

practical suggestions for mitigating the pollution menace and a suggested draft of a Water Charter for adoption by European countries. It is good to realize that the problem is being recognized and tackled at an international level for, as the report reminds us, water is an international substance.

**Clinical judgment.** A. R. FEINSTEIN, M.D. Edinburgh and London: E. & S. Livingstone Ltd.; Baltimore: Williams & Wilkins Co. 1967. Pp. vii+414. Price 76s.

This is a book packed with clinical wisdom, a reconciliation of the 'art and science' of medicine. The author achieves this reconciliation despite the scientific inadequacies of the so called scientific basis for medical practice. For example he says (p. 65) "Instead of zealously seeking dimensional measurement for symptoms, signs, and other human properties that cannot be dimensionally measured with precision or convenience, clinicians must seek ways of improving the value of their own verbal clinical descriptions of these entities".

He emphasizes his view of the place of the clinician in relation to the computer as follows (p. 297) "The more distinctly human the phenomenon, the more necessary is a human observer to discern the phenomenon adequately. Whatever can be distinguished only by human speech, sight, smell, touch, hearing, taste, movement, and cerebation cannot be discerned by inanimate devices, which lack the perception of human sensory organs and the ingenuity of a human brain. . . . If the irreplaceable clinical material of the bedside is a sick person, then the irreplaceable equipment for observing a sick person is a clinician. Many contemporary functions of this human observational equipment are antiquated, defective, and performed with built-in sources of error. The contemporary clinician needs a complete re-appraisal of the techniques with which he exercises the skill that distinguishes him from all other artists, biologists, and scientific scholars; the ability to examine a sick person and to reason with the information thereby obtained".

The last and most important part of the book is devoted to the problems of "making, verifying, and preserving the primary observations of clinical examination—to the art and science with which clinicians acquire the fundamental data of clinical medicine. As an observer of human beings and human reactions, the clinician can benefit from any inanimate device that improves his sensory acuity. But he must first recognize that he is a talented, effective, and unique apparatus for perceiving the attributes that distinguish people from each other, from animals, and from all other objects of investigation. To advance art and science in clinical examination, the equipment a clinician most needs to improve is himself".

His philosophy is summed up in the following terms (p. 298) "The art of clinical examination comes from attitudes and qualities that are neither obtained nor easily detected by scientific procedures: the clinician's awareness of people and of human needs; his ability to temper the rational aspects of his work with a tolerant acceptance of the irrationalities of mankind; his perception of faith, hope, charity, love, and other elements of human spirit and human emotion. These properties of care and of compassion, although sometimes dismissed as merely 'bedside manner', are the fundamental and most important tools of any clinician. With them, he can often give healing or comfort where science fails or does not exist. Without them, his science is unsatisfactory, no matter how excellent".

Although the author brings the breadth of view of the good clinician to his description of the scientific basis of medicine and although he deals explicitly

with the probabilistic basis of diagnosis in particular and clinical medicine in general, he restricts his description of mathematical and statistical technique virtually to Boolean algebra and the visual expression of Boolean classifications in Venn diagrams. These latter are entirely appropriate for three or even four dimensional models but are inadequate for the multi-dimensional situations of clinical medicine. The application of Baye's theorem has been a powerful tool for bringing the benefits of probability theory to medical practice, particularly in combination with computer-based systems. This neglect of Bayesian probabilities is deliberate for the author believes, unlike the reviewer and most general practitioners, that absolute precision can be achieved in diagnosis by such 'para-clinical' evidence as is provided by "a biopsy, a roentgenogram, or a laboratory procedure".

The last part of his book is a plea for a more consistent set of descriptions and criteria for clinical medicine, in particular the standardization of definitions, of signs and symptoms. This can only be achieved by deliberate agreement after discussion by those who use the terms. As the author puts it (p. 345) "The critical quality of scientific data is not accuracy, but reproducibility".

He deals also with the ways in which clinicians can ensure their own clinical efficiency and standardization by exposing themselves to the cross-checking of their findings by others.

He ends this section as follows "Of all man's activities, clinical medicine is the most scientific art and the most humanistic science. The art and science are intermingled, symbiotic, and inseparable. Without the art, there can be no data for the science. Without the science, there can be no reason for the art".

**Appointment systems in general practice.** J. A. BEVAN, M.A., and G. J. DRAPER, M.A. London. Oxford University Press. 1967. Pp. xv+195. Price 12s. 6d.

The establishment of an appointment system is one of the status symbols of a general practitioner who considers himself to be progressive. He will discuss 'my system' with the pride and avidity that a business executive will reserve for his 'Jag' or 'Merc'. On the other hand many older, and not so old, practitioners have conservative fears and prejudices against change. As a consequence discussions about appointment systems have tended to become rather emotional.

The authors of this report have done the profession a service by describing their practical and analytic investigation into the subject. They studied over 200 practices that had established an appointment system, and a further 11 practices in detail before and after introducing one. They have shown that although all that glistens is not gold the percentage of gold in the assay is remarkably high. Ten per cent of appointment systems fail, but the remainder have been notably successful, and liked by both doctor and patient. Partial systems are more likely to fail than those where all consultation is carried out by appointment.

Useful advice is given about establishing an appointment system. Starting off is not as difficult as it might be thought provided that planning has been properly done, the secretarial staff have been consulted in planning, and the patients have had adequate explanation and warning. All concerned must be patient during the first few months of the system, and at this stage an assessment should be made so that minor faults can be corrected.

The costing of appointment systems is gone into in some detail, and there is no doubt that the total practice expenses increase. Many believe that this is a small price to pay for the advantages gained, and in any case much of it can be claimed under the new pay system for general practitioners. The investigation showed