

MEEEN 1210: MEE Practice II

Spring 2008

Thursdays 4 - 4:50pm

UNTRP 185

Dr. Matthew J. Traum

January 24, 2008

Second Class Meeting Agenda

1. Collect P-Set #1 (5 min.)
2. Announcements (5 min.)
3. Introductory Ethics Lecture (40 min.)

Announcements:
No Class Next Week

There is no class next week!

Please take the class time to catch up on
your reading of the text book.

Announcements:

UNT E-mail

Traum sends E-mail announcements to UNT e-mail addresses because owner identity of non-UNT addresses cannot be verified.

If you use an alternate e-mail address, please assure your UNT account is forwarding to that address.

Announcements:
MEEN 1210 E-mail List

If you wish to be included on the MEEN 1210 class e-mail list, please send an e-mail to mtraum@unt.edu . Only UNT e-mail addresses can be added to this list.

Announcements:
Project Groups

Traum only has names for five ethics project groups, representing only 30.9% of individuals enrolled in the class.

The other 69.1% of you **MUST** organize into project groups and send **mtraum@unt.edu** an e-mail with names of your group members.

Introduction to **Professional Ethics for** **Engineers 2**

Dr. Matthew J. Traum

Assistant Professor, MEE Department

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Chapter 2

Responsibility in Engineering

Concepts of Responsibility

Obligation Responsibility:

Professionals must use specialized skills to benefit clients and the public without violating trust, i.e., “to act responsibly”.

Blame Responsibility: Identify to whom blame is attributed for wrongdoing, i.e., “who is responsible for the accident?”

Role Responsibility: Identifies people in supreme supervisory roles, i.e., “the group’s final product is the responsibility of its leader.”

Impediments to Ethical Judgment

Examples of attitudes and mindsets contributing to irresponsible actions:

*Self-interest, Fear, Self-deception
Ignorance, Egocentric
Tendencies, Microscopic Vision,
Uncritical Acceptance of Authority,
and “Groupthink”*

Chapter 3

Framing the Problem

Gödel's Proof

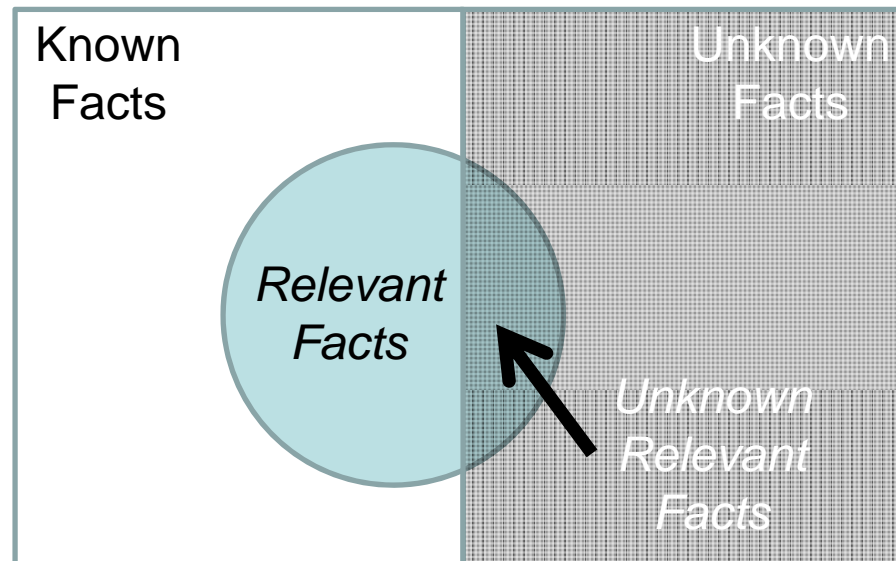
In 1931, the Czech-born mathematician Kurt Gödel demonstrated that within any branch of mathematics, there would always be some propositions that couldn't be proven using the rules and axioms of that mathematical branch itself.
(<http://www.miskatonic.org/godel.html> last accessed 10/24/2007)

In ethics, attempts to specify meanings of terms ahead of their application can never anticipate all of the cases to which they may apply.

Definitions of terms like “public welfare”, “conflict of interest” & “loyalty” are open-ended

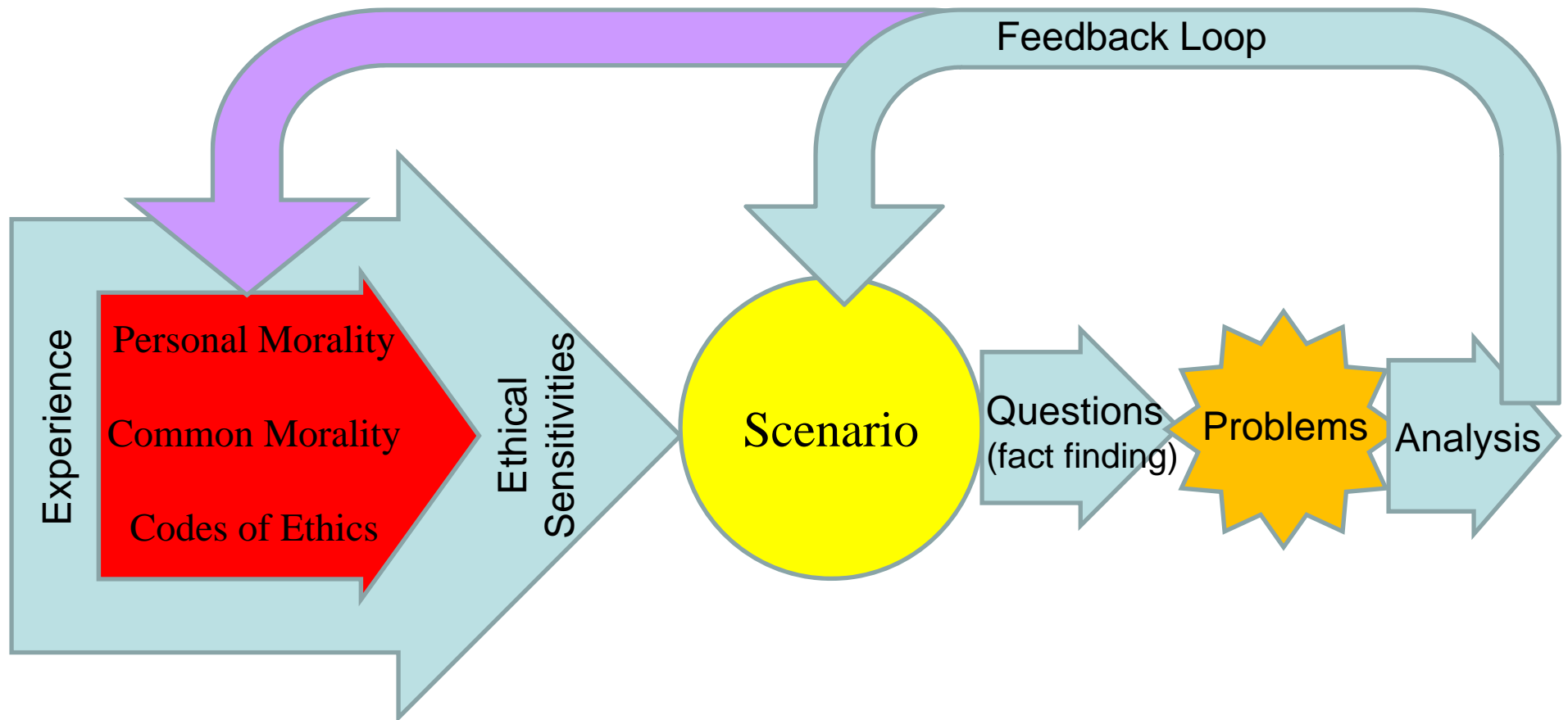
Just The Facts?

1. Disagreements over relevant facts may masquerade as moral arguments (e.g., is benzene harmful?)
2. Relevant factual issues are sometimes difficult to resolve (e.g., chemical exposure - does gender matter?)
3. Even if facts are known, disagreement on their relevance may occur



First Phase of Moral Thinking

1. What are the relevant facts?
2. What are the relevant ethical considerations?



Problem Framing: Line Drawing

1. Select a “negative paradigm case”, one that is uncontroversially unethical
2. Select a “positive paradigm case”, one that is definitely ethical
3. Determine how the “test case” compares to these two extremes.

Features of Bribery

Gift Size

Timing

Reason

Responsibility for Decision

Product Quality

Product Cost

Paradigm Instances of Features of Bribery

Large (>\$10,000)

Before recommendation





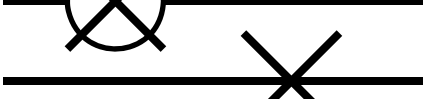
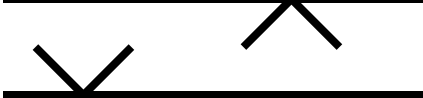
Personal Gain

Sole

Worst in Industry

Highest in Market

Problem Framing: Line Drawing

<i>Features</i>	<i>Negative</i>	<i>Test</i>	<i>Positive</i>
Gift Size	Large		Small
Timing	Before		After Decision
Reason	Personal		Educational
Responsibility	Sole		None
Product Quality	Worst		Best
Product Cost	Highest		Lowest

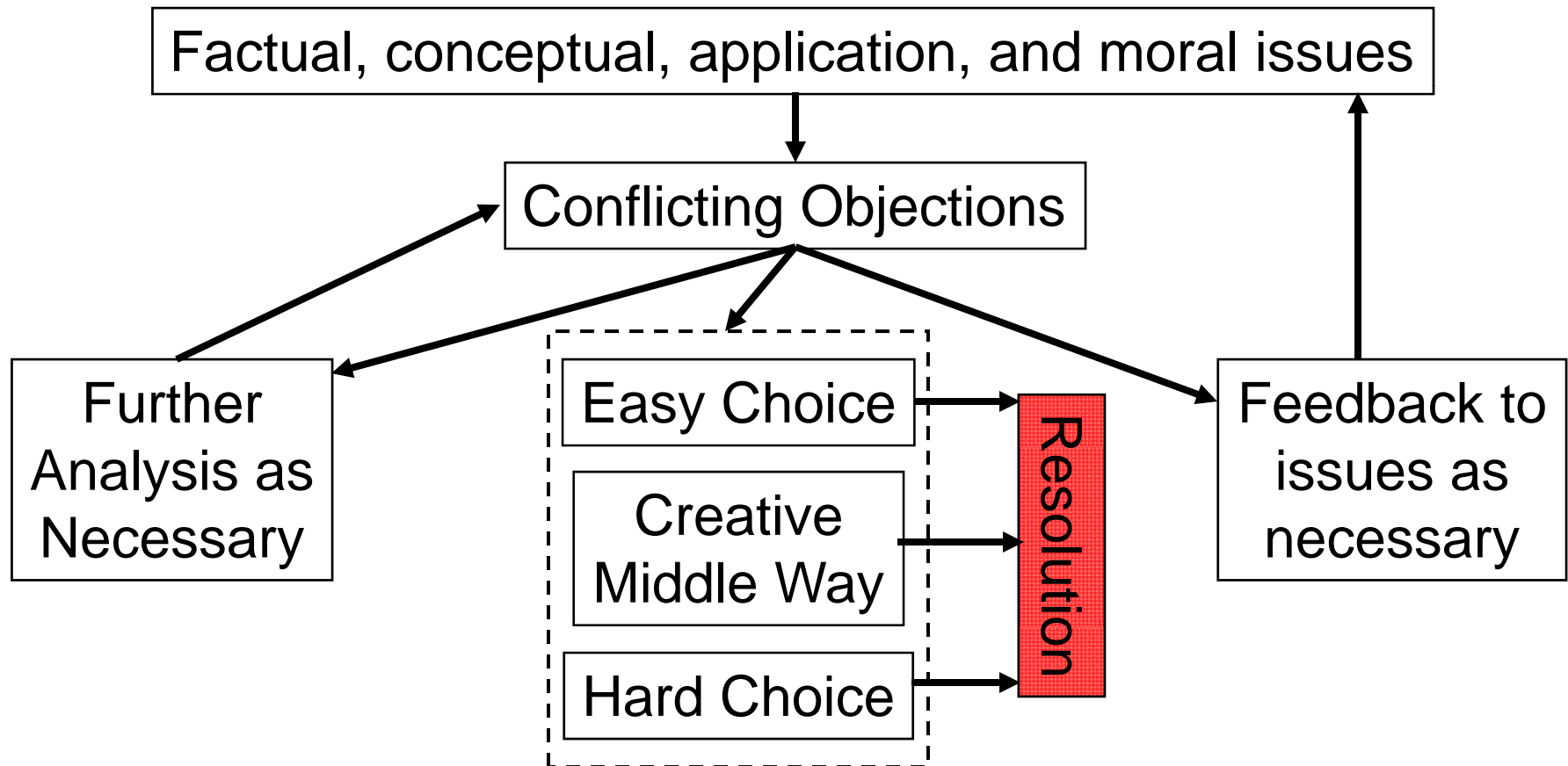
Some features are more important than others. The most important features can be denoted by circling the X marker.

Hallmark of Line Drawing is treating similar cases similarly, with a basis in precedent.

Conflicting Ethical Concerns

Case 57: "Trees"

Engineering Ethics: Concepts and Cases, 3rd Edition, p. 344



Chapter 4

Organizing Principles

Two Underlying Moral Concepts

Universalizability

Consistent thinking. Whatever is right (or wrong) in one situation is right (or wrong) in any relevantly similar situation.

Ex: Is it acceptable to falsify data, even under dire conditions?

Reversibility

Special application of Universalizability. Would a decision or action still be acceptable if the stakeholders changed places?

Ex: Experienced engineer telling apprentice to do something wasteful without explanation.

Utilitarian Mantra

Actions that bringing about the greatest total good are “right”

Preference Utilitarianism: equates “right” with “happiness”.

Promotes conditions allowing each individual to pursue happiness as s/he perceives it.

Tenants of “happiness” are *freedom* and *well-being*.

Three Obvious Problems With Utilitarian Mantra:

Unknown outcome leads to no action “Paralysis by analysis”

Challenging to determine scope of audience
(Those effected by a decision)

Justifies harming individuals for the greater good
Ex: It is better to kill one person to save two others

Three Utilitarian Approaches

Cost Benefit Approach

Attempts to translate negative and positive utilities into fiscal terms and then base decisions on maximizing monetary value. Involves much risk estimation to assign Dollar value to unknown utilities.

Act Utilitarian Approach

Attempts to identify course of action producing the most “good”? [“Good” must be defined] (Ex: If two approaches are otherwise identical, which will save more lives or serve more people?)

Rule Utilitarian Approach

Imposes artificial rules that attempt to maximize utility, provided everyone acts the same under the similar circumstances. (Ex: we obey stop signs and everyone gets to their destination)

Respect for Persons Mantra

Actions are “right” that accord equal respect to each moral agent

Moral Agents are sentient individuals capable of formulating and pursuing goals on their own (guns, cats, and laws, and not Moral Agents).

Maximizing the welfare of the majority must take second place to protecting the moral agency of individuals.

Two Obvious Problems With Respect for Persons Mantra:

Enabling one moral agent often means disabling another

Not always justifiable to enable one moral agent when overall utility suffers

3 Respect for Persons Approaches

Golden Rule

Treat every moral agent equally

Self-Defeating Criterion

If all moral agents took an action, would it undermine their ability as individuals to take that action? (Ex: Knowing a customer won't check quality, one agent can specify cheap parts. However, if all agents specified cheap parts, customer would learn to check, eliminating agents' ability to specify cheap parts.)

Rights

Society-imposed, agreed-upon protective barriers that prevent one moral agent from harming another. (Ex: Golden Rule and Blogging vs. expectation to privacy)

Example: “Late Confession”

Case 36: “Late Confession”

Engineering Ethics: Concepts and Cases, 3rd Edition

Utilitarian Mantras

Cost Benefit Approach

Translates negative and positive utilities into fiscal terms, decides on max \$ value.

Act Utilitarian Approach

Identifies actions producing the most “good”? [“Good” must be defined]

Rule Utilitarian Approach

Imposes rules to maximize utility, provided everyone acts the same

Respect for Persons Mantras

Golden Rule

Treat every moral agent equally

Self-Defeating Criterion

If all individuals did something, would it undermine ability of all to do it?

Rights

Society-imposed, agreed-upon protections

Chapter 5

Computers, Individual
Morality, and Social Policy

Physical and Virtual Privacy

Physical Privacy

The unauthorized movement of some undesirable physical thing across a line that denotes an individual's private property. My neighbor's dog pooping on my lawn violates my physical privacy.

Decisional Privacy

Freedom from outside influence to make decisions about an individual's political and religious beliefs and practices or sexual orientation. Computerized recoding of how an individual votes in a political election would be a violation of decisional privacy.

Proprietary Privacy

The ability to control the use of one's name, likeness, or other aspects of one's identity. "Identity Theft" is a violation of an individual's proprietary privacy.

Database Matching

Computers enable us to organize apparently unrelated information about individuals to build a comprehensive sketch of their lifestyle

Utilitarian Examples (positive):

Extension of credit is only possible when credit reports can be checked. Sale of handguns to felons can be prevented. Welfare fraud could be identified and eliminated. Advertisements could be targeted only to relevant customers.

Respect for Persons Examples (negative):

Purchasing trends can be extrapolated and exploited. Crime convictions can follow us forever. Medical history or dangerous past-times can prevent insurance coverage or employment.

Ownership of Computer Software

Ownership involves the right to exclude someone else from using the things one owns.

Ownership of intellectual property is exercised through patents; expression through copyright.

The system of intellectual property protection in the US stems from the concept of imposing one's labor on "nature" to improve it.

For software, code can be copyrighted **and/or** the user interface can be patented.

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What if Computers Start Killing Us?

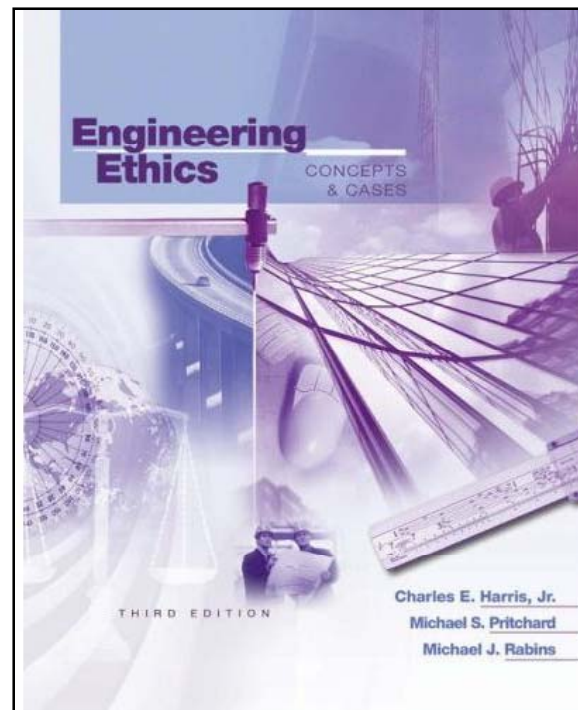
If there is time...

Case 12: “Computer Crush”

Engineering Ethics: Concepts and Cases, 3rd Edition

MEEN 1210 Reading Assignment

For next week, read Chapters 3, 4, 5, and 6 in Engineering Ethics: Concepts & Cases by Harris, Pritchard, and Rabins.



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