

Book Reviews

a trend towards small families, abortion, and homosexuality. With the outbreak of war, the *Lebensborn's* function was extended to the "germanization" of racially sound children from the occupied territories who were the offspring of liaisons between German military personnel and women from those territories or whose parents had been killed or imprisoned. Such children were effectively seized and brought to Germany for adoption in SS households.

Dr Lilienthal shows that the actual results of its activities—the birth of some 5,000 illegitimate children during the nine years of the organization's existence and the seizure of a few hundred children—bore no relationship to Himmler's expectation of preventing 100,000 abortions annually. He also argues convincingly that even under more favourable circumstances the scheme was utopian. This excellent study provides a valuable insight into an aspect of Nazi racial policy which has hitherto been obscured by ignorance and myth.

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C. STUART HOUSTON (editor), *Arctic ordeal. The journal of John Richardson, surgeon-naturalist with Franklin 1820–22*, Kingston and Montreal, McGill-Queen's University Press; Gloucester, Alan Sutton, 1985, 4to, pp. xxxiv, 349, illus., £16.50.

If the role of an editor is to present his material imaginatively, to explain discrepancies, to provide relevant supplementary information, to adduce significant features and to assess the merits of the work within its historical and scientific context, Dr Houston has succeeded admirably in his task. He has done more, for his insights into the character and performance of the expedition's members highlight the fatal obstinacy which underlay Franklin's charm, the faith and courage which shone through Richardson's multi-faceted scientific abilities, the tenacity and dependability which characterized Back in times of crisis, and the vital role of the Indians. Only one of the expedition's five officers was lost, but nine of the final eleven voyageurs fell victim to the combined effects of environmental stress, unremitting toil, and starvation. Singled out for special mention are the qualities of the French-Canadian interpreter, Pierre St Germain, without whose intelligence, resourcefulness, and dexterity, Dr Houston believes "we would have had no surviving officers, no published journals and no books of natural history". Other Indians brought succour, compassion, and sustenance, and Dr Houston pays belated tribute to these "unsung heroes" of Franklin's important first expedition, which defined an important stretch of the northern coastline of mainland Canada and laid the foundation for subsequent naval exploration in search of the North-West Passage.

The holograph journal of Richardson, Franklin's naval surgeon and naturalist, was acquired from his descendants for the University of Illinois through Dr. Robert E. Johnson, Richardson's percipient biographer. It covers the fateful last year of the expedition from August 1820 to December 1821. Richardson, in a revealing glimpse of his innermost feelings, omitted the harrowing details about the voyageur Michel's suspected cannibalism, murder of Midshipman Hood, and summary execution at Richardson's own hands during their desperate trek to Fort Enterprise while dying of starvation. The details, however, were the subject of an official report on the incident and Dr Houston uses it to bridge the gap in the narrative.

The private nature of the journal allows Richardson to record his impressions in vivid dramatic style and they betray an enormous breadth of knowledge and interest. Through his eyes, we are able to examine the fauna, flora, geology, and geography of the vast empty spaces of the Canadian north, to experience the hazards of shooting dangerous, unknown rapids or navigating ice-bound coasts in frail birch-bark canoes, and to picture a stumbling, emaciated party of survivors silhouetted against the white wilderness of the Barren Lands. These impressions are sharply enhanced by the stark sketches of H. Albert Hockbaum, who has spent many years in Franklin territory. They furnish one example of the way in which editor and publishers have collaborated to provide a book of very high quality. Others can be found in the arrangement of the material, the contributions of the numerous experts consulted, the use of relevant tables which have often involved Dr Houston in the painstaking analysis of data, an

Book Reviews

invaluable commentary throwing new light on a number of Richardson's observations, and a series of important appendices which provide critical appraisal of Richardson's notes on birds, mammals, fish, and plants. There is some new evidence of Richardson's expertise in lichenology by John W. Thomson, and a very detailed examination of his geological field work by W. O. Kupsch.

Dr Houston has also gone to considerable trouble to plot the true course of the expedition and the distances it travelled by comparing somewhat contradictory data. It is unfortunate, therefore, that he could not have found better maps on which to superimpose his findings. It might also have helped to have had one of Dr Houston's neat little tables to provide ready reference to the numbers, categories, and ultimate fate of the various Indians who joined the expedition at one time or another. That said, this is a splendid book which all who are interested in Arctic exploration would be delighted to possess and which happily complements Richardson's recent biography by Robert E. Johnson. Together, they give Richardson his rightful place in the annals of polar exploration for, in the words of Dr D. A. Stewart, which Dr Houston quotes: "It is not every day that we meet in one person—surgeon, physician, sailor, soldier, administrator, explorer, naturalist, author and scholar, who has been eminent in some roles and commendable in all."

Sir James Watt

WALTER PAGEL, *Religion and Neoplatonism in Renaissance medicine*, edited by Marianne Winder, London, Variorum Reprints, 1985, 8vo, pp. x, 346, £32.00.

The articles gathered together for this collection date from 1935 to 1981 and represent some of Walter Pagel's major studies on the role of religion, gnosticism, and Neoplatonism in the development of modern medicine. The importance of this collection stems from a number of features. First, two or three of these essays originally appeared in obscure and difficult-to-obtain sources and are now easily available for the first time. Second, it includes a number of Pagel's most important publications such as his survey of 'Religious motives in the medical biology of the XVIIth century' (1935) and his *Supplement to the Bulletin of the History of Medicine* on religion and philosophy in the thought of J. B. van Helmont (1944). Third, not only has none of these pieces been superseded by Pagel's subsequent writings (his *Supplement to the Bulletin* on Helmont, for example, is very definitely *complementary* to his recent book on *Joan Baptista van Helmont*, Cambridge, 1985) but it is also true to say that they have never been surpassed by any subsequent scholarship. Indeed, it might even be said that when the history of the history of science comes to be written this collection will stand sure testimony to Pagel's historiographical influence and importance. In the early (pre-1945) pieces, for example, the author repeatedly makes whiggish pleas that "Paracelsus created the modern conception of disease" or that Helmont was led by his religious views "to an extraordinarily well-founded vitalism which approaches reality". In 1935, statements like that had to be made, to justify any studies which strayed too far from the positivist paths of pure scientific progress. Pagel's aim, as so entertainingly expressed in the first essay in this collection, was 'The vindication of "rubbish"' (1945). Here, and in his other early studies, Pagel was trying to beat whiggish historians of science at their own game. He was able to show that even those aspects of sixteenth- or seventeenth-century natural philosophy which measure up most convincingly to a modern scientist were derived from religious and Neoplatonic beliefs—rubbish—of the most recondite kind. By the 1960s, however, Pagel clearly thought this battle had been won and was far less apologetic about the "relevance" of his later studies of "gnostic" ideas in the Paracelsian corpus. Pagel played a major role in changing the historiography of science in this way and this collection presents some of the best evidence there is of the fruitfulness of his approach.

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