

## Values, Ethics, and Research: Commerce, Politics, Integrity and Culture

by

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*Science can only ascertain what is, but not what should be, and outside of its domain value judgments of all kinds remain necessary.*

*Albert Einstein*

### A literary introduction

Scientific inquiry and its ethical quandaries have been an intriguing subject of literary imagination and construction for some time, going back at least to Bertolt Brecht's *The Life of Galilei* (written in 1939 and published in 1955) and Friedrich Dürrenmatt's *The Physicists* (1962), if not all the way to Goethe's *Faust* and his hyperbole of the scientific mind. More recently, the genre of literary treatments of scientific themes and their ethical dilemmas has seen some remarkable accessions, broadening both the mode of literary treatment and the kinds of normative problems in the world of science that are becoming the subject of literary scrutiny.

John Le Carré's *The Constant Gardener* (2001) probes, in his inimitable style of literary suspense, the dark secrets of pharmaceutical trials in Africa. Michael Frayn, in his 1998 play *Copenhagen*, has Werner Heisenberg and Niels Bohr re-enact their fateful 1941 meeting over the morality of working on nuclear fission in clear recognition of its ultimate destructive potential. And Allegra Goodman, in her recent novel *Intuition* (2006), steps boldly into the process of scientific discovery itself and reveals "the slippery definitions of freedom and responsibility in grant-driven American science" (Publishers Weekly, 2005); her subject is the extraordinary tension between exercising due care in making and substantiating scientific claims and bringing these claims to the scientific market place.

The point of this initial *excursus* into the world of fiction is threefold. First, it confirms how sensitive the literary mind of our times has become to the kinds of moral dilemmas that arise in the pursuit of scientific research, and how much of the nature of these dilemmas a literary discourse can reveal. Secondly, trajectories of literary testimony have a way of signaling the growing recognition of critical issues; the increasing attention in the literary world to key ethical issues in the pursuit of scientific inquiry reflects the growing salience of these issues in the broader contemporary cultural discourse. Thirdly, the kinds of literary testimony to which I have referred here highlight some particularly significant and increasingly preoccupying questions in the ethics of research: the growing commercialization of the scientific enterprise in Le Carré's depiction of the pharmaceutical industry; the destructive potential of

scientific discovery in a world of high international tension in Frayn's poignant account of the Heisenberg-Bohr encounter (and, in a different vein, in Dürrenmatt's *Physicists*); and the very personal conflict between the integrity of the scientific process and the pressures of recognition in the scientific community as seen through Allegra Goodman's perceptive eyes. If we add to these the almost classical conflict between cultural and religious norms and scientific evidence as represented in the personal fate of Galileo Galilei, we end up with a fairly representative, though by no means exhaustive, inventory of the kinds of issues with which any serious effort to shed light on the ethics of research will have to deal.

It is these four issues of the ethics of scholarly inquiry which form the major portion of the rest of this paper:

## **1. Research ethics and the commercialization of scientific inquiry**

Crass cases of the falsification of research findings for economic gain continue to remain the rare exception in the scientific community, even though John le Carré is not the only one suspecting the pharmaceutical industry of illicit pressures in the pursuit of extraordinary commercial gains.

Somewhat more frequent are probably the instances where the dignity (or, sometimes, just the appearance of it) of scientific procedures is invoked for purposes of product legitimacy – from toothpaste allegedly validated by dental research to research-based claims for automotive safety.

Much more widespread are the much more subtle and often seemingly innocuous webs of dependency from funding sources in identifying research themes and priorities: where traditionally (although by no means always) the importance of a research question was argued on the grounds of its inherent significance for advancing a body of knowledge, the potential interest of a sponsoring or funding agency increasingly becomes the determining factor in establishing research agendas.

The experience in US higher education suggests a strong correlation between the academic prestige of a given institution and its susceptibility to these kinds of temptations: major (and typically well-funded) research universities prove relatively immune, but many less well-endowed institutions are much more vulnerable to the seductiveness of outside funding.

This dynamic is amplified by a growing institutional pressure upon its members to contribute to the generation of outside funding. Both telling and alarming in this respect is the recent case at Arizona State University where a distinguished cancer scholar with a long career of academically and financially rewarding research was unceremoniously stripped of all of his university resources and staff once his external funding dried up (Wysocki, 2006).

At the other end of this spectrum lies the case of the University of North Carolina (UNC) at Chapel Hill and North Carolina State University (NCSU), which turned down a USD 100 million-plus offer from the Alfred E. Mann Foundation for Biomedical Engineering for the joint commercialization of academic research, on the grounds that the Foundation's demands for acquiring intellectual property rights went beyond acceptable boundaries (Blumenstyk, 2006b)<sup>1</sup>.

An interesting compromise solution (or an ethically borderline case, depending on both one's standards and the ultimate results of this experiment) may have been found by the Center for Integrated Systems at Stanford University, where some 20 Silicon Valley companies are each contributing USD 150 000 annually to support a research center devoted to exploring and developing new technologies. The rights acquired by these annual contributions are limited to participating in the Center's research seminars and brainstorming sessions; to none of the Center's new developments do the participating companies have any preferential access<sup>2</sup>.

Taking various indicators and developments together, the increasing precariousness in the material fortunes of institutions of higher education are likely to exacerbate the problems of commercializing scientific inquiry. The remedies would seem to lie, first, in appropriate measures (private as well as public) for securing the material base of scholarly research in higher education, and, secondly, in instituting and maintaining measures of quality control that assure the independence of setting research priorities.

## **2. Research ethics and the politics of knowledge**

In a general sense, much of the naiveté about the ethics of research (and, indeed, about the nature of research) results from a lack of recognition of the political nature of the process of knowledge production. Knowledge is being produced, inside as well as outside of universities, under intensely political conditions, and it is the politics of knowledge that constitutes the source of some major ethical dilemmas. One of the most important dimensions of the politics of knowledge lies in the relationship of reciprocal legitimation between knowledge and power, *i.e.* in the fact that power – through its command of resources, rules and recognition – legitimates certain kinds of knowledge over others, just as knowledge (as in the weight and reputation of experts) legitimates structures and outcomes of power. Nationally, as well as internationally, knowledge serves as a mighty weapon in the quest for power, and the powers that be are by no means neutral when it comes to the validation and recognition of certain ways of generating knowledge (Weiler, 2004).

To illustrate this point and to substantiate its importance for the ethics of research, I draw on a number of cases in point.

### ***a) Research and national security in the US***

The relationship between research and national security in the US has a history of tensions and conflicts, reaching back all the way to World War II and the days of the Manhattan Project, but has never been more conflictual and tortuous as in the days since September 11. The current debate over access of foreign researchers and graduate students to information and equipment at US universities that can be construed to have a connection to national security issues is particularly consequential in that it threatens the very basis of the kind of international cooperation that has been – both normatively and empirically – a major source of strength for the American research community.

### **b) The political controversy over the theory of evolution**

Very few issues highlight the politics of knowledge as much and as publicly as the political fallout over the appropriateness of teaching theories of evolution, creationism, or “intelligent design” as “science” in American schools. Solid scientific evidence notwithstanding, the debate rages unabated, with recent court decisions in Kansas and Pennsylvania as to what does and does not constitute “science” for purposes of high school teaching further fuelling the debate. The ethical dilemma in this case is less of a concern for the researchers, but lands squarely on the shoulders of high school teachers who find themselves under tremendous political pressure to reconcile local pre- or extra scientific value judgments with their known sense of scientific integrity.

### ***c) The politicization of biological and anthropological research***

The more strictly research-related correlate of the evolution controversy can be found in the remarkable politicization of research in biology and anthropology, notably in the “sociobiology controversy” that emerged over the work of Harvard biologist E. O. Wilson (1975)<sup>3</sup> and in the “Yanomami affair” that was sparked by Tierney’s accusations in his 2000 book “Darkness in El Dorado” (Tierney, 2000)<sup>4</sup>. In each case, claims of racism, sexism, and colonialism pervade a discussion that is as shrill as it is passionate, and that seeks to discredit respectable research in biology and anthropology on normative

grounds, demonstrating in a particularly dramatic form the heavy hand of political persuasions in adjudicating scientific controversy. A major chapter in the annals of the ethics of research ought to be devoted to disentangling this kind of controversy, with due recognition of the important role that politics plays in the construction, production, and consumption of knowledge. A particularly important section of that chapter should be reserved for the very special kinds of politics pervading the behavior of professional organizations – as, in this case, of the American Anthropological Association<sup>5</sup>.

### **3. Research ethics and the integrity of the scientific process**

The intentional fabrication of research results of which the Korean researcher Hwang Woo-suk has been accused remains the rare and, consequently, widely reported exception in the pursuit of scientific inquiry. Existing procedures of scholarly and editorial review are, as this case shows, not foolproof, but do seem to work reasonably well in the large majority of cases.

At the same time, however, the US Department of Health and Human Services reports that allegations of misconduct by scientific researchers reached an all-time high in 2004 (Langlais, 2006), and recent data from the United States suggest that, as one headline in the *Chronicle of Higher Education* puts it, “Scientific Misconduct is Rampant” (Monastersky, 2005; see also Langlais, 2006). The article bases its claim on a survey showing that one third of the over 3 000 scientists questioned by the *Journal “Nature”* admitted to engaging in ethically questionable activities in their pursuit of research. These activities included such things as “overlooking others’ use of flawed data, failing to present data contradicting one’s own work, and circumventing minor requirements of human-subject research”; while none of these fall into the normatively severe categories of fraud, fabrication, and plagiarism, they clearly do have the potential of compromising the integrity of the research.

Quite revealing, and a further footnote to what was said in an earlier part of this paper, is the finding that some 15 percent of those admitting to these moderate trespasses reported that they had made changes in the design, methodology, or results of a study “in response to pressure from a funding source” (Monastersky, 2005). This already begins to answer the question of what leads researchers to the kind of improper behavior that seems to be so widespread; clearly the expectations and pressures of funding sources play a role, as do the intense competition among scientists and perceived injustice in “the way science is organized” (Guterman, 2006); this perceived injustice pertains primarily to the recognition of scientific work and the distribution of rewards. Not surprisingly, younger scholars and female researchers in male-dominated fields feel most intensely about these shortcomings of the scientific enterprise, and report “cutting corners” more frequently, sometimes at the behest of their superiors (Langlais, 2006).

It is encouraging that this situation is gaining more and more attention, and that its further empirical investigation is the central purpose of a new journal in the field, the *Journal of Empirical Research on Human Research Ethics*<sup>6</sup>, which aims at improving ethical problem solving in human research and focuses on the respect and protection of human subjects, methodologies for producing valid and ethical research, and the social, organizational, and political factors operating in the research environment.

### **4. Research ethics and the variety of knowledge cultures**

Just as the political nature of knowledge bears upon the ethics of research in various and significant ways, the fact that knowledge and the process of knowledge production is embedded in cultural contexts – what Böhme and Scherpe call “the culturality of knowledge” (1996, p. 9) – is another important dimension of thinking about the ethics of research. The drama of Galileo’s trial stemmed from the utter incompatibility of his world of modern science and the powerful cultural context of medieval Catholicism, and similar cleavages have appeared both across time and between different knowledge cultures.

“Women’s ways of knowing” was both the title of an influential book (Field Belenky, *et al.*, 1986)<sup>7</sup> and a shorthand reference to a powerful epistemological claim that there are indeed gender differences in the ways people go about constructing knowledge (Weiler, 2004). Similar and similarly persuasive claims have been made with regard to the impact different cultural traditions have on the construction of knowledge, leading to expressions of caution with regard to the premature assumption of the universality of certain knowledge claims. Ashis Nandy from India and Paulin Hountondji from Benin are two of the most outspoken advocates of a conception of knowledge that seeks to recognize the significance and the dignity of local and regional traditions of knowing and not to subsume them under universal artifacts of knowledge (Nandy, 2000; Hountondji, 2002). In an increasingly globalized world, these reminders appear particularly appropriate.

From an ethical perspective, the “culturality of knowledge” establishes a particularly salient norm to recognize and respect the important ways in which the cognitive traditions valued in a given culture affect and shape the process of knowledge creation. While the pursuit of general and generalizeable knowledge claims remains one of the important goals of scientific inquiry, the recognition of culturally specific ways of knowing appears both prudent – in what it adds to the world’s knowledge base – and just – in that it honors what might be called “the ethics of authenticity”.

## Notes

1. cf. Blumenstyk, 2006a.
2. <http://cis.stanford.edu>
3. On the debate about the book, see Segerstrale (2000) and Gross (2004).
4. See also Gross, op. cit.; Sponsel, 2002; and the special website set up by the American Anthropological Association to document this controversy: [www.aaanet.org/edtf](http://www.aaanet.org/edtf).
5. See [www.aaanet.org/stmts/05ref\\_eldorado.htm](http://www.aaanet.org/stmts/05ref_eldorado.htm) on the referendum to rescind the acceptance by the AAA of the report of its El Dorado Commission.
6. [www.csueastbay.edu/JERHRE](http://www.csueastbay.edu/JERHRE).
7. See also Harding (1998).

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