Folio (554 by 652mm). Hand-coloured engraved wall map on 15 Roman-numbered full sheets, on J. Whatman paper watermarked 1812 (mapsheet VI numbered “No. 38” in manuscript), coal-rich areas printed in black aquatint and coloured over in grey wash, other colours supplied by hand in watercolour, with an additional full-sheet key map partially hand-coloured in outline, sheet III (bound first) is the title cartouche, sheet X includes an explanatory colour-key, map-sheets neatly mounted on guard; sheet XII with a clean diagonal tear repaired on verso and with lower right corner renewed, small split along platemark on sheet XV, very occasional light foxing and minor marginal soiling. Contemporary calf-backed marbled boards, spine in eight compartments, gilt-lettered in second, marbled endpapers, gilt edges; rebacked preserving original spine, some neat restoration to corners and extremities.

A REVOLUTION IN GEOLOGY – “THE MAP THAT CHANGED THE WORLD”

A Delineation of the Strata of England and Wales, with Part of Scotland; exhibiting the Colleries and Mines, the Marshes and Fen Lands originally overflowed by the Sea, and the Varieties of Soil according to the Variations in the Substrata, Illustrated by the most descriptive Names. [together with] A Memoir to the Map and Delineation of the Strata of England and Wales, with part of Scotland. By William Smith, Engineer and Mineral Surveyor.

Author
SMITH, William

Publication date
1815.

Publisher
John Cary,

Publication place
London,

Physical description
Folio (554 by 652mm). Hand-coloured engraved wall map on 15 Roman-numbered full sheets, on J. Whatman paper watermarked 1812 (mapsheet VI numbered “No. 38” in manuscript), coal-rich areas printed in black aquatint and coloured over in grey wash, other colours supplied by hand in watercolour, with an additional full-sheet key map partially hand-coloured in outline, sheet III (bound first) is the title cartouche, sheet X includes an explanatory colour-key, map-sheets neatly mounted on guard; sheet XII with a clean diagonal tear repaired on verso and with lower right corner renewed, small split along platemark on sheet XV, very occasional light foxing and minor marginal soiling. Contemporary calf-backed marbled boards, spine in eight compartments, gilt-lettered in second, marbled endpapers, gilt edges; rebacked preserving original spine, some neat restoration to corners and extremities.

Dimensions
2325 by 1850mm. (91.5 by 72.75 inches).

Notes
The first large scale, detailed scientific geological map of any country: “A major cartographic and scientific achievement” (Eyles, DSB). Smith’s triumph in executing this, his subsequent fall and then final recognition is the stuff of scientific legend: “he was imprisoned for debt, turned out of his home, his work was plagiarised, his wife went insane and the scientific establishment shunned him” (Winchester). However, Smith’s overwhelming contribution to the science of geology was his recognition, as outlined in the Memoir, “that each stratum is also possessed of properties peculiar to itself, has the same exterior characters and chemical properties, and the same extraneous or organised fossils throughout its course”. It was this theory, developed as early as 1796, that enabled Smith to “accurately predict, and therefore map, the geological composition of Britain” (Challinor). The connection between strata and their fossils was noted by the Danish scientist Nicolas Steno in his 1669 work ‘De Solido’, but it was Smith who first understood that the principles of stratigraphy could be applied on a national scale. His development of the mechanisms of superposition (the theory that geological strata are formed in order), placed palaeontology as a fundamental part of geology and lent credence to the theory of deep time, leading to a better understanding of the age of the earth. His great map is astoundingly accurate, and modern versions have made only relatively minor modifications to his work.

Five states of Smith’s work have been identified: an early unnumbered state (known in only a few copies); a series numbered 1-100, which Smith signed between 2 November and 17 December 1815; a series numbered a1-100 (the present example is of this series), signed between 17 December 1815 and 23 January 1816; a series numbered b1-100, signed after 23 January 1816; and an unnumbered series probably issued in 1823 or later (watermarks are dated 1823).

“The map was supplied either in sheets [usually bound as an atlas, as here], or mounted on canvas and rollers, or fitted in a case for travelling” (Eyles, Bibliography). Most probably no more than 320-350 copies of the map were published, of which perhaps 130 survive today.

This copy is from the second issue, on J. Whatman paper watermarked 1812 (mapsheet VI numbered “No. 38” in manuscript but not signed by Smith), of a total edition of about 400 copies. (The map was issued with a letterpress explanatory Memoir, not present here.) According to Smith’s bibliographer, Joan M. Eyles, the map was distributed in five issues: an initial small issue, unnumbered; three sequential signed and numbered issues of one hundred copies each; and a final

small issue, unnumbered and unsigned. “After the first copies were prepared, various alterations were made … both in the colouring and the engraved lines, mostly reflecting Smith’s increasing knowledge of geology. … [T]hese changes were made gradually” (Eyles, “Bibliography”).

Scale: 5 miles to one inch.

Bibliography

J. Challinor, “The Beginnings of Scientific Palaeontology in Britain” Annals of Science 6 (1948): 46-53; Joan M. Eyles, “William Smith”, in Dictionary of Scientific Biography (vol.12), ed. Charles Coulston Gillispie (New York: Scribner, 1970-80) 486-492; Eyles, “William Smith: A Bibliography of his Published Writings, Maps and Geological Sections” Journal of the Society for the Bibliography of Natural History V (1969); H.D. Horblit, One hundred books famous in science: based on an exhibition held at the Grolier Club (New York: Grolier Club, 1964), 94; Ruth A. Sparrow, Milestones of Science: Epochal books in the history of science as represented in the Buffalo Society of Natural Sciences, (Buffalo: Buffalo Society of Natural Sciences, 1972), 180; Simon Winchester, The Map that Changed the World (London: Harper Collins, 2001).

Provenance

Provenance:

Marquess of Hertford (Ragley Hall armorial bookplate, with pressmark Table) — Robert L. B. Tobin (Christie’s New York, 24 May 2002, lot 219; “Property formerly from the Estate of Robert L. B. Tobin, sold to benefit the Tobin Endowment”)

Price: £180000

Inventory reference: 24627