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said about the effect of the hostile environment on the maturation of the chemical philosophy in France. How far, for instance, did figures like de Claves deliberately play down their dogmatic attachment to Paracelsus's elemental theory for prudential reasons? There is more to be said also about the emergence of the new chemistry in eighteenth-century France. Chemistry and medicine were not so radically divorced in the period after 1750 as Debus seems to believe. The foundation of chairs of chemistry in a number of French universities in the decades before the Revolution reflected the belief that chemical analysis was the key to understanding health and disease. As a result, the discoveries of Lavoisier *et al.* were immediately recognized as of profound importance for the physiology of respiration.

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ROBERT I. CURTIS, *Garum and salsamenta: production and commerce in materia medica*, Studies in Ancient Medicine, Leiden, E. J. Brill, 1991, pp. xv, 226, illus., Gld. 110.00, \$57.00 (90-04-09423-7).

This is the first general study, taking in recent archaeological evidence as well as the ancient literary sources, of the uses, production and distribution of *garum* (a liquid fish essence), *salsamenta* (salted fish) and related products in the Roman world. After a brief introductory chapter, chapter II identifies the fermented fish products attested in the Roman world, and explains what they were like and how they were made with reference to modern parallels in the Far East. For me this is the most illuminating and fascinating chapter of the book. The ancient diet is a topic receiving increasing attention today, and Curtis shows that *garum*, in particular, needs serious consideration as a major source of protein for the urban poor. Chapter III on the medical uses of these fish products, which is presumably the reason for publication in this series, is inevitably short because they had no particular medical uses. A chapter on consumption and uses in general, which synthesized and elaborated Curtis's scattered comments on the dietary importance of these foodstuffs, would have been more enlightening. Chapters IV to VII, which constitute the bulk of the book, discuss the mainly archaeological evidence for the ancient production and distribution of these products. The geographical survey of the evidence is very thorough, and indeed over-thorough in that evidence for overseas distribution of fish products is usually treated twice with reference to both the exporting and importing areas. A thematic rather than geographical presentation of the data would have been more economical and clearer.

Another related general problem is Curtis's positivistic attitude to the archaeological evidence; he tends to assume that production and distribution were concentrated where masonry-based processing installations and clay transport jars (amphorae) survive, and does not make sufficient allowance for the likely use elsewhere of perishable equipment and containers such as wooden troughs and boxes. Otherwise the archaeological and literary evidence is generally interpreted with good sense. A few minor points deserve comment. The extremely long periods of operation, in two cases over two centuries (pp. 53, 55), claimed for Spanish salting establishments sound rather suspicious, and it is a pity that no plans of the Black Sea installations are given. Juvenal cannot be taken as providing serious proof for a depletion of Italian fisheries since he is just attacking the extravagance of preferring foreign imports (pp. 86, 88); the Bruttians and Campanians were peoples of south Italy, not of the Aegean (p. 117); the quarter of Arsinoe from the first century AD called "Fishmongers' Quarter" was not in fact dominated by fishmongers (pp. 136, 141); it is more likely than Curtis admits that "Spanish" fish in texts from Roman Egypt and Palestine denoted (local) fish processed in a way called "Spanish" (pp. 140, 143); there were seven obols to the drachma of Roman Egypt, and four drachmas were roughly equivalent to a denarius (p. 171, n. 49).

The book is nicely produced, well-indexed, and typographical errors are very rare though there are a number of malapropisms (e.g. p.7 "allusive", p. 35 "tauted"). Overall Curtis has

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produced a thorough and sensible study which will become the standard reference work on *garum* and salted fish in the Roman world. There is now no excuse for ignoring their dietary importance in the ancient world, and it is to be hoped that Curtis or someone else will take the study of this aspect further.

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JENS PEDER HART HANSEN, JØRGEN MELDGAARD, and JØRGEN NORDQVIST (eds), *The Greenland mummies*, London, British Museum Press, 1991, pp. 192, illus., £14.95 (0-7141-2500-8).

*The Greenland mummies*, first published simultaneously in Danish and Greenlandic in 1985, is a most handsome and readable book, lavishly illustrated, and of interest to the specialist anthropologist and non-specialist alike. It recounts the discovery and scientific investigation of the bodies of six women and two children of Inuit culture buried in 1475. They were members of a small community at Qilakitsoq, a settlement on the western coast of Greenland, 450 km north of the Arctic circle. The finding of the mummies in October 1979 by two brothers out ptarmigan hunting is told in an absorbing account that one of them wrote to a friend. The professional investigation of the graves is also described in a personal way that involves the reader in the excitement of the event.

This is followed by a discussion on dating technique and the process whereby the bodies were preserved (mainly of interest to the amateur) and a most significant chapter is devoted to the scientific investigation of the mummies. Routine physical anthropological examination was carried out, and extensive use made of clinical X-radiography. The precise determination of adult ages by this method does somewhat stretch credibility, and for the specialist more explanation would have been of interest. But the reproduction of the X-rays is excellent, and the range of palaeopathological lesions exhibited is extensive, including a child with Down's syndrome and Perthes disease. A most interesting skull radiograph is reproduced of a female mummy 11/8, which shows numerous erosive bone lesions, and it is suggested that these are metastatic carcinomatous deposits. Unfortunately the preservation of her soft tissues was poor, so the authors are unable to suggest a possible primary neoplasm in this case; breast carcinoma seems likely. Dental disease in the mummies is analysed and the chewing of sealskin is proposed to account for attrition. It was also found that all the bodies were infested with head lice and at least one had intestinal pinworm infestation. Tissue typing was carried out and interesting proposals regarding family relationships of the mummified bodies are made. This is an exciting new field of investigation in preserved soft tissue. No firm conclusions could be drawn on the cause of death.

There is much fascinating information in this book ranging from contemporary Inuit ideas on death and burial ritual, to tattooing, clothes, and living conditions in fifteenth-century western Greenland in general. I highly recommend it.

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JOHN SNOW MD, *On narcotism by the inhalation of vapours*, Introductory essay by Dr Richard Ellis, London and New York, Royal Society of Medicine Services Ltd., 1991, pp. xxvii, 112, £20.00 (1-85315-158-0).

Dr Richard Ellis, who has made many notable contributions to the early history of anaesthetics, has collected and published in a facsimile edition the series of eighteen papers by John Snow that appeared in the *London Medical Gazette* between May 1848 and December 1851. In an introductory essay he analyses their subsequent publishing history as three separate, and now rare, booklets, and continues with an account of Snow's involvement in the development of general anaesthesia. Within one month of the administration of the first general anaesthetic in England, Snow had successfully applied John Dalton's concept of saturated