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Conflict of Interest Policy

Conflict of interest is a phenomenon that varies depending on the eye of the beholder. Many individuals feel that they can be very objective in areas of their expertise, regardless of affiliations, financial interests, intellectual passions, and so forth. Their opponents usually regard such claims with skepticism. Some individuals are indeed capable of extremely objective thought, but many are not, and therefore rules have to be devised to protect the nonexpert from an expert opinion that is tilted because of personal interest.

Science has long been concerned about such matters, and we routinely select referees who are not involved professionally, socially, or financially with the authors of manuscripts on which we need advice. But strong opinions are not themselves sufficient to exclude an adviser or an author. A manuscript proving that "the sky is falling" may be sent for review to known proponents of "the sky is falling" (because it is valuable for us to see if even they consider the arguments weak) or to known opponents of "the sky is falling" (to see if they can find flaws). When using experts with strong points of view, the editors must know any hidden connection or any ideological commitment that would influence the judgment of the expert. For example, an author with the University of X who advocated the location of a new synchrotron facility at the University of X would in our opinion have a conflict, but the affiliation of the individual would reveal the connection to a reader. If, however, a scientist at the University of X extolled the product of Company Y and actually had stock shares in Company Y, the information about his stock would not appear in his or her affiliation, but the relevant information should be available to the reviewers of a manuscript, or the readers of an article. The key here is to have all the information out in the open, not to conclude that the person with a conflict is necessarily wrong. If the devil advocates two plus two is four, it is not automatic that two plus two is not four. And if an angel advocates two plus two is five, that does not make two and two equal five. Today, all too often conflict of interest is used by opponents as a way of attempting to besmirch a perfectly good argument. A Chinese proverb says, "He who throws the first stone has lost the argument." But there are cases in which the experts disagree, and issues in which the facts are not always as clear as two and two equals four. In such cases the journal should make the appropriate efforts to make all relevant facts known to those who are making decisions.

To achieve the objective of no hidden conflicts of interest, we are implementing policy improvements on our previous procedures. We are adapting guidelines that have been used by the National Science Foundation over a number of years. Reviewing editors, editorial staff, and authors will be asked to reveal to us any relationships that they believe could be construed as causing a conflict of interest, whether or not the individual believes that is actually so. We will not automatically disqualify either the advice or the manuscript (although we may do so in some cases), but we will, of course, take all the information into account in our use of a review, or may ask the author to add some clarifying comments to the manuscript if we feel that they are needed. Further, to practice what I preach, I will put all personal financial affairs that have any relationship to scientific matters into a blind trust. And to readers who may be concerned that the presence of advertising in *Science* may inhibit objective news reporting, we tell our reporters and editors that neither praise nor criticism of advertisers will have any influence on job evaluations. Nor are advertisers able to influence editorial content.

One of the problems of conflict of interest is the degree of sanctimoniousness attached to it. When outsiders attempt to evaluate the ethics of some insider group, the outsiders suggest that only outsiders can be objective, and the insiders always explain only an insider has the needed competence. For outsiders and insiders, one can substitute the words "scientists," "lawyers," "congressmen," "journalists," "businessmen," or "nuclear engineers," in any set of permutations. As the news stories in this issue illustrate, we must be aware of intellectual as well as financial and social conflicts. Our new policy should improve on our existing one, and we will improve it further if there is need. In the conflict of interest arena, it might be useful if all those who wax indignant at the deficiencies of others or the unfair accusations against themselves to remember Robert Burns's lines, "O wad some pow'r the giftie gie us to see oursels as others see us!"

Daniel E. Koshland, Jr.