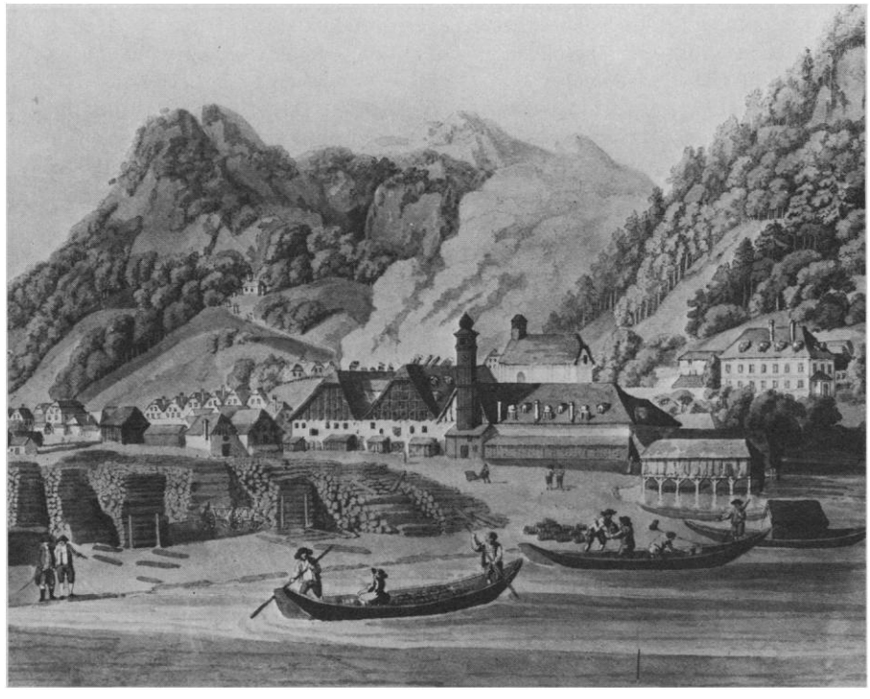
Book Reviews

A Once-Scarce Commodity

Neptune's Gift. A History of Common Salt. ROBERT P. MULTHAUF. Johns Hopkins University Press, Baltimore, 1978. xviii, 326 pp., illus. $22.50. Johns Hopkins Studies in the History of Technology.

How much salt is required in the human diet? What was the total household consumption of salt in China in A.D. 754? Why was the Cheshire Brine Subsistence Compensation Board set up? The answers to all these questions are to be found in *Neptune's Gift*, a most remarkable, encyclopedic treatise concerning salt and its related compounds. The inspiration for Robert Multhauf's approach is explained in the introduction to his book. In 1875 Matthias Schleiden, a German naturalist, published a work entitled *Das Salz: Seine Geschichte, seine Symbolik und seine Bedeutung in Menschenleben*. As the title indicates, it was Schleiden's intention to treat salt not simply as an inorganic chemical substance but to write about it in a more general context of human cultural development. Though Schleiden's treatment was scholarly it was brief and relatively narrow in comparison with Multhauf's a century later.

Neptune's Gift treats the subject in two chronological sections, the date of transition between The Age of Culinary Salt and The Era of Chemical Salt being about 1850. The first part deals with the culinary consumption of salt, the salt trade and taxation, the production of salt, the rise of saltworks and the associated technology, and finally the development of an organized salt industry. Throughout this earlier period salt was by no means readily available universally. As a sought-after commodity it could provide the owners of the source with great wealth and governments with considerable revenue through taxation. Trade routes were established and then altered as new sources became available or political factors changed conditions. Though it is difficult to appreciate these factors now that salt is so readily available, a comparison with present-day difficulties in oil supply is salutary.



The saltworks at Ebensee, Austria, around 1790. [Engraving by Runk and Janscha, reproduced in *Neptune's Gift* courtesy of the Bildarchiv der Österreichische Nationalbibliothek, Fonds Albertina]

What changed matters after 1850, Multhauf argues, is the growth of geological science (details of which are discussed in some depth) and the development of earth-boring machinery. (Though, as usual, the Chinese got there first: they are said to have bored holes for salt to a depth of 600 meters two millennia ago.) A brief history of the concept of salts as a chemical species starts the second half of the book. This chapter develops the subject away from a specialized treatment of sodium chloride, and the trend continues in sections on the alkali and dye industries, chlorine, and organic solvents. The boundaries of the subject are of course impossible to define, and it is not a particularly fruitful exercise to quibble about what should and what should not be included, though William Bragg's x-ray diffraction work might have been mentioned. On the other hand, the connection of common salt with DDT is somewhat tenuous. The author concludes the book with 36 tables of data showing salt production of various countries at different times and, in addition, the manufactured output of soda, sodium hydroxide, and chlorinated hydrocarbons. The compilation of these is a tour de force, the difficulties of which are hinted at in a brief introduction (how many kilograms make up a chauldron, a moio, or a fanega?). A bibliography of about a thousand entries completes the text.

Neptune's Gift is an exhausting book to read from cover to cover, but it is undoubtedly an important work of great scholarship. The reader is bound to ask whether the chosen genre is a useful one and why it has been attempted relatively rarely. Among the reasons might be included the somewhat artificial separation of one industrial activity from other, related ones and the immense amount of background work required to survey a single topic such as this in its entirety. However, in his comment that "the need for books which span the interests of the several 'cultures' which make up modern society is certainly no less urgent than it was in Schleiden's time" Multhauf rationalizes his approach, and the result is an unusual book which will be widely consulted and which, like Schleiden's, may not be superseded for a century.

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