Environmental Justice
Fall 2005
BIOS 14120 / PHIL 14125 (ALSO STV & IIPPS)

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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)?
   Solution: read NY Times; Thurs. paper
II. EJP Causes: Why Do Good People Do So Little About EJP?
   Ignorance about EJP
   Spin of Special Interests
   Citizens' Weak Analytical Skills
   Solution: read Beder, Global Spin
   Solution: Master the 5 Criteria and Fallacies

III. EJP Analysis: How Does Logical and Ethical Analysis Help Resolve EJP?
   Solution: use Singer, One World?
   Solution: use Shrader-Frechette, EJ
   Solution: use Pogge, World Poverty

IV. EJP: Our Response: What can we do about EJP?

Contact Information: Please see Dr. Shrader-Frechette during her office hours or after class. For appointments,
please sign sheet on office door or let her know if these times won’t work. Dr. Shrader-Frechette’s
assistant handles her phone and emails, both of which are very heavy, so these are not good ways to
contact her quickly. In cases of emergency and sickness, leave phone message.

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

Deadlines:
   Project Outline P1: at beginning of class, last class in September
   Project Paper P2: at beginning of class, first class after Thanksgiving
Course Requirements:
1. 3 one-page papers: 1 local (L), 1 analysis (A), 1 ethics (E)
2. a two-page project outline (P1) and project paper (P2).
3. in-class analysis/attendance at every class (C)
4. quizzes (Q) on reading for the week; watching 2 videos (and turning in video sheets for “Trade Secrets” and “A Plague on our Children”);
5. NY Times summaries (S) on weekly EJ problems

Basis for Course Grade: There will be no tests, but course grade will be determined by weighting above 8 items equally, L + A + E + P1 + P2 + C + Q + S

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.

No late papers/assignments will be accepted, at all, except in the case of a family death or a student illness (Doctor's note required).

Main Course Work: Students will choose a science-ethics-environment-related project (for papers P1 and P2) 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.

Background Reading on Risk-Assessment Methods

Texts to be Bought
(1) Sharon Beder, 2002, Global Spin; $ 20 on Amazon
(2) K. Shrader-Frechette, 2002, Environmental Justice; $ 32 on Amazon
(3) Peter Singer, 2002, One World: The Ethics of Globalization; $ 6 on Amazon
(4) Thomas Pogge, World Poverty and Human Rights, $ 30 on Amazon
Format for Weekly NYT Summaries: Give full citation at top of page. 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.

Format for Local EJP Paper L: Give full citation at top of page (newspapers are OK) to an article that discusses some local or state EJP. 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. Turn in 2 copies for professor and 1 copy for each class member.

Format for Analysis Paper A (critique Schmidt, Tokar, Ehrlich, or Huber (website) and Ethics Paper E (on Singer, chs. 1,2,3, or 5 or Pogge, ch. 8)

(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 12 sentences.

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

(3) Use only one page, and turn in 2 copies for professor and 1 copy for each class member.

Format for Project Paper P1
Make 2 copies for professor + copies for all members of class; 2 pages maximum (use front and back). Use sample P1 paper, BioScience format, for doing the 5 argument-objection-response for (8) below.

[last name, first name] [date]

(1) Your department and your year in school.
(2) Title of draft EIS/TA/QRA or other 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 (11 sentences total)

(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
Redo paper P1 and be sure to correct all problems noted on Professor’s markings on P1, and also turn in old, marked up (by Professor) P1, along with new P2, and new P1, on the P2 deadline. Also turn in one-page cover letter to Congressman, federal agency, or other party, that summarizes and defends your position.

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.

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.

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.

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.

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.
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.
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 more lenient workplace-pollution (than public) standards, because often workers (1) are not informed about the risks; (2) impose risks on the innocent, e.g., future people (3) get no compensating wage differential (CWD) for risky jobs; (4) have faulty risk preferences; and (5) ought to 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).
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 11 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 Environmental Justice: Creating Equality, Reclaiming Democracy. Shrader-Frechette has done environmental justice work in the Americas, Europe, Africa, and throughout the US. She had 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 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. Her husband is a software engineer and mathematician. Their children have just graduated from Princeton. All are avid scuba divers and kayakers. See her website at www.nd.edu/~kshrader.

OUTLINE OF LECTURES AND ASSIGNMENTS

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

8-23-05 Lecture: (1) Overview of Course, (2) Syllabus Overview, (3) Overview EJP, (4) Overview EJ Heroes

Assignment for Next Time: Do Paper L; bring copies for all; choose papers A & E topics and put list of 3 preferences for each in mail holder by prof's door, by Friday noon; read S-F ch.1, do NYT summary, prepare for quiz.

Assignment for 9-7-05: Watch ABC-Moyers video, Trade Secrets and NOVA video, A Plague on Our Children, and fill out both videos forms (from my website under “course materials”); turn in both video sheets on 9-7-05. (This makes up for 1 class on day before Thanksgiving.

8-31-05 Lecture: (1) Quiz, (2) S-F, ch. 1, Overview EJ, (3) Diagnosing EIJ through Analysis and Discovering Logical Fallacies: the Case of Yucca Mountain, (4) Students Turn in and “Talk” L Papers

Assignment for Next Time: Read Pogge, pp 1-26 (how we ignore EJP); read/analyze Bullard & Friedman (website); begin paper A criticizing Schmidt, Tokar, Ehrlich, or Huber to be turned in 9-14-05; do NYT summary, prepare for quiz.

II. Why Do Good People Do So Little about EJP?

9-7-05 Lecture: (1) Quiz, (2) Turn in Video Sheets, (3) Pogge, 1-26, (3) logical errors in Bullard and Friedman

Pogge: We ignore Institutional Causes of EIJ
We make bad excuses for our inaction

Bullard, Friedman: We use logical fallacies and poor logic

Assignment for Next Time: Read Pogge, ch. 1 (why we ignore EJP); read Beder, chs. 1-2; Schmidt (website); turn in paper A, do NYT summary, prepare for quiz.
II. Why Do Good People Do So Little about EJP? (Continued)

9-14-05 Lecture: (1) Quiz, (2) Turn in A plus copies for entire class, (3) Beder, chs. 1-2, (4) Pogge, ch. 1, (5) logical errors in Schmidt

Pogge: We ignore institutional causes of EIJ
       We err regarding paternalism & anonymity

Schmidt: We use logical fallacies and poor anonymity

Beder: We miss the “spin” of front groups

Assignment for Next Time: Read Pogge, ch. 2; read Beder, ch. 4; Tokar (website); turn in NYT summary, prepare paper P1; prepare for quiz.

9-21-05 Lecture: (1) Quiz, (2) Beder, ch. 4, (3) Pogge, ch. 2, (4) logical errors in Tokar

Pogge: We misunderstand human-rights doctrine

Tokar: We use logical fallacies and poor logic

Beder: SLAPPs deter people

Assignment for Next Time: Read Pogge, ch. 4; read Beder, chs. 5-6; Huber (website); turn in NYT summary, prepare for quiz; turn in paper P1.

9-28-05 Lecture: (1) Quiz, (2) Beder, chs. 5-6, (3) Pogge, ch. 4, (4) logical errors in Huber, (5) turn in P1 & copies for class

Pogge: People forget equity principles apply globally.

Huber: We use logical fallacies and poor logic.

Beder: Special-interest think tanks mislead people.

Assignment for Next Time: Read Pogge, ch. 5; Beder, ch. 3; S-F, ch. 3; turn in NYT summary, prepare for quiz.

10-5-05 Lecture: (1) Quiz, (2) Beder, ch. 3, (3) Pogge, ch. 5, (4) S-F, ch. 3, (5) Ehlich and logic, (6) analyze first 3 (alphabetically) P1 papers.

Pogge: People misunderstand property rights.

Shrader-Frechette: ““”“”“

Beder: People make flawed wise-use property claims.

Ehlich: We use logical fallacies and poor logic.

Assignment for Next Time: Read Beder, chs. 7-8; S-F ch. 4; turn in NYT summary, prepare for quiz.
III. How Does Logical and Ethical Analysis Help Resolve EJP?

10-12-05 Lecture: (1) Quiz, (2) Beder, ch. 7-8, (3) S-F, ch. 4, (4) analyze P1 papers 4-6 (alphabetically) or hear lecture by Dr. Judith Johnsrud

Shrader-Frechette: Analyze PR and LA nuclear consent.
Beder: Analyze special-interest PR better.
Johnsrud: Analyze nuclear-industry PR.

Assignment for Next Time: Read Beder, ch.9; S-F, ch. 5; turn in NYT summary, prepare for quiz.

FALL BREAK

10-26-05 Lecture: (1) Quiz, (2) Beder, ch. 9, (3) S-F, ch. 5, (4) analyze P1 papers 7-9 (alphabetically).

Shrader-Frechette: Analyze duties to future generations.
Beder: Analyze scientific spin in dioxin conflict.

Assignment for Next Time: Read Beder, chs. 10-11; S-F, ch. 6; turn in NYT summary, prepare for quiz.

11-2-05 Lecture: (1) Quiz, (2) Beder, chs. 10-11, (3) S-F, ch. 6, (4) analyze P1 papers 10-12 (alphabetically).

Shrader-Frechette: Analyze duties to native peoples.
Beder: Analyze claims of advertisers.

Assignment for Next Time: Read Beder, chs. 12-13; S-F, ch. 7; turn in NYT summary, prepare for quiz.


Shrader-Frechette: Analyze duties to workers.
Beder: Analyze claims of media and reporters.

Assignment for Next Time: Read Beder, ch. 14; Singer, chs. 1-2; turn in NYT summary, do paper E; prepare for quiz.

11-16-05 Lecture: (1) Quiz, (2) Beder, ch. 14, (3) Singer 1-2, (4) Turn in all E papers; (5) analyze E papers for Singer, 1-2 (copies for class)

Beder: Analyze factual claims about global warming
Singer: Analyze ethical claims about global warming.

Assignment for Next Time: Read Singer, chs. 3, 5; turn in NYT summary, prepare for quiz.
III. How Does Logical and Ethical Analysis Help Resolve EJP? (continued)

11-23-05: No Class; two videos make up for this class; turn in paper E in box by Dr. S-F's door

Assignment for Next Time: Prepare Paper P2

11-30-05: Lecture: (1) Quiz, (2) Singer, chs. 3, 5, (3) turn in P2 papers; (4) analyze E papers for Singer, chs. 3-5, (5) first half of class presents revised P2 paper with copies for all in class

Singer: Analyze flaws in economic analyses & nationalistic analyses

Assignment for Next Time: Read S-F, chs. 8-9 and Pogge, ch. 8; turn in NYT summary, prepare for quiz.

IV. How Can We Help Address EJ Problems?

12-5-05: Lecture: (1) Quiz, (2) S-F, chs. 8-9, (3) Pogge, ch. 8; (4) analyze E papers for Pogge; (5) second half of class presents revised P2 paper with copies for all in class

Shrader-Frechette: We have duties of EJ advocacy. Pogge: We have duties to bring about GRD