

Book review

An Encyclopaedia of Civil Engineering: Historical, Theoretical, and Practical (Volume 1)

Edward Cresy. Facsimile of Volume 1 of 1861 edition. Thomas Telford, London, 2010, ISBN 978 0 7277 365 2, £45, 918 pp.

Three editions of this encyclopaedia by Edward Cresy (1792–1858) were published. The third edition was published posthumously as two books. Book I, *History of Civil Engineering*, contains 616 pages of text. Book II, *Theory and Practice of Engineering*, totals 1116 pages including a supplement, followed by a 20 page combined index. When published by Longmans in 1861, the two books and the combined index were given continuous pagination for all 1752 pages. They were subsequently bound in more or less equal volumes. The facsimile of pages 1 to 890 is now published by Thomas Telford as volume 1; volume 2 is required to include pages 891 to 1752.

The 2010 publication includes all of Book I and the first eight chapters of Book II, which incorporate some 1224 well-reproduced engravings also dating from 1861. It also contains four other items – one each from 1847, 1861, 1949 and 2009. The largest is Cresy's five-page preface to the 1847 edition. This follows a four-page annotated list of contents for each chapter for both books using the 1861 pagination with no indication where the break into two volumes is. The final five pages of the 2010 publication are used to reproduce letters, exchanged in 1949, which resulted in both volumes being donated to the Institution of Civil Engineers (ICE).

Mike Chrimes, writing from ICE in 2009, has provided a three-page introduction that puts Cresy's own life and achievements into context. It explains why Cresy was more at ease with classical education and describing the shared pedigree of architecture and civil engineering than the heritage of millwrighting skill that differentiated the separation of civil engineering from architecture.

The reader of volume 1 is teased by the complete 1861 contents list, but is at a disadvantage without the detail available in a traditional index. The 1861 index is very detailed and, at times, entertaining. For example, the original index contains the entry (p. 1744) 'Narcissus, employment of... p. 195'. The contents page of the 2010 publication alludes to the drainage of Lake Fucino being five-sixths of the way through the 130 page chapter on Roman engineering (pp. 83–212). So, on p. 195, we find Cresy quoting Pliny's story that the project, commenced by order of the emperor Claudius, had

employed 30,000 men for ten years, and it was finished after a vast expense in the year AD52. Rocks were pierced through, and many hydraulic machines applied to draw off water, which constantly

obstructed the workmen. When the canal was perfected through the mountain, a vast assembly of persons was present to witness the passage of the waters from the lake, and previous to their being conducted into the emissarium or great sewer, the emperor gave a vast naval spectacle or combat. Narcissus, his freed-man, superintended, and he allowed the waters to rush with such impetuosity that much mischief was done; we are informed by Tacitus, that the whole was badly conducted, and that the bed of the emissarium or canal was not sufficiently deep to allow the water from the lower part of the lake to drain off; this was attempted under the reign of Nero, but the enterprise was abandoned before completed.

The text, which is accompanied by two finely reproduced engravings, shows Cresy's style and content. He continues the text with a description of the masonry work remaining, but does not attempt to describe the 'many hydraulic machines'.

In his preface, Cresy writes that the 3000 drawings in both books were mostly the work of his son, Edward. Much of the appeal of the 2010 publication lies in these drawings. Their coverage is uneven. Phoenician, Egyptian and Grecian chapters include 99 figures. The Roman chapter has 135 figures. The short German, Dutch and American chapters have no illustrations. There are 82 figures in the chapter on France. The history of civil engineering in Britain includes 273 drawings, including many fine drawings of works extant in the 1840s. This part of the publication is similar in style to that used in contemporary histories of architecture. The 1861 publication repeats the text of the 1847 edition for its first 1636 pages. A supplement on pages 1637–729 includes an additional 145 figures, mostly of British works completed in the 1850s including Crystal Palace, Rochester and Britannia Tubular Bridges. The supplement is not part of the 2010 publication. The remainder of the re-published work is the first 274 pages of Book II, the bulk of Cresy's theoretical content. The emphasis is on geometry (158 pp.), the chemistry of building materials (90 pp.) and geology (26 pp.). They provide a useful insight into the understanding of British engineers in the mid- nineteenth century.

The reviewer has no hesitation in recommending this facsimile to anyone who also happens to have a copy of the 1861 index. The reviewer is not party to the publisher's policies and therefore cannot be sure whether the decision to complete re-publication of the 1861 texts will depend on sales of the 2010 publication. Nevertheless, it is recommended that anyone with an interest in the period not in possession of the original work buys volume 1 in order to encourage the re-publication of volume 2.

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