)/(=ib)*	*(=bu)/(=ub)*
	ra/ar	*-/-*	*ri/ir*	*ru/ur, úr*
	(s—see *z)*			
	ša/aš	*še/eš*	*ši/iš*	*šu/uš*
	ta/(=ad)	*te/-*	*ti/(=id)*	*tu/(=ud)*
	wa			
	ia (ya)			
	za/az	*-/-*	*zi/iz*	*zu/uz*

It will be noted that a system CV + VC (CVC) can only combine two consonants in internal intervocalic position, precluding the possibility of rendering two consonants initially or finally, or three consonants internally. Since these combinations are required by Hittite and Luwian, as by other Indo-European languages, the problem had to be circumvented by various graphic devices.

Of the syllabary as borrowed, it will be noted:

(1) A voiced/unvoiced distinction is generally available syllable-initial only, not syllable-final (and note only *ba, pa* as against *bi* = *pi*, *bu* = *pu*).
(2) Where the *e*-series is defective, the *i*-series stands in: thus *li-en* reads *len*; *li-in* reads *lin* but may also stand for *len*.
(3) The only *h*-sign represented is *ḫ*, which in Sumero-Akkadian stands for a velar fricative.
(4) At the time of the borrowing, an *s*-series of signs was not fully differentiated from the *z*-series, thus *za* = *za* and *sa* etc.

The phonology of Hittite as represented by this syllabary has been much discussed and is controversial at many points. It is clear that in Hittite usage Cun. *z* represents the double consonant *ts*, and probable that *s* is written with the *š*-series. Though the syllabary offers the distinction between voiced and unvoiced velars and dentals (in syllable-initial position only), these signs are not used consistently and seem to interchange arbitrarily; and for the labials *ba* is hardly used in Hittite orthography, leaving only undifferentiated *b/p* syllabograms. Also debated are the *e/i* and *u/ú* distinctions, and what Hittite phoneme(s) is/are represented by Cuneiform *ḫ*. The observed double writing of consonants in internal intervocalic position, and the *plene*-writing of vowels (*Ca-a* etc.) are recognized as significant, but the interpretations of these phenomena are not finally agreed upon.

Whether these observations on the use of the Cuneiform syllabary for Hittite apply equally to Luwian is not certain. While it is quite probable, since the same scribes were writing both, the question has not been thoroughly examined for Luwian, and the limited and defective nature of the corpus may not permit it. For what can be said on Luwian phonology, see Chapter Five, section B.

One further point should be noted on the transliteration/transcription of the Cuneiform script. It is important to distinguish between *transliteration*, the syllable-by-syllable rendering of Cuneiform, and *transcription*, the interpretation of the word so written: thus e.g. transliterate *ša-al-li-iš*, transcribe *sallis* (*salli-*, 'great' + nom. sing. MF ending *-s*). The first correctly identifies each syllabogram (note that *ša* and *sa*, *iš* and *is* are different signs), while the second offers the supposed phonetic form of the word. A transcription *šalliš* conflates the two procedures and is incorrect, though it is a practice widely followed.

6.2. *Hieroglyphic*

The development of the script may be followed through the periods of the texts as outlined above, section 5.2: the late Empire (13th century BCE), the Empire-Late transition (12th-11th centuries) and the Late period (ca. 1000-700 BCE). Earlier phases will be discussed under Origins, section 6.2.6 below. In all of this latter consideration the crucial question of the date of the ANKARA silver bowl (see above, section 5.2.4) must constantly be borne in mind.

6.2.1. Empire script: external appearance

The normal way of executing monumental inscriptions was to leave the signs in relief by cutting away the background. Otherwise a less laborious technique of linear incision was used (TAŞÇI, DELİHASANLİ, KARGA, MALKAYA), or as a variant of this a kind of 'pecked' line (especially BOĞAZKÖY 8). The linear incised form is used for the few metal inscriptions known, especially the ANKARA and KINIK bowls. This suggests that it may represent a 'cursive', handwritten form, which might have been used on the wooden documents known to have existed (GIŠ.ḪUR = *gulzattar*, Starke 1990 457-464, note also ^{LÚ}DUB.SAR GIŠ, 'scribe on wood'), but never yet found. Indeed even on the monumental relief inscriptions some of the sign forms appear to have passed across from the cursive, e.g. notably the sign(s) *u/mu*. A similar monumental/cursive distinction is reflected also on seal inscriptions.

Stone inscriptions were normally written in horizontal lines separated by 'line-dividers' (horizontal relief rulings), and multiple-line texts ran *boustrophedon* (i.e. along to the end of line, turning back along the next, turning again and so continuing). Individual words were written vertically in the line with signs arranged in one or

more columns (a system which may leave in doubt the correct order of reading).

6.2.2. Empire script: internal characteristics

The signs can be classified, as already noted, section 3.1, and as in Cuneiform (section 6.1), as (1) *logograms*, standing for words, and in a specialized usage as (2) *determinatives*, and as (3) *syllabograms*, the assemblage of which forms the *syllabary*.

6.2.2.1. Logograms

The main problem is how to transcribe these in an acceptable international convention. If we always knew for certain the Luwian word(s) lying behind the sign, that could be used, but this is seldom the case. It has been generally agreed that transcription into Latin is the least bad option: see above on the colloquium on Procida and the publication Marazzi et al. 1998 (section 4). Signs for which no transcription can easily be found are referred to as L. + number (= Laroche, *Les hiéroglyphs hittites*, no. ...).

Empire logograms may interestingly be compared with those of the Late period (below, section 6.2.5.1), grouping as:

(1) Those easily recognizable as forerunners, used in the same way, including ANNUS, AVUS, CAELUM, CAPERE, CERVUS$_2$, DARE, DELERE, DEUS, DOMINA, DOMINUS, DOMUS, EGO, EXERCITUS, INFANS, MAGNUS, MONS, PES, PES$_2$, PONERE, POST, PRAE, REGIO, REL, REX, SCRIBA, SOL, SOLIUM, STELE, TERRA, TONITRUS, URBS.

(2) Those less immediately identifiable with their descendants, including AEDIFICARE, BOS, FEMINA, FILIA, FINES, FRONS, OVIS, PORTA, SERVUS, SUPER.

(3) Those in use in Empire and transitional periods not found in the Late period, including ENSIS, POCULUM, LINGUA + CLAVUS, L.67, L.122, L. 137, L.202, L.398, L.430, L.469; also the signs listed *CHLI* I/1, p. 24, Table 1, *502-*521. (* + number: new numbers for signs not in Laroche).

Figure 2

LIBARE 27		MONS 207		POST 34		STATUA 12	
LIGARE 31		MORI 386+381		PRAE 14		STELE 267	
LIGNUM 382		NEG$_2$ 332		PUGNUS 39-40		SUB	see INFRA
LINGERE 112		NEG$_3$ 332		PUGNUS + PUGNUS	see LIGARE	SUPER 70	
LINGUA 175		NEPOS 300 + 488		PURUS 322		TERRA 201	
LIS 24		OCCIDENS 379		[REGINA]	see MAGNUS DOMINA	THRONUS	see MENSA
LITUUS 378		OCULUS 25		REGIO 228		THRONUS$_2$ 298	
LOCUS	see TERRA	OMNIS 366		REL 329		TONITRUS 199	
LONGUS 62		ORIENS 192		REX 17		UNUS 380	
LOQUI 22		OVIS 111		SACERDOS 355		URBS 225	
LUNA 193		PANIS 181		SCALPRUM 268		URCEUS 345	
MAGNUS 363		PES 90		SCRIBA 326		VACUUS 245	
MALLEUS 280		PES. SCALA ROTAE 91/92/94		SCUTELLA 402		VAS 341	
MALUS 368		PES$_2$ 93		SCUTUM 272		VERSUS 447.26	
MALUS$_2$ 368		PISCIS 138		SERVUS 387		VIA 221	
MANUS 59-60		PITHOS 337		SIGILLUM 327		VIR 313	
MATER 79	see FEMINA	POCULUM 346		SOL 191		VIR$_2$ 386	
MENSA 294		PODIUM 264		SOL$_2$ 190		VITELLUS 109	
MILLE 400		PONERE 65		SOLIUM 299		VITIS 160	
MINUS 381		PORTA 237-238		SPHINX 121			

6.2.2.2. Determinatives

As used in Cuneiform, these may be defined as common logograms placed before or after nouns marking them as belonging to a designated class of object as an aid to reading. Their appearance in Hieroglyphic has been cited as a possible instance of the influence of Cuneiform on the development of the Hierglyphic script (see below, section 6.2.6, Origin).

Only a few of the determinatives found in the Late period are attested in Empire inscriptions. They include (Cuneiform equivalents in brackets):

DEUS (DINGIR), MONS (HUR.SAG), SCALPRUM (NA_4), placed before divine and mountain names, objects of stone.

REGIO (KUR), URBS (URU), placed after country and city names.

For further discussion, see below, section 6.2.5.2 (Late script: internal characteristics, determinatives).

6.2.2.3. Syllabograms

In contrast with the Cuneiform syllabary of CV + VC and CVC syllabograms, Hieroglyphic, besides its four vowel signs *a*, *á* (initial only), *i*, *u*, has syllabograms only of the CV type, together with some miscellaneous CVCV signs. The most important aspect of the Empire syllabary is its comparison with the Late syllabary to determine how fully developed it was, and to identify the main innovations of the Late period.

The most obvious gap between the empire (and transitional) syllabary and the Late is the early undifferentiated *zi/a* and *i(a)* as against the later doublets *zi/za* and *i/ia*, differentiated by the subscript *a*, and the parallel NEG as against NEG_2/NEG_3: see above, section 3.7. (Note an Empire forerunner of the differentiation *zi/a+a* for *za*, *CHLI* I/1, 15[154].) A recent observation that in digraphic writings Empire L.416  (forerunner of L.319 Late ta_4) and L.172 ta_5 correspond to Cuneiform *la* and *li* is currently under investigation: cf. Chapter Five, section B.2.1.

Otherwise a survey of the main Empire inscriptions showing syllabic writings (EMİRGAZİ altars and base, YALBURT, SÜDBURG, also KÖYLÜTOLU YAYLA) harvests a syllabary hardly less than the regular Late syllabary (*CHLI* I/1 29 Table 3; here Figure 3, p. 164): unattested are only the signs *há*, *hu*, *ki*, *nu*, *sá*, sa_4, and *zu*.

Of these the pair *sá*, sa_4 seem to be Late only, while *há*, probably originating acrophonically from the logogram *HATTI*, does not seem to be used as a syllabogram until the post-Empire KARADAĞ-KIZILDAĞ (PN ***Hartapu***). The others are all adequately represented on Empire seals of the 14th-13th centuries BCE. For syllabograms used in the Nişantepe seal archive, see Hawkins apud Herbordt forthcoming. For minimum dates for the introduction of individual syllabograms, see Hawkins 1997a 16f.

6.2.3. Peculiar graphic practice: 'initial-*a*-final'

A peculiar feature of Hieroglyphic writings of personal names has been observed, namely the placing of the tall *a*-sign when initial behind rather than in front of the other signs. It was first noted by Laroche (1956 136[7]) on ALEPPO 1, where *ki-TEŠUB-pa-a* represents *Aki-Tešub*. Many more such examples have appeared with the digraphic Meskene seals, noted initially by Laroche (1983 15 figs. 4, 5; 17 fig. 7; 21 fig. 13), where *ma-zi/a-hi-a*, *pu-nú-a*, *pa-ti-li-a* represent *Amzahi*, *Abunnu*, *Abdili*. The Nişantepe seal archive has produced *sa-mi-SARMA-a* and *sa-mu-ha-pa-a* for *Asmi-Šarruma* and *Asmu-Hepa* (Hawkins apud Herbordt, forthcoming nos. 11, 75). The names noted are both Hurrian and West Semitic. Nişantepe also has *wa/i-na-mi-a*, to be read *Awanami* (?) (Herbordt no. 50), which looks to be possibly Luwian. Although plene writings of final *-a* are to be found on Nişantepe seals, these are written *below* a final syllable in -C*a*, not full length *behind* the group of name signs. In the names cited the final *-a* can have no function, especially following C*i* or C*u*. We therefore recognize this as a graphic peculiarity.

Examination of Empire period texts now suggests that the same phenomenon may occur here too. In the writings of the connective particles the EMİRGAZİ altars text always writes *wa/i*-X-*a*, where YALBURT tends to write *a-wa/i*-X. Compare:

EMİRGAZİ altars	YALBURT
wa/i-tá-a (§§4, 20)	*a-wa/i-tá* (14,§4)
wa/i-tà-a (§28)	*a-wa/i-tà* (7,§2a)
wa/i-na-a (§§14, 29)	
wa/i-ti-i(a)-a (§15)	
wa/i-ti-i(a)-na-a (§35)	
wa/i-ti-ta-a (§6)	
wa/i-tu-a (§37)	
wa/i-tu-ta-a (§26)	
EMİRGAZİ block	
wa/i-mu-a (B,l.2)	*a-wa/i-mu* (6,§2; 11,§4a; 12,§§3,4; 13,§4a; 14,§5; 15,§2)
	wa/i-mu-a (2,§§2,3)
	a-wa/i-mi (11,§2; 13,§1; 16,§2a)
	wa/i-mi-a (10,§2)
	a-wa/i-mi-tá (14,§2)

Thus YALBURT shows that the writing *wa/i*-X-*a* is simply a variant of *a-wa-i*-X. As in the personal names cited, a final *-a* would have no function, especially after *-mi*, *-mu*, and *-tu*. On the other hand initially it does have a very clear function, namely as the equivalent of Cun. Luwian *a-*, the connective particle. Note also:

EMİRGAZİ altars	YALBURT
mi-sa-a = *amis*, 'my' (§4)	*a-mi-zi/a* = *aminzi*, 'my' (4,§2; 11,§4a)
	mu-pa-wa/i-a = *amu-pa-wa* 'but me' (4,§3)
pa-sa-a = *apas*, 'that' (§§6, 12)	
sa-tu-a = *asatu*, 'let him be' (§§17, 21)	*a-sa-ta* = *asa(n)ta*, 'was/were' (3,§1)
pa-na-a = *apan*, 'back' (§22)	
pa+ra/i-a = *apari*, 'afterwards' (§2)	
EMİRGAZİ block	
mi-sa-a = *amis*, 'my' (nom. sing. MF, A,l.1; B,l.2)	
a-mi = *ami*, 'my' (dat. sing.?, A,l.3, B,l.5)	

Examination of the EMİRGAZİ postposed *a* suggests:

(1) That in all clear cases it functions as initial *a-*, either the connective particle or otherwise as a first syllable.
(2) In no clear case is it absent where expected. EMİRGAZİ §12, *wa/i-ta*, is in itself problematic on more than one count (preceding *sa*, discrepancy between the parallel texts). It thus seems clear that EMİRGAZİ does not in fact show examples of aphaeresis of initial *a-*.
(3) It is never present where it would not be expected, i.e. following enclitic connectives *-wa*(-) (EMİRGAZİ altars, §§9, 31, 32), *-hawa*(-) (EMİRGAZİ altars, §§3, 7, 10), *-pawa*(-) (EMİRGAZİ altars, §§13, 16, 19, 24, 25, 27, 33a, 34, 36; YALBURT, 3,§2; 4,§§2, 3), or in any other clearly functionless position. Note that EMİRGAZİ altars, §18, AVIS$_2$-*na-wa/i-a* (or *-wa/i-na-a*) is of completely unclear analysis.

YALBURT on the other hand probably does have examples of final *-a* plene; NEG-*a* (4,§2); URBS+MI-*a* (2,§2, dat. sing.); *á-wa/i+ra/i-na-a* (REGIO) (13,§3, dat. sing.). But what is POST-*a* (2§2)? Note the interesting *mu-pa-wa/i-a* for *amu-*... .

For the purpose of transliteration, I propose to render 'initial-*a*-final' as **a-*: thus the examples cited will appear as **a-wa/i-tá/tà*, **a-wa/i-na*, **a-mi-sa*, **a-pa-sa*, **a-sa-tu*, **a-pa-na*, **a-mu-pa-wa/i*, etc.

To what extent these observations based on limited Empire period observations may apply in the Late period has yet to be investigated, and will be a very complicated enquiry, probably without any clear-cut conclusion.

6.2.4. Late script: external appearance

The division between monumental relief and linear incised inscriptions becomes much more marked in the Late period, but is not an early vs. late feature, since some of the earliest inscriptions are linear incised. The grander and more monumental inscriptions from Carchemish (see e.g. Plate IIIa) and almost all those from Tell Ahmar, Maraş, Commagene, Amuq and Hama are in relief. The preponderance of incised inscriptions from Tabal with the distinctive 'Kululu' style associated with the cursive handwriting of the documents on lead has been noted (above section 5.2.6, X. TABAL, XI. ASSUR letters—see Plate IIIb,c).

While however we may distinguish 'monumental' and 'cursive' sign-forms, often unrecognizably different from each other especially in the case of e.g. the animal heads, these do not appear consistently in the relief and incised inscriptions respectively: thus we find cursive sign forms intruding into relief inscriptions and vice versa. The same phenomenon may be at work in the Empire inscriptions, though there it is difficult to judge since we have so few incised inscriptions to represent a lost handwriting.

The practice of arranging the inscriptions in horizontal lines read boustrophedon with words in vertical columns continues from the Empire period. A word-divider (the sign 𒌝) to mark the beginning of a new word is used in this period with greater or less consistency according to the individual inscription.

6.2.5. Late script: internal characteristics

The system continues largely unchanged from the Empire period except for a few modifications (differentiation of *zi/za* and *i/ia*, also NEG_2/NEG_3). It remains a mixed logographic-syllabic script.

6.2.5.1. Logograms

As noted above (under Empire) a system of transcribing these into Latin has been adopted for over 150 items (*CHLI* I/1, 26-27; here Figure 2, p. 157). A further 75 items cannot be so rendered and are identified only by L(aroche)-number. Of the Latin-transcribed logograms, over half can be traced back to Empire forerunners, the rest being not yet Empire-attested. Some examples suggest that logograms were created according to need on an ad hoc basis: e.g. PROPHETA (TELL AHMAR 5, §11); *522 to represent the stone bowl on which it was inscribed (II.25a).

A number of logograms are also used with syllabic values which are obviously derived by acrophony or rebus (^{E} denotes already in Empire, (E) Empire only), e.g.:

ká (E), *ná*, *pari*^{E}, *pi*^{E}, *rú*, *sari*^{E}, sa_5^{E}, *sú*, *ta*^{E}, *tà*^{E}, ta_6, *u*^{E}, *wà/i*^{E}, *wi* (E)

Note also the signs REL (*kwi/a*) and CURRERE (*hwi*) which should probably be regarded as logograms, at least in origin, and are used as syllabograms with attestations already in the Empire period. The relationship of other syllabic values to the corresponding logograms may be unexplained, notably PES, 'foot', syllabic *ti*.

Logogram markers. Two signs used to mark logograms have been identified: (1) › ‹, placed under the sign to mark it as a logogram, represented in transcription as inverted commas around logogram transcription; (2) 𒀭 marks animal-head signs as logograms for that animal, not syllabograms, transcribed ANIMAL (possibly it might represent the breath of the animal, i.e. that it is the living beast).

6.2.5.2. Determinatives

Cf. above Empire, where determinatives were defined, and their restricted number of Empire attestations noted, as well as the more widespread use found in the Late period. Here in fact it is somewhat more difficult to distinguish between actual determinatives and logograms with more than one reading, especially given the Late Hieroglyphic practice, unusual in Cuneiform, of following a logogram with a full phonetic writing, e.g. ('OVIS.ANIMAL') *ha-wa/i-*, 'sheep'; ('ANNUS') *u-si-*, 'year'.

The following continue in use from the Empire period: DEUS, MONS, SCALPRUM, REGIO, URBS.

The following, not found earlier, may be classified as determinatives:

BONUS	determines	'good' words
DOMUS		parts of houses
FLUMEN		river names
HORDEUM		cereals
LIGNUM		(1) (trees) wooden objects
		(2) words of authority
PANIS		foods
VAS		parts of the body[5]
VITIS		parts and products of the vine

The following 'determine' verbs, a development not found in Cuneiform:

LITUUS and OCULUS	verbs of perception
LOQUI	verbs of speaking
MANUS	verbs of manual action
PES and PES_2	verbs of going
PUGNUS	'strong' words (?)

The following unidentified signs seem to determine groups of words in unexplained ways: L.255/56, L.273, L.274, L.314.

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[5] VAS here = 'heart', thus COR, as per van den Hout 2002.

Figure 3

(450)	*a*	(209)	*i*	(105)	*u*
(19)	*á*				
(215)	*ha*	(413)	*hi*	(307)	*hu*
(196)	*há*				
(434)	*ka*	(446)	*ki*	(423)	*ku*
(176)	*la*	(278)	*li*		
				(445)	*la/i/u*
(110)	*ma*	(391)	*mi*	(107)	*mu*
(35)	*na*	(411)	*ni*	(153)	*nu*
		(214)	*ní*	(214)	*nú*
(334)	*pa*	(66)	*pi*	(328)	*pu*
(383)	*ra/i*			(412)	*ru*
(415)	*sa*	(174)	*si*	(370)	*su*
(433)	*sá*				
(104)	*sà*				
(402)	sa_4				
(327)	sa_5				
(100)	*ta*	(90)	*ti*	(89)	*tu*
(29)	*tá*			(325)	
(41)	*tà*				
(319)	ta_4				
(172)	ta_5				
(439)	*wa/i*				
(210)	*ia*				
(377)	*za*	(376)	*zi*	(432)	*zu*?
(329)	*kwi/a*				
	kwi/a				

6.2.5.3. Syllabograms

The Late syllabograms have been divided into the *Regular Syllabary* (*CHLI* I/1 p. 29, Table 3, with comments pp.28, 30-31), and *alternative syllabograms* (p. 32, Table 4, with comments pp. 31, 33). As there noted, the alternative syllabograms appear only intermittently across the Late corpus, being concentrated in the idiosyncratic (archaizing?) late Late inscriptions, TOPADA with SUVASA, and KARATEPE.

Main features of the Regular Syllabary:

(1) Vowels *a*, *i*, *u* with syllabograms largely of CV type in *a/i/u*-vocalized series.

(2) No voiced/unvoiced distinction, represented consonants being *h*, *k*, *l*, *m*, *n*, *p*, *r*, *s*, *t*, *w*, (*y*), *z*.

(3) Occasional common doublets *a/á* (latter initial only), *ha/há*, *ni/ní*, *nu/nú*.

(4) Empire-descended *lu* used for *la* and *li* too, thus transliterated *la/i/u*.

(5) Dual vocalized *w* and *r* syllabograms transliterated *wa/i* and *ra/i*.

(6) 'Enclitic' character of *ra/i*, which does not stand alone, only attached to other signs; this clearly originates from the fact that no Hittite-Luwian word originally began with *r*-. Also connected is the practice of writing *a*+*ra/i*, *i*+*ra/i* both for inititial *ar*-, *ir*- and final *-ra*, *-ri*.

(7) Five common variants in the *sa*-series, *sa*, *sà*, and sa_5 being Empire-descended, *sá* and sa_4 known only Late. Is there, or was there originally, any distinction(s) represented?

(8) Five common variants in the *ta*-series, dividing into groups *ta*, *tá*, *tà*, and ta_4, ta_5, interchangeable only within the groups. Evidence is accumulating for the original (Empire) distinction of ta_4, ta_5, but remains to be fully investigated and formulated (see also Chapter Five, section B.2.1).

(9) Miscellaneous group of CVCV signs involving final *-ra/i*, including *tara/i*, *ara/i*, *hara/i*, *kar* (all Empire-descended); also *la*+*ra/i*+*a* (*lara*) and IUDEX+*ra/i* (*tara*); and the newly recognized *mara/i*$^{(+ra/i)}$ (formerly read *pá*? (+*ra/i*), see *CHLI* I/1 36f. Appendix 3). In this context note also the Empire-descended *pari*.

Late alternative syllabograms: little need be added to *CHLI* I/1 31-33, except as regards the values *sú*, *sù* (for which see also *CHLI* I/1 35f., Appendix 2). The value *sù* has been reinterpreted as *zú*, which remains under discussion.

6.2.6. Origins

The earliest Hieroglyphic inscriptions on stone are probably not significantly older than 1300 BCE (above, section 5.2.1), though in the question of the dates and thus the origins of the script the problem of the ANKARA silver bowl must always be borne in mind (beginning of 14th or late 13th century BCE?—see above, section 5.2.4).

Dated (i.e. principally royal) seals with Hieroglyphic inscriptions, specifically the digraphic Cuneiform-Hieroglyphic tradition at Hattusa, goes back to Tudhaliya I/II, an impression of whose seal was recently found (Otten apud Seeher 2000). This, by adding the Hieroglyphic digraph of the name in the centre, was the first seal to break with the Middle Kingdom tradition of Cuneiform-inscribed named Tabarna seals extending from Alluwamna to Muwattalli I, a tradition which on occasion added to the central rosette the Hieroglyphs $BONUS_2$, 'good', and VITA, 'life', or their Cuneiform equivalents SIG_4 and TI. An isolated impression from Tarsus shows the seal of Isputahsu, identified as the king of Kizzuwatna contemporary of Telipinu, thus late Old Kingdom (Goetze 1940 73), on which the central Hieroglyphs TONITRUS.REX are flanked with VITA and $BONUS_2$, but it is not clear whether this corresponds digraphically to the Cuneiform legend, and if so, how.

The Nişantepe archive of sealed bullae contains besides impressions of multiple seals of every king from Suppiluliuma I to Suppiluliuma II (thus mid-14th to end of 13th centuries BCE) impressions of the Hieroglyphic-inscribed seals of officials covering the same period (Herbordt forthcoming). It is clear that this tradition of Hieroglyphic seal inscriptions of officials extends back to the Hittite Old Kingdom (late 17th century BCE). These seals lack the clear-cut chronology of association with kings' names, but stratified examples from *Büyükkale* and the *Unterstadt* permit the construction of a chronology to take in unprovenanced seals and impressions (Boehmer and Güterbock 1987).

For the Old and Middle Kingdoms (ca. 1650-1450 BCE, *Büyükkale* levels IVc-b, *Unterstadt* 3-2) we have stamp seals with ornate outer rings decorated with guilloches etc., surrounding inner circles with Hieroglyphic inscriptions, normally names rendered with one or more signs, accompanied by the signs SCRIBA, 'scribe' and/or $BONUS_2$ and VITA. These characterize the seals as those of scribes, with added blessings. The Hieroglyphic names are usually difficult to read even if the signs can be identified with later forms. Mora (1991, 1994) considers that these 'proto-Hieroglyphs' had not yet been formed into the regular script as found from ca. 1400 BCE onwards. (But note that since she wrote, evidence for an established script in the time of Tudhaliya I/II has appeared in the form of his seal, also possibly the ANKARA silver bowl.) Mora also considers the question of links between the early Boğazköy repertoire of signs from seals and that from Karahöyük-Konya belonging to the preceding period, and she concludes that while direct links are lacking, the two repertoires may represent parallel systems. In this context we should note the possible glyptic links between Karahöyük and Phaestos via Miletos in the early second millennium BCE (Niemeier 1999 148).

In the quest for the origin of the Hieroglyphic script, clearly we can follow a continuous tradition back from the stone inscriptions of the 13th century BCE, through the royal seals of the 13th and 14th centuries and the official seals of the 13th to 16th centuries. But we must remember the impossibility of characterizing any Hieroglyphs earlier than ca. 1300 BCE as specifically Luwian (except the ANKARA silver bowl, if it dates to ca. 1400). What are the implications of the Luwian character of the script as recognizable from the 13th (or 14th) centuries BCE?

In spite of this comparatively late emergence of this Luwian character, it is still difficult to disagree with Güterbock (1956a 518) in answering the question: 'von wem und für welche Sprache wurde die Bilderschrift entwickelt?' with 'von den Luwiern, für das Luwische, in luwischen Landen'. The problem here is an almost total lack of evidence outside Boğazköy, at least from Luwian west Anatolia. It may be that Kizzuwatna-Cilicia with its known Luwian presence would be a more promising source to investigate. The mostly Hieroglyphic inscriptions of the Tarsus bullae (Goldman 1956 pls. 401-408) belong generally to the Hittite imperial administraion, including 13th century seals of Queen Puduhepa and prince Sahurunuwa, but do include a few Old and Middle Kingdom impressions such as an

anonymous Tabarna seal on a land donation and the seal of Isputahsu already noted.

Internal evidence might be sought from the script itself, specifically the origin of the syllabograms. Here one may say that recognizable derivations of syllabic values indicate a Hittite-Luwian origin, but provide no diagnostic distinction between the two languages except in one sole case: the derivation of the syllabogram *u* from Luwian **uwau-*, 'ox', as against the postulated Hittite form **guwau-* (Neumann 1992 25[1], cf. 39).

Laroche (1975, especially §5) emphasized the origin of the Anatolian Hieroglyphs in Anatolia, 'crées sur place par un peuple parlant une langue du groupe anatolien'. While this is obviously correct, I have in the past advocated an Aegean connection as an external influence leading to the local formation of the script (Hawkins 1986 374), on the grounds of:

(1) The parallel development of the Cretan Hieroglyphic-Linear scripts and the Anatolian Hieroglyphs from signs, possibly symbolic rather than graphic, on seals leading to the formation of writing systems with logograms and syllabaries.
(2) A similar range and type of logograms in both scripts.
(3) Syllabaries of syllables of CV type as against the Cuneiform CV + VC/CVC type.

The time range is somewhat earlier in Crete, ca. 1900 BCE onwards, a period of visible Egyptian cultural influence, as against Anatolia ca. 1600 BCE onwards.

Against this view Neumann (1992 26f. and n. 5) considered that Cretan could hardly have been the 'Vorbild oder Anreger' for Anatolian Hieroglyphs on account of: (1) its five-vowel *a/e/i/o/u* system as against the Anatolian three-vowel *a/i/u* system; and (2) Cretan's lack of determinatives as against their presence in Anatolian. These two features might well be attributed to the influence of contemporary Cuneiform on the formation of Hieroglyphic, but the former script could hardly have served as a model, Neuman's 'Vorbild' (contra Mora 1994 215). But if we reject as we probably should the idea of an external 'Vorbild', we are not necessarily obliged to reject also an 'Anreger', and here it still seems to me that the Aegean has the edge over the Syro-Mesopotamian world of Cuneiform. For a Luwian site of origin it might be preferable to think of Cilicia, where there is

evidence of developments contemporary with those of Boğazköy rather than the Arzawan west which lack it, and Cilicia should have been as open to Aegean influences as for example western Anatolia through Miletos. Cilicia however must have been in close contact with the 'Cuneiform' world of north Syria (Aleppo, Alalah etc.) since the early second millennium BCE, and the same question as Güterbock (1956) asked of Hattusa would apply: why if you are already familiar with Cuneiform invent a script like Hieroglyphic? An area of origin unacquainted with Cuneiform is perhaps more likely, which would take us back to the west. Further evidence may be expected—or hoped for—from Miletos or another such site.