

In This Issue

STATISTICS AND PHYSICAL OCEANOGRAPHY

Researchers in the field of oceanography encounter many problems that are mathematically and statistically demanding. To help advance the statistical aspects of oceanographic work, a panel of oceanographers and statisticians was assembled under the auspices of the Committee on Applied and Theoretical Statistics, a standing committee of the Board of Mathematical Sciences within the National Research Council. The panel produced a report, which is printed in this issue, detailing many opportunities for statistical collaboration and research in physical oceanography. Preceding the report, Dudley Chelton has written an introductory overview of physical oceanography for statisticians. Further describing and illustrating its interface with statistics, there are commentaries on the report by David Brillinger, Ngai Hang Chan and Wilfredo Palma, Anand Gnanadesikan, Greg Holloway, Andrew Solow and Hans von Storch.

DNA FINGERPRINTING

DNA fragments from materials at the scene of a crime may be compared with fragments taken from a suspect. Under certain assumptions, a simple formula provides the likelihood ratio for testing the hypothesis that the two samples were taken from different individuals, drawn randomly from a reference population, against the alternative that the samples were taken from the same individual. Whether the assumptions are appropriate, and whether apparent difficulties may be alleviated by using more elaborate versions of the likelihood ratio, is the subject of a continuing debate. The issues, and an alternative method proposed in a recent report by a committee established by the National Research Council, are reviewed here by Kathryn Roeder. Discus-

sants bring up a variety of concerns, including the population-genetic foundations, the importance of the reference population used, the magnitude of laboratory error and the role of this sort of evidence in legal proceedings.

PROBABILITY OF AN OBTUSE TRIANGLE

In the May 1993 issue of *Statistical Science*, Eugene Seneta reviewed a selection of Lewis Carroll's Pillow Problems pertaining to probability. An additional problem of Carroll's, not discussed by Seneta, is to find the probability that a triangle formed by choosing three points "at random on an infinite plane" will have an obtuse angle. Although the phrase in quotes may appear too imprecise for the problem to be well-posed, Steven Portnoy, in his article here, provides a solution based on intuitive symmetry considerations.

WILLIAM KRUSKAL

After studying philosophy and mathematics and obtaining a Master's Degree in mathematics from Harvard University, William Kruskal went in 1941 to help the war effort at the U.S. Naval Proving Ground in Dahlgren, Virginia. In an interview conducted by Sandy Zabell, Kruskal describes his resulting introduction to statistics. He was part of an illustrious research group there and subsequently at Columbia University, and then went on to the University of Chicago. Here, Kruskal discusses the origins of some of his influential work on nonparametric methods, measures of association, and the coordinate-free framework for linear models. He also talks about his extensive professional activities and his interests in and involvement with governmental statistics.