

**Hilgartner, S. (1990). Fraud, misconduct, and the IRB. *IRB: Ethics & Human Research*, 12(1).**

At the same time, notions of who and what is responsible for the problem of scientific misconduct have also grown broader. Here it is useful to distinguish between three kinds of responsibility: causal responsibility, moral responsibility, and political responsibility. Causal responsibility refers to beliefs and assertions about the etiology of a problem. Moral responsibility accrues to those who are blamed for the problem. Political responsibility concerns who is responsible for "doing something" about the problem.

Turning first to causal responsibility, the causes of misconduct are now often seen as extending beyond the pathological individual to include many features of the way scientific research is organized. Misconduct has been attributed to pressure to publish, competition for funding, inadequate supervision of trainees, deficiencies in the peer review system, infrequent replication, inadequate procedures for keeping records or retaining data, and the diffusion of responsibility for jointly authored works. This is not a complete list, but even so, it includes mechanisms that operate at several organizational levels in the scientific community—from particular laboratories to the undergraduate and graduate training programs, to the structure of the grant system, to journal peer review. One can lay these levels out in a spectrum with the causal mechanisms ranging from being narrowly focused on the individual to pointing to increasingly large and broadly based scientific institutions. In recent years, causal responsibility for misconduct has been attributed to a widening spectrum of scientific actors. Sometimes one hears still broader explanations that attribute scientific misconduct to things happening outside the scientific community. It is perhaps inevitable in an era of insider trading scandals and criminal indictments of top presidential aides that people would sometimes argue that scientific misconduct is merely a symptom of a broader moral decay in society, rather than a phenomenon peculiar to science.

Theories about causality are obviously closely related to ideas about moral and political responsibility, and notions of moral responsibility have also broadened. The individual perpetrator still retains most of the blame, but increasingly the blame is shared with a number of others: the co-author who fails to check carefully the data underlying a paper, the referee who gives a manuscript a cursory review, the "research czar" who neglects his or her lab. In addition, universities and medical schools have sometimes reluctantly investigated allegations, and some observers have extended the blame to those institutions. In the moral drama of scientific misconduct, the pathological cheat still plays the lead role, but there is a large supporting cast.

Conceptions of political responsibility for the problem have also broadened. In the traditional view of misconduct, no one needed to "do something" about the problem

because a problem barely existed; the control mechanisms already in place seemed adequate. Today, in contrast, participants in the misconduct controversy are intensely debating a wide range of possible solutions. The overall trend in these proposals is toward requiring more extensive changes, but there are four general, although sometimes overlapping, orientations.

The first of these reflects what might be called a "law enforcement" perspective, focusing on detection, deterrence, and punishment. This approach emphasizes the efficient and just investigation of allegations, swift and severe punishment, and what amounts to a witness protection program, safeguards to prevent retaliation against whistleblowers.

A second perspective takes an "oversight" approach. It emphasizes improving routine quality assurance in science by intensifying routine scrutiny of research results, data, and laboratory practices. Here one finds proposals that institutions adopt policies concerning the recording and retention of data. Another oversight approach would require routine data audits to determine whether the data underlying a paper are verifiable and reproducible.

Another orientation takes an "educational approach," emphasizing the training of researchers and the professional socialization of researchers. Here one finds concern that research ethics need to be articulated more clearly during graduate education. The proposed reforms include providing for more intensive interaction between senior scientists and their students, and emphasizing education in good research practices and the ethics, as well as the methods, of research.

Finally, a fourth perspective stresses the "reward system," seeking to change the rules of the game regarding academic appointments, promotions, and grants in ways that will reduce the incentives for people to cheat or to cut corners in research. One well-publicized example is that of the Harvard Medical School, which has issued guidelines suggesting that departments should base promotion decisions on the quality of publications rather than on their sheer number. As an example, Harvard guidelines state that some have suggested that no more than five papers should be reviewed for appointment as assistant professor, no more than seven for associate professor, and no more than ten for full professor.

Needless to say, such schemes have engendered considerable controversy, since many of them would involve major changes in the way research is conducted in the United States. The proponents of such changes believe them necessary to ensure the integrity of research and to preserve public confidence in science. Others fear that such proposals will intensify bureaucratic regulation of science, stifle creativity, and threaten the autonomy of the scientific community. They worry that government regulation of misconduct will pave the way for increased political control over science.