

should add to this list of pioneers the name of Maurice Bartlett, whose versatility, innovativeness, and influence are honored in this volume of papers marking his retirement. The majority of the contributions are by Bartlett's colleagues in England.

The most notable feature of the collection is the large number of papers dealing with theory and applications of stochastic processes. Several of these articles are open-ended but substantial contributions in new directions, and as such make stimulating reading. Kendall presents a lucid account of reversible processes, motivated by the need of genealogists to examine stochastic birth-death processes backward in time. In the same vein of hard problem-solving is a preliminary account of Gani's work on estimating vocabulary type counts in literary works with the use of Markov chains.

Papers by Hammersley and Kingman present novel approaches to important problems in the theory of Markov processes.

Among the several papers on statistical inference for stochastic processes is an interesting piece by Grenander on restoration of deformed lattice patterns. Here the problem is that a regular lattice of points, characterized by basis vectors and a phase (location) parameter, has been "jittered" by considerable random noise. A Fourier-type analysis of the jittered points leads to a reconstruction method.

In the realm of experimental statistics there are some solid contributions summarizing current work on regression models. An all-too-brief paper by Barnard revives the important Fisherian idea of analyzing linear models with reference to data-specific, rather than average, properties. In a different vein, Meier presents his work on large-sample Brownian-motion properties of the Kaplan-Meier estimate of survival curves based on censored data.

As I hope these brief comments suggest, there is variety and imagination in this volume. There are refreshingly unusual pieces, such as Cedric Smith's on the systematic theory of iteration near a fixed point and Norman Bailey's expert review of the contributions made by the theory of infectious diseases to the practical enterprise of public health control.

Through their enthusiasm and ingenuity these 30 authors have provided a fitting tribute to a master.

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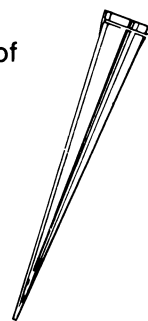
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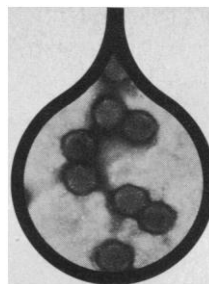
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17 DECEMBER 1976



VIRUSES IN WATER

a cause for concern

Water is essential to life. The quantity of water man needs for survival varies for different cultures and economic situations—but for the great majority of the world's people, water resources are scarce and modern water supply systems nonexistent.

Because surface waters are readily contaminated by physical, chemical, and especially biological pollutants, water in many areas, instead of supporting life, brings illness and death. While there are means to control waterborne bacteria that cause typhoid epidemics, current water purification methods do not effectively remove viruses. There is clear evidence that at least one viral disease, infectious hepatitis, is transmitted by polluted waters and by shellfish grown in such waters. As population pressures increase and uncontaminated water sources become scarcer, the problem of waterborne viruses is enhanced.

The International Conference on Viruses in Water, held in Mexico City in 1974, brought leading scientists from many countries to discuss this urgent concern. The conference was sponsored by the American Public Health Association, cosponsored by the World Health Organization, Pan American Health Organization, and Government of Mexico. The book *Viruses in Water* presents data, discussions, and perspectives from these meetings. The editors served as the planning committee and as chairmen of the sessions.

The editors are: Gerald Berg, Ph.D., Environmental Protection Agency, Cincinnati, Ohio. Howard L. Bodily, Ph.D., Brigham Young University, Provo, Utah. Edwin H. Lennette, M.D., Ph.D., California Department of Public Health, Berkeley. Joseph L. Melnick, Ph.D., Baylor College of Medicine, Houston, Texas. Theodore Metcalf, Ph.D., University of New Hampshire, Durham.

What needs to be done

Standards must be set for permissible virus concentrations in drinking water, recreational waters, and water used for certain other purposes. Improved methods for detecting viruses in large volumes of water, and for removing them from drinking water sources and drinking water itself, must be developed and tested. The waste treatment plant must be replaced by the water refinery. This is the challenge of *Viruses in Water*.

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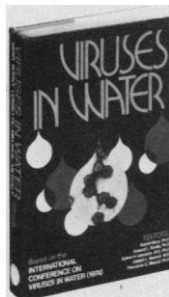
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