THE TEACHING OF STATISTICS[1]

By Harold Hotelling

The very great increase in the teaching of statistics since the First World War has been associated on one hand with the development of statistical theory. This important series of discoveries has made available more and more powerful and accurate statistical methods, and has also acquired an intellectual interest of its own as embodying the modern version of the most important part of inductive logic and as providing scope for mathematical and logical ingenuity of high order. The increased teaching of statistics has also been associated with the rapidly growing applications of statistics in innumerable fields, made possible by the development of the theory, by the availability of persons having some knowledge of the theory, and by an increasing realization of the possibilities of application. Doubtless most students of statistics enter upon the subject, not for its intrinsic interest, but with the idea of applying statistical methods as a tool to some particular end. This object may be scientific research, or to fulfill a requirement for a degree, but is often connected with some purely practical pursuit offering the ready prospect of a remunerative job. But it would be a mistake to ignore those whose interest is more purely intellectual, who desire an insight into the peculiar problems of probable inference and the structure of empirical knowledge, who wish to get a fundamental acquaintance with one of the most fundamental of subjects, to see and understand fully the mathematical derivations underlying so much practical and scientific activity, and perhaps to make their own contributions.

Of the magnitude of the demand for statisticians there can be no doubt. The realization of what statistical methods can do in a multitude of fields has gradually led the administrators of government agencies, directors of scientific organizations and research institutes, and business men, to employ rapidly increasing numbers of persons with some knowledge of statistical methods, and to accord an unusual degree of recognition and promotion in many such cases. The uses of statistical methods, and especially of sampling theory, are so varied that it is scarcely possible in a brief space to give any sort of survey of them. They enter, in one form or another, into the research work of the physicist, the chemist, the astronomer, the biologist, the psychologist, the anthropologist, the medical investigator, the economist, and the sociologist. Meteorology, which has lately acquired greatly increased importance, both civil and military, is with its masses of numerical observations very much a statistical matter. The engineer needs modern statistical methods both in the physical and in the

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