The Race to Decipherment

*Ilona Regulski**

Abstract

Napoleon's expedition to Egypt (1798/1799) and the subsequent publication of the *Description de l'Égypte* (1809–1828), illustrating the monuments, people, and cities of Egypt, fuelled public and scholarly interest in its ancient civilization. Yet, the evidence necessary to reconstruct the Egyptian writing system was still limited. European scholars had relatively few objects to work with, along with inaccurate copies of inscriptions created by predecessors and peers who could not read what they were copying. With the Rosetta Stone's discovery in 1799, hope soared that those ancient voices could be brought to life through the Greek version of its texts, especially in combination with the evidence available from Coptic, the last stage of the Ancient Egyptian language. This proved harder than expected, and it would take another two decades. The decipherment would hinge on two scholars, British polymath Thomas Young (1773–1829) and French philologist Jean-François Champollion (1790–1832). The breakthrough belonged to Champollion, a linguistic prodigy who mastered Coptic, ancient Greek, Latin, Hebrew, Syriac, Persian, and Arabic. However, the work of Young and others, though Champollion did not agree with all of it, helped solve the riddle of ancient Egyptian.

Demotic A-B-Cs

The first scholars to study the Stone had experience with alphabetic languages such as Phoenician, which influenced their perception of Egyptian. Advances in Coptic studies led to laborious efforts to translate hieroglyphs through knowledge of the pharaohs' language in its later form.[1] Like many before them, French linguist Antoine Isaac, Baron Silvestre de Sacy (1758–1838) and Swedish diplomat Johan David Åkerblad (1763–1819) considered Coptic a remnant of ancient Egyptian. Silvestre de Sacy, Champollion's teacher, frequently met with Åkerblad, who had worked on Coptic manuscripts with Georg Zoëga in Rome.[2] Among the first to focus on the demotic portion of the Rosetta Stone, de Sacy and Åkerblad shared the fundamental assumption that it was an ancestral form of Coptic.

They began by seeking the similarities in proper names, looking for repetitions of sign sequences in the demotic that might correspond to a repeated word in the Greek. Using spatial comparison, de Sacy identified five names, including 'Alexander', using the Greek inscription, but he did not explain how he reached these readings, and realized that the letters of a demotic word were not necessarily laid out spatially as in Greek or Coptic writing. Åkerblad adjusted de Sacy's reading of 'Alexander', and identified words such as 'Greek', 'temple' and 'Egyptian'. By comparing all the places where temples were mentioned in the Greek inscription with similar locations in the demotic, he argued, the corresponding group of signs in demotic must signify temples. Åkerblad then searched for the Coptic word for 'temple' and tried to locate demotic signs corresponding to letters in the Coptic script.[3] Having obtained a set of letters in this fashion, Åkerblad identified other demotic words using his Coptic-based 'alphabet'. Although many of his 29 sign equivalents remained valid over the years, Åkerblad's alphabet was incomplete and he was unable to translate more words. His work appeared only in French, but nonetheless received considerable attention in England, as did de Sacy's, bolstering expectations that decipherment was within reach.

Fig. 1. Print portraying Thomas Young.
London, England, 1830 CE.
Paper, British Museum, 1866, 1013.655.

Thomas Young's Last Obsession

Described as 'The Last Man Who Knew Everything',[4] Thomas Young made landmark contributions to the fields of physics, optics, mechanics, physiology, linguistics, and musical harmony before directing his attention to Egyptology (Fig. 1). His efforts to decipher the Rosetta Stone facilitated Champollion's ultimate success, but his richest gift to Egyptology was his decoding of demotic script. He made the first major advances in this area, correctly understanding that demotic was composed of both ideographic (symbolic, pictorial) and phonetic (sound) signs.

Like Åkerblad, Young maintained that the intermediate, demotic section of the Rosetta Stone was the key to understanding hieroglyphs, but he did not believe it consistently conveyed complicated grammatical or even syntactic information. Instead, Young thought the sign sequences should be treated as words regardless of what the corresponding sounds in Egyptian speech might have been. He initially referred to the middle script on the Stone as 'Egyptian', but he later called it 'enchorial' (meaning 'used by the people'), basing the name on the last line of the Greek text on the Rosetta Stone. The Egyptian translation of the Greek instead refers to 'demotica', which became Champollion's preferred term.

Young's *Memorandums* (1814) represented the first serious attempts to work on all the inscriptions of the Rosetta Stone (hieroglyphs, demotic and Greek) with Latin and English translations. He hoped to retrieve the meaning of the Egyptian text by breaking the Greek into sections and trying to match them with the demotic. Since the demotic had 32 lines, he divided the 54 lines of Greek into 32 parts, breaking at places that made sense. Young noted that the termination of the lines on the right were more regular than those on the left, suggesting that the demotic writing proceeded from right to left. Young then looked for demotic characters that occurred repeatedly, pairing them with Greek words that appeared an equal number of times. He identified a sequence of signs that might correspond to the Greek word *basileios* (king) because that word, with its several derivatives, appears in the Greek text some 40 times. A difficulty typical of ancient Egypt's writing system arose: none of the groups occurred with the same frequency in demotic, and the sequences were not all written in an identical way.[5] Young nonetheless considered this method of spatial correspondence reliable enough and rapidly isolated 86 sign groups, almost all of which had variants in their orthography (how they were written or spelled).

Young used a similar method to compare hieroglyphs with the demotic script (Fig. 2). He noticed a resemblance between some demotic signs and the corresponding hieroglyphs, suggesting that demotic might relate to the hieroglyphic script much as modern handwriting does to its printed equivalent.[6] The hieroglyphic inscription contained at least one–hundred different characters, too large a number to accommodate any alphabet.[7] Some hieroglyphic sequences might correspond directly to words, he realized, but not all did. A sign resembling an object might, in one case, refer to that object, while in another, it might represent an aspect of a person associated with the object. For example, a sceptre might signify an actual sceptre, or alternatively, the power of a sovereign. In that case, the relation of a sign to other signs in one sequence might differ from its relation to signs in another, making reading strongly dependent on context. Such a complex and unstable system reinforced Young's conviction that hieroglyphic scripts were inferior to alphabetic systems.

Young's work betrayed increasing scepticism regarding the Coptic language, as he reassessed the special relationship with ancient Egyptian ascribed to it since the Middle Ages. He accepted the idea that Coptic was a descendant of the ancient Egyptian language but doubted whether even an early form of Coptic was similar enough to be a reliable guide in decoding the ancient scripts. He suggested that phonology (the organization of sounds to form speech) was used only for Greek and Roman proper names, which revealed the infiltration of foreign elements into a purely logographic Egyptian script. He surmised that the cartouche around names signalled that the enclosed characters had been rendered phonetically. Young relied upon a

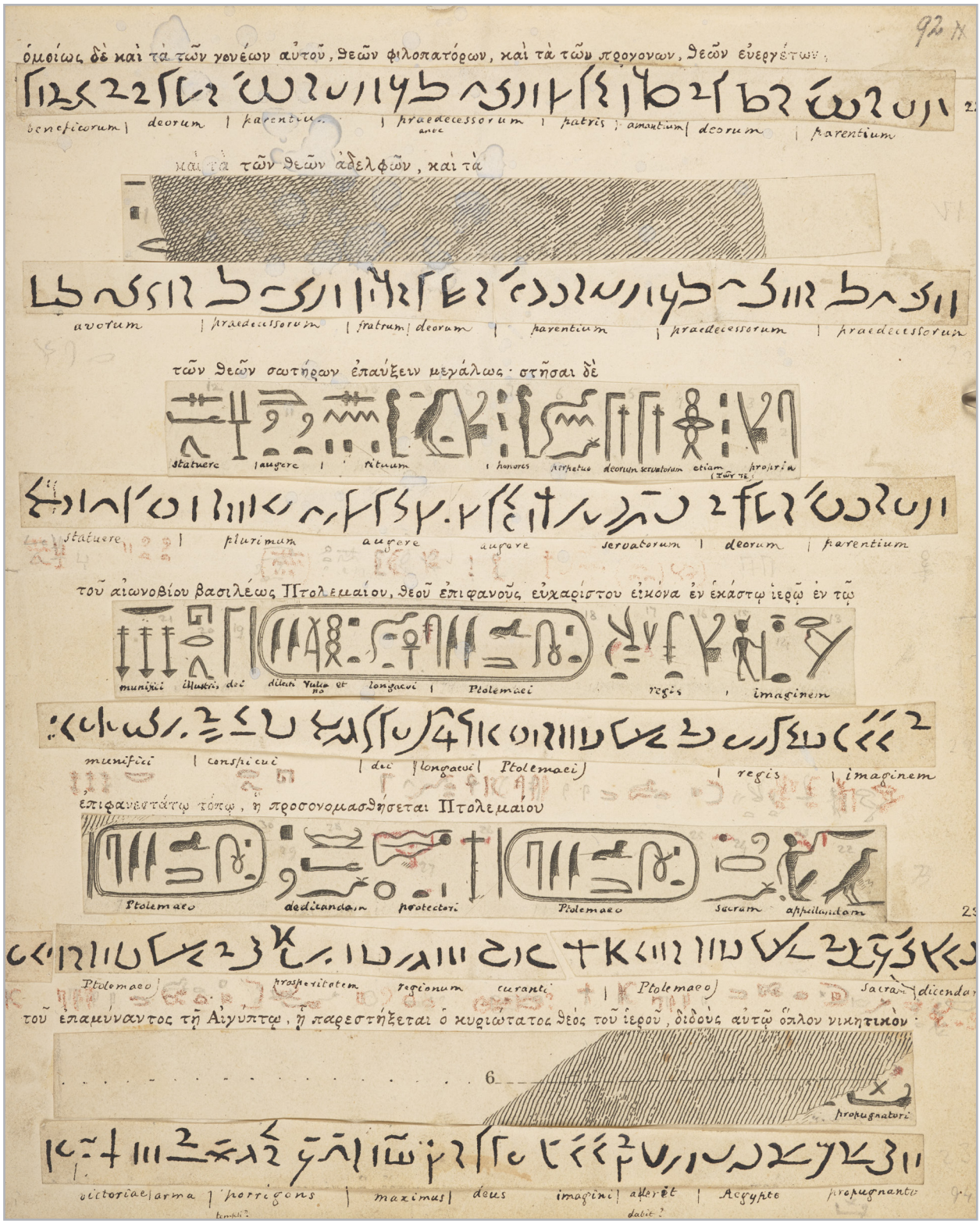

Fig. 2. Young's work on deciphering the Rosetta Stone, showing his attempts to match sequences of signs between demotic line 22 and hieroglyphic line 6. London, England, 1814 CE.
Paper, © British Library Board, Ms. ADD 27281, f92.

rebus-like connection to extract sounds from a limited set of signs, though he also redeployed Åkerblad's alphabet, with modifications, for Graeco–Roman names.[8]

Young deepened his studies by comparing the Rosetta Stone's demotic with the script found on papyri and mummy wrappings (Fig. 3). In early 1816, he obtained Volume Two of the *Description de l'Égypte*, which contained engravings of three lengthy papyri, one written in hieroglyphs, and two in the cursive hand (hieratic). The publication was a boon to both Young and Champollion, providing them with many hieroglyphic and cursive signs. Young made careful sign-by-sign copies of the papyri, placing hieroglyphs directly beneath what he deduced were the corresponding cursive signs. He identified the title *epiphanes* (meaning 'God Manifest' or 'the Glorious/Illustrious'), which he also found six times in the Rosetta Stone.[9] Matching spatially similar sign sequences, Young identified the corresponding word in both the demotic and the hieroglyphic. Elaborating on the link between the scripts, he concluded that the cursive hieratic script of the papyri was related to hieroglyphs, and that the demotic was a degraded form of the hieratic, and consequently closely linked to hieroglyphs as well. Agreeing with his French correspondents that hieroglyphs involved meaning without sound, Young declared that aside from royal names, the cursive and demotic scripts were neither alphabetic (composed exclusively of one-letter signs) nor phonetic (sound-based).

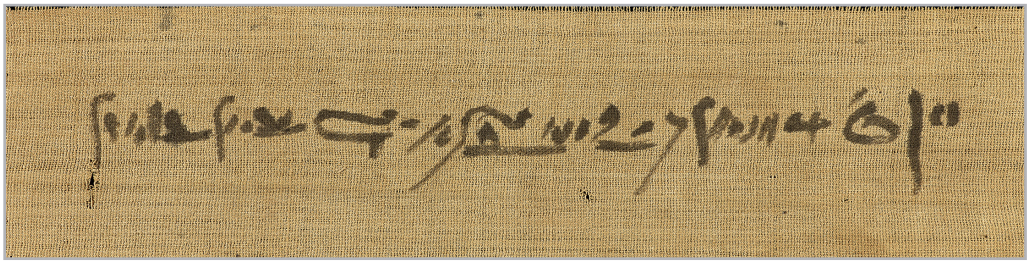

Fig. 3. Fragment of mummy-wrapping with funerary text in demotic; 'Long live his soul for eternity before Osiris, ruler of the West.' Egypt, Late Period to Ptolemaic Period, 747–30 BCE. Linen, British Museum, EA73747.

In his seminal article 'Egypt' for the *Encyclopædia Britannica* (1819), Young discussed how phonetics might work in the hieroglyphic and demotic signs for 'Ptolemy' (Fig. 4). Elaborating on Åkerblad's determinations, Young read the cartouche of Ptolemy as follows:

> 'The square block and the semicircle at the beginning of the name are the *p* and *t* identified by Åkerblad; the next character is a kind of knot, often omitted in hieroglyphs and always absent in the demotic; the lion corresponds to the *lo* of Åkerblad, perhaps to be read *olt* or *ole*; the next character was known to have some reference to "space" and equivalent to the Coptic *ma*, read either *ma* or simply the *m* of Åkerblad's alphabet; the two "feathers" answer to the three parallel lines of the demotic text, and seem to have been read *i* or *e*; the "bent line" was read *osh* or *os*, for the Coptic *shei*, and seems to have corresponded to the Greek letter sigma'.

Putting these elements together, he read *P-t-lo/olt-m(a)-i/e-osh/is*. He did not consider the final seven signs phonetic, but rather adjectives: the snake and ankh meant 'immortal' or 'ever-living', while the twisted rope meant 'loving' or 'beloved'.

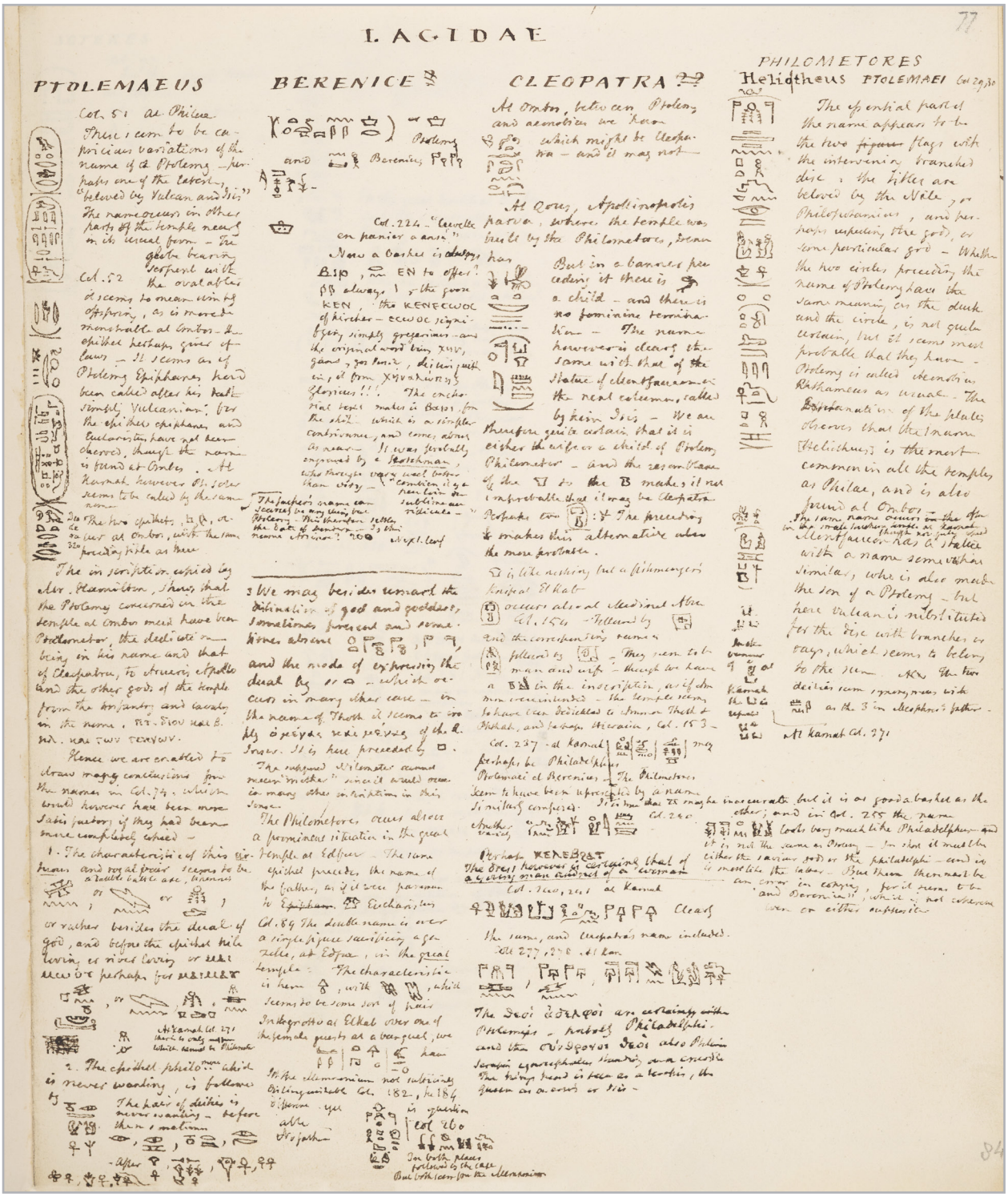

Fig. 4. Thomas Young's reading and explanation of Ptolemaic king names. London, England, 1814 CE. Paper, © British Library Board, Ms. ADD 27282, f77.

Young did not accept that phonetic writing was used before Alexander's conquest of Egypt in 332 BCE, when Greek began to infiltrate the Egyptian writing system. He was willing to admit that some phonetics had been used for the names of native pharaohs, but through syllables, not alphabetic letters. His 'Egypt' article discussed the name of Ramesses on the obelisk of Heliopolis. Using Coptic phonetic values, he read: 'for we have RE, the "sun", MES, "a birth", and SHESH, "a pair"'.[10] This was the only instance where Young thought that Coptic might be used to render the sounds of pharaonic names. Champollion, who probably read Young's article, may have taken this as a hint that phonetics could have been used throughout the pharaonic period, a possibility that Young considered but eventually abandoned.

More Pieces for the Puzzle

Keen to strengthen his case, Young enlisted the assistance of his close friend, British explorer William John Bankes (1786–1855), in gathering bilingual data. Bankes visited Egypt in 1815 and studied an obelisk inscribed with the names of Ptolemy VII Euergetes II (*r*. 182–116 BCE) and his second consort, Cleopatra III (Fig. 5).[11] Located on the Island of Philae (near Aswan), the obelisk's lower pedestal had three Greek inscriptions recording communications between Euergetes and the priests of Isis at Philae. When compared with the Greek, the hieroglyphic inscriptions on the obelisk appeared to be royal protocol and the epithets of Osiris, Amun and Isis, to whom the monument was dedicated.

During his second trip to Egypt in 1818, Bankes searched for the hieroglyphs Young had described as being of special interest. Bankes stopped north of Luxor to visit the ruins of two temples at Hu, known under the Ptolemies as Diospolis Parva. The porch or gatehouse of one temple bore a Greek inscription with the name Cleopatra followed by Ptolemy, reversing the usual sequence. Among the temple's hieroglyphs, Bankes recognized Young's hieroglyphic signs for Ptolemy near a male figure. A parallel scene displayed another cartouche near a female figure that, based on the Greek, Bankes figured was Cleopatra. Turning to the obelisk at Philae, Bankes at once established Young's

Fig. 5. A model of the Philae obelisk. England, mid-19th century. Stone, British Museum, EA55204.

sequence for Ptolemy. Then, beneath one inscription, he saw signs identical to those on the Diospolis Parva Temple that he had just linked to Cleopatra.[12] Bankes had its inscriptions copied and sent to interested individuals and institutions. He published the obelisk's text in 1821, with only the hieroglyphic name Ptolemy tentatively identified.

Champollion's Trials, Errors and Triumphs

Champollion was 17 years old when he took his first serious shot at translating the text of the Rosetta Stone (Fig. 6). Encouraged by his older brother and fellow scholar, Jacques Joseph (1778–1867), Champollion concentrated on the demotic script where others had already made progress. Most early work had focused on the relationship between the Stone's three scripts, and whether they were alphabetic. Champollion had read the 1802 analyses by Åkerblad and by de Sacy, who identified some proper names and a few words in the demotic section and claimed (but did not prove) the existence of an alphabet in the demotic script. Champollion agreed with them in trying to produce meanings for specific words through links with their Coptic equivalents.[13] Yet, he could make no sense of the demotic inscription.

Discouraged, Champollion turned to the study of Coptic. To understand the distant past, he needed the cultural information preserved through language and writing, and in Coptic he found the perfect time machine: the liturgical language of Egyptian Christianity, long believed to contain the remains of ancient Egyptian.[14] Due to its fixed structure, Champollion considered Coptic 'the most perfect and the most rational language known'.[15]

Fig. 6. Etching of Champollion by the artist Eugène Champollion (1848–1901). France, 19th century. Ink on paper, Musée Champollion, inv. 03.03.1.

In Grenoble, in 1805, Champollion met a Coptic monk named Rafaël de Monachis who became his tutor, and he began attending masses with members of Paris's Coptic community.[16] Most had served with the auxiliary units of Napoleon' Armée d'Orient, often as translators. Champollion's ties to the community fired his commitment to the language, history, and culture of ancient Egypt. He became fluent in Coptic, translating, annotating, and cross-referencing Coptic and related materials in the libraries of Paris and Grenoble. 'I am so Coptic', he wrote, 'that for fun I translate everything that comes to my mind into Coptic; I speak Coptic to myself.'[17] Styling himself as *saghir* ('little one' in Arabic), he grew a beard like his mentors' and cultivated a refined Arabic speaking style. His knowledge of Arabic enabled him to digest the contents of Coptic

grammar and dictionaries compiled by medieval Arab scholars (Fig. 7), which he found superior to those written by Europeans such as Kircher. He studied the development of the Coptic dialects, Bohairic, Sahidic and Fayyumic, since it was believed that the oldest dialect would retain the clearest and most reliable links to the pharaohs.[18]

Fig. 7. Treatise on Coptic grammar including a name-list, by the Egyptian/Coptic scholar Abu al-Barakat, who was also known as Ibn 'Kepir' in some parts of Europe. This *Scala Magna* is one of the many Arabic manuscripts that was brought to Europe by Pietro della Valle (1586–1652). Egypt, 13th century CE. Paper, © British Library Board, MS Or 1325, fol. 117a.

Champollion tried matching Coptic roots (the smallest unit in language that carries meaning) with demotic characters in the Rosetta Stone and focused on the six extra Coptic letters believed to have phonetic equivalents in the demotic. He wanted to see if he could translate some of the Greek sentences into Coptic, then pair the Coptic equivalents with the demotic sentences.[19] This could only work if the structure of Coptic was similar to demotic and demotic words were spelled alphabetically, like Coptic words.[20]

Remnants of early Coptic had survived over millennia, as evidenced in the names of cities, towns and prominent geographical features such as the Nile.[21] For practical reasons the phonetic representation of place names tends to be conserved even when they are written in different languages with different scripts. Using Coptic lists of the towns and villages of Egypt and the maps published in the *Description de l'Égypte*, Champollion tried to connect ancient place names with their modern equivalents (Fig. 8). He believed that these names were derived from ordinary words describing nature and physical objects, linked to ancient Egyptian culture and religion.

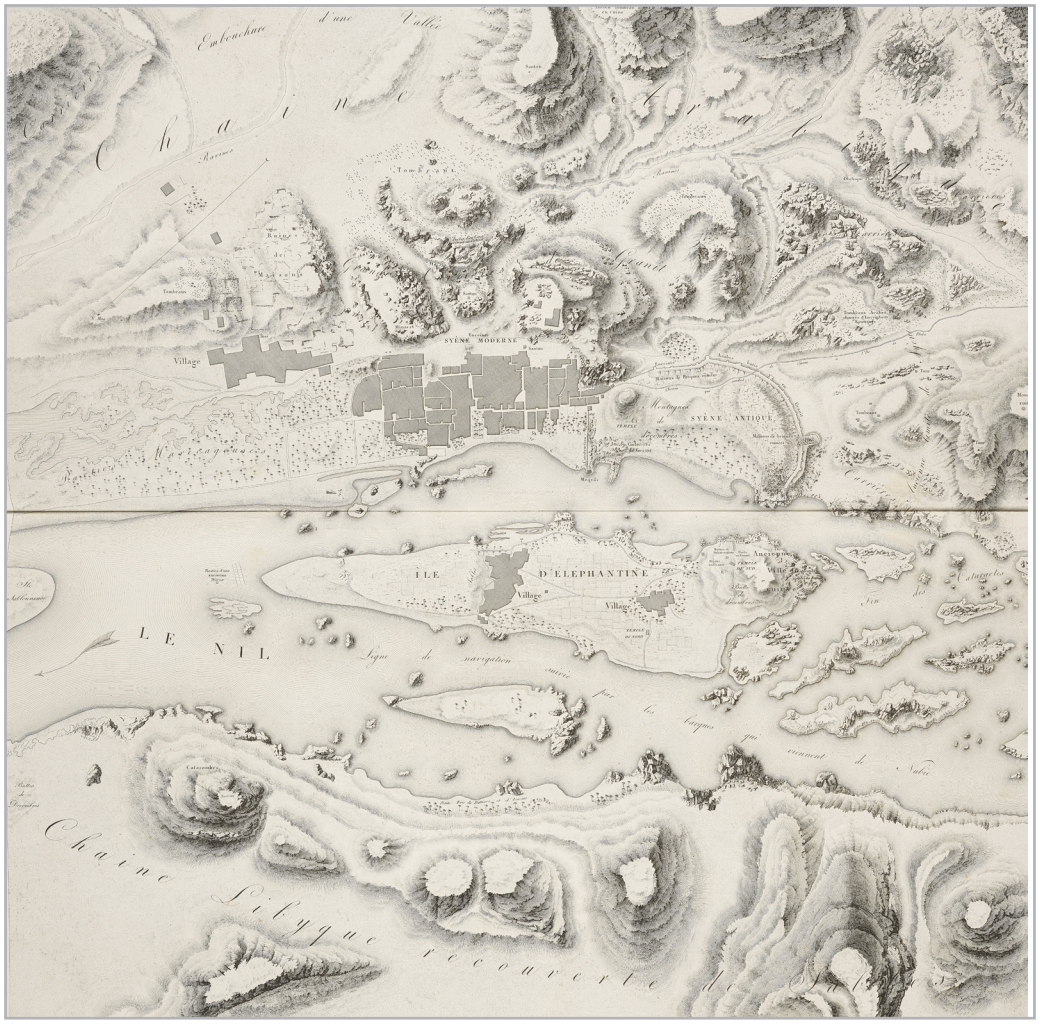

Fig. 8. Map of the Island of Elephantine and town of Aswan in Egypt, plate 31 in the *Description de l'Égypte.* Paris, France, 1821–1830 CE.
Paper, British Museum, Egypt and Sudan Library, RBC.2°1.

For example, the Greek toponym Syène (modern Aswan) is derived from a combination of the ancient particle *ca* (sa), attributing the ability or power to do something, and the Coptic root *oyhn* (ouèn)/*oyen* (ouan). The reading 'to (cause to) open' stresses Aswan's strategic location as the southern gateway to Egypt. Champollion also showed that a toponym could reveal which deity was consecrated to the place; for example, Hermopolis was the city of the god Hermes. In 1811, he published a substantial introduction to what would become his two-volume study of ancient Egyptian geography.[22]

From Coptic, Champollion gained both an idea of the structure of the Ancient Egyptian language and a vocabulary pivotal to his understanding of hieroglyphs. Yet, Coptic also misled him just as it had his predecessors. Ancient words could not be easily transcribed into later forms of Coptic since many possible meanings for a word or phrase coexisted, and the boundaries between these semantic units proved hard to draw.

Breaking the Code

In 1810, Champollion proposed that if the hieroglyphic section of the Rosetta Stone represented the names of Ptolemy, Berenice, Arsinoe and Alexander that were present in the Greek section, then hieroglyphs must have had the power to be spoken. By October 1813, he was convinced that hieroglyphs did not exclusively represent ideas or even words, but that at least some of the images of familiar natural objects were alphabetic. He further determined that the cursive script that he studied on papyri was also phonetic.

Champollion observed that there were more correspondences between demotic and hieroglyphic sequences than there were between demotic and Coptic equivalents. There were far more hieroglyphs than demotic signs. If demotic was alphabetic, it could not be closely connected to (ideographic) hieroglyphs, yet both belonged to the same writing system. Gradually, like Young, Champollion rejected the idea that demotic was purely alphabetic. The large number of different hieroglyphs also suggested that they were not entirely ideographic.[23] Counting 1,419 hieroglyphic signs[24] in the Rosetta Stone, Champollion reasoned that this many ideas could not possibly be conveyed in the 486 words of the Greek text. If hieroglyphs were not alphabetic, and not exclusively ideographic, then they must represent a hybrid system.

Investigating the demotic sequence corresponding to 'Alexandria', Champollion suggested that the word was constituted from a phonetic component—the name itself—in addition to an ideographic sign indicating the way in which the phonetic component should be understood, in this case as a place name (Fig. 9). Champollion had discovered the determinative, a unique set of qualifying signs that indicate the nature of either a single sign or a group.

With this novel conclusion, Champollion turned to older cursive scripts, which he now understood were written in hieratic, with texts from papyri and mummy wrappings providing ample study material. Since demotic borrowed its signs from hieratic, the latter could not be alphabetic either. Like demotic, he concluded, hieratic was a simple modification of the hieroglyphic system and differed only in the shape of its signs, not their meaning.[25] As it was written on papyrus and not carved into monuments, hieratic had lost any 'figurative' resemblance to physical objects.[26] He asserted that hieratic and demotic scripts were graphically equivalent, differing principally in the material ease with which each could be inscribed.

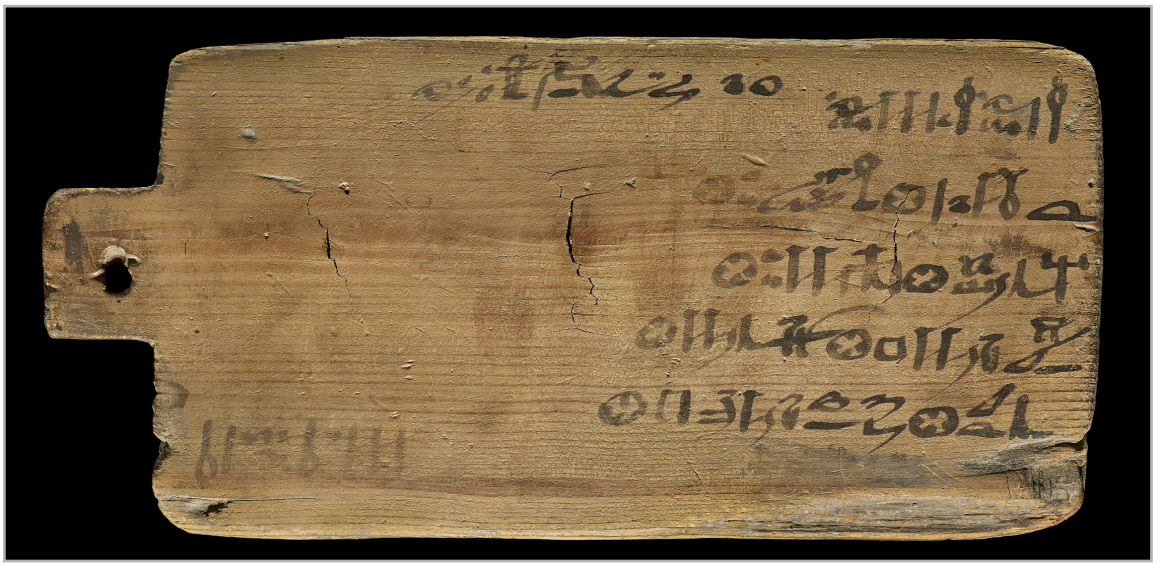

Fig. 9. Writing board with a list of words (known as an onomasticon) in hieratic, recording types of people on one side ('young boy', 'lad', 'ship builder', 'head carpenter') and Upper Egyptian towns on the other. The classifier 𓊪 indicates that the preceding word is the name of a town, as Champollion discovered. Egypt, Twenty-first or Twenty-second Dynasty, 1069–715 BCE. Wood, British Museum, EA21635.

Champollion concluded that none of the three scripts was purely alphabetic, but included signs that represented words or concepts, and that most characters were 'signs of things and not of sounds'.[27]

Reading Royal Names

Lecturing in August 1821, Champollion reiterated his belief that signs (hieroglyphic and demotic) could only be used as alphabetic letters when writing non-Egyptian names. Yet, a letter sign could apparently be separated from the sign's basic semantic value and used phonetically. For example, 𓂋 (*r*) means 'mouth' but could also simply designate an 'r' sound, unrelated to that meaning. Now on the verge of a breakthrough, Champollion refined previous readings of the cartouche of Ptolemy to *P t o l m y s* and tested other cartouches of Ptolemaic royals.

In 1821, Champollion identified the demotic spelling of Cleopatra in a bilingual papyrus lately purchased in Egypt by Casati, an Italian collector.[28] The eighteen lines of demotic text, dated to year 36 of the reign of Ptolemy VI Philometor (146 BCE) are followed by a six-line Greek inscription, and a list of witnesses in demotic. Champollion noticed that Cleopatra had four letters in common with Ptolemy: *l o p t*.[29] The third lion-like sign in Ptolemy's cartouche was the same as the second sign in Cleopatra's name, which should be identified, therefore, as an alphabetic *l*. Young's syllabic reading of *ole* for this sign was consequently incorrect. Champollion also recognized that the final *t* indicated the feminine, as in Semitic languages that he knew well. Champollion now had 14 alphabetic values: three for vowels and 11 for consonants. He tried them on other Graeco-Roman cartouches and names known from classical literature: Alexander, Caesar, Domitian, and Trajan.

The texts on the Philae obelisk provided Champollion with another missing link. In January 1822, he saw Bankes' copy of the inscriptions but was dismayed by its quality: 'this English engraving, of very small proportion, executed by artists poorly accustomed to the style of Egyptian monuments' was 'inferior in all respects to the beautiful drawings of the obelisks given by the Egypt commission'.[30] Champollion nonetheless noted that one of the cartouches contained the proper name of a woman, a Ptolemaic queen, as indicated by the unvoiced sign for the feminine, *t*.

During his 1818 voyage to Egypt, Bankes correctly identified the hieroglyphic cartouches of Ptolemy and Cleopatra in the Temples of Diospolis Parva and Philae. Bankes also found Cleopatra on the base of the Philae obelisk and made a note of her name in the margins of at least one of the lithographs he distributed in France.[31] Young had, meanwhile, published a phonetic reading from the demotic of Cleopatra in his 1819 Britannica article, two years before Champollion did the same. Neither Bankes nor Young explained their readings, nor backed them up with a methodology applicable to other scripts. Champollion claimed to have obtained his reading of the demotic Cleopatra from the Casati papyrus, independently of Young or Bankes. In choosing not to acknowledge their contributions to decipherment, Champollion raised scholarly hackles. According to Salt, Bankes later alleged that Champollion had translated the cartouche of Cleopatra thanks to his marginal notes.

Eureka!

Champollion had been guided by both the advances and the shortcomings of his peers and predecessors, but he was certainly the first to grasp the structural logic of the Ancient Egyptian language in its varied forms. The story is that on 14 September 1822 he visited his brother, thrusting notes into his hands and gasping, 'look, I've got it!' (*je tiens mon affaire, vois* !) before collapsing in a dead faint. His notes formed the basis of a historic letter to M. Dacier, secretary of the Académie des Inscriptions et Belles-Lettres (27 September 1822), in which Champollion outlined his findings and the reasoning behind them (Fig. 10).[32] His work was published in meticulous detail in 1824, and with these tools in hand scholars could finally translate the texts and records of a civilization that had persevered for thousands of years. Champollion's 1822 revelatory letter to Dacier marked the birth of Egyptology.

In the letter, Champollion stated that all Egyptian scripts represented things or ideas, not sounds, but he made one crucial exception. Hieroglyphs could represent sounds when used phonetically to write non-Egyptian proper names, such as Ptolemy and Berenice.[33] Given the relationship between the scripts, he was able to use the demotic to make phonetic interpretations of hieroglyphic signs for foreign words. He proposed phonetic transliterations (approximate renderings of the sounds, using the Western alphabet) for the cartouches of many Greek and Roman rulers of Egypt, and a hieroglyphic and demotic 'alphabet' supposedly used only for writing foreign names. From the names of Ptolemy and Cleopatra alone, Champollion generated consonants and vowels corresponding to letters a, ai, e, k, l, m, o, p, r, s, and t.

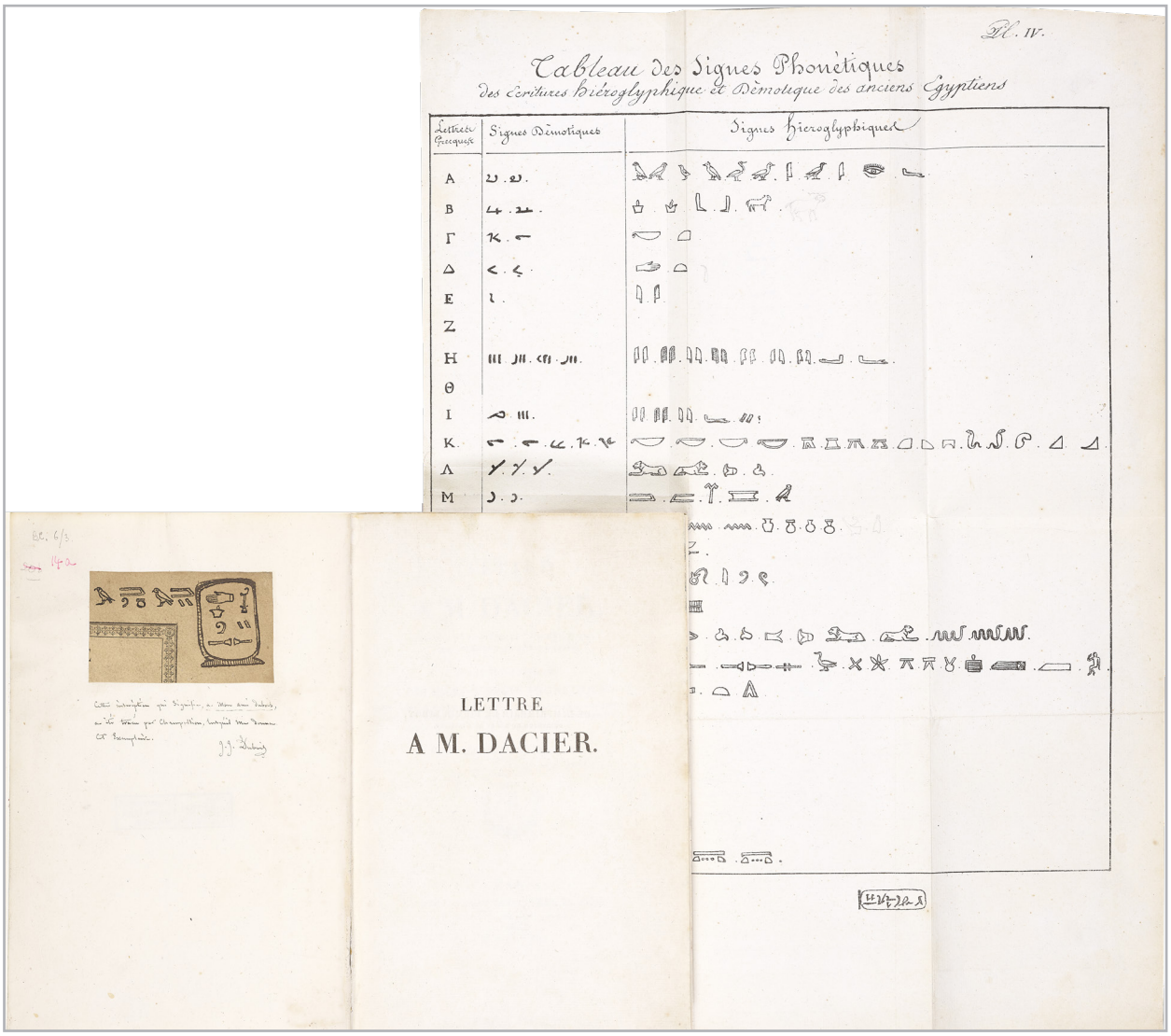

Fig. 10. Copy of Champollion's *Lettre à M. Dacier.* Paris, France, 1822 CE. Paper, British Museum, RBC.CHA.

Since the three scripts on the Rosetta Stone were variants of one another, at least some hieroglyphs must have been expressed in speech. Champollion now detected a fuller phonetic structure than previously imagined.[34] Moreover, the conservative character of Egyptian culture, he argued, would not have tolerated a massive revision of the writing system, so if spelling based on pronunciation was present at any time, it must have been there from the start.[35]

Champollion discovered phonetic elements in the cartouches of two pharaohs of the New Kingdom (1520–1075 BCE): Ramesses and Thutmose. The name in the first cartouche combined a sun disc with a sign depicting three fox-skins tied together, followed by two identical horizontal signs representing a doorbolt (Fig. 11).[36] He knew the last two signs as *s* from the cartouche of Ptolemy, and the sun disc as *ra* was known from Coptic. Despite the unknown middle hieroglyph, Champollion linked *Ra* – ? – *ss* with the famous pharaoh Ramesses, who is mentioned in the Bible, attributing the value *m* to the middle sign.

Fig. 11. Lintel showing names of Ramesses III, written with the seated god Ra instead of the sun disc, and a vertical *s*-sign (a piece of folded cloth) [𓋴] instead of the door bolts [𓊃]. Egypt, Twentieth Dynasty, 1184–1153 BCE. Limestone, British Museum, EA1344.

The second king's cartouche showed an ibis followed by the same middle sign as in Ramesses' cartouche, and a horizontal doorbolt for *s*. Champollion knew the ibis was the sacred animal of Thoth and figured this must be *Thot–m–s*, the great Thutmose of whom the classical authors spoke. The middle sign seemed to be confirmed, once again, as *m*.

The fortuitous comparison of these two names gave Champollion the key to the entire hieroglyphic writing system, apart from one small error. The middle sign was, in fact, the two-letter sign *ms*, while the horizontal sign *s* only complemented the pronunciation of the previous sign.[37] Nonetheless, Champollion had illuminated the combinational nature of Egyptian writing: in the same cartouche, which itself he recognized as a determinative, purely phonetic signs were used alongside signs representing an entire word (Ra and Thoth).

Untangling a Hybrid System

Champollion was now certain that, throughout Egyptian history, hieroglyphic script had had a major phonetic component.[38] He tested his idea by reading pre-Alexandrian names already known in the Greek inscriptions, such as Xerxes, the Persian King who occupied Egypt (485–465 BCE) (Fig. 12).[39] The discoveries multiplied.

Fig. 12. Plaque inscribed on one side with the names and epithets of Taharqa in hieroglyphs. On 14 August 1824, Champollion wrote to his brother that he saw a cartouche of *thr-qA* and speculated that this would be the Twenty-fifth Dynasty king Taharqa (Taraka or Téarko) whom he already knew from inscriptions at Naga and Gebel Barkal in Sudan. Egypt, Twenty-fifth Dynasty, 690–664 BCE. Bronze, British Museum, EA5311.

Recognizing the flexible, economical ways in which ancient Egyptians used their written characters was Champollion's most astute observation: one sign could have different functions, and more than one sign could represent the same sound (homophones). The letter *t* is an example: it could be written with a small bread-sign 𓏏 or with a hand 𓂝. Collating the characters in sequences, Champollion enlarged his earlier phonetic 'alphabet' with homophone signs.[40] This enabled him to read the names of deities known from classical literature, and also the names of people that incorporated names of gods. He discovered that *ms.n*, meaning 'born of', indicated family members, and correctly identified the goose-sign *zA* on funerary stelae and papyri as meaning 'son of'.

Champollion's revolutionary *Précis du système hiéroglyphique des anciens Égyptiens* (published April 1824, with 400 pages and 24 sample texts and tables) presented the essence of decipherment as he wished it to be understood. He demonstrated how Egyptian scripts had always been fundamentally both phonetic and ideographic, and how phonetic hieroglyphs provided the key to a system used to write the spoken language throughout time. He explained how to decode the hieroglyphic names and titles of gods, kings and private individuals. He described 450 signs or sign sequences but claimed to have identified 864 distinct characters. The alphabetic signs comprised but a fraction of this number, the vast majority being two-, three- and four-letter signs, or those belonging to the figurative and symbolic categories.

After the *Précis*, Champollion continued to elaborate, confirm and add translations for sign sequences gleaned from new materials. In 1828, he made the long-dreamt-of journey to Egypt, collecting inscriptions but also impressions of the place, people and monuments that had occupied his thoughts for so long. His decipherment granted the world entry into a distant, prodigiously creative past. Champollion spent his last few years exploring it, translating inscriptions until his death, aged forty-one, in 1832. The vista of discovery he opened was staggering.

Endnotes

* Kuratorin (Curator) – Wissenschaftliche Mitarbeiterin (research staff) Ägyptisches Museum und Papyrussammlung Staatliche Museen zu Berlin; i.regulski@smb.spk-berlin.de.

1 A. Hamilton, *The Copts and the West 1439–1822. The European Discovery of the Egyptian Church* (Oxford, 2006), 248.

2 J. Thompson, *Wonderful Things: A History of Egyptology 1: From Antiquity to 1881* (Cairo, 2015), 109.

3 J.D. Åkerblad, *Lettre sur l'inscription égyptienne de Rosette : Adressée au citoyen Silvestre de Sacy, Professeur de langue arabe à l'École spéciale des langues orientales vivantes, etc.; Réponse du citoyen Silvestre de Sacy* (Paris, 1802), 40; F. Thomasson, *The Life of J.D. Åkerblad: Egyptian Decipherment and Orientalism in Revolutionary Times* (Leiden, Boston, 2013).

4 A. Robinson, *The Last Man Who Knew Everything: Thomas Young, the Anonymous Genius Who Proved Newton Wrong and Deciphered the Rosetta Stone, among Other Surprising Feats* (London, 2006).

5 F. Hoffmann, S. Pfeiffer, *Der Stein von Rosetta* (Stuttgart, 2021).

6 A. Robinson, *Cracking the Egyptian Code: The Revolutionary Life of Jean-François Champollion* (London, 2012), 99.

7 T. Young, 'Extracts of Letters and Papers Relating to the Egyptian Inscription on Rosetta', *Museum Criticum* or *Cambridge Classical Researches* 6 (1816), 157.

8 Young, *Museum Criticum* or *Cambridge Classical Researches* 6; T. Young, *Egypt*, Supplement to the Fourth, Fifth, and Sixth Editions of the *Encyclopaedia Britannica*: With Preliminary Dissertations on the History of the Sciences 4, 38–74. Edinburgh (London, 1824). Fourth edition of the 1819 original.

9 J.Z. Buchwald, D.G. Josefowicz, *The Riddle of the Rosetta: How an English Polymath and a French Polyglot Discovered the Meaning of Egyptian Hieroglyphs* (Princeton, 2020), 268.

10 Young, *Egypt*, 60.

11 For Bankes' account of the discovery see Bankes' Manuscripts, vol. I, 92 at the BM; P. Usick, *Adventures in Egypt and Nubia: The Travels of William John Bankes (1786–1855)* (London, 2002).

12 Buchwald and Josefowicz, *The Riddle of the Rosetta*, 345.

13 Buchwald and Josefowicz, *The Riddle of the Rosetta*, Fig. 20.1.

14 J.F. Champollion, *L'Égypte sous les Pharaons : Description géographique : Introduction* (Paris, 1811–1814), 12–16; J.F. Champollion, *Grammaire égyptienne*, 9–19 (Paris, 1836); H. Hartleben, *Champollion: Sein Leben und sein Werk*, 2 vols., vol. I (Berlin, 1906), 374–387, 421–497. Buchwald and Josefowicz *The Riddle of the Rosetta*, 152.

15 Robinson, *Cracking the Egyptian Code*, 68.

16 A. Faure, *Champollion : Le savant déchiffré* (Paris, 2004), 135–136; Hamilton 2006, 249. On Champollion's Coptic studies, see Bourguet, P. du, 1982, Champollion et les études coptes, *Bulletin de la Société Française d'Égyptologie* 95, 62–75. Another prominent member of the Coptic community was Yuhanna Chiftichi, an Egyptian priest and a member of the Coptic legion: Buchwald and Josefowicz, *The Riddle of the Rosetta*, 143; K. Madrigal, J.-C. Goyon, *Jean-François et Jacques-Joseph Champollion : L'aventure du déchiffrement des hiéroglyphes. Correspondance* (Paris, 2021), 47, 57.

17 In a letter to his brother dated 2 April 1809 (ADI, 185 J 10, pièce 51, fols 90–91); Vaillant 1984, 25; Madrigal, Goyon, *Jean-François et Jacques-Joseph Champollion*, 47, 58. Author's translation.

18 In an 1811 review of Zoëga's catalogue: J.F. Champollion, *Observations sur le catalogue des manuscrits coptes du Musée Borgia à Velletri : Ouvrage posthume de George Zoëga* (Paris, 1811), 5–6.

19 D. Devauchelle, 'D'une pierre deux écritures', in Anonymous (ed.), *Mémoires d'Égypte : Hommage de l'Europe à Champollion* (Strasbourg, 1990), 110–117; D. Valbelle, *Le décret de Memphis : Colloque de la Fondation Singer-Polignac à l'occasion de la célébration du bicentenaire de la découverte de la pierre de Rosette* (Paris, 1999). The influence of his brother must have been significant here, as in a letter dated 26 May 1809, Jacques-Joseph Champollion suggests translating the Greek text into Coptic to approach the Egyptian text: Madrigal, Goyon, *Jean-François et Jacques-Joseph Champollion*, 78.

20 Robinson, *Cracking the Egyptian Code*, 73.

21 Champollion's 1814 *L'Égypte sous les Pharaons* was conceived, organized and promoted as a geography. The work's originality lay in the way Champollion used contemporary ideas to unearth the ancient Egyptian language, employing early nineteenth-century French linguistics coupled with a sympathetic effort to inhabit another point of view: Buchwald and Josefowicz, *The Riddle of the Rosetta*, 151, 160.

22 Champollion, *L'Égypte sous les Pharaons*.

23 Faure, *Champollion*, 418.

24 Although only sixty-six different hieroglyphs, as many signs are repeated: Hoffmann and Pfeiffer, *Der Stein von Rosetta*, 147.

25 J.F. Champollion, *De l'écriture hiératique des anciens Égyptiens : Explication des planches* (Grenoble, 1821).

26 Buchwald and Josefowicz, *The Riddle of the Rosetta*, 338.

27 Robinson, *Cracking the Egyptian Code*, 137.

28 For an image of the papyrus: https://gallica.bnf.fr/ark:/12148/btv1b8304634x.r=Casati%20papyrus?rk=42918;4; Schenkel 2014/15, 395–6.

29 Hoffmann and Pfeiffer, *Der Stein von Rosetta*, 148.

30 NAF (Nouvelles acquisitions françaises) 20352, fol. 45.

31 Usick, *Adventures in Egypt and Nubia*, 79. The original lithograph seems to have disappeared.

32 Under the title 'l'alphabet des hiéroglyphes phonétiques employés par les Égyptiens pour inscrire sur leurs monumens les titres, les noms et les surnoms des souverains grecs et romains'.

33 Robinson, *Cracking the Egyptian Code*, 143–144.

34 Buchwald and Josefowicz, *The Riddle of the Rosetta*, 376.

35 J.F. Champollion, *Lettre à M. Dacier, ... relative à l'alphabet des hiéroglyphes phonétiques employés par les Égyptiens pour inscrire sur leurs monuments les titres, les noms et les surnoms des souverains grecs et romains*, (Paris, 1822), 41–42.

36 Not the vertical *s*-sign as often repeated by scholars: W. Schenkel, 'Ramses: Die Erfindung einer Graphie in der Nacherzählung der Entzifferungsgeschichte der Hieroglyphen', *Göttinger Miszellen* 191 (2002), 85–88.

37 This was to be discovered in 1837 by the father of German Egyptology, Karl Richard Lepsius (1810–1884): Hoffmann and Pfeiffer, *Der Stein von Rosetta*, 155.

38 Buchwald and Josefowicz, *The Riddle of the Rosetta*, 389.

39 J.-F. Champollion, *Précis du système hiéroglyphique des anciens Égyptiens*, ou, Recherches sur les éléments premiers de cette écriture sacrée (Paris, 1824), 175–179.

40 Buchwald and Josefowicz, *The Riddle of the Rosetta*, Fig. 31.2 on p. 425.