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THIS second edition of Jeffreys' well-known book is to be heartily recommended. Since the first edition appeared many years ago (1931), I will indicate the breadth of the book by giving the chapter headings: I Logic and scientific inference. II Probability. III Sampling. IV Errors. V Physical magnitudes. VI Mensuration. VII Newtonian dynamics. VIII Light and relativity. IX Miscellaneous questions. X Statistical mechanics and quantum theory. The last chapter is new to this edition; the remainder of the book has been thoroughly rewritten. But the central focus of the book is unchanged. It is a vigorous defense of the author's conception of scientific method as based on his own variant of subjective probability, which he calls epistemological probability. The first four chapters are particularly concerned to show the central role of probability in scientific inference. Readers of this journal need scarcely be reminded of the necessity to consider problems of sampling and of error in any account of scientific method which is not hopelessly naive, but Jeffreys' emphasis on these topics in the third and fourth chapters is welcome.

Although I think this book will be rewarding for those interested in serious analyses of the fundamentals of scientific method, and although I commend the author for his willingness and ability to grapple with the kind of problems which arise in actual scientific practice, there are two critical comments of a general nature and several more specific ones which I want to make. Considering the foundational character of

the book, Jeffreys does not adequately defend his conception of probability, which is similar to Keynes', against the other major contenders in the field. The relative frequency theory is given a cursory discussion (pp. 181-5), and the work of B. de Finetti, B. O. Koopman, and L. J. Savage is not mentioned in any respect. English contributions, in contrast, are given notice out of proportion to their importance.

My second general comment is that almost none of the basic concepts or principles which are considered central to scientific inference are formulated in a satisfactorily exact manner. This is not because the book is elementary in character; a knowledge of physics and a considerable degree of mathematical sophistication are required for a full reading of all chapters. Some examples of this essential lack of precision may be given. The axioms for probability in Chap. II are not sufficient to guarantee numerical assignment of probabilities, although the assumption of such an assignment is crucial to later chapters. Much is made of the postulate of simplicity for selecting among hypotheses, and doubtless some vague ideas on this subject are daily heuristically helpful to working scientists, but the definition of simplicity that is given in terms of the number of free parameters (p. 39) obviously is not adequate for a systematic theory of simplicity. It is characteristic that the rather sizable logical literature on the subject of simplicity is not mentioned. What is important is that this literature shows how extraordinarily difficult it is to come by an adequate definition.

The chapter on mensuration has an interesting development of the theory of measuring distance and the way in which geometry may be based on it, but the chapter is lacking in the postulational precision one has come to expect in contemporary discussions of the foundations of measurement or geometry. Next to the science of measurement of distance, the most exact empirical science is classical Newtonian dynamics, to which the author turns in Chap. VII. Much of the theory of motion of bodies acted on only by gravitational forces is developed. What is lacking is a precise formulation of the fundamental assumptions of dynamics as has been attempted by Hertz, Hamel, and others. The aim of the chapter seems to be to show how dynamics arose or could have arisen from observation of the solar system, yet there is no attempt at historical accuracy.

Chaps. VIII and X are full of interesting comments about modern physics. But Chap. IX consists of unworked-out *obiter dicta* on more than a dozen topics, which range from psychoanalysis to the philosophical doctrine of phenomenalism.