

Book Reviews

the history of medicine as the history of medical science and the history of medicine as a chapter in the struggle for social emancipation.

The book concludes with a most useful bibliography of the history of Canadian medicine which demonstrates that the condition of the study is not quite as desperate as Dr. Shortt has indicated. In any case, he and his contributors are to be congratulated on having produced a handsome, widely informative, and useful volume.

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JOHN GRAHAM SMITH, *The origins and early development of the heavy chemical industry in France*, Oxford, Clarendon Press, 1979, 8vo, pp. xiii, 369, illus., £36.00.

The author teaches history of science at Loughborough and the present work is written for students of economic and social history as well as for readers with general interests in the history of science and technology. The book is richly documented, most of the 900 references relating to French archival material and many carrying expansive explanation. A preliminary catalogue of weights, measures, currency, and the Revolutionary calendar enables the reader to greet with confidence such bizarre units as the *quintal*, the *pied de roi*, the *denier*, and the month of three *décades*.

The four main divisions of the book deal with the distillers of *aqua fortis* (nitric acid), the growth of sulphuric acid manufacture, the development of chlorine bleaching, and the beginnings of the Leblanc soda industry. The narrative, however, is by no means restricted to these headings for there are accounts of such trades as soap, glass, pottery, gelatin, phosphorus, alum, copperas, and pigments; a good deal of attention is devoted to the contributions of pharmacists to the industry. There are also useful insights into the working of Revolutionary committees (not always as heavy-handed as English readers might have supposed).

Readers of *Medical History* will perhaps turn first to the chapter on chlorine. The use of saturated chlorine water as a bleaching agent gave the workers a most unpleasant time. In addition to the obvious attacks on eyes and chest, such symptoms as headache, pains in the small of the back, and nose-bleeding were attributed to working with chlorine. Rudimentary gas-masks were devised and the operation transferred to draughty sheds; some operatives chewed liquorice as a palliative. The substitution of *eau de Javel* (potassium hypochlorite solution) for chlorine water removed the major hazard of chlorine gas. In France, these hypochlorites became popular stain-removers on a domestic scale, whereas in England most households used oxalic acid, often with fatal consequences.

Meanwhile, Guyton de Morveau advocated chlorine gas as a fumigant and anticontagiant on the ground that it devoured the putrid miasmas which were the presumed causes of infection. It found employment in ships, cemeteries, crypts, dissecting rooms, prisons and – especially – hospitals. (Readers may remember Wohler's cruel lampoon of Dumas and his substitution theory, in which it was alleged that fabrics of "spun chlorine" were sold in London to make nightshirts and bandages.) A traveller could even buy a portable flask of chlorine to ensure personal protection against disease. *Eau de Labarraque* (sodium hypochlorite) was introduced as a disinfectant in 1819, its first use being to relieve the conditions of the catgut makers in their noisome environment of animal intestines. Smith also relates a cautionary tale which contrasts the lying-in-state of Louis XVIII with that of the poet Byron; the former, thanks to the benefits of French hypochlorites, could be exposed to public gaze whilst the latter had to lie sealed in his lead coffin for lack of them.

The medical historian will find much more to interest him in this book, for example, the arguments about the beneficial consequences of breathing hydrochloric acid gas. This book is an example of an all-too-rare species, a work of scholarship which is eminently readable. It is well indexed and nicely produced. The price is what we must expect nowadays.

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