Highs and Lows on the Fraud Frontier

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Whatever happened to scientific fraud? Be assured that it remains ineradicable, and even as you read this, an ethically deprived member of the great scientific enterprise is attempting mischief. In the official lexicon of scientific crime, the proper term is “misconduct,” defined as “fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results.”

Nonetheless, the eternal campaign against certain types of misbehavior in science deserves to be rated a qualified success. The miscreant seeking glory or advancement via fakery or plagiarism faces considerable peril. On the other hand, large-scale misdeeds, such as pushing pharmaceutical drugs to market through the regulatory system or via misleading promotional publications, remain a challenge.

Individuals now find it difficult to weasel their way out of serious accusations. The alert level for misdeeds has been elevated by federally mandated programs that aim to teach young researchers right behavior in science. Journals once pleaded that they are not the police, but now are more receptive to complaints about the accuracy or integrity of the papers they publish; whistle-blowing has gained respectability, though it can be perilous.

Until late in the last century, the rules governing scientific integrity were sketchily formulated, lacked legal standing, and often were ignored with impunity. Several blockbuster cases in the 1980s resulted in Congressional hearings and embarrassing publicity for the scientific establishment, which customarily pooh-poohed fraud concerns as the product of journalistic ignorance and political opportunism. Faith in the probity of science was precisely calibrated in 1987 by the late Daniel Koshland, editor of *Science*, who declared that “99.9999 percent of [scientific] reports are accurate and true.” Perhaps, but in 1989, after several false starts, the Office of Research Integrity was established in the Department of Health and Human Services, and ever since it’s been in charge of keeping science clean among the 4,000 institutional recipients of support from the National Institutes of Health and other HHS agencies. At the National Science Foundation, the same function is performed by the NSF Office of Inspector General.

Some seasoned observers of the scientific scene contend that fraud persists undetected on a large scale under the very noses of these guardians. Direct evidence for that dour conclusion is necessarily sparse, though occasional discovery of long-running frauds shows that misconduct can persist undetected for lengthy periods. But the epidemic thesis looks doubtful. In the catalog of crime opportunities, scientific fraud is a poor choice. To reap the rewards of scientific crime, the culprit must put the loot on public display (i.e. publish it) with name and address, thus inviting others concerned with the topic to look it over carefully. In addition, scientific wrongdoers must beware of whistle-blowing lab mates alerted by, and maybe envious of, improbable success. Getting caught at faking it or stealing it almost invariably means career doom, for these misdeeds are the scientific equivalent of a capital offense. Recently, for the first time ever, a federal judge handed down a jail term for a scientist who faked results on his NIH-supported research.

For fraud in the lab and other proscribed deviations, official government figures indicate a minuscule incidence relative to the great girth of the American scientific enterprise. According to the Office of Research Integrity, in 2006, 111 institutions reported “research misconduct activity” involving 73 continuing cases and 86 new cases. All in all in that year, the 111 institutions reported receipt of 151 allegations: 69 for falsification, 53 for fabrication, and 29 for plagiarism. ORI’s numbers (like NSF’s) have not varied greatly over recent years.

The situation is far less rosy and distinct at the intersection of science and commerce. Various codes of conduct concerning conflict of interest and truth in authorship have been adopted by professional and scientific organizations. Many medical journals now insist that as a condition of publication, authors tell all about their financial dealings with the subject at hand.

Various registries have been established for clinical trials, in response to the industry practice of sending unfavorable data down the memory hole. “Transparency” is the golden word, but adherence to these admirable edicts is often haphazard.

Not too long ago, the authors of a published research paper were upbraided for failure to reveal their financial dealings with the manufacturer of a product on which they reported favorably. Among the authors was the editor of the journal in which they published their findings.

Epidemic or not, we don’t know. But clearly, there’s still work to be done on the ethical frontiers of science.
