

# BOOK REVIEWS

## Nicolaus Steno as Geologist

*Dissertations on Steno as Geologist.* Edited by Gustav Scherz. Vol. 23. *Acta Historica Scientiarum Naturalium et Medicinalium*, Copenhagen University. Pp. 319. (Odense University: Odense, 1971.) \$11.70.

THE remarkable career of the seventeenth century Danish anatomist, geologist and Catholic bishop Niels Stensen (commonly known as Nicolaus Steno) and his contributions to science have formed the subject of a considerable number of scholarly studies in the past twenty-five years or so, especially by, or at the suggestion of, Dr Gustav Scherz, the editor of this book. Those who knew Gustav Scherz will learn with regret, from a note inserted in this volume, that while passing the final proofs of the book he died, at the age of 76, as the result of a road accident. In his preface Dr Scherz records the death of his friend, the Danish historian of geology, Axel Garboe, who also published some important works on Steno which perhaps tend to be overlooked. A reference to the life and work of Dr Scherz and to some of the earlier works of these authors may not be out of place here.

For many years discussions of Steno's original and important contributions to the foundation of modern geology mentioned only his well known "Prodromus to a Dissertation concerning Solids naturally contained within Solids", the title of the earliest English version of his chief geological work, first published in Latin in 1669<sup>1</sup>. Steno's earliest geological ideas were, however, incorporated in an earlier work, an account of the dissection of a shark, which forms an appendix to an anatomical treatise on the muscles that he published in 1667. We are indebted to Dr Garboe for making this historically important geological work better known, for he made a translation into English, the first in any modern language, in 1958<sup>2</sup>. The original is of considerable rarity, as are all of Steno's works, and not easily accessible to most readers.

The circumstances that led Dr Scherz to undertake his detailed studies of Steno's life and work are mentioned in the brief account of his life inserted in his last work by Professor A. Noe-Nygaard. Scherz was born in Austria

and ordained as a Catholic priest in 1919. He moved to Denmark in 1922 for health reasons, and later obtained Danish citizenship. It was here that he first became aware of the career of Steno, who had been converted to Catholicism while in Italy. His studies were at first centred on Steno's theological works, published during the latter part of his life, after he had abandoned science to become an ascetic priest and bishop. To these studies, later extended to cover Steno's scientific works, Scherz devoted the last thirty years of his life.

In 1954 a commission of theologians and historians was established to set in motion the process which, it was hoped, would lead to the beatification of Steno. Scherz became joint editor of a periodical *Stenoniana Catholica*, published to promote this end. By this and other means he did much to make Steno's life and work more widely known.

In pursuing his studies Scherz searched many European libraries and archives, and brought to light much unpublished matter bearing on Steno's life and activities. This included many letters written by or to Steno, among his correspondents being a considerable number of well known seventeenth century scientists. Scherz also traced some unpublished manuscripts in Steno's hand, and arranged for their publication and translation. One of his most important publications is his two volume edition of Steno's correspondence, which contains a great deal of biographical and bibliographical matter relating to the persons named in the correspondence<sup>3</sup>.

Scherz's single minded enthusiasm for the subject of his researches was such that he was able to persuade other historians of science to cooperate with him in producing translations of works by Steno and critical articles on various aspects of his work. This last volume of his contains thirteen articles, the work of twelve authors. They deal mainly, though not exclusively, with Steno's geological work, seven being written in German, five in English and one in Italian. Scherz himself has contributed the longest article, on Steno's extensive travels through much of Europe, which demonstrate that he had ample and varied opportunities of studying geology in the field. Articles on Steno's use of actualistic methods in geology; on Steno and geological time;

on Steno's significance in the foundation of geology and palaeontology; and on Steno as the founder of the geology of Tuscany, have been contributed, respectively, by Professors K. von Bülow of Rostock, T. Frängsmyr of Uppsala, H. Hölder of Münster and F. Rodolico of Florence. Articles discussing the part played by Steno in the founding of crystallographic science have been contributed by Professors J. G. Burke of Los Angeles, I. I. Schafranovski of Leningrad and C. J. Schneer of New Hampshire. A short but interesting article by S. Springer of the US National Museum of Washington, DC, discusses the geological deductions made by Steno after dissecting a shark's head, when he concluded that *glossopetrae* (fossil shark's teeth) really were organic in origin and not, as generally supposed hitherto, sports of nature.

One of the attractive features of many of the works published by Dr Scherz, including that noticed here, is their lavish illustration by means of contemporary portraits of European scientists known to or mentioned by Steno, and views of the places visited in his travels. This volume should not be confused with a previous one in the same series entitled *Steno's Geological Papers*, published in 1969. It is worth recalling that the latter contains an exhaustive bibliography of Steno's geological works, reprints and translations of these works, and of critical articles discussing his contributions to geology.

In the preface to the work reviewed Scherz states it was intended as a sort of literary symposium to mark the tercentenary of the publication of the *Prodromus*. In fact, it has appeared in the year that marks the tercentenary of the publication in 1671 of the first translation of the *Prodromus* into English. Historians of science and geologists particularly owe a debt of gratitude to Father Scherz for his labours in making Steno's contributions to geological science better known and more accessible.

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<sup>1</sup> Stenonis, Nicolai, *De Solido intra Solidum Naturaliter Contento Dissertationis Prodromus* (Florence, 1669).

<sup>2</sup> *The Earliest Geological Treatise* (1667). Translated from *Canis Carchariae Dissectum Caput* . . . by Garboe, A. (Macmillan, London, 1958).

<sup>3</sup> Stenonis, Nicolai, *Epistolae et Epistolae ad Eum Datae* (edit. by Scherz, G.) (Hafniae and Friburgi, 1922).