



## Book Review

**James Hutton. The Founder of Modern Geology** by Alan McKirdy, 2022. National Museums Scotland, Edinburgh, 160pp, 978-1910682449, £14.99 paperback.

James Hutton's reputation is widely recognized in geological circles internationally, but in his introductory chapter, Alan McKirdy laments the contradiction that such an important character of the Scottish Enlightenment does not enjoy equivalent celebrity in his homeland. The attractive new edition of National Museums Scotland's biography should go some way towards correcting that imbalance and, in view of the 2026 tercentenary of Hutton's birth, the publication is timely. A cross-corner banner on the front cover promises 'revised and expanded' and, relative to the first edition of 1997 and its subsequent revisions, the claim is certainly justified.

A first impression of the book notes the abundance and quality of the illustrations. Geological themes are well covered, but an inspired touch is the inclusion of many contemporary cartoons by John Kay which bring the characters to life in a more convivial way than formal portraits. Perhaps the only illustrative disappointment is the front cover, which demonstrates just how hard it is to take a dramatic and imposing photograph of the Siccar Point unconformity.

The book opens with a fulsome dedication to the late Donald McIntyre, senior author of the earlier editions. Successive chapters then take the reader through Hutton's early life, studies and travels in Britain and Europe, 'wilderness' years farming at Slighhouses, profitable innovations in the chemical industry, work on the Forth and Clyde canal, integration into the Edinburgh *literati*, and the background to his developing 'Theory of the Earth'. It can be a point of confusion that Hutton's theory was apparently developed *a priori*, with all the supporting evidence gathered during extensive travels subsequent to initial publication of his now-famous 1785 abstract by the Royal Society of Edinburgh. And the itinerary of those travels might question the true significance of the popular 'eureka' moment at Siccar Point. That proves to have been the third unconformity that Hutton examined, so he was perhaps well-primed to reveal the mystery to John Playfair and Sir James Hall.

The main themes of Hutton's theory – the cycle of erosion and deposition, heat as a geological driving force, deep time, etc. – are explained and illustrated, but perhaps treated somewhat uncritically. Some of Hutton's ideas on the role of heat in tectonism were a little wide of the mark, and there is continued debate as to the extent of French scientific influence on his thinking (e.g. Todd 2021). Indeed, in some quarters, Hutton is not seen as the first to appreciate either the Earth's long history or the long-term operation of

slow natural processes. To quote the eminent science historian Martin Rudwick (2014, p. 69), 'a mistaken belief that he was, spiced with Anglophone or even Scottish chauvinism, has given him an undeserved modern reputation as geology's uniquely important founding "Father"'. But no matter, for McKirdy, the restoration of Hutton (and geology) to a rightful place in the story of the Scottish Enlightenment and the exploration of his subsequent scientific influence are the principal aims, coupled with the confirmation of Hutton as polymath, with interests and abilities ranging beyond the scientific into, *inter alia*, agricultural improvement, meteorology and linguistics. In respect of these intentions, the book succeeds admirably.

Hutton's great weakness, his laboured, rambling style of writing, is infamous and did nothing to help promote his ideas. McKirdy's later chapters take Hutton's story forward through Playfair's erudite rescue mission and the development of Huttonian themes by Charles Lyell. These aspects are familiar and, given the extent of research into Hutton's activities, it is remarkable that McKirdy has still managed to unearth previously unrecognized insights. It is fascinating to learn of Hutton's 1794 thoughts on the selection of favourable traits in the development of species, although here the influence of Erasmus Darwin might have been explored in greater depth. He was a close associate of Hutton and the grandfather of Charles Darwin who finally established natural selection as the driver of evolution. Curiously, Charles, who had neither doctorate nor knighthood, is referred to in the text as Dr Charles Darwin and in the index (a very good one) as Sir Charles Darwin. Trivial errors, they are only worth noting as rarities in an otherwise well-researched and carefully edited account.

The concluding chapters of the book progress through Hutton's decline and death, the sad fate of his geological collection, the rediscovery and rescue of the third volume of *Theory of the Earth* and, much later, the associated 'Lost Drawings' by Hutton's close friend, Sir John Clerk. Finally, a brief review of previous biographical works on Hutton, from Archibald Geikie in 1905 to the Great Tapestry of Scotland in 2013, is followed by a 'places to visit' list and a comprehensive bibliography.

For anyone interested in the history and personalities of the Scottish Enlightenment, McKirdy's book must be essential reading, and will gently initiate those readers into the glories of Scottish geology. The book is equally valuable as a contribution to the history of science more generally. Even for those who think they know all about Hutton and his works, I guarantee a few surprises – I was intrigued to discover that Hutton had been involved in the scientific planning for the exploratory voyages of Captain James Cook. In bringing together all these disparate themes in an engaging and accessible publication, Alan McKirdy and National


Museums Scotland have done Scottish geology a great service. The book is highly recommended.

*Scientific editing by Martin Kirkbride*

### References

Rudwick, M.J.S. 2014. *Earth's Deep History*. The University of Chicago Press.

Todd, G.F.W. 2021. The French foundations of Hutton's Theory of the Earth, Part One: Hutton as a student of Guillaume-Francois Rouelle, Part Two: Hutton's debts to Rouelle. *Earth Sciences History*, **40**, 1–38 & 332–364, <https://doi.org/10.17704/1944-6187-40.1.1>

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