

UNIVERSITY OF WASHINGTON
Biological Futures in a Globalized World

Ethics Matters in Science: Research Questions as Moral Questions

VALUES 591 (3 Credits)
Spring 2013

Instructor: Professor Alison Wylie
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Class meetings: Tuesdays 6:00-7:50
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COURSE DESCRIPTION AND LEARNING OBJECTIVES:

The central goal of this seminar is to introduce students from a wide range of fields to key moral questions raised by research practice in the non-medical sciences. These include not only the issues associated with “Responsible Conduct of Research” (RCR) – professional conduct in mentoring, training and collaboration; appropriate credit and authorship; safety and confidentiality – but also issues of accountability for the social and environmental impacts of research, and broader questions about values embedded in scientific practice that are often not recognized as ethical.

The seminar begins with three framework-setting sessions in which we’ll work through the anchoring text for the course, Resnik’s *Ethics of Science*, and complementary readings on the nature of ethics issues that arise in the sciences, the viability of the ideal that science should be “value free,” and ways of conceptualizing research integrity that takes seriously the social, normative contexts in which the sciences are practiced. The anchor for discussion in the sessions that follow will be three normative concepts that cross-cut research contexts – ideals of integrity, norms of consent, and an ethic of stewardship – and a high profile case (the H5N1 debate) that brings into sharp focus the broader social impacts and the global economic and ecological risks that come with the dramatically expanded capabilities of contemporary biological research (H5N1 debate).

Three public panel discussions sponsored by the Biological Futures project will address issues central to this seminar:

- April 29, “What Counts as Consent?”
- May 6, “New Belmont: Knowledge, Power, and the Ethics of Biological Security”
- May 20, “Stewardship...of what, by whom, in whose interests?”

These sessions are scheduled on Mondays, 12:00-1:30, in the Simpson Center (CMU 202). Attendance is recommended for seminar participants, and the panel proceedings will be available by podcast immediately after each session.

The operating assumption in this seminar is that the background knowledge and perspectives you bring from your different fields of training and practice will be mutually illuminating; do please draw on your field-specific expertise in discussion and in as a basis for the assignments. The readings are intended to provide resources for discussing and analyzing ethics issues that arise in practice – hopefully some of them within your own areas of research interest – and the assignments are meant to provide a context in which to articulate responses to these issues in a nuanced, and ethically satisfying way.

COURSE TEXTS

Available at the bookstore: David B. Resnik, *The Ethics of Science* (Routledge, 1998).

Assigned readings: articles and chapters available online, linked to weekly modules on the VALUES 591 Canvas website.

EVALUATION AND GRADING

I. Seminar participation and presentations

Participation: The emphasis in this seminar is on discussion informed by weekly reading responses and in-class presentations. Advance reading, attendance, and active participation are essential. It is recommended that you attend the three Biological Futures colloquia if you can, or listen to the podcasts that will be posted immediately after each of these panel discussions.

In-class presentations: Each seminar participant will be asked to give four brief discussion-initiating presentations in the course of the quarter:

- April 9: everyone should come to class prepared to workshop an example of an ethical issue you have confronted in your field, or one drawn from a field that interests you. See the questions for discussion listed in the syllabus.
- April 23: working in groups, give a brief analytic presentation on one of the three “integrity and fairness” topics on which readings are assigned for this session. A division of labor will be finalized in the second week of class.
- April 30, May 7, 14, 21, 28: choose one of these five sessions and develop a brief analytic presentation on a selection of the readings; clarify a particular concept, principle, or position represented in these readings and focus on drawing out its implications for a specific case, either one discussed in the readings or one of your own. The presentation roster will be finalized in the second week of class.
- June 4: course wrap-up: come to class prepared to workshop the case study you’re developing for your final paper.

Presentations: 30%

II. Written assignments

Weekly reading responses: Each week through the quarter post a brief (maximum 250 words) reading response on Canvas (in the discussion area designated for that week. These are due by **noon on the Tuesday when these readings will be discussed**. You are welcome to post on the Biological Futures colloquia as well, and comments on the posts of others are especially appreciated. Focus on raising questions you would like to see discussed when the seminar meets.

Reading responses: 30%

Short essay: Early in the quarter you should identify a concrete example – and incident, a type of research, a policy or regulation, a debate – that raises ethics issues that concern you. Use this example as a basis for testing your intuitions and for scrutinizing the claims and proposals made by the authors we read through the quarter. By the end of the quarter develop a short paper of **4 to 5 pages (1000-1250 words)** in which you present an analysis of the ethics issues it raises and make the case for a position of your own on the particular issue you take as the primary focus for your paper. This is essentially a well documented, closely argued position-statement. This final paper is due on the **Tuesday of exam week: June 11th**.

Final paper: 40%

Course policies: Please be sure to read the guidelines for academic conduct and course policies appended to this syllabus (also available on the course website). Note that, on the UW guidelines for Incompletes, you must submit a written petition to the instructor by **May 21** documenting the circumstances and outlining a plan for completing the course requirements.

SYLLABUS

PART 1: Groundwork for ethics in the non-medical sciences

April 2: Introduction

April 9: Ethics in Theory and in Practice

What is ethical theory, as distinct from normative principles, conventions, rules or guidelines? How are these put to work in addressing ethics issues that arise in the (non-medical) sciences?

Assignment: Come to class prepared to workshop an example of an ethical issue you have confronted in your field, or one drawn from field that particularly interests you. What do you find useful in the frameworks, tools, guidelines offered by Douglas, Pimple, and/or Resnik for addressing this issue? What's not useful? What's needed?

- Heather Douglas, "The Moral Terrain of Science" (manuscript, 2013).
- Kenneth Pimple, "Six Domains of Research Ethics: A Heuristic Framework for the Responsible Conduct of Research." *Science and Engineering Ethics* 8.2 (2002): 191-205.
- David Resnik, *The Ethics of Science* (Routledge 1998): chapters 1-4 ("Science and Ethics"; "Ethical Theory and Applications"; "Science as a Profession"; "Standards of Ethical Conduct").

April 16: Science and Values: Science as Value-Free?

Is the ideal of a value-free science sustainable? What role do ethical and epistemic values play in scientific research, and can these be clearly separated in scientific practice? If social, contextual values are ineliminable, does this compromise objectivity?

- David Resnik, *The Ethics of Science* (Routledge 1998): chapter 5 ("Objectivity in Research")
- Robert K. Merton, "The Normative Structure of Science," *Journal of Legal and Political Sociology* 1 (1942): 115-126. Reprinted in Merton, *The Sociology of Science* (Chicago UP 1972), pp. 267-285.
- Heather Douglas. *Science, Policy, and the Value-Free Ideal* (Pittsburgh, 2009): chapters 5 and 6 ("The Structure of Values in Science"; "Objectivity in Science").
- Miriam Solomon. "Socially Responsible Science & the Unity of Values." *Perspectives on Science* 20.3 (2012):331-338.

Background:

- Miriam Solomon. "The Web of Valief: An Assessment of Feminist Radical Empiricism." In *Out From the Shadows: Analytic Feminist Contributions* (ed. Crasnow and Superson, OUP 2012), pp. 435-450.
- Janet Kourany. *Philosophy of Science After Feminism* (Oxford, 2010): chapter 5 ("21st Century...").

April 23: Science as Collective Action: Integrity and Fairness

What constitutes "integrity" in scientific practice? And how are norms of institutional, inter-relational fairness or justice related to the epistemic ideals like objectivity? Resnik's discussion provides an overview; complementary readings are assigned in three areas: evolving definitions of misconduct; the epistemic import of equity; and the attributions of credit.

Assignment: Working in groups, give a brief analytic presentation on one of the three "integrity and fairness" topics on which readings are assigned for this session.

- David Resnik, *The Ethics of Science* (Routledge 1998): chapters 6 and 7 ("Ethical Issues in Scientific Publication"; "Ethical Issues in the Laboratory").
- *Misconduct vs fraud, hoax, negligence and honest error:*
 - David H. Guston. "Changing Explanatory Frameworks in the US Government's Attempt to Define Research Misconduct." *Science and Engineering Ethics* 5 (1999):137-154.
 - Stephen J. Gould. "Samuel Morton – Empiricist of Polygeny." In *Mismeasure of Man* (Norton 1981), pp. 82-101.
- *Equity as epistemically consequential:*
 - Robert K. Merton, "The Matthew Effect" *Science* 159.5 (1968):56-63.
 - Margaret W. Rossiter. "The [Matthew] Matilda Effect in Science." *Social Studies of Science* 23 (1993): 325-341.
 - Helen Longino. "Socializing Knowledge." In *The Fate of Knowledge* (Princeton 2002), pp. 124-144. Updated in "Values and Objectivity." In *Science as Social Knowledge* (Princeton 1990), pp. 62-82.
- *Giving credit where credit is due*
 - Mario Biagioli. "Recycling Texts or Stealing Time?: Plagiarism, Authorship, and Credit in Science." *International Journal of Cultural Property* 19 (2012): 453-576.
 - Richard Lewontin. "Dishonesty in Science." *New York Review of Books* 51.18 (2004).
 - Richard Lewontin. "Epilogue: Legitimation is the Name of the Game." In *Rebels, Mavericks and Heretics in Biology*. (Yale, 2008), pp. 372-380.

PART 2: Cases and Concepts

Monday, April 29: Biological Futures Colloquium – “What Counts as Consent?”

12:00 - 1:30: Simpson Center for the Humanities (CMU 202) – also available as a podcast

April 30: Consent and Autonomy

Consent is a key concept in the medical sciences and is now entrenched as a precondition for most research involving human subjects. How well does it function as a guide to ethical research in non-medical, non-clinical contexts? What does it mean when it is a community rather than an individual whose consent is sought? Or when risks and harms are uncertain, or research agendas are in formation and it isn't clear what consent authorizes?

- *The Belmont Report: Health and Human Services, National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research.* April 18, 1979. Available online at: <http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html>
- S. B. Trinidad, S. M. Fullerton, E. J. Ludman, G. P. Jarvik, E. B. Larson, W. Burke. “Research Practice and Participant Preferences: The Growing Gulf.” *Science* 331 (2011): 287-288).
- Gwen Ottinger. “Changing Knowledge, Local Knowledge, and Knowledge Gaps: STS Insights into Procedural Justice.” *Science, Technology and Human Values* 38.2 (2013): 250-270.
- K.A. Kaphingst, C.M. McBride, C.H. Wade, S.H. Alford, L.C. Brody, A.D. Baxevanis. “Consumers’ Use of Web-Based Information and Their Decisions About Multiplex Genetic Susceptibility Testing.” *JMIR* 12:31 (2010: 1-10).

Background: Onora O’Neill. 1985. “Between Consenting Adults,” *Philosophy & Public Affairs* (14)3: 252-277.

- Rebecca Skloot. *The Immortal Life of Henrietta Lacks* (Crown Publishing, 2011): excerpts.

Monday, May 6: Biological Futures Colloquium – “New Belmont: Knowledge, Power, & Ethics of Biological Security”

12:00 - 1:30: Simpson Center for the Humanities (CMU 202) – also available as a podcast

May 7: Regulation and Security in an Era of “Unknowable Threats”

A “global revolution in biological capability” (as Brent puts it) is transforming industry, technology, agriculture, and the biological sciences themselves on an unprecedented scale, creating risks of harm and vulnerabilities with which existing regulatory frameworks are often ill prepared to deal. These issues come into sharp focus in the debate generated by the announcement, in September 2011, that researchers at the Erasmus Medical Center in Rotterdam had successfully engineered a transmissible mutant H5N1 virus. Is there research that scientists should not undertake? Should results such as these be published? How should the potential for “dual use” be managed? And do scientists have a responsibility to assess communicate such risks?

- David Resnik, *The Ethics of Science* (Routledge 1998): chapter 8 (“The Scientist in Society”).
- Roger Brent, “In the Valley of the Shadow of Death.” Available online at: <http://hdl.handle.net/1721.1/34914>
- David A. Relman, “The Increasingly Compelling Moral Responsibilities of Life Scientists,” *Hastings Center Report* 43. 2 (2013): 34-35. Available online at: <http://www.thehastingscenter.org/Publications/HCR/Detail.aspx?id=6264>
- Gaymon Bennett, “H5N1 and the Politics of Truth,” *Hastings Center Report* 43, no. 2 (2013): 35-37.
- Roger Brent and David Relman, “Comments to the Office of Biotechnology Activities, NIH/DHHS,” January 2013.
- David Resnik. “H5N1 Avian Flu Research and the Ethics of Knowledge.” *Hastings Center Report* 43.2 (2013):22-33.

Background: H5N1 Controversy Timeline and Document Repository: <http://labs.fhcr.org/cbf/Papers/index.html>

- Center for Biological Futures’ On-line Collection of Relevant Papers:

http://labs.fhcr.org/cbf/Papers/H5N1_Document_Repository.html

- Center for Biological Future’s H5N1 Event Timeline:

<http://labs.fhcr.org/cbf/H5N1TimelineofEventsandEpisodesv3.docx.pdf>

May 14: Lab-bench Bioscience in Global Context

The questions raised about the risks of “dual use” addressed in debate about H5N1 research become immeasurably more complicated when you consider the broader global, social and ecological contexts in which influenza pandemics take shape; they vastly outstrip the resources of experimental science. How would scientific research have to be (re)configured to address these broader risks and impacts? How far does the responsibility of individual scientists extend beyond the limits of their expertise – as scientific training becomes increasingly specialized and the “social contract” between science and society is redefined?

- Matthew Sparke and Dimitar Agneulov. “H1N1, Globalization and the Epidemiology of Inequality.” *Health and Place* 18.4 (2012): 22-33.
- Celia Lowe. “Preparing Indonesia: H5N1 Through the Lens of Global Health.” *Indonesia* 90 (2010): 147-170.
- Rob Wallace. Luke Bergmann, Lenny Hogerwerf, and Marius Gilbert. “Are Influenzas in Southern China Byproducts of the Region’s Globalising Historical Present? .” In *Influenza and Public Health: Learning from Past Epidemics* (ed. Giles-Vernick and Craddock, Earthscan, 2010), pp. 101-144.
- Max Weber, “Science as a Vocation.” In *From Max Weber* (ed. Gerth & Mills, OUP 1946).
- Sheila Jasanoff. *Designs on Nature: Science and Democracy in Europe and the United States* (Princeton, 2005): ch. 9 (“The New Social Contract”).

Background: The Biological Futures project sponsored a “Flu Forum” in the Winter quarter (2012); podcasts and presentation material are available online at: http://depts.washington.edu/ssnet/biological_futures/colloquium.html

Monday, May 20: Biological Futures Colloquium – “Stewardship...of what, by whom, in whose interests?”

12:00 - 1:30: Simpson Center for the Humanities (CMU 202) – also available as a podcast

May 21: An Ethic of Stewardship

Ideals of stewardship have a long history in environmental ethics; more recently they have got uptake in contexts as diverse as genome bank management and cultural heritage research. As norms of stewardship take shape in new contexts similar questions assert themselves: if researchers are to function as stewards, whose interests should they serve? How are their scientific interests balanced against those of other stakeholders?

- *Environmental Ethics & Environmental Stewardship:*
 - Welchman, Jennifer. 2012. “A Defense of Environmental Stewardship.” *Environmental Values* 21(3): 297-316.
- *The Stewardship of Medical Information and Biological Samples*
 - B. R. Jeffers BR. [Human biological materials in research: ethical issues and the role of stewardship in minimizing research risks](#). *ANS Advances in Nursing Science* 24.2 (2001): 32-46.
 - S. J. O'Brien. “Stewardship of human biospecimens, DNA, genotype, and clinical data in the GWAS era.” [Annual Review of Genomics and Human Genetics](#) 10 (2009): 193-209.
- *Archaeological Stewardship*
 - Alison Wylie (2005) “The Promise and Perils of an Ethic of Stewardship.” In *Embedding Ethics*, ed. L. Meskell and P. Pells. New York: Berg, pp. 47-68.
 - Leo Groarke and Gary Warrick. 2006. “Stewardship Gone Astray? Ethics and the SAA.” In *The Ethics of Archaeology: Philosophical Perspectives on Archaeological Practice*, edited by Chris Scarre and Geoffrey Scarre, 181-198. Cambridge: Cambridge University Press.

May 28: Epistemic Integrity and Community-Based Participatory Research

In recent decades many sciences have seen the rise of collaborative forms of interdisciplinary research that are community based (CBPR). Critics object that actively engaging non-experts in research is a costly distraction or, worse, it compromises the integrity of the science. Those directly involved in CBPR practice often advocate it not only on moral and political grounds, but as significantly improving the quality – the epistemic robustness and integrity – of their research.

- C. R. Horowitz C. R., M. Robinson, and S Seifer. “Are Researchers Prepared? Community-Based Participatory Research From the Margin to the Mainstream,” *Circulation* 119 (2009): 2633-2642.
- Robin Buruchara. “How Participatory Research Convinced a Sceptic.” In *Participatory Research in Conservation and Rural Livelihoods: Doing Science Together* (ed. Fortmann, Wiley-Blackwell, 2008), pp. 18-35.
- Harry Collins and Robert Evans. *Rethinking Expertise* (Chicago, 2007): ch. 1 (“The Period Table of Expertises”).
- Naomi Scheman. “Epistemology Resuscitated: Objectivity as Trustworthiness.” In *Engendering Rationalities* (ed. Tuana and Morgan, SUNY Press, 2001), pp. 23-52.

Background: Alison Wylie. “A Plurality of Pluralisms: Collaborative Practice in Archaeology” (manuscript).

June 4: Course Wrap-up and Conclusion

Assignment: Come to class prepared to workshop the case study you are developing for your final paper.