

BOOK REVIEW

The English Pioneers of Anaesthesia (Beddoes: Davy: Hickman). By F. F. CARTWRIGHT. Price \$4.50. Pp. 338 with illustrations. Baltimore, The Williams and Wilkins Company, 1953.

This is an interesting volume of biography which should be read by all anesthesiologists who wish to know the background of their specialty.

It is not quite correct to say that the three men whose lives are recorded were "pioneers of anaesthesia," because none of them even administered what we would consider an anesthetic to a human patient. However, each one dabbled with chemical agents which later came to play a part in "anaesthesiology."

It is difficult for us to realize that less than 150 years ago the true role of oxygen in physiology was unknown; that air was considered to be a chemical compound, and that the science of biochemistry did not exist.

The first part of this book is devoted to Thomas Beddoes (1760-1808) and describes his famous "Pneumatic Institute" in Bristol. Beddoes would hardly be considered a scientist by present day standards, but he was interested in experimental methods and he gathered in his home a remarkable coterie of friends, including Southey, Coleridge, Wordsworth, James Watt, Wedgwood (of pottery fame), Roget (of the Thesaurus) and Walter Savage Landor. All of these famous men joined Beddoes and Davy in the inhalation of nitrous oxide—although no one appears to have suggested its use for the abolition of pain during surgical operations.

"To the anaesthetist, the work of Beddoes, though leading to no conclusive result, must always be of interest; for Beddoes was the leader of the school of medical men who experimented with the method of applying medication to the bodily organs by means of the lungs; and this is the essence of inhalational anaesthesia. Again and again Beddoes makes it clear that he had grasped this idea, that he was using the lungs as a more convenient and more easily controllable channel than the stomach."

The Pneumatic Institute failed in its purpose as a revolutionary new treatment for all sorts of diseases, but Beddoes name is rightly remembered by anaesthetists.

The second biography is that of Sir Humphry Davy (1778-1829). Davy's connection with anaesthesia is concerned entirely with his extensive investigation of nitrous oxide which was carried out when he was a very young man working with Beddoes in the Pneumatic Institute. Davy learned and published a great deal about nitrous oxide, and he inhaled the gas himself many times, but there is no recorded evidence that he even suggested its use for surgical anaesthesia. After his few years at Bristol Davy moved to the Royal Institution in London, became absorbed in many discoveries in chemistry and physics, and had no further connection with anything related to anaesthesiology. His position, therefore, as a "pioneer of anaesthesia" is on just as shaky ground as that of Beddoes.

The third "pioneer" to be recorded by Cartwright is Henry Hill Hickman

(1800-1830) whose experimental work was not really brought to light until a century after his death. Hickman, a young practitioner in a small town, experimented with animals for the express purpose of investigating the possibility of the abolition of pain during surgical operations.

"Hickman's experiments were designed to produce insensibility by means of controlled asphyxia. He did not aim at producing anaesthesia as we know it today, nor to produce sleep either by means of drugs or mesmerism as had been done in the past; he aimed at producing a temporary and reversible suspension of life which, he believed, would not only entail freedom from pain during swift operations, but would also result in a greatly decreased loss of blood."

The only agents used were carbon dioxide and asphyxia, and there is no evidence that human beings were ever made the subject of experiments. So

Hickman cannot logically take a place with Wells, Morton, Long and Simpson among the true originators of surgical anaesthesia. Nevertheless, his work may have been one of the stepping stones toward the great discoveries of today, and it is well that anesthesiologists should know about his short life and his ingenious experiments.

Dr. Cartwright's book is the result of painstaking research into original sources, and serves to clear up many false ideas which have circulated with regard to these early experimental workers. It is highly recommended reading for all who pride themselves on a knowledge of the history of anaesthesia. The book serves, too, to remind us that the development of anaesthesia, like all scientific achievement, was the result of international coöperation, and was not by any means exclusively American.

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