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How To Be Interesting Though Factual

In preparing a report of a new scientific finding, it is sometimes possible to entice a reader into sticking with you through apparently pointless stretches by intimating at regular intervals that you have discovered something in his private bailiwick that he had better know about. This technique, if crude, is legitimate. Indeed, some of the greatest literary artists use analogous techniques, for example, Dostoevski, who invariably opens the preliminary remarks necessary to introduce a new turn of events with the exclamation: "Then something happened that nobody could have foreseen, something that was to be talked about in our district for many years." But just as subtler methods are possible in fiction, so also in telling the story of a piece of scientific work.

Consider the sequence of steps that make up a successful inquiry. If an author merely describes those steps, then, even though the reader finds each move permissible and each result valid, the inquiry itself will appear to be just one thing after another. But, if, in addition, the author presents each step in terms of the purpose it serves, then the reader will see the inquiry as leading to the solution of a problem. Steps without direction are dull; solving a problem is interesting. Consequently, the way to get people who begin reading a paper to finish it is to develop a sense of purpose. In fact, once a paper is properly oriented, it will gain not only reader interest, but also such other essentials as coherence, clarity, and balance of detail. Teleological explanation may have no place in science proper, but to the extent that scientific investigations have to do with the intentions of men, it has a place in science writing.

To illustrate the advantages of explanation in terms of purpose, let us consider two possible ways of reporting the results of an imaginary inquiry. Our little inquiry offers a solution to a problem that occasionally arises in the course of preparing picnics, cold lunches, and similar repasts.

First version: Ordinarily, determining whether an egg is cooked or raw, without breaking the shell, poses no special problem. But suppose that several hard-boiled eggs—now cooled—are inadvertently mixed with several raw eggs. How then would you tell them apart? The following method requires no special equipment, only the application of a well-known physical principle. Place each egg on its side and attempt to spin it. If it spins easily, it is cooked; if not, it is raw. Raw eggs do not spin readily because the rotational energy is dissipated in the egg's interior, as dictated by the hydrodynamics of viscous fluids. To confirm the method, break the eggs.

Second version: Twelve white eggs were purchased at a supermarket. The eggs were divided into two groups of equal number. The eggs in the first group were boiled seven minutes and allowed to cool; the eggs in the second group were kept as controls. The eggs were mixed. Each egg was placed on its side, and an attempt was made to spin it, after which the egg was broken. It was easy to spin those eggs that subsequently were found to be cooked, but difficult to spin those eggs that proved to be raw. Etc., etc.

The strategy of developing a sense of purpose applies at any level: technical reports for fellow specialists, popular articles for scientists in other fields, and popular articles for the totally uninitiated. Authors know where they are heading; may they share that secret with the readers.—J.T.