and this tradition—that the Smithsonian's secretary serve on the board of the foundation—has carried on through our 50-odd years of existence, Ripley having just accepted membership on the board.

Another little-known tie is described in a letter (12 Feb., p. 680) from Hinkley, president of the Research Corporation, commenting on Wolfle's earlier editorial on Robert H. Goddard. Hinkley points out that the funds provided by the Smithsonian in support of Goddard's work in 1924–25 were given it for that purpose by Research Corporation. Consistently over the years, the foundation has provided funds to the Smithsonian for a variety of special purposes for which the institution was unable to find other funds either at all or in time to serve urgent needs.

In these days of big science, and with the prospects Greenberg foresees for the Smithsonian, there is little likelihood of our playing any major role in its further evolution. Nevertheless, there may well be those occasional times when real gambling money is needed urgently by the institution to test some highly speculative idea, and here we may well have an opportunity to exercise our special interests further.

CHARLES H. SCHAUER
Research Corporation,
405 Lexington Avenue,
New York, New York 10017

Why Bibliography?

In a recent letter (12 Mar., p. 1241) I suggested that the preparation of bibliographies was becoming increasingly difficult and time-consuming and was being made so by such arbitrary rules as inclusive pagination and alphabetizing. From the mail I have received, evidently many agree. . . . A number of correspondents have suggested, however, that perhaps the publication of bibliographies is not important, after all. Some believe that computers will provide them; others think they should be deposited in centers to be retrieved when wanted; still others think more anonymity of authors should be fostered. So the time required in preparation, the expense of publication, and a growing independence from the past all are contributing to breakdown in use and understanding of the need for bibliographies.

Not long ago every good paper had a carefully selected and, in the opinion of its author, complete list of references. The omission of a particular paper from the list signaled the author's disapproval. Failure to refer properly to others' work was taken as a grave omission. Authors and editors insisted that the rules of the scientific game be followed scrupulously. True, there were abuses. Some authors loaded their bibliographies in order to give them an air of erudition, to avoid even the slightest possibility of omission, or to flatter others and usually themselves.

With the growth of knowledge, bibliographies have become much harder to compile, and there is a temptation to give the job a lick and a swipe by referring to a few original articles and a few reviews. Too often bibliographies are unbelievably sloppy. I found 9 out of 13 references in one article to be wrong, and neither the very intelligent author nor editor recognized the errors. Careless reference to any but the most recent literature has become commonplace.

We must decide whether bibliographies as we have known them have enough immediate and future worth. Have the older rules become outdated? The arguments in favor of proper and complete bibliographies run like this: they keep an orderly, progressive record of the advancing knowledge in a field; they help insure that work is not repeated; they tell much about the knowledge of the author who selects the reference; they keep arguments about priority reasonably clean; and they aid the reader in his search for original sources. The arguments against them are: they take up too much space; they are usually only to gratify the author's vanity; they needlessly distract attention from the factual part of an article; they keep alive the problems of priority; preparation is very time-consuming.

People make science, and this is usually the association by which I remember it. I hope I never come to the point where the name of an investigator means nothing more than a computer number. The man's name to me is the tipoff to the quality and importance of the work. Science will lose this personal aspect, I believe, at its peril. Does the appearance of a man's name mean anything important to the man? Under our current social system it is in part a means to increased salary, recognition, self-esteem, and power. Does anyone honestly think these are unimportant to people? How many enjoy joining that amorphous group called *et al*?

Few other devices help more to keep us strictly honest than a good bibliography. Most of us tend to take just a little more credit than we are entitled to until we actually see that "little more" in hard print. And, finally, what is more helpful than careful documentation of the facts when one examines critically a tightly spun scientific hypothesis or argument? With the accelerated growth of knowledge this can only become more, not less, important.

I hope that authors and editors alike will help one another in coming to an international agreement on a uniform format of reference, and that rules and good table manners will be insisted upon in the preparation and use of bibliography. I am one of those old-fashioned people who believe that the "older literature" does not begin in 1959. I am deeply concerned with the current trend of downgrading bibliography on the one hand and making its preparation needlessly complex and time-consuming on the other. We all need to reconsider these developing trends before it is too late.

IRVINE H. PAGE
Cleveland Clinic Foundation,
Cleveland, Ohio

Reprints of Reprint Requests Requested

Readers of *Science* may be interested in the response to our recent letter concerning reprint-request forms (12 Feb., p. 679). We received in all—directly or forwarded by *Science*—45 letters and requests for reprints of the reprint-application form described in our letter. Eleven of the writers realized our proposal was a joke; 13 took it seriously and were outraged at our arrogance; and the remaining 21 were undecided or noncommittal. Our favorite comment was from a reader who asked if we had any publications on the subject of multiple authorship.

D. H. HUBEL, T. N. WIESEL
J. Y. C. CHEN, J. S. TOBIE
J. TUCKERMAN, M. F. C. CRICK
A. GOLDBERG, L. RICHARDSON
M. COOPER, W. T. THACH
H. H. FUNKENSTEIN, S. BLAU
Neurophysiology Laboratory,
Harvard Medical School,
Boston 15, Massachusetts