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Environmental Justice

Fall 2009

BIOS 50544 / PHIL 43308 (ALSO STV 43396 & IIPPS 50901)

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Office hours: T 2-3:30, W 2-3; other times are by appointment, per sign-up sheet on office door).

Office: 211 Malloy, phone 1-2647
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Class Time: W, 4:30-7
Classroom: 220 Malloy

Course goals: to understand problems of environmental injustice (EIJ) throughout the world
to understand how discriminators use poor science/ethics/logic against minorities and the poor
to understand the many conflicts of interest that face scientists doing environmental research
to teach people to avoid suspect inferences, default rules, and subjectivity in science/ethics
to use classical ethical techniques for resolving ethical dilemmas of EIJ
to rethink the various ways that unethical science can compromise values of objectivity, justice, free informed consent, duties to the common good, rights to know, and responsibility

Course Overview

I. **EJP Severity**: How Serious Are Environmental-Justice Problems (EJP)?

II. **EJP Causes**: Why Do Good People Do So Little About EJP?

Ignorance about EJP	Solution: read NY Times; Wed. paper
"Science Spin" of Special Interests	Solution: read web materials and Taking Action
Citizens' Weak Analytical Skills	Solution: master 5 criteria & fallacies; read National Academy documents

III. **EJP Solutions**: How Does Scientific, Logical, & Ethical Analysis Help Resolve EJP?

Solution: use Singer, One World
Solution: use Shrader-Frechette, EJ

Questions: At beginning of each class, the professor asks for questions. At this time, be sure to ask questions about assignments, research, procedures, or content of prior lectures. For government-research, scientific-journal, journal-database questions for your paper assignments, see professional ND (research or government-document) librarians.

Contact Information: Please see Dr. Shrader-Frechette during her office hours or after class. For appointments, please sign the sheet on her office door. If none of these appointment times will work, please follow directions on the office door and phone Dr. S-F at 1-2647 to let her know when you are available at 8 am (give 3 options) Tuesday-Wednesday. Dr. Shrader-Frechette receives about 100 emails daily, many handled by her assistant . Unfortunately, this high email-volume means she cannot quickly answer student emails. She wants to see everyone, so please do not hesitate to see her or to call. For emergency/sickness contact, use her phone at 1-2647. Be sure to sign up for appointment or contact Dr. Shrader-Frechette about a week ahead of time, as she often is out of town weekly (doing science and ethics advising work in Washington, DC – or pro-bono environmental-justice work somewhere). Typically, she cannot quickly see those who do not make appointments in advance.

Course Format: The course will be an interactive seminar consisting of 60-minute interactive lectures by professor, followed by about 90 minutes of interaction/presentation guided by professor. Remember that weekly assignments are like those for 3 class days -- and you need to balance your time, so work does not pile up.

Deadlines:

Project Outline P1:	at beginning of class, 9-23-09
Revised/Corrected P1	at beginning of class, 10-07-09
Project Paper P2:	at beginning of class, 10-28-09
Project Paper P3:	at beginning of class, 12-2-09

Course Requirements: For all papers, grammar must be without errors, or students will lose points. For all papers except NYT, be sure that you use (as many as possible) up-to-date scholarly books and articles (especially, from refereed scientific and medical journals). Although professor is one of the top scholars in the field covered by the course, do not cite her work in these papers. Also, use no mere website material, no popular sources, no sources likely to have bias (e.g., from industry or citizen-advocacy groups). You may use government documents and journals, even if they are online. Use no newspaper sources, except for paper L, and only if they are absolutely necessary, given the type of paper you are writing. Other assignments and requirements are listed below:

1. 2 one-page assigned papers: 1 local (L), 1 ethics (E); bring hard copies for class, and put hard copy in professor's box, 211 Malloy (and send professor e-mail copy), 48 hours before class beginning at which paper is due.

2. 6 one-page review papers (R): of original P1, P2, E papers of persons on your right and left.

3. a two-page project outline P1 (copies for class); a longer project paper/letter P2; a final P3 (including power-point presentation of P3 for class); a xerox copy of what you send out (corrected P2 = P3) to community/group/officials. Send reviewer and professor an e copy, and put hard copy of paper in professor's box (211 Malloy) at least 48 hours before class at which paper is due.

4. in-class analysis/attendance at every class (C). Presentations of L, E, P1, P2, P3, and R papers help count for this grade.

5. quizzes (Q) on reading for the week; watching 2 videos (V) and turning in video sheets for "Trade Secrets" and "A Plague on our Children."

6. *NY Times* summaries (S) on weekly EJ problems; turn it in at beginning of class; NYT articles must be from previous week and must use flawless grammar.

Basis for Course Grade: There will be no tests, but course grade will be determined by weighting each of the following items as 20 percent: (L + E) + (6 Rs) + (P1 + P2 + P3) + (S+ C) + (Q + V).

Students are encouraged to develop their own arguments and, especially, to develop arguments that differ from those of the professor. Students will be graded only on the logic they employ, the quality of their argument methods, and the factual correctness of factual claims, not on the content of their opinions/positions. Be sure to use the 5 criteria and to avoid logical fallacies.

No late papers/assignments will be accepted, at all, except in the case of a family death or a student illness. (Doctor's note is required.) All assignments are due at the beginning of class, and they will not be accepted later. Athletes who must be out of town should turn in papers early and do quizzes early.

Main Course Work: Students will choose a science-, ethics-, or environment-related project (for papers L, P1, P2, and P3) on which to work independently. In the past, many ND students have analyzed draft environmental-impact statements (2500 are done each year in the US), particularly for poor and minority communities. Others have assessed ethical issues underlying current or proposed scientific or environmental legislation, proposals, and policies.

Class Videos: (1) Coverup at Ground Zero (ABC "Turning Point"), (2) "Declassified: Human Experimentation," (3) "Trade Secrets," (4) NOVA: "A Plague on Our Children," (5) "Save the Males," and (6) Moyer's "Now" series on the income gap and medical insurance (call #M938-31VC) – all are on second floor of library. All are optional, except those noted in 5 above.

Background Reading on Risk-Assessment Methods

(1) US National Academy of Sciences, 1994, Science and Judgment (SJ); available at http://books.nap.edu/books/030904894X/html/R11.html.

(2) US National Academy of Sciences, 1996, Understanding Risk (UR); available at http://books.nap.edu/books/030905396X/html/R1.html.

(3) US National Academy of Sciences, 1983, Risk Assessment in the Federal Government (RA); available at http://www.nap.edu/books/0309033497/html/.

Texts

(1) parts of US National Academy of Sciences, RA, UR, to be read online (optional).

(2) Shrader-Frechette, Taking Action, Saving Lives (NY: Oxford University Press, 2007); available from Amazon and bookstore at about $ 23; and Environmental Justice, $ 19, by using promotion code 24842, ordering at www.oup.com/us ($33 Amazon).

(3) Peter Singer, 2002, One World: The Ethics of Globalization; $ 6 on Amazon.

(4) New York Times subscription, M-F for 15 weeks = $ 30 Follow directions at http://homedelivery.nytimes.com/HDS/CollegeSearch.do?mode=SearchCollege&who=stud&SELECTED_MENU=24&SELECTED_MENU_PARENT=22 (attach email proof of subscription to first Wednesday NYT paper).

Extra-Credit Papers: Must be of form A or E. Select new topic, in connection with professor, before fall break. Papers are due at first class after Thanksgiving. In grading, paper will receive same weight as E paper.

Format for 1-Page (Only) Assignment, Weekly NYT Summaries:

1. Use only article from the previous week. Use Oxford University Press formatting-style for New York Times summaries each week, and put this NYT citation at the top of the summary page, e.g., **Gardiner Harris, "Congressional Investigators Are Critical of F.D.A.'s Efforts to Detect Drug Dangers," *The New York Times* CLV, no. 53559 (April 24, 2006): A12.** (Remember that newspaper style and grammar are not the same as standard style/grammar.)

2. One-page NYT summaries should have 3 paragraphs. First paragraph should be the longest and should **summarize** the main points of the article. Second paragraph should explain **why** the issue covered is an **EJ** problem. Third paragraph should summarize **what you can do** to help alleviate this public-health problem.

3. Cut out the NYT article from the news paper; **always staple** it to the back side of your summary; use only articles from the last week.

4. Bring hard copy of NYT subscription proof with first Wednesday paper; staple this proof to article and your paper.

Format for Local EJ Paper L: Give full citation at top of page to an article that discusses some local, state, or national EJP that has not been resolved and that is waiting for some local, state, or federal action – in which you can play a role or make a difference. The goal of this paper is (1) to help you choose a topic for papers P1, P2, P3; (2) to help you choose a topic that will make a difference in the world – especially by helping some disenfranchised group or helping your local-state community; and (3) to help you learn to look for EJ-relevant draft environmental impact assessments, proposed rule changes, proposed regulation changes, proposed policies, or draft risk assessments – that you can evaluate as part of class work. Remember that the communities/causes/issues who most need your help are not rich, do not have websites, and are not well known. Begin early to do "detective work" to find an important problem to work on. For instance, google "draft" & "impact" & "pollution" – or google "EPA," "regulations," "draft" – or go to the EPA website, or talk to civic leaders, or check the Federal Register – all of which are ways to look for projects. In paper L, first paragraph should tell **who** the vulnerable EJ group is at risk, e.g., Latinos; **what** are the risks they face, and **why** they face them – the causes of the EJ problems. Second paragraph should give one or two sentences of **personal and institutional solutions** to this problem. Third paragraph should give at least 3 relevant scientific-journal references. References should be from recent, first-rate ethical, medical, and scientific journals/books (or recognized government sources). Use no mere

web data, and put references in standard format, as in model-paper. Use the 5 criteria in your arguments. Do not pad the bibliography, and use only references that you cite in text. Do not make claims that you cannot back up with citations, and give several reasons for your claims. Have a very smart person read your paper, ahead of time, to look for logical, conceptual, and grammar problems. Rewrite the paper several times to be sure it is logical, clear, well argued, and grammatical. Always check the grammar paper given by professor, before you turn in your paper. Be sure to use correct citation format, as in model paper. At class, bring 1 copy for professor and 1 copy for each class member. At least 48 hours before beginning of class (at which paper is due), put hard copy in professor's box (211 Malloy) and send professor email copy.

Format for Analysis Paper A or Ethics Paper E (on Singer, chs. 1, 2, 3, or 5): make copies for professor and all class members; 1 page maximum.

(1) Give one-sentence quotation + one-sentence argument, + one sentence explaining why flaw is supportive of/damaging to the author's position. Repeat (1) 4 times, so that you have 15 sentences – each a complete argument in the single sentence after the quotation. Use the 5 criteria and avoid fallacies. Always check the grammar paper given by professor, before you turn in your paper. (2) below explains an example of the paper.

(2) Employ same format as given in KS-F sample critique of Lewis later in syllabus and on website, or use same format for E as given in two Locke papers later in syllabus.

The E paper is like paper A in format, but E's content should be largely ethical, not purely scientific-logical. Use the 5 criteria. To help in your analyses, there is much ethics material in the Singer and Shrader-Frechette course readings. From Singer volume, choose which 3 E-paper topics (priority ranked) you would like, pro or con (8 options; see p. 13). Before Friday noon of this week, put 3 priority-ranked E topics (first come, first served) in box by professor's door at 211 Malloy. If you have another topic you would like, propose it to professor at the same time, plus the 3 required topics.

E assignments are "first come, first served"! Note that "con" papers are easier to do than "pro" papers because, if you support a person/position, you must find reasons that are not already used by the person to support his/her position – i.e., you must provide original, new, complete arguments for agreeing with the person. If you are "con," you need only use an argument to show why a claim is doubtful. Keep key claims in E papers of the form: "A is B because C." When you do the paper, be sure to have all 3 parts of paper, and avoid any redundancy. Do not make claims that you cannot back up with citations, and give reasons for your claims. Have a very smart person read your paper, ahead of time, to look for logical, conceptual, and grammar problems. Rewrite the paper several times to be sure it is logical, clear, well argued, and grammatical. Be sure to use correct citation format, as in model paper. At least 48 hours before beginning of class (at which paper is due), put hard copy in professor's box (211 Malloy) and send professor email copy.

Format for 1-Page (Only) Assignment, Paper R (Review):

6 one-page review papers (R), of P1, P2, E papers of persons on your immediate right and left are due at class on same day as the person's papers are due. Have a very smart person read your paper, ahead of time, to look for logical, conceptual, and grammar problems. Bring copy for professor, and for person being evaluated, and keep a copy for yourself to use when you present your paper in class. Be as detailed and precise as possible, and use the 5 criteria. Each of these R papers must have at least 6 numbered points/sentences (3 positive, 3 constructive criticism), with blank lines between points, assessing the paper. Each sentence must be of the form: "A is B because C." Sample positive sentence: "Mary Smith's argument two is more convincing because she uses arguments and citations from the very top scientific journals, Science, Nature, and Environmental Health Perspectives." Sample constructive-criticism sentence: "Joe Brown's second argument is weak because, although Joe seems possibly correct to argue that increased local breast cancers occurred because of dioxins released from a nearby Monsanto plant, Joe does not systematically eliminate other likely causes of the cancers, such as family history or genetics." Mention specific arguments and claims of author, and make no general statements about the paper. People whose papers are being evaluated should send both the professor and their final evaluators an email copy of their papers (plus a hard copy for professor in box at 211 Malloy), no later than 48 hours prior to class beginning. In email subject line put: "E paper for EJ" and "R paper for EJ" and so on. If authors do not send paper to professor and evaluators in time, authors will lose 20 points. Authors whose papers are being evaluated also should send e copy and put hard copy of paper in professor's box (211 Malloy) 48 hours before class. Format: at center top of paper R, put: "Review of Joe Smith Paper A." Skip 2 lines, and at far left, put your own name, followed by the name of the class: "EJ class. Always check the grammar paper given by professor, before you turn in your paper.

Format for Project Paper P1: See earlier comments on local EJ paper; this P1 paper follows on that one. Make 1 copy for professor + copies for all members of class; 2 pages max. (use 1 pg. front and back). Use recent govt. documents and scientific journals to back up your claims. At least 48 hours before beginning of class (at which paper is due), put hard copy in professor's box (211 Malloy) and send professor and the 2 reviewers an email copy. Use sample P1, BioScience format, for doing (argument-objection-response) items in (8) below. Be sure to number each item on your P1 paper, as below, and use recent government documents and scientific journals to back up your claims. Try to use the 5 criteria in your arguments. Have a very smart person read your paper, ahead of time, to look for logical, conceptual, and grammar problems. Always check the grammar paper, given by professor, before you turn in your paper.

[last name, first name] [date]

(1) Your department and your year in school.
(2) Title of draft EIS/TA/QRA/law/regulation (document being assessed) + website address and full bibliographical information, in correct citation formation (in-text citation; references at end).

(3) 1 succinct, clear, complete, precise sentence on what the EIJ problem is.
(4) 1 succinct, clear, complete sentence on what the document says about the problem.
(5) 1 succinct, clear, complete sentence on your thesis (what you think about what document says).

(6) Relevant deadline, if any, and names/addresses of those to whom responses should be sent.
(7) 1 sentence on why the EIJ problem is important.

(8) 3 argument-objection-response sentences (1 each) on 4 apparent problems in document (12 sentences total, 4 argument chunks, total); each chunk should constitute a complete argument.
(9) 10 current scientific references pro/con the issue (not just from the net; use scholarly journals or government documents, and do not cite popular materials).

Format for Project Paper P2: Use the 5 criteria, redo paper P1, and turn in old + revised paper after correcting all problems noted on old P1. In your new paper, be sure to fix all the problems, noted by the professor, on your old paper. You will lose many points for any problems that are noted on old papers, but not fixed on new papers. If it is impossible to fix some problem, noted by the professor, give her a note that explains, in detail, why it is impossible. Staple old, marked-up (by Professor) P1, along with new P1, including references. Always check the grammar paper, given by professor, before you turn in your paper. Have a very smart person read your paper, ahead of time, to look for logical, conceptual, and grammar problems. Turn in concise, persuasive, one-page letter to the most relevant victims, US Representatives, Senators, federal agency, NGOs, Congressional committee (5 letters minimum), etc. that summarizes-defends your position. (Be sure to have personal names for each address.) Have this one-page letter use parenthetical references to about 5 pages of attachments and appendices that contain several specific, longer arguments and references. That one page should be especially convincing and flawlessly clear. It is the cover letter, and appendices and references are attached to it. Use recent government documents and scientific journals to back up your claims. At least 48 hours before beginning of class (at which paper is due), put hard copy in professor's box (211 Malloy) and send professor and the 2 reviewers an email copy. Sample P2 papers, from earlier students, are under "Class Materials" on professor's website.

Format for Project Paper P3: This is merely a xeroxed copy of the letter and attachments, after P2 has been corrected on the basis of professor's markings. Use the 5 criteria, and staple old P2, with professor's comments, to xerox copy of new P3, including xeroxes of addressed envelopes. Always check the grammar paper, given by professor, before you turn in your paper. P3 = proof of the quality of the paper/arguments/letter you mail out. At least 48 hours before beginning of class (at which paper is due), put hard copy in professor's box (211 Malloy) and send professor and the 2 reviewers an email copy. In your new paper, be sure to fix all the problems, noted by the professor, on your old paper. You will lose many points for any problems that are noted on old papers, but not fixed on new papers. If it is impossible to fix some problem, noted by the professor, give her a note that explains, in detail, why it is impossible. Have a very smart person read your paper, ahead of time, to look for logical, conceptual, and grammar problems.

About the Professor: Kristin Shrader-Frechette has degrees in mathematics and in philosophy and has done 3 post-docs, one in hydrogeology, one in economics, and one in population biology/community ecology. Author of 350 professional papers and 14 books, her work has been translated into 13 languages and has appeared in science journals such as Science, BioScience, Health Physics and Quarterly Review of Biology, as well as in philosophy journals such as Ethics, Philosophy of Science, and Journal of Philosophy. Her latest book is Taking Action, Saving Lives. Shrader-Frechette has done environmental-justice (EJ) work in the Americas, Europe, Africa, and throughout the US – and is the leading philosopher in the world on EJ issues. She has addressed the national academies of science in 3 nations and advised various foreign and US governments, the UN, and the WHO on issues of quantitative risk assessment, EJ, and nuclear waste disposal. Shrader-Frechette is a member of the US EPA Science Advisory Board and Chair of the US Bioethics Committee of the US EPA. She also has served on many committees and boards of the US National Academy of Sciences, the UN, the WHO, and the International Commission on Radiological Protection. Her research has been funded continuously by NSF since 1982, and she is Past President of the Risk Assessment and Policy Association and the International Society for Environmental Ethics. Shrader-Frechette has won the top ethics award in the world – given by the World Technology Network – for her work on environmental justice and ethical issues in science. Her husband has a math Ph.D. and is a software engineer. Their children have just graduated from Princeton. All are avid scuba divers, runners, and kayakers. See her website at www.nd.edu/~kshrader.

[STUDENT PAPER ILLUSTRATING THE PERVASIVENESS OF EJ & ENVIRONMENTAL-HEALTH PROBLEMS]

[This 2006 sample paper is an "A" paper and has only minor incompleteness.]

Kate Distler, Spring 2006

1. What Happened to the Family Member or Friend: My grandmother was diagnosed with Alzheimer's disease (AD) five years ago at the age of 76. Her AD has progressed since diagnosis. She now has moderate or mid-stage AD (stage 5 out of 7).

2. What May Have Caused What Happened: At least six reasons suggest that my grandmother's AD is related to occupational pesticide exposure as a florist.

First, there is strong evidence that vascular risk factors such as heart disease, stroke, diabetes and smoking are risk factors for AD (Luchsinger et al 2005). My grandmother, however, fits none of these factors.

Second, there is evidence that a history of dementia in siblings and/or parents is also a risk factor for AD (Brown 2005). Yet there is no family history of dementia, neurological disease or AD in my grandmother's family.

Third, numerous studies have found that environmental factors are also risk factors for AD (Gatz et al 2005; Brown 2005; Landrigan et al 2005). Because my grandmother is otherwise healthy and because her AD does not appear to be genetic, it follows that my grandmother might have developed AD because of environmental causes.

Fourth, links have been established between cumulative exposures to pesticides and the development of neurological diseases, particularly Parkinson's disease and AD (Baldi 2003).

Fifth, in 1979, 350 million cut flowers were imported into the United States for use in florist shops. These flowers were imported with strict regulations on pests and plant diseases, but without regulations on pesticides. As a result, imported flowers often underwent heavy pesticide applications prior to shipment. Many of these pesticides were fat-soluble and could be absorbed through the skin. My grandmother, working as a florist from 1965-1982, handled many imported flowers and could have been exposed to exceptional levels of pesticides. (Morse et al 1979).

Sixth, recently, specific pesticides (organophosphates and carbamates) have been closely linked with AD (Brown 2005). In 1979 (again when my grandmother was working as a florist) ten florists were found to have organophosphate poisoning due to occupational exposure to organophosphate pesticides (Morse et al 1979). This suggests that many florists at that time, including my grandmother, were not only exposed to pesticides but to organophosphates in particular. As a florist for seventeen years, my grandmother was likely exposed to cumulative levels of organophosphates that could have reasonably contributed to her AD.

3. Bibliography

Baldi, I., Lebailly, P., Mohammed-Brahim, B., Letenneur, L., Dartigues, J., and Brochard, P. 2003. Neurodegenerative diseases and exposure to pesticides in the elderly. **American Journal of Epidemiology** 157 (5): 409-416.

Brown, R., Lockwood, A., and Sonawane, B. 2005. Neurodegenerative diseases: an overview of environmental risk factors. **Environmental Health Perspectives** 113 (9): 1250-1256.

Gatz, M., Fratiglioni, L., Johansson, B., Berg, S., Mortimer, J., Reynolds, C., Fiske, A. and Pedersen, N. 2005. Complete ascertainment of dementia in the Swedish Twin Registry. **Neurobiology of Aging** 26 (4): 439-447.

Landrigan, P., Sonawane, B., Butler, R., Trasande, L., Callan, R., and Droller, D. 2005. Early environmental origins of neurodegenerative disease in later life. **Environmental Health Perspectives** 113 (9): 1230-1235.

Luchsinger J., Reitz C., Honig L., Tang M., Shea S., and Mayeux R. 2005. Aggregation of vascular risk factors and risk of incident Alzheimer disease. **Neurology** 65 (4): 545-551.

Morse, D., Baker, E., and Landrigan, P. 1979. Cut flowers: a potential pesticide hazard. **American Journal of Public Health** 69 (1): 53-57.

[STUDENT PAPER ILLUSTRATING MEDIA "SCIENCE SPIN" ON EJ & ENVIRONMENTAL-HEALTH PROBLEMS]
[This sample 2004 paper is an "A" paper and has only minor incompleteness.]

John Ray, Spring 2004

"MIT's Mark Dowie has charged that *New York Times* Science writer, Gina Kolata, has a pro-corporate / anti-public health bias, as revealed in her stories on breast implants. Who is right?"

Thesis: In at least five *New York Times* articles concerning silicone breast implants, Gina Kolata either ignores or minimizes corporate misconduct or serious public-health concerns, supporting Mark Dowie's charge that Kolata is biased.

1. Gina Kolata's September 18, 1995 New York Times article states that silicone-breast-implant manufacturers "agreed to a class action settlement for women who had implants" because they were "faced with a growing number of lawsuits." But Kolata did not mention that the manufacturers were losing such lawsuits because juries were finding (i) that silicone-breast implants were causing the serious illnesses and injuries alleged and (ii) that some implant manufacturers had affirmatively concealed the adverse results of animal testing (Dow Chemical Co. v. Mahlum).

2. Gina Kolata's September 18, 1995 New York Times article states that "recent studies have found no link between the implants and serious diseases . . . and many doctors believe they are safe." But Kolata did not mention numerous authorities and studies finding (i) that silicone is toxic in both animals and man (Busch 1994); (ii) that women with silicone- breast implants are at higher risk of developing cancer from killer-cell suppression (Campbell 1994); and (iii) that autoantibodies linked to autoimmune symptoms were found in 5% -30% of women with silicone-breast implants (Bridges 1993).

3. Gina Kolata's October 11, 2003 New York Times article states that implant manufacturers were "forced" to compensate women "who the implant makers argued were never sickened by the devices in the first place." But Kolata does not mention the hundreds of women with breast implants who reported symptoms of chronic fatigue (77%), cognitive dysfunction (65%), severe joint pain (56%), dry mouth (53%), dry eye (50%), hair loss (40%), and difficulty in swallowing (35%) post-implant surgery (Solomon G 1994).

4. Gina Kolata's October 19, 2003 New York Times article states that "most of the [F.D.A. Advisory Panel's] scientists agree that implants have not been linked to a risk of systemic diseases like cancer, lupus or chronic fatigue, or neurological problems." But Kolata does not cite the many studies showing that silicone-associated symptoms go away when the silicone implants are removed (Robinson 1995 and Cuellar 1995).

5. Gina Kolata's January 9, 2004 New York Times article says an Institute of Medicine report found "no conclusive evidence linking the implants to serious diseases," but Kolata mentions neither many other reports to the contrary, nor the Institute's finding of "relatively high frequency of local complications that are unique to women with silicone implants" (IOM 1999).

Bibliography

Bridges A, Vasey F. 1993. Silicone breast implants: History, safety, potential complications. **Archives of Internal Medicine** 153 (23): 2638-2644.

Busch H. 1994. *Silicone* Toxicology. **Seminars in Arthritis and Rheumatology** 24 (1) suppl. 1: 11-7.

Campbell A, Brautbar N, Vojdani A. 1994. Suppressed natural killer cell activity in patients with silicone breast implants: reversal upon explantation. **Toxicology and Industrial Health** 10 (3): 149-154.

Cuellar M, Gluck O, Molina J, Gutierrez S, Garcia C, Espinoza R. 1995. Silicone breast implant – associated musculoskeletal manifestations. **Journal of Clinical Rheumatology** 14 (6): 667-672.

Dow Chemical Co. v. Mahlum, 114 Nevada Advance Opinion No. 155.

Institute of Medicine (IOM). 1999. **Safety of Silicone Breast Implants**, Washington DC, National Academy Press.

Robinson O Jr, Bradley E, Wilson DS. 1995. Analysis of explanted silicone implants: a report of 300 patients. **Annals of Plastic Surgery** 34 (1): 1-6.

Solomon G. 1994. A clinical and laboratory profile of symptomatic women with silicone breast implants. **Seminars in Arthritis and Rheumatology** 24 (1) suppl. 1: 29-37.

Sample Analysis Paper A [Use fonts 12or larger; no sentences longer than 3 lines; no quotes twice.]
[last name, first name] [date]

Lewis HW. 1990. Technological Risk. New York: Norton.

1. "Ionizing radiation....may or may not be bad in small doses—no one knows" (Lewis, ch. 15, p. 218).

Lewis' claim is incomplete because he admits, on p. 222, that the National Research Council (National Academy of Sciences) says that the probability of radiation-induced cancer is a function of the amount of radiation received.

Lewis' incompleteness is damaging to his argument because the incompleteness suggests he may be biased in underestimating the dangers associated with radiation.

Alternative to two previous sentences:

Lewis' claim could lead to the consequence that people were careless about unnecessary radiation risk because he says "no one knows" if small doses are dangerous.

This consequence is damaging to Lewis' argument because people ought not ignore even potential risks if they are easily avoidable, e.g., by wearing a lead apron for x-rays.

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2. Medical x-rays are examples of voluntary exposure to radiation" (Lewis, ch. 15, p. 219).

Lewis assumes that when people receive x-rays, their exposure to radiation is voluntary.

This assumption is doubtful because doctors, insurers, or employers often require people to receive x-rays, and patients often do not understand the risks involved and hence cannot consent to them.

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3. "Nuclear waste must be disposed of carefully" (Lewis, ch. 15, p. 220).

Lewis' claim above is inconsistent because he also claims (on pp. 245-246) that "high-level waste....risk....turns out to be ridiculously low....High-level nuclear waste disposal is a non-risk."

Lewis' inconsistency is damaging to his argument because one need not be "careful" about a risk that is "ridiculously low" or a "non-risk"-- emotive language that suggests Lewis' bias.

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4. "The vast majority of all these radiation sources deliver[s] extremely small doses, with minimal if any heal the effects, even though fear of even trivial doses of radiation is common"(Lewis,ch.15,p.220).

Lewis assumes that it is not reasonable to fear trivial doses of radiation.

This assumption is doubtful because Lewis admits ionizing radiation "may be bad in small doses—no one knows" (Lewis, ch. 15, p. 218), and it is reasonable to fear small/unneeded doses of things with cumulative effects.

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5. "The maximum permitted exposure for workers in nuclear facilities is 5,000 mr per year, and for the general public 500. We don't know if this much radiation does any harm at all"(Lewis,ch.15,p. 220).

Lewis' claim is incoherent because (1) the referent of "this much radiation" could be 5,000 or 500 mr and (2) he says (p. 222) "the most authoritative estimates" of radiation risk show that the risk is a function of dose.

Lewis' incoherence is damaging to his argument both because (1) his language makes his argument unclear and (2) he appears to be biased in underestimating radiation risks.

Sample Ethics Paper E [Positive; see format earlier for paper A]

[last name, first name] [date]

Shrader-Frechette KS. 2007. Taking Action. New York: Oxford University Press [all citations are to chapter 3].

Q1: "Locke says the eternal law of nature, directed at human preservation, limits property rights...so that all people in all generations have...access to land, genes, and the benefits…." (TA, 3-11).

C1: Societal consistency also supports Q1 because the strongest property rights, to one's person, are restricted for the sake of community welfare, as Locke and S-F say, as when society incarcerates dangerous people.

A1: C1 promotes Q1 because, although societal opinions never establish ethical conclusions, well- substantiated societal opinions help establish them, precisely because they are supported by reasonable people.

Q2: " 'The law of nature...willeth the peace and preservation of all mankind'...This law governs, for example, the distribution of common properties" (TA, 3-9).

C2: Locke's/S-F's Q2 assumption, of natural law, is correct because, as Aquinas says, if humans have a given nature, behavior following these natural "laws" is necessary to help humans be fulfilled, happy, and good.

A2: These additional grounds for the assumption support the S-F argument because all those, who claim religious grounds for supporting natural law, defined by Aquinas, have new reasons to support S-F's account of Locke.

Q3: "Through implicit consent to the use of money, Locke said people 'have agreed to disproportionate and unequal Possession of the Earth'" (TA, 3-6).

C3: S-F's arguments for equal opportunity in property and against Q3 have coherence with past history because early people may have consented to money as a convenience, but not to any particular distribution of goods.

A3: C3 supports S-F because it suggests alleged original grounds for assenting to unequal opportunity may not have existed, and Locke needs new arguments that people really consented to unequal opportunities.

Q4: "Human labor cannot merit full property rights to resources like land or genes" (TA, 3-11).

C4: One desirable consequence of supporting Q4, is that the "burden of proof" is on polluters and developers, to show their actions really lead to greater opportunity for all, present and future.

A4: Consequence C4 supports Q4, the S-F view of Locke, because all ethical and political theorists will have to rethink how society fails to live up to Lockean standards they claim to accept.

Q5: "Locke erroneously believed…land on which humans had not labored was of little value" (TA, 3-11).

C6: Because S-F's Q5 suggests why Locke erred in thinking land had little value, she gives a more complete account of why (1) Locke's factual errors do not harm his theory and (2) why changed factual conditions (expanding population and limited land) call for a reinterpretation of Locke.

A6: The completeness, noted in C6, supports S-F's argument because it shows how and why people are misled when they fail to read Locke in the historical and cultural context in which he wrote.

Sample Ethics Paper E [Negative; see format earlier for paper A]

[last name, first name] [date]

Shrader-Frechette KS. 2007. Taking Action. New York: Oxford University Press [all citations are to chapter 3].

Q1: "Locke's writings…provide grounds for restricting property rights....[because] 'as much and as good' must remain for others...In a world of expanding population, absolute property rights in land or genes would preclude… equal opportunity" (TA, 3-6, 3-11).

C1: Q1 makes the assumption that, because there is never "as much and as good" natural resources, like land, in a finite world, people cannot appropriate natural resources, as wholly private property.

A1: Because assumption C1 is questionable whenever people (even future generations) are adequately compensated for losing their "share" of resources, Q1 should allow property in resources, if there is full compensation.

Q2: "Locke's law of nature and the first proviso require limiting property rights so that all people in all generations have equal opportunity, 'as much and as good' access to land" (TA, 3-11).

C2: Q2 is incomplete in limiting property in resources because it also must show that, without full property rights, there would be economic incentives for developers to use existing resources to benefit all.

A2: This incompleteness in damaging to Q2 because S-F must show, not merely that consistent Lockeans reject full private property in natural resources, but that her interpretation of Locke is practical and workable.

Q3. "Locke says the root of all evil is humans desires for more than they need....Locke appears to have personal, as well as political, grounds for limiting claims to property rights." (TA, 3-8).

C3: It is incoherent to argue both Q3 and that, because humans need no full property rights to resources, such full rights are the source of evil, because desiring (not only having) what is not needed is the root of evil.

A3: C3 requires Q3 to be modified because, so long as other conditions (e.g., all people have what is necessary for their preservation) are met, having more than what one needs may not cause evil.

Q4: "Locke says the root of all evil is human's desires for more than they need....He says children should be taught from an early age...to avoid acquisition" (TA, 3-8).

C4: It seems inconsistent for S-F to approvingly quote Locke in Q4 because he seems to reject acquisition in general, not merely desires to acquire more than is needed (TA, 3-8).

A4: This apparent inconsistency in Q4-C4 is damaging to Locke/S-F unless they explain that, while desire for excess is the root of evil, yet one can train children to avoid such desires by restricting their acquisition.

Q5: "Locke claims that if labor did not generate property rights, people would starve while waiting to work out property agreements" (TA, 3-7).

C5: One consequence, of accepting Q5 and its labor theory is that one has no full property rights to things to which others contributed labor, yet we recognize full property right over some things, e.g., books we write.

A5: Consequence C5 is damaging to S-F because it accepts the labor theory of value, yet obviously people accept full private-property rights to things for which their labor, alone, did not create the value.

Thesis: The US should not allow proposed, more lenient workplace-pollution (than public) standards, because often workers (1) are not informed about risks; (2) impose risks on the innocent, e.g.,future people (3) get no compensating wage differential (CWD); (4) have faulty risk preferences; and (5) should not trade health for money.

Argument 1: The US should not allow more lenient workplace standards, (1) because workers often are not fully informed about higher risks, and industry often covers up the risks (GAO 1999).

Objection 1: Argument 1 is questionable because unions and government regulators can inform workers of the risks, as Congress recently did, in the case of nuclear workers (Congress 1999).

Response 1: Objection 1 is questionable because US union membership is only 14-16 percent (Miller 1999, pp. 57-59), and government often fails in its regulatory capacity (GAO 1999).

A2: The US should not allow more lenient workplace standards, (2) because often worker mutagenic risk is imposed on innocent people, such as future generations (Shrader-Frechette 2002, ch. 5).

O2: A2 is questionable because someone needs to do the risky work, or else the economy would suffer (Dorman 1996, pp. 26-28).

R2: O2 is questionable because human rights take precedence to economics, and because European nations also do risky work, but with very stringent workplace standards (Newton 1996, pp. 135-149).

A3: The US should not allow more lenient workplace standards, (3) because often there is no CWD for workers in environmentally risky occupations (Leigh 1995, pp. 3-7, 215).

O3: A3 is questionable because many economists say there is a compensating wage differential, although it varies from occupation to occupation (Viscusi et al. 2000).

R3: O3 is questionable because although there is an average CWD, disaggregating CWD data shows it exists only for unionized, college-educated, or male workers (Shrader-Frechette 2002, Ch. 7).

A4: The US should not allow more lenient workplace standards, (4) because workers often have faulty or irrational preferences for riskier work (Broome 1999, pp. 192-198).

O4: A4 is questionable because workers have the right to determine what jobs they want, and the market promotes efficient job-risk matchups (Viscusi et al. 2000, pp. 768-769).

R4: O4 is questionable because workers often are forced into jobs, not because of real preferences but because of economic hardship and low skill levels (Levenstein and Wooding 1997).

A5: The US should not allow more lenient workplace standards, (5) because workers ought not be able to trade health for money, since only vulnerable people tend to do so (Leigh 1995, pp. 3-7, 215).

O5: A5 is questionable because such trades promote worker freedom (Viscusi et al. 2000, p. 766).

R5: O5 is questionable because even the courts recognize that paternalism and worker protection sometimes ought to take precedence over complete worker autonomy (Sellars 1997, p. 47).

FALL 2009, OUTLINE OF LECTURES AND ASSIGNMENTS

Date	Section of Course	Lecture	Assignment Due Today
8-26-09	**What Are EJP?**	(1) Overview of Course (2) EJ. ch. 1: Overview of EJ Problems (3) Suggestions for Paper L, P1	(1) Get NYT subs.; watch video early; read ch. 1 EJ. (2) See student work, p. 6 above re EIJ ubiquity. (3) By noon Friday, put priority list of 3 E (Singer) topics in prof's box, 211 Malloy. (4) Get email addresses of right/left persons.
9-2	"	(1) Lives at Risk from Envir. Toxins (2) Tools of Analysis: Fallacies & 5 Criteria	(1) Read ch. 1, S-F, TASL. (2) Watch "Trade Secrets" video early; work on Paper L.
9-9	"	(1) Analysis of Bullard (2) Analysis of Friedman (3) Evaluate L papers	(1) Read-analyze Bullard & Friedman on website; turn in paper L for entire class; give professor a hard copy (in her box, 211 Malloy, as explained earlier) and an email copy—both at least 48 hours before class begins. (2) First half of class will present paper L.
9-16	**Why People Do Not See EJP**	(1) Manipulating Govt., Media, Science (2) Tools of Analysis (3) Second half of class do paper L	(1) Read S-F, TASL, chs. 2-3; for 5 extra points, turn in "early" P1 for entire class; turn in early R papers. Give professor a hard copy (in her box, 211 Malloy, as explained earlier) and an e-mail copy—both at least 48 hours before class begins. (2) See "Trade Secrets" video; turn in video sheet. (3) See student work, p. 7 above, for media "spin."
9-23	"	(1) Flawed Property Rights: Appalachia (2) Do analysis of early P1 papers (sent to class via email by previous class.)	(1) Turn in regular paper P1 with copies for entire class, but give to reviewers 48 hours earlier. Give professor a hard copy (in her box, 211 Malloy, as explained earlier) and an email copy—both at least 48 hours before class begins. (2) Read EJ, ch. 3; turn in R papers. (3) Analysis of early P1 papers (emailed 2 days before previous class to R people and 2 copies put in prof's box at door) – 2 days earlier. P1 and R authors, be ready to present to class.
9-30	"	(1) Ignoring Consent: Louisiana (2) Ignoring Vulnerability, Native People	(1) Read chs. 4, 6, EJ. (2) Analyze P1 papers and R papers that are presented at class.
10-7	"	(1) Ignoring Equity: Yucca Mountain (2) Ignoring Compensation: Workers	(1) Read chs. 5, 7 EJ; Turn in corrected P1. That is, turn in marked-up, original P1, plus corrected P1 papers, and give professor both these hard copies (in her box, 211 Malloy, as explained earlier) and an email copy—both at least 48 hours before class begins. (2) Do analysis of P1 papers and R papers that are presented at class. * PROF. WILL EMAIL CORRECTIONS FOR REVISED P1.

10-14	"	Instead of this class, attending two EJ-related talks and turning in summary, at next class after each talk, makes up for this class. Ask professor about these talks.	
10-21-09	**FALL BREAK**		
10-28-09	**Ethical Solutions**	(1) Guaranteeing Human Rights (2) Questions on P2 papers; video?	(1) Read S-F, TA, ch. 4; EJ, ch. 2. (2) Turn in original, marked-up P1, plus P2 for professor, plus revised P1 copies for entire class and professor, and R papers; send P2 to reviewers 48 hours ahead, and get ready to give power-point presentation on P3 (revised P2). Give professor these hard copies (in her box, 211 Malloy, as explained earlier) and an email copy—both at least 48 hours before class begins. (3) Watch video ("A Plague on Our Children") early (due 11-18).
11-4	"	(1) Stopping Warming; Correcting WTO	(1) Read Singer, chs. 1-3: do not critique Singer out of context; make sure you know other arguments of his; turn in all Singer – E papers and R papers for all topics, for all future dates below; send to reviewers 48 hours earlier. Give professor these hard copies (in her box, 211 Malloy, as explained earlier) and an email copy—both at least 48 hours before class begins.
		(2) Pro Singer 1_____	Con Singer 1_____
		(3) Pro Singer 2_____	Con Singer 2_____
		(4) Pro Singer 3_____	Con Singer 3_____
11-11-		NO CLASS; 2 VIDEOS MAKE UP FOR NO CLASS	
11-18-09	"	(1) Using Law; Global Duties	(1) Read Singer, chs. 4-5
		(2) Pro Singer 4_____ Con Singer 4_____	(2) Be ready to present P2 and R papers, + Singer and R papers. (3) Turn in Video Sheet for "A Plague on Our Children."
		(3) Pro Singer 5_____	Con Singer 5_____
11-25-09	"	(1) Taking Personal Action	(1) Read EJ, chs. 8-9.
		(2) Power point presentation, First Part of P2-P3 papers	(2) Turn in P2 + P3 + powerpoint one week early and get (+5) points on P3 grade.
12-2	"	Power point presentation of P2-P3 papers	(1) Turn in original, marked-up P2, plus P3 papers, + powerpoint + corrected P2 papers that are xeroxes of what you mail. Be ready to give power point presentation. Give professor these hard copies (in her box, 211 Malloy, as explained earlier) and an email copy—both at least 48 hours before class begins. Be ready to present P3.
12-9-09	"	Power point presentation of P2-P3 papers	