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Comment

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Professor Shafer's paper shows his concern for the future of statistics. He considers that the present situation of statistics is alarming and, assuming that mathematical statistics is a child of mathematical probability, attributes this situation to the popularization and diversification of the use of probability. I completely agree with Professor Shafer on the recognition of the problematical status of statistics and would like to add some observations on the nature of statistics and probability.

STATISTICS FOR PLANNING AND PROBABILITY FOR DECISION

It is almost certain that the original concept of statistics started with the description of the state of a nation by counting and classifying its people. Any country appearing in the history must have used some kind of statistics for the management of the country. Along with this very old origin of the concept of statistics was also the use of probabilistic mechanisms or randomizers by ancient kings.

A typical example of the use of a randomizer is given by the *I Ching*, or the Book of Changes, which shows the wisdom of ancient Chinese people for the handling of uncertainties. With this book there is an advice that recommends the minimum use of the book to attain a proper objective.

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Consider a king who was going to declare a war against another country. It is almost certain that he used statistics for the planning of the war. But there must have remained some uncertainty. If he intended to consult the *I Ching*, then the advice would have forced him to make utmost effort to minimize the uncertainty before he turned to the randomizer. This means that the process of setting up a probability distribution for a particular purpose must be based on a fully efficient use of available information which is often supplied by the related statistical data in the case of the decision related to the future of a nation.

Here we can see a typical example of the use of statistics for planning and probability for decision. This example also demonstrates the inherent connection of probability and statistics with the proper use of information.

PROBABILITY OF A SINGLE EVENT

Consider a situation where probability $p(A)$ of the occurrence of an event A is given. When $p(A)$ is greater than 0.5, according to the interpretation of probability as described by Shafer, it would seem reasonable to bet on the occurrence of A . However, since probability does not tell anything about actual occurrence of a particular event, some justification is required for the decision to bet on A .

This problem is deeply related to the argument of objectivity or subjectivity of probability. If the probability is considered to be objective, in the sense that it is accepted by most of the members of a society, the