

Thomas Young and the Rosetta Stone

Andrew Robinson

13 Lonsdale Square, London N1 1EN, United Kingdom

Who deciphered the Rosetta Stone and the Egyptian hieroglyphs? The usual answer is Jean-François Champollion, beginning in 1822. But ever since that time, Egyptologists have debated the role of his rival, the polymath Thomas Young, the first person to publish a partially correct translation of the Rosetta Stone. A recent BBC television dramatisation rekindled the controversy by presenting Champollion as a 'lone genius' who succeeded independently of Young. While there is no doubt that Champollion deciphered the hieroglyphic script as a whole, the evidence suggests that Young's early detailed study of the Rosetta Stone created the conceptual framework that made possible Champollion's later breakthrough.

The Rosetta Stone as an icon

The Rosetta Stone – the key to the reading of Egyptian hieroglyphs – is the most famous object in the British Museum, according to the museum's curators and those in charge of selling its postcards (Figure 1) [1]. Its name is also currently attached to internationally known software for teaching languages, to a European space mission and to an American technique for deciphering the human genome, not to mention a Japanese glam rock group. Around the world, the name has become part of the general culture, like Pandora's Box or Occam's Razor. Somehow, the Rosetta Stone has come to symbolise the power of writing and the intellect over the material world, even though few people know what it actually says [2].

But the names of its two decipherers – who were rivals, not collaborators – the English polymath Thomas Young (1773–1829) and the outstanding French linguist Jean-François Champollion (1790–1832), are by no means household names (Figure 2). While Young is well known to physicists and historians of science as the man who discovered the interference of light around 1801, and Champollion is celebrated by Egyptologists as the founder of the science of Egyptology in the 1820s, neither name is much known outside these specialist circles [3]. Moreover, physicists know almost nothing about Young's work as a decipherer, while Egyptologists know even less about Young's work as a physicist.

It was therefore intriguing to imagine how BBC1, the most populist of the BBC's television channels, would choose to dramatise the story of Young and Champollion in its prominent six-part series, *Egypt*, broadcast at the end of 2005. A 1-h programme, 'The Mystery of the Rosetta Stone', was given over to the story, with actors playing Young, Champollion and a host of subsidiary historical

figures, and an Egyptologist at the British Museum acting as the historical consultant. How would the programme makers bring to life such a cerebral subject? Would Young get the credit he deserves, given that it was Champollion alone who in 1822 cracked the code of the hieroglyphic script as a whole? How would the nationalistic overtones of the rivalry – which began in the year of the battle of Waterloo – be depicted? And finally, how accurately would the radically different personalities of Young and Champollion be captured in flesh and blood, especially that of Young, given the relative paucity of surviving personal material by and about him?

For anyone knowledgeable about the Rosetta Stone, watching the programme was bound to be a disturbing experience: emotionally persuasive but intellectually unconvincing at one and the same moment. Its sharp contrasting of Young's restrained and detached analysis of the Rosetta Stone's symbols as if they were mathematical with Champollion's hot-blooded and obsessive immersion in the thought world of an alien civilisation is essentially faithful to what the two men wrote. But the mental processes that led to the decipherment are distorted virtually beyond recognition to serve the need for an easily accessible story.

Perhaps it is excusable, for dramatic purposes, to show a Young eagerly bent over the Rosetta Stone in the British Museum while discussing its enigmas with his oldest friend, even though the historical Young carried out his analysis in solitude at home away from the distractions of London, using paper copies of the Rosetta inscription (as did Champollion in France). Much harder to excuse is the entirely false suggestion that Young's interest in the stone was triggered by an invitation from the Establishment to decipher it, lest the French should beat the British to the answer. 'You'll understand that the French are ahead of us', an unnamed gentleman confidentially informs an apparently uninformed Young. 'And we're going to look pretty damned foolish if they translate this wretched stone while we've got it sitting in the British Museum'.

Enter Young and Champollion

It is a coincidence that Young and Champollion both took up the challenge in the same year, 1814, when Young was 41 years old and Champollion was 24 years old. There is not a shred of evidence that either man was initially motivated by anything other than sheer curiosity. It is true, however, that the Rosetta Stone was a trophy of war between France and Britain: discovered by Napoleon's army at Rosetta in Egypt in 1799, captured by the British in 1801 and then transported to London, rather than Paris as the French had intended. When the decipherment got properly underway in the years after Waterloo, there is no question that

Corresponding author: Robinson, A. (andrew.robinson33@virgin.net). Available online 20 June 2007.

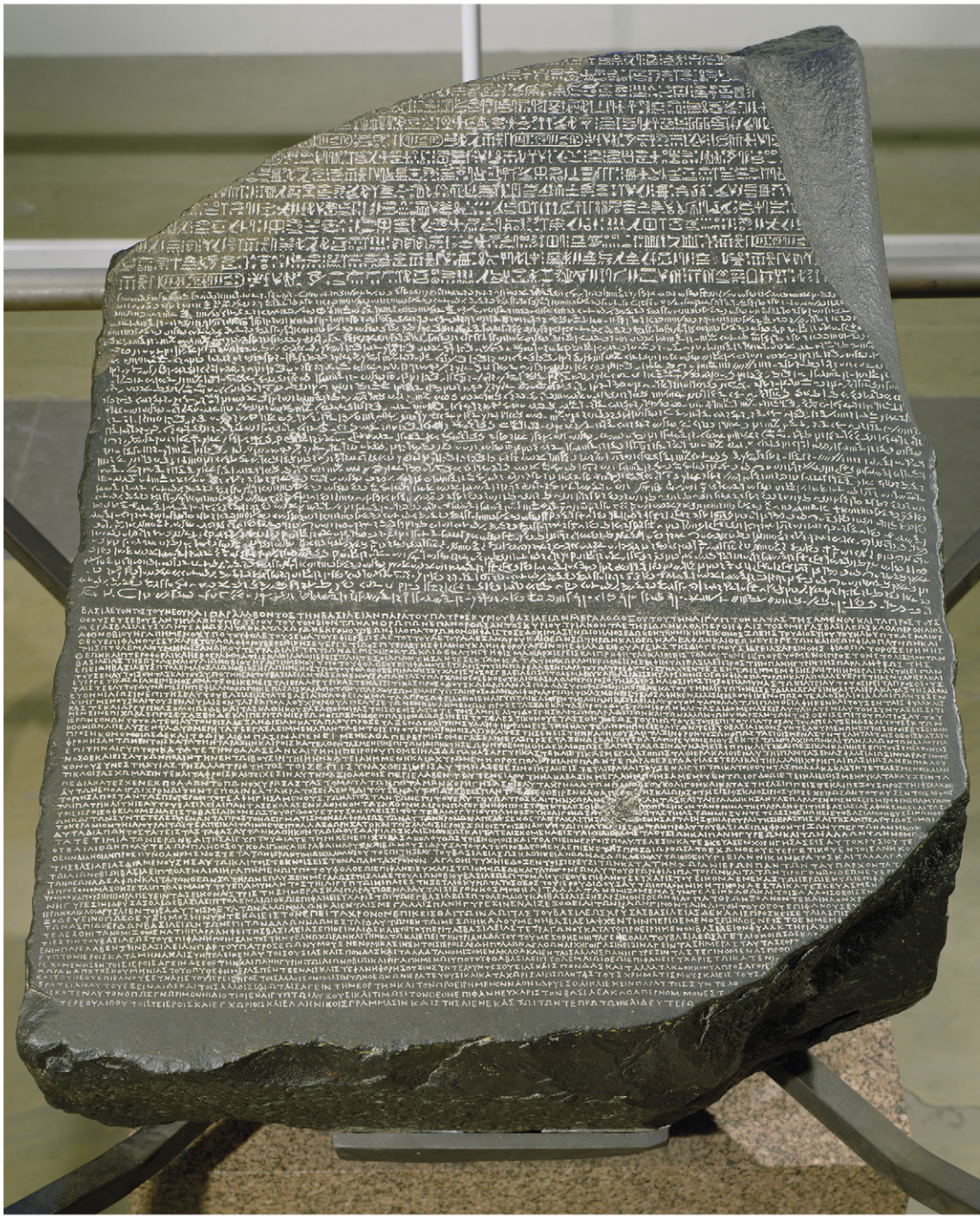


Figure 1. The Rosetta Stone, found at Fort Julien, Rashid (Rosetta) in 1799, dated 196 BC. British Museum, London, UK/The Bridgeman Art Library.

both the scientist and the scholar were drawn into a personal rivalry in which national honour was at stake. In 1829, a victorious Champollion, then camped in the Valley of the Kings (a place he had just named) in Thebes, exulted in a letter written to his brother back in Paris:

So poor Dr Young is incorrigible? Why flog a mummified horse? Thank M. Arago [a French physicist, and incidentally a devoted admirer of Young's physics] for the arrows he shot so valiantly in honour of the Franco-Pharaonic alphabet. The Brit can do whatever he wants – it will remain ours and all of old England will learn from young France how to spell hieroglyphs using an entirely different method ...

May the doctor continue to agitate about the alphabet while, I, having been for six months among the monuments of Egypt, I am startled by what I am reading fluently rather than what my imagination is able to come up with [4].

A century and half later, when the Rosetta Stone was lent to the Louvre (Champollion's museum) in Paris for a month in 1972, during the 150th anniversary of Champollion's breakthrough, some French visitors complained that the portrait of Champollion was smaller than that of Young, and some British visitors did vice versa, although both portraits were the same size [5]. The BBC programme



Figure 2. The duelling duo. (a) Thomas Young MD, FRS (1773-1829) by Sir Thomas Lawrence (copy by Henry Perronet Briggs). Royal Society, London, UK/The Bridgeman Art Library. (b) Jean-François Champollion (1790-1832) by Leon Cogniet. The Louvre/The Bridgeman Art Library.

therefore accurately, and quite entertainingly, capitalises on the continuing reverberations of events in Napoleon's time.

Given Young's prodigious ability in languages, especially classical Greek, dating from his childhood, one might have expected him to have involved himself earlier with the Rosetta Stone, when it first went on display in London in 1802. However, at that time he was totally occupied with his Royal Institution lectures, and after the mammoth task of publishing these in 1807 (his most significant work, including the interference of light), he devoted himself mainly to medicine, the profession for which he had been trained. What finally got him going on the decipherment was a review he wrote in 1813 of a massive work in German on the history of languages, which contained a note by its editor 'in which he asserted that the unknown language of the stone of Rosetta, and of the bandages often found with the mummies, was capable of being analysed into an alphabet consisting of little more than 30 letters'. When an English friend shortly afterwards returned from the East and showed a curious Young some fragments of papyrus he had collected in Egypt, 'With this accidental occurrence my Egyptian researches began' [6].

First, Young examined the papyri and reported on them to the Royal Society of Antiquaries in May 1814, and then he took a copy of the Rosetta Stone inscription away from London to the relative tranquillity of Worthing and spent the summer and autumn studying Egyptian, when he was not attending to his medical patients.

The power of polymathy

Apart from his exceptional scientific mind and his extraordinarily broad knowledge of languages, Young brought to the problem one other extremely valuable and

relatively uncommon aptitude. He had trained himself to sift, compare, contrast, retain and reject large amounts of visual linguistic data in his mind – an ability that has been a *sine qua non* for all serious decipherers since Young and Champollion.

In his teens and twenties, Young had been celebrated for his penmanship in classical Greek. From this he developed a minutely detailed grasp of the Greek letter forms. Then, in his mid-thirties, he was called upon to restore some Greek and Latin texts written on heavily damaged papyri dug up from the ruins of Herculaneum, the Roman town smothered along with Pompeii by the eruption of Mount Vesuvius in AD 79. The fused mass of papyri had first to be unrolled without utterly destroying them and then interpreted by classical scholars capable of guessing the meaning of illegible words and missing fragments. The unrolling required Young's chemical skills (and those of Sir Humphry Davy); the interpretation demanded his forensic knowledge of classical languages. In neither activity was Young at all satisfied with his results, but his experience with the Herculaneum papyri made him keenly aware of the relevance of his copying skills to the arcane arts of restoring ancient manuscripts. As he noted in an *Encyclopaedia Britannica* biography of his friend the classicist Richard Porson, 'those who have not been in the habit of correcting mutilated passages of manuscripts, can form no estimate of the immense advantage that is obtained by the complete sifting of every letter which the mind involuntarily performs, while the hand is occupied in tracing it' [7].

The mass of unpublished Egyptian research manuscripts by Young, now kept at the British Library, bear out this claim. Much of his success in this field would be due to his indefatigable copying – often exquisitely and occasionally in colour – of ancient Egyptian inscriptions taken from

different ancient manuscripts and carved inscriptions and also from different parts of the same inscription, followed by the word-by-word comparisons that such copying made possible. By placing groups of Egyptian signs adjacent to each other, both on paper and in his memory, Young was in a position to see resemblances and patterns that would have gone unnoticed by other scholars. As Young's first biographer wrote, after immersing himself in Young's manuscripts, 'It is impossible to form a just estimate either of the vast extent to which Dr. Young had carried his hieroglyphical investigations, or of the real progress which he had made in them, without an inspection of these manuscripts' [8].

It was his powerful visual analysis of the inscriptions on the Rosetta Stone that gave Young the inkling of a crucial discovery. As is obvious from a cursory inspection, the stone is divided into three parts (each damaged), written in hieroglyphic script at the top, demotic script in the middle and the Greek alphabet at the bottom. (Demotic script, from the Greek *demotikos*, meaning 'in common use', was a cursive script, as opposed to hieroglyphic, an essentially monumental script. In the late 1820s, Young became the chief decipherer of the demotic script.) The Greek section, which was immediately read when the stone was discovered, states that all three inscriptions are equivalent – which did not mean they were necessarily 'word for word' translations of each other.

Young noted a 'striking resemblance', not spotted by any previous scholar, between some demotic signs and what he called 'the corresponding hieroglyphics' [9] – the first intimation that demotic might relate directly to hieroglyphic, and not be a completely different script, somewhat as a modern cursive handwritten script partly resembles its printed equivalent. One can sense this relationship from the drawing he published showing the last line of the Rosetta inscription in hieroglyphic, demotic

and Greek (Figure 3). If you examine the hieroglyphic and the demotic signs, you can see that some resemble each other. Equally clear, however, is that other 'corresponding' signs do not.

The clinching evidence for the truth of this partial resemblance came with the publication of several manuscripts on papyrus in the monumental French survey of Egypt, *Description de l'Égypte* (1809-28), the most recent volume of which Young was able to borrow in 1815. He later wrote:

I discovered, at length, that several of the manuscripts on papyrus, which had been carefully published in that work, exhibited very frequently the same text in different forms, deviating more or less from the perfect resemblance of the objects intended to be delineated, till they became, in many cases, mere lines and curves, and dashes and flourishes; but still answering, character for character, to the hieroglyphical or hieratic writing of the same chapters, found in other manuscripts, and of which the identity was sufficiently indicated, besides this coincidence, by the similarity of the larger tablets or pictural representations, at the head of each chapter or column, which are almost universally found on manuscripts of a mythological nature [10].

In other words, Young was able to trace how the recognisably pictographic hieroglyphs, showing human figures, animals, plants and objects of many kinds, had developed into their cursive equivalents in the hieratic and demotic scripts.

But if the hieroglyphic and demotic scripts resembled each other visually in many respects, did this also mean that they operated on the same *linguistic* principles? If so, it posed a major problem, because in 1814 the hieroglyphic script was generally supposed to be conceptual or symbolic,



Figure 3. Phrases from the last line of the Rosetta Stone in hieroglyphic, demotic and Greek scripts as published in Young's 1819 article on Egypt for the *Encyclopaedia Britannica*.

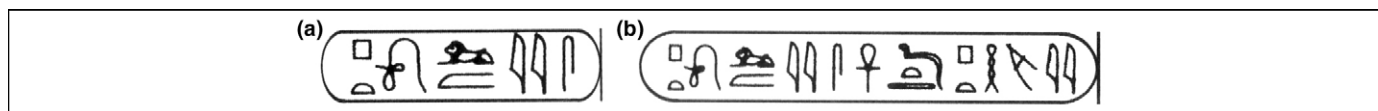


Figure 4. The Rosetta Stone cartouches. These translate as (a) 'Ptolemy' and (b) 'Ptolemy, living for ever, beloved of Ptah'.

with the symbols standing for words and ideas, whereas the demotic script was supposed to be phonetic, with the symbols standing for discrete sounds, like an alphabet. These two views could not be satisfactorily reconciled, if some of the signs in the demotic script were in fact hieroglyphic in origin.

The phonetic breakthrough

So Young took the next logical step and made another important discovery. He told the French Orientalist Silvestre de Sacy (a former teacher of Champollion), who had been working on the Rosetta Stone for some years without making much progress, in a letter in August 1815: 'I am not surprised that, when you consider the general appearance of the [demotic] inscription, you are inclined to despair of the possibility of discovering an alphabet capable of enabling us to decipher it; and if you wish to know my "secret", it is simply this, that no such alphabet ever existed'. His conclusion was that the demotic script consisted of 'imitations of the hieroglyphics ... mixed with letters of the alphabet [11]'. It was neither a purely conceptual or symbolic script nor an alphabet, but a mixture of the two. As Young wrote a little later, employing an analogy for the demotic script that perhaps only a polymath such as he could have come up with, 'it seemed natural to suppose, that alphabetical characters might be interspersed with hieroglyphics, in the same way that the astronomers and chemists of modern times have often employed arbitrary marks, as compendious expressions of the objects which were most frequently to be mentioned in their respective sciences [12]'. A modern, non-scientific example of the same idea would be such 'compendious' signs as \$, £, %, =, +, which represent concepts non-phonetically and often appear adjacent to alphabetic letters.

Young was correct in these two discoveries about the relationship between the hieroglyphic and demotic scripts and they would be his most crucial contribution to the decipherment. But it should be noted that the discoveries did not lead him to a third discovery. He did not question the almost sacred notion that the hieroglyphic script was purely symbolic. He continued to adhere to the view that the only phonetic elements in the hieroglyphic script were to be found in the foreign names encircled in oval rings known as cartouches (first suggested by de Sacy). The idea that the hieroglyphic script *as a whole* might be a mixed script like the demotic script was to be the revolutionary breakthrough of Champollion in 1822.

Over the next three years, Young made a number of significant lesser contributions to the decipherment of hieroglyphic and demotic. For example, he identified hieroglyphic plural markers and various numerical notations and a special sign used to denote feminine names. But his most important further discovery, following his two insights into the demotic–hieroglyphic relationship, arose

from de Sacy's idea that foreign names in the cartouches might be spelt phonetically.

There were six cartouches on the Rosetta Stone. From the Greek translation, these cartouches clearly had to contain the name of the Egyptian king Ptolemy mentioned many times in the Greek inscription (as Ptolemaios). There were two versions (Figure 4). Young postulated the shorter one spelt only Ptolemy's name, whilst the longer also contained a royal title. This, he worked out from the Greek inscription, had to be 'living for ever, beloved of Ptah.' This enabled Young to assign known letters and phonetic values to the hieroglyphic signs in the short cartouche (Figure 5).

Young's analysis of Ptolemy's cartouche was mostly on target, but he was plainly wrong about the value of one symbol – the knot – and also wrong in assuming that some of the phonetic values might be syllabic rather than alphabetic. He was less successful with the cartouche of a Ptolemaic queen, Berenice, which he guessed to be hers from a copy of an inscription beside her portrait in the temple complex of Karnak at Thebes. With the two cartouches taken together, Young was able to assign six phonetic values correctly, three partly so, while four were assigned incorrectly: the beginnings of his hieroglyphic 'alphabet'.

In 1818, Young summarised his Egyptian labours in a magnificent article, 'Egypt', in the supplement to the fourth edition of the *Encyclopaedia Britannica*, which appeared in 1819 [13]. Here he published a vocabulary in English offering equivalents for 218 demotic and 200 hieroglyphic words, including proper names, things and numerals; his phonetic values for 13 hieroglyphs, cautiously headed 'Sounds?'; and a 'Supposed enchorial alphabet' for the demotic script (*enchorial* was Young's name for demotic). About 80 of his demotic–hieroglyphic equivalents have stood the test of time – an impressive record. Nothing remotely resembling his article had been published on the subject of ancient Egyptian writing. Despite the fact that Young's results were 'mixed up with many false

Hieroglyph	Young value	Today's value
	P	P
	T	T
	"not essentially necessary"	O
	LO or OLE	L
	MA or simply M	M
	I	I or Y
	OSH or OS	S

Figure 5. The hieroglyphic signs in the Ptolemaios (Ptolemy) cartouche with the phonetic values of Young and of today.

conclusions', noted Francis Llewellyn Griffith, a highly respected Egyptologist working a century or so after him, 'the method pursued was infallibly leading to definite decipherment' [14]. A French Egyptologist, François-Joseph Chabas, commenting on the Rosetta Stone in the 1860s, went further, in referring to Young's introduction of the phonetic principle: 'Cette idée fut, dans la réalité, le *Fiat Lux* de la science [15]'. In other words, Young's idea was the spark that created Egyptology as a science.

Young's landmark article was totally overlooked in the BBC's drama, as were almost all his original contributions. Champollion, instead, was given pride of place. Indeed, the programme makers essentially swallowed Champollion's account of the decipherment: that of a lone genius, an Einstein working without contact with other scholars, except for his brother. Yet it is indisputable that until as late as the autumn of 1821, Champollion made little progress because he unequivocally denied that there was phoneticism in Egyptian writing [16]. What was it that finally changed his mind? It seems most plausible to suggest, as others have done [17], that it was Champollion's reading of Young's writings in 1821 that converted him to the possibility of a phonetic solution – even though he would never bring himself to acknowledge this debt to the English polymath, 'the last man who knew everything' [18].

References

- 1 Beard, M. (1992) Souvenirs of culture: deciphering (in) the Museum. *Art History* 15/4, pp. 505–532.
- 2 For general accounts of the discovery, decipherment and significance of the Rosetta Stone, see Andrews, C. (1981) *The Rosetta Stone*, British Museum Publications (London, UK); Pope, M. (1999) *The Story of Decipherment: From Egyptian Hieroglyphs to Maya Script* (rev. edn), Thames and Hudson (London, UK); Parkinson, R. (1999) *Cracking Codes: The Rosetta Stone and Decipherment*, British Museum Press (London, UK); Solé, R. and Valbelle, D. (2001) *The Rosetta Stone: The Story of the Decoding of Hieroglyphics*, Profile Books (London, UK); Parkinson, R. (2005) *The Rosetta Stone*, British Museum Press (London, UK); Ray, J. (2007) *The Rosetta Stone and the Rebirth of Ancient Egypt*, Profile Books (London, UK)
- 3 On the life and work of Young and of Champollion, see Robinson, A. (2006) *The Last Man Who Knew Everything: Thomas Young*, Oneworld (Oxford, UK); Adkins, L. and Adkins, R. (2000) *The Keys of Egypt: The Race to Read the Hieroglyphs*, HarperCollins (London, UK)
- 4 Letter to Champollion-Figeac (25 March 1829). Translated in Champollion, J-F. (2001) *Egyptian Diaries: How One Man Solved the Mysteries of the Nile*, Gibson Square Books (London, UK), p. 184
- 5 Parkinson, R. (2005) *The Rosetta Stone*, British Museum Press (London, UK), p. 47
- 6 Young, T. (1823) *An Account of Some Recent Discoveries in Hieroglyphical Literature, and Egyptian Antiquities*, John Murray (London, UK), pp. xiv–xv
- 7 Young, T. (1816–1825). In Young, T. (2003) *Miscellaneous Works of the Late Thomas Young* (Vol. 3), Thoemmes Press (Bristol, UK), p. 612
- 8 Peacock, G. (1855) *Life of Thomas Young*, p. 281, John Murray (London, UK). The five volumes of Young's Egyptian MSS in the British Library have the shelf mark Add. 27281–27285
- 9 Letter to Sylvestre de Sacy (3 August 1815). Young, T. ed. (2003) *Miscellaneous Works of the Late Thomas Young* (Vol. 3), Thoemmes Press (Bristol, UK), p. 54
- 10 Young, T. (1823) *An Account of Some Recent Discoveries in Hieroglyphical Literature, and Egyptian Antiquities*, John Murray (London, UK), pp. 15–16
- 11 Letter to Sylvestre de Sacy (3 August 1815). Young, T. ed. (2003) *Miscellaneous Works of the Late Thomas Young* (Vol. 3), Thoemmes Press (Bristol, UK), p. 53
- 12 Young, T. (1819). In Young, T. (2003) *Miscellaneous Works of the Late Thomas Young* (Vol. 3), Thoemmes Press (Bristol, UK), p. 133
- 13 Young, T. (2003) *Miscellaneous Works of the Late Thomas Young* (Vol. 3), Thoemmes Press (Bristol, UK), pp. 86–197
- 14 Quoted in Gardiner, A. (1999) *The Egyptians: An Introduction*, Folio Society (London, UK), pp. 161–162
- 15 Quoted in Wood, A. (1954) *Thomas Young: Natural Philosopher 1773–1829*, Cambridge University Press (Cambridge, UK), p. 253
- 16 Solé, R. and Valbelle, D. (2001) *The Rosetta Stone: The Story of the Decoding of Hieroglyphics*, Profile Books (London, UK), pp. 76–77
- 17 Leitch, J., the editor of Young's Egyptian research papers (published in the third volume of *Miscellaneous Works of the Late Thomas Young* in 1855), was strongly convinced that Champollion had borrowed ideas from Young without acknowledgement. So too were Young's biographers George Peacock (1855) and Alex Wood (1954). Modern authors, such as those mentioned in notes 2 and 3 cover the spectrum from strongly supportive of Young's claim (Andrews), through partially supportive (Parkinson, and Ray) and partially dismissive (Solé and Valbelle, and Adkins), to strongly dismissive (Pope)
- 18 For a fuller discussion of Champollion's debt to Young, see Robinson, A. (2006) *The Last Man Who Knew Everything: Thomas Young*, Oneworld (Oxford, UK), pp. 209–222