CHAPTER 1

THE SCIENTIST AS A WRITER

Publishing Scientific Papers

Maneuvers associated with senior authorship; how and when to give credit to others; rules of the road in a "publish or perish" environment; reviewing the writing of others; an editorial view of scientific writing.

Scientific game playing reaches its absolute peak in the arena of publication—an entirely logical evolution and a reasonable place to begin this book, since one of the essential components of scientific research is the formal presentation of data and conclusions for critical scrutiny, evaluation, and testing by peers. Central issues include authorship, priorities of research, satisfaction of administrative "publish or perish" dicta, interaction with journal editors and reviewers, and establishment of credibility in the scientific community through publication. These and other topics relevant to publication are included in this chapter, which is innocuously and possibly incorrectly subtitled "Publishing Scientific Papers." The methodology involved in writing good scientific papers is not and cannot be a primary objective of this chapter, since books
have been written on the subject. The assumption must be made that the "how to" aspects have been or can be acquired from such publications, from instruction at the knee of a major professor, or from the red-pencil comments of tough-minded reviewers and journal editors.

In the following sections I plan to approach scientific writing from three viewpoints—those of the writer, the reviewer, and the editor. Then I will consider some exciting new concepts in paper evaluation.

AUTHORSHIP OF SCIENTIFIC PAPERS

Authorship of original, sometimes creative, scientific papers, and of reviews and books, is one of the most important satisfactions of a career in science, paralleling and sometimes surpassing satisfactions of peer approval and salary (I said "sometimes"). The pleasures of sole individual authorship are sweet indeed, but except in the case of the autonomous independent investigator such pleasures are too simple to be real. The reality, in an age of complex, often interdisciplinary, research is that of joint authorship, with its associated hornets' nest of problems.

First authorship—the name which appears first in a list of two or more authors—is of course the plum, especially in multiple-author papers where all the other authors become part of the "et al." and essentially disappear from view forever. First authorship of a paper must necessarily be "deserved," but the definition of that word depends almost totally on perceptions. To the senior faculty member or laboratory director the definition is simple and clear-cut. To the junior faculty member, or member of a research team, who may have contributed significant ideas and insights as well as most of the laboratory work, the definition is definitely not clear-