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Land Reclamation

(arranged Chronologically)

"Drayning the Great Fennes"

1. VERMUYDEN, Cornelius, Sir. *A Discourse touching the Drayning the Great Fennes, lying Within the severall Counties of Lincolne, Northampton, Huntington, Norfolke, Suffolke, Cambridge, and the Isle of Ely, as it was presented to His Majestie.* Woodcut royal arms on first leaf (otherwise blank) & one large folding engraved map (on a new stub & with a few short tears to edges carefully repaired). Title within typographical border. 2 p.l., 32 pp. Small 4to, modern morocco (first two leaves carefully remargined in gutter, light browning), uncut. London: T. Fawcet, 1642.

\$27,500.00

First edition of a very rare and important book; this work, written in 1637 or 1638 but not published until 1642, details for the first time Vermuyden's plan to drain the Great Level, a significant portion of the Fens between the Nene River and the uplands of Norfolk, which was successfully completed by 1653. His plan extended over land in six counties and involved 11,000 laborers (mostly Scottish and Dutch prisoners of war) in the project. It was one of the greatest land reclamation projects ever realized.

Vermuyden (1590-1677), a civil engineer who specialized in drainage, came from a Dutch family which specialized in that activity. He came to England in 1621 and worked on a number of projects involving repairs of embankments and land reclamation. Following his involvement, sponsored by Charles I, in draining Hatfield Chase, Vermuyden was engaged by Francis, fourth earl of Bedford, and then Charles I, to drain the Great Level (later known as the Bedford Level).

This work describes the planned work, founded on a purely gravitational system, in which he proposes two innovations: the creation of washes, areas of land allowed to flood in periods of bad weather to absorb the extra water that cannot

drain to the sea, and a catch drain around the eastern edge of the Fen. The washes were constructed as part of the second phase of drainage in the 1650s, but the catch drain was only realized in the 20th century. Vermuyden also proposes that rivers were to be dredged and straightened and sluices and channels were to be dug.

“Any faults in Vermuyden’s general scheme were faults of initial diagnosis, not of execution. His system worked satisfactorily for a time after its completion in 1653, and would have continued to work had not the lowering of the land-surfaces through the shrinkage of the peat-lands especially, and of the silt-lands to a lesser degree, destroyed the one simple hydraulic factor on which that system was based, namely gravitational discharge. When this discharge ceased to function a new technology, involving the mechanical raising of water, was bound to be needed just as it had been necessary earlier in the Netherlands for similar reasons. The extent to which the land shrank through desiccation was itself a measure of the effectiveness of Vermuyden’s scheme of drainage.”—Singer et al., *A History of Technology*, III, pp. 320-21.

The fine map of the Fens shows the main drains already executed and proposed.

A nice uncut copy with a few leaves strengthened at edges. With contemporary notes on the recto of the first leaf: “Collated & perfect 2.6,” “wth ye Mapp,” and “Wm. Palmer.” Most copies lack this first leaf. Stamp of the Rothamsted Experimental Station.

• ODNB. Skempton 1692.

A Valuable History

2. MOORE, Jonas, Sir. *The History or Narrative of the Great Level of the Fenns, called Bedford Level, With a Large Map of the said Level, as Drained, Surveyed, and Described...* One folding engraved map (with a short tear in one fold). 3 p.l., 81 pp. Small 8vo, 18th-cent. polished calf (a bit rubbed, minor browning), double gilt fillet round sides, spine gilt, green morocco lettering pieces on spine. London: M. Pitt, 1685. \$7500.00

First edition and scarce, of this valuable history of the draining of the Great Level of the Fens by one who was intimately involved in the project. Much detailed information, not readily available elsewhere, is provided including information on the actual engineering activities, division of reclaimed lands, names of the shareholders and officers of the fen drainage corporation, etc.

Jonas Moore (1617-79), was a mathematician and patron of astronomy; he supported John Flamsteed, helping to finance the foundation, construction, and equipping of the observatory at Greenwich. Moore was a professional surveyor and served as surveyor general, one of the principal officers of the Board of Ordnance, for the final ten years of his life.

“Moore later attributed his rise in the world to his work as surveyor to the fifth earl of Bedford’s fen drainage company. He was first mentioned in the company’s minutes, and perhaps briefly employed, in June 1649; on 26 August 1650 his appointment as surveyor from 2 September following was confirmed...The surveyor’s duties were ‘to sett out the works and see that they bee done,’ to measure land for compensation and completed work so that it could be paid for, to help

resolve legal disputes, and to convince the commissioners appointed to judge the project's success...

"Moore was thus much more closely involved in day-to-day management of the work than was the nominal director, Sir Cornelius Vermuyden; recent research has indicated that he and not Vermuyden was responsible for commissioning the massive sluice at Denver in 1655. He also eventually produced the general map that the company had requested from the start...In late 1657 or early 1658 Moore published a huge sixteen-sheet *Mapp of the Great Levell* of the fens, displaying the coats of arms of Cromwellian drainage investors (the sole known copy is in the Public Record Office: MPC 88). This map's large scale and claims to mathematical accuracy earn it a unique place in English cartographical history."—ODNB.

The map in this work is a much-reduced version of Moore's earlier map. Pages 71-81 contain, in verse, "A True and Natural Description of the Great Level of the Fenns."

Fine copy, with the rare first leaf "The Bookseller to the Reader." Faint stamp of the Lawes Agricultural Trust on front paste-down and the Rothamsted Experimental Station stamp on verso of title.

• ODNB.

"Simpler" Instructions

3. HODSKINSON, Joseph. *Plain and Useful Instructions to Farmers; or, an Improved Method of Management of Arable Land; with some Hints upon Drainage, Fences, and the Improvement of Turnpike and Cross Roads. Addressed to Country Gentlemen and Farmers in General.* 38 pp. 8vo, disbound. London: Printed for the Author, [Preface dated 1 January 1794]. \$1500.00

First edition and rare. Hodskinson, who lived at Arundel Street, London, was a surveyor for forty years and had closely studied agricultural problems. Finding other writers too theoretical and wordy, his "aim has...been to be as simple, as concise, and as intelligible as possible."—from his Preface.

Fine copy. Stamp of the Lawes Agricultural Trust on front endpaper.

• Fussell, III, p. 23.

Preserving Elkington's Discoveries

4. JOHNSTONE, John. *An Account of the most Approved Mode of Draining Land; according to the System practised by Mr. Joseph Elkington...with an Appendix, containing Hints for the farther Improvement of Bogs and other Marshy Ground, after Draining; together with Observations on Hollow and Surface Draining in General... Drawn up for the Consideration of the Board of Agriculture and Internal Improvement...* 16 engraved plates (2 folding). xv, 182 pp., one leaf of "Conclusion." Large 4to, orig. paper-backed boards (spine expertly rebaked to match, some worming in upper margins), uncut. Edinburgh: G. Nicol et al., 1797. \$1500.00

First edition. Johnstone (d. 1838), an Edinburgh surveyor, was promised a grant of £1000 by the recently formed Board of Agriculture to provide a detailed and accurate account of the system of land drainage developed by Joseph Elkington (d.

1806), a farmer in Warwickshire and designer of land drainage systems. Elkington was known to be in poor health, and it was feared that knowledge of his innovations might perish with him.

“About 1763 Elkington inherited a farm at Princethorpe, where some years later he discovered, at Long Harold Pits along a geological fault, the method of land drainage for which he is remembered. He discovered by accident, after losing more than 800 sheep to liver rot, how some strata were porous and pervious to water while others were not, and that he could locate the former with the auger used in exploring for marl and coal.”—ODNB.

Many of the attractive plates depict geological strata.

Elkington’s methods were brought to the attention of the Board of Agriculture by the antiquary Charles Towneley and Sir Joseph Banks.

Very good uncut copy. Two of the plates have transparent ink spots touching the images. Faint stamp of the Lawes Agricultural Trust on front paste-down.

♣ Fussell, III, pp. 25-26.

Enlarged Edition

5. JOHNSTONE, John. *An Account of the Mode of Draining Land, according to the System practised by Mr. Joseph Elkington... Drawn up for the Consideration of the Board of Agriculture...* Folding engraved frontis. & 18 folding engraved plates. [iii]-xvi, [one leaf of ads], 211, [1] pp. 8vo, mid-19th-cent. half-olive sheep & cloth, upper cover stamped in blind “Carolus Porcher de Clyffe” with his arms, binder’s ticket “Bound by S. Mepham, Dorchester,” spine gilt, red leather lettering piece on spine. London: R. Phillips, 1808. \$1650.00

“Third edition, corrected and enlarged” (the first edition appeared in 1797, and there were a total of five editions through 1841). Elkington’s methods were brought to the attention of the Board of Agriculture by the antiquary Charles Towneley and Sir Joseph Banks.

Many of the attractive plates depict geological strata.

Fine copy, lacking half-title. Armorial bookplate of Charles Porcher. Faint stamp of the Lawes Agricultural Trust on front paste-down.

♣ Fussell, III, pp. 25-26.

Grass and Irish Bogs

6. RICHARDSON, William. *Plan for Reclaiming the Bog of Allen, and the Other Great Morasses, in Ireland; addressed to the Right Hon. Earl of Rosse.* 34 pp. 8vo, attractive antique calf-backed marbled boards, spine gilt, red morocco lettering piece on spine. Dublin: W. Porter, 1809. \$1350.00

First edition and quite rare. Richardson (1740-1820), political activist and geologist, devoted his final years to agricultural research. He “experimented with sixteen grasses, as described in *An Elementary Treatise on the Indigenous Grasses of Ireland* (1806). From 1808 he was a zealous advocate of fiorin grass (Gaelic *fioreann*) (*Agrostis stolonifera* L) as food for animals, a preventive of famine, and a means of

abating the poor laws. He believed it to be the most nutritious of grasses, with the advantages of late growth and harvesting; he pressed for its universal cultivation.”—ODNB.

Richardson believed fiorin grass should be planted on the various bogs of Ireland as a way of reclaiming the land and making it useful. He provides a most interesting description of the kinds of bogs in Ireland: moor, softer moor, red bog, black bog, and shaking quagmire; he recommends fiorin grass be planted on each.

Cropped presentation inscription on title from the author.

Fine copy.

♣ Fussell, III, pp. 60-62.