The Leech-Book Era

Medicine in Medieval England. C. H. TALBOT. Oldbourne, London, 1970 (U.S. distributor, Elsevier, New York). 222 pp. + plates. $6.75. Oldbourne History of Science Library.

This brief and informative volume embraces much more than "medicine in medieval England." Although focused on England, it is, in fact, a compressed panoramic account of the whole of medieval medicine. The broad approach is revealed in the very first chapter, "Anglo-Saxon medicine," which considers the leech books of early English medicine. Contrary to popular opinion, these were not mere collections of primitive remedies and medical folklore. Greek medical treatises in Latin translation were used to a surprising extent. To convey a sense of what might have been available to 10th-century leech-book authors, Talbot describes the medical literature of late antiquity, thus providing a setting and context for the restricted field of Anglo-Saxon medicine. By consistently elucidating medical trends and developments in England against the larger background of Arabic and Continental medicine—there are special chapters devoted to Arabic medicine and the medical schools of Salerno and Montpellier—Talbot has produced an eminently readable and informative series of brief chapters on the whole of medieval medicine.

Because the book is addressed to the general reader, Talbot has deliberately omitted footnotes, but he assures us that "nothing is said here which is not found in the original texts or in manuscripts." The stamp of authority and sound scholarship is evident throughout, and Talbot's assertion may be accepted with confidence. Chapters on medical education, surgery, anatomy, the ordinary practitioner (as contrasted with prestigious court and university physicians), medical ethics and etiquette, hygiene, epidemics, and hospitals are testimony to the breadth of coverage.

We learn that medical education was the greatest obstacle to progress. Although the establishment of medical faculties with authority to issue degrees was a praiseworthy medieval contribution, reliance on standard texts and traditional authorities made progress difficult and often impossible. Emphasis on medical theory to the detriment of practice was typical. (Although practical experience outside the university was eventually required for a medical degree, the nature of this experience is not described in the book.) Also detrimental was the tendency to allow physicians, who were usually ignorant of surgery, to judge the admissibility of surgeons, who were frequently learned in contemporary theory, to practice their art.

Despite the inadequacy of medical training, important innovations were occasionally made. Dissection was widely practiced and played a role in medical education, although few significant additions to anatomy and physiology resulted. Practical experience, buttressed by the courage of conviction, sometimes enabled physicians and surgeons to overcome the severe limitations of medical education and traditional opinion. For example surgeons like Theodoric, bishop of Cervia, and Henri de Mondeville rejected the prevailing idea that the successful treatment of wounds required the generation of pus.

Relying on selected, but typical, examples, Talbot has successfully conveyed a genuine sense of the richness and variety of medieval medicine. Its few strengths and achievements and its glaring weaknesses are vividly portrayed.

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Experimental Lung Cancer

Inhalation Carcinogenesis. Proceedings of a conference, Gatlinburg, Tenn., Oct. 1969. M. G. HANNA, JR., P. NETTESHEIM, and J. R. GILBERT, Eds. U.S. Atomic Energy Commission, Oak Ridge, Tenn., 1970 (available as CONF-691001 from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Va.). xi, 524 pp., illus. Paper, $3. AEC Symposium Series, No. 18.

Experiments on animal models have had limited success in verifying the associations revealed by population studies between lung cancer and inhaled tobacco smoke and between lung cancer and environmental air pollution. Many factors have contributed to failures, including the use of single agents, instability of aerosols, low doses delivered to alveolar or bronchial cells, and insufficiently long or intense exposure. The decision by the National Cancer Institute in 1969 to fund a special lung cancer program at over $1 million a year reflects the hope that with increased effort these problems can be solved.

It is a sign of the difficulties in inhalation toxicology and of the relative newness of the field that techniques for inhalation exposure of animals occupy a large proportion of the papers in this symposium volume. Another large segment is devoted to the results of exposure of animals, especially Syrian hamsters and dogs, to radioactive particles, to bland particles in combination with chemical carcinogens, especially benzo[*a*]pyrene, and to that complex mixture, tobacco. There are important reminders about the sizes of populations needed for showing effects, about the evidence for specific agents from occupational exposure in human workers, and about the use of mathematical models in dosimetry and in the clearance of radioactive particles which are applicable to other agents.

The volume is not a complete status report on the experimental lung cancer. Its strong points are its detailed presentations of several methods for inhalation exposure; some discussion of mathematical models both for particle deposition and removal and for dose-response of radionuclides; and its adequate coverage of experiments with radioactive particles such as radon daughters found in uranium mine air, with europium 152–154, and with the chemical carcinogen benzo[*a*]pyrene combined with mechanical and chemical cofactors (stainless steel hooks, pellet implantation and cholesterol, chromate dust, and vitamin A deficiency).

Omitted are such host factors as the immunology of tumors, the effects of aging, and the failure of surveillance systems for errors of cellular differentiation. Perhaps more pertinent to model systems is the basic consideration of how sex, age, nutritional status, and so forth affect the comparability of models. The protective action of vitamin A against benzo[*a*]pyrene-induced neoplasia in hamsters and in tissue culture is described. That the sequence of exposure—whether daily, continuous, or in interrupted periods which permit semisynchronization of cell populations—may be as important as cofactor agents entering other than by inhalation is largely ignored. The only noninhalant agent or cofactor described is