

Peter Voswinckel. *Der schwarze Urin: Vom Schrecknis zum Laborparameter. Urina Nigra. Alkaptonurie, Hämoglobinurie, Myoglobinurie, Porphyrinurie, Melanurie*. Berlin: Blackwell Wissenschaft, 1993. xiii + 281 pp. Ill. DM 98.00.

The title of the book under review already indicates that a fascinating chapter of medical "problem history" has been chosen as a central theme. This is not at all an obsolete field of research, if only it can be fruitfully combined with new approaches from the French "history of mentalities." Peter Voswinckel, who is not only a medical historian but also an experienced clinical hematologist, has succeeded in accomplishing this difficult task. What's *Der schwarze Urin* about? Physicians of all times have recognized and even described black urine (*urina nigra*) as a rare but always dangerous phenomenon (*significans*). Of interest for medical history is the variation in the meaning (*significatum*) of this clinical sign in different times. Voswinckel begins his investigation with a brief explanation of linguistic metaphors, sensorial impressions, connotations, and visual icons; he describes—in historical terms—the relatively static syntax of black urine as an object of perception in the five human sensory channels. The evolution proceeded much more dynamically, however, on the semantic level. With regard to its diverse pathophysiological genesis, the symptom of black urine is a very complex term, a sometimes rational, sometimes mystical cipher of illness and death. The author is right when he avoids making modern diagnoses with the use of old descriptions, because such an action would ignore the linguistic incompatibility of the observations encoded in those historical texts, which invariably contain interpretations.

Voswinckel's empirical evidence consists of approximately sixty case reports ranging in age from the *Corpus Hippocraticum* to a report dating from 1831 and, furthermore, of twenty-nine hundred cases published within the last 150 years. This enormous collection of source material is skillfully unfolded by the author in section D of his book. Throughout this process he makes the reader aware of a panorama rich in variety: black urine occurs as a bad prognostic sign (symbol) in the writings of Hippocrates and Galen, in the Byzantines' late Greek uroscopia, in Galenistic Humanism, and in the curiosity of the baroque period.

Voswinckel discusses the possible connection between *urina nigra* and black bile, which was one of the four classic humors (see section E). The meaning of *urina nigra* changed around 1800, when the symbol—influenced by the modern clinic and the dominance of visual perception (see Michel Foucault, *Naissance de la clinique: une archéologie du regard médical* [1963])—was converted, with the use of new methods of clinical chemistry, into a symptom, a sign of disease which should be explained according to the laws of nature. Voswinckel organizes the remaining chapters of his work in accordance with this change. Each chapter corresponds to one of the five entities of disease into which *urina nigra* was divided during the age of scientific medicine: hemoglobinuria, alcaptonuria, melanogenuria, porphyrinuria, and myoglobinuria. Voswinckel discusses the first ten publications on each disease (this is a new method). The wide range of topics referred to is impressive: poisoning with  $AsH_3$ , which was proved by animal experimentation in 1853; urine as a criterion of success in blood transfusion;

European colonialism and its problems with blackwater fever at the end of the nineteenth century; the beginnings of modern human genetics; death by acute intermittent porphyria triggered by the hypnotic Sulfonal Bayer (1889–1892) or by modern pesticides such as hexachlorinebenzol (Turkey, 1957–64); observations of myoglobinuria made by surgeons during World War I and by internists during World War II (crush syndrome); and the denial of the results of research by Jewish scientists in National Socialist Germany and their belated vindication in the Federal Republic of Germany after 1945. The reader learns about all of this and much more from this meticulously investigated but nevertheless vividly written work. Eight hundred bibliographic references, and indexes of authors, places, and subjects, also make the book a valuable and user-friendly guide.

Peter Voswinkel's postdoctoral thesis should be available in every specialized library for the history of science. His work proves once more that even today sound medical knowledge is an indispensable requirement for meaningful research activity in medical history.

Axel Bauer  
Ruprecht-Karls-Universität Heidelberg

Rolf Winau, ed. *Technik und Medizin*. Technik und Kultur, no. 4. Dusseldorf: VDI Verlag, 1993. xviii + 340 pp. Ill. DM 168.00.

Rolf Winau, the editor of this book, contributed all of the chapters except the one on electricity and medicine. This volume is number 4 in a series of ten designed to explain technology and culture to general readers; the series also includes monographs on topics linking technology with philosophy, religion, science, nature, and art. The topics of the chapters in this monograph range from antiseptics and asepsis, anesthetics, imaging of the body, microscopic studies of the body, and pharmacy, to civilization and disease. As an introduction for the generalist the volume fulfills its mission, if the reader is primarily interested in the German literature and illustrations of examples of related medical technology developed in Germany. Readers versed in American and British technology and medicine will be familiar with the discussion provided but may not have seen some of the instruments shown in the photographs.

American readers will be surprised to find no mention of Stanley Reiser's influential volume *Medicine and the Reign of Technology* (1978) and other familiar English-language sources, but the German generalist reader probably would not find English-language publications accessible or, perhaps comfortable to read. Reiser's objective, to demonstrate that with the introduction of diagnostic instruments medicine became less of a humane and interpersonal endeavor, is mentioned on the first page as a well-known idea; however, the reader is left to decide throughout the rest of the book where and how this might have occurred. Indeed, magic, religion, and empiricism are more accepted parts of medical care than is Western technology worldwide. This topic and industrial medicine are