SOME REMARKS ON RECENT DEVELOPMENTS IN APPLIED PROBABILITY

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Applied probability has finally achieved the recognition it deserves. The recent 211th Meeting of the Institute of Mathematical Statistics (IMS) in Sheffield, England, between August 16 and 19, 1989, stands out as a landmark in its acceptance as a well defined field of mathematical research.

There have been conferences specifically dedicated to applied probability before: possibly the earliest was the Seventh Symposium in Applied Mathematics, jointly sponsored in April 1955 at the Polytechnic Institute of Brooklyn by the American Mathematical Society and the Office of Ordnance Research. It was here that the term *Applied Probability* was first coined to describe the proceedings of speakers on Mathematical Probability and its Applications [1]. Not that applications of probability had been lacking previously. In June 1949, for example, at the Royal Statistical Society's Symposium on Stochastic Processes [2], in London, three pioneering reviews of the application of stochastic processes to statistical physics, evolutionary processes and population growth had been presented by Jo Moyal, Maurice Bartlett and David Kendall respectively. But the concept of applied probability, as a discipline somewhat distinct from probability theory, does not appear to have crystallized until 1955.

The 1989 Sheffield symposium in Applied Probability, coming soon after the IMS announcement of its new journal, the *Annals of Applied Probability* due to begin publication in 1991, marks a new chapter in the history of applied probability. Any remaining doubts among fellow professionals as to the legitimacy of the discipline will have been laid to rest. Applied probability may now be regarded as an area of importance commensurate with that of the overlapping fields of probability theory and mathematical statistics. Some of us had adopted this position many years ago, but our perception was far from universal.

The main themes of the initial symposium in *Applied Probability*, held in Brooklyn in 1955 were related to the physical sciences: the theory of diffusion, the phenomenon of turbulence, and the uses of probability in classical and modern physics. The participants included a highly distinguished group of probabilists and applied mathematicians who gave lectures on the following topics:

Paul Levy on Brownian motion depending on n parameters,

Joe Doob on the first-boundary problem,