Research Misconduct
Selected Bibliography
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C. K. Gunsalus
Associate Provost
University of Illinois-Urbana/Champaign
Swanlund Administration Building, MC-304
601 East John Street
Champaign, IL 61820

Tel: (217) 244-9096
gunsalus@uiuc.edu

Items marked with an asterisk (*) are particularly useful.

I. Context: The Modern History of Research Misconduct

Bailer, John C. III. "The Real Threats to the Integrity of Science." The Chronicle of Higher Education, April 21, 1995. **Comment**: Bailar, an MD/PhD with extensive experience as a statistical consultant for the New England Journal of Medicine, addresses carelessness/sloppiness in research and explores the boundaries of deception.

*Broad, William, and Nicholas Wade. Betrayers of the Truth: Fraud and Deceit in the Halls of Science. Simon & Schuster, Inc. 1982. **Comment**: Written by New York Times investigative/scientific reporters; its treatment of several early scientists has become controversial, but provides a useful overview.

*Buckner, Noel, and Rob Whittlesey, Producers. Nova: Do Scientists Cheat? Videotape produced for PBS by WGBH Boston, 1988. **Comment**: Despite its age, not dated; good overview, raises provocative questions.

This document was created by C. K. Gunsalus under contract with the Poynter Center. Funding came from the National Institutes of Health (Grant Number 1 T15 AI07601).

Gunsalus, C.K. "Scientific Misconduct Policy Issues." Ethical Issues in Biomedical Publication., The John Hopkins University Press, edited by Anne Hudson Jones and Faith McLellan. 2000. pp. 223-249. **Comment**: An overview. Explores a particular case study involving a student concerned about authorship credit vis a vis his senior professor.

Jones, James. Bad Blood: The Tuskegee Syphilis Experiment: A Tragedy of Race and Medicine. The Free Press. (1981) **Comment:** The discovery of the Tuskegee study was one of the galvanizing incidents leading to federal human subject protection and, later, misconduct regulations. An important piece of history and background.

Klotz, Irving. "The N-Ray Affair." Scientific American, May, 1980. **Comment:** A turn-of-the-century (1903) case involving a discovery by an eminent scientist, confirmed by others, that turned out to be illusory.

Langmuir, Irving. "Pathological Science." Physics Today, October, 1989. **Comment:** Langmuir, winner of the Nobel Prize in Physics in 1932, explores the phenomenon of scientists fooling themselves, and develops six criteria that characterize what he calls "pathological science." Well worth reading.

Rothman, David. Strangers at the Bedside: A History of How Law and Bioethics Transformed Medical Decision Making. Basic Books, 1991. **Comment**: The first seven chapters describe the changing national environment for science that resulted in the first presidential commission on human subjects of experimentation and later, federal regulations. The federal scientific misconduct regulations have followed the same trajectory.

Taubes, Gary. Bad Science: The Short Life and Weird Times of Cold Fusion. Random House, 1993. **Comment:** An interesting, well-written exposition, although it could have been edited down somewhat – tends to wander a bit towards the end. Pathological science or fraud? You decide.

Taubes, Gary. "Misconduct: Views From the Trenches." Science, August 27, 1993. **Comment:** A concise description of the process and how it worked in universities in the 1990s. (It's not all that much different today.)

Walker, Paulette V. "1865 Law Used to Resolve Scientific-Misconduct Cases." The Chronicle for Higher Education, January 26, 1996. **Comment:** The *qui tam* law – designed for bounty-hunters – continues to be an unresolved legal issue in addressing scientific misconduct nationally. Worth understanding. This is a good introduction.

II. Case Studies and Teaching Materials

*Association of American Medical Colleges. Teaching the Responsible Conduct of Research Through a Case Study Approach. Washington, 1994. **Comment**: Case studies supported with other materials.

Committee on the Conduct of Science National Academy of Sciences. On Being a Scientist. Washington: National Academy Press, Second Edition, 1995. **Comment**: Especially good for students.

Djerassi, Carl. Cantor's Dilemma. Penguin Books, 1989. **Comment**: A short novel about work in a Nobel prize-winning laboratory and the competitive pressures of science.

*Editorial Policy Committee, Council of Biology Editors. Ethics and Policy in Scientific Publication. Bethesda, MD: Council of Biology Editors, Inc., 1990. **Comment**: Good case studies especially focusing on publication issues. Likely to be updated, but still valuable as is.

Gunsalus, C.K. "Preventing the Need for Whistleblowing: Practical Advice for University Administrators." Science and Engineering Ethics. Opragen, Vol. 4, pp. 51-64, 1998. **Comment**: Provides guidance for group leaders, department heads and any others in universities who might have to deal with complaints. Step-by-step guidance.

*Gunsalus, C.K. "How to Blow the Whistle and Still Have a Career Afterwards." Science and Engineering Ethics. Opragen, Vol. 4, pp. 75-94, 1998. **Comment**: A companion piece to the administrator article, this one focuses on how students and others with little power can assess concerns about scientific conduct, and how to pursue them after thorough assessment. About conducting oneself professionally during disputes.

Integrity in Scientific Research Five Video Vignettes. Videotape. American Association for the Advancement of Science, 1996. **Comment:** These are "trigger" films that set up a difficult situation and then pose dilemmas for group discussion. Includes a discussion guide.

Medawar, P.B. Advice to a Young Scientist. Basic Books, 1979. **Comment**: Although not specifically focused upon conduct/misconduct issues, a well-written book quite useful in student discussions. By a Nobel Laureate.

National Institute for Engineering Ethics. Gilbane Gold: A Case Study in Engineering Ethics. Videotape. National Society of Professional Engineers, 1989. (24 minutes) **Comment:** An exploration of a set of engineering problems related to safety.

Penslar, Robin Levin, Ed. Research Ethics: Cases and Materials. Indiana University Press, 1995. **Comment**: A nice set of case studies and accompanying materials.

Rayl, A. J. S. "Misconduct Case Stresses Importance of Good Notekeeping." The Scientist, November 11, 1991. **Comment:** A useful summary of the importance of good practices.

Sigma Xi. Honor in Science. Research Triangle Park, NC, 1984. **Comment**: Well written – good for student discussion.

III. Insights into Plagiarism

Bowers, Neal. Words for the Taking: The Hunt for a Plagiarist. W.W. Norton and Company, 1997. **Comment:** Bowers, a poet, writes movingly about his experiences with having his work taken by a serial plagiarist. Bowers is especially powerful when he discusses how many of those who hear about his problem try to minimize the nature of the offense and/or blame him for it. Unfortunately, many of these same reactions, and ambivalence about the value of intellectual work, can be seen in situations involving scientific misconduct.

Fadiman, Anne. "Nothing New Under the Sun." Ex Libris: Confessions of a Common Reader. Farrar Straus and Giroux, 1998. Pp. 103-111. **Comment**: A lovely, concise essay on plagiarism and the habits of plagiarists. Also funny.

Mallon, Thomas. Stolen Words: Forays into the Origins and Ravages of Plagiarism. Ticknor & Fields, 1989. **Comment**: One chapter, "Quietly Goes the Don," discusses a repeat plagiarist; it is an interesting illustration of the ramifications of institutional disposition of cases.

IV. Statements/Definitions

American Association of University Professors. Statement on Professional Ethics. 1987.

American Association of University Professors. Statement on Multiple Authorship. 1990.

American Association of University Professors. Statement on Plagiarism. 1989.

Association of American Medical Colleges. The Maintenance of High Ethical Standards in the Conduct of Research. 1982.

Committee on National Statistics, Commission on Behavioral and Social Sciences and Education, and National Research Council. Sharing Research Data. Washington: National Academy Press, 1985.

National Institutes of Health. Guidelines for the Conduct of Research at the National Institutes of Health. 1990. **Comment**: A guidance document. Probably will need to be updated in light of new federal regulations, but a valuable document nonetheless.

V. Historical Documents on Defining and Responding to Misconduct

AAAS-ABA National Conference of Lawyers and Scientists. Project on Scientific Fraud and Misconduct: Report on Workshop (1-3). Washington: American Association for the Advancement of Science, 1988.

Association of American Medical Colleges. Framework for Institutional Policies and Procedures to Deal with Misconduct in Research (Revised Edition). Washington, February 1990.

Buzzelli, Donald. "The Definition of Misconduct in Science: A View from NSF." Science, January 29, 1993. **Comment**: Illustrates elements of the definition debates in the mid-1990s.

Goodman, Billy. "Scientists are Split Over Findings of Research Integrity Commission." The Scientist, January 22, 1996. **Comment**: Illustrates mixed reactions to the Ryan Commission report (see under Commission on Research Integrity, below).

Gunsalus, C. K. "Institutional Structure to Ensure Research Integrity." Academic Medicine. Vol. 68. Number 9, 1993

Rennie, Drummond and Gunsalus, C.K. "Scientific Misconduct: A New Definition, Procedures and Office – Perhaps a New Leaf." Journal of the American Medical Association, February 19, 1993. **Comment**: Illustrates elements of the definition debates in the mid-1990s.

*Schachman, Howard. "What is Misconduct in Science." Science, July 9, 1993. **Comment**: Schachman has been an influential figure in the definition battles of the last 15 years. Both through the Federation of American Societies for Experimental Biology (FASEB) and as a roving ombudsman for the Director of NIH, Schachman fought vigorously against regulations he saw as hampering scientific inquiry.

*National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. Responsible Science: Ensuring the Integrity of the Research Process Vols . 1 and 2, National Academy Press, 1992.

National Science Foundation. "Misconduct in Science and Engineering: Final Rule." 1991. **Comment**: Presumably will be replaced by mandated new regulations in 2001 or 2002.

Public Health Service. "Policies and Procedures for Dealing with Possible Scientific Misconduct in Extramural Research." 1991. **Comment**: Same as NSF regulations: will require revision/replacement.

*Commission on Research Integrity. "Integrity and Misconduct in Research." 1995. Submitted to: The Secretary of Health and Human Services, The House Committee on Commerce, and The Senate Committee on Labor and Human Resources. **Comment**: Known as the Ryan Commission Report, this was a controversial proposal for re-working federal misconduct regulations. Strongly criticized in many quarters, aspects of this report were completely rejected (especially its new definition of "misconduct"), but its recommendations nonetheless had significant influence on the revisions to the federal regulations proposed by the Office of Science and Technology Policy in December 2000.