

The Reasons for Writing

Sir AUSTIN BRADFORD HILL began with the question, "Why does the scientific worker write at all?" In trying to answer this, he said, he would ignore those who wrote to gain notoriety or to climb another rung or two of the ladder, and also disquisitions on scientific method and scientific reviews. These being left on one side, the answer was because the scientific worker believed he had made—in the words of our Royal Society—a contribution to natural knowledge. "In short that he has found something out that was not known before." His object was to communicate that something to other workers. Therefore the structure of the scientific paper demanded only two things—what was it the worker thought he had found out, and how did he find it out?

These were the fundamentals. Therefore the author must set out fully the data which revealed his new fact and must state with great precision how he came by those data. The special reason for this latter requirement was that every scientific worker had the duty so to inform the reader that the experiment or the observation could be repeated.

Beyond these two sections of a scientific paper, Sir Austin went on, there was nothing that seemed to him to be essential. But it might be valuable and helpful, as well as interesting, to know why the investigator set about his task—in addition to the *how*. This would involve some general description of the problem and an account of what other workers had found out—in other words a review of the literature. It might also be valuable, helpful, and interesting to have the worker's assessment of his new facts. In short—or in long—there was a discussion.

These constituted four sections in the structure of the scientific paper: "Why did you start, what did you do, what answer did you get, and what does it mean anyway?" This also seemed to him to be a logical order for a scientific paper; but he did not see why readers, writers, or editors should be expected always to follow precisely the same groove. He agreed with Lord Brain that the line of the original thought and work was not necessarily the best or more logical line of presentation of a completed work.

Sir Austin said he suspected that quite often a paper needed no discussion section at all. "The results have been presented, and in so doing their implications are made clear. What is there to discuss?" He thought that idle repetition was quite a common weakness in to-day's scientific papers. If the discussion did not introduce fresh argument and thought it was a waste of space and time.

Returning to his two fundamentals, Sir Austin said that the medical writer often did not sufficiently appreciate the importance of describing his methodology. "For example, certain patients have been taken into the clinical trial of a treatment, the habits of certain persons have been related to their subsequent sickness or mode of dying. But what patients, what persons?" The reader wanting to repeat the inquiry must be fully informed on the nature of these patients and these persons, how the sample was drawn, and thus whether it was likely to be representative or biased. In this respect many papers fell short of what was required. In the presentation of the actual results of a piece of work the statistician was peculiarly aware of the problems of presenting the truth, the whole truth, and nothing but the truth. "Very rarely indeed can we present the whole truth—or in other words all the original observations." The bulk must be reduced and the evidence presented in miniature. Here there was the risk of distortion. Still more difficult was the selection of what was presented and what was omitted. "Many of us, I would guess, have at some time dismissed a so-called negative result as unrewarding and not worth publication. Yet maybe its publica-

tion would have saved some other worker a lot of hard work or might have illuminated one's problem in a way one had overlooked."

Sir Austin then turned his attention to the actual form of presentation adopted in current scientific papers, and especially medical journals. The present-day writer seemed to believe that without a diagram the present-day reader was unable to grasp the simplest of facts. "For example, three groups were observed and some characteristic is revealed in 10%, 22%, and 35%. To convey this simple fact we must have a histogram which calls for a considerable amount of space, shows the answers far less clearly, and, by a judicious manipulation of scales, gives infinite opportunities to mislead the lazy or unwary reader." He gave an example where "little and clear numbers [were] converted into striped and dotted columns, carefully drawn, carefully photographed, and occupying several square inches of space." "The sole object of a diagram," Sir Austin said, "is to aid the comprehension. If it cannot be made appreciably easier to read than the original numerical data, upon which it is based, then it has no place at all in the structure of the scientific paper."

Editors of medical journals, he suggested, should ask themselves whether a table could effectively replace a diagram and not the reverse. And he went on to criticize the use of initials, an example of laziness on the part of the author. In one paper, for example, there was a reference to G.M.T. which he thought meant Greenwich Mean Time but found on closer examination it meant geometric mean titres. He criticized also the unnecessary use of initials to describe the contents of lines and columns in a table. It would not be difficult or wasteful of space to define the groups precisely. And lastly Sir Austin made a plea for greater care in the writing of summaries to papers. A summary to serve any useful purpose should be a succinct précis of the paper. He believed that a summary could properly take up 5% to 10% of a long and difficult paper.

The Medical Newspaper

Dr. WILLIAM A. R. THOMSON, Editor of *The Practitioner* and Editor-in-Chief of *Medical News*, said that a medical newspaper was nothing more nor less than what it claimed to be, a paper which supplied news about medical matters. He was happy to abide by the *Shorter Oxford English Dictionary* definition of news as "new information of recent events: new occurrences as a subject of report or talk." The problem was whether there was any need for a medical newspaper, and, if so, what its precise function should be. He thought there was a need for a weekly medical newspaper "to provide doctors with up-to-date reliable news of what is happening in the world of medicine—at home and overseas."

What made the position to-day different from formerly was the pace of progress. Current medical journals had a diminishing amount of space to devote to news in the strict sense of the term. "Articles are no longer the spice of life to research workers. They are their bread and butter, without which life would come to a standstill." Among the welter of reports was a modicum of knowledge that would be of use to the clinician in his work. One of the functions of a medical newspaper was to try to pick out this modicum and present it in a readable form. The speed with which scientific and medical advances were announced also made a medical newspaper essential for the modern doctor. In certain countries the research worker would call a press conference and announce his discovery almost the moment it was made, or he would rush the report through in time to read it at a meeting of a society which he knew would be attended by representatives of the national press. And