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Business, Government, and Society

香港公開大學
THE OPEN UNIVERSITY OF HONG KONG

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Chapter 1 Authors and Misc Information

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CONNEXIONS Rice University, Houston, Texas

Chapter 2 Ethical Issues in Business Research

2.1 Graduate Education in Research Ethics for Scientists and Engineers: Graduate Awareness Workshop

This content is available online here (http://cnx.org/content/m14400/1.13/).

2.1.1 Module Introduction

Graduate Awareness Workshop

Upon entering UPRM, you will be asked to participate in an awareness workshop that introduces basic ethical issues and concepts pertinent to research activities. A Pre-Test involving discussion of scenarios in research ethics will be followed by a lecture that defines key concepts and situates the fundamental problems of research ethics in its "Three Capital Sins," i.e., fabrication, falsification, and plagiarism. Integrated into this part of the workshop will be a demonstration of the intrinsic connection between science and ethics. This workshop closes with a Post-Test designed to measure and assess any changes in your awareness.

2.1.2 What you are going to do.

Workshop Activities

- To prepare for the workshop, you will read a short selection on research ethics and explore the links provided in this module on the Hwang Woo Suk, Tuskegee, and Enron cases. This will get you ready for the workshop.
- **Exercise 1:** Take a workshop pre-test in Research Ethics
- **Exercise 2:** Identify key duties in the research ethics context, the duties of researchers, duties of professors to students, and duties of students to professors.
- **Exercise 3:** Reflect and write on the fundamental mission an purpose of the university. What goes on within the university? How does the university contribute to the surrounding community?
- **Exercise 4:** You will return to the cases presented in the first part of the workshop. What issues covered during the workshop on research ethics arose in

these cases? For example, what issues discussed in the workshop arose in the Tuskegee case?

Beginning your exploration of research ethics.
Click on the links to the following three cases:

- Hwang Woo Suk
- Tuskegee
- Enron (Exploring the link to Enron will also help you to access interviews with Jeff Skilling.)

Key Issues and Themes in Research Ethics

- **Conceptual map** exploring the etymological roots of ethics and its relations and differences with concepts like morality, religion, and law.
- **Research Ethics Themes:** Research gravitates around a double axiological axis. The first deals with issues surrounding the commitment of any academic endeavor to the **pursuit of truth**. The second arises from the **social responsibility** of the researcher to the whole academic enterprise. This double axiological axis provides a basis for framing issues in Research Ethics.
- **Academic integrity** as the condition that makes possible the university's mission.
- The intrinsic connection between **science and ethics**
- **Three Capital Sins** against academic integrity: fabrication, falsification, and plagiarism
- What is **ethical relativism** and **absolutism**?

Workshop Objectives

1. Determine your initial awareness of ethical issues in research ethics (Tied to Pre-Test activity)
2. Deepen your awareness of ethical issues that arise in scientific and engineering research. (Tied to Presentation activity)
3. Provide you with a conceptual map of key issues and concepts in research ethics. (Tied to Presentation activity)
4. Uncover and assess any changes or improvements in your awareness of ethical issues that arise in scientific and engineering research. (Tied to Post-Test activity)

2.1.3 What you will learn.

Ética:

- Aunque no universalmente aceptado, muchos autores adoptan hoy la siguiente distinción:
- **Moral:** Códigos de conducta que rigen diversas comunidades humanas
- **Ética:** Disciplina flosófica que estudia la conducta humana desde el punto de vista de los valores y deberes morales
- See also

- Ética: *"Disciplina flosófica que estudia racionalmente la conducta humana desde un punto de vista de los deberes y virtudes morales"*.
- Jorge José Ferrer, y Juan Carlos Álvarez, **Para Fundamentar la Bioetica**, Editorial Desclee De Brouwer, 2003: 26

Ejercicio

1. Escriba dos acciones o actitudes de un(a) estudiante que van en contra de la integridad academica.
2. Escriba dos acciones o actitudes de un profesor(a) que van en contra de la integridad academica

Qué es un dilema ético:

Un dilema etico puede definirse como un conflicto que la persona experimenta entre dos o mas obligaciones morales en una circunstancia particular

Joseph R. Herkert, **Social, Ethical, and Policy Implications of Engineering**, IEEE Press, 2000

Integridad Académica

- Valores relacionados a la búsqueda y comunicación de los distintos saberes.
- Valores, normas y virtudes relacionadas con el cumplimiento de la misión universitaria: búsqueda del saber, aplicación de los conocimientos, impacto a la sociedad.
- **Condicion que posibilita la Misión de la Universidad**

Investigación y Responsabilidad Social

- No atropellar el interes de los sujetos de estudio.
- No atentar contra los intereses de instituciones participantes.
- No atentar contra los intereses de la sociedad.

Investigación y Responsabilidad Social

- Investigación con sujetos humanos.
- Consentimiento informado y voluntario.
- Investigación con animales de laboratorio.
- Polftica Publica (Comité de Protección de Sujetos Humanos en la Investigación,) IRB
- Relación con la industria, comunidad, y sociedad.
- Protección ambiental

Tres Pecados Capitales contra la Integridad Academica

1. Fabricación, invención información o datos de experimentos que no se efectuaron.
2. Falsifcación de datos, alteración de datos experimentales, resultados, o información.
3. Plagio, apropiación de métodos, datos, cuerpo de un texto, trabajos sin citar o reconocer la fuente.

2.1.4 What did you learn?

Ejercicio

1. Escribe 5 deberes que entiendas deben tener los Investigadores
2. Escribe 5 deberes que entiendas deben tener los Profesores/TAs
3. Escribe 5 deberes que deban tener los estudiantes para con los Profesores/TAs

2.1.5 References

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2.1.6 Presentations for Graduate Awareness Workshop

Below are two presentations upon which different variations of the Graduate Awareness Workshop will be built. They both explore basic and intermediate moral concepts such as rights, duties, plagiarism, and integrity. They also contain material and exercises designed to help capstone design courses in engineering and science effectively integrate ethical issues. In addition to the presentations, the last media file contains a document that provides the Pre-Test, Post-Test, and GAW evaluation forms in Word format.

Presentation: Integridad Academica y Etica de la Investigacion by Luis Jimenez, Efrain O'Neill, and Eddie Marrero (http://cnx.org/content/m14400/latest/GAW%20Long.ppt)

This Spanish presentation provides a general introduction to academic integrity and research ethics. It has been tested with graduate students in a Graduate Awareness Workshop various times in the spring and summer of 2007 in connection with NSF grant 0629377, Graduate Education in Research Ethics for Scientists and Engineers.

Presentation: La actividad academica como empresa moral by Jorge Ferrer and Efrain O'Neill (http://cnx.org/content/m14400/latest/GAW%20Short.ppt)

This presentation developed for incoming graduate students is designed to develop a preliminary basis of ethical awareness upon which moral deliberation and case analysis skills will be built. Written in Spanish, this presentation was developed by Dr. Jorge Ferrer and Dr. Efrain O'Neill

September 29 2007 Presentation (http://cnx.org/content/m14400/latest/GAWSept292007.ppt)

This link contains the PowerPoint presentation given for the GAW on September 29, 2007. To date it is the most recent version of the workshop.

Graduate Awareness Workshop Pre and Post Test Exercises (http://cnx.org/content/m14400/latest/AssessGAW.doc)

This presentation, developed by Efrain O'Neill and Luis Jimenez, has been used to introduce research ethics to incoming graduate students in Electrical Engineering. Eddie Marrero and Jorge Ferrer also contributed material.

Issue Identification Workshop Presentation (http://cnx.org/content/m14400/latest/RE%20Issues%20Nov07%20V3.ppt)

Clicking on this link will open the PowerPoint presentation used in a faculty issue identification activity held at the University of Puerto Rico at Mayaguez on November 29, 2007.

Chapter 3 Leadership in Business and Ethical Leadership

3.1 Ethical Rights for Working Engineers and Other Professionals

This content is available online here (http://cnx.org/content/m15554/1.1/).

3.1.1 Module Introduction

Preliminary Draft distributed at APPE, 2005 in San Antonio, TX

Engineers and other professionals work in large corporations under the supervision of managers who may lack their expertise, skills, and commitment to professional standards. This creates communication and ethical challenges. At the very least, professionals are put in the position of having to advocate their ethical and professional standards to those who, while not being opposed to them, may not share their understanding of and commitment to them.

This module is designed to give you the tools and the practice using them necessary to prevail in situations that require advocacy of ethical and professional standards. In this module you carry out several activities.

(1) You will study the philosophical and ethical foundations of modern rights theory through a brief look at Kantian Formalism. (2) You will learn a framework for examining the legitimacy of rights claims. (3) You will practice this framework by examining several rights claims that engineers make over their supervisors. This examination will require that you reject certain elements, rephrase others, and generally recast the claim to satisfy the requirements of the rights justification framework. (4) Finally, in small groups you will build tables around your reformulation of these rights claims and present the results to the class. This module will help you to put your results together with the rest of your classmates and collectively assemble a toolkit consisting of the legitimate rights claims that engineers and other professionals can make over their managers and supervisors.

For more background on rights theory and the relation of rights and duties see (1) Henry Shue, **Basic Rights: Subsistence, Affluence, and U.S. Foreign Policy**, 2nd edition, Princeton, 1980 and (2) Thomas Donaldson, **The Ethics of International Business**, Oxford, 1989. This exercise has been used in computer and engineering ethics classes at the University of Puerto Rico at Mayaguez from 2002 on to the

present. It is being incorporated into the textbook, Good Computing: A Virtue Approach to Computer Ethics by Chuck Huff, William Frey, and Jose Cruz.

3.1.2 What you need to know...

Problematic Right Claims

1. El derecho para actuar de acuerdo a la conciencia ética y rechazar trabajos en los cuales exista una variacion de opinones morales.
2. El derecho de expresar juicio profesional, y hacer pronunciamientos publicos que sean consistentes con restricciones corporativas sobre la informacion propietaria.
3. El derecho a la lealtad corporativa y la libertad de que sea hecho un chivo expiatorio para catastrofes naturales, ineptitud de administracion u otras fuerzas mas alla del control del ingeniero.
4. El derecho a buscar el mejoramiento personal mediante estudios postgraduados y envolverse en asociaciones profesionales.
5. El derecho a participar en actividades de partidos politicos fuera de las horas de trabajo.
6. El derecho a solicitar posiciones superiores con otras companias sin que la companis en la que trabaje tome represalias contra el ingeniero.
7. El derecho al debido proceso de ley y la libertad de que se le apliquen penalidades arbitrarias o despidos.
8. El derecho a apelar por revision ante una asociacion profesional, ombudsman o arbitro independiente.
9. El derecho a la privacidad personal.
10. These rights are taken from Etica en la Practica Profesional de la Ingenieria by Wilfredo Munoz Roman published in 1998 by the Colegio de Ingenieros y Agrimensores de Puerto Rico and Universidad Politecnica de Puerto Rico

Problematic Rights Claims (translated)

1. The right to act in accordance with one's ethical conscience and to refuse to work on projects that go against one's conscience or personal or professional moral views.
2. The right to express one's professional judgment and to make public declarations as long as these do not violate a corporation's rights to proprietary information.
3. The right to corporate loyalty and freedom from being made a scapegoat for natural catastrophes, administrative ineptitude, and other forces that are beyond the control of the individual engineer.
4. The right to better oneself through postgraduate studies and through participation in one's professional society.
5. The right to participate in political activities outside of work hours.
6. The right not to suffer retaliation from one's current employer when one seeks better employment elsewhere.
7. The right to due process under the law and freedom from the application of arbitrary penalties including being fired at will without just cause.

8. The right to appeal judgments made against one before a professional association, ombudsman, or independent arbitrator.
9. The right to personal privacy.

Kantian Formalism, Part I: Aligning the moral motive and the moral act

- Kant's moral philosophy has exercised substantial influence over our notions of right and duty. We begin with a brief summary of this theory based on the work, **The Foundations of the Metaphysics of Morals**.
- Kant states that the only thing in this world that is good without qualification is a good will. He characterizes this will in terms of its motive, *"duty for duty's sake."*
- Consider the following example. You see a boy drowning. Even though the water is rough and the current strong you are a good enough swimmer to save him. So while your inclination may be to give way to fear and walk away, you are duty-bound to save the drowning boy.
- An action (saving or not saving the drowning boy) has moral worth depending on the correct correlation of right action and right motive. The following table shows this.

Duty for Duty's Sake

	Motive Inclination (desire for reward or fear)	Motive Duty
Act Conforms to Duty	You save the drowning boy for the reward. Act conforms to duty but is motivated by inclination. Has no moral worth.	You save the drowning boy because it is your duty. Act conforms to duty and is for the sake of duty. Your act has moral worth.
Act violates a duty.	You don't save the drowning boy because you are too lazy to jump in. Act violates duty motivated by inclination.	You drown trying to save the drowning boy. He also dies. Act fails to carry out duty but is motivated by duty anyway. The act miscarries but since the motive is duty it still has moral worth.

Part II of Kantian Formalism: Giving content to Duty for Duty's Sake

- Kant sees morality as the expression and realization of the rational will. The first formulation of this rational will is to will consistently and universally.

- This leads to the Categorical Imperative: **I should act only on that maxim (=personal rule or rule that I give to myself) that can be converted into a universal law (a rule that applies to everybody) without self-contradiction.**
- This formulation is an imperative because it commands the will of all reasonable beings. It is categorical because it commands without exceptions or conditions. The CI tells me unconditionally not to lie. It does not say, do not like unless it promotes your self interest to do so.
- The following table shows how to use the Categorical Imperative to determine whether I have a duty not to lie.

Applying the Categorical Imperative

1. Formulate your maxim (personal rule)	Whenever I am in a difficult situation, I should tell a lie.
2. Universalize your maxim.	Whenever anybody is in a difficult situation, he or she should tell a lie.
3. Check for a contradiction (logical or practical)	When I lie, I will the opposite for the universal law. Put differently, I will that everybody (but me) be a truth-teller and that everybody believe me a truth-teller. I then make myself the exception to this universal law. Thus my maxim (I am a liar) contradicts the law (everybody else is a truth-teller)

Kantian Formalism, Part III: The Formula of the End

- When I will one thing as universal law and make myself the exception in difficult circumstances, I am treating others, in Kantian terms, merely as means.
- This implies that I subordinate or bend them to my interests and projects without their consent. I do this by circumventing their autonomy through (1) force, (2) fraud (often deception), or (3) manipulation. Treating them with respect would involve telling them what I want (what are my plans and projects) and on this basis asking them to consent to participate and help me. The extreme case for treating others merely as means is enslaving them.
- We do on occasion treat others as means (and not as mere means) when we hire them as employees. But this is consistent with their autonomy and rational consent because we explain to them what is expected (we give them a job description) and compensate them for their efforts. For this reason there is a world of difference between hiring others and enslaving them.
- The Formula of the End = Act so as to treat others (yourself included) always as ends and never merely as means.

Some Key Definitions for a Rights Framework

- Kantian formalism provides a foundation for respect for the intrinsic value of humans as autonomous rational beings. Using this as a point of departure, we can develop a method for identifying, spelling out, and justifying the rights and duties that go with professionalism. This framework can be summarized in four general propositions:
- 1. Definition: A **right** is an essential capacity of action that others are obliged to recognize and respect. This definition follows from autonomy. Autonomy can be broken down into a series of specific capacities. Rights claims arise when we identify these capacities and take social action to protect them. Rights are inviolable and cannot be overridden even when overriding would bring about substantial public utility.
- 2. All rights claims must satisfy three requirements. They must be (1) **essential to the autonomy** of individuals and (2) **vulnerable** so that they require special recognition and protection (on the part of both individuals and society). Moreover, the burden of recognizing and respecting a claim as a right must not deprive others of something essential. In other words, it must be (3) feasible for both individuals and social groups to recognize and respect legitimate rights claims.
- 3. Definition: A **duty** is a rule or principle requiring that we both recognize and respect the legitimate rights claims of others. Duties attendant on a given right fall into three general forms: (a) duties not to deprive, (b) duties to prevent deprivation, and (c) duties to aid the deprived.
- 4. **Rights and duties are correlative**; for every right there is a correlative series of duties to recognize and respect that right.
- These four summary points together form a system of professional and occupational rights and correlative duties.

Right Claim Justification Framework

- **Essential:** To say that a right is essential to autonomy is to say that it highlights a capacity whose exercise is necessary to the general exercise of autonomy. For example, autonomy is based on certain knowledge skills. Hence, we have a right to an education to develop the knowledge required by autonomy, or we have a right to the knowledge that produces informed consent. In general, rights are devices for recognizing certain capacities as essential to autonomy and respecting individuals in their exercise of these capacities.
- **Vulnerable:** The exercise of the capacity protected under the right needs protection. Individuals may interfere with us in our attempt to exercise our rights. Groups, corporations, and governments might overwhelm us and prevent us from exercising our essential capacities. In short, the exercise of the capacity requires some sort of protection. For example, an individual's privacy is vulnerable to violation. People can gain access to our computers without our authorization and view the information we have stored. They can even use this information to harm us in some way. The right to privacy, thus, protects certain capacities of action that are vulnerable to interference from others. Individual and social energy needs to be expended to protect our privacy.
- **Feasible:** Rights make claims over others; they imply duties that others have. These claims must not deprive the correlative duty-holders of anything essential.

In other words, my rights claims over you are not so extensive as to deprive you of your rights. My right to life should not deprive you of your right to self-protection were I to attack you. Thus, the scope of my right claims over you and the rest of society are limited by your ability to reciprocate. I cannot push my claims over you to recognize and respect my rights to the point where you are deprived of something essential.

Types of Duty Correlative to a Right

- **Duty not to deprive:** We have a basic duty not to violate the rights of others. This entails that we must both recognize and respect these rights. For example, computing specialists have the duty not to deprive others of their rights to privacy by hacking into private files.
- **Duty to prevent deprivation:** Professionals, because of their knowledge, are often in the position to prevent others from depriving third parties of their rights. For example, a computing specialist may find that a client is not taking sufficient pains to protect the confidentiality of information about customers. Outsiders could access this information and use it without the consent of the customers. The computing specialist could prevent this violation of privacy by advising the client on ways to protect this information, say, through encryption. The computing specialist is not about to violate the customers' rights to privacy. But because of special knowledge and skill, the computing specialist may be in a position to prevent others from violating this right.
- **Duty to aid the deprived:** Finally, when others have their rights violated, we have the duty to aid them in their recovery from damages. For example, a computing specialist might have a duty to serve as an expert witness in a lawsuit in which the plaintiff seeks to recover damages suffered from having her right to privacy violated. Part of this duty would include accurate, impartial, and expert testimony.

Application of Right/Duty Framework

1. We can identify and define specific rights such as due process. Moreover, we can set forth some of the conditions involved in recognizing and respecting this right.
2. Due Process can be justified by showing that it is essential to autonomy, vulnerable, and feasible.
3. Right holders can be specified.
4. Correlative duties and duty holders can be specified.
5. Finally, the correlative duty-levels can be specified as the duties not to violate rights, duties to prevent rights violations (whenever feasible), and the duties to aid the deprived (whenever is feasible).

Example Rights Table: Due Process

Right: Due Process	Justification	Right-Holder: Engineer as employee and member of professional society.	Correlative Duty- Holder: Engineer's Supervisor, officials in professional society.	Duty Le
Definition: The right to respond to organizational decisions that may harm one in terms of a serious organizational grievance procedure. Necessary Conditions: 1. Several levels of appeal. 2. Time limits to each level of appeal. 3. Written notice of grievance. 4. Peer representation. 5. Outside arbitration.	Essential: Due Process is essential in organizations to prevent the deprivation of other rights or to provide aid in the case of their deprivation.	Professionals who are subject to professional codes of ethics. Supports professionals who are ordered to violate professional standards.	Human Resources, Management, Personnel Department. (Individuals with duty to design, implement, and enforce a due process policy)Corporate directors have the duty to make sure this is being done.	Not to D Individu cannot fired, transfer demote without process
	Vulnerable: Rights in general are not recognized in the economic sphere, especially in organizations.			Prevent Depriva Organiz can prev deprivat designi implem a compre due proc policy.
	Feasible: Organizations, have successfully implemented due process procedures.			Aid the Deprive Binding arbitrat legal me must ex aid thos deprive due proc rights

3.1.3 What you are going to do...

Exercise: Develop a Rights Table

1. You will be divided into small groups and each will be assigned a right claim taken from the above list.
2. Describe the claim (essential capacity of action) made by the right. For example, due process claims the right to a serious organizational grievance procedure that will enable the right-holder to respond to a decision that has an adverse impact on his or her interests. It may also be necessary in some situations to specify the claim's necessary conditions.
3. Justify the right claim using the rights justification framework. In other words show that the right claim is essential, vulnerable, and feasible.
4. Be sure to show that the right is essential to **autonomy**. If it is vulnerable be sure to identify the **standard threat**. (A standard threat is an existing condition that threatens autonomy.)
5. Provide an example of a situation in which the right claim becomes operative. For example, an engineer may claim a right to due process in order to appeal what he or she considers an unfair dismissal, transfer, or performance evaluation.
6. Identify the correlative duty-holder(s) that need to take steps to recognize and respect the right. For example, private and government organizations may be duty-bound to create due process procedures to recognize and respect this right.
7. Further spell out the right by showing what actions the correlative duties involve. For example, a manager should not violate an employee's due process right by firing him or her without just cause. The organization's human resources department might carry out a training program to help managers avoid depriving employees of this right. The organization could aid the deprived by designing and implementing binding arbitration involving an impartial third party.

Be prepared to debrief on your right claim to the rest of the class. When other groups are debriefing, you are free to challenge them on whether their claim is essential to autonomy, whether they have identified a valid "standard threat," and whether the correlative duties are feasible or deprive others of something essential. Your goal as a class is to have a short but effective list of rights that professionals take with them to the workplace.

3.1.4 Conclusion

Conclusion: Topics for Further Refection

- Not every claim to a right is a legitimate or justifiable claim. The purpose of this framework is to get you into the habit of thinking critically and skeptically about the rights claims that you and others make. Every legitimate right claim is essential, vulnerable, and feasible. Correlative duties are sorted out according to different levels (not to deprive, prevent deprivation, and aid the deprived); this, in turn, is based on the capacity of the correlative duty holder to carry them out. Finally, duties correlative to rights cannot deprive the duty-holder of something essential.
- Unless you integrate your right and its correlative duties into the context of your professional or practical domain, it will remain abstract and irrelevant. Think about your right in the context of the real world. Think of everyday situations in which the right and its correlative duties will arise. Invent cases and scenarios. If you are an engineering student, think of informed consent in terms of the public's right to understand and consent to the risks associated with engineering projects. If you are a computing student think of what you can do with computing knowledge and skills to respect or violate privacy rights. Don't stop with an abstract accounting of the right and its correlative duties.
- Rights and duties underlie professional codes of ethics. But this is not always obvious. For example, the right of free and informed consent underlies much of the engineer's interaction with the public, especially the code responsibility to hold paramount public health, safety, and welfare. Look at the different stakeholder relations covered in a code of ethics. (In engineering this would include public, client, profession, and peer.) What are the rights and duties outlined in these stakeholder relations? How are they covered in codes of ethics?
- This module is effective in counter-acting the tendency to invent rights and use them to rationalize dubious actions and intentions. Think of rights claims as credit backed by a promise to pay at a later time. If you make a right claim, be ready to justify it. If someone else makes a right claim, make them back it up with the justification framework presented in this module.

3.2 Moral Exemplars in Business and Professional Ethics

This content is available online here (http://cnx.org/content/m14256/1.10/).

3.2.1 Module Introduction

Through the activities of this module you will learn to balance cautionary tales in business and professional ethics with new stories about those who consistently act in a morally exemplary way. While cautionary tales teach us what to avoid, narratives from the lives of moral exemplars show us how to be good. A study of moral best practices in business and professional ethics shows that moral exemplars exhibit positive and learnable skills. This module, then, looks at moral exemplars in business and the professions, outlines their outstanding accomplishments, and helps you to unpack the strategies they use to overcome obstacles to doing good.

You will begin by identifying outstanding individuals in business and associated practices who have developed moral "best practices." Your task is look at these individuals, retell their stories, identify the skills that help them do good, and build a foundation for a more comprehensive study of virtue in occupational and professional ethics.

3.2.2 Exercise: Choose a moral exemplar

- Identify a moral exemplar and provide a narrative description of his or her life story.
- To get this process started, look at the list of moral exemplars provided in this module. The links in the upper left hand corner of this module will help you to explore their accomplishments in detail. Feel free to choose your own exemplar. Make sure you identify someone in the occupational and professional areas such as business and engineering. These areas have more than their share of exemplars, but they tend to escape publicity because their actions avoid publicity generating disasters rather than bring them about.

3.2.3 Moral Exemplars

- 1. William LeMesseur. LeMesseur designed the Citicorp Building in New York. When a student identifed a critical design faw in the building during a routine class exercise, LeMesseur responded, not by shooting the messenger, but by developing an intricate and effective plan for correcting the problem before it issued in drastic real world consequences. Check out LeMesseur's profile at online ethics and see how he turned a potential disaster into a good deed.
- 2. Fred Cuny, starting in 1969 with Biafra, carried out a series of increasingly efective interventions in international disasters. He brought efective methods to disaster relief such as engineering know-how, political savvy, good business sense, and aggressive advocacy. His timely interventions saved thousands of

Kurdish refugees in the aftermath of the Persian Gulf War in 1991. He also helped design and implement an innovative water fltration system in Sarajevo during the Bosnia-Serb confict in 1993. For more details, consult the biographical sketch at onlineethics.

- 3. Roger Boisjoly worked on a team responsible for developing o-ring seals for fuel tanks used in the Challenger Shuttle. When his team noticed evidence of gas leaks he made an emergency presentation before ofcials of Morton Thiokol and NASA recommending postponing the launch scheduled for the next day. When decision makers refused to change the launch date, Boisjoly watched in horror the next day as the Challenger exploded seconds into its fight. Find out about the courageous stand Boisjoly took in the aftermath of the Challenger explosion by reading the biographical sketch at online ethics.
- 4. Muhammad Yunus won the Nobel Prize for Peace in 2006. His effort in setting up "micro-businesses" funded through "micro-lending" has completely changed the paradigm on how to extend business practices to individuals at the bottom of the pyramid. Learn about his strategies for creating micro-businesses and how those strategies have been extended throughout the world, including Latin America, by listening to an interview with him broadcast by the Online News Hour. (See link included in this module.)
- 5. Bill Gates has often been portrayed as a villain, especially during the anti-trust suit against Microsoft in the mid 1990's. Certainly his aggressive and often ruthless business practices need to be evaluated openly and critically. But recently Gates stopped participating in the day-to-day management of his company, Microsoft, and has set up a charitable foundation to oversee international good works projects. Click on the link included in this module to listen to and read an interview recently conducted with him and his wife, Melinda, on their charitable efforts.
- 6. Jeffrey Skilling, former CEO of Enron, can hardly be called a moral exemplar. Yet when Enron was at its peak, its CEO, Jeffrey Skilling, was considered among the most innovative, creative, and brilliant of contemporary corporate CEOs. View the documentary, The Smartest Guys in the Room, read the book of the same title, and learn about the configuration of character traits that led to Skilling's initial successes and ultimate failure. A link included in this module will lead you to an interview with Skilling conducted on March 28, 2001.
- Inez Austin worked to prevent contamination from nuclear wastes produced by a plutonium production facility. Visit Online Ethics by clicking on the link above to find out more about her heroic stand.
- Rachael Carson's book, The Silent Spring, was one of the key events inaugurating the environmental movement in the United States. For more on the content of her life and her own personal act of courage, visit the biographical profile at Online Ethics. You can click on the Supplemental Link provided above.

3.2.4 Exercise: Moral Exemplar Profiles

- What are the positive and negative influences you can identify for your moral exemplar?

- What good deeds did your exemplar carry out?
- What obstacles did your moral exemplar face and how did he or she overcome them?
- What skills, attitudes, beliefs, and emotions helped to orient and motivate your moral exemplar?

3.2.5 Exercise

Prepare a short dramatization of a key moment in the life of your group's moral exemplar.

3.2.6 Textbox: Two Different Types of Moral Exemplar

- Studies carried out by Chuck Huff into moral exemplars in computing suggest that moral exemplars can operate as craftspersons or reformers. (Sometimes they can combine both these modes.)
- Craftspersons (1) draw on pre-existing values in computing, (2) focus on users or customers who have needs, (3) take on the role of providers of a service/product, (4) view barriers as inert obstacles or puzzles to be solved, and (5) believe they are effective in their role.
- Reformers (1) attempt to change organizations and their values, (2) take on the role of moral crusaders, (3) view barriers as active opposition, and (4) believe in the necessity of systemic reform
- These descriptions of moral exemplars have been taken from a presentation by Huff at the STS col loquium at the University of Virginia on October 2006. Huff's presentation can be found at the link provided in the upper left hand corner of this module.

3.2.7 What Makes a Moral Exemplar? PRIMES Explained

General Comments on Exemplars

- Moral exemplars have succeeded in integrating moral and professional attitudes and beliefs into their core identity. Going against these considerations for moral exemplars is tantamount to acting against self. Acting in accordance with them becomes second nature.
- Moral exemplars often achieve their aims with the support of "support groups." In fact, moral exemplars are often particularly adept at drawing support from surrounding individuals, groups and communities. This goes against the notion that exemplars are isolated individuals who push against the current. (Not all exemplars need ft as heroes into Ayn Rand novels.)

- Moral exemplars often do not go through periods of intensive and prolonged deliberation in order to hit upon the correct action. If we want a literary example, we need to replace the tortured deliberations of a Hamlet with the quick and intuitive insight of an Esther Summerson. (Summerson is a character in Charles Dickens' novel, Bleak House. See both William Shakespeare and Charles Dickens for more examples of villains and exemplars.) Some have situated moral exemplars within virtue ethics. They have cultivated moral habits that allow them to do good as second nature. They have also found ways to integrate moral reasoning with emotion (as motive), perception (which helps them zero in on moral relevance), and skill (which helps implement moral value). In this sense, moral expertise functions much as athletic or technical expertise; all are difficult to acquire but once acquired lead to highly skilled actions performed almost effortlessly.

PRIMES

Primes stands for Personality, Integrating value into self-system, Moral Ecology, and Moral Skills Sets. These are the elements composing moral expertise that have been identified by Huff and Rogerson based on interviews they conducted with exemplars in the areas of computing.

Personality

- Moral exemplars exhibit different configurations of personality traits based on the big five. Locate the moral exemplar you have chosen in terms of the following five continuums (or continua):
- Neuroticism to Lack of Neuroticism (Stability?)
- Agreeableness to Disagreeableness
- Extraversion to Introversion
- Openness to Closedness
- Conscientiousness to Lack of Conscientiousness
- Examine your exemplar on each of these scales. In and of themselves, these qualities are neither good nor bad. They can be integrated to form bad characters or good characters. In many cases, moral exemplars stand out through how they have put their personality characteristics to "good use." (They have used them as vehicles or channels to excellence.)

Integrating Moral Value into Self-System

- As said above, moral exemplars stand out by the way in which (and the extent to which) they have integrated moral value into their self-system. Because of this, they are strongly motivated to do good and avoid doing bad. Both (doing good and refraining from doing bad) express who they are. If they slip into bad deeds, this motivational system pushes them to improve to avoid repeating bad deeds.
- One way of integrating moral value into self-system is by looking at stories and narratives of those who have displayed moral excellence. Many of the individuals portrayed above (Carson, Boisjoly, LeMesseur, Cuny, Austin, and Yunus) provide concrete models of outstanding moral careers.

- Literature also provides its models of moral exemplars. Charles Dickens paints especially powerful portraits of both moral heroes (Esther Summerson and "Little Dorritt") and villains (Heep and Skim-pole).
- Other vehicles for integrating moral value centrally into the self-system lie in affiliations, relationships, and friendships. Aristotle shows the importance of good friendships in developing virtues. Moral exemplars most often can point to others who have served as mentors or strong positive influences. For example, Roger Boisjoly tells of how he once went to a senior colleague for advice on whether to sign of on a design that was less than optimal. His colleague's advice: would you be comfortable with your wife or child using a product based on this design?
- The ethicist, Bernard Williams, has argued forcefully for the importance of personal projects in establishing and maintaining integrity. Personal projects, roles, and life tasks all convey value; when these hold positive moral value and become central unifying factors in one's character, then they also serve to integrate moral value into the self system.
- Augusto Blasi, a well known moral psychologist, gives a particularly powerful account (backed by research) of the integration of moral value into self-system and its motivational effect.

Moral Ecology

- Moral Ecologies: *"The term moral ecology encourages us to consider the complex web of relationships and influences, the long persistence of some factors and the rapid evolution of others, the variations in strength and composition over time, the micro-ecologies that can exist within larger ones, and the multidirectional nature of causality in an ecology."* From Huff et. al.
- Moral ecologies refer to social surrounds, that is, the different groups, organizations, and societies that surround us and to which we are continually responding.
- We interact with these social surrounds as organisms interact with their surrounding ecosystems. In fact, moral ecologies offer us roles (like ecological niches) and envelop us in complex organizational systems (the way ecosystems are composed of interacting and interrelated parts). We inhabit and act within several moral ecologies; these moral ecologies, themselves, interact. Finally, moral ecologies, like natural ecosystems, seek internal and external harmony and balance. Internally, it is important to coordinate different the constituent individuals and the roles they play. Externally, it is difficult but equally important to coordinate and balance the conflicting aims and activities of different moral ecologies.
- Moral ecologies shape who we are and what we do. This is not to say that they determine us. But they do channel and constrain us. For example, your parents have not determined who you are. But much of what you do responds to how you have experienced them; you agree with them, refuse to question their authority, disagree with them, and rebel against them. The range of possible responses is considerable but these are all shaped by what you experienced from your parents in the past.
- The moral ecologies module (see the link provided above) describes three different moral ecologies that are important in business: quality-, customer-, and

finance-driven companies. (More "kinds" could be generated by combining these in different ways: for example, one could characterize a company as customer-driven but transforming into a quality-driven company.) Roles, strategies for dissent, assessment of blame and praise, and other modes of conduct are shaped and constrained by the overall character of the moral ecology.

- Moral ecologies, like selves, can also be characterized in terms of the "centrality" of moral value. Some support the expression of moral value or certain kinds of moral value (like loyalty) while undermining or suppressing the expression of others (like courage or autonomy).
- Finally, think in terms of how personality traits integrated around moral value interact with different types of moral ecology. If a moral ecology undermines virtuous conduct, what strategies are available for changing it? Or resisting it? If there are different kinds of moral exemplar, which pair best with which moral ecology? (How would a helper or craftsperson prevail in a finance-driven moral ecology like those characterized by Robert Jackall in **Moral Mazes**?

Moral Skills Sets

- Moral expertise is not reducible to knowing what constitutes good conduct and doing your best to bring it about. Realizing good conduct, being an effective moral agent, bringing value into the work, all require skills in addition to a "good will." PRIMES studies have uncovered four skill sets that play a decisive role in the exercise of moral expertise.
- **Moral Imagination:** The ability to project into the standpoint of others and view the situation at hand through their lenses. Moral imagination achieves a balance between becoming lost in the perspectives of others and failing to leave one's own perspective. Adam Smith terms this balance "proportionality" which we can achieve in empathy when we feel with them but do not become lost in their feelings. Empathy consists of feeling with others but limiting the intensity of that feeling to what is proper and proportionate for moral judgment.
- **Moral Creativity:** Moral Creativity is close to moral imagination and, in fact, overlaps with it. But it centers in the ability to frame a situation in different ways. Patricia Werhane draws attention to a lack of moral creativity in the Ford Pinto case. Key Ford directors framed the problem with the gas tank from an economical perspective. Had they considered other framings they might have appreciated the callousness of refusing to recall Pintos because the costs of doing so (and retrofitting the gas tanks) were greater than the benefits (saving lives). They did not see the tragic implications of their comparison because they only looked at the economic aspects. Multiple framings open up new perspectives that make possible the design of non-obvious solutions.
- **Reasonableness:** Reasonableness balances openness to the views of others (one listens and impartially weighs their arguments and evidence) with commitment to moral values and other important goals. One is open but not to the extent of believing anything and failing to keep fundamental commitments. The Ethics of Team Work module (see link above) discusses strategies for reaching consensus that are employed by those with the skill set of reasonableness. These help avoid the pitfalls of group-based deliberation and action.

- **Perseverance:** Finally, perseverance is the *"ability to plan moral action and continue on that course by responding to circumstances and obstacles while keeping ethical goals intact."* Huff et. al.

3.2.8 Presentation on Moral Exemplars

Please view or download it at Brief Comments on Moral Exemplars.pptx (http://cnx.org/content/m14256/latest/Brief%20Comments%20on%20Moral%20Exemplars.pptx)

3.2.9 Bibliography

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3.3 Theory-Building Activities: Virtue Ethics

This content is available online here (http://cnx.org/content/m13755/1.13/).

Based on material presented by Chuck Huff (St. Olaf College) and William Frey at the Association for Practical and Professional Ethics in 2005 at San Antonio, TX. Preliminary versions were distributed during this presentation.

3.3.1 Module Introduction

This module uses materials being prepared for Good Computing: A Virtue Approach to Computer Ethics, to set up an exercise in which you will identify and spell out virtues relevant to your professional discipline. After identifying these virtues, you will work to contextualize them in everyday practice. Emphasis will be placed on the Aristotelian approach to virtues which describes a virtue as the disposition toward the mean located between the extremes of excess and defect. You will also be asked to identify common obstacles that prevent professionals from realizing a given virtue and moral exemplars who demonstrate consistent success in realizing these virtues and responding to obstacles that stand in the way of their realization. In a variation on this module you could be asked to compare the virtues you have identified for your profession with virtues that belong to other moral ecologies such as those of the Homeric warrier.

3.3.2 Three Versions of Virtue Ethics: Virtue 1, Virtue 2, and Virtue 3

Virtue ethics has gone through three historical versions. The first, Virtue 1, was set forth by Aristotle in ancient Greece. While tied closely to practices in ancient Greece that no longer exist today, Aristotle's version still has a lot to say to us in this day and age. In the second half of the twentieth century, British philosophical ethicists put forth a related but different theory of virtue ethics (virtue 2) as an alternative to the dominant ethical theories of utilitarianism and deontology. Virtue 2 promised a new foundation of ethics consistent with work going on at that time in the philosophy of mind. Proponents felt that turning from the action to the agent promised to free ethical theory from the intractable debate between utilitarianism and deontology and offered a way to expand scope and relevance of ethics. Virtue 3 reconnects with Aristotle and virtue 1 even though it drops the doctrine of the mean and Aristotle's emphasis on character. Using recent advances in moral psychology and moral pedagogy, it seeks to rework key Aristotelian concepts in modern terms. In the

following, we will provide short characterizations of each of these three versions of virtue ethics.

3.3.3 Virtue 1: Aristotle's Virtue Ethics

- **Eudaimonia.** Happiness, for Aristotle, consists of a life spent fulfilling the intellectual and moral virtues. These modes of action are auto-telic, that is, they are self-justifying and contain their own ends. By carrying out the moral and intellectual virtues for a lifetime, we realize ourselves fully as humans. Because we are doing what we were meant to do, we are happy in this special sense of eudaimonia.
- **Arete.** Arete is the Greek word we usually translate as "virtue". But arete is more faithfully translated as excellence. For Aristotle, the moral and intellectual virtues represent excellences. So the moral life is more than just staying out of trouble. Under Aristotle, it is centered in pursuing and achieving excellence for a lifetime.
- **Virtue as the Mean.** Aristotle also characterizes virtue as a settled disposition to choose the mean between the extremes of excess and defect, all relative to person and situation. Courage (the virtue) is the mean between the extremes of excess (too much courage or recklessness) and defect (too little courage or cowardice). Aristotle's claim that most or all of the virtues can be specified as the mean between extremes is controversial. While the doctrine of the mean is dropped in Virtue 2 and Virtue 3, we will still use it in developing virtue tables. (See exercise 1 below.) You may not find both extremes for the virtues you have been assigned but make the effort nonetheless.
- **Ethos.** "Ethos" translates as character which, for Aristotle, composes the seat of the virtues. Virtues are well settled dispositions or habits that have been incorporated into our characters. Because our characters are manifested in our actions, the patterns formed by these over time reveal who we are. This can be formulated as a decision-making test, the **public identification test**. Because we reveal who we are through our actions we can ask, when considering an action, whether we would care to be publicly identified with this action. "Would I want to be publicly known as the kind of person who would perform that kind of action? Would I, through my cowardly action, want to be publicly identified as a coward? Would I, through my responsible action, want to be publicly identified as a responsible person? Because actions provide others with a window into our characters, we must make sure be sure that they portray us as we want to be portrayed.
- **Aisthesis of the Phronimos.** This Greek phrase, roughly translated as the perception of the morally experienced agent, reveals how important practice and experience are to Aristotle in his conception of moral development. One major difference between Aristotle and other ethicists (utilitarians and deontologists) is the emphasis that Aristotle places on developing into or becoming a moral person. For Aristotle, one becomes good by first repeatedly performing good actions. So morality is more like an acquired skill than a mechanical process. Through practice we develop sensitivities to what is morally relevant in a

situation, we learn how to structure our situations to see moral problems and possibilities, and we develop the skill of "hitting" consistently on the mean between the extremes. All of these are skills that are cultivated in much the same way as a basketball player develops through practice the skill of shooting the ball through the hoop.

- **Bouleusis.** This word translates as "deliberation." For Aristotle, moral skill is not the product of extensive deliberation (careful, exhaustive thinking about reasons, actions, principles, concepts, etc.) but of practice. Those who have developed the skill to find the mean can do so with very little thought and effort. Virtuous individuals, for Aristotle, are surprisingly unreflective. They act virtuously without thought because it has become second nature to them.
- **Akrasia.** Ross translates this word as "incontinence" which is outmoded. A better translation is weakness of will. For Aristotle, knowing where virtue lies is not the same as doing what virtue demands. There are those who are unable to translate knowledge into resolution and then into action. Because akrasis (weakness of will) is very real for Aristotle, he also places emphasis in his theory of moral development on the cultivation of proper emotions to help motivate virtuous action. Later ethicists seek to oppose emotion and right action; Aristotle sees properly trained and cultivated emotions as strong motives to doing what virtue requires.
- **Logos** Aristotle's full definition of virtue is "a state of character concerned with choice, lying in a mean, i.e. the mean relative to us, this being determined by a rational principle, and by that principle by which [a person] of practical wisdom would determine it." (Ross's translation in **Nichomachean Ethics**, 1106b, 36.) We have talked about character, the mean, and the person of practical wisdom. The last key term is "logos" which in this definition is translated by reason. This is a good translation if we take reason in its fullest sense so that it is not just the capacity to construct valid arguments but also includes the practical wisdom to assess the truth of the premises used in constructing these arguments. In this way, Aristotle expands reason beyond logic to include a fuller set of intellectual, practical, emotional, and perceptual skills that together form a practical kind of wisdom.

3.3.4 Virtue 2

- The following summary of Virtue 2 is taken largely from Rosalind Hursthouse. While she extensively qualifies each of these theses in her own version of virtue ethics, these points comprise an excellent summary of Virtue 2 which starts with G.E.M. Anscombe's article, "Modern Moral Philosophy," and continues on into the present. Hursthouse presents this characterization of Virtue 2 in her book, **On Virtue Ethics** (2001) U.K.: Oxford University Press: 17.
- **Virtue 2 is agent centered.** Contrary to deontology and utilitarianism which focus on whether actions are good or right, V2 is agent centered in that it sees the action as an expression of the goodness or badness of the agent. Utilitarianism focuses on actions which bring about the greatest happiness for the greatest number; deontology seeks those actions that respect the autonomy of individuals

and carry out moral obligations, especially duties. These theories emphasize **doing** what is good or right. Virtue 2, on the other hand, focuses on the agent's becoming or **being** good.

- **Can Virtue 2 tell us how to act?** Because V2 is agent-centered, critics claim that it cannot provide insight into how to act in a given situation. All it can say is, "Act the way a moral exemplar would act." But what moral standards do moral exemplars use or embody in their actions? And what moral
- standards do we use to pick out the moral exemplars themselves? Hursthouse acknowledges that this criticism hits home. However, she points out that the moral standards come from the moral concepts that we apply to moral exemplars; they are individuals who act **courageously**, exercise **justice**, and realize **honesty**. The moral concepts "courage," "justice," and "honesty" all have independent content that helps guide us. She also calls this criticism unfair: while virtue 2 may not provide any more guidance than deontology or utilitarianism, it doesn't provide any less. Virtue 2 may not provide perfect guidance, but what it does provide is favorably comparable to what utilitarianism and deontology provide.
- **Virtue 2 replaces Deontic concepts (right, duty, obligation) with Aretaic concepts (good, virtue).** This greatly changes the scope of ethics. Deontic concepts serve to establish our minimum obligations. On the other hand, aretaic concepts bring the pursuit of excellence within the purview of ethics. Virtue ethics produces a change in our moral language that makes the pursuit of excellence an essential part of moral inquiry.
- Finally, there is a somewhat different account of virtue 2 (call it virtue 2a) that can be attributed to Alisdair MacIntyre. This version "historicizes" the virtues, that is, looks at how our concepts of key virtues have changed over time. (MacIntyre argues that the concept of justice, for example, varies greatly depending on whether one views justice in Homeric Greece, Aristotle's Greece, or Medieval Europe.) Because he argues that skills and actions are considered virtuous only in relation to a particular historical and community context, he redefines virtues as those skill sets necessary to realize the goods or values around which social practices are built and maintained. This notion fits in well with professional ethics because virtues can be derived from the habits, attitudes, and skills needed to maintain the cardinal ideals of the profession.

3.3.5 Virtue 3

Virtue 3 can best be outlined by showing how the basic concepts of Virtue 1 can be reformulated to reflect current research in moral psychology.

1. **Reformulating Happiness (Eudaimonia).** Mihaly Csikcszentmihalyi has described flow experiences (see text box below) in which autotelic activities play a central role. For Aristotle, the virtues also are autotelic. They represent faculties whose exercise is key to realizing our fullest potentialities as human beings. Thus, virtues are self-validating activities carried out for themselves as well as for the ends they bring about. Flow experiences are also important in helping us to

conceptualize the virtues in a professional context because they represent a well practiced integration of skill, knowledge, and moral sensitivity.

2. **Reformulating Values (Into Arete or Excellence).** To carry out the full project set forth by virtue 3, it is necessary to reinterpret as excellence key moral values such as honesty, justice, responsibility, reasonableness, and integrity. For example, moral responsibility has often been described as carrying out basic, minimal moral obligations. As an excellence, responsibility becomes refocused on extending knowledge and power to expand our range of effective, moral action. Responsibility reformulated as an excellence also implies a high level of care that goes well beyond what is minimally required.
3. **De-emphasizing Character.** The notion of character drops out to be replaced by more or less enduring and integrated skills sets such as moral imagination, moral creativity, reasonableness, and perseverance. Character emerges from the activities of integrating personality traits, acquired skills, and deepening knowledge around situational demands. The unity character represents is always complex and changing.
4. **Practical Skill Replaces Deliberation.** Moral exemplars develop skills which, through practice, become second nature. These skills obviate the need for extensive moral deliberation. Moral exemplars resemble more skillful athletes who quickly develop responses to dynamic situations than Hamlets stepping back from action for prolonged and agonizing deliberation.
5. **Greater Role for Emotions.** Nancy Sherman discusses how, for Aristotle, emotion is not treated as an irrational force but as an effective tool for moral action once it has been shaped and cultivated through proper moral education. To step beyond the controversy of what Aristotle did and did not say about the emotions (and where he said it) we place this enhanced role for emotions within virtue 3. Emotions carry out four essential functions: (a) they serve as modes of attention; (b) they also serve as modes of responding to or signaling value; (c) they fulfill a revelatory function; and (d) they provide strong motives to moral action. Nancy Sherman, **Making a Necessity of Virtue: Aristotle and Kant on Virtue** (1997), U.K.: Cambridge University Press: 39-50.

3.3.6 Flow Experiences

- The psychologist, Mihaly Csikszentmihalyi, has carried out fascinating research on what he terms "flow experiences." Mike Martin in **Meaningful Work** (2000) U.K.: Oxford,: 24, summarizes these in the following bullets:
- *"clear goals as one proceeds"*
- *"immediate feedback about progress"*
- *"a balance between challenges and our skills to respond to them"*
- *"immersion of awareness in the activity without disruptive distractions"*
- *"lack of worry about failure"*
- *"loss of anxious self-consciousness"*
- *"time distortions (either time flying or timeslowing pleasurably)"*
- *"the activity becomes **autotelic**: an end in itself, enjoyed as such"*

3.3.7 Virtue Tables

The table just below provides a format for spelling out individual virtues through (1) a general description, (2) the correlative vices of excess and defect, (3) the skills and mental states that accompany and support it, and (4) real and fictional individuals who embody it. Following the table are hints on how to identify and characterize virtues. We start with the virtue of integrity:

Virtue	Description	Excess	Defect	Obstacles to realizing the virtue in professional practices	Moral Exemp
Integrity	A meta-virtue in which the holder exhibits unity of character manifested in holding together even in the face of strong disruptive pressures or temptations	Excess: Rigidity-sticking to one's guns even when one is obviously wrong (2,3)	Defect: Wantonness. A condition where one exhibits no stability or consistency in character	Individual corruption: Individuals can be tempted by greed toward the vice of defect. Lack of moral courage can also move one to both extremes	Saint Thoma More a portra in Rob Bolt's Man fo All Season More refuse to take an oat that go agains the co beliefs terms which define himse
				Institutional Corruption: One may work in an organization where corruption is the norm. This generates dilemmas like following an illegal order or getting fired.	

3.3.8 Exercise: Construct Virtue Tables for Professional Virtues

1. Discuss in your group why the virtue you have been assigned is important for the practice of your profession. What goods or values does the consistent employment of this virtue produce?
2. Use the discussion in ***1*** to develop a general description of your virtue. Think along the following lines: people who have virtue X tend to exhibit certain characteristics (or do certain things) in certain kinds of situations. Try to think of these situations in terms of what is common and important to your profession or practice.
3. Identify the corresponding vices. What characterizes the points of excess and defect between which your virtue as the mean lies?
4. What obstacles arise that prevent professionals from practicing your virtue? Do well-meaning professionals lack power or technical skill? Can virtues interfere with the realization of non-moral values like financial values? See if you can think of a supporting scenario or case here.
5. Identify a moral exemplar for your virtue. Make use of the exemplars described in the **Moral Exemplars in Business and Professional Ethics** module.
6. Go back to ***task #2***. Redefine your description of your virtue in light of the subsequent tasks, especially the moral exemplar you identified. Check for coherence.
7. Finally, does your virtue stand alone or does it need support from other virtues or skills? For example, integrity might also require moral courage.

3.3.9 Exercise: Reflect on these Concluding Issues

- Did you have trouble identifying a moral exemplar? Many turn to popular figures for their moral exemplars. Movies and fiction also offer powerful models. Why do you think that it is hard to find moral exemplars in your profession? Is it because your profession is a den of corruption? (Probably not.) Do we focus more on villains than on heroes? Why or why not?
- What did you think about the moral leaders portrayed in the **Moral Exemplars in Business and Professional Ethics** module?
- Did you have trouble identifying both vices, i.e., vices of excess and defect? If so, do you think this because some virtues may not have vices of excess and defect? What do you think about Aristotle's doctrine of the mean?
- Did you notice that the virtue profiles given by your group and the other groups in the class overlapped? Is this a problem for virtue theory? Why do our conceptions of the key moral values and virtues overlap?
- Did you find the virtues difficult to apply? What do you think about the utilitarian and deontological criticism of virtue ethics, namely, that it cannot provide us with guidelines on how to act in difficult situations? Should ethical theories emphasize the act or the person? Or both?

- The most tenacious obstacle to working with virtue ethics is to change focus from the morally minimal to the morally exemplary. "Virtue" is the translation of the Greek word, arete. But "excellence" is, perhaps, a better word. Understanding virtue ethics requires seeing that virtue is concerned with the exemplary, not the barely passable. (Again, looking at moral exemplars helps.) Arete transforms our understanding of common moral values like justice and responsibility by moving from minimally acceptable to exemplary models.

Moral Leaders (http://www.onlineethics.org) The profiles of several moral leaders in practical and professional ethics. Computer Ethics Cases (http://www.computingcases.org)This link provides several computer ethics cases and also has a description of decision making and socio-technical systems frameworks. Moral Exemplars in Business and Professional Ethics (***Section 2.2***) Profiles of several moral leaders in practical and professional ethics.

3.3.10 Presentation on Virtue Ethics

This media object is a downloadable file. Please view or download it at An Introduction to Virtue Ethics.pptx (http://cnx.org/content/m13755/latest/An%20Introduction%20to%20Virtue%20Ethics.pptx)

3.3.11 Resources

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3.4 Ethics of Teamwork

This content is available online here (http://cnx.org/content/m13760/1.17/).

- Ethics of Team Work
- William J. Frey (working with material developed by Chuck Huff at St. Olaf College
- Centro de la Etica en las Profesiones
- University of Puerto Rico -Mayaguez

3.4.1 Module Introduction

Much of your future work will be organized around group or team activities. This module is designed to prepare you for this by getting you to reflect on ethical and practical problems that arise in small groups like work teams. Four issues, based on well-known ethical values, are especially important. How do groups achieve justice (in the distribution of work), responsibility (in specifying tasks, assigning blame, and awarding credit), reasonableness (ensuring participation, resolving conflict, and reaching consensus), and honesty (avoiding deception, corruption, and impropriety)? This module asks that you develop plans for realizing these moral values in your group work this semester. Furthermore, you are provided with a list of some of the more common pitfalls of group work and then asked to devise strategies for avoiding them. Finally, at the end of the semester, you will review your goals and strategies, reflect on your successes and problems, and carry out an overall assessment of the experience.

3.4.2 Module Activities

1. Groups are provided with key ethical values that they describe and seek to realize through group activity.
2. Groups also study various obstacles that arise in collective activity: the Abilene Paradox, Groupthink, and Group Polarization.
3. Groups prepare initial reports consisting of plans for realizing key values in their collective activity. They also develop strategies for avoiding associated obstacles.
4. At the end of the semester, groups prepare a self-evaluation that assesses success in realizing ethical values and avoiding obstacles.

5. Textboxes in this module describe pitfalls in groups activities and offer general strategies for preventing or mitigating them. There is also a textbox that provides an introductory orientation on key ethical values or virtues.

3.4.3 A Framework for Value-Integration

The objective of this module is to teach you to teach yourselves how to work in small groups. You will develop and test procedures for realizing value goals and avoiding group pitfalls. You will also use Socio-Technical System Analysis to help you understand better how to take advantage of the way in which different environments enable groups activities and to anticipate and minimize the way in which other environments can constrain or even oppose group activities.

- **Discovery:***"The goal of this activity is to 'discover' the values that are relevant to, inspire, or inform a given design project, resulting in a list of values and bringing into focus what is often implicit in a design project."* [Flanagan et al. 323]. Discovery of group values is a trial and error process. To get started, use the ADEM Statement of Values or the short value profiles listed below.
- **Translation:***"[T]ranslation is the activity of embodying or expressing...values in a system design. Translation is further divided into operationalization, which involves defining or articulating values in concrete terms, and implementation which involves specifying corresponding design features"* [Flanagan et al., 338]. You will operationalize your values by developing profiles. (See below or the ADEM Statement of Values for examples.) Then you will implement your values by developing realization procedures. For example, to realize justice in carrying out a group task, first we will discuss the task as a group, second we will divide it into equal parts, third, forth, etc.
- **Verification:***"In the activity of verification, designers assess to what extent they have successfully implemented target values in a given system. [Strategies and methods] may include internal testing among the design team, user testing in controlled environments, formal and informal interviews and surveys, the use of prototypes, traditional quality assurance measures such as automated and regression-oriented testing and more"* [Flanagan et al., 344-5]. You will document your procedures in the face of different obstacles that may arise in your efforts at value-realization. At the end of your semester, you will verify your results by showing how you have refined procedures to more effectively realize values.

The framework on value realization and the above-quoted passages can be found in the following resource:

M. Flanagan, D. Howe, and H. Nissenbaum, "Embodying Values in Technology: Theory and Practice," in **Information Technology and Moral Philosophy**, Jeroen van den Hoven and John Weckert, Eds. Cambridge, UK: Cambridge University Press, 2008, pp. 322-353.

3.4.4 Value Profiles for Professional Ethics

1. Definition -A **value**"*refers to a claim about what is worthwhile, what is good. A value is a single word or phrase that identifies something as being desirable for human beings.*" Brincat and Wike, Morality and the Professional Life: Values at Work
2. **Reasonableness** -Defusing disagreement and resolving conflicts through integration. Characteristics include seeking relevant information, listening and responding thoughtfully to others, being open to new ideas, giving reasons for views held, and acknowledging mistakes and misunderstandings. (From Michael Pritchard, Reasonable Children)
3. **Responsibility** -The ability to develop moral responses appropriate to the moral issues and problems that arise in one's day-to-day experience. Characteristics include avoiding blame shifting, designing overlapping role responsibilities to fill responsibility "gaps", expanding the scope and depth of general and situation-specific knowledge, and working to expand control and power.
4. **Respect** -Recognizing and working not to circumvent the capacity of autonomy in each individual. Characteristics include honoring rights such as privacy, property, free speech, due process, and participatory rights such as informed consent. Disrespect circumvents autonomy by deception, force, or manipulation.
5. **Justice** -Giving each his or her due. Justice breaks down into kinds such as distributive (dividing benefits and burdens fairly), retributive (fair and impartial administration of punishments), adminis trative (fair and impartial administration of rules), and compensatory (how to fairly recompense those who have been wrongfully harmed by others).
6. **Trust** -According to Solomon, trust is the expectation of moral behavior from others.
7. **Honesty** -Truthfulness as a mean between too much honesty (bluntness which harms) and dishonesty (deceptiveness, misleading acts, and mendaciousness).
8. **Integrity** -A meta-value that refers to the relation between particular values. These values are integrated with one another to form a coherent, cohesive and smoothly functioning whole. This resembles Solomon's account of the virtue of integrity.

3.4.5 Exercise: Developing Strategies for Value Realization

Directions

1. Identify value goals. Start with two or three. You can add or subtract from these as the semester progresses.
2. Give a brief description of each using terms that reflect your group's shared understandings. You may use the descriptions in this module or those in the

ADEM Statement of Values but feel free to modify these to fit your group's context. You could also add characteristics and sample rules and aspirations.

3. For each value goal, identify and spell out a procedure for realizing it. See the examples just below for questions that can help you develop value procedures for values like justice and responsibility.

Examples

- Design a plan for realizing key moral values of team work. Your plan should address the following value-based tasks
- How does your group plan on realizing justice? For example, how will you assign tasks within the group that represent a fair distribution of the work load and, at the same time, recognize differences in individual strengths and weaknesses? How does your group plan on dealing with members who fail to do their fair share?
- How does your group plan on realizing responsibility? For example, what are the responsibilities that members will take on in the context of collective work? Who will be the leader? Who will play devil's advocate to avoid groupthink? Who will be the spokesperson for the group? How does your group plan to make clear to each individual his or her task or role responsibilities?
- How does your group plan on implementing the value of reasonableness? How will you guarantee that each individual participates fully in group decisions and activities? How will you deal with the differences, non-agreements, and disagreements that arise within the group? What process will your group use to reach agreement? How will your group insure that every individual has input, that each opinion will be heard and considered, and that each individual will be respected?
- How does your group plan on implementing the value of (academic) honesty? For example, how will you avoid cheating or plagiarism? How will you detect plagiarism from group members, and how will you respond to it?

Note: Use your imagination here and be specific on how you plan to realize each value. Think preven tively (how you plan on avoiding injustice, irresponsibility, injustice, and dishonesty) and proactively (how you can enhance these values). Don't be afraid to outline specific commitments. Expect some of your commitments to need reformulation. At the end of the semester, this will help you write the final report. Describe what worked, what did not work, and what you did to fix the latter.

3.4.6 Obstacles to Group Work (Developed by Chuck Huff for Good Computing: A Virtue Approach to Computer Ethics)

1. The **Abilene Paradox**. "The story involves a family who would all rather have been at home that ends up having a bad dinner in a lousy restaurant in Abilene, Texas. Each believes the others want to go to Abilene and never questions this by giving their own view that doing so is a bad idea. In the Abilene paradox, the group winds up doing something that no individual wants to do because of a breakdown of intra-group communication." (From Huff, Good Computing, an unpublished manuscript for a textbook in computer ethics. See materials from Janis; complete reference below.)
2. **Groupthink.** The tendency for very cohesive groups with strong leaders to disregard and defend against information that goes against their plans and beliefs. The group collectively and the members individually remain loyal to the party line while happily marching of the cliff, all the while blaming "them" (i.e., outsiders) for the height and situation of the cliff. (Also from Huff, **Good Computing**, an unpublished manuscript for a textbook in computer ethics.)
3. **Group Polarization.** Here, individuals within the group choose to frame their differences as dis agreements. Framing a difference as non-agreement leaves open the possibility of working toward agreement by integrating the differences or by developing a more comprehensive standpoint that di alectally synthesizes the differences. Framing a difference as disagreement makes it a zero sum game; one's particular side is good, all the others bad, and the only resolution is for the good (one's own posi tion) to win out over the bad (everything else). (Weston provides a nice account of group polarization in Practical Companion to Ethics. This is not to be confused with Cass Sunstein's different account of group polarization in **Infotopia**.)

Note: All of these are instances of a social psychological phenomenon called conformity. But there are other processes at work too, like group identification, self-serving biases, self-esteem enhancement, self-fulfilling prophecies, etc.

More Obstacles to Group Work

- **Free Riders:** Free riders are individuals who attempt to "ride for free" on the work of the other members of the group. Some free riders cynically pursue their selfish agenda while others fall into this pitfall because they are unable to meet all their obligations. (See conflict of effort.)
- **Outliers:** These are often mistaken for free riders. Outliers want to become participants but fail to become fully integrated into the group. This could be because they are shy and need encouragement from the other group members. It could also be because the other group members know one another well and have habitual modes of interaction that exclude outsiders. One sign of outliers; they do not participate in group social activities but they still make substantial

contributions working by themselves. ("No, I can't come to the meeting-just tell me what I have to do.")

- **Hidden Agendas:** Cass Sunstein introduces this term. A group member with a "hidden agenda" has something he or she wants to contribute but, for some reason or other, hold back. For example, this individual may have tried to contribute something in the past and was "shot down" by the group leader. The next time he or she will think, "Let them figure it out without me."
- **Conflict of Effort:** conflict of Effort often causes an individual to become a free rider or an outlier. These group members have made too many commitments and come unraveled when they all come due at the same time. Students are often overly optimistic when making out their semester schedules. They tightly couple work and class schedules while integrating home responsibilities. Everything goes well as long as nothing unusual happens. But if a coworker gets sick and your supervisor asks you to come in during class times to help out, or you get sick, it becomes impossible to keep the problem from "spilling out" into other areas of your schedule and bringing down the whole edifice. Developing a schedule with periods of slack and flexibility can go a long way toward avoiding conflict of effort. Groups can deal with this by being supportive and flexible. (But it is important to draw the line between being supportive and carrying a free rider.)

Best Practices for Avoiding Abilene Paradox

- At the end of the solution generating process, carry out an anonymous survey asking participants if anything was left out they were reluctant to put before group.
- Designate a Devil's Advocate charged with criticizing the group's decision.
- Ask participants to reaffirm group decision-perhaps anonymously.

Best Practices for Avoiding Groupthink (Taken from Janis, 262-271)

- *"The leader of a policy-forming group should assign the role of critical evaluator to each member, encouraging the group to give high priority to airing objections and doubts."*
- *"The leaders in an organization's hierarchy, when assigning a policy-planning mission to a group, should be impartial instead of stating preferences and expectations at the outset."*
- *"Throughout the period when the feasibility and effectiveness of policy alternatives are being sur veyed, the policy-making group should from time to time divide into two or more subgroups to meet separately...."*
- *"One or more outside experts or qualified colleagues within the organization who are not core members of the policy-making group should be invited to each meeting ...and should be encouraged to challenge the views of the core members."*
- *"At every meeting devoted to evaluating policy alternatives, at least one member should be assigned the role of devil's advocate."*

Best Practices for Avoiding Polarization (Items taken from "Good Computing: A Virtue Approach to Computer Ethics" by Chuck Huff, William Frey and Jose Cruz (Unpublished Manuscript)

- **Set Quotas.** When brainstorming, set a quota and postpone criticism until after quota has been met.
- **Negotiate Interests, not Positions.** Since it is usually easier to integrate basic interests than specific positions, try to frame the problem in terms of interests.
- **Expanding the Pie.** Conflicts that arise from situational constraints can be resolved by pushing back those constraints through negotiation or innovation.
- **Nonspecific Compensation.** One side makes a concession to the other but is compensated for that concession by some other coin.
- **Logrolling.** Each party lowers their aspirations on items that are of less interest to them, thus trading of a concession on a less important item for a concession from the other on a more important item.
- **Cost-Cutting.** One party makes an agreement to reduce its aspirations on a particular thing, and the other party agrees to compensate the party for the specific costs that reduction in aspirations involves.
- **Bridging.** Finding a higher order interest on which both parties agree, and then constructing a solution that serves that agreed-upon interest.

3.4.7 Exercise -Avoiding the Pitfalls of Group Work

- Design a plan for avoiding the pitfalls of group work enumerated in the textbox above.
- How does your group plan on avoiding the Abilene Paradox?
- How does your group plan on avoiding Group Polarization?
- How does your group plan on avoiding Groupthink?

Note: Use imagination and creativity here. Think of specific scenarios where these obstacles may arise, and what your group can do to prevent them or minimize their impact.

3.4.8 Exercise: Socio Technical System

Your group work this semester will take place within a group of nested or overlapping environments. Taken separately and together, these will structure and channel your activity, facilitating action in certain circumstances while constraining, hindering, or blocking it in others. Prepare a socio-technical system table for your group to help structure your group self-evaluation. Include hardware/software, physical surroundings, stakeholders (other groups, teacher, other classes, etc.), procedures (realizing values, avoiding pitfalls), university regulations (attendance), and information structures (collecting, sharing, disseminating)

Some things about Socio-Technical Systems

1. Socio-Technical System Analysis provides a tool to uncover the different environments in which business activity takes place and to articulate how these constrain and enable different business practices.
2. A socio-technical system can be divided into different components such as hardware, software, physical surroundings, people/groups/roles, procedures, laws/statutes/regulations, and information systems.
3. But while these different components can be distinguished, they are in the final analysis inseparable. STSs are, first and foremost, systems composed of interrelated and interacting parts.
4. STSs also embody values such as moral values (justice, responsibility, respect, trust, integrity) and non-moral values (efficiency, satisfaction, productivity, effectiveness, and profitability). These values can be located in one or more of the system components. They come into conflict with one another causing the system to change.
5. STSs change and this change traces out a path or trajectory. The normative challenge of STS analysis is to find the trajectory of STS change and work to make it as value-realizing as possible.

Socio-Technical System Table for Groups

Hardware/ Software	Physical Surroundings	Stakeholders	Procedures	University Regulations	I S
Think about the new role for your smart phones in group work in class. Will you be using Google Docs to exchange documents?	How does the classroom and the arrangement of objects within it constrain and enable group activities?	Think about other teachers, classes, supervisors, jobs, and other individuals that can have an impact on your ability to carry out group assignments.	Name but don't describe in detail, the value-realizing procedures your group is adopting.	What are university regulations that will have an impact on your group work. For example, switches between MWF and TTH schedules.	T w i a l c r w u a t g a H w w r g s r g c

*****Exercises 1-3*** compose the Preliminary Self-Evaluation which is due shortly after semester-long groups are formed. ***Exercise 4*** is the close-out group self evaluation which is due at the end of the semester.**

3.4.9 Exercise: Prepare a Final, Group Self-Evaluation

- Due Date: One week after the last class of the semester when your group turns in all its materials.
- Length: A minimum of five pages not including Team Member Evaluation Forms
- Contents:
- 1. Restate the Ethical and Practical Goals that your group developed at the beginning of its formation.
- 2. Provide a careful, documented assessment of your group's success in meeting these goals. (Don't just assert that "Our group successfully realized justice in all its activities this semester." How did your group characterize justice in the context of its work? What specific activities did the group carry out to realize this value? What, among these activities, worked and what did not work?)
- 3. Identify obstacles, shortcomings or failures that you group experienced during the semester. How did these arise? Why did they arise? How did you respond to them? Did your response work? What did you learn from this experience?
- 4. Assess the plans you set forth in your initial report on how you intended to realize values and avoid pitfalls. How did these work? Did you stick to your plans or did you find it necessary to change or abandon them in the face of challenges?
- 5. Discuss your group's procedures and practices? How did you divide and allocate work tasks? How did you reach consensus on difficult issues? How did you ensure that all members were respected and allowed significant and meaningful participation? What worked and what did not work with respect to these procedures? Will you repeat them in the future? Would you recommend these procedures as best practices to future groups?
- 6. What did you learn from your experience working as a team this semester? What will require further reflection and thought? In other words, conclude your self-evaluation with a statement that summarizes your experience working together as a team this semester.

3.4.10 Wrap Up: Some further points to consider...

1. Don't gloss over your work with generalizations like, "Our group was successful and achieved all of its ethical and practical goals this semester." Provide evidence for success claims. Detail the procedures designed by your group to bring about these results. Are they "best practices"? What makes them best practices?
2. Sometimes—especially if difficulties arose—it is difficult to reflect on your group's activities for the semester. Make the effort. Schedule a meeting after the end of the semester to finalize this refection. If things worked well, what can you do to

repeat these successes in the future? If things didn't work out, what can you do to avoid similar problems in the future? Be honest, be descriptive and avoid blame language.

3. This may sound harsh but get used to it. Self-evaluations—group and individual—are an integral part of professional life. They are not easy to carry out, but properly done they help to secure success and avoid future problems.
4. Student groups—perhaps yours—often have problems. This self-evaluation exercise is designed to help you face them rather than push them aside. Look at your goals. Look at the strategies you set forth for avoiding Abilene, groupthink, and group polarization. Can you modify them to deal with problems? Do you need to design new procedures?

3.4.11 Ethics of Team Work Presentations

Values in Team Work (Thought Experiments)

This media object is a downloadable file. Please view or download it at Ethics of Team Work.pptx (http://cnx.org/content/m13760/latest/Ethics%20of%20Team%20Work.pptx)

Pitfalls to Avoid in Group Work

This media object is a downloadable file. Please view or download it at Pitfalls to Avoid in Group Work.pptx (http://cnx.org/content/m13760/latest/Pitfalls%20to%20Avoid%20in%20Group%20Work.pptx)

Thought Experiments on Group Work

This media object is a downloadable file. Please view or download it at Thought Experiments on Group Work.docx (http://cnx.org/content/m13760/latest/Thought%20Experiments%20on%20Group%20Work.docx)

Team Member Evaluation Forms (Required)

This media object is a downloadable file. Please view or download it at TEAM MEMBER RATING SHEET-3.docx (http://cnx.org/content/m13760/latest/TEAM%20MEMBER%20RATING%20SHEET-3.docx)

New Ethics of Teamwork Presentation (Spring 2012)

This media object is a downloadable file. Please view or download it at Ethics of Teamwork.pptx (http://cnx.org/content/m13760/latest/Ethics%20of%20Teamwork.pptx)

3.4.12 Ethics of Teamwork Jeopardy

This media object is a downloadable file. Please view or download it at Team Jeopardy.pptx (http://cnx.org/content/m13760/latest/Team_Jeopardy.pptx)

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Chapter 4 Integrating Ethics into the Business Decision-Making Process

4.1 Values Based Decision Making in Gilbane Gold

This content is available online here (http://cnx.org/content/m15783/1.7/).

4.1.1 Module Introduction

The Federal Sentencing Guidelines introduced in the early 1990's have transformed the way businesses respond to ethics. Formerly, corporations relied on compliance measures which became activated only after wrongdoing occurred. Violations occurred and compliance responses consisted of identifying and punishing those responsible. But the Federal Sentencing Guidelines push corporations toward a much more proactive stance; if a corporation is found guilty of law violation, its punishment is determined by the measures the corporation has already implemented to prevent the crime as well as the measures the corporation develops in response to the crime to mitigate it and prevent future reoccurrences. Working to prevent crime, accepting responsibility for crimes that could not be prevented, and learning from past mistakes all serve to "flag" corporate intention. In other words, corporations can demonstrate good intentions by documenting measures implemented to prevent crime and by showing a "responsive adjustment" to crimes they could not prevent.

It is in this new corporate context that corporations have begun to adopt values-based decision making. Instead of setting forth rules that outline minimum levels of forced compliance, they now ask employees to work beyond the moral minimum and seek occasions to actually realize or enhance moral value. In the decision making context, employees ask: (1) What can I do to make this a more just environment? (2) How do I go about respecting my co-workers? and (3) How do I identify and carry out my responsibilities, including social responsibilities, in my daily work?" These questions, representing instances of values-based decision-making, serve to change your focus from getting by with the moral minimum to realigning your moral and workplace efforts toward moral excellence.

In this module you will learn about ethical leadership, ethical decision-making, corporate social responsibility, and corporate governance. The occasion for this learning is the classical ethics video, "Gilbane Gold." You will view the video and practice values-based decision-making from within the role of David Jackson, the young engineer around whom the narrative of this video is built. To get you started, you will use the values portrayed in the University of Puerto Rico's College of Business

Administration Statement of Values. Module sections will outline what you will be doing and what you need to know as well as provide opportunities for you to reflect on what you have learned upon completion of this module.

4.1.2 What you need to know...

Value-Based Decision Making

In value-based decision-making, you use moral values to pose problems and solutions. For example, problems can be posed as conflicts between values (moral vs. non-moral or moral vs. moral), lack of information about how to realize or maintain values, and situations where key values need to be defended. The point in value-based decision making is to design solutions that realize the maximum number of values possible by integrating them, drawing successful compromises between them, or choosing to act upon the most important value given the situation. In this module, you will be working from within David Jackson's position to design a solution to his problem that best responds to the value needs in his situation.

Gilbane Gold

- You are David Jackson a young engineer working for the computer manufacturer, Z-Corp. Your studies into the waste emissions of Z-Corp indicate that they are a little bit over the boarderline of what is legally acceptable in the Gilbane metropolitan area. Two further issues complicate your findings. (1) Gilbane draws sludge from the river and sells it to farmers to cover their fields; if heavy metals are present in this sludge, they will be passed on to consumers who eat the vegetables grown in fields covered with this "Gilbane Gold." This could produce long and short term health problems for the Gilbane community. (2) Z-Corp has just entered into a new agreement with a Japanese company that will produce a five-fold increase in demand for their product. While this will also increase their emissions of heavy metals into the water supply by the same amount, it will not violate city regulations because these regulations only take into account the concentration of heavy metals in each discharge. Z-Corp merely dilutes the heavy metals dumped into Gilbane's water supply to reflect acceptable concentration levels. David Jackson holds that this loophole in environmental regulations could endanger the health and safety of the citizens in the Gilbane. But he has trouble sharing these concerns with his supervisors, Diane Collins, Phil Port, and Frank Seeders.
- David (you) has made several efforts to make his concerns known to Z-Corp officials, including Phil Port, Frank Seeders, and Diane Collins. Their response is that spending money on increased pollution control measures will threaten Z-Corp's thin profit margin. Diane puts the issue even more strongly when she says that Z-Corp's social responsibility is to provide the Gilbane community with good jobs and to obey local environmental regulations. If the city wants stricter regulations, then **they** need to pass them through the legislative process. But

taking proactive measures on this count goes far beyond Z-Corp's ethical and social responsibilities to the Gilbane community.

- You are David. What values do you see involved in this situation? Design a solution that best preserves and integrates them.

Partial List of Characters

1. **David Jackson:** Young engineer whose measurements show that Z-Corp's emissions into the Gilbane water supply barely exceed local standards. He expresses concern to his supervisors on the impact on the safety and health of the local community.
2. **Diane Collins:** David's supervisor who is under strong pressure to maintain the Z-Corp Gilbane plant's thin profit levels. She is concerned about environment responsibility but defines it as staying within the limits of the law as put forth by the Gilbane community. Gilbane sets for the law and Z-Corp is responsible for staying within its limits. If the law is inadequate, then Gilbane is responsible for changing it.
3. **Tom Richards:** Environmental engineer hired to measure Z-Corp's heavy metal emissions into the Gilbane water supply. Richards warns David that he bears ultimate responsibility for Z-Corp's emissions into the Gilbane water supply.
4. **Phil Port:** Z-Corp's official in charge of the company's compliance with environmental regulations. He calls David during the TV documentary to claim that it portrays him as an "environmental rapist."
5. **Frank Seeders:** Frank is the point man on helping to gear up Z-Corp's operations to meet the new demand created by their recent venture with a Japanese company. He asks David to help him streamline Z-Corp's manufacturing process.
6. **Maria Renato:** Local reporter who produces documentary exposing Z-Corp's potentially dangerous emissions. She has prepared her report based on documentation provided by David Jackson.

Statement of Values List

1. **Justice / Fairness:** Be impartial, objective and refrain from discrimination or preferential treatment in the administration of rules and policies and in its dealings with students, faculty, staff, administration, and other stakeholders.
2. **Responsibility:** Recognize and fulfill its obligations to its constituents by caring for their essential interests, by honoring its commitments, and by balancing and integrating conflicting interests. As responsible agents, the faculty, employees, and students of the college of business Administration are committed to the pursuit of excellence, devotion to the community's welfare, and professionalism.
3. **Respect:** Acknowledge the inherent dignity present in its diverse constituents by recognizing and respecting their fundamental rights. These include rights to property, privacy, free exchange of ideas, academic freedom, due process, and meaningful participation in decision making and policy formation.
4. **Trust:** Recognize that trust solidifies communities by creating an environment where each can ex pect ethically justifiable behavior from all others. While trust is tolerant of and even thrives in an environment of diversity, it also must operate within the parameters set by established personal and community standards.

5. **Integrity:** Promote integrity as characterized by sincerity, honesty, authenticity, and the pursuit of excellence. Integrity shall permeate and color all its decisions, actions and expressions. It is most clearly exhibited in intellectual and personal honesty in learning, teaching, mentoring and research.

4.1.3 What you are going to do...

1. Watch the video and make sure you understand the situation from David's point of view. At the end David makes his decision. You should be open to the possibility that there may be other decisions that can be taken in this situation that may be better from a moral point of view.
2. What is David's problem? Try formulating it in terms of values that are under threat and conflicts between values. You may even want to identify information needs relevant to solving this problem?
3. What solutions do different individuals in the video recommend to David? How good are they in terms of realizing or protecting key moral values? Does David (and the video) pay sufficient attention to these different recommendations? Does he miss better value-integrative solutions?
4. Make your decision. Defend it in terms of key moral values. Use the values provided above in the UPRM College of Business Administration's Statement of Values.
5. Give special attention to the links provided in this module. Are there solutions to David's problem not mentioned in the video?

4.1.4 Exercise: Problem Solving With Gilbane Gold

Directions

Copy-past this exercise and complete in your groups. If you have any questions on the stages of problem solving, consult the module "Three Frameworks for Ethical Decision Making and Good Computing Reports," module m13757.

Problem Specification

- Classify your problem. Is it a conflict between values, a conceptual disagreement, a factual disagree ment, or an impending harm. Provide a one or two sentence justification for your problem classification
- Frame your problem in three different ways. How does Gilbane Gold appear from the frame of an environmental engineer? From the standpoint of a local farmer concerned about soil contamination? From the standpoint of a manager who is under pressure to maintain razor-thin profit margins as well as authority over those under her supervision?

Solution Generation

- Set 10 solutions as a quota. Then individually brainstorm as quickly as possible 10 solutions.
- Share your solutions with your group members. Make a special effort to suspend all criticism until all the solutions of all the group members have been listed.
- Refine your solution list into three solutions, two good ones and one bad one. Refine by developing a Plan A, Plan B, and Plan C sequence. Integrate similar solutions. Condense your bad solutions into one bad solution that will serve as a useful basis of comparison.
- Work first toward a value integrative solution. If this is not possible, seek a value compromise. As a last resort prioritize your values and trade of the less for the more important relative to the situation at hand.

Solution Testing

- Test ethically three solutions, your two best solutions and a bad one to serve as a basis of comparison.
- Use the three ethics tests: reversibility, harm, and publicity. You can substitute a rights test for reversibility and a values or virtues test for publicity.
- Tie breakers: meta tests. If tests converge on a solution, this is an independent signal of solution strength. If the tests diverge on a particular solution alternative, this is an independent sign of the solution's weakness.
- Is your best solution feasible? Ask this question globally.

Solution Implementation

- In this stage, you want to look carefully at the situation in which you are going to realize your solution. Are there factors in this situation that will constrain or limit implementation? What are they, and how will they do this?
- Are there factors present in the situation that will aid the implementation of one or the other of your good solutions? What are they?
- What are your resource constraints? Do you have enough time, money, or materials to realize your ethical solution? If not, are the constraints negotiable?
- What are your interest or social constraints? Are there individuals or groups who have agendas affected by your solution? Given these agendas will they be allies or opponents? How can you win opponents over your side? Think here about government regulations, supervisor interests, corporate or business procedures, community traditions, etc.
- Important in Gilbane Gold is whether your solution is technical feasible and how your solution will affect the chip-manufacturing process. Is your solution technically feasible? Does it require developing new technology or acquiring expensive technology? Are these technical or manufacturing constraints negotiable, that is, flexible or rigid?

4.1.5 Conclusion

More and more, business ethics is concentrating on four general themes or issues. In this section, you will use the video, "Gilbane Gold," to reflect on these different

themes. Consider this your first incursion into business ethics. Most important, remember that ethics forms a central part of everyday business practice and is essential to good business.

Ethical Leadership: In terms of the values mentioned in the SOV, discuss and rate the following characters in terms of the leadership skills and qualities they exhibit:

- Diane Collins
- David Jackson
- Phil Port
- Tom Richards
- Frank Seeders

Social Responsibility:

David reminds Diane that corporations like Z-Corp are responsible for the health and safety impacts of their operations. Diane disagrees placing more emphasis on following the law and serving the community by creating economic opportunity and jobs. Who sets for the better argument? Using these positions as a springboard, set forth your own conception of corporate social responsibility.

Corporate Governance:

Toward the end of the video, David goes to local reporter, Maria Renato, and provides her with inside information on his and Tom Richards's environmental and safety concerns. Was this a necessary action? Did David have other options which would have allowed him to work within Z-Corp for an effective response to his concerns? How do engineers advocate within for-profit corporations for including ethical values into corporate decisions? What do real world corporations do to recognize and respond to dissenting professional opinions held by their employees?

Values in Gilbane Gold Handout

This media object is a downloadable file. Please view or download it at Values in Gilbane Gold Handout.doc (http://cnx.org/content/m15783/latest/Values%20in%20Gilbane%20Gold%20Handout.doc)

This handout for students provides exercises based on Gilbane Gold that introduces the three AACSB business ethics themes: ethical leadership, ethical decision making, and social responsibility.

Virtues for ADMI 3405

This media object is a downloadable file. Please view or download it at Virtues for ADMI 3405.pptx (http://cnx.org/content/m15783/latest/Virtues%20for%20ADMI%203405.pptx)

Clicking on this file are the virtues worked out in the previous module. Use these to carry out the values based decision making exercise in Gilbane Gold.

Presentation on Values Based Decision Making

This media object is a downloadable file. Please view or download it at Values Based Decision Making.pptx (http://cnx.org/content/m15783/latest/Values%20Based%20Decision%20Making.pptx)

Working from an analogy between design and ethics problem-solving, this presentation provides values and tests for interdisciplinary problem-solving in business, engineering, and science.

Ethics Assessment Activity: Pre and Post Test

This media object is a downloadable file. Please view or download it at Ethics Assessment.docx (http://cnx.org/content/m15783/latest/Ethics%20Assessment.docx)

This is a short pre and post test to examine short term impact of the module.

Solution Brainstorm for Gilbane Gold

This media object is a downloadable file. Please view or download it at Solutions to Gilbane Gold.docx (http://cnx.org/content/m15783/latest/Solutions%20to%20Gilbane%20Gold.docx)

4.2 Three Frameworks for Ethical Decision Making and Good Computing Reports

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This content is available online at ***http://cnx.org/content/m13757/1.23/.

4.2.1 Module Introduction

In this module you will learn and practice three frameworks designed to integrate ethics into decision making in the areas of practical and occupational ethics. The first framework divides the decision making process into four stages: problem specification, solution generation, solution testing, and solution implementation. It is based on an analogy between ethics and design problems that is detailed in a table presented below. The second framework focuses on the process of solution testing by providing four tests that will help you to evaluate and rank alternative courses of action. The reversibility, harm/beneficence, and public identification tests each "encapsulate" or summarize an important ethical theory. A value realization test assesses courses of action in terms of their ability to realize or harmonize different moral and nonmoral values. Finally, a feasibility test will help you to uncover interest, resource, and technical constraints that will affect and possibly impede the realization of your solution or decision. Taken together, these three frameworks will help steer you toward designing and implementing ethical decisions the professional and occupational areas.

Two online resources provide more extensive background information. The first, www.computingcases.org, provides background information on the ethics tests, socio-technical analy sis, and intermediate moral concepts. The second, http://onlineethics.org/essays/education/teaching.html (http://onlineethics.org/essays/education/teaching.html%20http://onlineethics.org/essays/education/teaching.html), explores in more detail the analogy between ethics and design problems. Much of this information will be published in Good Computing: A Virtue Approach to Computer Ethics, a textbook of cases and decision making techniques in computer ethics that is being authored by Chuck Huff, William Frey, and Jose A. Cruz-Cruz.

4.2.2 Problem-Solving or Decision-Making Framework: Analogy between ethics and design

Traditionally, decision making frameworks in professional and occupational ethics have been taken from rational decision procedures used in economics. While these are useful, they lead one to think that ethical decisions are already "out there" waiting to be discovered. In contrast, taking a design approach to ethical decision making emphasizes that ethical decisions must be created, not discovered. This, in turn, emphasizes the importance of moral imagination and moral creativity. Carolyn Whitbeck in Ethics in Engineering Practice and Research describes this aspect of ethical decision making through the analogy she draws between ethics and design problems in chapter one. Here she rejects the idea that ethical problems are multiple choice problems. We solve ethical problems not by choosing between ready made solutions given with the situation; rather we use our moral creativity and moral imagination to design these solutions. Chuck Huff builds on this by modifying the design method used in software engineering so that it can help structure the process of framing ethical situations and creating actions to bring these situations to a successful and ethical conclusion. The key points in the analogy between ethical and design problems are summarized in the table presented just below.

Analogy between design and ethics problem-solving	
Design Problem	Ethical Problem
Construct a prototype that optimizes (or satisfices) designated specifications	Construct a solution that integrates and realizes ethical values (justice, responsibility, reasonableness, respect, and safety)
Resolve conflicts between different specifications by means of integration	Resolve conflicts between values (moral vs. moral or moral vs. non-moral) by integration
Test prototype over the different specifications	Test solution over different ethical considerations encapsulated in ethics tests
Implement tested design over background constraints	Implement ethically tested solution over resource, interest, and technical constraints

4.2.3 Software Development Cycle: Four Stages

(1) problem specification, (2) solution generation, (3) solution testing, and (4) solution implementation.

4.2.4 Problem specification

Problem specification involves exercising moral imagination to specify the socio-technical system (including the stakeholders) that will influence and will be influenced by the decision we are about to make. Stating the problem clearly and concisely is essential to design problems; getting the problem right helps structure and channel the process of designing and implementing the solution. There is no algorithm available to crank out effective problem specification. Instead, we offer a series of guidelines or rules of thumb to get you started in a process that is accomplished by the skillful exercise of moral imagination.

For a broader problem framing model see Harris, Pritchard, and Rabins, **Engineering Ethics: Concepts and Cases**, 2nd Edition, Belmont, CA: Wadsworth, 2000, pp. 30-56. See also Cynthia Brincat and Victoria Wike, **Morality and Professional Life: Values at Work**, New Jersey: Prentice Hall, 1999.

Different Ways of Specifying the Problem

- Many problems can be specified as disagreements. For example, you disagree with your supervisor over the safety of the manufacturing environment. Disagreements over facts can be resolved by gathering more information. Disagreements over concepts (you and your supervisor have different ideas of what safety means) require working toward a common definition.
- Other problems involve conflicting values. You advocate installing pollution control technology because you value environmental quality and safety. Your supervisor resists this course of action because she values maintaining a solid profit margin. This is a conflict between a moral value (safety and environmental quality) and a nonmoral value (solid profits). Moral values can also conflict with one another in a given situation. Using John Doe lawsuits to force Internet Service Providers to reveal the real identities of defamers certainly protects the privacy and reputations of potential targets of defamation. But it also places restrictions on legitimate free speech by making it possible for powerful wrongdoers to intimidate those who would publicize their wrongdoing. Here the moral values of privacy and free speech are in conflict. Value conflicts can be addressed by harmonizing the conflicting values, compromising on conflicting values by partially realizing them, or setting one value aside while realizing the other (=value trade offs).
- If you specify your problem as a disagreement, you need to describe the facts or concepts about which there is disagreement.
- If you specify your problem as a conflict, you need to describe the values that conflict in the situation.
- One useful way of specifying a problem is to carry out a stakeholder analysis. A stakeholder is any group or individual that has a vital interest at risk in the situation. Stakeholder interests frequently come into conflict and solving these conflicts requires developing strategies to reconcile and realize the conflicting stakes.
- Another way of identifying and specifying problems is to carry out a socio-technical analysis. Socio-technical systems (STS) embody values. Problems can be anticipated and prevented by specifying possible value conflicts. Integrating a new technology, procedure, or policy into a socio-technical system can create three kinds of problem. (1) Conflict between values in the technology and those in the STS. For example, when an attempt is made to integrate an information system into the STS of a small business, the values present in an information system can conflict with those in the socio-technical system. (Workers may feel that the new information system invades their privacy.) (2) Amplification of existing value conflicts in the STS. The introduction of a new technology may magnify an existing value conflict. Digitalizing textbooks may undermine copyrights because digital media is easy to copy and disseminate on the Internet. (3) Harmful consequences. Introducing something new into a socio-technical

system may set in motion a chain of events that will eventually harm stakeholders in the socio-technical system. For example, giving laptop computers to public school students may produce long term environmental harm when careless disposal of spent laptops releases toxic materials into the environment.

- The following table helps summarize some of these problem categories and then outlines generic solutions.

<table>
<tr><th>Problem Type</th><th>Sub-Type</th><th colspan="3">Solution Outline</th></tr>
<tr><td rowspan="2">Disagreement</td><td colspan="2">Factual</td><td colspan="2">Type and mode of gathering information</td></tr>
<tr><td colspan="2">Conceptual</td><td colspan="2">Concept in dispute and method for agreeing on its definition</td></tr>
<tr><td rowspan="3">Conflict</td><td>Moral vs. Moral</td><td rowspan="3">Value Integrative</td><td rowspan="3">Partially Value Integrative</td><td rowspan="3">Trade Off</td></tr>
<tr><td>Non-moral vs. moral</td></tr>
<tr><td>Non-moral vs. non-moral</td></tr>
<tr><td rowspan="3">Framing</td><td>Corruption</td><td rowspan="3">Strategy for maintaining integrity</td><td rowspan="3">Strategy for restoring justice</td><td rowspan="3">Value integrative, design strategy</td></tr>
<tr><td>Social Justice</td></tr>
<tr><td>Value Realization</td></tr>
<tr><td>Intermediate Moral Value</td><td>Public Welfare, Faithful Agency, Professional Integrity, Peer Collegiality</td><td>Realizing Value</td><td>Removing value conflicts</td><td>Prioritizing values for trade offs</td></tr>
</table>

Instructions for Using Problem Classification Table

1. Is your problem a conflict? Moral versus moral value? Moral versus non-moral values? Non-moral versus non-moral values? Identify the conflicting values as concisely as possible. Example: In Toysmart, the financial values of creditors come into conflict with the privacy of individuals in the data base: financial versus privacy values.
2. Is your problem a disagreement? Is the disagreement over basic facts? Are these facts observable? Is it a disagreement over a basic concept? What is the concept? Is it a factual disagreement that, upon further reflection, changes into a conceptual disagreement?
3. Does your problem arise from an impending harm? What is the harm? What is its magnitude? What is the probability that it will occur?
4. If your problem is a value conflict then can these values be fully integrated in a value integrating solution? Or must they be partially realized in a compromise or traded off against one another?
5. If your problem is a factual disagreement, what is the procedure for gathering the required information, if this is feasible?
6. If your problem is a conceptual disagreement, how can this be overcome? By consulting a government policy or regulation? (OSHA on safety for example.) By consulting a theoretical account of the value in question? (Reading a philosophical analysis of privacy.) By collecting past cases that involve the same concept and drawing analogies and comparisons to the present case?

If you are having problems specifying your problem

- Try identifying the stakeholders. Stakeholders are any group or individual with a vital interest at stake in the situation at hand.
- Project yourself imaginatively into the perspectives of each stakeholder. How does the situation look from their standpoint? What are their interests? How do they feel about their interests?
- Compare the results of these different imaginative projections. Do any stakeholder interests conflict? Do the stakeholders themselves stand in conflict?
- If the answer to one or both of these questions is "yes" then this is your problem statement. How does one reconcile conflicting stakeholders or conflicting stakeholder interests in this situation?

Framing Your Problem

- We miss solutions to problems because we choose to frame them in only one way.
- For example, the Mountain Terrorist Dilemma is usually framed in only one way: as a dilemma, that is, a forced decision between two equally undesirable alternatives. (Gilbane Gold is also framed as a dilemma: blow the whistle on Z-Corp or go along with the excess pollution.)
- Framing a problem differently opens up new horizons of solution. Your requirement from this point on in the semester is to frame every problem you are assigned in at least two different ways.
- For examples of how to frame problems using socio-technical system analysis see module m14025.

- These different frames are summarized in the next box below.

Different Frames for Problems

- **Technical Frame:** Engineers frame problems technically, that is, they specify a problem as raising a technical issue and requiring a technical design for its resolution. For example, in the Hughes case, a technical frame would raise the problem of how to streamline the manufacturing and testing processes of the chips.
- **Physical Frame:** In the Laminating Press case, the physical frame would raise the problem of how the layout of the room could be changed to reduce the white powder. Would better ventilation eliminate or mitigate the white powder problem?
- **Social Frame:** In the "When in Aguadilla" case, the Japanese engineer is uncomfortable working with the Puerto Rican woman engineer because of social and cultural beliefs concerning women still widely held by men in Japan. Framing this as a social problem would involve asking whether there would be ways of getting the Japanese engineer to see things from the Puerto Rican point of view.
- **Financial or Market-Based Frames:** The DOE, in the Risk Assessment case below, accuses the laboratory and its engineers of trying to extend the contract to make more money. The supervisor of the head of the risk assessment team pressures the team leader to complete the risk assessment as quickly as possible so as not to lose the contract. These two framings highlight financial issues.
- **Managerial Frame:** As the leader of the Puerto Rican team in the "When in Aguadilla" case, you need to exercise leadership in your team. The refusal of the Japanese engineer to work with a member of your team creates a management problem. What would a good leader, a good manager, do in this situation? What does it mean to call this a management problem? What management strategies would help solve it?
- **Legal Frame:** OSHA may have clear regulations concerning the white powder produced by laminating presses. How can you find out about these regulations? What would be involved in complying with them? If they cost money, how would you get this money? These are questions that arise when you frame the Laminating Press case as a legal problem.
- **Environmental Framing:** Finally, viewing your problem from an environmental frame leads you to consider the impact of your decision on the environment. Does it harm the environment? Can this harm be avoided? Can it be mitigated? Can it be offset? (Could you replant elsewhere the trees you cut down to build your new plant?) Could you develop a short term environmental solution to "buy time" for designing and implementing a longer term solution? Framing your problem as an environmental problem requires that you ask whether this solution harms the environment and whether this harming can be avoided or remedied in some other way.

4.2.5 Solution Generation

In solution generation, agents exercise moral creativity by brainstorming to come up with solution options designed to resolve the disagreements and value conflicts identified in the problem specification stage. Brain storming is crucial to generating no obvious solutions to difficult, intractable problems. This process must take place within a non-polarized environment where the members of the group respect and trust one another. (See the module on the Ethics of Group Work for more information on how groups can be successful and pitfalls that commonly trip up groups.) Groups effectively initiate the brainstorming process by suspending criticism and analysis. After the process is completed (say, by meeting a quota), then participants can refine the solutions generated by combining them, eliminating those that don't fit the problem, and ranking them in terms of their ethics and feasibility. If a problem can't be solved, perhaps it can be dissolved through reformulation. If an entire problem can't be solve, perhaps the problem can be broken down into parts some of which can be readily solved.

Having trouble generating solutions?

- One of the most difficult stages in problem solving is to jump start the process of brainstorming solutions. If you are stuck then here are some generic options guaranteed to get you "unstuck."
- **Gather Information:** Many disagreements can be resolved by gathering more information. Because this is the easiest and least painful way of reaching consensus, it is almost always best to start here. Gathering information may not be possible because of different constraints: there may not be enough time, the facts may be too expensive to gather, or the information required goes beyond scientific or technical knowledge. Sometimes gathering more information does not solve the problem but allows for a new, more fruitful formulation of the problem. Harris, Pritchard, and Rabins in Engineering Ethics: Concepts and Cases show how solving a factual disagreement allows a more profound conceptual disagreement to emerge.
- **Nolo Contendere.** Nolo Contendere is latin for not opposing or contending. Your interests may conflict with your supervisor but he or she may be too powerful to reason with or oppose. So your only choice here is to give in to his or her interests. The problem with nolo contendere is that non-opposition is often taken as agreement. You may need to document (e.g., through memos) that your choosing not to oppose does not indicate agreement.
- **Negotiate.** Good communication and diplomatic skills may make it possible to negotiate a solution that respects the different interests. Value integrative solutions are designed to integrate conflicting values. Compromises allow for partial realization of the conflicting interests. (See the module, The Ethics of Team Work, for compromise strategies such as logrolling or bridging.) Sometimes it may be necessary to set aside one's interests for the present with the understanding that these will be taken care of at a later time. This requires trust.

- **Oppose.** If nolo contendere and negotiation are not possible, then opposition may be necessary. Opposition requires marshalling evidence to document one's position persuasively and impartially. It makes use of strategies such as leading an "organizational charge" or "blowing the whistle." For more on whistle-blowing consult the discussion of whistle blowing in the Hughes case that can be found at computing cases.
- **Exit.** Opposition may not be possible if one lacks organizational power or documented evidence. Nolo contendere will not suffice if non-opposition implicates one in wrongdoing. Negotiation will not succeed without a necessary basis of trust or a serious value integrative solution. As a last resort, one may have to exit from the situation by asking for reassignment or resigning.

Refining solutions

- Are any solutions blatantly unethical or unrealizable?
- Do any solutions overlap? Can these be integrated into broader solutions?
- Can solutions be brought together as courses of action that can be pursued simultaneously?
- Go back to the problem specification? Can any solutions be eliminated because they do not address the problem? (Or can the problem be revised to better fit what, intuitively, is a good solution.)
- Can solutions be brought together as successive courses of action? For example, one solution represents Plan A; if it does not work then another solution, Plan B, can be pursued. (You negotiate the problem with your supervisor. If she fails to agree, then you oppose your supervisor on the grounds that her position is wrong. If this fails, you conform or exit.)
- **The goal here is to reduce the solution list to something manageable, say, a best, a second best, and a third best. Try adding a bad solution to heighten strategic points of comparison. The list should be short so that the remaining solutions can be intensively examined as to their ethics and feasibility.**

4.2.6 Solution Testing: The solutions developed in the second stage must be tested in various ways.

1. Reversibility: Is the solution reversible between the agent and key stakeholders?
2. Harm/Beneficence: Does the solution minimize harm? Does it produce benefits that are justly dis tributed among stakeholders?
3. Publicity: Is this action one with which you are willing to be publicly identified? Does it identify you as a moral person? An irresponsible person? A person of integrity? An untrustworthy person?
4. Code: Does the solution violate any provisions of a relevant code of ethics? Can it be modified to be in accord with a code of ethics? Does it address any aspirations a code might have? (Engineers: Does this solution hold paramount the health, safety, and welfare of the public?)

5. Global Feasibility: Do any obstacles to implementation present themselves at this point? Are there resources, techniques, and social support for realizing the solution or will obstacles arise in one or more of these general areas? At this point, assess globally the feasibility of each solution.
6. The solution evaluation matrix presented just below models and summarizes the solution testing process.

Solution/ Test	Reversibility	Harm/ Beneficence	Publicity/ Values	Code	Global Feasibili
Description	Is the solution reversible with stakeholders? Does it honor basic rights?	Does the solution produce the best benefit/ harm ratio? Does the solution maximize utility?	Does the solution express and integrate key virtues?	Does the solution violate any code provisions?	Are ther constrai or obstacle to realiz the solution
Best solution					
Second Best					
Worst					

4.2.7 Solution Implementation

The chosen solution must be examined in terms of how well it responds to various situational constraints that could impede its implementation. What will be its costs? Can it be implemented within necessary time constraints? Does it honor recognized technical limitations or does it require pushing these back through innovation and discovery? Does it comply with legal and regulatory requirements? Finally, could the surrounding organizational, political, and social environments give rise to obstacles to the implementation of the solution? In general this phase requires looking at interest, technical, and resource constraints or limitations. A Feasibility Matrix helps to guide this process.

The Feasibility Tests focuses on situational constraints. How could these hinder the implementation of the solution? Should the solution be modified to ease

implementation? Can the constraints be removed or remodeled by negotiation, compromise, or education? Can implementation be facilitated by modifying both the solution and changing the constraints?

Feasibility Matrix		
Resource Constraints	Technical Constraints	Interest Constraints
		Personalities
Time		Organizational
Cost	Applicable Technology	Legal
Materials	Manufacturability	Social, Political, Cultural

Different Feasibility Constraints

1. The Feasibility Test identifies the constraints that could interfere with realizing a solution. This test also sorts out these constraints into **resource** (time, cost, materials), **interest** (individuals, organizations, legal, social, political), and **technical** limitations. By identifying situational constraints, problem-solvers can anticipate implementation problems and take early steps to prevent or mitigate them.
2. **Time.** Is there a deadline within which the solution has to be enacted? Is this deadline fixed or negotiable?
3. **Financial.** Are there cost constraints on implementing the ethical solution? Can these be extended by raising more funds? Can they be extended by cutting existing costs? Can agents negotiate for more money for implementation?
4. **Technical.** Technical limits constrain the ability to implement solutions. What, then, are the technical limitations to realizing and implementing the solution? Could these be moved back by modifying the solution or by adopting new technologies?
5. **Manufacturability.** Are there manufacturing constraints on the solution at hand? Given time, cost, and technical feasibility, what are the manufacturing limits to implementing the solution? Once again, are these limits fixed or flexible, rigid or negotiable?
6. **Legal.** How does the proposed solution stand with respect to existing laws, legal structures, and regulations? Does it create disposal problems addressed in existing regulations? Does it respond to and minimize the possibility of adverse

legal action? Are there legal constraints that go against the ethical values embodied in the solution? Again, are these legal constraints fixed or negotiable?

7. **Individual Interest Constraints.** Individuals with conflicting interests may oppose the implemen tation of the solution. For example, an insecure supervisor may oppose the solution because he fears it will undermine his authority. Are these individual interest constraints fixed or negotiable?
8. **Organizational.** Inconsistencies between the solution and the formal or informal rules of an orga nization may give rise to implementation obstacles. Implementing the solution may require support of those higher up in the management hierarchy. The solution may conflict with organization rules, management structures, traditions, or financial objectives. Once again, are these constraints fixed or flexible?
9. **Social, Cultural, or Political.** The socio-technical system within which the solution is to be imple mented contains certain social structures, cultural traditions, and political ideologies. How do these stand with respect to the solution? For example, does a climate of suspicion of high technology threaten to create political opposition to the solution? What kinds of social, cultural, or political problems could arise? Are these fixed or can they be altered through negotiation, education, or persuasion?

4.2.8 Ethics Tests for Solution Evaluation

Three ethics tests (reversibility, harm/beneficence, and public identification) encapsulate three ethical approaches (deontology, utilitarianism, and virtue ethics) and form the basis of stage three of the SDC, solution testing. A fourth test (a value realization test) builds upon the public identification/virtue ethics test by evaluating a solution in terms of the values it harmonizes, promotes, protects, or realizes. Finally a code test provides an independent check on the ethics tests and also highlights intermediate moral concepts such as safety, health, welfare, faithful agency, conflict of interest, confidentiality, professional integrity, collegiality, privacy, property, free speech, and equity/access). The following section provides advice on how to use these tests. More information can be found .

4.2.9 Setting Up the Ethics Tests: Pitfalls to avoid

Set-Up Pitfalls: Mistakes in this area lead to the analysis becoming unfocused and getting lost in irrelevancies. (a) Agent-switching where the analysis falls prey to irrelevancies that crop up when the test application is not grounded in the standpoint of a single agent, (b) Sloppy action-description where the analysis fails because no specific action has been tested, (c) Test-switching where the analysis fails because one test is substituted for another. (For example, the public identification and reversibility tests are often reduced to the harm/beneficence test where harmful consequences are listed but not associated with the agent or stakeholders.)

Set up the test

1. Identify the agent (the person who is going to perform the action)
2. Describe the action or solution that is being tested (what the agent is going to do or perform)
3. Identify the stakeholders (those individuals or groups who are going to be affected by the action), and their stakes (interests, values, goods, rights, needs, etc.
4. Identify, sort out, and weigh the consequences (the results the action is likely to bring about)

4.2.10 Harm/Beneficence Test

- What harms would accompany the action under consideration? Would it produce physical or mental suffering, impose financial or non-financial costs, or deprive others of important or essential goods?
- What benefits would this action bring about? Would it increase safety, quality of life, health, security, or other goods both moral and non-moral?
- What is the magnitude of each these consequences? Magnitude includes likelihood it will occur (probability), the severity of its impact (minor or major harm) and the range of people affected.
- Identify one or two other viable alternatives and repeat these steps for them. Some of these may be modifications of the basic action that attempt to minimize some of the likely harms. These alternatives will establish a basis for assessing your alternative by comparing it with others.
- Decide on the basis of the test which alternative produces the best ratio of benefits to harms?
- Check for inequities in the distribution of harms and benefits. Do all the harms fall on one individual (or group)? Do all of the benefits fall on another? If harms and benefits are inequitably distributed, can they be redistributed? What is the impact of redistribution on the original solution imposed?

Pitfalls of the Harm/Beneficence Test

1. "Paralysis of Analysis" comes from considering too many consequences and not focusing only on those relevant to your decision.
2. Incomplete Analysis results from considering too few consequences. Often it indicates a failure of moral imagination which, in this case, is the ability to envision the consequences of each action alternative.
3. Failure to compare different alternatives can lead to a decision that is too limited and one-sided.
4. Failure to weigh harms against benefits occurs when decision makers lack the experience to make the qualitative comparisons required in ethical decision making.
5. Finally, justice failures result from ignoring the fairness of the distribution of harms and benefits. This leads to a solution which may maximize benefits and

minimize harms but still give rise to serious injustices in the distribution of these benefits and harms.

4.2.11 Reversibility Test

1. Set up the test by (i) identifying the agent, (ii) describing the action, and (iii) identifying the stakeholders and their stakes.
2. Use the stakeholder analysis to identify the relations to be reversed.
3. Reverse roles between the agent (you) and each stakeholder: put them in your place (as the agent) and yourself in their place (as the one subjected to the action).
4. If you were in their place, would you still find the action acceptable?

Cross Checks for Reversibility Test (These questions help you to check if you have carriedout the reversibility test properly.)

- Does the proposed action treat others with respect? (Does it recognize their autonomy or circumvent it?)
- Does the action violate the rights of others? (Examples of rights: free and informed consent, privacy, freedom of conscience, due process, property, freedom of expression)
- Would you recommend that this action become a universal rule?
- Are you, through your action, treating others merely as means?

Pitfalls of the Reversibility Test

- Leaving out a key stakeholder relation
- Failing to recognize and address conflicts between stakeholders and their conflicting stakes
- Confusing treating others with respect with capitulating to their demands ("Reversing with Hitler")
- Failing to reach closure, i.e., an overall, global reversal assessment that takes into account all the stakeholders the agent has reversed with.

4.2.12 Steps in Applying the Public Identification Test

- Set up the analysis by identifying the agent, describing the action, and listing the key values or virtues at play in the situation.
- Association the action with the agent.
- Describe what the action says about the agent as a person. Does it reveal him or her as someone associated with a virtue or a vice?

Alternative Version of Public Identification

- Does the action under consideration realize justice or does it pose an excess or defect of justice?

- Does the action realize responsibility or pose an excess or defect of responsibility?
- Does the action realize reasonableness or pose too much or too little reasonableness?
- Does the action realize honesty or pose too much or too little honesty?
- Does the action realize integrity or pose too much or too little integrity?

Pitfalls of Public Identification

- Action not associated with agent. The most common pitfall is failure to associate the agent and the action. The action may have bad consequences and it may treat individuals with respect but these points are not as important in the context of this test as what they imply about the agent as a person who deliberately performs such an action.
- Failure to specify moral quality, virtue, or value. Another pitfall is to associate the action and agent but only ascribe a vague or ambiguous moral quality to the agent. To say, for example, that willfully harming the public is bad fails to zero in on precisely what moral quality this ascribes to the agent. Does it render him or her unjust, irresponsible, corrupt, dishonest, or unreasonable? The virtue list given above will help to specify this moral quality.

4.2.13 Code of Ethics Test

- Does the action hold paramount the health, safety, and welfare of the public, i.e., those affected by the action but not able to participate in its design or execution?
- Does the action maintain faithful agency with the client by not abusing trust, avoiding conflicts of interest, and maintaining confidences?
- Is the action consistent with the reputation, honor, dignity, and integrity of the profession?
- Does the action serve to maintain collegial relations with professional peers?

4.2.14 Meta Tests

- The ethics and feasibility tests will not always converge on the same solution. There is a complicated answer for why this is the case but the simple version is that the tests do not always agree on a given solution because each test (and the ethical theory it encapsulates) covers a different domain or dimension of the action situation. Meta tests turn this disadvantage to your advantage by feeding the interaction between the tests on a given solution back into the evaluation of that solution.
- When the ethics tests converge on a given solution, this convergence is a sign of the strength and robustness of the solution and counts in its favor.
- When a given solution responds well to one test but does poorly under another, this is a sign that the solution needs further development and revision. It is not a

sign that one test is relevant while the others are not. Divergence between test results is a sign that the solution is weak.

4.2.15 Application Exercise

You will now practice the four stages of decision making with a real world case. This case, Risk Assessment, came from a retreat on Business, Science, and Engineering Ethics held in Puerto Rico in December 1998. It was funded by the National Science Foundation, Grant SBR 9810253.

Risk Assessment Scenario

Case Scenario: You supervise a group of engineers working for a private laboratory with expertise in nuclear waste disposal and risk assessment. The DOE (Department of Energy) awarded a contract to your laboratory six years ago to do a risk assessment of various nuclear waste disposal sites. During the six years in which your team has been doing the study, new and more accurate calculations in risk assessment have become available. Your laboratory's study, however, began with the older, simpler calculations and cannot integrate the newer without substantially delaying completion. You, as the leader of the team, propose a delay to the DOE on the grounds that it is necessary to use the more advanced calculations. Your position is that the laboratory needs more time because of the extensive calculations required; you argue that your group must use state of the art science in doing its risk assessment. The DOE says you are using overly high standards of risk assessment to prolong the process, extend the contract, and get more money for your company. They want you to use simpler calculations and finish the project; if you are unwilling to do so, they plan to find another company that thinks differently. Meanwhile, back at the laboratory, your supervisor (a high level company manager) expresses to you the concern that while good science is important in an academic setting, this is the real world and the contract with the DOE is in jeopardy. What should you do?

Part One: Problem Specification

1. Specify the problem in the above scenario. Be as concise and specific as possible
2. Is your problem best specifiable as a disagreement? Between whom? Over what?
3. Can your problem be specified as a value conflict? What are the values in conflict? Are the moral, nonmoral, or both?

Part Two: Solution Generation

1. Quickly and without analysis or criticism brainstorm 5 to ten solutions
2. Refine your solution list. Can solutions be eliminated? (On what basis?) Can solutions be combined? Can solutions be combined as plan a and plan b?
3. If you specified your problem as a disagreement, how do your solutions resolve the disagreement? Can you negotiate interests over positions? What if your plan of action doesn't work?

4. If you formulated your problem as a value conflict, how do your solutions resolve this conflict? By integrating the conflicting values? By partially realizing them through a value compromise? By trading one value of for another?

Part Three: Solution Testing

1. Construct a solution evaluation matrix to compare two to three solution alternatives.
2. Choose a bad solution and then compare to it the two strongest solutions you have.
3. Be sure to avoid the pitfalls described above and set up each test carefully.

Part Four: Solution Implementation

1. Develop an implementation plan for your best solution. This plan should anticipate obstacles and offer means for overcoming them.
2. Prepare a feasibility table outlining these issues using the table presented above.
3. Remember that each of these feasibility constraints is negotiable and therefore flexible. If you choose to set aside a feasibility constraint then you need to outline how you would negotiate the extension of that constraint.

Decision-Making Presentation

Please view or download it at Decision Making Manual V4.pptx (http://cnx.org/content/m13757/latest/Decision%20Making%20Manual%20V4.pptx)

Clicking on this link will allow you to open a presentation designed to introduce problem solving in ethics as analogous to that in design, summarize the concept of a socio-technical system, and provide an orientation in the four stages of problem solving. This presentation was given February 28, 2008 at UPRM for ADMI 6005 students, Special Topics in Research Ethics.

Problem Solving Presentation

This media object is a downloadable file. Please view or download it at Decision Making Manual V5.pptx (http://cnx.org/content/m13757/latest/Decision%20Making%20Manual%20V5.pptx)

Shortened Presentation for Fall 2012

Please view or download it at Decision Making Manual V6.pptx (http://cnx.org/content/m13757/latest/Decision%20Making%20Manual%20V6.pptx)

Vigo Socio-Technical System Table and Problems

Please view or download it at Vigo STS.docx (http://cnx.org/content/m13757/latest/Vigo%20STS.docx)

Decision Making Worksheet

Please view or download it at Decision Making Worksheet.docx (http://cnx.org/content/m13757/latest/Decision%20Making%20Worksheet.docx)

This exercise is designed to give you practice with the three frameworks described in this module. It is based on the case, "When in Aguadilla."

Test Rubric Fall 2009: Problem-Solving

Please view or download it at PE Rubric EO S09.docx (http://cnx.org/content/m13757/latest/PE_Rubric_EO_S09.docx)

4.3 Gray Matters for the Hughes Aircraft Case

1

This content is available online at ***http://cnx.org/content/m14036/1.15/.

4.3.1 Introduction

Introduction

The Hughes Aircraft Case involves a group of employees in charge of testing chips for weapons systems. Because of the lengthy testing procedure required by the U.S. Defense Department, Hughes soon fell behind schedule in delivering chips to customers. To get chips out faster, some Hughes middle level managers began to put pressure on employees to pass chips that had failed tests or to pass them without testing. The scenarios below consist of narratives that stop at the point of decision. Your job is to complete the narrative by making a decision. Alternatives are provided to get the process started, but you may find it necessary to design your own solution. Ethics and feasibility tests help you to evaluate these alternatives and even design new ones more to your liking. This format superficially resembles the Gray Matters exercise used at Boeing Corporation. (More information on the history of Gray Matters can be found by consulting Carolyn Whitbeck, Ethics in Engineering Practice, 1998, 176-182.) This version differs in being more open-ended and more oriented toward giving you the opportunity to practice using ethical theory (which has been encapsulated into ethics tests).

4.3.2 Directions

Directions

- Read the following scenarios and the accompanying solutions
- Evaluate the alternatives in terms of the tests described below.
- Choose the one you think best or design your own solution if you believe you can do better.
- Summarize your results by filling in the solution evaluation matrix that appears on the page following the scenario. Notice that the first column repeats the solution alternatives.

- Be prepared to present your matrix to the class. You will also provide the other groups in the class with a copy of your matrix for their ethics portfolios

Bibliographical Note

The six scenarios below were developed by Chuck Huff as Participant Perspectives. They were first published online through the Computing Cases website. (Computing Cases was developed through two National Science Foundation grants, DUE-9972280 and DUE-9980768.) A revised version of these participant perspectives has been published in the anthology, **Whistleblowing: Perspectives and Experiences**, edited by Reena Raj and published in 2008 by the Icfai University Press, Nagarjuna Hills, Punjagutta, Hyderbad, India. These materials can be found on pages 75-80.

Scenario One: Responding to Organizational Pressure

Frank Saia has worked at Hughes Aircraft for a long time. Now he is faced with the most difficult decisions of his career. He has been having problems in the environmental testing phase of his microchip manufacturing plant; the detailed nature of these tests has caused Hughes to be consistently late in delivering the chips to customers. Because of the time pressure to deliver chips, Saia has been working to make the production of chips more efficient without losing the quality of the product. Chips are manufactured and then tested, and this provides two places where the process can bottle up. Even though you might have a perfectly fine chip on the floor of the plant, it cannot be shipped without testing. And, since there are several thousand other chips waiting to be tested, it can sit in line for a long time. Saia has devised a method that allows testers to put the important chips, the "hot parts," ahead of the others without disrupting the flow and without losing the chips in the shuffle. He has also added a "gross leak" test that quickly tells if a chip in a sealed container is actually sealed or not. Adding this test early in the testing sequence allows environmental testing to avoid wasting time by quickly eliminating chips that would fail a more fine-grained leak test later in the sequence. Because environmental testing is still falling behind, Saia's supervisors and Hughes customers are getting angry and have begun to apply pressure. Karl Reismueller, the director of the Division of Microelectronics at Hughes, has given Saia's telephone number to several customers, whose own production lines were shut down awaiting the parts that Saia has had trouble delivering. His customers are now calling him directly to say "we're dying out here" for need of parts. Frank Saia has discovered that an employee under his supervision, Donald LaRue, has been skipping tests on the computer chips. Since LaRue began this practice, they have certainly been more on time in their shipments. Besides, both LaRue and Saia know that many of the "hot" parts are actually for systems in the testing phase, rather than for ones that will be put into active use. So testing the chips for long-term durability that go into these systems seems unnecessary. Still, LaRue was caught by Quality Control skipping a test, and now Saia needs to make a decision. Upper management has provided no guidance; they simply told him to "handle it" and to keep the parts on time. He can't let LaRue continue skipping tests, or at least he shouldn't let this skipping go unsupervised. LaRue is a good employee, but he doesn't have the science background to know which tests would do the least damage if they were skipped. He could work with LaRue and help him figure out the best tests to skip

so the least harm is done. But getting directly involved in skipping the tests would mean violating company policy and federal law.

Alternatives

1. Do nothing. LaRue has started skipping tests on his own initiative. If any problems arise, then LaRue will have to take responsibility, not Saia, because LaRue was acting independently of and even against Saia's orders.
2. Call LaRue in and tell him to stop skipping tests immediately. Then call the customers and explain that the parts cannot be shipped until the tests are carried out.
3. Consult with LaRue and identify non essential chips or chips that will not be used in systems critical to safety. Skipping tests on these chips will do the least damage.
4. Your solution....

Scenario Two: Responding to Wrongdoing

Margaret Gooderal works in a supervisory position in the environmental testing group at Hughes Aircraft. Her supervisor, Donald LaRue, is also the current supervisor for environmental testing. The group that LaRue and Gooderal together oversee test the chips that Hughes makes in order to determine that they would survive under the drastic environmental conditions they will likely face. Rigorous testing of the chips is the ideal, but some chips (the hot chips) get in line ahead of others. Gooderal has found out that over the last several months, many of these tests are being skipped. The reason: Hughes has fallen behind in the production schedule and Hughes upper management and Hughes customers have been applying pressure to get chip production and testing back on schedule. Moreover, LaRue and others feel that skipping certain tests doesn't matter, since many of these chips are being used in systems that are in the testing phase, rather than ones that will be put into active use. A few months after Margaret Gooderal started her new position, she was presented with a difficult problem. One of the "girls" (the women and men in Environmental Testing at Hughes), Lisa Lightner, came to her desk crying. She was in tears and trembling because Donald LaRue had forcefully insisted that she pass a chip that she was sure had failed the test she was running. Lightner ran the hermeticity test on the chips. The chips are enclosed in a metal container, and one of the questions is whether the seal to that container leaks. From her test, she is sure that the chip is a "leaker"-the seal is not airtight so that water and corrosion will seep in over time and damage the chip. She has come to Gooderal for advice. Should she do what LaRue wants and pass a chip she knows is a leaker?

Alternatives

1. Gooderal should advise Lightner to go along with LaRue. He is her supervisor. If he orders to pass the chip, then she should do so.
2. Gooderal should go to Human Resources with Lightner and file a harassment complaint against LaRue. Skipping tests is clearly illegal and ordering an employee to commit an illegal act is harassment.

3. Gooderal and Lightner should blow the whistle. They should go to the U.S. defense department and inform them of the fact that Hughes Aircraft is delivering chips that have either failed tests or have not been tested.
4. Your solution....

Scenario Three: Goodearl, Ibarra, and the AMRAAM Incident

Now that Goodearl had few sympathizers among upper management, she increasingly turned to Ruth Ibarra in Quality assurance for support in her concerns about test skipping and the falsification of paperwork. One day, Goodearl noticed that some AMRAAM chips with leak stickers were left on her project desk in the environmental testing area. The leak stickers meant that the seal on the chips' supposedly airtight enclosure had failed a test to see if they leaked. AMRAAM meant that the chips were destined to be a part of an Advanced Medium Range Air-to-Air Missile. Goodearl knew that these parts could not be retested and needed to be simply thrown away. So why was someone keeping them? She also knew that these were officially "hot parts" and that the company was behind schedule in shipping these parts. After consulting with Ruth Ibarra, the two of them decided to do some sleuthing. They took the chips and their lot travelers to a photocopy machine and made copies of the travelers with "failed" noted on the leak test. They then replaced the chips and their travelers on the desk. Later that day, as Don LaRue passed the desk, Goodearl asked Don LaRue if he knew anything about the chips. "None of your business," he replied. The chips disappeared, and later the travelers showed up in company files with the "failed" altered to "passed." So, Goodearl and Ibarra had clear evidence (in their photocopy of the "failed" on the traveler) that someone was passing of failed chips to their customers. And these were important chips, part of the guidance system of an air-to-air missile.

Alternatives: Since they have clear evidence, Gooderal and Ibarra should blow the whistle. Evaluate each of the following ways in which they could blow the whistle

1. Blow the whistle to Hughes' Board of Directors. In this way they can stop the test skipping but will also be able to keep the whole affair "in house."
2. Blow the whistle to the local news media. In this way they will shame Hughes into compliance with the testing requirements.
3. Take the evidence to the U.S. Department of Defense, since they are the client and are being negatively impacted by Hughes' illegal actions.
4. Some other mode of blowing the whistle....

Solution Evaluation Matrix

Alternatives/ Tests	Reversibility/ Rights Test	Harm/ Benefits Test	Virtue/ Value Test (Also Publicity)	Global Feasibility Test (Implementation Obstacles)
Alternative One (Worst Alternative)	Evaluate Alt 1 using reversibility/ rights test			
Alternative Two (Best among those given)		Weigh harms against benefits for alt 2		
Alternative Three			What values/ disvalues are realized in alt 3?	
Your Solution				What obstacles could hinder implementation of solution?

4.3.3 Ethics Tests: Set Up and Pitfalls

Solution Evaluation Tests

- REVERSIBILITY: Would I think this is a good choice if I were among those affected by it?
- PUBILICITY: Would I want to be publicly associated with this action through, say, its publication in the newspaper?
- HARM/BENEFICENCE: Does this action do less harm than any of the available alternatives?
- FEASIBILITY: Can this solution be implemented given time, technical, economic, legal, and political constraints?

Harm Test Set-Up

- Identify the agent (=the person who will perform the action). Describe the action (=what the agent is about to do).
- Identify the stakeholders (individuals who have a vital interest at risk) and their stakes.
- Identify, sort out, and weight the expected results or consequences.

Harm Test Pitfalls

- Paralysis of Action-considering too many consequences.
- Incomplete analysis-considering too few results.
- Failure to weigh harms against benefits.
- Failure to compare different alternatives.
- Justice failures-ignoring the fairness of the distribution of harms and benefits.

Reversibility Test Set-Up

- Identify the agent
- Describe the action
- Identify the stakeholders and their stakes
- Use the stakeholder analysis to select the relations to be reversed.
- Reverse roles between the agent (you) and each stakeholder: put them in your place (as the agent) and yourself in their place (as the target of the action
- If you were in their place, would you still find the action acceptable?

Reversibility Pitfalls

- Leaving out a key stakeholder relation.
- Failing to recognize and address conflicts between stakeholders and their conflicting stakes.
- Confusing treating others with respect with capitulating to their demands (Reversing with Hitler).
- Failing to reach closure, i.e., an overall global reversal assessment that takes into account all the stakeholders the agent has reversed with.

Public Identification Set-Up

- Set up the analysis by identifying the agent, describing the action under consideration, and listing the key values or virtues at play in the situation.
- Associate the action with the agent.
- Identify what the action says about the agent as a person. Does it reveal him or her as someone associated with a virtue/value or a vice?

Public Identification Pitfalls

1. Action is not associated with the agent. The most common pitfall is failure to associate the agent and the action. The action may have bad consequences and it may treat individuals with disrespect but these points are not as important in the context of this test as what they imply about the agent as a person who deliberately performs such an action.
2. Failure to specify the moral quality, virtue, or value of the action that is imputed to the agent in the test. To say, for example, that willfully harming the public is bad fails to zero in on precisely what moral quality this attributes to the agent.

Does it render him or her unjust, irresponsible, corrupt, dishonest, or unreasonable?

Gray Matters in Hughes Exercises

Please view or download it at GM Hughes V2.doc (http://cnx.org/content/m14036/latest/GM_Hughes_V2.doc)

These exercises present three decision points from Hughes, solution alternatives, summaries of ethics and feasibility tests, and a solution evaluation matrix. Carry out the exercise by filling in the solution evaluation matrix.

This timeline is taken from the Computing Cases website developed and maintained by Dr. Charles Huff at St. Olaf College. Computing Cases is funded by the National Science Foundation, NSF DUE-9972280 and DUE 9980768.

4.3.4 Time Line

Time Line

1979	Ruth Ibarra beginsworking for Hughes Aircraft company's Microelectronic Circuit Division (Hughes MCD) in Newport Beach, CA
1981	Margaret Gooderal begins working for Hughes MCD as a supervisor for assembly on the hybrid production floor and as a supervisor in the hybrid engineering lab
1984	Ibarra becomes supervisor for hybrid quality assurance
1985	Goodearl asks Ibarra to look at errors in paperwork, Ibarra brings errors to the attention of her supervisors and was told to keep quiet. This begins time period where Goodearl/Ibarra become aware of problems in hybrid chip testing and paperwork.
1986	Goodearl becomes supervisor for seals processing in the environmental testing area.
1986	False Claims Act (31 U.S. C 3729–3733) becomes False Claims Reform Act of 1986 making it stronger and easier to apply.
Oct. 1986	Goodearl/Ibarra report problems ot Hughes management, and, after the problems were not fixed, Goodearl/Ibarra reported the allegations of faulty testing to the United States Department of Defense.

Jan 9, 1987	Earliest date that Hughes may have stopped neglecting environmental screening tests.
1988	Ibarra leaves Hughes feeling that her job had been stripped of all real responsibility.
March 1989	Goodearl is laid off from Hughes.
1995	Goodearl and her husband are divorced.

Civil Suit Timeline

1990–1996	United States of America, ex rel. Taxpayers Against Fraud, Ruth Aldred (was Ibarra), and Margaret Goodearl v. Hughes Aircraft Company, Inc.
1990	Goodearl fles wrongful discharge suit against Hughes and a number of individual managers, which was eventually dropped in favor of the civil suit.
May 29, 1990	Thinking the government investigation was taking too much time, Goodearl/Aldred file civil suit against Hughes under False Claims Reform Act of 1986 with the help of Taxpayers Against Fraud and Washington law firm Phillips and Cohen.
December 1992	Under provisions of the FCA, the U.S. Department of Justice Civil Division takes over the civil case.
Sep. 10, 1996	Hughes found guilty in civil trial. Pays U.S. Government 4,050,00 dollars and each relator 891,000 dollars plus a separate payment of 450,000 dollars to cover attorney's fees, costs, and expenses.

Criminal Suit Timeline

1991–1993	United States of America v. Hughes Aircraft Co., and Donald LaRue
December 13, 1991	After a lengthy investigation, the U.S. Department of Defense charges Hughes and Donald A. LaRue with a 51-count indictment accusing it of falsifying tests of microelectronic circuits (criminal suit).
June 15, 1992	Hughes found guilty of conspiring to defraud the U.S. Government in criminal case, co-defendent LaRUE acquitted following 4-week trial. Goodearl/Aldred called as witnesses in trial. Hughes appeals.
Oct. 29, 1992	Hughes fined 3.5 million in criminal trial decision.
December 2, 1993	Appellate court upholds 1992 criminal conviction and sentence. Hughes appeals.

4.3.5 Hughes Case Socio Technical System

Hughes Socio Technical System

	Hardware/ Software	Physical Surroundings	People, Roles, Structures	Procedures
Description	Hybrid Chips (circuitry hermetically sealed in metal or ceramic packages in inert gas atmosphere	Battle conditions under which chips might be used	Hughes Microelectric Circuit Division	Chip Testing: Temperature Cycle, Constant Acceleration, Mechanical Shock, Hermeticity (Fine and Gross Leak), P.I.N.D.
	Analogue to Digital Conversion Chips	E-1000 at Hughes (Clean Room)	Department of Defense (Office of Inspector General)	Hughes Human Resources Procedures for Complaints
	Radar and Missile Guidance Systems		Hughes Quality Control	Dissenting Professional Opinions
			Individuals: Reismueller, Temple, Saia, LaRue, Goodearl, Ibarra/ Aldren	

4.3.6 Responsible Dissent

Sources

- Computing Cases is the primary source for the material below on responsible dissent. It is based on the materials for responsibly carrying out dissent and disagreement that was formerly posted at the IEEE website. The IEEE has since taken this material down.
- The Online Ethics Center has also posted the IEEE material on responsible dissent. The origin of this material as well as a thorough discussion of its content can be found in Carolyn Whitbek, **Ethics in Engineering Practice and Research: 2nd Edition**, Cambridge, UK: Cambridge University Press, 2011. Chapter 7, "Workplace Rights and Responsibilities, pp. 227-269.
- Much of this material (IEEE Guidelines and a discussion of Dissenting Professional Opinion Guidelines) can be found in Chapter 7 ("Averting the Conflict at the Source")in the following: Stephen H., Unger, **Controlling Technology: Ethics and the Responsible Engineer: 2nd Edition**, New York: John Wiley and Sons, INC.

Ethical Dissent

1. Establish a clear technical foundation.
2. Keep your arguments on a high professional plane, as impersonal and objective as possible, avoiding extraneous issues and emotional outbursts.
3. Try to catch problems early, and keep the argument at the lowest managerial level possible.
4. Before going out on a limb, make sure that the issue is sufficiently important.
5. Use (and help establish) organizational dispute resolution mechanisms.
6. Keep records and collect paper.
7. These items originate with the IEEE which has dropped them from their website. They can be accessed through the link above with the Online Ethics Center; the list there is more complete. The above is quoted from the Computing Cases website (http://computingcases.org/case%20materials/hughes/support%20docs/whistleblowing/ethical%20dissent.html).

Before Going Public

1. Make sure of your motivation.
2. Count your costs.
3. Obtain all the necessary background materials and evidence.
4. Organize to protect your own interests.
5. Choose the right avenue for your disclosure.
6. Make your disclosure in the right spirit.
7. These items come from the IEEE (see onlineethics link) and from the manuscript of **Good Computing** by Chuck Huff, William Frey, and Jose Cruz.

Places to Go

1. Government Agencies
2. Judicial Systems
3. Legislators
4. Advocacy Groups
5. News Media

6. In Puerto Rico, laws 14 and 426 have been passed to protect those who would blow the whistle on government corruption. The Ofcina de Etica Gubernamental de Puerto Rico has a whistle blower's hotline. See link above.

When to Blow the Whistle.

1. Serious and Considerable Harm
2. Notification of immediate supervisor.
3. Exhaustion of internal channels of communication/appeal.
4. Documented Evidence.
5. Likelihood of successful resolution.

References

1. Richard T. De George, "Ethical Responsibilities of Engineers in Large Organizations: The Pinto Case," in **Ethical Issues in Engineering**, ed. Deborah G. Johnson (1991) New Jersey: Prentice-Hall: 175-186.
2. Carolyn Whitbeck (1998) Ethics in Engineering Practice and Research. U.K. Cambridge University Press: 55-72 and 176-181.
3. Charles Harris, Michael Pritchard and Michael Rabins (2005) Engineering Ethics: Concepts and Cases, 3rd Ed. Belmont, CA: Thomson/Wadsworth: 203-206.

4.3.7 Hughes Dramatic Rehearsals

A note on dramatic rehearsals

- The notion of dramatic rehearsal comes from John Dewey's **Human Nature and Moral Conduct**. An agent works through a solution alternative in the imagination before executing it in the real world. The dramatic rehearsal tests the idea in a mental laboratory created by the moral imagination. Steven Fesmire in his book, **John Dewey and Moral Imagination: Pragmatism in Ethics** (Indiana University Press, 2003), provides a comprehensive interpretation of Dewey's suggestive idea.

4.3.7.1 Decision Point One

Decision Point One

- Frank Saia has worked at Hughes Aircraft for a long time. Now he is faced with the most difficult decisions of his career. He has been having problems in the environmental testing phase of his microchip manufacturing plant; the detailed nature of these tests has caused Hughes to be consistently late in delivering the chips to customers.
- Because of the time pressure to deliver chips, Saia has been working to make the production of chips more efficient without losing the quality of the product. Chips are manufactured and then tested, and this provides two places where the process can bottle up. Even though you might have a perfectly fine chip on the

floor of the plant, it cannot be shipped without testing. And, since there are several thousand other chips waiting to be tested, it can sit in line for a long time. Saia has devised a method that allows testers to put the important chips, the "hot parts," ahead of the others without disrupting the flow and without losing the chips in the shuffle. He has also added a "gross leak" test that quickly tells if a chip in a sealed container is actually sealed or not. Adding this test early in the testing sequence allows environmental testing to avoid wasting time by quickly eliminating chips that would fail a more fine-grained leak test later in the sequence.

- Because environmental testing is still falling behind, Saia's supervisors and Hughes customers are getting angry and have begun to apply pressure. Karl Reismueller, the director of the Division of Microelectronics at Hughes, has given Saia's telephone number to several customers, whose own production lines were shut down awaiting the parts that Saia has had trouble delivering. His customers are now calling him directly to say "we're dying out here" for need of parts.

Dialogue for Decision Point One

- Construct a dialogue in which Saia responds to the pressure from his supervisor, Karl Reismueller
- Be sure to address the customer complaints

Debriefing Assignment for Decision Point One

- Each drama point revolves around one or more conflicts. What is the conflict in your drama point. How did you play this conflict out through your dramatization?
- Your drama takes place over a socio-technical system. Look at the above table. What are the key values at play in the Hughes STS? How did these values enter into your dramatization? For example, did a value conflict drive and confrontation between characters in your dramatization? Think, in this section, about how the STS and its values enter into your dramatic portrayal of the events in this case.
- What kind of narrative form did your drama take on? Was it a tragedy? A comedy? A story with a happy ending? Something else? What is it about the case that led you to pick the narrative form that you did?
- Finally, did you learn anything about the case by constructing and acting out your drama? What was it? What is different about these dramatic rehearsals in comparison with other learning activities you have undergone this semester?

4.3.7.2 Decision Point Two

Decision Point Two

- Frank Saia has discovered that an employee under his supervision, Donald LaRue, has been skipping tests on the computer chips. Since LaRue began this practice, they have certainly been more on time in their shipments. Besides, both LaRue and Saia know that many of the "hot" parts are actually for systems in the testing phase, rather than for ones that will be put into active use. So testing the chips for

long-term durability that go into these systems seems unnecessary. Still, LaRue was caught by Quality Control skipping a test, and now Saia needs to make a decision. Upper management has provided no guidance; they simply told him to "handle it" and to keep the parts on time.
- He can't let LaRue continue skipping tests, or at least he shouldn't let this skipping go unsupervised. LaRue is a good employee, but he doesn't have the science background to know which tests would do the least damage if they were skipped. He could work with LaRue and help him figure out the best tests to skip so the least harm is done. But getting directly involved in skipping the tests would mean violating company policy and federal law.

Dialogue

- Construct a dialogue in which Saia confronts LaRue about skipping the tests
- Address the following issues:
- Should Saia work with LaRue to identify tests that are not necessary and then have LaRue skip these?
- How should Saia and LaRue deal with the concerns that Quality Control has expressed about skipping the tests? Your first item here

Debriefing Assignment for Decision Point Two

- Each drama point revolves around one or more conflicts. What is the conflict in your drama point. How did you play this conflict out through your dramatization?
- Your drama takes place over a socio-technical system. Look at the above table. What are the key values at play in the Hughes STS? How did these values enter into your dramatization? For example, did a value conflict drive and confrontation between characters in your dramatization? Think, in this section, about how the STS and its values enter into your dramatic portrayal of the events in this case.
- What kind of narrative form did your drama take on? Was it a tragedy? A comedy? A story with a happy ending? Something else? What is it about the case that led you to pick the narrative form that you did?
- Finally, did you learn anything about the case by constructing and acting out your drama? What was it? What is different about these dramatic rehearsals in comparison with other learning activities you have undergone this semester?

4.3.7.3 Decision Point Three

Decision Point Three

- Margaret Gooderal works in a supervisory position in the environmental testing group at Hughes Aircraft. Her supervisor, Donald LaRue, is also the current supervisor for environmental testing. The group that LaRue and Gooderal together oversee test the chips that Hughes makes in order to determine that they would survive under the drastic environmental conditions they will likely face. Rigorous testing of the chips is the ideal, but some chips (the hot chips) get in line ahead of others. Gooderal has found out that over the last several months,

many of these tests are being skipped. The reason: Hughes has fallen behind in the production schedule and Hughes upper management and Hughes customers have been applying pressure to get chip production and testing back on schedule. Moreover, LaRue and others feel that skipping certain tests doesn't matter, since many of these chips are being used in systems that are in the testing phase, rather than ones that will be put into active use.

Dialogue

- Construct a dialogue that acts out Gooderal's response to her knowledge that LaRue is regularly skipping tests
- Address these two issues in your dialogue:
- Should Gooderal first talk directly to LaRue? What if he responds defensively?
- Should Gooderal go over LaRue's head and discuss his skipping the tests with one of his supervisors? To whom should she go? How could she prepare for possible retaliation by LaRue? What should she know before doing this?

Debriefing for Decision Point Three

- Each drama point revolves around one or more conflicts. What is the conflict in your drama point. How did you play this conflict out through your dramatization?
- Your drama takes place over a socio-technical system. Look at the above table. What are the key values at play in the Hughes STS? How did these values enter into your dramatization? For example, did a value conflict drive and confrontation between characters in your dramatization? Think, in this section, about how the STS and its values enter into your dramatic portrayal of the events in this case.
- What kind of narrative form did your drama take on? Was it a tragedy? A comedy? A story with a happy ending? Something else? What is it about the case that led you to pick the narrative form that you did?
- Finally, did you learn anything about the case by constructing and acting out your drama? What was it? What is different about these dramatic rehearsals in comparison with other learning activities you have undergone this semester?

4.3.7.4 Decision Point Four

Decision Point Four

- A few months after Margaret Gooderal started her new position, she was presented with a difficult problem. One of the "girls" (the women and men in Environmental Testing at Hughes), Lisa Lightner, came to her desk crying. She was in tears and trembling because Donald LaRue had forcefully insisted that she pass a chip that she was sure had failed the test she was running. Lightner ran the hermeticity test on the chips. The chips are enclosed in a metal container, and one of the questions is whether the seal to that container leaks. From her test, she is sure that the chip is a "leaker" — the seal is not airtight so that water and corrosion will seep in over time and damage the chip. She has come to Gooderal

for advice. Should she do what LaRue wants and pass a chip she knows is a leaker?

Dialogue

- Construct a dialogue in which Gooderal advises Lightner on what to do
- Consider these issues in constructing your dialogue:
- Should Gooderal and Lightner go over LaRue's head on this issue?
- If not, how should they confront LaRue?

Debriefing for Decision Point Four

- Each drama point revolves around one or more conflicts. What is the conflict in your drama point. How did you play this conflict out through your dramatization?
- Your drama takes place over a socio-technical system. Look at the above table. What are the key values at play in the Hughes STS? How did these values enter into your dramatization? For example, did a value conflict drive and confrontation between characters in your dramatization? Think, in this section, about how the STS and its values enter into your dramatic portrayal of the events in this case.
- What kind of narrative form did your drama take on? Was it a tragedy? A comedy? A story with a happy ending? Something else? What is it about the case that led you to pick the narrative form that you did?
- Finally, did you learn anything about the case by constructing and acting out your drama? What was it? What is different about these dramatic rehearsals in comparison with other learning activities you have undergone this semester?

4.3.7.5 Decision Point Five

Decision Point Five

- Ruth Ibarra (from Quality Assurance) has seen Shirley Reddick resealing chips without the authorization stamp. Ibarra has asked Gooderal to find out what's going on. When Gooderal asks LaRue, he replies, "None of your damn business." Shortly after this, Gooderal receives a phone call from Jim Temple, one of her superiors, telling her to come to his office. Temple informs Gooderal in no uncertain terms that she needs to back down. "You are doing it again. You are not part of the team, running to Quality with every little problem." When Gooderal insisted she did not "run to Quality" but Quality came to her, Temple replies, "Shape up and be part of the team if you want your job."

Dialogue

- Construct a dialogue in which Gooderal reacts to Temple
- Consider the following issues in constructing your dialogue:
- Is Temple harassing Gooderal? (How do we define "harassing" in this context?)
- Should Gooderal prepare for the possibility of being fired? How should she do this? What are her legal options at this point?

Debriefing for Decision Point Five

- Each drama point revolves around one or more conflicts. What is the conflict in your drama point. How did you play this conflict out through your dramatization?
- Your drama takes place over a socio-technical system. Look at the above table. What are the key values at play in the Hughes STS? How did these values enter into your dramatization? For example, did a value conflict drive and confrontation between characters in your dramatization? Think, in this section, about how the STS and its values enter into your dramatic portrayal of the events in this case.
- What kind of narrative form did your drama take on? Was it a tragedy? A comedy? A story with a happy ending? Something else? What is it about the case that led you to pick the narrative form that you did?
- Finally, did you learn anything about the case by constructing and acting out your drama? What was it? What is different about these dramatic rehearsals in comparison with other learning activities you have undergone this semester?

4.3.7.6 Decision Point Six

Decision Point Six

- Margaret Gooderal and Ruth Ibarra have made several attempts to get their supervisors to respond to the problem of skipping the environmental tests. The general response has been to shoot the messenger rather than respond to the message. Both Gooderal and Ibarra have been branded trouble makers and told to mind their own business. They have been threatened with dismissal if they persist.
- So they have decided to blow the whistle, having exhausted all the other options. They initiated contact with officials in the U.S. government's Office of the Inspector General. These officials are interested but have told Gooderal and Ibarra that they need to document their case.
- One day they fnd two hybrids (chips that combine two different kinds of semiconductor devices on a common substrate) on LaRue's desk. These chips which are destined for an air-to-air missile have failed the leak test. It is obvious that LaRue plans on passing them without further testing during the evening shift after Gooderal has gone home. Gooderal and Ibarra discuss whether this presents a good opportunity to document their case for the Ofce of the Inspector General.

Dialogue

- Construct an imaginary conversation between Gooderal and Ibarra where they discuss different strate gies for documenting their concerns to the Office of the Inspector General?
- Have them consider the following:
- By looking for documented evidence against their employer, have Gooderal and Ibarra violated their duties of trust and confidentiality?
- Some argue that before blowing the whistle, an employee should exhaust internal channels. Have Gooderal and Ibarra discuss whether they can do anything more inside Hughes before taking evidence outside

Debriefing for Decision Point Six

- Each drama point revolves around one or more conflicts. What is the conflict in your drama point. How did you play this conflict out through your dramatization?
- Your drama takes place over a socio-technical system. Look at the above table. What are the key values at play in the Hughes STS? How did these values enter into your dramatization? For example, did a value conflict drive and confrontation between characters in your dramatization? Think, in this section, about how the STS and its values enter into your dramatic portrayal of the events in this case.
- What kind of narrative form did your drama take on? Was it a tragedy? A comedy? A story with a happy ending? Something else? What is it about the case that led you to pick the narrative form that you did?
- Finally, did you learn anything about the case by constructing and acting out your drama? What was it? What is different about these dramatic rehearsals in comparison with other learning activities you have undergone this semester?

4.3.7.7 Hughes Case Media Files

Hughes Case Media Files Hughes Case and Dialogue Points

Please view or download it at Hughes V2a.pptx (http://cnx.org/content/m14036/latest/Hughes_V3a.pptx)

Please view or download it at Responsible Dissent.pptx (http://cnx.org/content/m14036/latest/Responsible%20Dissent.pptx)

What If Dramatic Rehearsals

Please view or download it at Hughes Drama V2.pptx (http://cnx.org/content/m14036/latest/Hughes_Drama_V2.pptx)

Debating Topics for ADMI 4016, Spring 2011

Please view or download it at Reflections on debate.pptx (http://cnx.org/content/m14036/latest/Reflections%20on%20debate.pptx)

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4.4 Socio-Technical Systems in Professional Decision Making

1

This content is available online at ***http://cnx.org/content/m14025/1.11/.

4.4.1 Module Introduction

Milagro Beanfeld War

Joe Mondragon has created quite a stir in Milagro, a small village in New Mexico. He has illegally diverted water from the irrigation ditch to his field to grow beans. Access to scarce water in New Mexico has created sharp political and social disputes which have reached a crises point in Milagro. Competing with traditional subsistence farmers like Joe is the profitable recreation industry. Ladd Devine, a wealthy developer, has joined with the state government in New Mexico to build a large recreational center consisting of a restaurant, travel lodge, individual cabins and a lavish golf course. Since there is not enough water to cover both recreational and agricultural uses and since Ladd Devine's project promises large tax revenues and new jobs, the state government has fallen behind him and has promised to give to the recreational facilities all the water it needs. Hence, the problem created by Mondragon's illegal act. You work for Ladd Devine. He has asked you to look into local opposition to the recreational facility. Along these lines, you attend the town meeting scheduled by Ruby Archuleta in the town's church. You are concerned about Charlie Bloom's presentation and the impact it may have on the local community. Prepare a STS analysis to test Bloom's assertions and better prepare Ladd Devine for local opposition to his facility.

Incident at Morales

Fred is a chemical engineer hired by Phaust Corporation to design and make operational a new chemical plant for the manufacture of their newly redesigned paint

thinner. Under financial pressure from the parent French company, Chemistre, they have decided to locate their new plant in Morales, Mexico to take advantage of lower costs and more flexible government regulations. You are well on the way toward designing this new plant when news comes from Chemistre that all budgets are being cut 20% to finance Chemistre's latest takeover acquisition. You are Fred and are now faced with a series of difficult financial-engineering decisions. Should you hold out for the more expensive Lutz and Lutz controls or use the cheaper ones produced locally? Should you continue with the current plant size or cut plant size and capacity to keep within budgetary constraints? You have also been made aware of the environmental and health risks associated with not lining the waste ponds used by the plant. Do you advocate lining the ponds or not, the latter being within compliance for Mexican environmental and health regulations. Prepare a STS analysis to help you make and justify these decisions. Make a series of recommendations to your supervisors based on this study.

Puerto Rican Projects

- Your company, Cogentrix, proposes a cogeneration plant that uses coal, produces electricity, and creates steam as a by-product of electricity generation process. Because the steam can be sold to nearby tuna canning plants, your company wishes to study the feasibility of locating its plant in or near Mayaguez, Puerto Rico. (Co-generation technology has become very popular and useful in some places.) Carry out a STS analysis to identify potential problems. Make a recommendation to your company. If your recommendation is positive, discuss how the plant should be modified to fit into the Mayaguez, Puerto Rico STS.
- Your company, Southern Gold Resources, is interested in mining different regions in central Puerto Rico for copper and gold. But you know that twenty years earlier, two proposals by two international mining companies were turned down by the PR government. Carry out a STS study to examine the feasibility of designing a different project that may be more acceptable to local groups. What does your STS analysis tell you about social and ethical impacts, financial promise, and likely local opposition. Can profitable mining operations be developed that respect the concerns of opposed groups? What is your recommendation based on your STS analysis?
- Windmar, a company that manufactures and operates windmills for electricity generation has proposed to locate a windmill farm in a location adjacent to the Bosque Seco de Guanica. They have encountered considerable local opposition. Carry out a STS analysis to understand and clarify this opposition. Can the concerns of local stakeholders be addressed and the windmill farm still remain profitable? How should the windmill project be modified to improve its chances of implementation?

4.4.2 Things to Know about STSs

What is a Socio-Technical System? (STS)

A socio-technical system (=STS) is a tool to help a business anticipate and successfully resolve interdisciplinary business problems. "Interdisciplinary business problems" refer to problems where financial values are intertwined with technical, ethical, social, political, and cultural values. (Reference: Chuck Huff, Good Computing: A Virtue Approach to Computer Ethics, draft manuscript for Jones and Bartlett Publishers)

Some Things to Know About STSs

1. Socio-Technical systems provide a tool to uncover the different environments in which business activity takes place and to articulate how these constrain and enable different business practices.
2. A STS can be divided into different components such as hardware software, physical surroundings, peo ple/groups/roles, procedures, laws/statutes/ regulations, and information systems. Other components include the natural environment, markets, and political systems.
3. But while different components can be distinguished, these are, in the final analysis, inseparable. Socio-Technical Systems are first and foremost **systems**: their components are interrelated and interact so that a change in one often produces changes that reverberate through the system.
4. Socio-Technical systems embody moral values such as justice, responsibility, respect, trust, and integrity as well as non-moral values such as efficiency, satisfaction, productivity, effectiveness, and profitability. Often these values can be located in one or more of the system components. Often they conflict with one another causing the system as a whole to change.
5. STSs change, and this change traces out a path or trajectory. The normative challenge here is to bring about and direct changes that place the STS on a value-positive trajectory. In the final analysis, we study STS to make sure that they change in a value-realizing direction.

4.4.3 Constituents or Sub-Environments of Business Activity

Paragraph summary of sub-environments of business followed by a table devoted to each one.

- **Technology** including hardware, software, designs, prototypes, products, or services. Examples of engineering projects in Puerto Rico are provided in the PR STS grid. In the Therac-25 case, the hardware is the double pass accelerator, in Hughes the analogue-to-digital integrated circuits, and in Machado the UNIX software system and the computers in the UCI laboratories that are configured by this system. Because technologies are structured to carry out the intentions of their designers, they embed values.
- **Physical Surroundings.** Physical surroundings can also embed values. Doors, by their weight, strength, material, size, and attachments (such as locks) can promote values such as security. Physical surroundings promote, maintain, or diminish other values in that they can permit or deny access, facilitate or hinder speech, promote privacy or transparency, isolate or disseminate property, and promote equality or privilege.

- **People, Groups, and Roles.** This component of a STS has been the focus of traditional stakeholder analyses. A stakeholder is any group or individual which has an essential or vital interest in the situation at hand. Any decision made or design implemented can enhance, maintain, or diminish this interest or stake. So if we consider Frank Saia a decision-maker in the Hughes case, then the Hughes corporation, the U.S. Air Force, the Hughes sub-group that runs environmental tests on integrated circuits, and Hughes customers would all be considered stakeholders.
- **Procedures.** How does a company deal with dissenting professional opinions manifested by employees? What kind of due process procedures are in place in your university for contesting what you consider to be unfair grades? How do researchers go about getting the informed consent of those who will be the subjects of their experiments? Procedures set forth ends which embody values and legitimize means which also embody values.
- **Laws, statutes, and regulations** all form essential parts of STSs. This would include engineering codes as well as the state or professional organizations charged with developing and enforcing them
- The final category can be formulated in a variety of ways depending on the specific context. Computing systems gather, store, and disseminate information. Hence, this could be labeled **data and data storage structure**. (Consider using data mining software to collect information and encrypted and isolated files for storing it securely.) In engineering, this might include the information generated as a device is implemented, operates, and is decommissioned. This information, if fed back into refining the technology or improving the design of next generation prototypes, could lead to uncovering and preventing potential accidents. Electrical engineers have elected to rename this category, in the context of power systems, rates and rate structures.

Technological Component

Component	Description	Examples	Frameworks	More Framework
Technological	Hardware: Machines of different kinds	Door (with tasks delegated to it such as automatically shutting and being locked)	Value Discovery (identifying and locating values in STS)	**Social Constructio** Restoring interpretive flexibility to reconstruct technology remove bias realize valu
	Code that configures machines around human purposes	Power generating technologies based on renewable and nonrenewable resources	Value Translation (Operationalizing and implementing values in a STS by designing and carrying out a procedure)	Identifying mitigating complexity form of tigh coupled sys and non-lin causal chain
	Technology can constrain business activity by de-skilling	Automobiles, computers, cell phones all of which have produced profound changes in our STSs	Value Verification (Using methods of participatory observation to determine how effectively values have been realized.)	De-centrali control and authority
	Technology, especially software, can instrument human action	Microsoft Office, Firefox Browser, Google Chrome, Google Docs, Social Networking software	**Transperspectivity:** discovering strands of construction of current STS; identifying possibilities for reconstruction	Designing t avoid the technologic imperative reverse adaptation (where hum abandon en and serve th ends of technologie

Technological Component of STS

Ethical and Social Component

Component	Description	Examples	Frameworks	More Frameworks
Ethical Environment	**Moral Constructs:** Spheres of justice where distribution takes place according to context-dependent rules (Rules)	**Basic Moral Concepts:** rights, duties, goods, values, virtues, responsibility, and justice	**Utilitarianism:** Happiness is tied to maximizing the satisfaction of aggregated preferences.	**Basic Capabilities:** life, bodily health, bodily in tegrity
	Social Constructs: Power and its distribu tion among groups and individuals	**Intermediate Moral Concepts:** Privacy, Property, Informed Consent, Free Speech, due Process, Safety/Risk	**Rights:** Capacities of action that are essential to autonomy, vulnerable to standard threats, and corre lated with feasible duties	**Cognitive Capabilities:** Sense, Imagination, Thought; Emotion; Practical Reason
	Right: A right is a capacity of action, essential to autonomy, that others are obliged to recognize and respect.	**Privacy:** If the information is directly relevant to the relation to the holder and the seeker, then it is not private.	**Virtues:** Settled dispositions toward choosing the mean between extremes of excess and defect. (Courage is the mean between cowardice and recklessness)	**Social Capabilities:** Affiliations, Other Species
	Duty: A duty is a	**Property:** That with	**Capabilities Approach:** For	**Capabilities that address**

	principle that obliges us to recognize and respect the rights of others.	which I mix my labor is mine. Intellectual property is non-rivalrous and non-excludable.	Nussbaum, capabilities answer the question, "What is this person able to do or be?" For Sen, capabilities are "'substantial freedoms,' a set of (causally interrelated) opportunities to choose and act."	**vulnerabiliti** Play and Control over one's environment

Ethical Environments of the socio-technical system

Physical Surroundings

PhysicalSurroundings	Description	Examples	Frameworks	Fra
	Physical environment imposes constraints (limits) over actions that restrict possibilities and shape implementation.	Influence of rivers, mountains, and valleys on social and economic activities such as travel, trade, economic and agricultural activity, commerce, industry, and manufacturing.	Classroom environment enables or constrains different teaching and learning styles. For example, one can pair of technically enhanced and technically challenged classrooms with student-centered and teacher-centered pedagogical styles and come up with four different learning environments. Each constrains and enables a different set of activities.	Th ar of th cla we bo cre wa an ca cla tea ce stu ce pe sty

This table summarizes the physical environment of the STS and how it can constrain or enable action.

People, Groups, and Roles (Stakeholders)

Stakeholders	Description	Examples	Frameworks	Frameworks
	Any group or individual that has a vital interest at play (at stake) in the STS.	**Market Stakeholders:** Employees, Stockholders	**Non-Market Stakeholders:** communities, activist groups and NGOs	**Role:** The plac or station a stakeholder occupies in a given organizationa system and th associated tas or responsibilitie
		customers, suppliers retailers/ wholesalers, creditors	business support groups, governments, general public (those impacted by projects who do not participate directly in their development	**Interests:** Goods, values rights, interests, and preferences at play in the sit ation which th stakeholder w act to protect promote.
		(Distinction between market and non-market stakeholders comes from Lawrence and Weber, **Business and Society: Stakeholders, Ethics, Public Policy,** 12th edition. McGraw-Hill, 14-15.	Alliances are discussed by Patricia Werhane et al., **Alleviating Poverty Through Profitable Partnerships: Globalization, Markets, and Economic Wellbeing.** Routledge (2009).	**Relation:** Eac stakeholder is related to oth stakeholders i an alliance an each relation tied to goods and values.

This table shows the social or stakeholder environment of the STS. A stakeholder is any group or individual that has a vital interest at play in the STS.

Procedural Environment

Procedural	Description	Examples	Framework	Framework
	A series of interrelated actions carried out in a particular sequence to bring about a desired result, such as the realization of a value. Procedures can schematize value by setting out a script for its realization.	Hiring a new employee: (a) settling on and publishing a job description; (b) soliciting and reviewing applications from candidates; (c) reducing candidate list and interviewing finalists; (d) selecting a candidate; (e) tendering that candidate a job offer. Other procedures: forming a corporation, filing for bankruptcy, gaining consent to transfer TGI and PII to a third party (Toysmart: opt-in and opt-out procedures).	Value Realization Process in Software Engineering: (a) Discovery: Uncovering values shared by a given community; (b) Translation: operationalizing and implementing values in a given STS; (c) Verification: using methods of participatory observation (surveys and interviews) to validate that the values in question have been discovered and translated.	Challenging the Statement of Values: (a) A stakeholder group raises a conceptual, translation, range, or development issue; (b) Group presents their challenge and response to other stakeholders; (c) If other stakeholder groups agree, then the challenge leads to a revision in the SOV; (d) Community as a whole approves the revision.

Legal Environment: Laws, Statutes, Regulations

Laws, Statutes, Regulations	Description	Examples	Frameworks	Frameworks
	Laws differ from ethical principles and concepts in that laws prescribe the minimally moral while ethi cal principles and concepts routinely explore higher moral "spaces."	**Criminal Law:** Applies to indi viduals; interested party in a criminal trial is society, not the victim.	**Civil Law:** Torts concern wrongful injury. The objective of a tort is to make the victim "while" after an injury.	US and British law work through a common law system where current decisions are based on past decisions or precedent.
	Ethical principles challenge and criticize laws by bringing into question their normative content.	Involves proving a **mens rea** (guilty mind) and **actus reus** (guilty or law-breaking act) and that the mens rea caused the actus reus.	To prevail in a tort one must prove (in order of severity) negligence, recklessness, or intent.	The Puerto Rican system of law is based on the Napoleonic code where decisions relate directly to existing law and statute and precedent plays a weaker role.
	Laws can challenge ethical principles and concepts by raising issues of	Criminal law does not apply to corporations because they *"have no soul to*	Negligence involves proving that the defendant failed to meet some	Question: How does the statute-based Napoleonic system in PR constrain

	practicality. Also, as in responsibility theory, the law can structure and inform the moral discussion.	*damn and no body to kick"* Baron Thurlow	standard of **due care**.	and enable business practice in relation to other systems such as the British and American common law systems?
			Contract law concerns the violation of the terms of a contract.	

Market Environment

Market Environment	Description	Examples	Frameworks	Frameworks
	Business takes place within different markets that shape supply, demand, and price. Globalization frequently requires that a business be adept at operating across different markets	**Laissez Faire:** Each economic unit makes choice based on rational (enlightened) self-interest. (Private ownership of goods.)	**Assumptions of a Free Market System:** Indi vidual decisions are aggregated. Information flows through price structure.	**Recent economic studies of the limits of laissez faire markets:**
	Liberal use made here of notes from Economics class taught by CR Winegardner, University of Toledo, 1971-1972	**Liberal Democratic Socialism:** Limited government intervention is needed to improve upon the choice of individual economic units. (Mixture of private and public ownership)	Free association. Absence of force or fraud. Individual agents are rational utility maximizer	**Information Asymmetries** (as studied by Stiegliz). Monopolies which, in the absence of competition, can dictate standards of price, product and service.
	Materials also take from Natural Capitalism from Lovins	**Communist, Authoritarian Socialism:** The state is in the best position to	(4,4)	(4,5)

	and Hawkings.	know what choices and policies are beneficial for the economy as a whole and its component parts. (Public ownership of goods and services)		
(5,1)	(5,2)	(5,3)	(5,4)	(5,5)

4.4.4 Ethics of STS Research

- **Right of Free and Informed Consent:** This is the right of participants in a research project to know the harms and benefits of the research. It also includes the right not to be forced to participate in a project but, instead, offer or withdraw voluntarily their consent to participate. When preparing a STS analysis, it is mandatory to take active measures to facilitate participants' free and informed consent.
- Any STS analysis must take active measures to recognize potential harms and minimize or eliminate them. This is especially the case regarding the information that may be collected about different individuals. Special provisions must be taken to maintain confidentiality in collecting, storing, and using sensitive information. This includes careful disposal of information after it is no longer needed.

4.4.5 Participatory Observation

- As we said above, a socio-technical system (STS) is *"an intellectual tool to help us recognize patterns in the way technology is used and produced."* Constructing these tools requires combining modes of analysis that are ordinarily kept separate. Because STSs embed values, they are normative. These values can help to chart out trajectories of change and development because they outline values that the system needs to realize, maintain, or even enhance. In this way, the study of STSs is normative and a legitimate inquiry for practical and professional ethics. On the other hand, STS analysis requires finding out what is already there and describing it. So STS analysis is descriptive as well. In this textbox, we will talk briefly about the descriptive or empirical components of STS analysis. This

material is taken from the draft manuscript of Good Computing: A Virtue Approach to Computer Ethics and has been developed by Chuck Huff.

- **Interviews:** Semi-Structured and Structured Interviews conducted with those familiar with a given STS provide an excellent source of information on the constituents of a given STS and how these ft together into an interrelated whole. For example, the STS grid on power systems was put together by experts in this area who were able to provide detailed information on power rates and protocols, software used to distribute energy through the gridlines, and different sources (representing both hard and soft technologies) of power generation.
- **Field Observation:** Those constructing a STS analysis go directly to the system and describe it in its day-to-day operation. Two books provide more information on the types and techniques of field observation: 1. David M. Fetterman, Ethnography: 2nd Edition, Applied Social Research Methods Series, Vol 17. London, UK.: Sage Publishers, 1998 and 2. James P. Spradley, Participant Observation. New York, Harcourt, 1980. The data collected in this method can also be used to construct day-in-the-life scenarios that describe how a given technology functions on a typical day. These scenarios are useful for uncovering value conflicts and latent accidents. See James T. Reason, Human Error, Cambridge, UK.: Cambridge University Press, 1990 for information on latent accidents, how they are detected, and how they are prevented.
- **Questionnaires:** Questionnaires are useful for gathering general information from large numbers of people about a STS. Constructing good questionnaires is a difficult process that requires patience as well as trial and error. (Trying out questions on classmates and friends is the best way to identify unclear or misleading questions.) Avoiding complex, overly leading, and loaded questions represent a few of the challenges facing those who would construct useful questionnaires.
- **Archival and physical trace methods:** Looking at user manuals provides insight into how a system has been designed and how it works. Studying which keys are worn down on computer keyboards provides information on the kind of work being done. Comparing how a system is intended to work with how it is in fact being used is also illuminating, especially when one is interested in tracing the trajectory of a STS. Working with archival and physical trace methods requires critical thought and detective work.
- None of the above methods, taken in isolation, provides complete information on a STS. Triangulation represents the best way to verify data and to reconcile conflicting data. Here we generate evidence and data from a variety of sources then compare and collate. Claims made by interviewees that match direct on-site observations confirm one another and indicate data strength and veracity. Evidence collected through questionnaires that conflicts with evidence gathered through archival research highlights the need for detective work that involves further observation, comparison, interpretation, and criticism.
- Developing STS analyses bears a striking resemblance to requirements analysis. In both cases, data is collected, refined, and put together to provide an analysis. A key to success in both is the proper combination of normative and descriptive procedures.

4.4.6 Exercise: Make a Table that Describes the Socio-Technical System

Directions: Identify the constituents of the Socio-Technical System. Use the broad categories to prompt you.

1. What are the major hardware and software components?
2. Describe the physical surroundings.
3. What are the major people groups or roles involved?
4. Describe any procedures in the STS.
5. Itemize the laws, statutes, and regulations.
6. Describe the data and data structures in your STS. Use the two templates below that fill in this table for energy generation systems and for engineering ethics in Puerto Rico.

Socio Technical System Table

	Hardware	Software	Physical Surroundings	People, Groups, Roles	Procedures	Laws	

4.4.7 Exercise: Identify Value Mismatches in the STS

Directions: identify the values embedded in the STS. Use the table below to suggest possible values as well as the locations in which they are embedded.

1. **Integrity:** "Integrity refers to the attributes exhibited by those who have incorporated moral values into the core of their identities. Such integration is evident through the way values denoting moral ex cellence permeate and color their expressions, actions, and decisions. Characteristics include wholeness, stability, sincerity, honesty to self and others, authenticity, and striving for excellence.
2. **Justice:** Justice as fairness focuses on giving each individual what is his or her due. Three senses of justice are (1) the proper, fair, and proportionate use of sanctions, punishments and disciplinary measures to enforce ethical standards (retributive justice), (2) the objective, dispassionate, and impartial distribution of the benefits and burdens associated with a system of social cooperation (distributive justice), (3) an objectively determined and fairly administered

compensation for harms and injustices suffered by individuals (compensatory justice), and (4) a fair and impartial formulation and administration of rules within a given group.

3. **Respect:** Respecting persons lies essentially in recognizing their capacity to make and execute decisions as well as to set forth their own ends and goals and integrate them into life plans and identities. Respects underlies rights essential to autonomy such as property, privacy, due process, free speech, and free and informed consent.
4. **Responsibility:** (Moral) Responsibility lies in the ability to identify the morally salient features of a situation and then develop actions and attitudes that answer to these features by bringing into play moral and professional values. Responsibility includes several senses: (1) individuals are responsible in that they can be called upon to answer for what they do; (2) individuals have responsibilities because of commitments they make to carrying out the tasks associated with social and professional roles; (3) responsibility also refers to the way in which one carries out one's obligations (This can range from indifference to others that leads to minimal effort to high care for others and commitment to excellence)
5. **Free Speech:** Free Speech is not an unlimited right. Perhaps the best place to start is Mill's argument in **On Liberty**. Completely true, partially true, and even false speech cannot be censored, the latter because censoring false speech deprives the truth of the opportunity to clarify and invigorate itself by defending itself. Mill only allows for a limitation of free speech based on harm to those at which the speech is directed. Speech that harms an individual (defamatory speech or shouting "fire" in a crowded theatre) can be censored out of a consideration of self-defense, not of the speaker, but of those who stand to be harmed by the speech.
6. **Privacy:** If an item of information is irrelevant to the relation between the person who has the infor mation and the person sho seeks it, then that information is private. Privacy is necessary to autonomy because control over information about oneself helps one to structure and shape one's relations with others.
7. **Property:** According to Locke, we own as property that with which we have mixed our labor. Thomas Jefferson argues that ideas are problematic as property because, by their very nature, they are shared once they are expressed. They are also nonrivalrous and nonexclusive.

Drawing Problems from Embedded Values

- Changes in a STS (e.g., the integration of a new technology) produce value mismatches as the values in the new component conflict with those already existing within the STS. Giving laptops to children produces a conflict between children's safety requirements and the safety features embedded in laptops as designed for adults.
- Changes within a STS can exaggerate existing value conflicts. Using digitalized textbooks on laptop computers magnifies the existing conflict concerning intellectual property; the balance between copy rights and educational dissemination is disrupted by the ease of copying and distributing digitalized media.

- Changes in STS can also lead to long term harms. Giving laptops to children threatens environmental harm as the laptops become obsolete and need to be safely disposed of.

Values Embedded in STS

	Hardware	Software	Physical Surroundings	People, Groups, Roles	Procedu
Integrity					
Justice					
Respect					
Responsibility for Safety					
Free Speech					
Privacy					
Intellectual Property					

4.4.8 Using Socio-Technical System Grids for Problem Specification

The activity of framing is a central component of moral imagination. Framing a situation structures its elements into a meaningful whole. This activity of structuring suggests both problems and solutions. Framing a situation in different ways offers alternative problem specifications and solution possibilities. Since skillful framing requires practice, this part of the module suggests how socio-technical system tables can help provide different frames for problem specification and solution generation.

Different Problem Frames

- **Technical Frame:** Engineers frame problems technically, that is, they specify a problem as raising a technical issue and requiring a technical design for its resolution. For example, in the STS grid appended below, the Burger Man corporation wishes to make its food preparation areas more safe. Framing this

technically, it would be necessary to change the designs of ovens so they are more accident-proof.

- **Physical Frame:** How can the Burger Man corporation redesign its restaurants as physical facilities to make them more accessible? One way is to change the access points by, say, designing ramps to make restaurants wheel chair accessible. Framing this as a physical problem suggests solutions based on changing the physical structure and arrangement of the Burger Man STS.
- **Social Frame:** Burger Man as a corporation has stakeholders, that is, groups or individuals who have an essential interest at play in relation to the corporation. For example, framing the problem of making Burger Man more safe as a social problem might suggest the solution of integrating workplace safety into worker training programs and conducting regular safety audits to identify embedded risks.
- **Financial or Market-Based Frames:** Burger Man is a for-profit corporation which implies that it has certain financial responsibilities. Consequently, Burger Man should be concerned with how to provide safe, child-proof chairs and tables that do not cut unduly into corporate profits. But like the legal perspective, it is necessary to conduct ethical and social framing activities to compensate for the one-sidedness of financial framing.
- **Managerial Frame:** Many times ethical problems can be framed as managerial problems where the solution lies in changing managerial structures, reporting relations, and operating procedures. For example, Burger Man may develop a specific procedure when a cashier finishes a shift and turns over the cash register and its contents to another cashier. Burger Man may develop cleaning procedures and routines to minimize the possibility of serving contaminated or spoiled food to customers.
- **Legal Frame:** Burger Man may choose to frame its environmental responsibilities into developing effective procedures for complying with OSHAA and EPA regulations. Framing a problem legally certainly helps to identify effective and necessary courses of action. But, because the ethical and social cannot be reduced to the legal, it is necessary to apply other frames to uncover additional risks not suggested by the legal framing.
- **Environmental Framing:** Finally, how does Burger Man look from the environmental standpoint? Does it consider environmental value (environmental health, safety, and integrity) as merely a side constraint to be addressed only insofar as it interferes with realizing supposedly more important values such as financial values? Is it a value to be traded off with other values? (For example, Burger Man may destroy the local environment by cutting down trees to make room for its latest restaurant but it offsets this destruction through its program of planting new trees in Puerto Rican tropical rain forests.) Framing a problem as an environmental problem puts the environment first and sets as a goal the integration of environmental values with other values such as worker safety and corporate profits.

Burger Man Socio-Technical System Table

Please view or download it at Socio Technical System Grid for Business Ethics.docx (http://cnx.org/content/m14025/latest/Socio%20Technical%20System%20Grid%20for%20Business%20Ethics.docx)

Clicking on this link will open as a Word file a STS table based on the fictional corporation, Burger Man. Below are a list of problems suggested by the STS analysis.

4.4.9 Media File Uplinks

This module consists of two attached Media Files. The first file provides background information on STSs. The second file provides two sample STS grids or tables. These grids will help you to develop specific STSs to analyze cases in engineering, business, and computer ethics without having to construct a completely new STS for each case. Instead, using the two tables as templates, you will be able to zero in on the STS that is unique to the situation posed by the case. This module also presents background constraints to problem-solving in engineering, business, and computer ethics. These constraints do not differ absolutely from the constituents of STSs. However, they pose underlying constraints that outline the feasibility of an ethical decision and help us to identify obstacles that may arise when we attempt to implement ethical decisions.

Socio-Technical Systems

Please view or download it at STS Background V3.doc (http://cnx.org/content/m14025/latest/STS_Background_V3.doc)

Socio-Technical Systems: Constituents, Values, Problems, and Constraints.

STS Templates

Please view or download it at STS Templates.doc (http://cnx.org/content/m14025/latest/STS_Templates.doc)

Two STSs, Power Engineering and the Puerto Rican Context of Engineering Practice.

Socio-Technical Environments Table

Please view or download it at STS2.pdf (http://cnx.org/content/m14025/latest/STS2.pdf)

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4.5 Ethics and Laptops: Identifying Social Responsibility Issues in Puerto Rico

1

This content is available online at ***http://cnx.org/content/m14257/1.7/.

4.5.1 Introduction

While social responsibility has been recognized as one of the key areas of business ethics, much more needs to be done to develop frameworks and tools to clarify the concept itself and to implement it in business and professional practice on a day-to-day basis. This module will give students the opportunity to practice using frameworks and techniques that address these two needs.

Developing socio-technical system analyses provides an effective means to highlight issues of social re sponsibility. Since socio-technical systems embody values, building their descriptions allows us to read of potential problems due to harmful impacts and value conflicts. To facilitate this, you will be building socio-technical system descriptions using a grid or matrix that provides the components of socio-technical systems, levels under which they can be analyzed, and the values that they tend to embody. Building socio-technical system descriptions also requires using methods of participatory observation. These include constructing surveys and questionnaires, developing interviews, and building day-in-the-life scenarios. This module will help you frame and respond to social responsibility issues by providing a framework for socio-technical analysis and a set of methodological tools taken from participatory observation.

Module m14025 (Social-Technical Systems in Professional Decision Making) provides background information on STSs, their construction and their uses. Links to this module and to the website, Computing Cases, can be found in the upper left hand corner of this module. They provide useful background information. This module makes use of a case, Texas Laptops, that was developed by Chuck Huff and C. Nathan DeWall for NSF projects, DUE-9972280 and DUE-9980768.

4.5.2 Case Narrative

Texas Laptop Case

1. In the late 1990's, the Texas State Board of Education proposed the ambitious plan of providing each of the state's four million public school students with their own laptop computer. This plan was devised to solve several problems confronting Texas public education.
2. Laptop computers could make educational resources more accessible to students who were faced with special challenges like deafness or blindness. Computers offer software options (such as audio books) that promise to reach more students than traditional printed textbooks.
3. Laptops also promised to solve the problem of obsolete textbooks. Texas purchased textbooks for their students at considerable costs. The purchasing cycle ran six years. By the end of this cycle, textbooks were out of date. For example, in the late 1990's when the laptop plan was proposed, history textbooks still referred to the Soviet Union and to the existence of the Berlin Wall. Laptops, on the other hand, would present textbook content in digital form which would eliminate printing and shipping costs and facilitate updates through online downloads.
4. Texas business leaders were concerned about the computer literacy of the upcoming generation of students. By employing laptops in more and more teaching activities, students would learn how to interact with computers while taking advantage of the new and more effective modes of presentation offered.

1. However, adopting laptops also presented problems that critics quickly brought forth.
2. Teachers would need to learn how to use laptop computers and would have to change their teaching to accommodate them in the classroom.
3. Apparent cost savings disappeared upon further, closer examination. For example, it became clear that textbook publishers would not so easily give up the revenues they had come to depend upon that came from textbook purchases for public school students. Updates from downloads could turn out to be more expensive and educational software could be coded to restrict access and dissemination.
4. Further studies indicated that technical support costs would run two to three times initial outlays. Keeping laptop hardware and software up and running required technical support and continued investment.

5. Texas found that while some school districts—the richer ones—had already begun projects to integrate computing technology, the poorer school districts would require considerable financial support.

To deal with these problems, Texas carried out several pilot projects that examined the effectiveness of laptop integration in select school districts. While several successes were reported a series of problems arose that led Texas Board of Education officials to postpone the laptop project. First, pilot projects depended on donations from private computing vendors. While some were forthcoming, others failed to deliver hardware on time and provided only minimal technical support. Second, teachers resisted laptop integration due to the extensive investment of time required to appropriate computing skills and the difficulty of modifying existing curricula and teaching styles to accommodate laptop hardware and software. Third, at that time the available educational software, such as digitalized textbooks, was expensive, inadequately developed, and narrowly focused on curricular areas such as writing and math practice. Teachers also began to develop more comprehensive and philosophical criticisms of laptop use. Education specialist, Larry Cuban, argued that while laptops provided good support for a vocational education, they failed to deliver on other educational goals such as teaching children how to interact with their peers and teachers and teaching children the civic virtues necessary to become active participants in a democratic form of government. Studies began to appear that argued that skills developed through computer use came at the expense of other, more social skills.

The Texas Laptop plan was never formally implemented beyond the pilot project phase. However, several computer integration projects have been carried out in other parts of the country. For example, Larry Cuban reports on computer integration projects carried out in Silicon Valley in California. MIT has developed a cheap laptop computer for use in developing nations. You can find a link to computer integration projects that have been implemented in Philadelphia public schools through the support of the Microsoft Foundation.

Students in computer ethics classes at the University of Puerto Rico at Mayaguez have looked into the feasibility of integrating laptops in the public school socio-technical system in Puerto Rico. They began by looking at the project to provide public school teachers with laptops that was carried out in the late 1990's under the Pedro Rossello administration. The student research projects came to focus on three problem areas. First, they examined whether there were structures in laptop design that made computers unfit for use by children. Second, they studied whether social or ethical problems would arise from disposal of spent laptops. Third, they investigated the impact on copyright law and intellectual property practices that digitalizing printed textbooks would have.

4.5.3 What you are going to do...

4.5.3.1 Decision Point One

You are a computer engineer and have been subcontracted by your local government to purchase new portable computers for high school teachers. Your job includes...

- selecting the kind of computer to be used
- identifying vendors who will sell the computers
- overseeing the distribution of computers to high school teachers
- developing an implementing a training program to help teachers learn to use computers
- designing a technical support hotline to help teacher work out any technical problems that may arise

Distributing computers to high school teachers seems simple enough. You select the computers, buy them, and give them to the teachers. Yet only a slight change in circumstances can bring into the open latent or potential ethical issues:

- How should you go about setting up the bidding process to determine the computers to be used?
- What should you do to determine teacher and student needs and how computers can respond to these needs? It makes very little sense to provide computers and then tell teachers and students to use them. What are they to do with these computers? How do they ft them into everyday education? This requires seeing the computer project from the standpoints of students, their parents, and teachers. The **reversibility test** will help here.
- Who stands to benefit from your actions? Who stands to be harmed from these actions? How will benefits and harms be distributed through the different stakeholders in this case?
- **Latent ethical problems exist in this socio-technical system that can erupt into full-blown problems with small changes in circumstances**
- Someone you know well-say your cousin submits a bid. What ethical issues does this turn of events give rise to?
- The contract to provide computers is awarded to you cousin, and he provides reliable computers at a reasonable price. The, a few weeks later, you read the following headline in the newspaper: **"More Government Corruption-Computer Czar's Cousin Counts Millions in Cozy Computer Contract"** What do you do now?
- A group of angry high school teachers holds a press conference in which they accuse the government of forcing them to use computing technology in their classes. They say you are violating their academic freedom. How should you respond?

- Someone in the government suggesting placing a program in each computer that allows government officials to monitor the computers and track user behavior. How would you feel if your computer use were being monitored without your knowledge or consent > Are their circumstances under which monitoring could bring about any social benefits? What are the likely harms? Do the benefits outweigh the harms? Suppose you go along with this and read the following headline in the morning newspaper: **"Government Snoops B ug High School computers"**. Using the publicity test, what kind of person would you appear to be in the public's eye? How would you view yourself in terms of this action?

4.5.3.2 Decision Point Two

You are Dr. Negroponte from MIT. For several years now, you have been working to design laptop computers that respond to a wide range of needs of children in poor, developing nations. You have set up an incentive for people in developed nations to contribute to children in poor nations. For $300, one can buy two laptops, keep one, and have the other donated to a child in a developing nation. This has generated computers but governments in developing nations-enthusiastic at first-have recently shown themselves reluctant to carry through on their commitments. Your goal of reducing laptop costs to $100 per computer have also stalled. It has been difficult to generate projected economies of scale.

- The laptops employ a simple design. They use Linux as an operating system since this shareware can be freely downloaded. The computers are also designed to be used in areas where the underlying infrastructure, especially electricity, is unreliable. They are battery driven and a hand crank allows for recharging batteries when electricity is unavailable. They employ a wireless connection to the Internet.
- An Open Education Resource movement has been started to generate educational resources directly and freely available to children using MIT laptops. This movement has generated considerable educational content of varying qualities. Reports available online provide insights into the pros and cons of the open resource educational movement. Whether this can (or should) replace traditional textbooks (which can be quite expensive and difficult to update) is still open to debate.
- There is evidence that laptops can and have contributed to an enhanced learning experience for children in developing nations. Poor attendance, a large and chronic problem, has been improved in laptop programs. Children enjoy their computers and seem better motivated in general as a result. They take their computers home for homework and share them with the rest of their family. Many teachers have successfully adapted their teaching styles to this Internet-supported, technologically enhanced educational mode.
- But recently, laptops have come under increasing critical scrutiny.
- They are more expensive than traditional educational materials such as textbooks
- They compete for scarce financial resources and may be less cost-effective in the long run than other, more traditional educational resources.

- The MIT laptop has no hard drive, a fact critically singled out by Microsoft's founder, Bill Gates. They have been designed to use the Linus operating system rather than Microsoft's more expensive and complicated one.
- Developing nation government's have recently shown "cold feet" to putting action behind their verbal commitments to laptop computers. This may, in part, be due to concerns expressed by parents and teachers.
- Defend the MIT Laptop Project in the face of these and other criticisms.
- Should their design be modified to suit better children's needs as well as the concerns of teachers and parents?
- What features do MIT laptops already display that respond to student, parent, and teacher needs?
- What are the alternatives to MIT Laptops? For example, evaluate the proposal made by a group in computer ethics to invest in and emphasize instruction in computer laboratories housed in schools themselves. What problems would this new approach avoid? What are its limitations in comparison to the laptop approach?

4.5.3.3 Decision Point Three

- **You live in a developing nation. While you have work, it doesn't pay well and you are barely able to provide for your family's basic needs. One problem and things will get very difficult for you and your family.**
- Your child came home with an MIT-designed laptop computer. She and her classmates have benefited from the computers donated to their school by the generosity of developed nations where concerned citizens can buy two computers and have one donated to needy children. You find this somewhat patronizing and you see these laptops as a mixed blessing.
- On the one hand, this laptop has helped you and your family to enjoy the benefits of access to the Internet, although, because of poor infrastructure, this access is limited, sporadic, and subject to frequent breakdowns. On the other hand, you question whether your child is mature enough to use and care for her computer. If anything should happen, you would be required to buy a new replacement laptop, and you simply don't have the money.
- Yet should you not replace your daughter's broken laptop, she would be excluded from the education her peers enjoy because she would no longer have a computer. You question whether you want to run on this "treadmill."
- Furthermore, you can see that laptops— even MIT laptops—are designed for adults, not children. They are made of heavy metals and other toxic materials. The batteries, especially, are dangerous because of the materials they contain. They wear out and replacing them can be expensive.
- Your child could also become a target for robbers. She walks to and from school carrying her computer, and you know of other children who have been beaten and robbed of their laptops.
- So you see these laptops as a mixed blessing fraught with risk. What should you do?

4.5.4 What you are going to do...

Exercise: Prepare a STS Grid

- Construct a socio-technical system (STS) grid for public schools in Puerto Rico
- Using the templates found at m14025 (Socio-Technical Systems in Professional Decision Making) identify the key constituents such as hardware, software, physical surroundings, etc.
- Select key levels for analysis. For example, you may want to look at the STS from the standpoint of individuals (students and teachers), small groups (public school systems), and institutions (education and business).
- Starting with a short list of values, identify the values embedded in the public school STS and, if possible, the specific components in which these values are embedded. A good place to start is to see how different physical arrangements of the classroom embody different approaches to education.

Values in STSs

Values that can be used for exercise 1 include Justice (equity and access), Property, Privacy, Free Speech, Responsibility (Safety). More on these values can be found by clicking on the Computing Cases link provided in this module. Several of these values are defined in the Ethics of Team Work module, m13769.

Exercise: Identifying Potential or Latent Problems in STSs

- Choose one of the following three problem areas to help focus your work: (1) value problems that may arise when laptops with their current design are integrated in the PR STS; (2) value problems that may arise by the digitalization of textbooks and other educational materials; (3) value problems and potential harms that may arise during the disposal of spent laptops.
- Compare values embodied in current laptop design with those embodied in the Puerto Rican public school STS. Are there any conflicts? What are these?
- Look more closely at the Puerto Rican public school STS. Are there any conflicts that will be high lighted, exaggerated, or increased by the integration of laptop computers?
- Finally, look for potential harms that could occur in the short, middle, and long term future.

Exercise: Develop Counter-Measures to Problems

- Generate 5 to 10 options to respond to the problems you have identified. Make sure that you include the status quo among your options.
- Check each option against the problems you have identified. Does the option solve the problems identified in your STS analysis? Does it integrate the conflicting values and avoid untoward results? Does it give rise to new problems?
- Prepare a short presentation for the class (5 to 10 minutes) where you outline your problem, set forth the range of solutions you have identified, and describe and justify your solution. Be sure to address issues that may arise when you turn to implementing your solution.
- Provide a one or two sentence argument that your solution is best for delivering on social responsibility.

Exercise: Evaluate the Microsoft Philadelphia Public Schools Project

- Listen to/read the news report on the Microsoft Foundation's project to integrate computing technology in Philadelphia. (You can find it by clicking on the link in this module.)
- Is this an example of a corporation carrying out its social responsibility to the surrounding community?
- Evaluate Microsoft generally in terms of its social responsibility.

4.5.5 Presentations

Social Justice and Responsible Technology

Please view or download it at Social Justice and Resp Tech.pptx (http://cnx.org/content/m14257/latest/Social%20Justice%20and%20Resp%20Tech.pptx)

Educational Laptops Presentation

Please view or download it at Educational Laptops.pptx (http://cnx.org/content/m14257/latest/Educational%20Laptops.pptx)

Chapter 5 CSR (Corporate Social Responsibility)

5.1 A Short History of the Corporation

This content is available online here (http://cnx.org/content/m17314/1.3/).

HOW TO EDIT:

Word Version of this Template

Please view or download it at EAC TK STD TEMPLATE.doc (http://cnx.org/content/m17353/latest/EAC%20TK%20STD%20TEMPLATE.doc)

This is an example of an embedded link. (Go to "Files" tab to delete this file and replace it with your own files.)

5.1.1 Introduction

In this module you will learn about the history of corporations. Antecedents of the modern corporation can be found in the Middle Ages, the Renaissance, and in the Industrial Revolution in Great Britain and the United States. Corporations have evolved into their present form as the synthesis of discrete solutions to specific historical problems that have arisen in the practice of business. This module has been designed for courses in (1) business, society, and government, (2) business ethics, (3) corporate governance, and (4) corporate social responsibility.

5.1.2 What you need to know...

5.1.2.1 The History of the Corporation

This historical process has produced five functions that characterize the modern corporation. Corporations have emerged as...

1. "Passive devices" that hold property
2. Structures designed to exert monopoly control over and regulate a domain of specialized knowledge and skill
3. Means designed to pool capital and resources including human resources

4. A legal shield that protects owners and investors from liability and helps to spread and distribute financial, moral, and legal risk
5. Organizational decision-making structures that subordinate and synthesize the actions of human agents to bring about collective goals such as building a railroad, designing and manufacturing automobiles, and pursuing legitimate business ventures.

5.1.2.1.1 Passive Devices that hold property

When the abbot of a medieval monastery died, public officials had difficulty determining to whom its property, wealth, and resources passed. While this is hard to conceptualize from a modern standpoint, during the Middle Ages, no legal distinction could be made between (1) managing property owned by others, (2) exercising stewardship over property owned by others, and (3) owning property. Moreover, the concept and practice of owning property is complex. "Property" in its modern sense has been spelled out as a bundle of distinct rights including "the right to possess, control, use, benefit from, dispose of and exclude others from the property." (DesJardins: 37) These distinct rights are not given as entailments of a natural concept of property but represent legally endowed capacities designed to respond to specific practical problems. So, to return to the problem created by the death of the abbot, a legal entity (called the church) was created and endowed with the one of the bundled rights accompanying the notion of property, namely, the right to possess and hold property (Stone 1974: 11)

5.1.2.1.2 Structures that exert monopoly control and regulate a domain of specialized

Those familiar with European history know that the university came from student guilds. Students banded together to hire noted scholars willing to teach their research. Other guilds were formed around practical occupations as butchering or shoe making. Eventually, guilds evolved to address a series of practical problems: (1) how to educate individuals concerning the skills and knowledge required by the practice, (2) how to identify those responsible for the improper practice of the craft, (3) how to control who could and could not participate in (and profit from) the craft, and (4) how to regulate the craft to promote the interests of its practitioners and its beneficiaries or clients. Guilds became responsible for controlling the privileges of a trade, establishing rules and standards of practice, and holding courts to adjudicate grievances between participants. (Stone: 11-13)

5.1.2.1.3 A set of means specially designed to pool capital and resources including human resources.

As business ventures became more ambitious, their successful execution required raising considerable funds and capital along with the coordination of the activities of diverse human agents. Organizational structures were created slowly over time to raise money, acquire capital, and manage these complex ventures. This included creating roles that were coordinated through complex organizational systems. The distinction between the **owner** and **manager** functions, so crucial to the structure of the modern corporation, emerged slowly during this period. Owners provided money and capital and determined the overall goals pursued by the organization. Managers carried out administrative tasks concerned with day to day operations; their moral and legal duty was to remain faithful to the aims and interests of the owners. Unchartered joint stock companies served as proto-corporations that generated capital, protected monopolies of trade and craft, and managed complex ventures such as importing spices and tea from the Orient. As these structures evolved, they increasingly embodied the important distinction between the ownership and management functions.

5.1.2.1.4 Providing a legal shield to limit owner and operator liability

Scandals in 18th century Great Britain revealed another set of problems besetting the emerging corporation. When the unchartered joint stock company, the South Sea Company, went bankrupt, all the investors and owners found themselves responsible for covering the huge debt created when risky investments and questionable ventures went sour. This debt went well beyond resources of the investors destroying their personal fortunes and placing many of them in debtor's prison. (This and other fiascoes were dramatized by Charles Dickens in his novel, **Little Dorrit**.) The specter of unlimited liability scared of potential investors and set back the development of the corporation. It became necessary to endow joint stock companies with powers and devices that limited and distributed financial, moral, and legal risk. (Both owners and managers required protection although in different ways.) Individuals would invest in joint stock companies only when the associated risks became manageable and widely distributed.

5.1.2.1.5 Organizational structure that subordinate and synthesize the actions of human agents

Negatively, the development of the modern corporation was facilitated by creating a shield that limited the liability of owners and managers. Liability for owners was

limited legally to the amount invested. Liability for managers required proving that they failed to remain faithful to the interests of the stockholders, the principals or originators of their actions. This broke down into demonstrating failure to exercise "sound business judgment" by, among other things, allowing outside, competing interests to corrupt their business judgment. **Positively**, the corporation emerged out of a series of legal innovations designed to establish and then control the collective power of corporate organizations. Complex organizational structures were created that designed differentiated roles filled by employees. These structures served to channel the activities of employees toward corporate ends. The investor role stabilized into that of **stockholders** who owned or held shares of the corporation. To promote their interests and to establish the cardinal or fundamental objectives of the corporation, the stockholders elected representatives to serve on a board of directors. The directors then appointed managers responsible for running the corporation and realizing the interests and objectives of the stockholders. Managers, in turn, hired and supervised employees who executed the company's day to day operations (line employees) and provided expert advice (**staff** employees). These roles (and the individuals who occupied them) were related to one another through complex decision-making hierarchies. Davis (1999) in his discussion of the Hitachi Report shows how many modern companies have dropped or deemphasized the staff-line distinction. Others (Stone, Nader) cite instances where managers have become so powerful that they have supplanted the directorial role. (They hand pick the directors and carefully filter the information made available to stockholders.) But these two distinctions (staff v. line and owner v. operator) remain essential for understanding and classifying modern corporations. (See Fisse, Stone, and Nader.)

5.1.2.1.6 Profile of the Modern Corporation

Corporations became full blown legal persons. They acquired **legal standing** (can sue and be sued), have been endowed with **legal rights** (due process, equal protection, and free speech), and have acquired **legal duties** (such as tax liabilities). (See table below for the common law decisions through which these corporate powers and rights have been established.) The powers of the corporation were regulated by the state through founding charters which served roughly the same function for a corporation as a constitution did for a state. Initially, charters limited corporate powers to specific economic activities. Railroad companies, for example, had charters that restricted their legitimate operations to building and operating railroads. When they sought to expand their operations to other activities they had to relate these to the powers authorized in the founding charter. If a charter did not specifically allow an operation or function, then it was literally **ultra vires**, i.e., beyond the power of the corporation (Stone: 21-22). This method of control gradually disappeared as states, competing to attract business concerns to incorporate within their boarders, began to loosen charter restrictions and broaden legitimate corporate powers in a process called *"charter mongering."* Eventually charters defined the legitimate powers of corporations so broadly that they ceased to be effective regulatory vehicles.

Given this vacuum, governments have had to resort to other measures to control and direct corporations toward the public good. The practice of punishment, effective in controlling human behavior, was extended to corporations. But Baron Thurlow (a British legal theorist) framed the central dilemma in corporate punishment with his oft quoted comment that corporations cannot be punished because they have *"no soul to damn"* and *"no body to kick."* The unique attributes of corporations has given rise to creative options for corporate control and punishment: fining, stock dilution, court-mandated changes in corporate structure, adverse publicity orders, and community service. (See Fisse) Most recently, Federal Sentencing Guidelines have sought to provide incentives for corporations to take preventive measures to avoid wrongdoing by developing ethics compliance programs. These guidelines adjust punishments in light of ethics programs that the corporations have designed and implemented to prevent wrongdoing. Corporations found guilty of wrongdoing would still be punished. But punishments can be reduced when guilty corporations show that they have developed and implemented compliance programs to promote organizational ethics and to prevent corporate wrongdoing. These include compliance codes, ethics training programs, ethics risk identification measures, and corporate ethical audits.

History of Corporation

Problem	Solution	Organizational Form
Successfully transferring stewardship over church holdings to new abbot	Create a "passive device to hold property"	Proto-corporation
Control over and regulation of a practice or skill	Create a device to (a) hold the privileges of some particular trade, (b) establish rules and regulations for commerce, and (c) hold courts to adjudicate grievances among members.	Medieval guilds that evolve into regulated companies.
Pooling capital and resources and directing complex ventures	Create a device (a) to hold privileges of trade, (b) where investors provide capital, and (c) that delegates operations to managers	Unchartered joint stock companies
Limiting investor liability, limiting manager liability, and balancing the two	Corporation evolves into a legal person with (a) legal rights and duties, (b) owned by shareholders, (c) run by managers, (d) regulated through state charter	Limited corporation whose operations are defined in and limited by the charter
Ultra Vires (charter prevents growth)	Granted broad powers through	Full Blown Corporation

and Charter Mongering	more broadly defined charters	
Finding agent responsible for wrongdoing	(a) Due process, equal protection, and free speech rights, (b) legal duties, (c) legal standing, (d) Federal Sentencing Guidelines, and Sarbanes–Oxley Act	Corporation as Legal Person

Modified from Christopher Stone, Where the Law Ends

Options for Corporate Punishment (Fisse and French)

	Description	Example	Target of Punishment	Deter Trap Avoid
Monetary Exaction	Fines	Pentagon Procurement Scandals	Harms innocent	Fails Escap
Stock Dilution	Dilute Stock and award to victim		Stockholders (Not necessarily guilty)	Escap attac future earni
Probation	Court orders internal changes (special board appointments)	SEC Voluntary Disclosure Program	Corporation and its Members	Escap it ma organ chang
Court Ordered Adverse Publicity	Court orders corporation to publicize crime	English Bread Acts (Hester Prynne shame in Scarlet Letter)	Targets corporate image	Escap (altho adver publi indire attac finan value
CommunityService Orders	Corporation performs services mandated by court	Allied chemical (James River Pollution)	Representative groups/ individuals from corporation	Escap targe finan value

Citation for Table

This table provides a close summary of Fisse, B. (1985). "Sanctions Against Corporations: The Limitations of Fines and the Enterprise of Creating Alternatives" in

Corrigible Corporations and Unruly Law, editors Brent Fisse and Peter A. French. San Antonio, TX: Trinity University Press, 137-157. Summary in tabular form of the taxonomy developed by Fisse to classify and compare forms of corporate punishment.

Requirements of Sarbanes-Oxley (Summarized by Dyrud: 37)

- Provide increased protection for whistle-blowers
- Adhere to an established code of ethics or explain reasons for non-compliance
- Engage in *"full, fair, timely and understandable disclosure"*
- Maintain *"honest and ethical"* behavior.
- Report ethics violations promptly
- Comply with *"applicable governmental laws, rules, and regulations"*
- Dyurd cites: ELT, **Ethics and Code of Conduct**, n.d.; http://www.elt-inc.com/solution/ethics and code of conduct training obligations.html (http://www.elt-inc.com/solution/ethics%20and%20code%20of%20conduct%20training%20obligations.html%20http://www.elt-inc.com/solution/ethics%20and%20code%20of%20conduct%20training%20obligations.html)

Amended Federal Sentencing Guidelines (Taken from Dyrud: 37)

1. Establishing standards and procedures to prevent and detect criminal conduct
2. Promoting responsibility at all levels of the program, together with adequate program resources and authority for its managers
3. Exercising due diligence in hiring and assigning personnel to positions with substantial authority
4. Communicating standards and procedures, including a specific requirement for training at all levels
5. Monitoring, auditing, and non-internal guidance/reporting systems
6. Promiting and enforcing of compliance and ethical conduct
7. Taking reasonable steps to respond appropriately and prevent further misconduct in detecting a violation

5.1.2.2 Legal Trail Toward Corporate Moral Personhood: A Table Summary

Date	Decision	Legal Right Affirmed
1889	Minneapolis and St. L. R. Co. v. Beckwith	Right for judicial review on state legislation
1893	Noble v. Union River Logging R. Col,	Right for judicial review for rights infringement by federal legislation
1906	Hale v. Henkel	Protection "against unreasonable searches and seizures (4th)
1908	Armour Packing C. v. United States	Right to trial by jury (6th)
1922	Pennsylvania Coal Co. V. Mahon	Right to compensation for government takings
1962	Fong Foo v. United States	Right to freedom from double jeopardy (5th)
1970	Ross v. Bernhard	Right to trial by jury in civil case (7th)
1976	Virginia Pharmacy Board v. Virginia Consumer Council)	Right to free speech for purely commercial speech (1st)
1978	First National Bank of Boston v. Bellotti	Right to corporate political speech (1st)

1986	Pacific Gas and Electric Company v. Public Utility Commn of California	Right against coerced speech (1st)

From Ritz, Dean. (2007) "Can Corporate Personhood Be Socially Responsible?" in eds. May, S., Cheney, G., and Roper, J., Oxford, UK: Oxford University Press: 194-195.

5.1.3 What you will do ...

5.1.3.1 Exercise: Other People's Money

Watch the shareholder's meeting in the movie, "Other People's Money." Then answer the questions below. Think generally about what the manager of a corporation should do with the money its stakeholders have invested in it.

- What is Larry the Liquidator's basic argument? What is Andrew Jorgensen's basic argument?
- What is Larry the Liquidator's conception of the nature and value of the corporation? What is Andrew Jorgensen's conception of the nature and value of the corporation?
- What is the social responsibility of a corporation according to Larry the Liquidator? What is it according to Andrew Jorgensen?
- Write a paragraph on which argument you find most persuasive, that of Larry or that of Andrew. Explain why you find it persuasive.

5.1.3.2 Exercise: How to punish Arthur Andersen

Watch the documentary, "The Smartest Guys in the Room," paying special attention to the role played in the Enron fiasco by the accounting firm, Arthur Andersen. Then answer the following questions.

- How important should AA's former, excellent reputation have been in determining how to punish it in the role it played in the Enron case? Explain your answer.
- Enron was only the last of a series of ethics scandals that AA had fallen into. How should it have adjusted to prior scandals? (Are the Federal Sentencing Guidelines of any help here?)
- Consider that Sarbanes-Oxley was passed largely in response to Enron. Do its provisions go far enough to prevent future Enrons? Do they go too far?.
- Using the table that summarizes punishment options provided by French and Fisse, how would you construct a punishment for Arthur Andersen? Who should

be targeted? Should the company's black box be left alone? Is it better to attack financial or non-financial values? Should Arthur Andersen and other corporate offenders be encouraged to reform themselves or should those reforms be designed and directed from the outside?

5.1.4 What did you learn?

Peter French speculates on the possibility that a corporation could consist of nothing more than a sophisticated software program. He also holds forth the notion of corporate moral personhood (as opposed to natural personhood). Now that you have had an opportunity to study the history of and structure of the modern corporation, what do you think about the nature of corporations?

5.1.5 Appendix

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5.1.6 EAC ToolKit Project

This module is a WORK-IN-PROGRESS; the author(s) may update the content as needed. Others are welcome to use this module or create a new derived module. You can COLLABORATE to improve this module by providing suggestions and/or feedback on your experiences with this module.

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5.2 Three Views of CSR (Corporate Social Responsibility)

This content is available online here (http://cnx.org/content/m17318/1.6/).

Word Version of this Template

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This is an example of an embedded link. (Go to "Files" tab to delete this file and replace it with your own files.)

- The first two links to this module are to sample corporate social responsibility statements put out by McDonalds and Starbucks. These will help you to

benchmark your own efforts both in the fictional Burger Man case and in your efforts to develop CSR reports for real companies.

- The other link is a story from reporter, Paul Solomon, that reports on the annual Business for Social Responsibility conference. This story, first broadcast on December 23, 2004 reports on outstanding and successful efforts on CSR. Its title is "Good Business Deeds" and it was accessed for this module on August 17, 2008 here (http://www.pbs.org/newshour/bb/business/july-dec04/corporate%2012-23.html).

5.2.1 Introduction

This module will introduce you to the theme of corporate social responsibility. Three representative cases will help to pose the central problems and basic issues of CSR. Then you will work on developing a social contract between the business corporation and society to articulate the interests, goods, and rights at stake in CSR. Three different approaches dominate this field: the shareholder approach set forth by Milton Friedman, the stakeholder approach articulated by Evan and Freeman, and Patricia Werhane's alliance model. Finally, you will work on developing a CSR program for the hypothetical corporation, Burger Man. This will be based on a shareholder meeting that consists of six or seven stakeholder presentations. (You will play the role of one of the stakeholders.) Your CSR program will address and integrate the needs and interests of the Burger Man stakeholders.

Three CSR Challenges

Patricia Werhane discusses how six corporate organizations deal with three CSR challenges: (1) carrying out oil drilling in a corrupt political environment, (2) working with suppliers who impose sweatshop conditions on employees, and (3) addressing the HIV/AIDS challenge in Africa. Each challenge elicits two corporate responses, one from a shareholder or stakeholder perspective, the other from an alliance perspective. Shell Oil's response to political corruption in Nigeria will be compared with Exxon/Mobile's response in Chad and Cameroon. Nike's answer to public criticism of the employment practices of its third world suppliers will be compared to Wal Mart's reputedly heavy-handed treatment of its employees and suppliers. Finally, while the pharmaceutical industry has developed an expensive drug cocktail to treat HIV/AIDS in patients in developed nations, the NGO (Non Government Organization), the Female Health Company, has designed a program to distribute of condoms to prevent infection in the frst place. These paired corporate responses to CSR challenges are not provided in support of the position that the superiority of the alliance approach is a "no-brainer." Instead, they provide you with a menu of CSR strategies that you will evaluate using the CSR framework you will develop out of the social contract that between business and society. These three CSR challenges come from Werhane (2007)

Operating in a Corrupt Environment

- A big challenge facing multinational corporations is how they should respond to local corruption. Both Shell Oil and Exxon/Mobile sought to carry out drilling operations at sites plagued by corrupt local and national governments.
- Shell took a shareholder approach arguing that their primary CSR was to their stockholders and that involvement in corrupt local politics would be tantamount to paternalism.
- Exxon/Mobile, on the other hand, adopted a more active approach. They took expensive measures to mitigate the environmental impact of their operations. They also hired and provided technical training to local residents. Finally, they worked to ensure that the revenues they introduced into the local communities were not lost through political and business corruption.
- What are the CSRs of multinational corporations that operate in corrupt local environments? Are these fashioned around the minimal obligation of creating no additional harm? Or should they expand to preventing harm (if possible) that others are about to inflict? To move even further up the ladder of responsibility, do multinational corporations have positive, supererogatory responsibilities that consist of adding value to the communities they do business in?

Vicarious CSR: Responding to Supplier Sweatshops

- Vicarious responsibility occurs when one agent accepts responsibility for actions executed by another. For example, under agency theory, the principal bears overall moral and legal responsibility for the action since he or she has originated it. Although the agent executes the action, he or she is responsibility only for executing the action faithfully and treating the principal's interests as his or her own.
- In this context, can we hold corporations such as Nike and Wal Mart vicariously responsible for the morally questionable actions of their suppliers? If so, then under what conditions?
- Nike fell under siege when the press found out that its suppliers based in the third world imposed harsh, sweatshop conditions on their employees, including child labor. Nike could have argued that
- this was beyond the scope of their responsibility. How could they be held vicariously responsible for the actions of another? Their job was to produce shoes at the lowest possible price to deliver an affordable quality product to customers and to maximize shareholder value. But Nike went beyond this minimal responsibility to carefully vet suppliers and to work with them to improve working conditions. Thus, they expanded the scope of their CSR to include improving working conditions for, not only their employees, but also the employees of their suppliers.
- Wal Mart has been identified by Collins and Porras (Built to Last) as a highly successful and visionary company. It has certainly led the way in providing consumers with high quality products at surprisingly low prices. But the savings it provides to customers and the high returns it guarantees investors are purchased at a high price. Wal Mart prevents its employees from joining unions which has lowered their wages and restricted their health and retirement benefits. Wal Mart employees are also expected to work long hours for the company. While it provides cheap, high quality products to its customers, Wal Mart pushes suppliers

narrowing their profit margin and placing upon them the responsibility of supplying product just-in-time to meet demand.
- In its earlier days, Wal Mart targeted small towns. Their competitive practices forced less aggressive, local business to leave. While they have brought considerable benefits to these communities, they have also seriously changed established business and social structures.
- Finally, Wal Mart, like Nike initially, exercises minimal supervision over their suppliers many of whom are oversees. Wal Mart suppliers also have been known to impose harsh working conditions on their employees.

Some CSR Questions for Nike and Wal Mart

1. From a broader CSR perspective, is Nike maximizing stakeholder value? Is it redistributing burdens and costs from customers and investors to its suppliers and their employees? Does CSR allow this redistribution of the corporate wealth form the shareholders to other stakeholders? (Think about Friedman's arguments here.
2. If it is necessary to trade of stakeholder stakes as both Wal Mart and Nike do, which trade of is more just? Nike's distribution of its wealth from its stockholders to the needy manifested in its efforts to improve the working conditions and income of the employees of its suppliers? Or Wal Mart's distribution of benefits to its stockholders and its comparatively prosperous customers?
3. Which model would Friedman prefer under the his version of the shareholder view of CSR? Explain and evaluate.
4. Which model would be preferable by Evan and Freeman under the stakeholder view? Who are Nike and Wal Mart's stakeholders? What are their stakes? How should the wealth produced by these two corporations be distributed among their stakeholders?
5. Werhane, in her alliance model, argues for the importance of a CSR model that decentralizes the corporation and facilitates morally imaginative solutions. Why does she argue that Nike's program is than Wal Mart's from this perspective? What could Wal Mart do to improve its CSR on the alliance view?

Facing the AIDS Challenge in Africa

- The widespread and devastating effects of the AIDS epidemic in Africa are well known. But what are the responsibilities of corporations in the face of this terrible CSR challenge? Should they do business as usual and allow others who are perhaps more qualified respond to this pervasive social problem? Or should they recognize a broader responsibility to channel their wealth, knowledge and expertise toward mitigating this social problem?
- Pharmaceutical corporations invest huge amounts of money in research and development. The market place is a good place for both encouraging this necessary risk and for distributing it among several groups and interests. Developing new medicines requires costly research. So Friedman's question is highly pertinent here: does imposing CSR on a corporation do more harm than good because it interferes with the delicate mechanism of the market?
- At any point along the way, the product may not meet expectations, a competitor may beat the pharmaceutical to the market, the regulatory process may delay or

even prevent sale, and so on. The rewards from patenting a successful medicine are astoundingly high. But heavy, possibly devastating losses are also possible. Adding CSR to the mixture may be the formula for corporate disaster.

- Pharmaceutical corporations also face daunting challenges from regulatory agencies such as the Food and Drug Administration. New products must be exhaustively and painstakingly tested to avoid problems that have arisen in the past such as the Dalkon Shield and Thalidomide. Again, considerable effort must be expended in exploring the middle and long term consequences accompanying product and drug use, and all of this before the product can be marketed and profits made. Government regulation also raises another problem. Is government prodding necessary to force corporations into a proper CSR posture? Or should corporations be allowed to develop voluntarily their own CSR responses?
- In the case at hand, pharmaceutical companies have invested considerable resources to carry out research into medicines that control HIV infection and prevent it from developing into full-blown AIDS. But these treatments are very expensive and bring with them considerable side effects. An anti-AIDS chemical cocktail can cost patients in developed nations between 15 and 20 thousand dollars per patient per year. This is far beyond the financial resources available to a typical HIV/AIDS patient in Africa. Some NGOs and critics of the pharmaceutical industry accuse the latter of gouging victims and drawing excess profits from the misfortune of others. A spokesperson for "Doctors Without Borders," for example, claims that the AIDS treatment "cocktail" that costs U.S. patients 15 to 20 thousand dollars could be made available to Africans at less than 300 dollars per patient per year. Pharmaceuticals, according to their critics, need to rethink their CSR, cease operating as for-profit businesses, and make these drugs available to third world sufferers at cost.
- What are the CSRs of multinational pharmaceutical corporations for making HIV/AIDS drugs available to victims in the poverty-stricken nations of Africa? Are they responsible for charging what the market will bear? Assuming they have the right to recoup their heavy investment in research, should governments, recognizing the necessity of compensating drug companies for their research, buy these drugs and redistribute them at little or no cost to those who can't afford them? Or should the pharmaceuticals charge more to those who can pay and less to those who cannot? (This redistributes the burden of cost from the haves to the have nots.)
- Many NGOs have taken the stance that their responsibility lies in pressuring drug companies to do the right thing and donate medicines to patients who cannot pay. This is their corporate social responsibility, and the pharmaceutical industry certainly has enough money to do this.
- But others have tried to reframe this issue using moral imagination. Treating individuals for HIV infection once they have contracted it is expensive no matter how you look at it. But, redefining the problem, can moderate and affordable measures be taken to prevent the spread of the disease?
- This is the imaginative approach taken by the Female Health Company which has initiated a widespread effort to distribute condoms to those at risk for contracting AIDS.

- How does the approach of the FHO exemplify Werhane's alliance model? How should pharmaceutical companies respond to this kind of initiative? Is it necessary to frame the relation between the pharmaceutical industry and NGOs as an adversarial relation or should broader alliances be formed that coordinate the efforts of these groups?

5.2.2 The Social Contract between Business and Society

Every contract is built on the basis of three conditions (1) free and informed consent, (2) a quid pro quo, and (3) the rational self interest of the contracting parties.

- **Free and Informed Consent:** No contract is legitimate that is based on force, fraud or deception. The parties must enter into this agreement freely and without compulsion. They must understand the terms of the contract which excludes deception and fraud. In short, the contract presupposes the uncoerced participation of all the parties. To enter into the contract they must understand all the key issues and consent to the constitutive exchange.
- **Quid Pro Quo:** Quid Pro Quo literally means something in exchange for something. Every contract is built around a mutually beneficial exchange. I give you my baseball cap in exchange your ice cream. Most exchanges are simultaneous. But some are what Hobbes calls "covenants." Here I give you my baseball cap with the understanding that later this afternoon you will pass by your refrigerator, get my ice cream cone and give it to me. I give you my part now and trust you to carry out your part later.
- **Rational Self Interest:** Each of us should know the value of the items to be exchanged. (That is one reason why a contract requires free and informed consent.) This knowledge is determined, in part, by the preference schedules that we have developed as rationally self-interested beings. So a legitimate contract assumes that I have interests, that I am capable of determining what promotes these interests, and that I am rational enough to determine means to promote them and avoid other means that interfere with them.

Social Contracts

A social contract differs from other contracts because it is hypothetical. Business and Society have never sat down in a room and hammered out a contract outlining their relation. But this hypothetical contract provides a good means of making sense out of the relation that has gradually evolved between society and business. Forget for a moment the historical details of the relation between business and society. If this relation is summarized as a contract, what does society give to business? What does business give to society? Do these two institutions trust one another or do they each adopt means to monitor and control the other? What are these means? Treating the relation between business and society as a contract between two mutually consenting agents or actors does get some of the facts wrong. But it provides a useful "heuristic" device, i.e., a framework that will help us to summarize, structure, and, in a work, make sense of the relation between the two. Moving from the terms of this "contract"

you will be able to develop a framework for understanding the social responsibilities of business corporations. This, in turn, will help you to understand the CSR challenges presented above and the CSRs of the fictional but realistic Burger Man corporation.

Exercise: In small groups, spell out the social contract between society and business.

- How can the absence of force, deception, and fraud be guaranteed in this contract? How should each side hold the other accountable? (This is especially the case where one side delivers at one time and the other side is trusted to deliver later.)
- What benefits can business bring to society? How can society benefit business. Develop a table with one column listing what business has to contribute to society and the other what society has to contribute to business. This table is the heart of your social contract.
- Assume that society and business are rationally self interested. How does this efect the formulation of the goods of the exchange? How does this enforce the terms of the contract? Are these self interests divergent? (Then each side must monitor the other to prevent the corruption of the contract.) Are these interests convergent? (Then the contract consists largely in building social capital and trust between the contracting parties.)
- Donaldson, 1993 uses social contract theory to account for the rights and duties of multinational corporations

Exercise: CSR and STS

Choose one of the CSR challenges above and construct a socio-technical table around it

STS Table

Component/ Embedded Value	Technology (Hardware)	Technology (Software)	Physical Surroundings	Stakeholders	Procedures	Laws
Justice						
Free Speech						
Property						
Privacy						
Safety						

Table 5.1 STS Table

5.2.3 Three CSR Frameworks

Shareholder View

From Milton Friedman, "The Social Responsibility of Business is to Increase Its Profits." "But the doctrine of "social responsibility" taken seriously would extend the scope of the political mechanism to every human activity. It does not differ in philosophy from the most explicitly collectivist doctrine. It differs only by professing to believe that collectivist ends can be attained without collectivist means. That is why, in my book **Capitalism and Freedom**, I have called it a *"fundamentally subversive doctrine"* in a free society, and have said that in such a society, "there is one and only one social responsibility of business-to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud." 1970 by New York Times Company

Stakeholder View

- A stakeholder must be distinguished from a stockholder. The latter owns a share of the corporation. On the other hand, a stakeholder is any group or individual that has a vital interest in the doings of the corporation. Hence the stockholder is

a stakeholder of the corporation whose vital interest at play is the share owned of the corporation and the money invested in this share.

- There are several other stakeholders of the corporation. These include (1) employees, (2) customers, (3) suppliers, (4) local community, (4) surrounding governments, (5) the surrounding human and natural environment, and (6) the corporation's managers. (In some situations there are other stakeholders such as competitors.)
- Stakeholder theory requires that the corporation recognize and respect the vital interests of each of its surrounding stakeholders. This frequently issues in proposing stakeholder rights and assigning to others correlative duties to recognize and respect these rights.
- Stakeholder theory also requires that the corporation integrate interests where possible, mediate or broker conflicts between interests, and only trade of competing interests when absolutely necessary and when more conciliatory efforts have already been made and have failed.
- See Evan and Freeman 1988

Werhane's Alliance Approach

- Werhane's alliance approach is similar to the stakeholder approach in that it recognizes several groups that surround the corporation and have vital interests that depend on the doings of the corporation. These surrounding groups are more or less the same as those in the stakeholder approach: owners, managers, employees, customers, suppliers, local communities, governments, the environment, etc.
- But Werhane makes two significant departures from the stakeholder approach. First, she uses moral imagination to distance the corporation from the problem solving process; the lens of problem solving refocuses on each of the other stakeholders. Whereas for stakeholder theory the corporation is the center of analysis and is visualized as surrounded by its stakeholders, the alliance approach decentralizes the corporation and alternatively visualizes each stakeholder as the center for the purpose of framing problems and generating solutions.
- Second, the alliance approach sees the corporation as a part of a system of interrelated and interdependent parts. Hence, each problem situation presents a system formed of the corporation, owners, managers, employees, suppliers, customers, local communities, and governments. Problems emerge from value conflicts within and between the constituent parts of the system. They are solved through the cooperation of the different constituencies of the alliance.
- While this approach does not lend itself to algorithms or rules, it does promise solutions by highlighting and facilitating moral imagination both in the framing of problems (problems are posed in terms of framings from multiple perspectives) and in terms of the generation of solutions (multiple problem framings help us to visualize new solution horizons).
- See Werhane, 2007 and 2008.

5.2.4 What you will do ...

Module Activities

1. Examine the CSR challenges presented above. Compare the two responses to each challenge.
2. Learn about three models of corporate social responsibility.
3. Develop a fully articulated social contract between business and society. Use this contract to understand the basic CSRs of business corporations.
4. Prepare a Social Impact Analysis on the fictional firm, Burger Man.
5. Prepare for and participate in a board meeting for Burger Man to examine ethically its practices and develop for it a viable and sustainable program of corporate social responsibility. This requires that you give a short presentation on the interests of a particular Burger Man stakeholder
6. Develop a full blown CSR program for Burger Man that carries out the responsibilities of this company to its stakeholders.

5.2.5 Burger Man Stakeholders

The author became aware of the Burger Man exercise when participating in an Ag-Sat broadcast course in Agricultural Ethics in 1992. The exercise was created by the leader of the course, Dr. Paul Thompson.

Burger Man Profile

Burger Man is a franchise that began by selling the fast food staples of hamburgers, french fries, and milk shakes. As the company has matured and faced other competitors in this market niche, it has, of course, developed a more sophisticated set of products and services. But it has also been challenged on various issues related to corporate social responsibility. Groups representing the rights and interests of animals have criticized the agribusiness methods used by its suppliers. Recently, public interest groups have blamed Burger Man and its competitors for encouraging unhealthy dietary habits among its customers and the public in general. Shareholders, of course, are concerned that the company continue to be profitable and provide them with a good return on investment. Governmental regulatory agencies such as the EPA (Environmental Protection Agency) and OSHA (Occupational Safety and Health Administration) wish to hold Burger Man accountable for conforming to its regulations. In short there are several stakeholder groups surrounding this corporation, each vying for its particular interest. In this exercise, you will play two roles. First you will be assigned a role as one of Burger Man's stakeholders and make a presentation of your group's interest in mock shareholder meeting that will be held in class. Then you will switch to the role of Burger Man management. Here your assignment will be to articulate the different stakeholder interests and integrate them into a coherent CSR plan for your company.

Burger Man Customers

- Burger Man customers are the consumers who go to its restaurant and enjoy its food services. In preparing your board meeting presentation you need to explore Burger Man's social responsibilities to its customers.
- Are these reducible to providing them an enjoyable product at a reasonable price? Or does BM's social responsibilities go beyond this?
- Burger Man has extensive interactions with its suppliers that include meat packing corporations and agri-business concerns. How should Burger Man choose its suppliers? How carefully should it monitor their activities. To what extent is Burger Man responsible for the untoward activities of these groups?
- How responsible is Burger Man for shaping the dietary habits of its customers? Does it bear responsibility for the health problems that its public develops from bad dietary practices?

Burger Man Shareholders

- Burger Man shareholders are investors who have purchased shares of Burger Man's publicly traded stock.
- What are their stakes?
- What are their responsibilities? For example, how closely should shareholders monitor the actions of their agents, i.e., Burger Man's managers? Are shareholders responsible for holding Burger Man to certain standards of corporate social responsibility? What are these standards and how do they stand in relation to the different models of social responsibility?
- Prepare your presentation around these issues. Address shareholder interests (stakes) and responsibilities.

Burger Man Managers

- Burger Man managers are the agents of the shareholders/owners responsible for overseeing the day-today operations of the corporation.
- What are the manager's stakes? What role do they play in the different models of social responsibility? (Classical, stakeholder, and alliance views?)
- Agency theory argues that the primary corporate governance problem is overseeing and controlling the actions of managers. How closely should shareholders and their board of directors oversee corporate managers? Are managers self-interested agents or stewards of the corporation?
- What are managerial responsibilities vis a vis corporate social responsibility? Should they uncover illegal actions? Should they implement an audit process that assess the corporation's success in carrying out its social responsibilities? Should these responsibilities go beyond the legal minimum?
- Should managers go beyond the legal minimum in monitoring and carrying out corporate social responsibilities?
- Are corporate managers responsible only to shareholders or do their responsibilities extend to other stakeholders? If the latter, how do they balance conflicting stakes?
- Structure your presentation around outlining managerial stakes and roles. Choose a model of corporate social responsibility and argue for its appropriateness to Burger Man.

Government Regulatory Agencies: OSHA and EPA

- OSHA is in charge of regulating workplace safety. EPA is in charge of setting, monitoring, and enforcing standards concerning the environment. (For example, they establish acceptable air emission and water discharge standards.)
- What are the stakes of government regulatory agencies? What is their role in the context of the Burger Man corporation?
- Write your position paper outlining your group's stakes and roles in the context of establishing Burger Man's corporate social responsibility procedures. What would you recommend? How should you back up or enforce these recommendations?

Animal Rights Activists

- Burger Man serves hamburgers, chicken sandwiches, and dairy products. These involve animals. As animal rights activists, you are concerned with steering Burger Man and its suppliers toward morally acceptable treatment of animals.
- What are your group's stakes in this board meeting? What kind of role should you play?
- State your policy on animal treatment? Is it a position of animal welfare based on utilitarian considerations? (Peter Singer provides such a position.) Is it a deontological position based on the assertion of animal rights that impose correlative duties on humans? (Tom Regan takes this position.) Or should you base your arguments on anthropocentric issues such as human health?
- Write a position paper that responds to these questions for presentation in the Burger Man board meeting.

Town X Committee for Economic Development

- Your town, Town X, has three Burger Man franchises. Representatives from the town council are participating in the board meeting in order to ensure that Burger Man's policies on corporate social responsibility enhance the town's economic welfare and development.
- What are your stakes? What are your roles and responsibilities?
- What kind of services and products do you provide for Burger Man? What benefits do your community draw from Burger Man? How can Burger Man activities and policies promote or demote your town's interests and stakes?
- Develop a position paper for the board meeting that addresses these issues? Pay special attention to the goods and risks that your town exchanges with Burger Man.

Exercises in CSR

- Participate in the Burger Man Stakeholder Meeting
- Take your assigned stakeholder group and prepare a short presentation (five minutes maximum) on your stakeholder's interests, rights, needs, and vulnerabilities.
- Listen to the stakeholder presentations from the other groups. Try to avoid a competitive stance. Instead, look for commonalities and shared interests. You may want to form coalitions with one or more of the other groups.
- Switch from the stakeholder role to that of Burger Man management. You are responsible for developing a comprehensive corporate social responsibility program for Burger Man. You job is to integrate the concerns expressed by the stakeholders in their presentation and form your plan around this integration.
- Try to resolve conflicts. If you cannot and are forced to prioritize, then you still must find a way of recognizing and responding to each legitimate stakeholder stake. You may want to refer to the "Ethics of Team Work" module (m13760) to look for time-tested methods for dealing with difficult to reconcile stake. These include setting quotas, negotiating interests, expanding the pie, nonspecific compensation, logrolling, cost-cutting and bridging. You should be able to establish beyond a shadow of a doubt that you have made every attempt to recognize and integrate every legitimate stakeholder stake.

5.2.6 What did you learn?

This module and two others (A Short History of the Corporation and Corporate Governance) are designed to help you understand the corporate context of business. In this section, you should reflect on three questions: (1) What have you learned about the social responsibilities of corporations? (2) What still perplexes you about the social responsibilities of corporations. (3) Do you find one model of CSR better than the others? (4) Can these models of CSR be combined in any way?

5.2.7 Appendix

Rubric for Partial Exam on CSR

Please view or download it at PE Rubric CLSR F08.docx (http://cnx.org/content/m17318/1.6/PE_Rubric_CLSR_F08.docx)

This file contains the rubric to be used on the partial exam for Corporate Leadership and Social Responsibility, ADMI 3405, Fall 2008"

Corporate Social Responsibility Frameworks: Seminal Papers

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5.2.8 EAC ToolKit Project

This module is a WORK-IN-PROGRESS; the author(s) may update the content as needed. Others are welcome to use this module or create a new derived module. You can COLLABORATE to improve this module by providing suggestions and/or feedback on your experiences with this module.

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Chapter 6 CG (Corporate Governance)

6.1 Moral Ecologies in Corporate Governance

This content is available online here (http://cnx.org/content/m17353/1.7/).

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6.1.1 Two Thought Experiments

The Ring of Gyges (Plato's Republic II, S359)

Gyges a poor shepherd is tending his flock when there is an earthquake. A hugh crack opens in the earth to expose a sarcopagus. Gyges reaches in and takes the ring that draws his attention. Later, when he is talking among friends, he notices that he becomes invisible when he turns the ring in toward himself. He tries this out a few times and then forms his plans. Invisible, he gains entry to the king's castle and rapes the queen. Drawing her into his nefarious plan, they kill the king and take over the kingdom. Gyges marries the queen and becomes ruler of a large and wealthy kingdom. Somehow it doesn't seem fit to say that he lives "happily ever after." But, since he is never caught, it doesn't follow that his ill-gotten gain has made him miserable.

Before finding his ring, Gyges was, at least outwardly, a well-behaved, just citizen. But the combination of vast power and no accountability drew Gyges over to the dark side. Does the human character, like that of Gyges, dissolve in the face of temptation and lack of accountability? Is the threat of punishment necessary to keep individuals moral? Is visibility and the threat of punishment all that stands between an individual and a life of injustice?

The Milgram Experiments

From 1960 until 1963, Stanley Milgram, a social psychologist, carried out a series of experiments on around 1000 subjects. Each experiment brought together three participants, a subject (or teacher), a learner, and an experimenter. In the initial orientation, the experimenter told the subject/teacher and the learner that they were about to participate in an experiment designed to measure the influence of punishment (in the form of electrical shocks) on learning. The learner was presented

with information. The teacher then asked questions based on this information. If the learner answered correctly, then they went on to the next question. If the learner answered incorrectly, then he was given an electrical shock by the teacher. With each missed question the intensity of the shock increased. The experiment continued until all the questions were asked and answered.

However, these instructions constituted a deception brought upon the teacher/subject by the secret collaboration of the experimenter and the learner. The real purpose of the experiment was to determine how far individuals would go in turning against their moral views on the basis of an external authority. The learner feigned pain and suffering because there was no actual electrical shock. And the learner deliberately missed most of the questions in order to force the teacher to progress to higher and what appeared to be life-threatening levels of shock. While teachers were not physically forced to continue the experiment over the feigned protests of the learners, whenever they tried to stop it, they were told by the experimenter that they had to continue to the end.

Before the Milgram experiments were carried out, a group of psychogists were asked to predict how many teachers/subjects would go all the way to the end and give the learner what they thought were life-threatening and highly painful shocks. The consensus was that most would stop the experiment early on when the learner first began to protest. But the actual results were quite "shocking." Nearly 60 percent of the teachers went all the way and gave the learner the maximum shock. You can read more about these experiments and how they have been interpreted by reading Milgram 1974 and Flanagan 1991. You Tube has several video vignettes on the Milgram Experiments. Simply type "Milgram Experiments" in the search window and browse the results.

Can authority and environment override our everyday moral beliefs as well as the characters constructed from them? Is character robust and "trans-situational?" Or is it radically dependent on situation and environment? Can normally decent and well-behaved individuals turn into moral monsters given the right external conditions?

From Gyges and Milgram to Moral Ecology

Both of these thought experiments raise the question of the influence of environment on character. This module is designed to help increase the strength of moral character by identifying different organizational environments (called "moral ecologies") and having you developing strategies to resist their pressures and maintain integrity.

6.1.2 Introduction

Corporate governance is defined in the Blackwell Encyclopedic Dictionary of Business Ethics as *"concerned with those decisions made by the senior executives of a firm and the impacts of their decisions on various stakeholder groups."* (EBE 147) This module turns corporate governance inside-out and looks at it from the perspective of the governed, that is, from the directors, managers, and employees subject to the

structures and strategies of corporate governance. Corporate environments function as *"moral ecologies,"* that is, *"the somewhat stable, but constantly negotiated set of values, practices, and influences within societies, organizations, professions, and work groups."* (Huff et. al., 2008) The thrust of this module is to help you begin to strategize on how to develop sustainable moral careers within different moral ecologies. You will study different kinds of moral ecologies using a taxonomy developed from the research of Michael Davis in **Thinking Like an Engineer** and Robert Jackall in **Moral Mazes**. Huff (2008) provides some generic strategies for individuals to pursue within in these organizational environments. But the exercises included in this module will encourage you to expand upon this list. Working through this module will help you to view corporate governance from within from the micro perspective of the individual. Another module will allow you to see corporate governance from the outside from the macro point of view.

6.1.3 What you need to know ...

6.1.3.1 Personality Characteristics: The "Big Five" (plus one)

So much of success in practical and professional ethics lies in anticipating and defusing potential ethical challenges. Called "Preventive Ethics," this approach encourages you to develop the skill of uncovering latent or hidden ethical problems that could erupt into full-blown ethical dilemmas. "An ounce of prevention is worth a pound of cure." This module is designed to help you reflect on your personality, different organizational environments or ecologies, and how your personality fits into these moral ecologies. Your success depends on developing plans for successful moral careers that respond to your personality traits and resist ethical challenges presented by organizational environments.

Personality Characteristics: Find your place on the continuum

1. Extraversion.....Introversion
2. Neuroticism Stability.....Emotional
3. Conscientiousness.....Carelessness
4. Agreeableness.....Disagreeableness
5. Openness (to experience).....Closed (to experience)
6. Honesty/Humility.....Dishonesty/Arrogance

This account of personality modifies that presented by Huff et al in "Good computing: a pedagogically focused model of virtue in the practice of computing, parts 1 and 2."

6.1.3.2 Three Moral Ecologies

Type/ Characteristics	Managersand engineers: role and participation	Centrality of ethics and values	Allocation of praise and blame	Withholding information	T c a
Finance-Driven	Managers play line role (=make decisions) Engineers provide technical information (=staff role)	Ethics and values are side constraints dealt with when they oppose financial considerations	Allocated according to hierarchical position: praise goes up and blame goes down.	Managers withhold to control and protect secrets. Engineers withhold bad news to avoid blame.	" r D d a b
Customer-Driven	Managers make decisions on financial matters. Engineers "go to the mat" on engineering matters.	Ethics and values are not central but are still important.	Praise and blame are fairly allocated based on assigned responsibility and contribution.	Information not withheld but gaps arise because or role differences.	D c e a t t p i r p
Quality-Driven	Manager and engineering distinction drops out. Interdisciplinary work teams are empowered and responsible	Ethics and values are constitutive of the organization's identity.	Praise and blame are attributed to group and distributed to individuals within according to contribution.	Open consensus process ensures that needed information is integrated into decision making	E a r w c b r i c t d a r p t u c r

Table 6.1 Summary Table

This table and the explanatory material below summarizes materials from studies reported by Davis (Thinking Like an Engineer) and Jackall (Moral Mazes). The reader should be aware that it departs somewhat from the strictly reported results in order to adopt the results to the idea of moral ecology. This later idea was introduced by R. Park in **Human Communities: The City and Human Ecology**, Free Press, Glencoe, IL, 1952.

Breakdown of Table

- Moral ecologies can be categorized according to a series of considerations. The table above focuses on five.
- First, managers and engineers occupy distinct roles and participate differently in the decision making process. Managers play the **line** role. They collect information to make decisions that govern the day to day operations of the corporation. Engineers are hired as **staff** employees. They provide technical information to decision makers but do not participate directly in the decision making process. This raises difficulties when engineers, for technical or ethical reasons, disagree with the decisions taken by their managers. The line and staff roles channel decision making and constrain dissent.
- Moral ecologies can also be typed according to the centrality of ethical considerations in the corporation's goals, charter, operations, and even identity. Ethical considerations can range from (1) playing a **central** role, (2) to playing an important but subordinate role, (3) to being marginalized as irrelevant **side constraints**. The importance a corporation places on ethics colors all the other categories mentioned in the table above. If ethics is central to a corporation then it plays a central role in the decision making process, guides the allocation of praise and blame, determines the nature and amount of information shared in the decision making process, and determines how an organization treats dissent and disagreement.
- A corporation's conception of responsibility is revealed through the ways in which it allocates praise and blame. Significant differences arise between the way finance companies assign praise and blame and the ways these are allocated in quality or customer driven companies. Again, this related to the roles played by engineers and managers and the centrality of ethics in the corporation's governance.
- Ethical problems arise when crucial information is withheld from the decision making process. Hence, the flow of communication and the kinds of situations in which communication flow is disrupted helps to characterize a moral ecology. For example, the Hitachi report asserts that communication between managers and engineers breaks down predictably within finance-driven companies. This breakdown is grounded in the characteristics of the finance-driven moral ecology, especially in differences between the managerial and engineering roles and the extent to which managers and engineers participate in decision making.
- Finally, moral ecologies can be classified according to how they treat dissent and dissenting professional opinions. Dissent is less likely in quality than in finance-driven companies. While finance-driven companies treat dissent as disloyalty,

quality-and customer-driven driven companies treat dissent as a stage in the process of reaching consensus.

Finance-Driven Companies

1. Finance-driven companies place financial objectives at the very heart of their constitutive objectives and corporate identity. For example, such companies are focused on maximizing returns for investors.
2. **Manager and Engineer Roles and Participation in Decision Making Process:** Managers play the line role in that they make the decisions that drive the day to day operations of the corporation. They bear responsibility for the consequences of their decisions and they are also responsible as the faithful agents of the company's directors. Being a faithful agent requires that one treat another's interests as one's own, maintain confidentialities, and avoid interests that conflict with the director. Engineers play the staff role, that is, they answer questions put to them by managers and are responsible for providing competent technical information. However, they do not participate directly in the decision making process, nor do they bear responsibility for the results of their manager's decisions.
3. **Centrality of ethics and values in the corporations decision making process:** Ethical consid erations play only the role of side constraints in the setting of corporate policity and in the formulation and execution of its decisions. This means that ethical considerations are important only if they promote or interfere with the central, financial objectives. If appearing philanthropical is good for a corporation's image (and generates customers and profits) then the corporation appears philanthropic. If the corporation is likely to get caught in an ethical violation (excessive pollution) and this negative publicity will lower its prestige (and profits) then the corporation will not commit the violation. But in each case, the end is the promotion of financial objectives and the means are appearing ethical.
4. **Allocating Praise and Blame:** Jackall goes into detail on how finance-driven corporations (and bureaucracies in general) assign praise and blame. The crucial factor is one's position in the corporate hierarchy. Praise works its way up the corporate ladder. If engineer Smith saves the company from a sever financial loss, then Smith's supervisor (or his supervisor's supervisor) gets the credit. However, if Smith's supervisor messes up, the blame passes down the corporate ladder to Smith. Praise moves up the corporate hierarchy, blame down.
5. **Information Exchange between Engineers and Managers:** In finance driven companies, man agers withhold information from the engineers under their supervision for a variety of reasons. For example, if it is proprietary information, the manager may withhold all or part to prevent engineers from leaving the firm and revealing its secrets to a competitor. Managers may also use information to wield power and authority. By keeping engineers in the dark (like mushrooms) they effectively maintain authority and prevent dissent. On the other hand, engineers withhold bad news from their managers to avoid blame as well as the "shoot the messenger" syndrome. (When the incompetent general receives bad news from a soldier, he shoots the soldier rather than respond to the news.)

6. **Handling Dissenting Professional Opinions:** Dissent is interpreted as disloyalty in fnance-driven companies. This organizational habit (maintained by managers to hold on to their authority) will even undermine DPO (dissenting professional opinion) procedures that look good on paper. A good DPO procedure communicates the opinion to several levels of supervisor, allows for the independent investigation of the merits of the opinion, and prevents retaliation against the professional asserting the opinion. But ruthless managers find ways to undermine such a procedure at all levels. Engineers may claim the right not to be held as scape goats to administrative incompetence. (See the Theory Building Activities: Rights module) This right may be supported on paper by a detailed DPO procedure. But it also has to be implemented at all levels and continually monitored.

Customer-Driven Companies

- Customer-driven companies focus on customer satisfaction. If the customer asks for or is satisfied with a lower quality product, then this is an acceptable result for this type of company as opposed to a quality driven company which would stand fast with the higher quality product.
- **Managers and engineers:** roles and participation : Managers make decisions on financial matters. But engineers are expected to "go to the mat" for engineering standards when these form all or part of the decision. Hence the distinction between managers (playing the line role) and engineers (playing the staff role) weakens, and engineers play a much more active role (advocates for engineering standards) in decision making. (Engineering standards include engineering ethics standards.)
- **Centrality of Ethics and Values:** While customer satisfaction plays the central role, ethical consid erations are still important, especially regarding the ethical treatment of customers and reflecting the ethical values held by the customers. In many cases, it is difficult to distinguish quality and customer driven companies as the role ethical standards play gets closer to a central, constitutive one.
- **Allocation of Praise and Blame:** Responsibility in customer driven companies is tied closely to individual performance and contribution. This is because customer satisfaction is a more objective criterion than the internal political standards that dominate finance driven companies. Responsibility is closely alligned with contribution.
- **Withholding Information:** Information enhances control and responsibility. (The more you know, the more responsibly you can act.) Since praise and blame are allocated according to contribution, there is less incentive to withhold information. If communication gaps arise between engineers and managers, these are much more likely to hinge on disciplinary differences. Engineers may have trouble communicating technical information to managers, or appear condescending by "dumbing down" the information. Managers may have difficulties communicating financial constraints to engineers who focus on quality standards. But these are minor, resolvable gaps.
- **Treatment of Dissent:** Dissent and disagreement are not only tolerated but actually expected. Managers expect engineers to advocate for issues in their sphere as they pertain to the decision making process. This process itself is

adversarial because it is assumed that this is the best way to get all the information out on the table. Bad news and professional dissenting opinions are not interpreted as disloyalty; in fact, disloyalty lies in refusing to expose faws in the choices proposed by one's supervisor. Managers expect their engineers to "go to the mat" when advocating technical positions based on their professional judgment.

Quality-Driven Companies

- Quality-driven companies stand out for the emphasis they place on achieving high engineering standards and on elevating the participation of the engineer in the decision making process. As is implied by the name, the central focus of these corporations is the achievement of high quality in products and services.
- **Managers and Engineers:Role and Participation:** In quality-driven companies, the distinction between the manager and engineering roles drops out. For example, while engineers play the staff role and provide expert engineering advice, they also participate fully in the decision making process. The locus of decision making moves from individual managers to small interdisciplinary groups. These groups, in turn, carry out consensus-based decision making procedures.
- **Centrality of Ethics and Values:** In quality-driven companies, ethics and values are central to the organization's objectives, charter, and identity. This has a decisive impact on the role of the engineer in the decision-making process. In customer driven companies, engineers are expected to advocate engineering and ethical standards precisely because these are not central to the organization's identity. But the centrality of ethical concerns in quality driven companies changes the engineer's role from advocacy to channeling technical expertise toward realizing ethical value.
- **Allocation of praise and blame:** In customer-driven companies, blame avoidance procedures no longer dominate the decision making process. In quality driven companies they disappear completely. Decisions are made by interdisciplinary groups in which engineers and managers participate fully and equally. Responsibility (praise and blame) then is allocated to the group. If it is distributed to members inside the group it is done so on the basis of contribution. But the primary target of responsibility ascriptions is the group, not the individual. And the response to untoward happenings is not targeting individuals and groups for blame but taking measures to learn from mistakes and avoiding them in the future.
- **Withholding Information:** The open, consensus-based decision process ensures that the needed information is brought forth and integrated into the decision. This results from removing a primary motivation to withholding information, namely, blame avoidance. Quality-driven corporations aggres sively move to prevent untoward occurrences and, should prevention fail, make adjustments to ensure they do not reoccur. The motive to withhold information does not arise in this moral ecology.
- **Treatment of Dissent and DOPs (dissenting professional opinions):** Engineers and managers work toward consensus by gathering information, discussing the problem and continuing the discussion until consensus is reached. Thus, dissent

does not stand alone but is considered to be an essential and healthy component to the decision-making process. When consensus is not immediately reached, participants seek more information. If consensus is still not reached, the decision is postponed (if this is possible). The most viable strategy to reach consensus is to continue the discussion. For example, an engineer and manager might approach a supervisor; in this way they bring a new perspective into the decision-making process. They might consult other experts. The crucial point here is that disagreement (really non-agreement) is not a bad thing but a necessary stage in the process of reaching agreement and consensus.

Skill Sets

- The four skills described below are derived from studying the moral expertise displayed by moral exemplars. Each moral ecology will require the exercise of each of the skills described below. However, each skill has to be contextualized into the moral ecology. For example, reasonableness should not be exercised in the same way in a finance-driven company as it should be exercised in a quality-driven company. The reasonable exercise of dissent is manifested differently in an environment where dissent is equated with disloyalty than in one in which dissent is embraced as a necessary part of the consensus-reaching process. So your job, in constructing your moral careers within these different moral ecologies, is to contextualize the skill, that is, describe specifically how each skill should be practiced in each particular moral ecology.
- **Moral imagination** consists of projecting oneself into the perspective of others. It also includes multiple problem definitions and the ability to distance oneself from the decision situation to gain impartiality.
- **Moral creativity** is the ability to generate non-obvious solutions to moral challenges while responding to multiple constraints.
- **Reasonableness** consists of gathering relevant evidence, listening to others, giving reasons for one's own positions (arguments and evidence), and changing plans/positions only on the basis of good reasons.
- **Perseverance** involves planning moral action and responding to unforeseen circumstances while keeping moral goals intact.

Personality Traits

- **Extraversion:** Extraversion, which is paired with its opposite, introversion, has also been called confident self-expression, assertiveness, social extraversion, and power. An individual in whom this trait dominates tends to be assertive and out-going.
- **Conscientiousness:** Individuals with this trait are successful in carrying out tasks because they can discipline themselves to stay focused on a task. They are successful in the right moral ecology and tend to conform to the basic norms of their environment. This trait can lead to bad results if not guided by moral considerations.
- **Neuroticism:** This trait indicates a lack of emotional stability. According to Huff et al., *"it is correlated with less effective coping and depression."* Neuroticism has also been shown to interfere with the exercise of moral skills. Is there a particular moral ecology that can heighten the negative impacts of this personality trait?

- **Agreeableness:** According to Huff et al, this trait has also been called *"social adaptability, likability, friendly compliance, and love."* Again think about how this trait would operate within a finance-driven moral ecology as opposed to a quality-driven one.

Two Kinds of Moral Expertise

- Studies carried out by Chuck Huff into moral exemplars in computing suggest that moral exemplars can operate as craftspersons or reformers. (Sometimes they can combine both these modes.)
- Craftspersons (1) draw on pre-existing values in computing, (2) focus on users or customers who have needs, (3) take on the role of providers of a service/product, (4) view barriers as inert obstacles or puzzles to be solved, and (5) believe they are effective in their role.
- Reformers (1) attempt to change organizations and their values, (2) take on the role of moral crusaders, (3) view barriers as active opposition, and (4) believe in the necessity of systemic reform
- These descriptions of moral exemplars have been taken from a presentation by Huff at the STS collo quium at the University of Virginia on October 2006.

Skill sets, personality traits, and kinds of moral expertise are discussed in detail by Huff et al., "Good computing: a pedagogically focused model of virtue in the practice of computer, parts 1 and 2." These are published in **Information, communication and Ethics in Society**, Emrald Group Publishing Limited, Vol. 6, numbers 3 and 4 in 2008.

6.1.4 What you will do...

In this section, you will learn about this module's activities and/or exercises. You will also find step by step instructions on how to carry them out.

Exercise: What we do when nobody is looking

- **You will be asked either to defend or criticize the following position on the nature and function of punishment**
- Entiendo que ser castigado es una manera de educar a la persona a cometió la falta y a la sociedad en general para que comprendan y entiendan que su conducta es una falta y afecta a la sociedad. En conclusión es una soluci6n viable hasta el memento bastante efectiva siempre y cuando el castigo sea ejecutado de una manera prudente, saludable y dentro de lo que las leyes permiten.
- I understand that punishment educates both the individual at fault and society in general in order that they understand that their conduct is faulty and that it effects society. In conclusion, it is a viable solution and, up to the moment, sufficiently effective always and when the punishment is executed in a prudent and safe manner within what is permitted by the law.
- Restate this argument in your own words. (Try to shorten it by summarizing its key points.) Then discuss and clarify its key terms. Offer ethical and practical considerations in its defense.

Exercise: Milgram and Business

- **Continuing with the task in part one, you will be asked to either defend or criticize the following position on the meaning that the results of the Milgram experiments have for business administration**
- The Milgram experiments teach us that under the right conditions, anyone is capable of committing immoral activities. If a strong, dominant boss exists and has a weak, dependable employer, then the employer will out of necessity do whatever the boss wants.
- Many people are willing to commit immoral acts even though they know it is wrong if they know they are not being watched.
- It teaches us that many employees tend to do illegal works just because their managers ask them to so they assume they will be taking full responsibility for the situation even though it is unethical.

Exercise: Commentary Groups

- **Your job is to evaluate the arguments made by the teams debating in parts one and two. Be sure to focus on the argument and not the content of the position. Listen to their statements.**
- Do they base these on sound statements?
- What kind of ethical and practical principles (or values) do they use to make their case?
- Do their frame their position broadly or narrowly?

Exercise: Closure Groups

- **After listening to the debate and commentary, recap what has happened and discuss whether there are any conclusions that can be drawn from this activity**
- Do people agree or disagree about these 2 issues?
- If there is agreement, why does it exist?
- If there is disagreement, why does it exist?
- Is agreement possible? Why or why not?

Exercise

- Which moral ecology would you like to work in: finance-, customer-, or quality-driven companies?
- Why? Specify your answer in terms of how the company allocates praise or blame, the centrality of moral concerns, the role given to professionals, the circumstances under which information is withheld, and the typical response to bad news.
- Why? What configuration of personality traits best fits within which moral ecology?

6.1.5 What did you learn?

This module was designed to help you visualize how to realize a moral career within three dominant moral ecologies. Apply these matters to yourself. Which moral ecology would be best for you? Of the two moral careers mentioned above, reformer and helper, which best fits your personality? Why? In other words, begin the process of visualizing and planning your own moral career.

6.1.6 Appendix

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This optional section contains additional or supplementary information related to this module. It could include: assessment, background such as supporting ethical theories and frameworks, technical information, discipline specific information, and references or links.

6.1.7 EAC ToolKit Project

This module is a WORK-IN-PROGRESS; the author(s) may update the content as needed. Others are welcome to use this module or create a new derived module. You can COLLABORATE to improve this module by providing suggestions and/or feedback on your experiences with this module.

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6.2 Different Approaches to Corporate Governance

This content is available online here (http://cnx.org/content/m17367/1.5/).

- The first link refers to a news story on Dunn's resignation from the Hewlett-Packard board.
- It is taken from PBS's Online NewsHour in a report delivered by Margaret Warner on September 22, 2006.
- The second link provides background information on the Hughes Aircraft case profiled just below.

CORPORATE PROFILES:

Arthur Andersen

Once a highly respected company, Arthur Andersen no longer exists having gone bankrupt in the wake of the Enron disaster. Arthur Andersen provided Enron with consulting and accounting services. The consulting division was more successful but the accounting division, with its long tradition of outstanding ethical service, was the corporation's backbone. Arthur Andersen signed off on Enron's use of mark-to-market accounting which allowed Enron to project optimistic earnings from their deals and then report these as actual profits years before they would materialize (if at all). They also signed off on Enron's deceptive use of special purpose entities (SPE) to hide debt by shifting it from one fictional company to another. With Arthur Andersen's blessing, Enron created the illusion of a profitable company to keep stock value high. When investors finally saw through the illusion, stock prices plummeted. To hide their complicity, Arthur Andersen shredded incriminating documents. For federal prosecutors this was the last straw. The Justice Department indicted the once proud accounting firm convinced that this and previous ethical lapses (Sunbeam and Waste

Management) showed a pattern of unabated wrongdoing. Arthur Andersen was conflicted of obstructing justice on June 15, 2002 and closed its doors shortly after.

McLean and Elkind provided background for this profile on Arthur Andersen. See below for complete reference.

AA Timeline (Taken from Smartest Guys in the Room)

- 1913— Founded by Arthur Andersen: *"think straight, talk straight"*
- Stood up to Railroad company in early years. When asked to change accounting standards, Andersen said, *"There is not enough money in the city of Chicago [to make AA give into client demands]"*
- 1947-1963—Leonard Spacek became president of AA succeeding Arthur Andersen.
- Spacek helped motivate the formation of the Financial Accounting Standards Board. AA also served as conscience of accounting profession criticizing the profession and the SEC (Securities and Exchange Commission) for *"failing to square its so-called principles with its professional responsibility to the public."*
- 1963-1989—Slow erosion of standards and development of competition between accounting and consulting divisions. (Consulting division was developed to take advantage of a profitable direction in the financial industry.)
- 1989—Consultants achieve relative autonomy as *"separate business unit."* (McLean: 144)
- 1997—Consultants break from firm.
- 1988-1991—Arthur Andersen receives 54 million in fees from Enron
- 2000—Enron pays AA 52 million. The lion share of this was for consulting fees.
- June 15, 2002—AA found guilty of obstruction of justice. *"Today's verdict is wrong....The reality here is that this verdict represents only a technical confliction."* (McLean: 406)

Hughes Aircraft

Howard Hughes founded this company at the beginning of the twentieth century. Hughes became a regular supplier of military hardware to the U.S. military. In the 1980's this included parts for surface to air misiles and fighter aircraft. One division specialized in computer chips designed to convert analogue information to digital for use in guidance systems and decision support systems. For example, these chips interacted with radar to help pilots of fighter aircraft avoid enemy missiles and also served as an essential component for missile guidance systems, the so-called smart bombs. Hughes had won the competitive bids for these highly profitable military projects but they had also committed themselves to tight delivery schedules with inflexible deadlines. And on top of this, the U.S. Airforce demanded that these computer chips and the systems that integrated them be rigorously tested to show that they could withstand the severe environmental stresses of battle. Hughes soon fell behind on the delivery of these computer chips causing a chain reaction of other delays both within the company and between the company and other links in the military supply chain. The environmental tests carried out by quality control under the supervision of Frank Saia had worked hard to complete the time-consuming tests and still remain on schedule with deliveries; hot parts (parts in high demand) were pulled to the front of the testing line to keep things running but soon even this wasn't enough to prevent delays and customer complaints. Giving way to these pressures, some Hughes supervisors pushed employees to pass chips without testing and even to pass chips that had failed tests. Margaret Gooderal and Ruth Ibarra resigned from the company and blew the whistle on these and other ethical failings that had become rampant in Hughes. So the corporate social responsibility question becomes how to change this culture of dishonesty and restore corporate integrity to this once innovative and leading company. (Background information on Hughes can be found).

Patricia Dunn v. Tom Perkins on Corporate Governance

When Patricia Dunn became a "non-executive" chairman of Hewlett-Packard's board on February 7, 2005, she brought with her an outstanding reputation in corporate governance. Her top priorities were to oversee the election of a new CEO after the firing of Carly Fiorina whose management of the recent acquisition of Compaq had lost her the HP board's support. Dunn also was determined to stop leaks to the press from high-level HP officials. She viewed the latter task as a fundament component of the post-Enron corporate governance approach she felt was needed as Hewlett-Packard moved into the 21st century. But her formal take on CG was at odds with powerful board member and successful venture capitalist, Tom Perkins. In his opinion, too strict an approach to CG stood in the way of HP culture and took focus away from competing with Dell and IBM as well as staying on the cutting edge in the development of new technology. As the leaks continued, Dunn's investigation into their source (most likely a discontented HP board member) became more active and rigorous. And the disagreements between her and board member Perkins deepened; their incompatible views on CG (and other disagreements) led to Perkins's resignation from the HP board. Things became critical when Perkins received a letter from A.T. and T. informing him that an account had been established in his name (but without his knowledge or consent) using the last 4 digits of his social security number and his private phone number. During the HP-led investigation into the press leaks, a private investigation firm used an illegal technique known as "pretexting" to obtain

confidential information about HP board members and news reporters including private phone and social security numbers. Perkins reported this to the SEC, and Patricia Dunn, as chairman and de facto head of the leak investigation, was indicted on four criminal charges including identity theft.

For a complete case study see Stewart (complete reference below) and Anne Lawrence and James Weber, Business and Society: Stakeholders, Ethics, Public Policy, 13th edition (McGraw-Hill): 501-513.

Dunn focused on incompatible views of corporate governance as one of the causes of the rift that had developed between her and Perkins's: *"Tom's model of governance may be appropriate in the world of venture capital, but it is outmoded and inappropriate in the world of public company governance."* (Stewart, 165) She also made clear her strong views on board members leaking confidential information shared during board meetings to the press: *"The most fundamental duties of a director–the duties of deliberation and candor–rely entirely upon the absolute trust that each director must have in one another's confidentiality. This is true for trivial as well as important matters, because even trivial information that finds its way from the boardroom to the press corrodes trust among directors. It is even more critical when discussions can affect stock prices....Leaking "good" information is as unacceptable as leaking "bad" information–no one can foretell how such information may advantage or disadvantage one investor relative to another."* (Stewart, 156)

Questions

How can successful corporate governance programs be integrated into companies with free-wheeling, innovative cultures without dampening creative and imaginative initiatives? How does one make sense of the fundamental irony of this case, that a conscientious pursuit of corporate governance (attacking violations of board confidentiality) can turn into violation of corporate governance (violation of the privacy and persons of innocent board members)?

Word Version of this Template

Please view or download it at EAC TK STD TEMPLATE.doc (http://cnx.org/content/m17367/1.5/EAC%20TK%20STD%20TEMPLATE.doc)

This is an example of an embedded link. (Go to "Files" tab to delete this file and replace it with your own files.)

6.2.1 Introduction

James B. Stewart, in a **New Yorker** article about Patricia Dunn and Hewlett-Packard, describes corporate governance as *"a term that technically refers to all aspects of running a corporation but in recent years has come to emphasize issues of fairness, transparency, and accountability."* This module looks at corporate governance from

the macro perspective, (1) examining the management strategies adopted by a firm to ensure compliance and pursue excellence and (2) from the standpoint of government as it seeks to minimize unethical corporate behavior and to maximize the corporation's contribution to social welfare.

6.2.2 What you need to know...

6.2.2.1 Prisoner's Dilemma: Cooperation or Competition?

Scholarly debates on corporate governance have turned on the advocacy of different approaches, many of which can be modeled mathematically. Two approaches are based on the concepts of agency and stewardship. (See Davis et. al. in Clarke 2004) To enter into this debate, you will reenact the "Prisoner's Dilemma." Imagine that two patriotic spies, A and B, have just been captured by the enemy. Both are placed in separate interrogation cells and are being pressured to confess and provide details about their spying activities. A and B would like to coordinate their actions but the enemy has kept them apart to prevent this. Their objective is to pit A against B another in order to get the desired information. To do this, they have set forth the following systems of motivations, i.e., punishments and rewards.

Options for the Prisoners

- **If both A and B confess.** A and B are put in jail for five years each. The net loss in this scenario is 10. This is the least desirable alternative from the collective standpoint.
- **If one confesses and the other does not.** The confessor is released immediately while the non-confessor gets seven years in prison. This maximizes the confessor's self interest but severely punishes the patriotic, non-confessor. Net loss is 7.
- **If both do not confess.** After six months of half-hearted interrogation (most of this time is for processing the prisoners' release), both are set free for lack of evidence. While not maximizing self interest (this lies in confessing while the other remains silent) this does maximizes overall welfare by producing a net loss of only 1.

Prisoner Dillema Options Summarized

Prisoner A / Prisoner B	Confess	Not Confess
Confess	Both go to jail for 5 years (Net loss is 10)	A goes to jail for 7 years. B is released. (Net loss is 7)
Not Confess	B goes to jail for 7 years. A is released (Net loss is 7)	Both held for six months, then released. (Net loss is 1.0)

Assumptions in the Prisoner Dilemma

- Cooperation produces the best collective option and the second best individual option. This, in turn, assumes that cooperation produces more social welfare than competition.
- Free riding (competing) on the cooperation of others produces the most individual gains (for the free rider) but the second worst collective results. Society suffers loses from the harm done to the trusting, non-confessor and from the overall loss of trust caused by unpunished free-riding.
- Unlimited, pure competition (both prisoners confess) produces the worst collective results and the second worst individual results.
- Multiple iterations of the prisoner's dilemma eventually lead to cooperative behavior. But what causes this? (1) The trust that emerges as the prisoners, through repeated iterations, come to rely on one another? Or (2) the fear of "tit-for-tat" responses, i.e., that free riding on the part of one player will be punished by free riding on the part of the other in future iterations?
- Does the Prisoner's Dilemma assume that each player is a rational, self-interest maximizer? Are the players necessarily selfish in that they will seek to maximize self interest even at the expense of the other players unless rewards and punishments are imposed onto the playing situation from the outside?

The Prisoner's Dilemma is designed to model the reality of corporate governance where the directors/owners of a corporation delegate responsibility for the corporation's operations to managers who are charged with pursuing, not their own interests, but those of their directors. The problem of corporate governance is how this cooperative arrangement is institutionalized. Can managers be left alone and trusted to pursue the best interests of the corporation? This is implied in stewardship theory. Or is it necessary to design a system of controls to keep the managers from diverting the operations of the corporation toward their exclusive, self-interests? This is the approach taken in agency theory. Modeling this in terms of repeated iterations of the prisoner's dilemma, does cooperation emerge as the most reliable strategy in the long run? Or does it need to be manufactured by introducing a system of incentives such as fear of tit-for-tat strategies? The Prisoner's Dilemma models the central problems of corporate governance by asking whether cooperation naturally

emerges between managers and directors or whether it needs to be manufactured through a system of punishments and rewards.

The Prisoner's dilemma is discussed throughout the literature in business ethics. For a novel and insightful discussion in the context of corporate responsibility see Peter A. French, 1995 **Corporate Ethics** from Harcourt Brace College Publishers.

6.2.2.2 A Short Footnote on Human Nature

- One important means for classifying different approaches to corporate governance is to reflect on the associated account of human nature. This is a very complex issue but, fortunately, political philosophy provides us with some useful insights.
- Thomas Hobbes in the **Leviathan** presents a comprehensive psychological analysis of human nature based on seventeenth century physics. The focal point of this analysis is the human individual's unlimited pursuit of desire. Without external checks (primarily the threat of punishment imposed by a powerful sovereign) the **State of Nature** (where human individuals pursue self interest without external checks) is identical to a **State of War**. This war of all against all is *"solitary, poore, nasty, brutish, and short."*
- Hobbes's view has been characterized by C.B. Macphearson as "possessive individualism" which portrays the self as the possessor of its own attributes including the property acquired through its actions. This leads to a view called atomic individualism which is based on the claim that the self has its characteristics and determinate structure prior to and independently of any social interaction.
- Jean-Jacques Rousseau offers a brilliantly original criticism of Hobbes' conception of human nature in his Second Discourse, the **Discourse on the Origin of Inequality**. According to him, Hobbes's characterization of human nature in the State of Nature is actually a description of the human corrupted by society and the acquisition of property. *"The first person who, having enclosed a plot of land, took it into his head to say this is mine and found people simple enough to believe him, was the true founder of civil society. What crimes, wars, murders, what miseries and horrors would the human race have been spared, had someone pulled up the stakes or filled in the ditch and cried out to his fellow men: "Do not listen to this imposter.""*
- Rousseau argues that before the notion of property, the human's desire to preserve self was balanced by the social feeling of pity brought forth by the suffering of others. Only the unchecked pursuit of property (seen in terms of exclusive possession) would bring the motive of self-interest into conflict with natural pity.
- In opposition to Hobbes's atomic and individualistic self, a group of political philosophers, beginning with Aristotle, see the self as primarily social. Aristotle characterizes the human as a political animal (a being who naturally constructs a social organism called the "polus"). Sandel describes a "thick self" constructed out of familial, social and political content; this content is integrated into the core of

the self. Werhane's description of this "social animal" is worth quoting in full: *"In that socialization process, we develop a number of interests, roles, memberships, commitments, and values such that each individual is an historical, cultural, and social product, a pluralistic bundle of overlapping spheres of foci, a thick self or selves.... [T]here is no self as precritical, transcendental subject, totally ideal spectator or dispossessed subject."*

- Thus a series of views of human nature emerge that are instrumental in forming different approaches to corporate governance. Hobbes's atomistic individualism will favor the compliance approach mandated by agency theory as directors set up external checks to self-serving managers. Rousseau's more nuanced view would require structures to hold the pursuit of self-interest in check while strengthening the equally natural impulses toward socializability and cooperation. The social conception of the self would treat the corporation as an environment where managers, as stewards, recruit employees who will quickly commit to the central corporate values and then develop supporting structures and procedures to help their colleagues find meaningful work while fulfilling social, corporate objectives.

6.2.2.3 Approaches to Corporate Governance Summary Table

(1,1)	**Description**(1,2)	**Theory of Human Nature**(1,3)	**Owner Role**(1,4)	**Man**
Agency Theory(2,1)	Managers act as agents of the corporation fulfilling the goals established by the owners / directors(2,2)	Managers are rational, but self-interested beings who must be controlled from the outside(2,3)	Owners are principals, that is, they originate the action and bear primary moral responsibility.(2,4)	Man ager resp acti inte prin hire Fait imp con inte mai con
Stockholder Approach(3,1)	Corporation is property of stockholders who dispose of it as they see ft.(3,2)	Stockholders pursue self interest. They are rational (instrumental), economic self-interest maximizers.(3,3)	Owners invest in corporation and seek a return (profit) on their investment.(3,4)	Man resp ensu own max on inve
Stakeholder Approach(4,1)	Owners drop out of center focus. Corporation is run for the sake of its stakeholders.(4,2)	Groups have special interests but recognize the need to integrate these. Humans possess capacity for procedural reasoning.(4,3)	Owners drop to one of a group of equal stakeholders. Still advocate their financial interests but not to exclusion of other stakeholders.(4,4)	Man met They stak stak inte the poss
Stewardship Model(5,1)	Managers act as stewards for absentee owners; oversee the operations of corporation and	Desire and self interest are balanced out by social motives such as Rousseau's pity	Owners still set cardinal objectives but they also are responsible for providing managers with a	Man stew exer over of th thei

	exercise care over them. Emotion (care) plays an equal role with instrumental rationality.(5,2)	and Aristotle's virtues.(5,3)	meaningful work environment.(5,4)	

This table summarizes materials from Introduction: Theories of Governance (Clarke, 1 through 30) and provides a taxonomy of several different approaches to corporate governance.

Agency Theory

1. In agency theory, the owners/directors set the central objectives of the corporation. Managers, in turn, are responsible for executing these objectives in the corporation's day-to-day operations. Corporate governance consists of designing structures and procedures to control management, i.e., to keep their actions in line with director-established objectives.
2. Managers cannot be trusted to remain faithful agents, i.e., to stay faithful to the interests and goals of the owners/directors. This presupposes a particular view of human nature. Humans are rational, egoists. They have desires and use reason to devise means to realize them. Since one desire can be checked only by another desire, this egoism is potentially without limit. Agency theory assumes that managers will divert corporate resources to pursue their own selfish ends unless checked by some system of external controls. Thus, another key element of corporate governance under agency theory is to find the most efficient systems of controls to keep manager egoism in check.
3. The owners/directors play the role of principal in agency theory. The principal originates the action and bears primary moral and legal responsibility for it. Most of the time the principal of an action is also its executor. But there are times when the principal lacks the knowledge and skill necessary for executing the objectives he or she originates. In this case, the principal contracts with an agent. The principal authorizes the agent to act on his or her behalf. This requires that the agent remain faithful to the goals and interests of the principal. See Hobbes's **Leviathan**, Chapter 16 for an important historical account of the agent-principal relation.
4. Managers are agents. Their primary responsibility is to serve as faithful executors of the goals and interests of the principals. This requires, first, that, managers are

responsible for exercising their professional judgment in a competent way. Managers are also responsible for remaining faithful to the interests of their principals. To do this they must avoid conflicts of interests and maintain confidentialities (i.e., keep secrets). Agent can also range from being free (unguided by principals) to bound (tightly monitored and controlled by principals).

5. How does ethics enter into corporate governance under agency theory? Primary emphasis is placed on compliance, i.e., enforced conformity to rules that constitute minimum thresholds of acceptable behavior. Compliance approaches develop (1) rule based codes, (2) systems of monitoring to detect violations, and (3) punishments and rewards to deter non-compliance and reward compliance. Trevino and Weaver provide an empirical analysis to the goals achieved through compliance ethics: *"[4] the perception that better decisions are made because of the ethics program [5] ethical advice seeking, [6] decreased unethical behavior in the organization... [7] ethical awareness."* (Weaver and Trevino, 1999: 333.)

Stockholder Theory

1. The stockholder approach is quite similar to that set forth in agency theory. The difference is that it views the corporation as the property of its owners (stockholders) who may dispose of it as they see ft. Most of the time this involves using it to receive maximum return on investment.
2. Stockholders are oriented toward self-interest, so stockholder theory, along with agency theory, takes an egoistic/Hobbesian view of human nature. Humans are rational, self-interest maximizers. Owners should expect this from the corporation's managers and employees. They should integrate procedures and controls that channel the corporation and its members in the direction of their (owners) self-interest.
3. The owners invest in the corporation and seek a return (profit) on this investment. But this narrow role has been expanded into overseeing the operations of the corporations and its managers to ensure that the corporation is in compliance with ethical and legal standards set by the government. Just as the master, under tort law, was responsible for injury brought about by the negligence of a servant, so also are directors responsible for harm brought about by their property, the corporation.
4. Managers are role-responsible for ensuring that investors get maximum return on their investment. This includes exercising good business judgment and avoiding conflicts of interests and violations of confidences.
5. Like corporations operating within agency theory, stockholder corporations focus on compliance strategies to monitor managers and make sure they remain faithful agents. However, directors under the stockholder approach also take seriously oversight responsibility which include ensuring corporate compliance with laws such as Sarbanes-Oxley and the Federal Sentencing Guidelines.

Stakeholder Theory

1. Owners drop out of the center of attention in this approach to become one of several, equal stakeholders. A stakeholder is any group or individual that has a vital interest, right, good, or value in play or at risk. (A gambler's stake is the money on the table in play as the roulette wheel turns. Depending on the

outcome of the situation, the gambler either keeps or loses the stake.) Examples of corporate stakeholders include stockholders, employees, customers, suppliers, local community, and government. The corporation on this view exists for the sake of its stakeholders, not stockholders.

2. The stakeholder view can be closely tied to egoism if it is assumed that the different stakeholder groups exist to maximize their selfish interests. But the stakeholder approach to corporate governance goes beyond the egoistic account of human nature. The corporation (and its managers) become responsible for mediating between these different, often conflicting, stakeholder interests, always keeping in mind that all stakeholders deserve equal respect. If stakeholders have any solidarity with one another, it is because the interest set of each includes the interests of the others. (This is how Feinberg defines solidarity.) The ability to envision the interests of each stakeholder and to work toward integrating these must be built on a view of human nature that is as altruistic as egoistic. While not embracing the social view of human nature outlined above, the stakeholder view assumes that stakeholders are capable and willing to negotiate and bargain with one another. It begins, in other words, with enlightened and long term self interest.
3. The first feature of the owner role is the reduction in centrality mentioned just above. They advocate their interests in the same arena as the other stakeholders, but they also must work to make their interests compatible with the other stakeholders. This requires integrating interests when possible and drawing integrity-preserving compromises when necessary. (See Benjamin 1990).
4. Managers play an important meta-role here. They are faithful agents but of all stakeholders, not just stockholders. Thus, they become referees or (to switch metaphors) brokers between stakeholders. They oversee the generation of expansive corporate values capable of absorbing and integrating narrower stakeholder interests.
5. Stakeholder approaches combine compliance and value-based approaches. In compliance, corporate officers define a moral and legal minimum; this consists of the minimum set of rules necessary for stakeholder coexistence. Beyond this, value-based approaches seek to create common, broader objec tives, aspirations that can unite the different stakeholders in the pursuit of excellence. Stakeholder approaches need both; the compliance approach gets things started and the values-based approach sets them on the path to excellence.

Stewardship Theory

- Managers and employees can be trusted to act as stewards or guardians of the corporation. This means that while they do not own the corporation's resources, they will safeguard these for the owners. A steward is a caretaker who looks after the owner's property and interests when the owner is absent
- This approach definitely makes use of the social approach to human nature. Humans, naturally and spontaneously, realize their innermost natures by forming social unions. The corporation, under this view, is such an organization. While taking on the characteristics of a social contract with the other approaches, especially agency theory, the corporation under the stewardship view is more of a coopera tive, collaborative enterprise. Humans can act and find meaning in

interests and concerns well beyond the confines of the ego. In fact, to organize the corporation around egoistic assumptions does harm to those capable of action on altruistic motives. The emphasis here is on building trust and social capital to strengthen the social potentialities of human nature.

- Owners still establish the cardinal objectives for the sake of which the corporation exists. But they are also responsible for providing managers with an environment suitable developing human potentialities of forming societies to collaborate in meaningful work.
- Managers act as stewards or caretakers; they act as if they were owners in terms of the care and concern expressed for work rather than merely executors of the interests of others. In other words, the alienation implied in agency theory (acting not out of self but for another), disappears as the managers and employees of the corporation reabsorb the agent function.
- Stewardship approaches are primarily value-based. They (1) identify and formulate common aspirations or values as standards of excellence, (2) develop training programs conducive to the pursuit of excellence, and (3) respond to values "gaps" by providing moral support.

6.2.2.4 External Controls: Fining, Stock Dilution, Changing Internal Governance, Court Ordered Adverse Publicity, and Community Service

	Description	Example	Target of Punishment	Deterrence Trap Avoided?
Monetary Exaction	Fines	Pentagon Procurement Scandals	Harms innocent	Fails to Escape
Stock Dilution	Dilute Stock and award to victim		Stockholders (Not necessarily guilty)	Escapes by attacking future earnings
Probation	Court orders internal changes (special board appointments)	SEC Voluntary Disclosure Program	Corporation and its Members	Escapes since it mandates organizational changes
Court Ordered Adverse Publicity	Court orders corporation to publicize crime	English Bread Acts (Hester Prynne shame in Scarlet Letter)	Targets corporate image	Escapes (although adverse publicity indirectly attacks financial values)
CommunityService Orders	Corporation performs services mandated by court	Allied chemical (James River Pollution)	Representative groups/ individuals from corporation	Escapes since targets non-financial values

Table 6.2 Classifications of Corporate Punishments from French and Fisse This table summariz
Corporations: The Limitations of fines and the enterprise of Creating Alternatives." This article is
Unruly Law and provides a taxonomy of different forms of punishment for corporations. It helps r
targets the guilty, produces a positive change within the corporation, avoids Cofee's deterrence tra
the corporate black box. For full reference to book see bibliography below.

Requirements of Sarbanes-Oxley (From Dyrud: 37)

- Provide increased protection for whistle-blowers
- Adhere to an established code of ethics or explain reasons for non-compliance
- Engage in "full, fair, timely and understandable disclosure"
- Maintain "honest and ethical" behavior.
- Report ethics violations promptly
- Comply with "applicable governmental laws, rules, and regulations"
- Dyurd cites: ELT, Ethics and Code of Conduct, n.d.; http://www.elt-inc.com/solution/ethics and code of conduct training obligations.html (http://www.elt-inc.com/solution/ethics%20and%20code%20of%20conduct%20training%20obligations.html%20http://www.elt-inc.com/solution/ethics%20and%20code%20of%20conduct%20training%20obligations.html)

Ammended Federal Sentencing Guidelines (Dyrud 37)

- Establishing standards and procedures to prevent and detect criminal conduct
- Promoting responsibility at all levels of the program, together with adequate program resources and authority for its managers
- Exercising due diligence in hiring and assigning personnel to positions with substantial authority
- Communicating standards and procedures, including a specific requirement for training at all levels
- Monitoring, auditing, and non-internal guidance/reporting systems
- Promiting and enforcing of compliance and ethical conduct
- Taking reasonable steps to respond appropriately and prevent further misconduct in detecting a violation

6.2.3 What you will do...

Module Activities

- Study the Prisoner's Dilemma to help you formulate the central challenges of corporate governance.
- Study four different approaches to corporate governance, (1) agency theory, (2) the stockholder ap proach, (3) the stakeholder approach, and (4) stewardship theory.
- Examine corporate governance from the macro level by (1) looking at the structural changes a company can make to comply with legal and ethical standards and (2) examining the balances that government must make to control corporate behavior and yet preserve economic freedom.
- Design a corporate governance program for an actual company that you and your group choose. It should be a company to which you have open access. You will also be required to take steps to gain the consent of this company for your study.

- Reflect on how to integrate this module's macro description of corporate governance with the micro perspective presented in the module on moral ecologies and corporate governance.

Corporate Governance Plans

- A corporate code of ethics that responds to the specific ethical problems uncovered by your profile of the corporation you are studying.
- A corporate ethics training program designed to acquaint employees, owners, and managers with the company's value aspirations and compliance objectives.
- A Corporate Ethics Audit designed to identify and minimize ethical risks.
- A comprehensive ethics compliance program that responds to the requirements set forth in Sarbanes and Oxley as well as the Federal Sentencing Guidelines.
- A program in corporate excellence designed to articulate and realize the core values that define your company's identity and integrity.

6.2.4 What did you learn?

This material will be added later. Students will be given an opportunity to assess different stages of this module as well as the module as a whole.

6.2.5 Appendix

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Corporate Governance and Hewlett-Packard Case

Please view or download it at CorpGov HP Case.pptx (http://cnx.org/content/m17367/1.5/CorpGov_HP_Case.pptx)

6.2.6 EAC ToolKit Project

This module is a WORK-IN-PROGRESS; the author(s) may update the content as needed. Others are welcome to use this module or create a new derived module. You can COLLABORATE to improve this module by providing suggestions and/or feedback on your experiences with this module.

Funded by the National Science Foundation: "Collaborative Development of Ethics Across the Curriculum Resources and Sharing of Best Practices," NSF-SES-0551779

6.3 Pirate Code for Engineering Ethics

This content is available online here (http://cnx.org/content/m13849/1.10/).

6.3.1 Statements of Value/Codes of Ethics

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6.3.2 Module Introduction

In this module, you will learn about professional and occupational codes of ethics by looking at a bad code, writing your own code, and then critically examine a professional code of ethics, the engineering code for the Colegio de Ingenieros y Agrimensores de Puerto Rico. Three exercises will take you through the process of examining the Pirate Creed, writing your own code, and examining the Colegio's code. Text boxes will provide helpful background information on purposes served by professional codes, philosophical objections, and a framework for working your way through a stakeholder-based code like that of the CIAPR or the National Society of Professional Engineers. This module provides a Spanish translation of the Pirate Creed prepared by Dr. Dana Livingston Collins of the Department of Humanities in the University of Puerto Rico at Mayagüez.

Concluding this module are two word documents uploaded as media files. One provides the exercises that are presented in this module in XML format. The other provides the background information that has been presented in this module as Textboxes.

6.3.3 Module Activities

1. You will analyze the Pirate Creed in terms of (a) its different functions, (b) the community values it embodies, and (c) how it stands toward nonmembers of the pirate community as well as members.
2. You will write a code of ethics for an occupational or professional area such as business or engineering.
3. You will debrief the rest of the class on your group's code, clarify its functions and values, and defend it if necessary.
4. This module will conclude with a look at the code of ethics of the Puerto Rico State Society of Professional Engineers and Land surveyors or **Colegio de Ingenieros y Agrimensores de Puerto Rico**.

6.3.4 Pirates Creed of Ethics (translated into Spanish by Dana Collins)

1. El capitan tendra comando total durante una batalla y tendra la autoridad para dirigir el barco. El que no sigua al capitan podra ser castigado se la tripulaci6n no vota en contra del castigo.
2. Si el barco naufraga, la tripulaci6n permanecera unidos hasta el capitan consigue otra nave. Si la nave es propiedad comun de la tripulaci6n, la primera nave capturada pertenecera al capitan con una (1) parte de botfn.
3. El cirujano del barco recibira doscientas (200) coronas para el mantenimiento de su equipo medico y recibira una (1) parte del botfn.
4. Los otros ofciales recibiran una (1) parte cada uno, y si se distinguen, la tripulaci6n determinara cuanto recibiran como recompensa.
5. El botfn de una nave capturada sera distribuido en partes iguales.
6. El primero que seiale la aparici6n de un barco que sea capturado recibira cien (100) coronas.
7. El que pierda un ojo, una mano, o una pierna mientras esta en servicio, recibira hasta seis esclavos o seiscientas (600) coronas.
8. Los suministros y raciones seran compartidos por igual.
9. La penalidad por traer una mujer disfrazada a bordo es la muerte.
10. Si un hermano roba de otro, perdera su nariz u orejas. Se peca de nuevo, se le daran un mosquete, municiones, plomo y una botella de agua y sera abandonado en una isla.
11. Si hay duda en una disputa entre hermanos, una corte de honor determinara el veredicto. Si un hermano es encontrado culpable, la primera vez sera perdonado, pero al ofender de nuevo, sera atado a un cai6n y recibira un latigazo de cada miembro de la tripulaci6n. El mismo castigo sera dado a todos, incluyendo ofciales, quienes se emborrachen al punto de perder sus sentidos mientras esten en el barco.

12. El que se duerma mientras esta trabajando como centinela, recibiran latigazos por todos los miembros de la tripulaci6n. Se repite el crimen, su cabeza sera rajada.
13. A todos quienes conspiren para desertar, o lo que hayan desertado y sean capturados, sus cabezas seran rajadas.
14. Pelas entre varios hermanos mientras esten a bordo sera resueltos en tierra con pistolas y espadas. El que saque primera sangre sera el vencedor. No pueden golpear a otro mientras esten a bordo de la nave.

6.3.5 Exercise: Pirate Creed

- What is good about the Pirate Creed of Ethics?
- What is bad about the Pirate Creed of Ethics?
- What is the purpose of the Creed for the Pirate Community?
- What values are embedded in the Pirate Creed?
- How does the Pirate Creed deal with nonmembers?

6.3.6 Exercise: Writing a Code of Ethics for Engineers

- **Step One:** Identify the purpose behind your engineering code of ethics. For example, is it to punish wrongful behavior, provide a set of guidelines, educate the community, support ethical behavior, or create an ethics dialogue?
- **Step Two:** Identify the contributions that engineering makes to society.
- **Step Three:** Identify the stakeholders of the engineering profession. A stakeholder is any group or individual with a vital or essential interest tied to what engineers do. along with these stakeholders, identify their stakes, that is, the goods, rights, interests or values that are maintained, promoted, or diminished by what engineers do?
- **Step Four:** Enumerate the obligations or duties that engineers have toward each of these stakeholders. In other words, what can engineers do to maintain, promote, or diminish the stakes of each stakeholder?
- Step Five: Identify the conflicting obligations that arise from the fact that engineers have different stakeholders who hold conflicting stakes? Do any of these stakeholders or stakes have obvious priority over the others?
- **Step Six:** Step back and reflect on what you have written. For example, look for different kinds of provisions. Does your code use **ideals of the profession** which set forth the profession's central or cardinal objectives? Does your code contain **principles of professional conduct** which set forth minimal levels of behavior and prescribe sanctions and punishments for compliance failures? In the CIAPR **(Colegio de Ingenieros y Agrimensores de Puerto Rico**) code of ethics, the fundamental principles and basic canons set forth the ideals of the profession. The principles of professional conduct fall in the section on practical norms.
- **Step Seven:** The Final Audit. Submit your code to an overall audit to see if anything has been left out. Have you included all the stakeholders and their

stakes? Have you left out any ethical considerations such as rights and duties? Compare your code to the law. Are your code's provisions legal? Do they overlap with existing law? Do they imply criticisms of existing laws? If they imply punishments or sanctions, what measures does your code prescribe to administer justly and properly these sanctions? Finally, be sure to guard against the equal but opposite sins of over-specificity and too much generality. Overly specifc codes try to provide a rule for every possible situation. Because this is impossible, these codes tend toward rigidity, inflexibility, and irrelevance. Codes that are too general fail because they can be interpreted to rationalize any kind of claim and, thus, mask immoral actions and intentions.

6.3.7 Exercise: Studying the code of Ethics of the Colegio de Ingenieros y Agrimensores de Puerto Rico

- Identify the provisions that touch upon the relation of the engineer to the public. What goods are at stake in this relation? What can engineers do to preserve or promote these goods?
- Identify provisions that touch upon the relation of the engineer to the client. What goods are at stake in this relation? What can engineers do to preserve or promote these goods?
- Identify provisions that touch upon the relation of the engineer to the CIAPR (professional engineering society) What goods are at stake in this relation? What can engineers do to preserve or promote these goods?.
- Finally, identify provisions that touch upon the relation of the engineer to other engineers (peer relations). What goods are at stake in this relation? What can engineers do to preserve or promote these goods?

6.3.8 Textbox: Code of Ethics of Colegio de Ingenieros y Agrimensores de Puerto Rico (Puerto Rico State society of Professional Eng

- The CIAPR code of ethics has three parts:
- Part One: Three Fundamental Principles which express cardinal objectives for engineering practice in Puerto Rico
- Part Two: Ten Canons which set forth general rules for ethical engineering practice
- Part Three: Each canon is repeated followed by several practical norms by setting forth detailed rules, practical norms specify and interpret the basic canons. They also set forth specific and concrete rules for professional and ethical conduct
- The CIAPR code of ethics is a stakeholder code. This means it identifies engineering stakeholders, the goods they depend upon, and the duties engineers have in protecting or promoting these goods.

Key Engineer Relations

- The relation between engineer and **public** is founded on the goods of health, safety and welfare.
- The relation between engineer and **client** is founded on the good of faithful agency (trust).
- The relation between the individual engineer and the **profession** is founded on the engineer working to maintain the good reputation and integrity of the profession.
- The peer relation between practicing engineers is founded on the good of collegiality.

Engineer and Public

- Duties arising in this relation are tied to maintaining or promoting the goods of health, safety, and welfare. They include minimizing harm, avoiding paternalism (making decisions for others who have the right and ability to make these for themselves), free and informed consent (the right of those taking a risk to consent to that risk).
- FP1: Deberan considerar su principal función como profesionales la de servir a la humanidad. Su relación como professional y cliente, y como professional y patrono, debera estar sujeta a su función fundamental de promover el bienestar de la humanidad y la de proteger el interes publico.
- Canon 1: Velar por sobre toda otra consideración por la seguridad, el ambiente, la salud y el bienestar de la comunidad en la ejecuci6n de sus responsabilidades profesionales.
- Practical Norm 1d: Cuando tengan conocimiento o sufciente razón para creer que otro ingeniero o agrimensor viola las disposiciones de este Código, o que una persona o frma pone en peligro la seguridad, el ambiente, la salud o el bienestar de la comunidad, presentaran tal informaci6n por escrito a las autoridades concernidas y cooperaran con dichas autoridades proveyendo aquella información o asistencia que les sea requerida.

Engineer to Client

- Duties stemming from this relation arise out of faithful agency, that is, the responsibility of an engineer to remain true to the client's interests. Positively this includes exercising due care for the client by carrying out the client's interests through the exercise of sound, competent engineering professional judgment. Negatively this entails avoiding conflicts of interest and revealing the client's confidential information.
- **Faithful Agency:** Canon 4—Actuar en asuntos profesionales para cada patrono o cliente como agentes feles o fduciarios, y evitar confictos de intereses o la mera apariencia de estos, manteniendo siempre la independencia de criterio como base del profesionalismo.
- **Confict of Interest:** 4a—Evitaran todo conficto de intereses conocido o potencial con sus patronos o clientes e informaran con prontitud a sus patronos o clientes sobre cualquier relaci6n de negocios, intereses o circunstancias que pudieran infuenciar su juicio o la calidad de sus servicios.

- **Confdentiality:** 4i—Trataran toda informaci6n, que les llegue en el curso de sus encomiendas profesionales, como confdencial y no usaran tal informaci6n como medio para lograr benefcio personal si tal acci6n es adversa a los intereses de sus clientes, de sus patronos, de las comisiones o juntas a las que pudiera pertenecer o del publico.

Engineer to Profession

- This includes working to promote the profession's **autonomy and independence** as well as maintaining its **good reputation**. Moreover it requires that engineers participate in their professional society, work to advance engineering, be objective and impartial in their work, and associate only with persons of **good reputation**.
- **Canon 3:** Emitir declaraciones publicas unicamente en una forma veraz y objetiva.
- **Practical Norm 3a:** Seran objetivos y veraces en informes profesionales, declaraciones o testimonios. Incluiran toda la informaci6n relevante y pertinente en tales informes, declaraciones o testimonios.

Engineer to Engineer

- This relation is based on the good of **Collegiality**. It requires that engineers work to maintain friendly and collaborative relations with other engineers by avoiding disloyal competition and comparative advertising and by always giving peers due credit for their contributions to engineering projects and designs.
- **Practical Norm 4l:** Antes de realizar trabajos para otros, en los cuales puedan hacer mejoras, planos, diseios, inventos, u otros registros, que puedan justifcar la obtenci6n de derechos de autor o patentes, llegaran a un acuerdo en relaci6n con los derechos de las respectivas partes. (Give due credit to colleagues for their work).
- **Canon 5:** Edifcar su reputación professional en el merito de sus servicios y no competir deslealmente con otros. (Avoid disloyal competition)
- **Practical Norm 6b:** Anunciaran sus servicios profesionales sin auto-alabanza y sin lenguaje en gaioso y de una manera en que no se menoscabe la dignidad de sus profesiones. (Non-comparative advertising)
- **Practical Norm 5h:** No trataran de suplantar, ni suplantaran otro ingeniero o agrimensor, despues de que una gestión profesional le haya sido ofrecida o confada a este, ni tampoco competira injustamente con el. (**Avoid disloyal competition**)

6.3.9 Professional Codes as Social Contracts

- What some have said about defining ethics could also be applied to defining a profession: it's a bit like *"nailing jello to a tree."* Nevertheless, we can make to reasonable claims about professions: tye can be treated as social contracts, and they have something to do with specialized knowledge. If these two claims hold,

then a third claim can be made, namely, that professions have an ineliminable ethical dimension.

- A legitimate contract between two parties requires a **quid pro quo** (a mutually beneficial exchange) and free consent (consent that includes full information and excludes force or deception). The social contract between engineering and society can be pictured int he following way:

Society grants to Profession	Profession grants to Society
Autonomy	Self-Regulation
Prestige	Primacy of public health, safety, and welfare
Monopoly	Developing and enforcing ethical and professional standards

Table 6.3 Profession as Social Contract

Society grants autonomy, prestige, and monopoly control to the profession of engineering.

1. Autonomy includes freedom from regulation and control from the outside through cumbersome laws, regulations, and statutes.
2. Prestige includes high social status and generous pay.
3. Monopoly status implies that the profession of engineering itself determines who can practice engineering and how it should be practiced.
4. The profession promises to use its autonomy responsibly by regulating itself. it does this by developing and enforcing professional and ethical standards. By granting prestige to the profession, society has removed the need for the profession to collectively bargain for its self-interest.
5. Not having to worry about its collective self-interest, the profession is now free to hold paramount the health, safety, and welfare of the public.
6. This contract explains why professions develop codes of ethics. Codes document to the public the profession's commitment to carry out its side of the social contract, namely, to hold paramount public welfare. They can do this because society will honor its side of the contract, namely, to remove from the profession the need to fight for its self-interest

This social contract is more symbolic and explanatory than real.

- Codes allow the profession to document to society that it has developed proper standards and intends to enforce them. They express the profession's trust in society to keep its side of the bargain by granting autonomy, prestige, and monopoly. Of course this contract has never been explicitly enacted at a point in historical time. But the notion of a social contract with a mutually beneficial

exchange (a quid pro quo) provides a useful device for modeling the relation that has actually evolved between society and its professions.

Professions and Responsibility

- Professions have been created to exercise stewardship over knowledge and skill domains.
- Exercising stewardship over X generally means watching over, preserving, protecting, and even improving X. Stewardship is a forward-looking kind of responsibility similar to the responsibility that a parent exercises toward his or her children. The steward is a trusted servant or agent of the landowner who acts in the owner's place while the later is absent or incapacitated.
- "Stewardship," thus, refers to the profession's responsibility to safeguard its specific domain of knowl edge and skill. This domain is essential to society in some way (it provides society with a basic, common good) and society delegates responsibility for this domain to its members who are specially suited to exercise it.
- So, generally speaking, professions can be characterized in terms of epistemological and ethical responsibilities.
- The epistemological responsibility refers to stewardship over the knowledge and skills that characterizes the profession. The profession preserves, transmit, and advances this domain of knowledge and skill. (Epistemology study of knowledge.)
- The ethical dimension refers to the responsibility of the profession to safeguard knowledge and skill for the good of society. Society trusts the profession to do this for the sake of the common good. Society also trusts the profession to regulate its own activities by developing and enforcing ethical and professional standards.

6.3.10 Objections to and Mischievous Side Effects of Codes of Ethics

These objections are taken from John Ladd, "The Quest for a Code of Professional Ethics: An Intellectual and Moral Confusion." This article can be found in Deborah G. Johnson, editor, (1991) Ethical Issues in Engineering, New Jersey: Prentice Hall: 130-136. The author of this module has taken some liberties in this presentation.

- **Codes** *"confuse ethics with law-making"* (Ladd, 130). Ethics is deliberative and argumentative while law-making focuses on activities such as making and enforcing rules and policies.
- **A code of ethics is an oxymoron.** Ethics requires autonomy of the individual while a code assumes the legitimacy of an external authority imposing rule and order on that individual.
- **Obedience to moral law for autonomous individuals is motivated by respect for the moral law. On the other hand, obedience to civil law is motivated by fear of punishment.** Thus, Ladd informs us that when one attaches *"disciplinary*

procedures, methods of adjudication and sanctions, formal and informal, to the principles that one calls 'ethical' one automatically converts them into legal rules or some other kind of authoritative rules of conduct...." (Ladd 131) Accompanying code provisions with punishments replaces obedience based on respect for the (moral) law with conformity based on fear of punishment.

- **Codes lead to the dangerous tendency to reduce the ethical to the legal.** Ethical principles can be used to judge or evaluate a disciplinary or legal code. But the reverse is not true; existing laws cannot trump ethical principles in debates over ethical issues and ethical decisions. As Ladd puts it, *"That is not to say that ethics has no relevance for projects involving the creation, certification and enforcement of rules of conduct for members of certain groups....[I]ts [ethics's] role in connection with these projects is to appraise, criticize and perhaps even defend (or condemn) the projects themselves, the rules, regulations and procedures they prescribe, and the social and political goals and institutions they represent."* (Ladd 130)
- **Codes have been used to justify immoral actions.** Professional codes have been misued by individuals to justify actions that go against common morality. For example, lawyers may use the fact that the law is an adversarial system to justify lying. Ladd responds in the following way to this dodge: "{T}here is no special ethics belonging to professionals. Professionals are not, simply because they are professionals, exempt from the common obligations, duties and responsibilities that are binding on ordinary people. They do not have a special moral status that allows them to do things that no one else can." (Ladd 131)

Mischievous Side-Effects of Codes (from John Ladd)

- **Codes make professionals complacent.** (Ladd 135) First, they reduce the ethical to the minimally acceptable. Second, they cover up wrongful actions or policies by calling them-within the context of the code-"ethical". For example, the NSPE code of ethics used to prohibit competitive bidding. Enshrining it in their code of ethics gave it the appearance of being ethical when in fact it was motivated primarily by self interest. This provision was removed when it was declared unconstitutional by the U.S. Supreme Court for violating the Anti-Trust law.
- Because codes focus on micro-ethical problems, ***"they tend to divert attention from macro-ethical problems of a profession."*** (Ladd 135) For example, in Puerto Rico, the actions of the Disciplinary Tribunal of the Colegio de Ingenieros y Agrimensores de Puerto Rico tend to focus on individual engineers who violate code provisions concerned with individual acts of corruption; these include conflicts of interest, failing to serve as faithful agents or trustees, and participating in corrupt actions such as taking or giving bribes. On the other hand, the CIAPR does not place equal attention on macro-ethical problems such as *"the social responsibilities of professionals as a group"* (Ladd 132), the role of the profession and its members in society (Ladd 135), and the *"role professions play in determining the use of technology, its development and expansion, and the distribution of the costs."* (Ladd 135)

6.3.11 Exercise: Questions for Refection

1. Which of Ladd's criticisms apply to the Pirate Creed?
2. How does your group's code of ethics stand in relation to Ladd's criticisms?
3. Do Ladd's objections apply t the ABET, NSPE, or CIAPR codes?

WORD FILE

To view, please see here (http://cnx.org/content/m13849/latest/Code%20EX%20Bx%201.doc)

6.4 Developing Ethics Codes and Statements of Values

This content is available online here (http://cnx.org/content/m14319/1.9/).

6.4.1 Module Introduction

Codes of ethics evoke opposite reactions from people who teach, do research in, or are practitioners of occupational and professional ethics. Some hold that teaching codes of ethics is essential to preparing students for their future careers. Corporations, for example, have come to view codes as the cornerstone of a successful compliance program. Professional societies, such as the **Puerto Rico State Society of Professional Engineers and Land Surveyors**, also make the drafting, revising, and disseminating professional codes of ethics a central part of practicing professional engineering ethics. But many strongly oppose codes because they promote the wrong sorts of attitudes in those who would be influenced by them. As you will see below, philosophical ethicists raise objections to codes because they undermine moral autonomy, lead to uncritical acceptance of authority, and replace moral motives with fear of punishment. These polar stances are grounded in the very different perspectives from which different groups approach codes. But they are also grounded in the fact that codes take many different forms and serve distinct functions. For example, consider the introductory considerations presented in the following:

6.4.1.1 Different Uses for Codes

Kinds of Codes

- **Professional Codes of Ethics.** Professions such as engineering and accounting have developed codes of ethics. These set forth the ideals of the profession as well as more mundane challenges faced by members. Engineering codes, for example, set forth service to humanity as an ideal of the profession. But they also provide detailed provisions to help members recognize conflicts of interest, issues of collegiality, and confidentiality responsibilities.
- **Corporate Codes of Ethics.** Corporate codes are adopted by many companies to respond better to the Federal Sentencing Guidelines. These codes provide guidelines on particularly sticky issues (When does a gift become a bribe?) They also set forth provisions that express the core values of the corporation. These lengthy codes with detailed provisions support a compliance approach to organizational discipline.
- **Corporate Credos.** Some companies have shortened their lengthy codes into a few general provisions that form a creed. Johnson and Johnson's Credo is famous in this respect and can be found by clicking on the Business Ethics Library link provided above.
- **Statements of Values.** Finally, more mature companies find it useful to express and disseminate their core value commitments in Statements of Values. These form the basis of values-based decision-making. While codes of ethics clearly establish minimum standards of acceptable conduct, Statements of Values outline the aspirations that can drive companies toward continuous improvement.

Functions or Purposes Served by Codes

- **Discipline.** This function gets all the attention. Most codes are set forth to establish clearly and forcefully an organization's standards, especially its minimum standards of acceptable conduct. Having established the limits, organizations can then punish those who exceed them.
- **Educate.** This can range from disseminating standards to enlightening members. Company A's employees learned that anything over $100 was a bribe and should not be accepted. But engineers learn that their fundamental responsibility is to hold paramount public safety, health, and welfare. Codes certainly teach minimum standards of conduct, but they can help a community to articulate and understand their highest shared values and aspirations.
- **Inspire.** Codes can set forth ideals in a way that inspires a community's members to strive for excellence. They can be written to set forth the aspirations and value commitments that express a community's ideals. They can point a community toward moral excellence.
- **Stimulate Dialogue.** Engineering professional codes of ethics have changed greatly over the last 150 years. This has been brought about by a vigorous internal debate stimulated by these very codes. Members debate controversial claims and work to refine more basic statements. Johnson and Johnson credits their credo for their proactive and successful response to the Tylenol crisis. Regularly, employees "challenge the credo" by bringing up difficult cases and testing how effectively the credo guides decision-making and problem-solving. The CIAPR's Disciplinary Tribunal cases have served as a focus for discussions on how to interpret key provisions of the organization's code of ethics. The NSPE

Board of Ethical Review decisions have also provided an excellent forum for clarifying ethical concepts (public safety, conflict of interest) in the context of cases brought to the board by NSPE members. The BER discusses cases in terms of relevant provisions of the NSPE code. Over the years, the NSPE BER has established a firm foundation for the resolution of difficult ethical cases by developing analogies with cases it has already discussed and clarified.

- **Empower and Protect.** Codes empower and protect those who are committed to doing the right thing. If an employer orders an employee to do something that violates that employee's ethical or professional standards, the code provides a basis for saying, **"No!"**. Engineers have refused to carry out directives that place in jeopardy the health and safety of the public based on statements like canon 1 of the CIAPR code. (The NSPE code has similar provisions.) Because codes establish and disseminate moral standards, they can provide the structure to convert personal opinion into reasoned professional judgment. To reiterate, they provide support to those who would do the right thing, even under when there is considerable pressure to do the opposite.
- **Codes capture or express a community's identity.** They provide the occasion to identify, foster commitment, and disseminate the values with which an organization wants to be identified publicly. These values enter into an organization's core beliefs and commitments forming an identify-conferring system. By studying the values embedded in a company's code of ethics, observing the values actually displayed in the company's conduct, and looking for inconsistencies, the observer can gain insight into the core commitments of that company. Codes express values that, in turn, reveal a company's core commitments, or (in the case of a hypocritical organization) those values that have fallen to the wayside as the company has turned to other value pursuits.

Difficulties with Codes

- The following objections lead philosophers to argue that presenting codes of ethics in ethics classes undermines several key moral attitudes and practices.
- Codes can undermine moral autonomy by habituating us to act from motives like deference to external authority and fear of punishment. We get out of the habit of making decisions for ourselves and fall into the habit of deferring to outside authority.
- Codes often fail to guide us through complex situations. Inevitably, gaps arise between general rules and the specific situations to which they are applied; concrete situations often present new and unexpected challenges that rules, because of their generality, cannot anticipate. Arguing that codes should provide action recipes for all situations neglects the fact that effective moral action requires more than just blind obedience to rules.
- Codes of ethics can encourage a legalistic attitude that turns us away from the pursuit of moral excellence and toward just getting by or staying out of trouble. For example, compliance codes habituate us to striving only to maintain minimum standards of conduct. They fail to motivate and direct action toward aspirations. Relying exclusively on compliance codes conveys the idea that morality is nothing but staying above the moral minimum.

This module is designed to steer you through these complex issues by having you draft a **Statement of Values** for students at your university. As you work through your Statement of Values, you will learn that codes have strengths and weaknesses, serve different functions, and embody values. To get you started in this process, you will study a defective code, the Pirate Credo. A quick glance is all that is needed to see that codes are "all too human" and need to be approached critically. In a second activity you will identify the values embedded in professional, corporate, and academic codes. Working with these values, you will develop a list upon which your group will build its own Statement of Values in a third activity. Finally, you will construct value profiles that include a general description, sample provisions, value-based challenges, and value principles. These will all contribute to motivating those in your community to commit to and work in concert to realize these values.

6.4.2 How an academic community developed a Statement of Values

A False Start

The faculty of the Arts and Sciences College of University X decided to form a committee to write a code of ethics. This committee met several times during the course of an academic semester to prepare the first draft. When they finished, they circulated copies throughout the college. Then they held a series of public hearings where interested members of the College could criticize the code draft. These were lightly attended and those attending had only a few suggestions for minor changes. However, when the code was placed before the faculty for approval, considerable opposition emerged. For example, a provision discouraging faculty from gossiping was characterized by opponents as an attempt by a hostile College administration, working through the committee, to eliminate faculty free speech. Several opponents expressed opposition to the very idea of a code of ethics. "Does the administration think that our faculty is so corrupt," they asked, "that the only hope for improvement is to impose upon them a set of rules to be mindlessly followed and ruthlessly enforced?" At the end of this debate, the faculty overwhelmingly rejected the code.

Reflections on "A False Start"

- Should codes of ethics be democratically developed from the "bottom up" or should they be authoritatively imposed from the "top down?" Or does this depend on certain characteristics of the community? Maybe corporate managers should have lawyers draft their codes to meet the Federal Sentencing Guidelines; these completed codes should then be implemented throughout the company at all levels. Maybe academic communities should democratically determine their own codes, and if they are unable to do so, then so much the worse for the "very idea" of a code of ethics.
- The **Ethics of Team Work** module presents three ways that lead groups to go off the tracks: Group Polarization, Groupthink, and "Going to Abilene." Do you think

that any of these would explain false starts in developing a code of ethics? How can these group pitfalls be overcome?

- Groups are often polarized around different and conflicting ideologies or paradigms. Thomas Kuhn discusses paradigms in the context of scientific debates. When these debates are fueled by conflicting and incompatible paradigms, they can turn acrimonious and prove extraordinarily difficult to resolve. For Kuhn, paradigms articulate and encapsulate different world views; the meanings and experiences shared by one group operating under one paradigm are often not shared by those operating under different paradigms. Members of the Arts and Sciences faculty of University X may have disagreed about the provisions proscribing gossiping because they were operating under different conceptual systems brought about by incommensurable paradigms. If faculty members assumed different meanings for 'gossiping', 'code', and 'discipline', then this would fuel the polarization of non-agreement like that which occurred at University X.
- Cass Sunstein proposes that communities work around ideological or paradigm-driven disputes by developing, in special circumstances, "incompletely theorized agreements." These agreements are brought about by bracketing commitments to a given ideology or paradigm. This allows one side to work on understanding the other instead of marshaling arguments to defend the set of views entailed by its paradigm. So Sunstein's recommendation to the College of Arts and Sciences of University X would be to suspend commitment to defending the core beliefs of the conflicting ideologies and try to hold discussions at a more concrete, incompletely theorized level. This makes finding common ground eas ier. When shared understandings are forged, then they can serve as bridges to more complex, more completely theorized positions.
- Looking at this problem from a completely different angle, do codes of ethics require a background of trust? If so, how can trust be built up from within highly diverse and highly polarized communities or groups?
- Finally, can codes of ethics be abused by more ruthless groups and individuals? For example, as those in the College of Arts and Sciences claimed, can codes of ethics be used by those in positions of power to strengthen that power and extend control over others?

A Success Story

- Three years later at the same university, another faculty group set out to construct a code of ethics in order to respond to accreditation requirements. They began with the idea of constructing a stakeholder code.
- First, they identified the stakeholders of the college's activities, that is, groups or individuals who had a vital interest in that community's actions, decisions and policies.
- Second, they identified the goods held by each of these stakeholders which could be vitally impacted by the actions of the college. For example, education represented the key good held by students that could be vitally impacted by the activities and decisions of the College.
- Working from each stakeholder relation and the good that characterized that relation, members of the college began crafting code provisions. Some set forth

faculty duties such as keeping regular office hours, grading fairly, and keeping up to date in teaching and research. Others emphasized student duties such as working responsibly and effectively in work teams, adhering to standards of academic honesty, and attending classes regularly.

Because stakeholder codes embody a community's values, the individuals in charge of drafting the code decided that a more direct approach would be to identify the embodied values and refine them into a Statement of Values. This formal statement could later be developed in different directions including a more detailed compliance code.

Turning their efforts toward preparing a Statement of Value Process, the Business Administration com munity went through the following steps:

1. They discussed a flawed document, the Pirate Credo. This brought about three positive results: participants came to see how codes embody values, that codes serve different functions, and that codes clarify relations between the insiders and outsiders of a community.
2. Participants examined "bona fide" codes of ethics such as academic codes, codes of honor, corporate codes, and professional codes. Since codes embody values, they developed lists of the values these codes embodied.
3. The sample provisions crafted in the earlier stakeholder code effort were presented so that participants could identify the values these embodied. Previous efforts in developing a stakeholder code could be benchmarked against the codes studied in the previous step. Convergences and divergences were noted and used to further characterize the college's community in terms of its similarities and differences with other communities.
4. In this step, faculty members were asked to reduce the values list to a manageable number of five to seven. This led to the most contentious part of the process. Participants disagreed on the conception of value, the meaning of particular values like justice, and on whether rights could be treated as values.
5. To resolve this disagreement, discussion leaders proposed using ballots to allow participants to vote on values. This process was more than a simple up or down vote. Participants also ranked the values under consideration.
6. After the top five values were identified, efforts were made, in describing each of the remaining values, to find places to include at least components of the values left out. For example, while confidentiality was not included in the final value list, it was reintegrated as a component of the more general value of respect. Thus, the final values list could be made more comprehensive and more acceptable to the faculty community by reintegrating some values as parts of other, more general values. Another way of picking up values left behind in the voting process was to combine values that shared significant content. Values that did not make it into the final list were still noted with the provision that they could be integrated into subsequent drafts of the Statement of Values.
7. A committee was formed to take each value through a value template. After describing the value, they formulated a principle summarizing the ethical obligations it entailed, crafted sample provisions applying the value, and posed different challenges the value presented to help guide a process of continuous improvement.

8. The committee presented its results to the faculty who approved this first draft Statement of Values
9. The faculty then developed a schedule whereby the Statement of Values would be revisited, expanded, revised, and improved.

6.4.3 Textbox: Responding to the Federal Sentencing Guidelines

Recent efforts to develop ethics codes in the academic context for both students and faculty may, in part, stem from the success of ethics compliance programs developed in business and industry in response to the Federal Sentencing Guidelines. Organizational codes of ethics have been integrated alongside other compliance structure and activities to prevent criminal behavior, to detect criminal behavior, and to ensure prompt and effective organizational response once such behavior has been detected.

The following section contains short exerpts from the Federal Sentencing Guidelines. For more details consult the materials referenced in note 5 below.

- "The hallmark of an effective program to prevent and detect violations of law is that the organization exercised due diligence in seeking to prevent and detect criminal conduct by its employees and other agents. Due giligence requires at a minimum that the organization must have taken the following types of steps:
- The organization must have established compliance standards and procedures to be followed by ite employees and other agents that are reasonably capable of reducing the prospect of criminal conduct.
- Specific individual(s) within high level personnel of the organization must have been assigned overall responsibility to oversee compliance with such standards and procedures.
- The organization must have used due care not to delegate substantial discretionary authority to individuals whom the organization knew, or should have known through the exercise of due diligence, had a propensity to engage in illegal activities.
- The organization must have taken steps to communicate effectively its standards and procedures to all employees and other agents, e.g., by requiring participation in training programs or by disseminating publications that explain in a practical manner what is required.
- The organization must have taken reasonable steps to achieve compliance with its standards, e.g., by utilizing monitoring and auditing systems reasonably designed to detect criminal conduct by its employees and other agents and by having in place and publicizing a reporting system whereby em ployees and other agents could report criminal conduct by others within the organization without fear of retribution.

Recommendations by the Federal Sentencing Guidelines for an Effective Compliance Program

- Appointing individuals to serve as ethics or compliance officers
- Developing corporate credos and codes of ethics that effectively communicate an organization's ethical standards and expectations to employees.
- Designing ethics training programs for all employees
- Designing and implementing monitoring and auditing systems
- Designing and implementing an effective system of punishments and sanctions. These must be accom panied by investigative procedures that respect employee due process rights.

6.4.4 Textbox: Compliance Oriented Codes and Programs Versus Values Oriented Codes and Programs

Compliance Strategy

1. The initial and still probably the most prevalent method for responding to the Federal Sentencing Guidelines is the compliance strategy. This strategy is based on three interrelated components:
2. **Rules:** Compliance strategies are centered around strict codes of ethics composed of rules that set forth minimum thresholds of acceptable behavior. The use of rules to structure employee action does run into problems due to the gap between rule and application, the appearance of novel situations, and the impression that it gives to employees that obedience is based on conformity to authority.
3. **Monitoring:** The second component consists of monitoring activities designed to ensure that em ployees are conforming to rules and to identify instances of non-compliance. Monitoring is certainly effective but it requires that the organization expend time, money, and energy. Monitoring also places stress upon employees in that they are aware of constantly being watched. Those under observation tend either to rebel or to automatically adopt behaviors they believe those doing the monitoring want. This considerably dampens creativity, legitimate criticism, and innovation.
4. **Disciplining Misconduct:** The last key component to a compliance strategy is punishment. Pun ishment can be effective especially when establishing and enforcing conduct that remains above the criminal level. But reliance on punishment for control tends to impose solidarity on an organization rather than elicit it. Employees conform because they fear sanction. Organizations based on this fear are never really free to pursue excellence.

Values Orientation

1. To facilitate comparison, three correlative but different elements to Values-Based or aspirationnal approaches will be identified.
2. **Development of Shared Values:** Using a process similar to the one described above, a company develops a Statement of Shared Values. These provide guidelines that replace the hard and fast rules of a compliance code. Statements in values-oriented codes play a different logical function than statements in

compliance codes. "Principles of Professional/Organizational Conduct" in compliance codes specify circumstances of compliance: time, agent, place, purpose, manner, etc. These provide sufficient content to set forth principles of professional conduct as rules that can be violated. This, in turn, allows them to be backed by punishment for violation. "Ideals of the Profession" (or organization) set forth a community's shared aspirations. These are pitched at a level well above and beyond the minimum. Communities can and should define themselves as much by their aspirations as by their threshold standards.

3. **Support for Employees:** Since Statements of Values set forth excellences or aspirations, the role of the organization changes from monitoring and then punishing misbehavior to finding ways of opening avenues for employees to realize key values in their day to day activity. Excellence is not something to be reached overnight. It requires rethinking basic motivations, attitudes, beliefs, and goals. Companies need to identify obstacles to achieving ideals and then develop support structures to help those who seek to realize ideals. Values-based approaches change from punishing conduct that falls below the minimum to providing collective support to those who strive for the excellent.
4. **Locking in on Continual Improvement:** The philosopher, John Dewey, characterizes moral re sponsibility as the drive to better ourselves. The particular twist in Dewey's approach is to find ways of folding what has been learned from the past into meeting new challenges that arise in the future. This involves changing habits and, ultimately, changing character. Continual improvement is the ultimate goal of corporations oriented toward excellence. The values these "moral ecologies" identify structure and channel this endeavor. What is needed at this stage is to develop concrete programs and strategies for identifying obstacles to excellence, removing them, and remaining on track for excellence.
5. To summarize, some companies identify a compliance strategy where they set forth rules that establish minimum levels of acceptable conduct, monitor compliance, and punish non-compliance. Others, value-oriented or aspiration-oriented companies, identify core values or aspirations (by reflecting on community values and finding them embedded in extant codes of ethics), develop programs and structures to support those who strive for these values, and work to lock in a program of continual improvement or betterment.
6. **Something to think about.** Compliance approaches work best in what of company, organization or moral ecology. (Think about this in terms of the central or core commitments such as those in finance-, customer-, and quality-driven companies.) Values-based approaches work best in what kind of company, organization or moral ecology? How does one transition from compliance to values-based approaches? How does one integrate the two?

6.4.5 Exercise: Evaluating the Pirate Credo

Read the Pirate Credo. Then answer the following questions individually

- What is good about the Pirate Credo?
- What is bad about the Pirate Credo?

- What is the purpose served by the Pirate Credo? For the Pirate Community? For non-members?

6.4.6 Exercise: Developing Corporate Codes of Ethics

1. Ethics Bowl Corporations. You have been assigned corporations corresponding to two of the six ethics bowl cases. For your presenting corporation, you will be developing a partial code of ethics. For the commenting corporation, you need to familiarize yourself with the moral ecology of the corporation, its needs, and be ready to comment on the code offered by another group.
2. What kind of moral ecology is predominate in your corporation? Is it financial-, customer-, or quality-driven. Look at how the type of moral ecology structures other organizational activities: allocation of praise and blame, exchange of information, treatment of dissenting opinions, and central of moral concerns. All of these issues need to be addressed directly or indirectly in your code.
3. What is the ethical challenge that is highlighted in the ethics bowl scenario based on your case. For this information go to the "Ethics Bowl in the Environment of the Organization" module. m21191.
4. What functions are you addressing in your code outline? Looking above, these would include educate, inspire, create dialogue, discipline, empower, secure and express identity.
5. Develop within the time available a sketch of a code. This could be a section of a compliance code, a corporate credo, or a statement of values. In choosing your form, think carefully about the function(s) of your code. Have something that you can present, informally, for around 3 to 5 minutes.

6.4.7 Exercise: Evaluating Bona Fide Codes of Ethics

Form small work teams of four to five individuals. Carry out the following four steps and report your results to the rest of the group.

1. **Review** a few sample codes per team.
2. **List** the values you identify in the codes. Express each value as a word or in as few words as possible.
3. **Identify** any recurring values.
4. **Record** and post the list of values.

6.4.8 Exercise: Do a Statement of Values for Students at Your University

In this third exercise, work with your group to develop a refined list of five to seven values. You can refine your list by integrating or synthesizing values,

grouping specific values under more general ones, and integrating values into others as parts. Do your best to make your list comprehensive and representative.

1. **Brainstorm:** list the values for your group. Keep in mind that values are multi-dimensional. For example, in the academic context, the values will break down into dimensions corresponding to stake holder: faculty, students, administration, and other academic stakeholders.
2. **Refine:** reduce your list to a manageable size (5-7). Do this by rewording, synthesizing, combining, and eliminating.
3. **Post:** share your list with the entire group.
4. **Revise:** make any last minute changes.
5. **Combine:** a moderator will organize the lists into a ballot
6. **Vote:** Each person ranks the top five values

6.4.9 Exercise-Conveying Our Values: Crafting a Values-Based Code

Each value in your Statement of Values needs to be accompanied by a Value Profile. Give a description of the value in everyday, non-technical terms. Think concretely. For example, those who exemplify your value behave in a certain fashion, exhibit certain commitments, pursue certain projects, and show certain attitudes and emotions. Try to think of general guidelines to keep in mind when working to realize your value. Finally, values challenge us because portray our aspirations. Think of specific ways values challenge us. For example, students may set for themselves the challenge of working responsibly in teams. They can further spell out what kinds of actions and attitudes this might require. Faculty members might set for themselves the challenge of grading more fairly. This could require actions like developing rubrics and refining exams to make them clearer. The purpose of this fourth exercise is to provide content to your statement of values and begin its implementation in your community. The following steps ennumerated below will help.

1. **Value:** Responsibility
2. **Description:** a responsible person is a person who...
3. **Principle:** The faculty, students, and staff of the college of business Administration will...
4. **Commitments:** Keep office hours, do your fair share in work teams, divide work into clear and coordinated tasks, tec.

6.4.10 Exercise: Creating Awareness of the UPRM College of Business Administration Statement of Values

This exercise provides you an opportunity to study and discuss the UPRM College of Business Administration Statement of Values (available via the PREREQUISITE LINKS). Your task consists of the following tasks:

- Read the entire UPRM CBA Statement of Values (individually)
- Discuss the particular section/value assigned to your group and briefly describe what commitments or challenges does this value present for the students, faculty and/or staff of the CBA
- List the most important commitments or challenges as precise and concise principles

6.4.11 Exercise: Assessing the UPRM College of Business Administration Statement of Values

This exercise offers four scenarios in academic integrity. Your job is to discuss each scenario in terms of the values listed in the UPRM College of Business Administration Statement of Values (available via the PREREQUISITE LINKS).

Marta Acevedo, a business administration student, has a report due tomorrow. She has been overwhelmed for the last few weeks with assignments from other classes and doesn't really have time to complete this exercise. She discovers that her roommate took this same class the previous semester and has a complete report on disk. She considers using her roommate's report. Should she? What would you do if you were her?

- Is Marta threatening any of the values listed in the ADEM SOV? Which ones?
- What can be done prevent this kind of problem from arising in the first place? Should Marta have planned her course load better when registering? Can teachers coordinate to prevent overloading students with the same deadlines? Whose fault is this? The students? The teachers? The system?
- Can this problem be posed as a conflict between ADEM values and other values held by students and teachers? If so, what are values that are in conflict? How can these conflicts be addressed?
- Do you think the ADEM SOV adequately addresses this problem? If not, how can it be improved?

You are head of your department. A recent study has revealed that plagiarism, which is a university-wide problem, is especially bad in your department. Imagine your relief when a member of your faculty brings you his latest software project, a super-effective and comprehensive anti-plagiarism software program. This program does everything. It detects subtle changes in style in

student papers. Its new search engine quickly connects to existing online paper data bases, greatly expanding the ability of a professor to detect the sources from which their students have copied. Furthermore, it allows professors to upload papers and projects from past semesters and provides fast and flexible indexing to help them identify recycled student work. Professors can zero in on students using recycled papers, and the former students who have become their suppliers. Following the recent lead of Ohio State University, you can now revoke the degrees of past students who participate in this version of academic dishonesty. In short, this new and exciting software package allows you to monitor the work of present and past students to a degree thought impossible even in the recent past. "Plagiarism," your colleague tells you, "will now become a thing of the past."

- Does this anti-plagiarism program threaten any of the values in the ADEM SOV? If so, which values?
- Is the department chairperson treating students disrespectfully by adopting and implementing the anti-plagiarism software? Can faculty treat students disrespectfully as "justifiable" retaliation for student cheating and plagiaring? Do two wrongs make a right?
- What is the cause of plagiarism? Do students do it out of ignorance of standards and practices of documentation and acknowledgment? Do they do it because they procrastinate until they do not have time to do the assignment properly? Do students resort to plagiarism because they have too many conflicting obligations such as family, job, large course loads, etc.?

You teach an advanced course in Engineering Economics that has both graduate and undergraduate students. At the end of the semester the students turn in a group project that comprises 40% of their grade. One of the groups complains to you that only 4 out of the 5 members have done any work. The fifth student, the one who allegedly has done no work, is an undergraduate. The others are graduate students. You talk with the undergraduate who claimed that she tried to involve herself in the group activities but was excluded because she was an undergraduate. What should you do?

- ADEM faculty have identified students not working together effectively in groups as a major concern. Do you find this a problem? What do you think are the causes of students not participating effectively in work groups?
- Assume that the teacher in this case is committed to implementing the ADEM SOV. Which values are at play in this case? Design an action for the teacher that realizes these values?
- Assume you are a member of this student work group. What can groups do to ensure that every member is able to participate fully? What do group members do to exclude individuals from participating?

You are studying frantically for your exam in a computer engineering course. It will be very difficult. But your roommate, who is also taking the course and has the exam tomorrow, seems unconcerned. When you ask why, he tells you that he has a copy of the exam. Apparently, a group of students in the class found out how to hack into the professor's computer and download the exam. (They

installed a Trojan horse called Sub-Seven into the professor's computer which allows unauthorized access; then they searched through the professor's files, found the exam and downloaded it.) Your roommate has the exam in his hand and asks you if you would like to look at it. What should you do?

- A group of students in a computer ethics class created a survey that asked students if they would avail themselves of exams obtained through means such as that described in the scenario above. Sixty percent of the respondents said that they would. Compare this to the value commitments expressed in the ADEM SOV? Is there a gap between aspiration and behavior? What can be done to reduce this gap?
- Suppose you took the exam. Would this have any long term effects on your character? Would acting dishonestly this time make it easier to do so in the future?
- Suppose you wish to uphold standards of academic integrity in this case and not take the exam. Should you turn your roommate in to the teacher? Would keeping this exam theft a secret undermine any of the UPRM ADEM values? If so, which ones?

You have now discussed some or all of the above cases in terms of the ADEM Statement of Values. What do you think are the strengths of this document? What are its weaknesses? Do you recommend any changes? What are these?

Sources for Cases

- Case 1 has been developed by William Frey, Chuck Huff, and Jose Cruz for their book, Good Computing: A Virtue Approach to Computer Ethics. This book is currently in draft stage and is under contract with Jones and Bartlett Publishing Company.
- Cases 2 and 3 were developed by UPRM faculty teams from the College of Engineering during workshops held for the ABET 2001 Steering Committee and the Department of Industrial Engineering. These workshops took place April 6, 2001 and May 14, 2001.
- Case 4 has been modified from "The Plagiarism Detector" written by Moshe Kam. It can be found at the beginning of the ethics chapter in Practical Engineering Design, edited by Maja Bystrom and Bruce Eisenstein. Moshe Kam. "The Plagiarism Detector", in Practical Engineering Design, edited by Maja Bystrom and Bruce Eisenstein. Boca Raton, FLA: CFC Press, 2005: 27-28.

6.4.12 Assessment Tools

Ethics Across the Curriculum Matrix

Please view or download it at EACMatrix Template ADEM Feb 17.doc (http://cnx.org/content/m14319/latest/EACMatrix_Template_ADEM_Feb_17.doc)

This table will help you document your class discussion of the ADEM Statement of Values.

Muddy Point Exercise

Please view or download it at MP.doc (http://cnx.org/content/m14319/latest/MP.doc)

Clicking on this media file will open a word format for the Muddiest Point Exercise. Students are invited to discuss the strongest and weakest facets of the ADEM Statement of Values.

Module Assessment Form

Please view or download it at MAP.doc (http://cnx.org/content/m14319/latest/MAP.doc)

Clicking on this media file will open a general module assessment form taken from Michael Davis' IIT EAC workshop. This form will help you assess the SOV activity as well as other EAC modules.

6.4.13 Bibliography

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6.5 Theory Building Activities: "Responsibility and Incident at Morales"

This content is available online here (http://cnx.org/content/m15627/1.7/).

6.5.1 Module Introduction

6.5.1.1 Getting Started...

Manuel, plant manager at the Phaust chemical plant in Morales, Mexico, has just died. While he was babysitting the process of manufacturing Phaust's new paint remover (monitoring on site temperature and pressure conditions) an explosion occurred that killed him instantly. The Mexican government has formed an independent commission to investigate this industrial accident.

This commission (headed by your instructor) has ordered key participants to testify on their role in the accident in a public hearing. Your job is to present before this commission from a stakeholder point of view. You will be divided into groups to role play the following stakeholder perspectives:

- Fred, the chief engineer involved in designing the plant,
- plant workers,
- officials from Mexican government regulatory agencies,
- Phaust management,
- representatives from the parent French company,
- officials presiding over an engineering professional society.

You will be assigned roles and given class time to prepare presentations for the commission. Then the class will enact the public hearing by having each group give a presentation from the perspective of its assigned role. Following these presentations, groups will answer questions from the investigating commission. Finally, you will work through debriefing activities to help solidify your practical understanding of the module's chief concepts. Background materials designed to help you with your presentations include sketches of moral responsibility, links to the "Incident at Morales" Case, tasks to help structure your role-playing, and activities to debrief on this exercise. This module is designed to help you learn about moral responsibility by using responsibility frameworks to make day-to-day decisions in a realistic, dynamic, business context.

6.5.1.1.1 Before You Come to Class...

1. Visit the link to the National Institute for Engineering Ethics. Look at the study guide and download the script for the video, "Incident at Morales." You want to have some idea of what happens in the video before you watch it.
2. Read the module. Pay special attention to the section on "What you need to know." Here you will read summaries of three senses of moral responsibility: blame responsibility, sharing responsibility, and responsibility as a virtue. Your goal here is not to understand everything you read but to have a general sense of the nature of moral responsibility, the structure of the responsibility frameworks

you will be using in this module, and the difference between moral and legal responsibility. Having this background will get you ready to learn about moral responsibility by actually practicing it.

3. Come to class ready to watch the video and start preparing for your part in the public hearing. It is essential that you attend all four of these classes. Missing out on a class will create a significant gap in your knowledge about and understanding of moral responsibility.

6.5.2 What you need to know...

"Responsibility" is used in several distinct ways that fall under two broad categories, the reactive and the proactive. Reactive uses of responsibility refer back to the past and respond to what has already occurred. (Who can be praised or blamed for what has occurred?) Proactive uses emerge through the effort to extend control over what happens in the future. An important part of extending control, knowledge, and power over the future is learning from the past, especially from past mistakes. But proactive responsibility also moves beyond prevention to bringing about the exemplary. How do occupational and professional specialists uncover and exploit opportunities to realize value in their work? Proactive responsibility (responsibility as a virtue) explores the skills, sensitivities, motives, and attitudes that come together to bring about excellence.

6.5.2.1 Different meanings of Responsibility

Reactive Senses

1. **Causal Responsibility** refers to prior events (called causes) which produce or prevent subsequent events (called effects). Cheap, inaccurate sensors (cause) required that Manual be present on the scene (effect) to monitor the high temperatures and pressures required to correctly prepare Phaust's paint stripper.
2. **Role Responsibility** delineates the obligations individuals create when they commit to a social or professional role. When Fred became an engineer he committed to holding paramount the health, safety and welfare of the public. (See NSPE code of ethics)
3. **Capacity Responsibility** sets forth those conditions under which someone can be praised or blamed for their actions. Praise and blame associate an agent with an action. Excuses are based on means for separating or disassociating an agent from their actions. Capacity responsibility helps us determine whether there are any legitimate excuses available for those who would disassociate themselves from untoward, harm-causing actions.
4. **Blame Responsibility** determines when we can legitimately praise or blame individuals for their actions.

Proactive Senses

1. **Sharing Responsibility** extends the sphere of responsibility to include those to whom one stands in internal relations or relations of solidarity. Shared responsibility includes answering for the actions of others within one's group. It also includes coming to the moral aid of those within one's group who have gone morally astray; this involves bringing to their attention morally risky actions and standing with them when they are pressured for trying to uphold group values. While sharing responsibility entails answering for what members of one's group have done, it does not extend to taking the blame for the untoward actions of colleagues. Sharing responsibility does not commit what H.D. Lewis calls the "barbarism of collective responsibility" which consists of blaming and punishing innocent persons for the guilty actions of those with whom they are associated.
2. **Preventive Responsibility**: By using knowledge of the past, one can avoid errors or repeat successes in the future. Peter French calls this the "Principle of Responsive Adjustment." (One adjusts future actions in response to what one has learned from the past.) According to French, responsive adjustment is a moral imperative. If one fails to responsively adjust to avoid the repetition of past untoward results, this loops back into the past and causes a revaluation of the initial unintentional action. The benefit of the doubt is withdrawn and the individual who fails to responsively adjust is now held responsible for the original past action. This is because the failure to adjust inserts the initial action into a larger context of negligence, bad intentions, recklessness, and carelessness. Failure to responsively adjust triggers a retroactive attribution of blame.
3. **Responsibility as a Virtue**: Here one develops skills, acquires professional knowledge, cultivitates sensitivies and emotions, and develops habits of execution that consistently bring about value realization and excellence. One way of getting at responsibility as an excellence it to reinterpret the conditions of imputability of blame responsibility. An agent escapes blame by restricting the scope of role responsibility, claiming ignorance, and citing lack of power and control. In responsibility as a virtue, one goes beyond blame by extending the range of role responsibilities, seeking situation-relevant knowledge, and working to skillfully extending power and control.

6.5.2.2 Blame Responsibility

To hold Fred responsible for the accident at Morales, we need to...

1. Specify his role responsibilities and determine whether he carried them out
2. Identify situation-based factors that limited his ability to execute his role responsibilities (These are factors that **compel** our actions or contribute to our **ignorance** of crucial features of the situation.)
3. Determine if there is any moral fault present in the situation. For example, did Fred act on the basis of **wrongful intention** (Did he intend to harm Manuel by sabotaging the plant?), fail to exercise **due care**, exhibit **negligence** or **recklessness**?

4. If Fred (a) failed to carry out any of his role responsibilities, (b) this failure contributed to the accident, and (c) Fred can offer no morally legitimate excuse to get himself of the hook, then Fred is blameworthy.

Fred, and other Incident at Morales stakeholders, can escape or minimize blame by establishing morally legitimate excuses. The following table associates common excuses with the formal conditions of imputability of blame responsibility. (Conditions of imputability are those conditions that allow us to associate an action with an agent for purposes of moral evaluation.)

Excuse Source (Capacity Responsibility)	**Excuse Statement**
Conflicts within a **role responsibility** and between different role responsibilities	I cannot, at the same time, carry out all my conflicting role responsibilities
Hostile Organizational Environment which routinely subordinates ethical to financial considerations.	The environment in which I work makes it impossible to act responsibly. My supervisor routinely overrules my professional judgment, and I can do nothing about it.
Overly determining situational constraints: financial and time	I lack the time and money to carry out my responsibility.
Overly determining situational constraints: technical and manufacturing	Carrying out my responsibility goes beyond technical or manufacturing limits.
Overly determining situational constraints: personal, social, legal, and political.	Personal, social, legal or political obstacles prevent me from carrying out my responsibilities.
Knowledge Limitations	Crucial facts about the situation were kept from me or could not be uncovered given even a reasonable effort.

Table 6.4 Excuse Table

6.5.2.3 Proactive Responsibility

Preventive Responsibility: Responsive Adjustment

- Responsibility to adjust future actions in response to what has been learned from the past
- **Scenario One**: Past actions that have led to untoward results. Failure here to adjust future actions to avoid repetition of untoward results leads to reassessing the original action and retrospectively blaming the agent.
- **Scenario Two**: Past actions have unintentionally and accidentally led to positive, value-realizing results. Here the agent responsively adjusts by being prepared to take advantage of being lucky. The agent adjusts future actions to repeat past successes. In this way, the agent captures past actions (past luck) and inserts them into the scope of praise.
- **Nota Bene**: The principle of responsible adjustment sets the foundation for responsibility in the sense of prevention of the untoward.

Responsibility as a Virtue or Excellence

1. Virtues are excellences of the character which are revealed by our actions, perceptions, beliefs, and attitudes. Along these lines, responsibility as a virtue requires that we reformulate responsibility from its reactive, minimalist sense (where it derives much of its content from legal responsibility) to responsibility as an excellence of character.
2. Aristotle situates virtues as means between extremes of excess and defect. Can you think of examples of too much responsibility? (Does Fred try to take on too much responsibility in certain situations?) Can you think of anyone who exhibits too little responsibility? (Does Fred take on too little responsibility or shift responsibility to others?) For Aristotle, we can have too much or too little of a good thing. From the "too much" we derive vices of excess from the "too little" we derive the vices of defect.
3. Virtues are more than just modes of reasoning and thinking. They also consist of emotions that clue us into aspects of the situation before us that are morally salient and, therefore, worthy of our notice and response. Two emotions important for responsibility are care and compassion. Care clues us into aspects of our situation that could harm those who depend on our actions and vigilance. Do Wally and Fred pay sufficient attention to the early batch leakages in the Morales plant? If not, does this stem from a lack of care ("Let operations handle it") and a lack of compassion ("Manuel can take care of himself")? Care and compassion help to sensitize us to what is morally salient in the situation at hand. They also motivate us to act responsibility on the basis of this sensitivity.
4. Responsibility as a virtue manifests itself in a willingness to pick up where others have left off. After the Bhopal disaster, a worker was asked why, when he saw a cut-off valve open, he didn't immediately close it as safety procedures required. His response was that shutting of the value was not a part of his job but, instead, the job of those working the next shift. This restriction of responsibility to what is

one's job creates responsibility gaps through which accidents and other harms rise to the surface. The worker's lack of action may not constitute moral fault but it surely signifies lack of responsibility as a virtue because it indicates a deficiency of care and compassion. Those who practice responsibility as a virtue or excellence move quickly to fill responsibility gaps left by others even if these tasks are not a part of their own role responsibilities strictly defined. Escaping blame requires narrowing the range of one's role responsibilities while practicing responsibility as a virtue often requires effectively expanding it.

5. Finally, responsibility as an excellence requires extending the range of knowledge and control that one exercises in a situation. Preventing accidents requires collecting knowledge about a system even after it has left the design and manufacturing stages and entered its operational life. Responsibility requires that we search out and correct conditions that could, under the right circumstances, produce harmful accidents. Moreover, responsibility is a function of power and control. Extending these and directing them toward good results are clear signs of responsibility as a virtue.

Responsibility as Virtue

- The Incident at Morales provides us with a look into a fictionalized disaster. But, if it is examined more carefully, it also shows opportunities for the exercise of responsibility as a virtue. The following table will help you to identify these "responsibility opportunities" and allow you to imagine counterfactuals where had individuals acted otherwise the "incident" could have been avoided and moral value could have been realized.
- Think of virtuous or even heroic interventions that could have prevented the accident. These represents, from the standpoint of the film, lost opportunities for realizing responsibility and other virtues.

Characteristic	Relevance to Incident at Morales
Change goal from avoiding blame to pursuing professional excellence.	Could this have led participants to look for more creative responses to EPA environmental regulations?
Develop a flexible conception of your role responsibilities and move quickly to extend it to fill responsibility gaps left by others.	Could this have structured differently the relation between those responsible for plant design/ construction and those responsible for its operation?
Extend the scope and depth of your situational knowledge, especially regarding accumulating information on the operational history of newly implemented technologies.	Would this have led to further follow-up on the early signs of leakage of the couplings?
Extend control and power. This includes finding ways of more effectively communicating and advocating ethical and professional standards in the context of group-based decision-making.	Could Fred have handled more proactively the last minute change in the chemical formulation of the paint remover?

Table 6.5 Responsibility as a Virtue: Recovering Lost Opportunities

Section Conclusion

Integrate the retroactive and proactive senses of responsibility into your group's presentation for the public hearing. Don't just work on the reactive approach, i.e., try to avoid blame and cast it on the other stakeholder groups. Think proactively on how to prevent future problems, respond to this accident, and turn the events into positive opportunities to realize value.

Questions to Get Started

- Is Fred (blame) responsible for the accident and even Manuel's death? (Use the conditions of imputability and the excuse table to get started on this question.)
- Did Wally and Chuck evade their responsibility by delegating key problems and decisions to those, like plant manager Manuel, in charge of operations? (Start the answer to this question by determining the different role responsibilities of the stakeholders in this situation.)

- What kind of responsibility does the parent French company bear for shifting funds away from Phaust's new plant to finance further acquisitions and mergers? (Looking at the modules on corporate social responsibility and corporate governance will help you to frame this in terms of corporate responsibility.)
- Do engineering professional societies share responsibility with Fred? (The CIAPR and NSPE codes of ethics will help here. Try benchmarking corporate codes of ethics to see if they provide anything relevant.
- Look at the positive, proactive moral responsibilities of professional societies. What can they do to provide moral support for engineers facing problems similar to those Fred faces? Think less in terms of blame and more in terms of prevention and value realization.

6.5.3 Presentation on Moral Responsibility

Please view or download it at Moral Responsibility.pptx (http://cnx.org/content/m15627/latest/Moral%20Responsibility.pptx)

6.5.4 What you are going to do...

In this module, you will...

1. apply and integrate the concept of moral responsibility (blame responsibility, sharing responsibility, responsibility as a virtue) to situations that arise in the video, "Incident at Morales."
2. learn the basic facts, character profiles, and decision-situations portrayed in the video, "Incident at Morales." You will see the video in class and examine the script and Study Guide at the NIEE website.
3. work in groups to develop and play a stakeholder role in a fictional public hearing. Your group's specific tasks are outlined below in one of the group profiles provided. In general, you will prepare a statement advancing your group's interests and points of view. The responsibility frameworks will help you anticipate questions, prepare responses, and defend your role against those in other roles who may try to shift the blame your way. But most important, this module provides tools to help you go beyond the reactive, blame standpoint.
4. participate in a mock public hearing by playing out your group's assigned role.
5. work with the other groups to debrief on this activity. The public hearing will generate a lot of information, ideas, and positions. Debriefing will help you to structure and summarize this material. The objective here is to learn by doing. But to truly learn from what you have done, you need to reflect carefully.

6.5.4.1 Stakeholder Roles

Mexican Government Regulatory Agencies

- Look at OSHA regulations on safety. Do any of these apply to the incident at morales. Pay particular attendion to responsibilities for providing safe working conditions and to mandated procedures for accident prevention. How as a government agency can you encourage companies to take active and positive measures to increase workplace safety and prevent accidents?
- Look at EPA or JCA for ideas on environmental issues. What are Phaust's responsibilities regarding local environmental conditions? (Should the Mexican government require lining waste water ponds?)
- As an official representing Mexican government regulatory agencies, how do you balance the safety and environmental needs of Mexican citizens and workers with the need to attract foreign companies and investors to Mexico to promote economic development. Should safety and environmental values ever be traded off to promote economic development?

Workers at Morales Plant

- Manuel, your plant manager, has just died. You and your co-workers are concerned about the safety of this new plant. Can you think of any other issues that may be of concern here?
- Develop a statement that summarizes your interests, concerns, and rights. Are these being addressed by those at Phaust and the parent company in France?
- The Mexican Commission established to investigate this "incident" will ask you questions to help determine what cause it and who is to blame. What do you think some of these questions will be? How should you respond to them? Who do you think is to blame for the incident and what should be done in response?

Designing Engineer: Fred

- Examine Fred's actions and participation from the standpoint of the three responsibility frameworks mentioned above.
- Develop a two minute position paper summarizing Fred's interests, concerns, and rights.
- Anticipate questions that the Commission might raise about Fred's position and develop proactive and effective responses.
- Be sure to use the three responsibility frameworks. Is Fred to blame for what happened? In what way? What can professional societies do to provide moral support to members in difficult situations? How can interested parties provide moral support? Finally, what opportunities arose in the video practicing moral responsibility as a virtue? (Think about what an exemplary engineer would have done differently.)

Phaust Management: Wally and Chuck

- Chuck and Walley made several decisions responding to the parent company's budget cuts that placed Fred under tight constraints. Identify these decisions, determine whether there were viable alternatives, and decide whether to justify, excuse, or explain your decisions.
- Develop a two minute position paper that you will present to the commission.
- Anticipate Commission questions into your responsibility and develop effective responses to possible attempts by other groups to shift the blame your way.

Corporate Governance: French Parent Company

- You represent the French owners who have recently required Phaust Chemical. You have recently shifted funds from Phaust operations to fnance further mergers and acquisitions for your company.
- What are your supervisory responsibilities in relation to Phaust?
- Develop a preliminary two minute presentation summarizing your position and interests.
- Anticipate likely commission questions along with possible attempts by other groups to shift the blame your way.

Engineering Professional Society

- You represent the professional engineering society to which Fred belongs.
- Develop a two minute presentation that outlines your group's interests and position.
- Anticipate possible Commission questions, develop responses, and anticipate attempts by other groups to shift the blame your way.
- Respond to whether your professional society should extend moral support to engineers in difficult positions like Fred's. Should they clarify code provisions? Provide legal support and counseling? Make available a professional/ethical support hotline?

Investigative Commission

This role will be played by your instructor and other "guests" to the classroom. Try to anticipate the commissions questions. These will be based on the conditions of blame responsibility, the principle of responsive adjustment, and responsibility as a virtue.

6.5.4.2 Module Time Line

- Module Preparation Activities: Read module and visit niee.org to get general orientation to "Incident at Morales"
- **Class One:** Watch Video. Receive group role. Begin preparing your group role.
- **Class Two:** Work within your group on preparing your group's statement, anticipating questions, and developing responses.
- **Class Three:** Participate in the Public Hearing. The group representing the Mexican Commission will convene the public hearing, listen to the group's statements, ask questions, and prepare a brief presentation on the Commission's findings

- **Class Four:** Class will debrief on the previous class's public hearing. This will begin with the Com mission's findings

6.5.5 Incident at Morales and Jeopardy

Jeopardy and Incident at Morales

Please view or download it at Jeopardy IM.pptx (http://cnx.org/content/m15627/latest/Jeopardy_IM.pptx)

Jeopardy on Socio-Technical Systems in Incident at Morales

Please view or download it at Jeopardy SOV IM.pptx (http://cnx.org/content/m15627/latest/Jeopardy_SOV_IM.pptx)

6.5.6 What have you learned?

Listen to the findings of the Mexican Government Commission. Write a short essay responding to the following questions. Be prepared to read parts of your essay to your professor and to your classmates.

1. Do you agree with the Commissions findings? Why or why not? Be sure to frame your arguments in terms of the responsibility frameworks provided above.
2. Were there any opportunities to offer Fred moral support by those who shared responsibility with him? What were these opportunities? How, in general, can professional societies support their members when they find themselves in ethically difficult situations?
3. What opportunities arise for exercising responsibility as an excellence? Which were taken advantage of? Which were lost?
4. Finally, quickly list themes and issues that were left out of the public hearing that should have been included?

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6.6 Writing and Analyzing Ethics Cases in Business and Research Ethics

This content is available online here (http://cnx.org/content/m15991/1.8/).

6.6.1 Outline of contents of featured links in Online Ethics, UPRM-Ce-PRO, Computing Cases, and Connexions

- Computing Cases has experimented with a method for displaying a case that takes advantage of online features such as hyperlinking. The three cases featured (Therac-25, Hughes Aircraft, and Machado) provide excellent templates for developing your own case. They, typically, provide an abstract, case narrative, socio-technical system analysis, supporting document, perspective pieces, and short ethical discussions. The focus is on computer ethics.
- Online Ethics provides a wide variety of cases. Of special interest are the cases developed by graduate students that reflect their experiences in research ethics. These cases normally provide the case narra tive, a commentary written by the graduate student who is the author of the case, and a commentary by one or more of the ethicists participating in the graduate research ethics workshop held through the auspices of the Association for Practical and Professional Ethics.
- Adopt an orphan. The University of Puerto Rico -Mayaguez Center for Ethics in the Professions has a number of case drafts displayed at its website. These come from faculty development workshops or from students who have developed cases in ethics workshops and classes. These provide only the bare narrative. Your group may choose to adopt an orphan by taking one of these narratives and building upon it through a socio-technical analysis or through links to supporting information online. These cases represent issues vital to students and instructors in business, science, and engineering. Developing one into a full blown case study would represent an excellent investment of your time.
- The National Society of Professional Engineers publishes cases that have been brought to and discussed by its Board of Ethical Review. The NSPE BER cases go all the way back to the 1960's and provide invaluable insights into how engineers interpret and use their codes of ethics. Each case has a summary, a question to be answered by the BER's deliberations, a list of relevant code provisions, a discussion of the case in terms of these provisions and a concluding decision. Occasionally, the BER does not reach complete agreement on cases and publishes a minority decision. Your group could adopt a BER case to this

assignment by completing its research, identifying key decision points, and providing an analysis of the case's underlying socio-technical system.
- Finally, two Connexions modules devoted to the Biomatrix and Toysmart cases provides tables and templates to help you along on the process of analyzing your case. They set forth exercises and tables designed to help you work through the four stages of problem-solving based on an analogy between ethics and design problems. These are (1) problem specification, (2) solution generation, (3) solution testing, and (4) solution implementation.

6.6.2 Introduction

Learning Basic and Intermediate Moral Concepts

- Below is a media file that provides a summary of the basic and intermediate moral concepts that play a key role in business and engineering ethics. (Many of them also apply to research ethics.) This summary, in table form, will help you in forming your case. Which concepts arise in the case you are considering? Can you reform or rewrite the case to bring out other concepts?
- Examples of **Basic Moral Concepts**: Rights, Duties, Goods, and Virtues.
- Examples of **Intermediate Moral Concepts**: Conflict of Interest, Confidentiality, Free Speech, Informed Consent, Privacy, Intellectual Property, etc.
- Cases provide an excellent way of learning how these basic and intermediate moral concepts fit into the real world.

This module is designed to help you learn ethics by preparing and analyzing ethics cases.

- Discussing cases will help you learn about basic and intermediate moral concepts. Studying several cases helps you develop a repertoire of examples of different degrees and kinds of instantiations of these concepts in real situations. Discussing these cases and comparing them to one another helps you to develop paradigmatic examples of the concepts and then understand more problematic instances by establishing their relations to the paradigms through analogical reasoning. This process, called by some "prototyping" more accurately reflects the way we understand and use these thick concepts than does the process of formally defining them in terms of necessary and sufficient conditions. (See Michael Pritchard, **Reasonable Children**, and Mark Johnson, **Moral Imagination**. For a clear and useful explanation of relating problematic cases to paradigms (what they call "line drawing problems"), see Harris, Pritchard, and Rabins, **Engineering Ethics: Concepts and Cases** (2000) Wadsworth: 45-52.
- Cases provide the means of converting the freestanding ethics course into an ethics laboratory where you practice decision-making under conditions that mirror real world situations to the greatest degree possible.
- By helping us to develop cases, you keep our ethics program, in all its aspects, as up to date and relevant as possible. Many of these cases will be integrated into the College of Business Administration Ethics Bowl competition.

In this module you will carry out the following activities:

- Study and respond to a taxonomy that spells out different types of ethics cases.
- Receive advice on how to choose, prepare, write, and analyze your case.
- Study different templates for writing and analyzing your case. For example, the template (procedures) for developing cases used by Dr. Huff at the Computing Cases website provides an excellent model for developing historical, thick cases. Dr. Huff places the development of a socio-technical system analysis at the center of his case writing and analyzing method.
- You will receive advice on how to develop a poster presentation on your case study and your analysis.

6.6.3 What you need to know...

Michael Davis in Ethics and the University (1999) Routledge: 143-174 provides a comprehensive discussion of how the field of practical and professional ethics employs the case study method of teaching.

- He discusses how law schools began to use discussion of legal decisions (law cases) to teach the law.
- Professors presented these cases using the "Socratic Method" or what has also been termed as "testing to destruction." Aggressive questioning is used to get students accustomed to the pressures of making a legal argument in an adversarial context in court. The Socratic Method has never been successfully used in teaching business because questions are not used by managers as weapons in a legal context but as means for gathering the information necessary for making informed decisions.
- Davis also discusses how the Harvard Business School adopted the legal model of teaching by case discussion but quickly changed this methodology to reflect better the underlying dynamics of the business situation.
- Philosophers have also used cases to clarify, rhetorically support, or advance a position in a philosophical controversy. Deciding whether to keep the promise you made to the village chief (on his deathbed) to use his inheritance to build a statute of him or to buy the village children much needed shoes helps to point out ethical conflicts and to advance a theory as a more effective way of addressing these conflicts. The dilemma that Jim in the Jungle faces (made famous by Bernard Williams) that is portrayed in the Mountain Terrorist module also provides an example of this kind of puzzle case.
- Ethics cases began to emerge when physicians brought practical and difficult decisions raising ethical issues to philosophical ethicists for discussion and counsel. These case have also undergone different transformations as they have been used to promote learning and discussion in the different areas of practical and professional ethics.

This quote from Donaldson and Gini also provides insight into how the case study method was first imported into business teaching.

> *What is known today as the case study method began at Harvard University in 1908 with the opening of the new business school. The business school's first catalog stated that the "problem method" would be utilized "as far as practicable." After years of struggle and experimentation, the case method reached maturity at Harvard from 1919 to 1942 under the encouragement of the deal of the business school, Wallace Donham. It was during these years that the method became the trademark of the Harvard Business School, a position it retains to this day. (Thomas Donaldson and Al Gini, Case Studies in Business, 4th Ed. New Jersey: Prentice Hall, 1996: 12.)*

Michael Davis in **Ethics and the University** also provides an excellent case taxonomy. Below are the sixteen distinctions he uses to classify cases. It is best to think of this taxonomy, not as a static matrix within which we slot a case, but as a set of specifications and constraints we can use to design or modify cases to ft our needs and purposes.

1. **Long (and very long) v. short (and very short)**
2. **Documents (or pseudo-documents) v. summary**
3. **Single perspective v. several perspectives**
4. **Narrative v. dialogue**
5. **Pure fact v. descriptive commentary**
6. **Realistic (hypothetical) v. real (actual)**
7. **Stories v. problems**
8. **You (agent) v. they (judge)**
9. **Would v. should**
10. **Top v. bottom**
11. **Success (the positive) v. failure (the negative)**
12. **Single issue (poor) v. multi-issue (rich)**
13. **Single stage v. multi-stage**
14. **Ordinary v. technical language**
15. **Personal v. policy**
16. **Living v. frozen**

Case Taxonomy (Taken from Huff and Frey)

- **Thick vs. Thin Cases:** Thin cases are useful for abstracting a single point and focusing work on that point. Thick cases can give the student practice in making ethical decisions in the full context of the messy real world.
- **Historical vs. Hypothetical:** Historical cases are based on actual experience in the field. The Therac-25, Ford Pinto, Hughes Aircraft, and Machado cases are all historical. these provide the sort of excitement and immediate relevance that help students to recognize the importance of ethical enquiry. On the other hand, cases that are hypothetical, fictional, or abstract remove much of the impact of the historical case, though they allow the case writer the freedom to structure, abstract and focus the discussion on precisely the issues of concern. Harvard Business cases are generally thick and historical. Useful—in fact excellent—for in-

depth study, they present difficulties for those interested in directing shorter activities.

- **Good vs. Bad News cases:** The tendency in ethics cases is to have only bad news cases in which some bad outcome occurs because of poor choices. These cautionary tales do grab students' imaginations but the asymmetrical emphasis on bad news gives the impression that good—or even decent—action is impossible, rare, and heroic. Bad news cases should be balanced with cases of morally exemplary scientists and engineers as well as with good choices toward good outcomes made by ordinary scientists and engineers.
- **Big vs. Small News Cases:** Bad news cases are frequently big news cases; bad news is more sensational and often more newsworthy. Bad news cases are also rare events which make them big news. But these cases frequently present students with a spectacle which, while interesting, precludes involvement. On the other hand, small news cases are about the everyday decisions that scientists and engineers make in the way they handle reporting, data collection , process management, personnel and other day-to-day issues. So big news cases are more sensational and exciting; little news cases are more appropriate to the day-to-day ethical situations that students are likely to face.
- From Huff, C. W. and Frey, W. (2005) "Moral pedagogy and practical ethics" **Science and Engineering Ethics** Vol. 11, 1-20.)

The following table compares and contrasts participant vs. evaluator cases. In general, the difference comes down to this: participant cases are excellent for practicing decision-making while evaluator cases do an excellent job of teaching students how to apply ethical theory.

Participant	Evaluator
Student takes on the role of one of the participants and makes a decision from that perspective	Student takes up a standpoint from outside the case and evaluates the participants and their deeds.
Helps students to practice integrating ethical considerations into designing and implementing solutions to real world problems.	Useful for introducing and practicing different ethical principles and concepts
Allows students to practice making decision under real world constraints such as lack of knowledge and lack of time.	Useful for introducing and practicing different ethical principles and concepts.

Table 6.6 Participant vs. Evaluator Cases

6.6.4 What you will do...

Choosing Your Case

- Tie your case to areas that interest you and tie directly to your research.
- Chose narratives that raise an ethical issue such as how to mitigate or prevent harm, how to resolve value conflicts, how to balance and respect different stakeholder rights, how to balance out conflicting elements of a socio-technical system, and how to transform a dysfunctional organization into an ethical organization.
- Choose a case that can be built out of readily accessible information. Looking carefully at the case's socio-technical system can help you identify and assess information needs.
- Your case should interest and engage you. You and your group should find preparing it a good investment of your time, energy, and expertise.

Structuring Your Case

- **Abstract:** Begin your case with a short paragraph that summarizes or outlines the narrative events. It should draw the reader in.
- **Historical Narrative:** Here, in about 5 to 10 pages, you should detail the "story" of your case. Elements in a narrative or story include a beginning, middle, and end. Protagonists or main characters confront difficulties or obstacles. (This is called the agon in Greek.) At the end of your case, the reader should be clear about how successful the protagonist dealt with the agon and the antagonists.
- **Socio-Technical Analysis** The case narrative unfolds in a particular context called a socio-technical system. Identify the components of your case's STS. Generally these include hardware, software, physical surroundings, stakeholders, procedures, laws, and information systems. Summarize your STS in a table. Then unpack it in a detailed analysis. Frequently, you will find the conflict in your case's narrative in the form of conflicts between values embedded in the STS.
- **Participant Perspectives:** If you were detailing the Enron case, you would identify a key decision point and then weave a mini-narrative around it. For example, an important moment occurred when Enron decided to implement mark-to-market accounting. Invent a dialogue where this was discussed and reenact the reasons the eventually led to the decision.
- **Ethical Perspective Pieces:** The cases prepared by graduate students in APPE's seminar in research ethics were followed by commentaries by the authors and the ethicists who directed the seminar. They explore ethical issues in the context of the case's narrative in issues such as privacy, confidentiality, and informed consent. These ethical perspective pieces can be drawn out into a full blow analysis that follows a framework such as (1) problem specification, (2) solution generation, (3) solution testing, and (4) solution implementation.
- **Chronology:** A table outline in chronological order the key events of the case helps you and your reader stay on track.

Analyzing Your Case

1. **Do a Socio-Technical Analysis:** Use the examples found at m14025 to get you started. The STS will help you identify key problems.
2. **Specify Your Problem:** Look for conflicts between the values embedded in the STS. Look also for harmful consequences in the present, the short term future, and the long term future.
3. **Generate a Solution List. Refine that Solution List:** Work on changing and rebalancing elements in the STS to resolve the conflict or harmful consequences you scoped when specifying the problem.
4. **Test Your Solutions:** Use the Ethics Tests (reversibility, harms/benefits, and publicity) plus code and values tests to test your solution. Rank them.
5. **Implement Your Solution:** Using the feasibility test as a check list, identify possible resource, interest, and technical constraints that could impede the implementation of your solution.

Presentation on Problem Solving

Please view or download it at Decision Making Manual V3.ppt (http://cnx.org/content/m15991/latest/Decision%20Making%20Manual%20V3.ppt)

Clicking on this media file will open a PowerPoint presentation on problem solving in ethics. It outlines specifying the problem, generation solutions, testing solutions, and implementing solutions. This problem solving method is based on an analogy between ethics and design.

Advice for Preparing a Poster on Your Case

- **Your Objective:** Develop a Poster that captures the case's narratives and summarizes the different stages of a case analysis framework. In the figure below, we have appended an excellent poster presentation developed by Dr. Carlos Rios.
- **Dimensions:** Your poster should print out onto a piece of paper two feet by three feet. It should be available digitally in ppt format (either version 2003 or 2007).
- **Due Date: May 1 for presentation in class either May 1 or May 8.**
- **Content:** (1) summary of key ethically relevant facts; (2) highlight of the dominant elements of the case's socio-technical system; (3) an analysis of the case that includes problem definition, solutions generated, solution testing (in the form of a solution evaluation matrix), and a plan for implementing the solution over situational constraints; (4) Your names; (5) items that will help visually portray case elements such as flow charts and pictures.
- Make your case visually interesting and choose images that capture the essence of the concepts you are portraying. Be daring and exciting here.
- Practice presenting from your poster. And have fun!

Poster Presentation for GERESE NSF Project

Please view or download it at etica poster 2.pptx (http://cnx.org/content/m15991/latest/etica_poster_2.pptx)

Clicking on this figure will give you the poster presentation prepared by Dr. Carlos Rios for GERESE, an NSF project in research ethics for graduate students.

Poster Presentation: Poehlman Case

Please view or download it at Poelhlman Poster.pptx (http://cnx.org/content/m15991/latest/Poelhlman_Poster.pptx)

Clicking on this media file will open a poster presentation reporting on a case of scientific misconduct.

The Poehlman Case analysis/poster is about half way completed. It has been included to give you an idea of how the case development process looks (and feels) at its mid point. The STS table included provides a sense of the gaps that need to be filled with further investigation and analysis. For example, more information could be collected on hormonal treatment therapy. The dialogue box quoting from one of the witnesses could be expanded into conversations between Poelman and the witness or between the witness and officials at the University of Vermont. The point is to identify gaps in the case development that can be filled with moral imagination and further research.

Content	Style
Information gaps such as details on hormone replacement therapy	Change "background" of poster; interferes with the title
Provide more depth such as personalities of participants	Do not use the same "background" for the Ethical Problem section or eliminate this part to create more space for other parts
Case needs "thickness" or more concrete detail	Difcult to read diferent sections (Too crowded)
Describe motivations of main participants, especially Poehlman	Better arrangement of pictures on poster space needed
More information such as the amount of money awarded to Poehlman in his grants	Eliminate shadows throughout poster
More information needed on ORI investigative procedures	Poster should have "depth" in the form of embedded links that open up background information
References to Wikipedia, the ORI publicity release, and Pascal presentation need to be in larger font	Empty space in Poster could be better utilized

Table 6.7 Style-and Content-Based Criticisms of Poehlman Poster

6.6.5 What did you learn?

After you finish your poster presentation, take some time to reflect on the reaction of your teacher and classmates. Was it what you expected? How could you change things to align better your expectations and goals with results? What did you learn from developing this case? What were the obstacles, frustrations, or negative experience you faced in this exercise? Assess this exercise, your case, the reaction, and your experience in general.

6.6.6 Appendix

Below are supporting materials to help with you as you work through this module. They include a presentation on writing and analyzing cases, a table of basic moral concepts, and a table of intermediate moral concepts.

Presentation on Writing Cases

Please view or download it at Writing and Analyzing Ethics Cases in Business.ppt (http://cnx.org/content/m15991/latest/Writing%20and%20Analyzing%20Ethics%20Cases%20in%20Business.ppt)

Clicking on this figure will allow you to open a PowerPoint presentation on writing and analyzing cases. It provides a case taxonomy, suggestions on how to choose a case, templates for "filling out" a case, and a framework for analyzing a case.

Presentation onCase Writing

This media object is a downloadable file. Please view or download it at BGS Cases V2.pptx (http://cnx.org/content/m15991/latest/BGS_Cases_V2.pptx)

Please view or download it at BGS Cases V3.pptx (http://cnx.org/content/m15991/latest/BGS_Cases_V3.pptx)

Basic Moral Concepts

Please view or download it at BME V2 97.doc (http://cnx.org/content/m15991/latest/BME_V2_97.doc)

To help you develop and analyze your case, this media file contains tables that summarize basic moral concepts such as goods, rights, duties, and virtues.

Intermediate Moral Concepts

Please view or download it at IMC V2 97.doc (http://cnx.org/content/m15991/latest/IMC_V2_97.doc)

Clicking on this media file will open a table that summarizes intermediate moral concepts such as privacy, informed consent, and safety. These concepts will help you to choose, develop and analyze your case.

6.6.7 EAC ToolKit Project

This module is a WORK-IN-PROGRESS; the author(s) may update the content as needed. Others are welcome to use this module or create a new derived module. You can COLLABORATE to improve this module by providing suggestions and/or feedback on your experiences with this module.

Funded by the National Science Foundation: "Collaborative Development of Ethics Across the Curriculum Resources and Sharing of Best Practices," NSF-SES-0551779

Chapter 7 Index of Keywords and Terms

Keywords are listed by the section with that keyword (page numbers are in parentheses). Keywords do not necessarily appear in the text of the page. They are merely associated with that section. Ex. apples, § 1.1 (1) Terms are referenced by the page they appear on. Ex. apples, 1

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Business, Government, and Society

(Caution! This course is still under development. New modules will be added soon and existing modules will undergo extensive revisions.) Business, Society, and Government (GERE 6055) examines the nature of the practice of business and how it interacts with society and government. This course is organized around four AACSB (Association for the Advancement of Collegiate Schools of Business) themes: Ethical Leadership, Ethical Decision-Making, Corporate Social Responsibility, and Corporate Governance. It also has a short module devoted to building awareness of ethical issues in graduate research. This course and its constituent modules form part of the EAC (ethics across the curriculum) Toolkit project funded by the National Science Foundation, SES 0551779.

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