

CHAPTER ONE

The Decipherment of Ancient Near Eastern Languages

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Introduction

By rights, we should never have had to decipher Egyptian hieroglyphs. For 800 years or more, historians writing in Greek, from Hecataeus and Herodotus to Horapollo, had had the opportunity to learn how the Egyptian language was written – but none of them ever did (Burstein 1996). The last of those writers, Horapollo, at work just when hieroglyphs were finally being abandoned, in the late fifth century CE, who “stud[ied] the esoteric aspects of Egyptian religion and explicat[ed] them in terms of Greek philosophy” (Burstein 1996, 604), being the only ancient source providing any account at all, however fanciful, of Egyptian writing, was responsible for misleading Western scholars for more than a thousand years, in particular the great Renaissance polymath Athanasius Kircher (1602–1680: general introduction, profusely illustrated, Godwin 1979; on a larger scale, Godwin 2009; symposium without a chapter on Kircher as Egyptologist, Findlen 2004; Kircher as Egyptologist, Stolzenberg 2013).¹

Let us plunge, then, *in medias res*, with not the first, not the only, not the prototypical, but the best-known decipherment, that of Egyptian hieroglyphs.

Egyptian

The English polymath Thomas Young (1773–1829; Robinson 2006) and the French prodigy Jean-François Champollion (1790–1832; Robinson 2012) share the credit for determining that the Egyptian script was not a congeries of esoteric or philosophical symbols, but a writing system like any other. Both held that Coptic, the liturgical language of Egyptian Christians, would reflect the ancient language. The impetus for their decipherment

was the discovery by Napoleon's occupying army, in 1799 near Rashid (Rosetta), Egypt, of a large chunk of polished basalt bearing an inscription in three scripts – hieroglyphic, demotic, and Greek. In 1802 it and other antiquities were seized by the indomitable naval victors, and the Rosetta Stone, as it has been named, has been displayed in the British Museum nearly ever since (see Figure 1.1). The Greek inscription was easily read, and it was immediately recognized that here lay the key to the mysterious hieroglyphs. Unfortunately, only seven hieroglyphic lines were preserved in full, versus the almost complete demotic and Greek texts.

Decades earlier, the abbé Jean-Jacques Barthélemy (1716–1795), the numismatist to the King of France, had suggested that hieroglyphs “were assembled into ovals or squares to represent perhaps names of Kings and Gods” (*apud* Caylus 1762, 79); the ovals came to be called *cartouches*. This could now be seen to be the case; unfortunately, the preserved

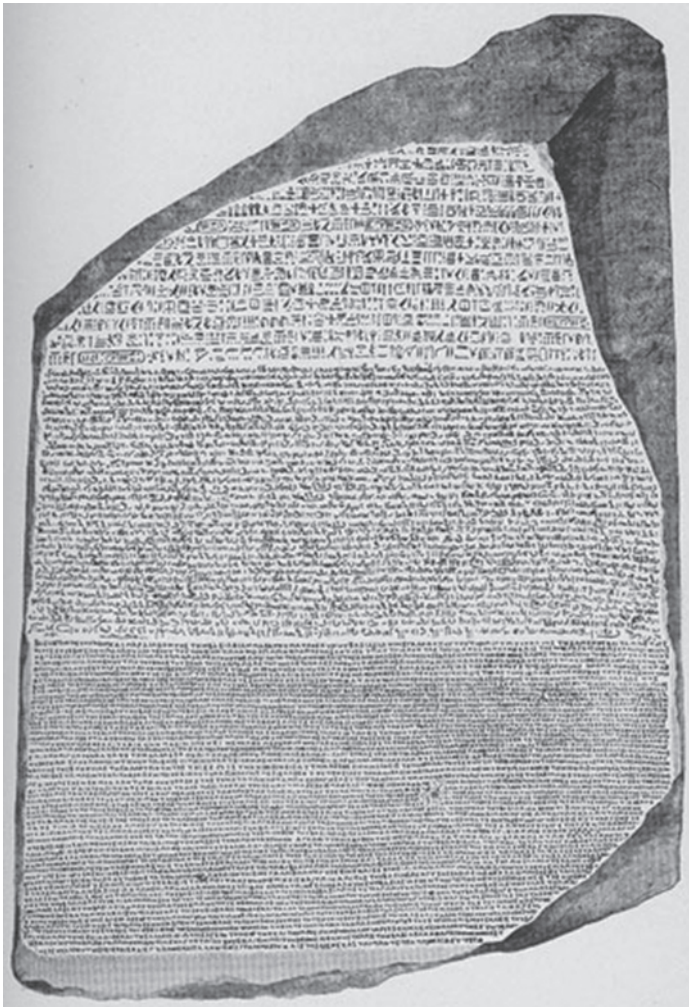


Figure 1.1 Rosetta Stone: an early lithograph.

portions of the hieroglyphic version contain only cartouches corresponding to the name *Ptolemy* in the Greek, so any guesses about the values of signs comprising it could not be confirmed.

Young, therefore, turned to the demotic version and began by identifying a number of stretches of text – *Alexander, Alexandria, and, king, Ptolemy, Egypt* – with their counterparts in the Greek; he also noted that some of the demotic signs related in shape to correspondingly situated hieroglyphs. But he had no way of determining their pronunciation and indeed continued to believe that the script was primarily semasiographic, and phonographic only when representing names. His findings were published, curiously, in the *Encyclopædia Britannica* (Young 1818). The discussion of Young's work by the chauvinistic E. A. Wallis Budge (1929, 198–216) of the British Museum proves more responsible than his earlier discussion of cuneiform decipherment (see n. 3 at the end of this chapter); in both books, his chief purpose seems to be to promote the claims of English over French, German, or Irish scholars.

Champollion was stymied by the lack of anything to compare with the Ptolemy cartouche. Then Young sent him a copy of a bilingual inscription carrying the name of *Cleopatra*, from an obelisk that had been brought to England in 1813. There was enough overlap of letters with *Ptolemy* to establish the readings of some of the signs. So far, Champollion had established that Greek names could be written phonetically with hieroglyphs, but whether Egyptian names and words could be written phonetically was still in doubt.

A pharaonic name from an earlier, pre-Greek, period then came into play. In a cartouche Champollion found a hieroglyph that could represent the sun – *rē* in Coptic – followed by an unfamiliar hieroglyph, and two copies of another unidentified hieroglyph: could this represent the familiar *Ramses*? This insight gave him the courage to defy the common wisdom that hieroglyphs could not be phonetic, and to try to read Coptic in the hieroglyphs to which he could assign phonetic values. He published his findings in 1822, and there was little dissent from his achievement.

Champollion died young. It fell to Richard Lepsius (1810–1884) to discover that signs could contain more than one consonant (1837), and to Edward Hincks (1792–1866) to show that they could not contain any vowels (1846a).

Palmyrene and its Relatives

The suggestion about cartouches was not Barthélemy's first contribution to decipherment, and he will be heard from yet again. He was actually the first person ever to decipher a forgotten script, and the script was that of the language of Palmyra, the desert crossroads trading city during Roman imperial times. "Copies" of Palmyrene script had been available in print since 1616 (reproduced in Daniels 1988); but not until a pair of English travelers published accurate copies of paired inscriptions in Greek and Palmyrene (Wood and Dawkins 1753) could the script be deciphered. (Of course, no one had known that the previously published images were not accurate reproductions of the inscriptions.) Accounts by various Church Fathers had mentioned that the Palmyrene language was similar to Syriac. The first word in one of the inscriptions is the name *Septimios*, and literally overnight Barthélemy was able to match the Palmyrene letters with the Greek and to discover that they were recognizably similar to both Hebrew and Syriac (Barthélemy 1759, presented to the Academy on 12 February 1754; Figure 1.2).

(Fig. 2)

Bibl. de l'École. B. 2. Tom. 2657 p. 266. Pl. 1.

Lectures Palmyr. Seriennes	Lectures Hebraïques	Leurs Noms	Leur Valeur
Ⲁ	Ⲁ	Alph.	A E I O Y
ⲁ	ⲁ	Beth	B
Ⲃ	Ⲃ	Chamel	Γ
ⲃ	ⲃ	Dadeth	Δ
Ⲅ	Ⲅ	Ele	E
ⲅ	ⲅ	Faca	O Y
Ⲇ	Ⲇ	Zaita	Z
ⲇ	ⲇ	Heth	H
Ⲉ	Ⲉ	Teth	T
ⲉ	ⲉ	Iod	I
Ⲋ	Ⲋ	Caph	K
ⲋ	ⲋ	Lamed	L
Ⲍ	Ⲍ	Mom	M
ⲍ	ⲍ	Nun	N
Ⲏ	Ⲏ	Samech	Σ
ⲏ	ⲏ	Ain	A E I O Y
Ⲑ	Ⲑ	Pe	Π Φ
ⲑ	ⲑ	Teth	T Z
Ⲓ	Ⲓ	Keph	K
ⲓ	ⲓ	Rach	P
Ⲕ	Ⲕ	Sin = Shen	Σ
ⲕ	ⲕ	Thau	Θ

Pl. 1. Changante: 1759

Figure 1.2a The decipherments by Barthélemy and Silvestre de Sacy. Source: Barthélemy 1759: Palmyrene.

A few years later – 12 April 1758 (Barthélemy 1764) – he was less explicit in presenting his decipherment of Phoenician. He had coins from Tyre and Sidon before him, as well as ones dating from Antiochus IV, king of Syria, and apparently assigned readings to letters on the basis of the accompanying Greek epigraphs. His review of the literature, however, shows that numerous attempts at reading the coins had been made, and he devoted considerable effort during a visit to Italy to trying to go to Malta to inspect a Phoenician–Greek bilingual he had heard of. He was unsuccessful, and eventually his friend Caylus arranged for a cast to be sent to him in Paris. He simply states the readings of the letters, one by one, and makes sense of the inscription (agreeing tolerably well with Donner and Röllig 1968–71, *KAI* 45).

Barthélemy was not done. On 13 November 1761 (Barthélemy 1768a), he interpreted the inscription on the Carpentras stela (*KAI* 269), again going letter by letter (Figure 1.2b), but the only indication he gives of how he arrived at their values is that they were similar to the other Phoenician letters that were by now well known. He was more concerned with interpreting the Egyptian relief sculpture that surmounted it. He was convinced that the stela must have come from a part of Egypt where Phoenician was spoken. Could he

Mém. de l'Acad. des B. L. L. XXX. P. 427. Plaque IV.

ALPHABETS PHÉNICIENS.			
d'après les Inscriptions & les Médailles.			
N ^o 1	N ^o 2	N ^o 3	N ^o 4
𐤀 𐤁 𐤂	𐤃 𐤄	𐤅 𐤆	Alph
𐤇 𐤈 𐤉	𐤊	𐤋 𐤌 𐤍	Beth
		1.	Ghimel
𐤎 𐤏	𐤐	𐤑 𐤒 𐤓	Daleth
𐤔	𐤕 𐤖	𐤗	He
𐤘		𐤙	Vau
		𐤚	Zain
𐤛 𐤜	𐤝	𐤞	Heth
			Teth
𐤟		𐤠 𐤡	Jod
𐤢 𐤣		𐤤	Caph
𐤥 𐤦		𐤧 𐤨	Lamed
𐤩 𐤪	𐤫	𐤬	Mem
𐤭	𐤮	𐤯	Nun
𐤰		𐤱 𐤲	Samech
𐤳	𐤴	𐤵 𐤶	Ain
			Pe
𐤷 𐤸 𐤹		𐤺	Tzade
𐤻	𐤼		Coph
𐤽 𐤾 𐤿	𐥀	𐥁 𐥂 𐥃	Resch
𐥄	𐥅	𐥆	Sin ou Schin
𐥇	𐥈	𐥉	Thau

J. L. Charpentier. Sc.

Figure 1.2b The decipherments by Barthélemy and Silvestre de Sacy. Source: Barthélemy 1764: Phoenician.

not have noticed that the language differed somewhat from the Phoenician language? The answer is contained in a memoir read later (12 April 1763) but published earlier in the same volume (Barthélemy 1768b, 221):

As the monuments have multiplied, we have arrived at a better understanding of the nature of the Phoenician language, and we know that it differed little from Syriac. Both must be regarded as dialects of a widespread language, formerly prevalent throughout the Orient and in Africa, and which, according to national diversity, is called *Phoenician*, *Punic*, *Syriac*, *Chaldaean*, *Palmyrene*, *Hebrew*, *Arabic*, and *Ethiopic*. It varies everywhere, but it has always preserved roughly the same spirit and the same roots.

He includes a list of roots as realized in various languages – and also shows that Coptic, which he conjectured was the continuation of the earlier language of the hieroglyphs, shares a variety of grammatical features with the languages listed above. The name

discovered, they were called “Sinaitic” from the region where hundreds were found). The Nabataeans were an Arab people who controlled the trade routes throughout the northern Arabian desert but wrote in Aramaic, using a script not dissimilar to the contemporary Palmyrene, and the Sinaitic inscriptions were first read in Beer 1840. By then, or ever since, Barthélemy’s foundations had established a matrix into which new epigraphic discoveries can usually be fitted with more or less assurance.

Types of Decipherment

These four or five decipherments provide a convenient place to pause for analysis. In popular usage, whenever Egyptologists or Semitic philologists read a hieroglyphic or epigraphic inscription, they are engaged in deciphering. As a technical term, however, *decipherment* refers to determining the relation between some writing not hitherto understood and the language it represents. This table is adapted from the decipherment possibilities devised by I. J. Gelb (1973, 268 = 1975, 96, see Gelb’s note p. 95):

Table 1.1 Decipherment Possibilities.

LANGUAGE	WRITING	
	Known	Unknown
Known	O	IA, IB
Unknown	II	III

Source: Adapted from Gelb (1973).

Type O comprises everyday documents in a familiar language in its ordinary script – as well as phenomena like Punic texts written in Greek letters, which do count as deciphering words.

Type IA refers to decipherments like that of Phoenician. The language was readily identifiable – it was always known that certain inscriptions scattered about Europe and North Africa had been left by the Phoenicians – but it was not obvious that the language would be quite similar to Hebrew.

Type IB designates familiar languages in unknown scripts, including such cases as Linear B (archaic Greek first found on Crete) and Maya glyphs. There are no examples of Type IB among ancient Near Eastern decipherments.

Type II includes two situations. The first is cryptanalysis, where the identity of the concealed language may be known, but it is written in some fashion devised to confound the reader not in possession of the key. The other kind of Type II is languages that are pronounceable but unintelligible. The scripts have, if necessary, been deciphered, but the languages need to be *interpreted*. Examples taken up below include Uartian, Hurrian, and Hittite.

Type III, an unknown language in an unknown script, is where most decipherments start out; they move into one of the other types as inspiration or toil provides the impetus. The most impressive example is the decipherment of Mesopotamian cuneiform.

Cuneiform

The first decent copies of trilingual – Old Persian, Elamite, and a Babylonian form of Akkadian – cuneiform inscriptions from the awesome ruins of Persepolis were published by Carsten Niebuhr in 1772–78, who also set out the characters of one of them, which proved to be the Old Persian script. Even earlier, Barthélemy had suggested (*apud* Caylus 1762, 80 ad pl. XXX) that some markings on the vessel known to this day as the Caylus Vase resembled the inscriptions that some hints of were coming from Persepolis.

Antoine Isaac Silvestre de Sacy (1758–1838) applied Barthélemy’s technique of comparing names to parallel Greek and Sassanian inscriptions, and consulted the recently introduced Pahlavi, to decipher two Middle Persian scripts and discover the formulary for royal inscriptions (Silvestre de Sacy 1787–91, 71–124). Expecting that inscriptions from Persepolis would include the Persian rulers’ names that were known in Greek guise from Herodotus, Georg Friedrich Grotefend (1775–1853) supposed that the names would appear in the style “Xerxes, great king, son of Darius, great king, son of Hystaspes” – who was not a king (Grotefend 1802). There is sufficient repetition of sounds among the names that Grotefend could be fairly sure he was on the right track, and he identified the language as Persian. The Iranists Rasmus Rask (1787–1832), Eugène Burnouf (1801–1852), and Christian Lassen (1800–1876) contributed significantly to the rigor of the description of the language in its Iranian context (Rask 1826, 27–29; Burnouf 1836; Lassen 1836), but according to Hincks (1847b), it was E. F. F. Beer (1838) who synthesized the previous work and formed the basis of his own.

Edward Hincks was already middle-aged when he turned from his main interest, Egyptian, to cuneiform – he expected it would shed light on the hieroglyphic texts. He successively demonstrated that the Old Persian script was (semi-)syllabic rather than strictly consonantal (1846b); that the rather different-looking cuneiform scripts on objects brought from Babylonia and Assyria were in fact equivalent (1846c, thus greatly augmenting the materials available for analysis); that the second and third versions were written with respectively less and more elaborate inventories of the same signary (1847a); that most or all of the signs had more than one phonetic reading, probably because the script had been devised for a non-Semitic language (1849); that most or all of the signs had logographic as well as phonetic readings (*ibid.*); that Mesopotamian cuneiform, though it probably represented (in the third version) a Semitic language, combined syllabic and logographic but not consonantal elements (1850); and that biblical personages were named in the Assyrian records (1851; full translation, Hincks 1853). Several of Hincks’s tables and diagrams are reproduced in Daniels 1994.

The materials available for Hincks to work on were as follows: Pride of place goes to the East India House Inscription, a large, excellently preserved rectangular stone block inscribed on all six sides, probably the first cuneiform document to come to England (see the title of Jones 1801 for details).² All the characters found on the block were gathered and arranged by shape by Thomas Fisher (1807), and Hincks used Fisher’s numbering system throughout the twenty years he was occupied with cuneiform (Figure 1.3). Second were the trilingual inscriptions from Persepolis and environs (Niebuhr 1772–78). Third, and perhaps immediately the most significant, were the inscriptions from near Lake Van, collected at the price of his life by Fr. Ed. Schulz in the late 1820s and published in Paris long after (Schulz 1840), which used essentially the same script for a recognizably different language.

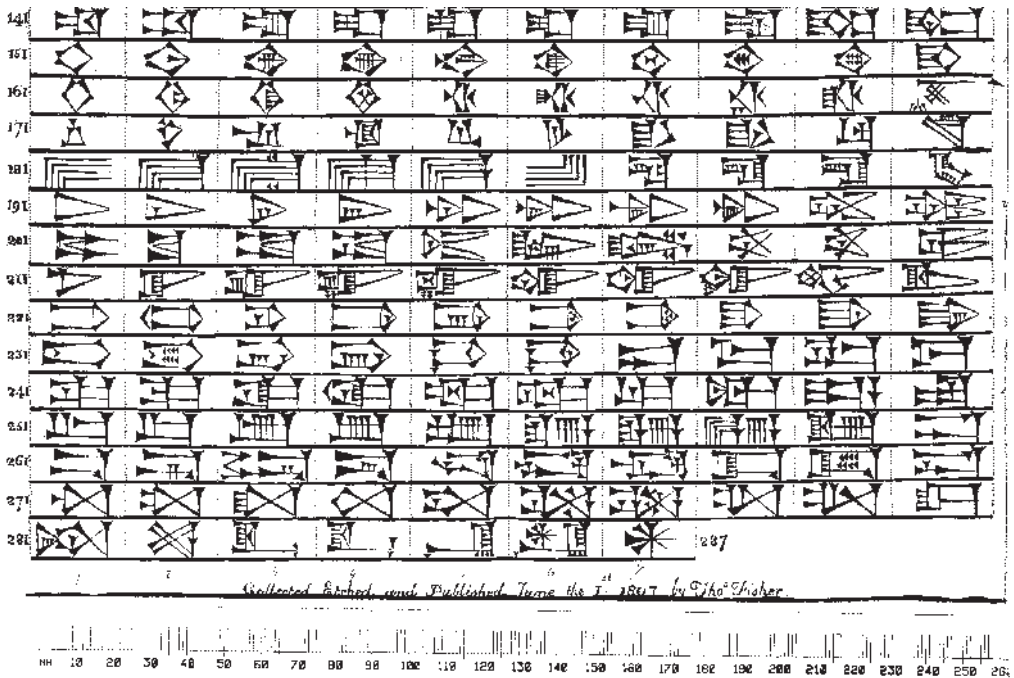


Figure 1.3 The chart of cuneiform signs used by Hincks. Source: Fisher 1807; from a private collection, ex Albrecht Goetze.

The most extensive of Schulz's inscriptions is a royal annal, covering some thirteen years, in which each year's account begins with the same formula. Publishing for the first time in the prestigious *Journal of the Royal Asiatic Society* (1848), Hincks noted that the formulaic repetition is not exact: certain signs seemed to be omissible, apparently according to the space available on the surface where the inscription was carved. He took up a suggestion by Grotefend that they were optional vowel signs. Since he already knew some of their values from the Persepolis trilinguals, he could identify the vowel inherent in each preceding CV sign. Grammatical investigation of the Urartian language (which he believed was Indo-European) resulted in a tolerably full signlist, with values from Assyrian and Babylonian as well as Urartian sources. Hincks also brought an end (in 1852) to the decipherment phase of Assyriology, by correctly interpreting the first of thousands of fragments of lists of signs that give their pronunciations – it was a portion of the elementary signlist now known as Syllabary A. He went on to publish grammatical studies of Assyrian, as well as articles on a wide variety of Egyptian and Assyrian topics (Cathcart and Donlon 1983).³

Hincks also initiated the study of Sumerian, by identifying a fragment of a bilingual “list”; within a few years, he had made fruitful use of Akkadian–Sumerian “bilinguals” – Sumerian texts (at the time called “Accadian” after a biblical place name) with interlinear or adjacent renditions in Akkadian (at the time called “Assyrian”; Hincks 1857). For years there were doubts whether Sumerian was a “real” language, or a code devised by Assyrian priests to keep their writings secret, but excavations at the site of Tello

yielded thousands of monolingual quotidian documents in Sumerian. The definitive demonstration of the legitimacy of Sumerian is generally credited to Paul Haupt (1878).

Urtartian was not so lucky. The corpus is limited and formulaic, with a few Assyrian bilinguals; analysis (e.g. besides Hincks 1848, Sayce 1880b) culminated with Friedrich 1933a. But then along came its big brother, or better its great-uncle, Hurrian (Daniels 2012). The largest cuneiform clay tablet ever discovered, the Mittanni letter, is from Amarna, Egypt, where it formed part of the international diplomatic correspondence of the pharaoh who happened to make his residence there. It is a list of wedding-gifts from Tushratta, king of Mittanni. The introductory formulae are in Akkadian; then comes a mysterious list of items, some with prose descriptions (Winckler 1889, no. 27 [12 plates], handcopies by Ludwig Abel).

Practically overnight, three articles almost filled an entire number of the *Zeitschrift für Assyriologie*: Jensen 1890–91, Brünnow 1890, Sayce 1890. These and the other early researchers were puzzled by a syntactic pattern some called “passival.” The discovery of hundreds of tablets in aberrant Akkadian at the site of ancient Nuzi in the 1920s, written by scribes with Hurrian names, stimulated investigation of the language that had influenced the Akkadian. Not long after, discovery of Hurrian tablets at Boğazköy (Anatolia) and Ras Shamra (Syria), including bilinguals, aroused the interest of some of the most notable Assyriologists of the 1930s, including Arthur Ungnad, Johannes Friedrich, Leo Oppenheim, and Albrecht Goetze, resulting in the first reliable grammar (Speiser 1941). Even though the concept of “ergative language” had been known in Europe from languages of the Caucasus since 1928, and subsequently from languages throughout the world, the connection with Hurrian was not made until Diakonoff 1971.

What about the cuneiform inscriptions of the Persepolis Second Kind? A century of research on a corpus that did not grow much, beginning with Westergaard 1844a, 1844b and Norris 1852, also Sayce 1874, yielded Reiner 1969. Thousands and thousands of tiny accountancy documents in Elamite were recovered from Persepolis, but their highly limited formulaic nature adds nothing about the language.

The last of the great cuneiform languages also first appeared at Amarna. Among the hundreds of tablets, there were two in a second unknown language. As J. A. Knudtzon prepared his comprehensive edition of the Amarna tablets, he paused to take a closer look at these two, where he immediately noticed the word *esto* in a context where it had to be the equivalent of the same form in Greek and Latin. That and an apparent accusative case in *-n* suggested to him that he was faced with an Indo-European language. The fact that many logograms – both Akkadograms and Sumerograms – appeared in the two texts gave a good idea of the context, and he published his analysis along with extensive contributions setting out an Indo-European analysis by his colleagues at Christiania (Oslo), Sophus Bugge and Alf Torp (Knudtzon 1902).

Knudtzon’s translation actually agrees tolerably well with that in the latest discussion (Hawkins 2009; though Hawkins acknowledges the existence of Knudtzon’s work, he claims that the first translation was by Albrecht Götze in 1930). Discounting the opening two lines in Akkadian and a lengthy well-wishing mostly using logograms, this is the first passage that requires interpretation of the unknown language (my rendition of Knudtzon’s German; italics signal his uncertainties):

¹¹ To you have I sent Iršappa, ¹² my envoy, to say: “Thy daughter ¹³ for my son, *when is she to him* as wife *to be ceded*? ¹⁴ Now *may you be granted* oil for the (or: her) head! ¹⁵ To thee have I a *vessel* of gold sent ¹⁶ as gift for thee. (Knudtzon 1902, 54)

^{11–12} See, I have sent you Iršappa, my envoy. ^{12–13} Let us see the daughter whom they will bring to My Majesty for marriage. ¹⁴ For her (he will?) pour oil on her head. ^{15–16} See I have sent you one nice gold (*zu*)*halaliya*. (Hawkins 2009, 77)

The eminent ancient historian Eduard Meyer wrote of this work:

Already in 1902 the Norwegians ... attempted to prove that the language that we have recognized as that of the Hittites ... is Indo-European. This proof, which relied on only a few quite uncertain hints, has generally been rejected; and the Hittite texts that have become known since ... appear to have corroborated the judgment of rejection. (Meyer 1915, 7)

A check of the reference shows that Meyer was setting the stage for Bedřich Hrozný's announcement of the decipherment of Hittite as – Indo-European, on the basis of the effectively unlimited corpus that had already been unearthed at Boğazköy. He provides paradigms of noun declension and verb conjugation. He acknowledges the existence of Knudtzon's work but does not deign to cite any of the findings. For him, the insight was provided by the word *wa-a-tar* alongside the familiar Sumerogram for ‘bread’ (Hrozný 1915, 33).

Processes in Decipherment

The decipherments described so far exemplify a variety of principles and processes. It might seem unnecessary at the present time to stress that the single most important requisite for a decipherment is *accurate copies* of the inscriptions under study. Nowadays, photography is at everyone's fingertips, but during the quarter millennium after 1600, when scientific study of antiquities captured the imagination of Europe, only the artist's eye and hand could record the materials, and their publication involved the additional step of having the drawing reproduced by an engraver or (later) a lithographer. The process was subjective, and wildly divergent renditions of the same inscription could be offered.

That consideration was not even among Barthélemy's list of procedures to be followed, set forth in that first article (1759, 582–83):

1. To decipher the alphabet of a nation whose language is unknown, it is not always a good rule to have recourse to the alphabet of a neighboring nation; and it is much worse to consider the alphabets of several different peoples. ... If it were possible to find monuments in an unknown language that represented without a doubt known words in another; if in placing each of these known words under each unknown word which ought to correspond to it, there would result on the two sides the same order and the same value: in a word, if the inscriptions written in an unknown language, combined with inscriptions in a known language, would themselves furnish an alphabet that tended to clarify them, or at least let them be read in a consistent manner, I think that in this case one would have to adopt this alphabet.

2. When a word, a man's name, for example, is found two or three times in the same inscription, it must be with the same letters; and if it appears in several inscriptions, no difference should be found beyond what comes from the difference between hands.
3. In the alphabets of the Oriental languages, one sees letters with different values but written absolutely or almost absolutely the same [referring to כ *b* and ס *k*, ד *d* and ר *r*].
4. Finally the Orientals, when expressing Greek or Latin words in their language, suppress various vowels, and supply them by points that they do not always insert in the manuscripts, and still less often in the monuments.

Unfortunately, not many unknown languages in unknown scripts are accompanied by convenient Greek translations, like Egyptian and Palmyrene – they are not *bilingual* inscriptions. Grotfend showed the way in this circumstance: he found a *virtual bilingual*, by guessing about the probable date of the Persepolis trilingual inscriptions, and by guessing which royal names ought to fit into the formula that he guessed was likely to be found. Three inspired guesses! Let us consider the last few decipherments of ancient Near Eastern scripts to investigate the sorts of virtual bilinguals that ingenuity has exploited.

Himyaritic

The first inscriptions in South Arabian scripts were reported by ships' captains in the 1830s (Wellsted 1834 taking pride of place) – explorers like Niebuhr had heard of such things but were never able to find any. Two rivals competed to decipher them. Wilhelm Gesenius (1786–1842) was the greatest Hebraist of his age – updated editions of his grammar and dictionary remain the standard today – and Emil Rödiger (1801–1874) was his most distinguished pupil and editor of the first posthumous versions of those two works.

Rödiger took advantage of two Islamic manuscripts that recorded alphabets of various peoples; these were often fanciful, but he found two that were tolerably similar to the new inscriptions, both said to represent the writing of South Arabian peoples. The two manuscripts apparently derived from independent traditions (Rödiger 1837; Figure 1.4a). He relied on these, and on his command of Semitic philology, to interpret the inscriptions (1841). Gesenius (1841), on the other hand (Figure 1.4b), put more faith in a newly reported Semitic language from the same area (Fresnel 1838). Both made important contributions to the decipherment, but these are particularly obscure and difficult texts – in fact the first sizable one contained almost nothing but proper names not familiar from other sources and not accompanied by a version in another script (Daniels 1986).

Proto-Sinaitic

In the case of the brief inscriptions from Serabit el-Khadem, Sinai, it was the shapes of the archaic-looking pictograms that hinted at their readings. Gardiner (1916) identified ox-goad/house/eye/ox-goad/cross, considering the Hebrew names of the letters, as *lwt* 'to the lady'; Cowley (1916) compiled a dozen more; and Albright (1966) gathered the results of new discoveries and interpretations.

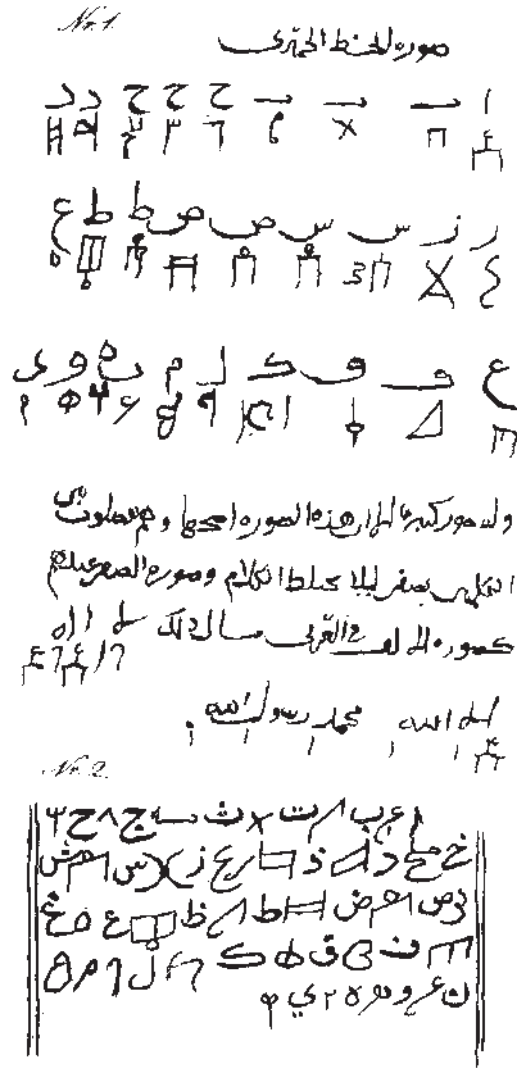


Figure 1.4a The decipherment of Himyaritic (South Arabian). Source: Two Arabic manuscripts (Rödiger 1837).

Luvian

The pioneer in interpreting Luvian hieroglyphs was A. H. Sayce (1880a, 1903–4, 1907) – he intuited that they represented the distinctive product of Hittite civilization – but sufficient materials were never available to him.⁴ Among the several contributors to the decipherment, the most explicit as to method was I. J. Gelb (1908–1985). From Sayce, he knew the determinatives, the word divider, and the indicator of logograms. He gathered the words accompanied by the country determinative from inscriptions found at places whose ancient names were known, insisted that the signs were strictly syllabic, and

Das Himjaritische Alphabet, mit Vergleichung des Altäthiopischen.

A. Altäthiopisch. B. Himjaritisch.				A. Altäthiopisch. B. Himjaritisch.			
		a) Mas.	b) Inscr.			a) Mas.	b) Inscr.
Aleph	𐩀 𐩁	𐩁	𐩁	Lamed	𐩌 𐩍	𐩍 𐩎	𐩎
Beth	𐩂 𐩃	𐩂	𐩂	Mem	𐩏 𐩐	𐩐 𐩑	𐩑 𐩒
Gimel	𐩄	𐩄	𐩄	Nun	𐩓	𐩓 𐩔	𐩓
Daleth	𐩕 𐩖	𐩕 𐩖	𐩕	Samech		𐩗	𐩗 𐩘
Daal 𐩙		𐩙 𐩚	𐩙	Ain	𐩛 𐩜	𐩜	𐩜 𐩝 𐩞
He	𐩟 𐩠 𐩡	𐩟 𐩠	𐩟 𐩠	Phe	𐩣	𐩣	
Vav	𐩢 𐩣	𐩢 𐩣	𐩢 𐩣 𐩤	Zade	𐩥	𐩥	𐩥 𐩦 𐩧
Sain	𐩨	𐩨 𐩩	𐩨	𐩛	𐩛 𐩜	𐩛 𐩜	𐩛
Chet	𐩫 𐩬	𐩫 𐩬	𐩫 𐩬	Koph	𐩯 𐩰 𐩱	𐩯 𐩰	𐩯
Kha 𐩲	𐩲	𐩲	𐩲	Resch	𐩳	𐩳 𐩴	𐩳 𐩴 𐩵
Tet	𐩶	𐩶 𐩷	𐩶	Sin	𐩹	𐩹 𐩺	𐩹
Ta 𐩻	𐩻	𐩻	𐩻	Schin	𐩻	𐩻	𐩻
Jod	𐩽 𐩾 𐩿	𐩽 𐩾	𐩽 𐩾	Tau	𐩿	𐩿	𐩿
Caph	𐩿	𐩿	𐩿 𐩾	Ghain 𐪀	𐪀		

Figure 1.4b The decipherment of Himyaritic (South Arabian). Source: The Himyaritic script (Gesenius 1841).

isolated the vowel signs by finding that they were optional. He made judicious use of personal names and of the few bilinguals, and analyzed the grammar with full knowledge of Hittite. Gelb found that Hittite and Luvian differed and accepted Johannes Friedrich's identification of the hieroglyphic language with cuneiform Luvian. Gelb went astray when – on the basis of the *ogonek* nasal-vowel marker in Polish, as in *q* and *ę* – he decided that a double-stroke at the bottom of a vowel sign marked a nasal (1931, 1935, 1942, II: 10). Accuracy was attained by Hawkins, Morpurgo-Davies, and Neumann 1974.

Hittite and Luvian are two of the languages of the Anatolian family that are written with Mesopotamian cuneiform. Several additional Anatolian languages were written with adaptations and expansions of the Greek alphabet. Their meager remains were the province of Classical studies, until their nature was clarified with the discovery of Hittite (e.g. Melchert 1994), except for Carian, which always resisted interpretation when the alphabet was taken to be Greek. John Ray, however (1981), studied names that appeared to be written in Carian and in Egyptian in adjacent graffiti in Egypt (where Carian mercenaries were popular), determining often surprising readings of the letters that enabled the language to be read as Anatolian.

Ugaritic

When the first tablets in an unknown cuneiform-on-clay script came to light at a site on the Syrian coast, it probably was less obvious than hindsight suggests that this Ugaritic

script concealed a Semitic language, for the first archeologists' dates for the Ugaritic materials – ca. 1500 BCE – were half a millennium earlier than the earliest known Phoenician and Hebrew inscriptions (Harris 1939), and the archeological context pointed to the west. The dating has since been adjusted to ca. 1200 BCE, so that they are nearly contemporary with the composition of the earliest biblical passages – to which their literary texts are strikingly similar (though they predate the earliest Hebrew inscriptions).

The epigrapher called to the excavations, Charles Virolleaud (1879–1968), was an experienced Assyriologist who with laudable speed published the tablets as they were unearthed. The three scholars who addressed Ugaritic chose different virtual bilinguals. Virolleaud noted that an inscription on certain adzes was also found at the beginning of a clay tablet, with one additional sign preceding it; he suggested that the tablet was a message to the owner of the adzes, and the extra sign was the prefix *l-* 'to' in Semitic. On a seeming accounts tablet he then found a word of the pattern (rare in Semitic) *ʔlʔ*; this had to be 'three' (Hebrew *šālš*). Hans Bauer (1878–1937) isolated the letters that seemed to be prefixes and suffixes and assigned them to the limited number of sounds that are used as such in Semitic (*l, m, n, t*). Édouard Dhorme (1881–1966) worked along similar lines, and there was exemplary cooperation among the three. They had soon identified at least 20 of the 30 letters (choosing a representative article by each, Bauer 1930 [Figure 1.5a], Dhorme 1930 [Figure 1.5b], Virolleaud 1931a [Figure 1.5c], cf. Albright 1932 [Figure 1.5d]; for details: Corré 1966, Day 2002).

The most unusual feature of Ugaritic is that although each consonant is represented by one letter, ' is represented by a different letter before each of the three vowels. Bauer, confronted by irrefutable evidence that two different letters had to stand for ' , even though this was unparalleled in Semitic, declared that indeed they did – and Virolleaud soon added a third. Bauer tried to differentiate the three alephs according to the following vowel, but within the framework of his account of Hebrew vocalization involving different stages of the language, he could not get the Ugaritic vowels to come out right. It was Johannes Friedrich (1933b) who explained them correctly. Bauer did not dispute the solution but did not publish the second volume of his monumental Hebrew grammar, Bauer and Leander 1918–22, perhaps because he would have had to reconceptualize so much of the undocumented history of the language. It was another two decades before all the remaining Ugaritic letters were securely read (Daniels in press).

Summary

The Near Eastern decipherments exemplify the requisites for any decipherment:

- obtain accurate *copies*
- compile a *catalog* of the characters and variants
- from their *number*, suggest type of script: letters, syllables, morphemes
- observe *distributional analysis*: word boundaries, prefixes, suffixes, inflections
- identify *proper names*
- if not *bilingual*, identify a *virtual bilingual*

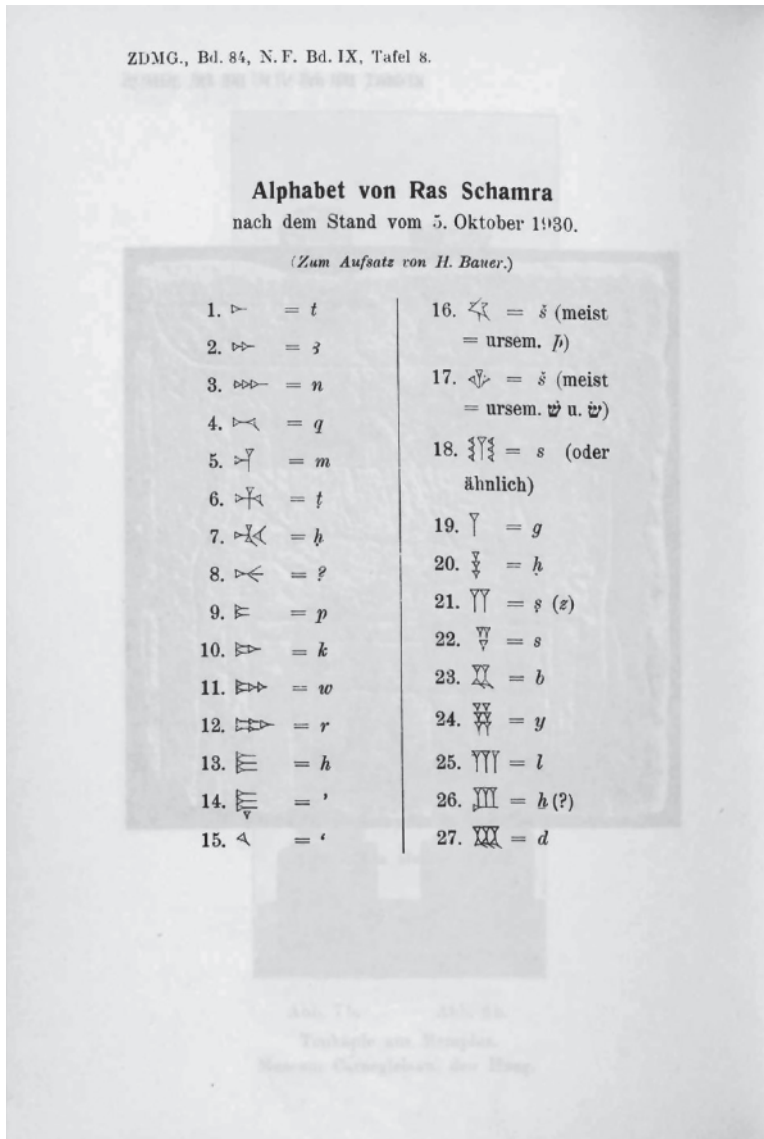


Figure 1.5a The earliest Ugaritic charts. Assyriologists organized the letters by shape, Semitists by Hebrew alphabetical order. Source: Bauer 1930.

Accounts of Decipherment

Several books on decipherment can be recommended – in increasing detail, Friedrich 1957, Gordon 1982, and Pope 1999 – though none is ideal; their accounts of the decipherment of Mesopotamian cuneiform are inaccurate. Gordon's is a personal account; the 1982 edition largely replaces the discussion of his eastern Mediterranean work with a

1.  t (ṭ)	15.  ' (ʿ)
2.  'a (ʾ) - 'o'	16.  š (š = ʃ, ʃ = ʃ) [š]
3.  n (n)	17.  s (ṣ) [š] = ʃ
4.  q (p)	18.  g (g)
5.  m	19.  ʔ = t h (ʔ = ʔ) [ʔ]
6.  ʔ (ʔ)	20.  z (z = ʒ)
7.  h (h = ʕ)	21.  h = k h (h = ʕ)
8.  ʔ (ʔ = ʔ) [h]	22.  ʔ (ʔ = ʔ)
9.  ʔ (ʔ) - ʔ = p₂ [f]	23.  ʔ (ʔ)
10.  k (k)	24.  s (ṣ) = ʕg, ʕ [š]
11.  w (w)	25.  y (y) [i]
12.  r (r)	26.  l (l)
13.  h (h)	27.  'i (i) [é]
14.  'e (e)	28.  ʔ (ʔ = ʔ, ʔ)

Figure 1.5d The earliest Ugaritic charts. Assyriologists organized the letters by shape, Semitists by Hebrew alphabetical order. Source: Albright 1932.

discussion of (the interpretation of) Eblaite, not addressed above. Pope's is well illustrated and includes a number of references to primary sources. Deuel 1965 is a popular, reliable, narrative of the recovery of (primarily) manuscripts. Robinson 2002 calls attention to scripts that have not yet been read.

NOTES

- 1 A claim that received some attention in the United Kingdom that medieval Arab scholars could read or had made progress in deciphering Egyptian hieroglyphs (El Daly 2005) and in turn influenced Kircher was based on overinterpretation of certain passages in some of the Arabic writings (Daniels 2016).
- 2 Dorian Leveque of the British Library confirmed (pers.comm., 14 Sept. 2016) that the publication of this text in IR 53–64 (i.e., Rawlinson & Norris, 1861, pls. 53–64) presents the same image that had been created by Jones decades earlier.
- 3 A name frequently encountered in accounts of the decipherment of cuneiform is that of Henry Creswicke Rawlinson. He was a British army officer stationed in the East who availed himself of the opportunity to investigate antiquities, including inscriptions. His great accomplishment was to make an accurate copy of the great trilingual inscription that Darius I had had carved into a cliff face at Behistun, Iran, which had long defied attempts to access it. It is by far the longest text from the Persian Empire, and invaluable for teasing out its history, but neither it nor Rawlinson played any part

in the decipherment of cuneiform. The Persian version was not published until Rawlinson 1846 (and he had had the benefit of Lassen's publications in his study of it) and the weather-damaged Babylonian only in Rawlinson 1851, and he had been kept abreast of Hincks's progress by various correspondents (Daniels 2008). He was one of four scholars invited to prepare independent translations of an unpublished inscription; the prestigious judges' verdict was that, of the four, it was Hincks's and Rawlinson's that agreed the most (Comparative Translations 1857).

Hincks's contributions were appreciated and not devalued during his lifetime and for some time afterward (e.g. Rogers 1911, 631–32). But Rawlinson was championed by his brother, a noted historian, whose biography (G. Rawlinson 1898) cannot provide any information on how H. C. accomplished what he was said to have done; and by Budge 1925, which in its silence assured Hincks's future obscurity.

- 4 *The Man Who Didn't Decipher Anything* would be a fitting title for a biography of Archibald Henry Sayce (1845–1933). As we have hinted, he took an interest in everything touching on the biblical world, and he knew everyone (Sayce 1923). A rare intemperate article by Edward Hincks (1864) answering Sayce's comment (1864) on Hincks 1863 might have been worded differently had he realized he was addressing an 18-year-old schoolboy.

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