IDEESE Module 2.3a
Ethical Conflicts Between Nations

MJ Peterson
Version 1; August 2008

Learning Objectives

Students will be able to:

1.) Understand that national ethical preferences are neither identical nor entirely different from each other.

2.) Identify practical ways of comprehending and coping with differences in ethical systems.

Outline for In-class Discussion

I. Divergences and convergences in national ethical systems

[Instructor should summarize each source of divergence or convergence and then ask students to say where a particular society of their choice falls on each one. Elicit more than one so there is a basis for comparison later in the class session.]

A. Sources of divergence in ethical systems

1.) Individualist - Communalist continuum

While many people think of an individualism-communalism dichotomy, it is better to think in terms of a range of variation in the way a particular culture balances two human truths: that humans live in groups and draw significant parts of their beliefs and self-definitions from their groups, and that human individuals are also conscious of themselves as separate beings and seeking individual goals as well as group goals.

2.) Varying mix of emphasis on material and ideal worlds

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3.) Different extent to which the country has experienced the industrial and information revolutions.

This is often summarized as "level of economic development." However, that phrase encourages confusing a society's overall level of wealth and the distribution of that wealth among its members with the way in which economic activity is organized.

4.) Differences in institutions and practices regarding family life, local community, economic activity, politics.

5.) Differences in targets and extent of adverse discrimination based on ascriptive characteristics of individuals.

This phrase is used to call attention to the considerable variation in the groups within society likely to be the target of adverse discrimination and extent to which such discrimination limits the group and individual possibilities of the target humans. Individuals and groups could be discriminated against because of race (skin color), ethnicity, religion, sex, sexual orientation, social status (as in caste societies), political beliefs, place of birth, or place of current residence.

B. Sources of convergence in national ethical systems

1.) Affirmations of individual and group human dignity

The phrase "human dignity" denotes the belief that humans should not be treated as things or property, but as moral agents able to set choose their own goals and actions, interact with others, and accept responsibility for the consequences of their actions. It does not denote adherence to any particular set of human rights. It is possible to believe in human dignity while questioning the ethical value of framing questions as matters of "rights".

2.) Aspirations to fairness

Substantive definitions of what is fair in a particular situation or interaction vary, but the broad notion of "fairness" has very broad appeal.

3.) Aspirations to greater levels of material sufficiency for life

This involves both the general level of material comfort in terms of shelter, nutrition, availability of tools and devices making everyday tasks easier, and availability of cultural opportunities and the distribution of such comforts among members of society.

4.) Aspirations to democratization

Though there is considerable disagreement about what institutions and practices are necessary for democratic rule, these first years of the 21st century are marked by nearly

universal expressions of desire that governing institutions and those occupying roles of leadership in them be accountable to society, responsive to society, and operate transparently.

C. General considerations

[Note to instructor: These positions probably command the widest support among ethicists today but they are not universally accepted. You can substitute your own conclusions about these points.]

1.) No society is completely ethically homogeneous, though some affirm and permit more ethical pluralism than others.

2.) No society's ethical system is static. Like other social beliefs, ethical systems change over time as members of society encounter new situations, face new challenges, or get exposed to new ideas. The pace of change varies across societies and across time.

3.) In the long to medium term, social constructivist views of ethical systems as changeable and changing human creations are correct. In the short to medium term, the substantive character of the prevailing ethical system operates as a constraint on individual and group preferences and actions because no one individual or group acting on its own can change a society's ethical system. Individuals and groups can suggest changes, through verbal formulations or adopting new forms of behavior, but only those changes securing widespread support become part of the prevailing ethical system.

II. Coping with Divergences

A. Balancing respect for other cultures/other value preferences with promoting good scientific and engineering practices.

B. Maintaining safety in varying economic contexts

C. Promoting dialogue, transparency, accountability in varying socio-political contexts.

[See below for a chart that could be used during class discussion.]

Suggested Case Studies

1. "The EU-US Dispute over Regulation of Genetically Modified Organisms, Plants, Feeds, and Foods" International Dimensions of Ethics Education in Science and Engineering Case Study Series. www.umass.edu/sts/ethics.

   This case looks at the divergence in approaches regulating agricultural applications of genetic modification technology that developed between the European Union and the United States during the mid to late 1990s.

Particular attention should be paid to the implications of global political decentralization:

- Absent agreement to adopt identical regulations and implement them in a similar manner, governments are likely to adopt differing regulations regarding use of a new technology.

- Some research and development of a new technology will be shifted to countries imposing fewer limits on development or application of innovations in products for industry or consumers if adequate facilities and human talent is available in or can be relocated to those countries.

- At least some developers and firms using or desiring to use the new technology in their business located in the more restrictive countries will seek changes in the wording, interpretation, or application of their country's more restrictive regulations that narrow the gap between the types of business activity others may pursue and the types they may pursue.

- This competitive dynamic can be overridden only with very strong consensus on ethical and/or practical grounds that some particular new technology, or particular uses of that new technology, should not be pursued.

- This competitive dynamic will remain overridden only as long as the ethical and/or practical consensus against using the new technology holds.

- Agreed regulations, whether embodied in agreements among governments or codes and standards of industry associations, are an effort to make consensus "stick" by institutionalizing it in common rules.

This list of implications is clearly based on assuming that technology developers and firms are individualistically-oriented and reason about their choices and behavior like self-centered utility maximizing *homo economicus* underlying neoclassical economics and rational choice theory. Even if that assumption is not true for everyone, it is true for enough of them that ethicists need to develop ethical rules and systems robust enough to remain stable in the presence of such behavior.

2. "Recruitment of egg donors by South Korean Stem Cell Researchers" International Dimensions of Ethics Education in Science and Engineering Case Study Series. www.umass.edu/sts/ethics.

   This case looks at the debates about the acceptability of using human embryos as sources of stem cells to be used in research and therapeutic applications and consider how intergovernmental and scientific bodies have sought to address those ethical differences.

   Particular attention should be paid to the implications of global political decentralization:

- Absent agreement to adopt identical regulations and implement them in a similar manner, governments are likely to adopt differing regulations regarding scientific research and application of research results.

- Some scientific activity will be shifted to countries imposing fewer limits on research or application of research results if adequate facilities and human talent is available in or can be relocated to those countries.

- At least some scientists, research institutes, and firms using scientific advances in their business located in the more restrictive countries will seek changes in the wording, interpretation, or application of their country's more restrictive regulations that narrow the gap between the types of research others may pursue and the types they may pursue.

- This competitive dynamic be overridden only with very strong consensus on ethical and/or practical grounds that some particular lines of research should not be pursued.

- This competitive dynamic will remain overridden only as long as the ethical and/or practical consensus holds.

- Agreed regulations, whether embodied in agreements among governments or codes and standards of scientific societies, are an effort to make consensus "stick" by institutionalizing it in common rules.

It may be objected that this list of implications is based on an assumption of individualistically-oriented scientists, institutes, and firms reasoning about their choices and behavior like self-centered utility maximizing *homo economicus*. Even if that assumption is not true for everyone, it is true for enough scientists, institutes, and firms in the early 21st century that ethicists need to develop ethical rules and systems robust enough to remain stable in the presence of such behavior.

Recommended Readings for Students

For assignment prior to class discussion

1.) Transnational Aspects of Ethical Debate [included in this module]

2.) Ethical Evaluation of New Technologies [included in this module and GM case study]

3.) Case materials – varies according to case selection

Recommended Readings for Instructors

1.) Instructors new to ethics topics might find helpful the entries in Donald M. Borchert, ed., *Encyclopedia of Philosophy*, 2nd edition (Detroit: Thompson-Gale, 2006) on "Ethics" (v.3 pp. 379-393); "Ethics and Morality" (v.3 pp. 450-451); "Equality, Moral and Social" (v. 3, pp. 329-

332); “Equality, Moral and Social [Addendum] (v.3 pp. 334-336) and “Feminist Ethics” (v. 3 pp. 578-581).

Resources Included with this Module

1.) Ethical Divergence Chart [for discussion]

2.) Ethical Convergence Chart [for discussion]

3.) Transnational Aspects of Ethical Debate

4.) Ethical Evaluation of New Technologies

5.) In-Class Evaluation

IDEESE Module 2.3a Resources

Ethical Divergence Chart

MJ Peterson
Version 1; August 2008

To be used with Ethical Convergence Chart for Discussion

		Society 1	Society 2	Society 3	Society 4
Sources of Ethical Divergence among Societies	place on individualist-communalist spectrum				
	mix of emphasis on material and non-material				
	extent of industrial and information revolutions				
	institutions and practices				
	forms of adverse discrimination				
	desire for democratic rule				

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Ethical Convergence Chart for Discussion

By MJ Peterson
Version 1; August 2008

To be used with Ethical Divergence Chart for Discussion

		Society 1	Society 2	Society 3	Society 4
Sources of Ethical Convergence between Societies	desire for human dignity				
	desire for fairness				
	desire for material sufficiency				
	desire for democratic rule				

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Transnational Aspects of Ethical Debate

MJ Peterson
Version 2; February 2008

The terms "ethics" and "morality" used in their most general sense refer to the traditions of belief about right and wrong conduct that exist in the various societies of the world. The terms "ethical theory" and "moral philosophy" refer to philosophical discussions of ethics or morality intended to increase the logical coherence, precision, and real world applicability of the principles and maxims derived from those ethical or moral traditions.

Individual humans begin learning the rules for conduct that derive from the morality prevailing in their society even before they understand that there is a distinct category of rules called "ethical" or "moral" or how those rules differ in character from rules of law, etiquette, or everyday prudence. Children are told and encouraged to follow many rules, such as "keep your fingers out of the electrical outlets," "look both ways before crossing the street," "line up and wait your turn," "don't drop your candy wrapper on the sidewalk," "say good morning to the bus driver when you get on," "be nice to grandmother" and "tell the truth" without being told which of them are based on prudence, local law, etiquette, or ethics. As children develop towards adulthood, they begin to learn the differences, and come to understand that ethics and morality focus on the problem of acting in ways that are respectful of others and take their interests and needs into account. The growing children also begin to see that the individual ethical rules are not random maxims, but are shaped by a more or less coherent set of more general guidelines that have developed over the years in their society and are understood by everyone in it. Individuals make their own choices, but – even when they are rebelling against it – they are influenced by the ethics and ethical rules of the society in which they live.

Individuals vary considerably in the depth of their interest in thinking beyond rules to ethical theory and moral philosophy. Invariably following a rule requires very little thought; one simply asks whether the situation at hand is covered by the rule. If it is, one follows the rule; if it is not, one does not. However, many situations are not so simple that automatic rule following assures the best moral result. Almost no one gets through life without encountering ethical dilemmas, situations in which there are very good ethical reasons for undertaking each of two or more mutually exclusive acts. For most of the elderly, remaining in their own home or moving to a retirement community are mutually exclusive because they cannot afford to maintain two residences. Thus, the middle-aged children of an unsteady 90 year old still living in the house

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where they grew up will feel the pinch of competing ethical principles when facing a decision about whether to encourage their parent to move to a retirement home. Living at home allows the parent to remain more autonomous. Yet, living in a retirement home affords the parent greater personal safety because others are around to help in the event of a fall or to undertake household tasks that have become too difficult for the 90-year old to accomplish alone. If the children truly respect their parent's autonomy, they will not want to force the parent into a retirement home, but if the parent's unsteadiness gets to the point of interfering with daily tasks they can't help feeling that the parent would be safer there. They will seek to reduce the dilemma by trying to persuade the parent to move; if they succeed the parent will have made the autonomy-safety trade in an autonomous fashion. It is when the persuasion fails that the children really face the dilemma.

The toughest moral dilemmas arise when the good moral reasons for each alternative also include good moral reasons for avoiding the other alternative or alternatives. Psychologists are often faced with situations in which a patient utters threats to kill a particular person. Once the psychologist decides, after additional talking with the patient, that the threats are real – not just blustering talk that reduces frustration by allowing its expression in exaggerated form – the psychologist has to choose between violating rules of confidentiality to warn the person threatened or violating society's general ethical expectations that someone who knows of a murder plan should warn the victim and/or the police so the murder can be thwarted. The children of the 90-year old could deal with the tension by putting their parent in the center of the deciding process; here the psychologist is likely to be in the position of having to act on his or her individual judgment. Maintaining confidentiality carries a serious danger of allowing physical harm to a person; breaking confidentiality carries a real danger of eroding patients' confidence that psychologists will keep their secrets to the point they are less willing to seek treatment. Deciding which consideration should have been given greater weight in guiding the psychologist's conduct may seem easy afterward: if the murder occurs, it will be "obvious" to most people that safety should have prevailed over confidentiality.[1] However, the psychologist must decide before the results are known.

Most moral philosophy and ethical discussion assumes that everyone involved in or observing the situation shares the same broad values, expresses them in similar rules, and gives the values similar weight when balancing between competing rules. Ethical arguing becomes more complicated when different people maintain non-identical sets of values (for instance, individualists who emphasize autonomy and individual freedom and communitarians who emphasize membership in groups and allowing groups room to follow their way of life), express the same value in different rules (for instance, believe that humans have a right to life but disagree about abortion because some define "life" as beginning at the moment sperm and egg trigger the process of fetus development and others define it as beginning at the point a fetus could survive outside the womb), or maintain different hierarchies among values (for instance, a situation in which some regard privacy as more important than public access to information about past criminal records and others regard knowing the whereabouts of repeat pedophiles who have finished serving their jail terms as more important than privacy).

Ethical theory and moral philosophy have long faced the challenge of individual moral relativism – the claim that ethical and moral beliefs are a matter of individual choice because there is no way to prove that any

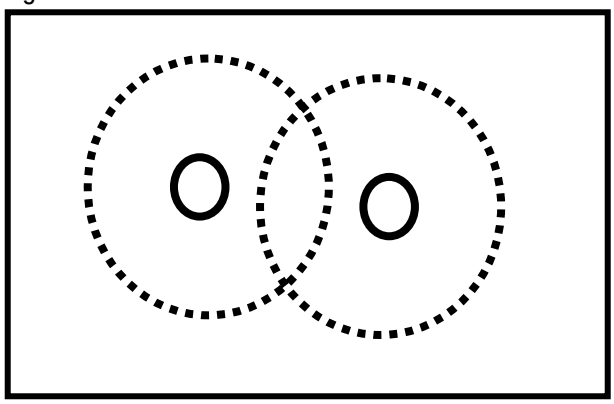
[1] "Most" because when the California Supreme Court was faced with this question in 1976, a majority of the judges ruled that the psychologist involved did have a duty to report but one dissented on grounds that public knowledge psychologists had a duty to report death threats would discourage people from seeking treatment. See Tarasoff v. Regents of the University of California, *California Reporter* vol. 131, p. 14 (1976).

one standard is superior to all others. In today's globalized world, ethical theory and moral philosophy also have to address the challenge of cultural moral relativism, the idea that the different ethical beliefs of the many societies around the world deserve equal respect whatever their content and whatever the content of the rules derived from them. Arguments in favor of cultural moral relativism start from the well-established observation that traditions of ethics and morality and the sets of rules derived from them do vary from one society to another. The next step in such arguments is to claim that no society has the right to criticize the ethics, or ethical rules of another because a.) there is no ethics or set of ethical rules shared by every society on Earth, b.) ethics and sets of ethical rules form organic wholes that can be understood, interpreted, and applied only in the context of the culture in which they developed, and c.) the right of self determination (codified internationally in the UN Charter, the Universal Declaration of Human Rights, and the International Covenants on Human Rights) means that each society possesses the right to follow its own traditions and ways of life.

One of the strongest arguments against cultural moral relativism claims ~~that~~ there is a universal human nature or a universal set of human needs, which lead to adoption of similar basic moral values in all cultures. Adherents of this view further argue that most of what appear to be cultural differences in ethical systems are differences in how people interpret and apply these similar basic beliefs in particular situations. Rather than a "relativism of standards" in which different societies have different basic ethical beliefs, they see a "relativism of judgments" in which rules for and evaluations of conduct in particular situations differs.[2] This is simply an extension across societies of the relativism of judgments that appears even in a single culture, as in the abortion and privacy examples given earlier.

However, relativism of judgment does not prove the existence of relativism of standards. Inquiry must go beyond the differences in judgment and uncover, as much as possible, the more basic ethical beliefs and interpretations of those beliefs from which those judgments arise. Suppose, for the sake of continuing this discussion that relativism of standards does exist, either in all areas of life or in some areas. The existence of different fundamental standards might be thought to prevent members of two or more societies from having useful discussions and develop a reasoned consensus on how to proceed in a particular situation. Such claims ignore the pervasive relativism of judgments around the world, and the fact that different adherents of the same ethical standard may disagree on what to do. If we think of basic ethical beliefs as a small circle and the range of judgments they inspire as a larger one having the same center, it is entirely possible that the large circles of judgment extending beyond the small circles of basic principles will actually overlap. In that overlap adherents of different beliefs would find common ground for action in the world. (See Figure 1)

Figure 1: Common Ground in Ethical Beliefs



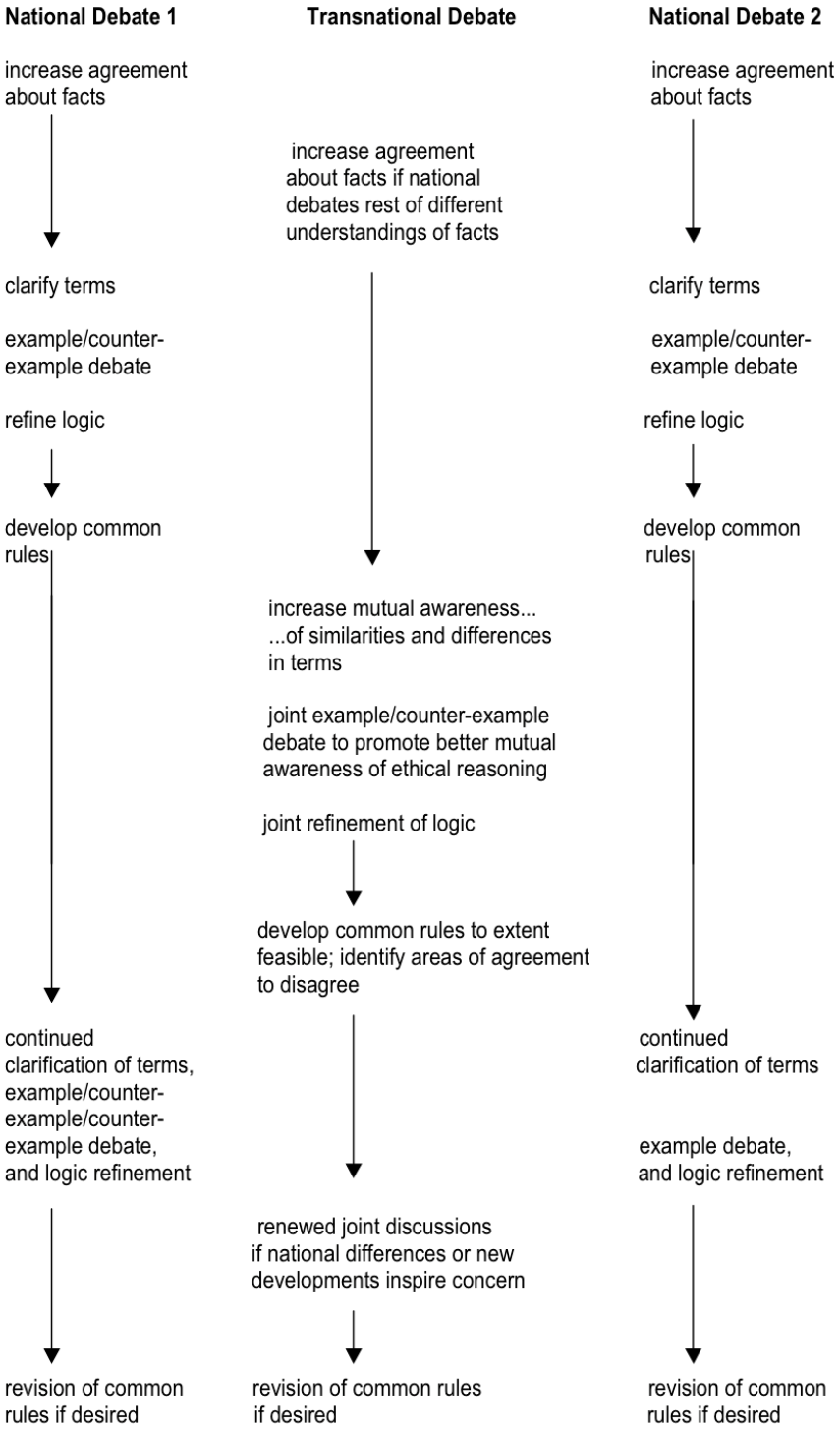
Invoking relativism of standards as a reason to forego moral debate also ignores the fact that people learn about and refine both their basic ethical beliefs and their particular ethical judgments by participating in or observing arguments. They may not converge on an identical way of handling the situation; they may have to develop a compromise.

[2] Distinction used by Tom L. Beauchamp and LeRoy Walters, *Contemporary Issues in Bioethics* (4th edition. Belmont, CA: Wadsworth Publishing Company, 1994), p. 8.

Yet, in process of discussion there will be a sifting of ethical claims and counterclaims in which some secure are accepted or at least considered as worthy of consideration by a larger number of participants than others. The more persuasive ones will become the focus of attention and the basis for compromises while the less persuasive ones will be set aside (not necessarily rejected for all time, just not used in discussion of how to handle this particular situation or type of situation at this time).

It should now be clear that the distinctive element of transnational ethical differences (see diagram on the next page) is the need to be particularly sensitive to the question of how far the differences of view expressed by participants depend on culturally-derived differences in judgments and/or standards. Whereas national ethical debates proceed against the background of a thick set of shared cultural references and practices, transnational ethical debates do not. Clarification of terms may have proceeded along different paths, making a literal translation of a phrase from one language into another misleading. The moral codes may be different in significant ways. The process of arguing by example and counter-example can be slowed down, though very likely enriched, by the different exemplary stories familiar in various cultures. These differences mean that participants in transnational ethical debates must be willing not only to hear the questions and explanations of others but to elaborate their own positions and explanations in ways that help participants from other cultures ~~can~~ understand them accurately. This requires making one's own tacit assumptions explicit, something that can be difficult because the background knowledge provided by a culture is so taken for granted that a participant may have trouble bringing relevant parts ~~of~~ into active memory where it is available for conscious expression. Yet, if enough participants make this effort the result will be a better informed debate all around even if in the end participants ~~to~~ "agree to disagree"' and design a solution allowing divergent approaches rather than settling on a common one.

National and Transnational Processes of Ethics Debates



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IDEESE Module 2.3a Resources

Ethical Evaluation of New Technologies: Genetically Modified Organisms and Plants

MJ Peterson with comments from Ronald Sandler
Version 1; August 2008

One of the major lessons of the 20th century is a warning that explicit ethical evaluation of the implications of a new technology with significant potential to cause widespread social or physical harm should precede its widespread use. The leading example, not least because of the dire circumstances that prompted even worried experts to urge its development, is nuclear technology. However, several other industrial technologies had sufficient environmental or other consequences to increase demands that new technologies receive ethical as well as technical and economic scrutiny before they enter widespread use.

Genetic modification (GM) technology has inspired considerable concern since its initial development in the late 1970s and early 1980s. Genetic modification is based on the ability to produce recombinant DNA (rDNA) by "splicing" genes that trigger emergence of some desired trait (such as ability to produce particular nutrient or increased resistance to a particular disease) present in the DNA of one organism into the DNA of another to produce a new DNA sequence that will yield a plant or organism of the latter type that also has the desired trait. Since its introduction genetic modification has been touted as a major – even revolutionary – advance over earlier forms of creating new plant varieties through hybridization because it allows much more specific selection of traits. It is also seen as revolutionary because it is a "deeper" technology: hybridization works at the level of whole organisms; GM operates at the more basic level of individual genes. Like the other forms of "biotechnology" – tissue culturing, cloning, adding synthetic ingredients or inputs to the cultivation, husbandry, or processing of feeds and foods, GM technology inspires all the main forms of ethical concern that arise with new ways of handling physical objects: about impacts on the natural environment, about impacts on human health and physical well-being, about distributional consequences, about processes of decision-making regarding whether and if so when to use the technology.

Philosophers, ethicists, and others have expressed four types of objections to GM technology. Objections of the first type are what ethicists call "intrinsic objections" and involve claims that developing and using some technology is inherently wrong regardless of the results of doing so. The others are "extrinsic objections" involving claims that the technology (or action) is not inherently wrong but can be wrong if it causes or contributes to morally unacceptable situations or outcomes.

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1.) Objections based on conceptions of the divine order or of nature as independent of humans and valuable in itself:[3]

   a.) GM technology is fundamentally unnatural and hence contrary to ecological sustainability because it substitutes highly error-prone human manipulation for the natural working of life processes.

   b.) GM technology constitutes a fundamental assault on nature by disrespecting the inherent character and intrinsic worth of nature as it is.

   c.) GM technology constitutes a sacrilegious effort to redesign nature (natural varieties of life) to fit human convenience or preferences that substitutes human judgment for divine benevolence and divine guidance of the workings of the universe.

   d.) GM technology violate the sanctity or intrinsic character of life by

      i.) reducing it to genome sequences;

      ii.) destroying naturally-established species barriers;

      iii.) promoting the treatment of living things as commodities to be owned, bought or sold, and redesigned at will.

2.) Objections based on level of risk to human physical well-being

   a.) GM technology poses unacceptable risk of causing severe and irremediable ecological harm that will reduce ecosystem ability to sustain all life, including that of humans. Critics have identified at least five sources of such risk:

      i.) accidental creation of "superweeds" as GM plants and native plants growing near each other exchange pollen and produce offspring that severely disrupt ecosystems either by overwhelming other plants or requiring massive applications of pesticides to control;

      ii.) aggressive spreading of artificially-created plants that crowds out naturally occurring ones and reduces species diversity to a point the ecosystem cannot function effectively;

      iii.) large populations of genetically identical plants proving susceptible to some unanticipated disease or pest that wipes out whole crops, resulting in mass starvation;

[3] Gary Comstock, *Vexing Nature? On the Ethical Case against Agricultural Biotechnology* (Dordrecht: Kluwer, 2000) outlines the first three objections; Jeremy Rifkin, *Algeny: A New Word, a New World* (New York: Viking, 1983) raises the fourth.

iv.) pests robust enough to overcome plants with GM modifications for insect resistance will multiply and their control will require increasing amounts of or increasingly strong pesticides causing more harm to soils;

v.) GM crops have characteristics that will decrease soil quality more severely than native or even traditionally-bred plants, this will require greater use of chemical fertilizers that harm ecosystems and/or lower agricultural productivity to the point that additional wild habitat needs to be taken over for farming.[4]

b.) GM technology is another manifestation of the human hubris that led to massive environmental degradation; its development and use encourages continued under-estimation of the potential for ecological harm from human action and continued over-estimation of human ability to develop a "fix" for environmental harms already sustained.[5]

c.) GM technology promotes "industrial farming" – monoculture of similar plants in large fields relying on repeated applications of chemical fertilizers, pesticides, and herbicides – that harms ecosystems by contributing to species loss, soil depletion, soil erosion, loss of nutritional value in foods and feeds, pollution of aquifers, streams, rivers, and lakes, and the emergence of chemical-resistant insects and weeds. [6]

3.) Objections based on considerations of equity, fairness, or justice

a.) Risks from use of GM technologies are borne mainly by persons exposed to them involuntarily – those living near places where GM plants are grown or GM research proceeds, those consuming foods made from or with GM ingredients or derived from animals or plants raised on GM nutrition sources, those in societies where GM products comprise a large part of the total food and feed supply.

b.) GM technologies disproportionately benefit the relatively small groups who monopolize sources through patents or other forms of intellectual property rights: the companies (usually large ones because of the cost of using GM technology) developing GM organisms, the companies selling the seeds, rootstocks, fertilized eggs, or other source of GM plants or animals (often the same company as the developer).

c.) The marginal benefits provided by GM organisms to consumers create a situation in which benefit is enjoyed without risk, and risk is shouldered without benefit whereas in a more just world the two would both fall on the same persons.

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[4] Noted in Norman Ellstrand, "When transgenes wander, should we worry?" in Micheal Ruse and David Castle, editors, *Genetically Modified Foods: Debating Biotechnology* (Amherst NY: Promethius Books, 2002, pp. 325-330);

[5] E.g., Bill McKibbon, *The End of Nature* (New York: Anchor Books, 1999, part 2; Eric Katz, "The Big Lie: The Human Restoration of Nature," in William Throop, editor, *Environmental Restoration* (Amherst NY: Humanity Books, 2002), pp. 85-86.

[6]E.g., Marc Lappe and Britt Bailey, "Biotechnology's negative impact on world agriculture," in Gregory Pences, editor, *The Ethics of Food* (Lanham, MD: Rowman and Littlefield, 2002), pp. 156-167.

d.) GM technology increases economic inequality within countries because the size of organization needed to develop and the size of farm needed to benefit most from planting GM crops favors large multinational firms and large industrial type farms over small firms and farmers.[7]

e.) GM technology increases economic inequality between countries by imposing on developing countries agricultural techniques that are inappropriate to their climates and social circumstances; the effect is worse if a foreign-based company has been able to engage in "biopiracy" – patent a GM organism consisting wholly or partly of a variety traditionally used in a developing country's traditional agriculture.[8]

f.) Decisions about when and how to use GM technology are driven by the individual interests of developers, distributors, and users, not by considerations of public good or general welfare.

4.) Objections based on considerations of transparency and accountability in decision-making.

a.) With GM technology, as with any other, the scientific expertise needed to develop and assess the potential physical risks and benefits of the technology, and the economic expertise needed to determine whether use of the technology offers efficiency advantages over alternate ways of performing the same task are necessary to but insufficient for determining whether all or some uses of the technology are "safe," are in the public interest, and are ethically or morally acceptable. Therefore, decisions should be submitted to processes permitting extensive input from various stakeholders.

b.) GM technology, like any other likely to have large-scale effects because of the patterns of its use, should be subject to public scrutiny and widespread consideration before placed into use.

Impacts of GM Technologies

Most ethicists would agree with Ronald Sandler's view that the proper goal of technology use is "to promote human welfare in just and sustainable ways, within appropriate moral boundaries,"[9] though deep ecologists would object to the emphasis on human welfare and insist on at least equal consideration for the environment and/or other forms of life. Yet, those who focus more on human welfare often come to similar judgments on particular questions if they pay attention to the harm environmental degradation causes to human physical and mental well-being.

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[7]E.g., Jack Ralph Kloppenburg, Jr. *First the Seed: The Political Economy of Plant Biotechnology* (Cambridge: Cambridge University Press, 1998); Britt Bailey and Marc Lappe, *Against the Grain: Biotechnology and the Corporate Takeover of Your Food* (Monroe, ME: Common Courage Press, 1998.

[8] E.g., Vandana Shiva, "Genetic engineering and food security," in Gregory Pences, editor, *The Ethics of Food* (Lanham, MD: Rowman and Littlefield,), pp. 130-147 and Vandana Shiva, *Biopiracy: The Plunder of Nature and Knowledge* (Boston: South End Press, 1998);

[9] Ronald Sandler, "GM Food and Nanotechnology," in A.M. Cutter and B. Gordjin, editors, *In Pursuit of Nanoethics: Transatlantic Reflections on Nanotechnology* (Springer, forthcoming), p. 7.

However, they would go about making their evaluations in different ways depending on the ethical system that they apply. Sandler applies the tradition of virtue ethics. Virtue ethics evaluates choices and actions by determining whether they would accord to what a virtuous person would do in the situation at hand. Thus, the primary concepts applied in virtue ethics are notions of the human virtues – such as courage, honesty, humility, or compassion – and the human vices – such as cowardice, dishonesty, arrogance, or cruelty – and attention paid to the connection between the action and both the original dispositions that framed the choice or action and the impact of the choice or action on the chooser's or doer's future dispositions (or character). Virtue ethicists first ask what virtues are relevant to the situation at hand. They next consider what dispositions would be present in a person having the virtue or virtues relevant to the situation. When more than one virtue is relevant, they also consider which virtue or virtues should be subordinated to another in that particular situation, so they can identify which of the several dispositions that might apply should guide the choice or action. The focus on human virtues and vices might seem to cut off any consideration of nature, and some deep ecologists have criticized virtue ethics on that basis, but any form of virtue ethics that regards "external goods" – material things and social relations that permit experiencing a better quality of life than would be attained in their absence – as a component of the good life can easily incorporate concern for nature and the viability of ecosystems into ethical reasoning.

Sandler approaches the question of whether to use GM technology by asking first whether its use would enhance or inhibit the ability of natural and agriculturally-modified environments to produce the external goods that "nature" has traditionally provided. A virtue ethicist of a deep green hue would define these to include not simply the clean air and water, healthy soils, and raw materials that most directly affect humans, but also the range of habitat conditions for other forms of life, and this broader definition might lead the deep green virtue ethicist to see more danger to external goods from a technology than does a pale green virtue ethicist. Virtue ethicists who regard all sentient life forms as proper recipients of compassion can incorporate nature and ecosystems into ethical reasoning via the impact of environmental degradation on other species. No matter how any individual virtue ethicist justifies paying attention to the condition of nature, any virtue ethicist would oppose using GM technology if, as some of its critics content, its use would harm nature significantly and irreversibly reduce its capacity to produce external goods. A virtue ethicist concluding that use of GM technology would not have this effect then proceeds to a second question about nature, whether use would be contrary to any of the human virtues that apply to human interaction with nature. Virtue ethicists disagree about which virtues are relevant in these interactions because they, like others, disagree on the broader question of how humans should relate to nature and divide into "conservationist" (at least maintain and if possible increase the value of nature for humans) and "respect-based" (value nature in and for itself) camps.[10] The respect-based approach is likely to be more restrictive of GM technology use because it will be concerned not only with whether GM crops reduce agricultural productivity but whether they cause harm to other species or individual creatures of other species. Here, too, GM technology could violate the rules of conduct a virtuous person would follow or not. If it does, a virtuous person would not use it. If it does not, virtue ethicists proceed to a third question, does use of the technology serve virtuous human-related ends without violating any virtue-based reasons counseling against their use. The virtuous ends Sandler regards as most relevant to decisions about use of GM technology to produce new agricultural crop varieties are compassion and justice. Compassion is the

[10] Gifford Pinchot, *The Training of a Forester* (Boston: J.B. Lippencott, 1937) is the classic exposition of the conservationist approach; Paul Taylor, *Respect for Nature: A Theory of Environmental Ethics* (Princeton: Princeton University Press, 1986) exemplifies the respect-based approach.

attitude of attention to and concern for the situation of others; justice is a broad term covering considerations of equity and fairness among people.

While insisting that each use of GM technology has to be evaluated separately because different transgenic plants have different impacts on nature and different implications for human social relations, he concludes that most uses of GM technology should not be encouraged. Though doubting that GM technology will have the ecosystem-collapsing effects that some critics claim, Sandler believes ~~that~~ it usually does violate the ethics for human interaction with nature relation because they foster the attitude of hubris and the way of seeing nature as a something to be manipulated rather than adjusted to that has caused most of today's environmental harm. He further objects that most commercial applications of GM technology also violate the requirements of justice, but notes that a virtue ethicist would lead with that objection only when the particular use of GM technology does not violate the standards of virtuous behavior toward nature because the GM plant involved has been developed mindful of likely effects on nature and have or are designed to have low impact. In the end, Sandler supports those uses of GM technology serving a virtuous goal without violating a virtue-based prohibition. This, he argues, is the case with "golden rice," a variety of rice with genes inserted to increase its ability to produce beta-carotene (a good source of Vitamin A). It is respectful of nature in that it was developed to enhance vitamin synthesis rather than resistance to diseases, pesticides or herbicides so has low potential to spread or~~f~~ dominate other varieties of plants, and will serve justice because its developers at the Swiss Federal Institute of Technology intend to cross breed it with local varieties of rice in developing countries where Vitamin A deficiency is widespread provide it to local farmers.[11]

Peter Singer, best known for his work on animal rights, adopts a partly rights-based and partly circumstantial form of ethical reasoning. He and co-author Jim Mason suggest starting from five ethical principles "we think most people will share" when considering food choices:[12]

1.) Transparency: each person has a right to know how any food or food product is produced. This covers production processes, and the impact of production processes on the environment, as well as ingredients. In their view this not only shows respect for others but also serves as a safeguard against bad practices by permitting consumers to use production information as part of their purchasing choice.

2.) Fairness: food production should not impose the sort of costs economists call "negative externalities" on neighbors or the environment. Thus, "factory farms" that smell bad and attract lots of insects because animals are overcrowded impose externalities on their neighbors. Prices of food should reflect full costs of production. Non-environmentally sustainable methods of food production fail this test because they pass costs on to future generations

3.) Humanity (Humaneness): inflicting significant suffering on animals for minor reasons is wrong. Taken to its full consequences, this principle endorses a vegan diet above all others. Singer and Mason acknowledge, however, that not everyone can adopt such a diet; in some parts of the world conditions for growing plants are not sufficiently favorable while some people have metabolic conditions that prevent their absorbing full protein from plant sources. They also

[11] Ronald Sandler, "A virtue ethics perspective on genetically modified crops," in 222-23.

[12] Peter Singer and Jim Mason, *The Way We Eat: Why our Food Choices Matter* (Emmaus, PA: Rodale, 2006), pp. 270-1

acknowledge that many people differentiate between wild and domesticated animals, and regard the latter as legitimate food. For meat-eaters, humaneness means choosing meats produced in ways that keep animal discomfort and suffering to a minimum.

4.) Social responsibility: workers have rights to safe working conditions, fair workplace practices (no forced labor, no discrimination in employment), and rights to form unions and bargain collectively. While many of these same conclusions could be drawn from principle 2 on costs, having a separate principle covers aspects of decent working conditions that do not cost extra.

5.) Needs before desires: actions preserving life and health are more justified than those merely advancing pleasure. Within and between countries this principle suggests ensuring that everyone has a nutritional minimum. Singer and Mason also use it to argue that overeating and poor food choices leading to obesity should be condemned not only for their effects on the individual but also because of the higher health care costs imposed on others wherever health care is financed through taxes or private insurance funds.

Singer has also expressed views about use of GM technology in food and feeds. He has argued that complaints GM organisms are not "natural" are beside the point. As he put it in a recent interview, "It is a mistake to place any moral value on what is natural. I mean many things are natural, including racism, sexism, war, and all sorts of diseases that we try to fight all the time. So the argument about GM food being unnatural and therefore wrong oversimplifies this debate."[13] He adds that each proposed GM organism has to be examined separately to see whether the potential gains (better nutritional value, greater drought resistance, better adaptation to particular soil conditions) outweigh potential dangers (GM crops cross-pollinating with other farmed or wild plants and creating new environmental problems, producing foods with more allergens than previous varieties, producing varieties that interfere with other aspects of human or animal metabolism or hormone systems). He also estimates the distributional consequences of GM seeds differently than many commentators. Though expressing some preference for development through what he calls "public benefit organizations" – non-profit institutes or NGOs, he argues in the *Brown Journal* interview, that "It's offering new seeds. If they're better, people will grow them; if they're not better, people won't grow them" and suggests that use of "terminator technology" (engineering the crop so that seeds taken from the first year's crop cannot be used to start the next year's crop) is self-limiting because farmers who want to be able to grow from saved seed will avoid seeds known to incorporate that technology.

Decisions about GM Technologies

In contemporary debates about how to design decision-making processes, the alternatives available are often presented in binary terms involving either an "elite" or a "democratic" processes. In these debates the term "elite" covers not only the political leaders and corporate executives holding the authority to commit governments and firms to particular courses of action, but also persons with scientific, technical, and economic expertise relevant to determining the basic physical possibility of using some technology, the relative feasibility of use as compared to other technologies serving the same broad purpose, and the relative benefit/cost ratio of using different technologies or using the same technology at different scales or

[13] Peter Singer, "Genetically modified food and foreign aid: An interview with Krishna Chokshi," *Brown Journal of World Affairs* 14/1 (Fall/Winter 2007), pp. 135-143.

in different conditions. Thus, decisions confined to corporate offices and government agencies register as "elite" even if technical experts as well as CEOs and other top executives, political leaders and agency heads participate. In an elite process, a few people participate in the process of assessing the technology and deciding whether and when to use it. In a democratic process, assessment occurs in a publicly-visible way and the choice whether or when to use is set after input from a wide variety of participants including developers, providers, intermediate users (persons who use the technology to produce a good or service ultimately bought by others), final users, and members of the general public.

Advocates of democratic governance maintain that decisions about whether and how to use a new technology or a significant innovation in an existing technology – or at least those that seem likely to make major changes to the way tasks are accomplished or have significant impact on human health or the environment – should be made in public through political processes affording wide participation.[14] In their view, knowledge of the scientific or engineering feasibility and the economic efficiency of using a technology is not sufficient for determining what action ought, may, or ought not be undertaken; social values are equally relevant and experts have no special insight into the ethical dimensions of a technology. Though competitive markets decentralize technology decisions among numerous firms, and thus provide multiple separate looks at a technology, strong democrats regard market-organized processes as insufficient because decision-making is still held within firms and competitive dynamics are likely to push the spread of a technology before its full implications are known.

This aspect of the deep democratic view goes against most traditional thinking about ethics. For much of human history, and even in some communities today, certain individuals – often the leaders of religious congregations, but also philosophers, shamans, hermits, and others believed to have particularly strong connection to sources of wisdom – are regarded as better able to make the requisite ethical judgments than individual "ordinary folk" or even a whole community considering a matter together. Deep democrats object to relying on a small circle of moral guides not because their wisdom is weak but because relying on them is another type of closed process all too likely to be skewed to elite advantage.

Yet, strong democrats are aware that groups as well as individuals can get caught up in emotional and other psychological dynamics that inhibit clear ethical thinking. To reduce the probability of that happening, they ~~using~~ recommend open and multi-stage public deliberation processes designed to promote participation by persons of varying backgrounds and interests so that the small like-minded groups most likely to suffer from "groupthink"[15] cannot dominate the entire decision-making process. In the end, however, there is need for a determinate decision and thus of a process by which deliberation leads to a moment of choice, even if that choice can be revisited if its consequences prove undesirable later.

<end>

[14] Such as B. Manin, ""On legitimacy and political deliberation," *Political Theory* 15: 3-27 (1987); John S. Dryzek, *Discursive Democracy: Politics, Policy, and Political Science* (Cambridge: Cambridge University Press, 1990);

[15] See Irving L. Janis, *Groupthink: Psychological Studies of Policy Decisions and Fiascos* (Boston: Houghton-Mifflin, 1983).

IDEESE Module 2.3a Resources

In Class Evaluation

Version 2; July 2010

Part 1: The following are some possible response you might have to the material in this Module. Please circle the response that is closest to your thoughts after this module.

Key	
SA	Strongly Agree
A	Agree
UN	Undecided
D	Disagree
SD	Strongly Disagree

Statement	Your Response				
1. I now realize that there is a lot more communication and interconnectedness between countries than I realized.	SA	A	UN	D	SD
2. I do not think that it is very important for scientists/ engineers to pay attention to the international aspects of their work.	SA	A	UN	D	SD
3. I realize that my career will probably have some global or international aspects.	SA	A	UN	D	SD
4. I now realize there are more social implications related to my career than I thought about previously.	SA	A	UN	D	SD
5. I am more aware that the work I might do will involve ethical as well as technical choices.	SA	A	UN	D	SD
6. I am more aware now of the complications related to different ethical expectations in different countries.	SA	A	UN	D	SD
7. I feel there should be one set of ethical guidelines developed that could be used to guide the work of scientists/engineers, regardless of the country in which they work.	SA	A	UN	D	SD
8. I feel that each culture has its own ethical standards, and those standards should not be dictated by other cultures or countries.	SA	A	UN	D	SD
9. I think that ethical guidelines should be a part of international treaties.	SA	A	UN	D	SD
10. I think that it is sufficient for an international company to comply with each nation's ethical standards, independent of the location of the company's headquarters.	SA	A	UN	D	SD

Part 2: In this section, please identify one specific example that you remember as having the most impact on you. Please leave the line blank if nothing seems relevant.

1. Increased intercommunication that exists now between countries.

_____

2. Social implications of work done by scientists and engineers.

_____

3. Decisions about ethics in relation to different countries.

_____

4. Any other specific ideas that were important to you from this module.

_____

<end>

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