

at least remind the reader that this subject is embedded in a philosophical tradition.

We are also reminded of this philosophical background by chapters that follow those dealing with the methods of science. These include a chapter on causality, the different ways of formulating the notion of causal law, and the main philosophical approaches thereto; Leibnizian, Humean and Kantian. These pages are admirable in their concentration, though the price paid for this is high. To ascribe to Leibniz the view that "the 'necessity' of mathematics is thus the necessity of world relations as well" is surely inconsistent with Leibniz's clear distinction between these two types of necessity (logical and physical). Similarly, the Kantian account of causality involves the usual muddle between the principle of causality as a transcendental presupposition of objective experience of contingent matter of fact in general, and as a logical form which expresses the scientist's demand that the uniformities of nature be co-ordinated by means of theories. Still, one must not carp where so much is mentioned in such a narrow compass.

There are similar brief discussions of the concepts of space, time and matter in recent physics, and there follow the usual sections on biological categories of understanding, together with thirty pages on the "human sciences", with a coda on science and values.

The book is thus very much in the American "textbook style"; whether it will fire a budding genius to think for himself is another matter. But it is nice to have so many topics once again between hard covers; and one must be truly grateful for the full bibliographies (very up to date) which form a special feature of the book.

G. BUCHDAHL

## STATISTICAL PAPERS

### Bibliography of Statistical Literature Pre-1940

With Supplements to the Volumes for 1940-49 and 1950-58. By Maurice G. Kendall. Pp. 356. (Edinburgh and London: Oliver and Boyd, Ltd, 1968.) 168s.

ALTHOUGH this volume deals with the earliest historical period, it is the last to appear. There are now three volumes, the other two covering the periods 1940-49 and 1950-58. From 1958 onwards all statistical papers are indexed in the *International Journal of Abstracts of Statistical Theory and Method*, so the coverage of the literature is completed up to date.

The three volumes taken together contain more than 25,000 references, and it gives some idea of the labour involved to notice that the first volume appeared in 1962. Only the author, title (sometimes with a translation) and the exact reference are given: clearly to have done more would have been desirable, but would have delayed publication intolerably. The authors have been very thorough in their searching, and have adopted a policy of including, rather than excluding, in case of doubt. Although this has led to the inclusion of papers which are only marginally statistical, it means that very little of value can have escaped their net.

Although the books and papers listed in the pre-1940 volume will no doubt be of less interest from the research point of view than those in other volumes, this part of the work is by far the most interesting to read. Perhaps this is because, in those more leisurely days, there was no great pressure to publish unless there was something to say. All the great names of mathematical history from Kepler onwards are there (with the exception of Newton). It is interesting to see, too, how the preoccupations of statisticians have changed over the years, although a book dated 1699 on the balance of payments problem suggests that some things never change.

All statisticians owe a great debt to the authors.

D. KERRIDGE

## FILM REVIEWS

### COMBATING BILHARZIA

#### The Threat in the Water

Directed by Richard Bigham. Produced by Michael Clarke. Shell Film Unit. Running time 30 min.

Two years ago, Shell announced the discovery of a compound called 'Frescon' which is now playing an increasingly important part in the control of the disease bilharzia. Since then, the Shell Film Unit—with the co-operation of the World Health Organization—has made a film, *The Threat in the Water*, which describes in simple terms the battle that is now being waged against this scourge affecting some 200 million people throughout the world. Ironically, despite the suffering and enormous loss of manpower resulting from infection with this parasitic trematode, the average British citizen has probably never even heard of the disease. Shell is therefore to be congratulated if only for bringing such an important topic into the public eye.

The film was sponsored by Shell International Chemical Company. Although it is to a certain extent slow and repetitive—which is probably not such a bad thing if non-specialists are to benefit from it—the photography is good and the cinemicroscopy, filmed at Ciba Research Laboratories in Basle, deserves special mention. Shots are included of scenes in a number of countries including Iran, Venezuela, Brazil, Sudan and Kenya, and on the whole a good balance is maintained between the "human" aspect and accurate scientific presentation.

As shown, Shell's strategy for controlling the disease is simple: kill the snails that carry the parasite that causes the disease. This is achieved by feeding 'Frescon' at the headwaters of a stream, river or canal and allowing the flow to carry it along. Only by combining molluscicides with drug therapy and sanitation, however, will the disease be completely eradicated.

*The Threat in the Water* will be available on loan in size 16 mm to any interested organization. Perhaps the most valuable contribution a film of this sort can make is in the classroom; one thing for sure is that no textbook could ever describe in such vivid terms the way that infective cercariae bore their way through the human skin.

ANNE CLAYTON

### University News

An air pollution survey grant of \$68,250 has been awarded by the US Department of Health, Education and Welfare to the Associated Students of the **California Institute of Technology**. The grant, which will extend to September 30, is for cataloguing sources, effects and reactions of air pollutants, measuring the costs of air pollution damage, and determining the costs of controlling air pollution.

The **University of Chicago** has received a gift of \$12 million from the Pritzker family of Chicago. The money has been given in support of the university's School of Medicine, which is now to be renamed the Pritzker School of Medicine. This donation brings the total contributed to the Campaign for Chicago, the university's three-year effort to raise \$160 million, to approximately \$140 million. The campaign was announced in October 1965.

**Mr Dennis Cox** has been appointed university librarian and keeper of the Brotherton Collection at the **University of Leeds**.