

nal investigator when he applies for funds. Such a man needs some protection from the general conservatism of all committees. At the same time, the taxpayers or other fund-givers are entitled to some protection against waste and wildness, which protection could be provided by allowing administrators to retain control over some, but not all, the funds passing through their hands.

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### On Using Inferential Statistics

Statistical tools are of two general kinds: descriptive and inferential. The first type describes the investigator's findings, summarizing raw data into more comprehensible form—numerical, graphic, or tabular. The second type aids the drawing of conclusions as based on the rules of probability.

Findings may be the result of chance fluctuations. An investigator contributes more when he indicates the degree of confidence he has that his data are not the result of chance factors. The use of inferential statistics specifies precisely this degree of confidence. In addition, readers are helped immensely when data are presented clearly. The appropriate use of inferential concepts frequently clarifies data presentation as well as legitimate conclusions.

In the 22 April issue of *Science* there were 23 reports. Of these, only four used inferential statistics. In two of these four, no statistically significant findings were reported. In a third report, over 20 statistical tests were performed but only one was significant, and this one was relatively unimportant, since the main findings of the authors (Greenberg, Atkins, and Schiffer) was the lack of significant difference in the measures of various bodily regions.

Perhaps the more critical observation is the following: of the 23 reports, 13 could have used inferential statistics—only four did. How "significant" these observations are is a matter for the reader to judge.

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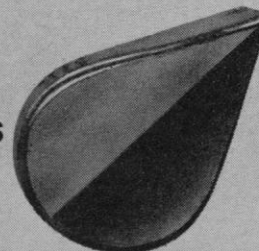
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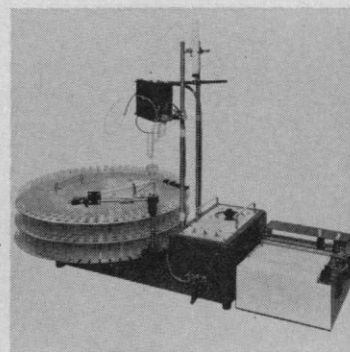
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