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**COVER** A transmission electron micrograph (magnification  $\times 16,000$ ) of a human neutrophil that is degrading particles of antibody-coated, insoluble elastin in the presence of human plasma. Although endogenous plasma proteinase inhibitors cannot regulate neutrophil-mediated proteolysis at sites of tight cell-substrate contact, subjacent substrates can be protected from the attacking neutrophils by secretory leukoprotease inhibitor, a structurally unique proteinase inhibitor normally concentrated in human mucous secretions. See page 178. [Photograph by Andreas R. Huber, Sandra Regiani, Bruce Donohoe, and Stephen J. Weiss]

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## Conflict of Interest

Two principles in modern life with wide support are that judges or regulators of a system should be free of conflict of interest and that those judged or regulated deserve to be evaluated by their peers. Yet these two principles are frequently in serious conflict. When asked if the nuclear industry can regulate itself, a biologist would probably say, "Of course not!" A congressman if asked whether biologists can regulate their own ethical behavior might well answer, "How can you expect NIH to evaluate its own grantees?" And a nuclear physicist if asked whether Congress can regulate itself would undoubtedly burst into laughter, and so forth.

Yet in each of these diverse groups, the recipient of a grant or the accused in an ethical inquiry would stoutly maintain that he or she can only be judged by a jury of peers within that same profession. Modern specialization makes it inevitable that those who evaluate complex subjects must have the relevant expertise within that profession to make fair judgments. However, each group is quite willing to say that in somebody else's profession all of the participants are thick as thieves and only outside observers with no axe to grind can protect the public's interest.

Almost all commissions, judges, peer-review panels, and the like, are chosen from within the discipline that is to be regulated. It is not only that expert judgment is required, it is also that individuals will spend time and energy with some unselfishness for their own profession, whereas it is too much to ask them to do this for some other group. Scientists serve on peer-review panels for the National Science Foundation and the National Institutes of Health and on editorial boards of journals, at conditions of pay and hours of labor that would make a sharecropper weep. Lawyers serve on *pro bono* committees of the bar, newspaper journalists on fellowship committees, and so on. It is quite apparent that the time spent on such *pro bono* activities, though offering some reward in the form of recognition and mutual trade-offs, is on the whole not justifiable on a strict cost-benefit analysis. Prominent and busy people are willing to spend the time within their own disciplines because they know the survival of that system depends on that sacrifice.

The systems work, in part because the outside world is always watching. The inside group is needed to provide detailed rules and sophisticated analysis. But inevitably, the big picture can be explained to outsiders, and outside groups do intervene if the insiders' decisions seem unwarranted. Almost invariably, sloppiness or negligence in designing procedures develops into a major scandal in which the outsiders demand reform.

One of the more amusing aspects of conflict of interest morality is how easy it is to be sanctimonious about the ethical systems of other profession. Scientists are utterly confident that the "tiny" honorarium they got from University X does not disqualify them from considering University X's grants, but believe an equivalently small honorarium disqualifies a businessman in a parallel situation. When serving on scientific panels one scrupulously leaves the room while one's own university is being considered. Would the congressman from Arizona leave the room when Arizona appropriations are being considered? Newspaper reporters decry any effort of concealment as *prima facie* evidence of guilt, and yet, asked to give the source of their leaks, discover that confidentiality is essential to their system.

There has to be a reasonable compromise between expertise and conflict. Some cases of conflict are obvious. A businessman cannot serve on a committee to provide a waste disposal license to his own business. A scientist should not be asked to evaluate a colleague's grant. However, firms involved in toxic waste disposal have to be consulted to devise general laws to control toxic waste. Scientists have to be used to evaluate scientific proposals. The line, therefore, must be a compromise. Fame, fortune, and self-interest will tempt anyone, but the idea that one's own profession has a monopoly on virtue is unlikely.

The procedures devised by insiders should always be subject to the scrutiny of outsiders. There will inevitably be some provincialism. Scientists are proud of science and want it to prosper, and they will benefit indirectly if the system prospers. The same is true of businessmen, newspaper reporters, politicians, and public interest groups. That pride, and its concomitant sense of responsibility, is the basis of the *pro bono* sacrifices that allow any system to work. History shows such a system can be destroyed by excessive suspicion or excessive neglect. A spirit of compassionate skepticism is needed to make it work.—DANIEL E. KOSHLAND, JR.