WHAT IS CYBERETHICS?

- *Cyber-ethics* is the study of moral, legal, and social issues involving cyber-technology
- It examines the impact that cyber-technology has for our social, legal, and moral systems
- It also evaluates the social policies and laws that have been framed in response to issues generated by the development and use of cyber-technology

WHAT IS CYBERTECHNOLOGY?

- *Cyber-technology* refers to a wide range of computing and communications devices – from standalone computers, to "connected" or networked computing and communications technologies, to the Internet itself
- Cyber-technologies include: hand-held devices (such as Palm Pilots), personal computers (desktops and laptops), mainframe computers, and so forth

WHY THE TERM C*YBERETHICS*?

- *Cyber-ethics* is a more accurate label than *computer ethics*, which might suggest the study of ethical issues limited to computing machines, or to computing professionals
- It is more accurate than *Internet ethics*, which is limited only to ethical issues affecting computer networks

ARE CYBER-ETHICS ISSUES UNIQUE?

- Consider the Amy Boyer case of cyberstalking in light of issues raised
- Is there anything new or unique about this case from an ethical point of view?
- Boyer was stalked in ways that were not possible before cyber-technology
- But do new ethical issues arise?

UNIQUENESS ISSUE (CONTINUED)

- Two points of view:
- *Traditionalists* argue that nothing is new – crime is crime, and murder is murder
- *Uniqueness Proponents* argue that cyber-technology has introduced (at least some) new and unique ethical issues that could not have existed before computers

UNIQUENESS ISSUE (CONTINUED)

- Both sides seem correct on some claims, and both seem to be wrong on others
- Traditionalists underestimate the role that issues of *scale* and *scope* that apply because of the impact of computer technology
- Cyberstalkers can stalk multiple victims simultaneously (scale) and globally (because of the scope or reach of the Internet)
- They also can operate without ever having to leave the comfort of their homes

UNIQUENESS ISSUE (CONTINUED)

- Uniqueness proponents tend to exaggerate the effect that cyber technology has on ethics
- Maner (1996) argues that computers are uniquely fast, uniquely malleable, etc.
- There may indeed be some unique aspects of computer technology

UNIQUENESS ISSUE (CONTINUED)

- But uniqueness proponents tend to confuse *unique features of technology* with *unique ethical issues*
- They use the following logical fallacy:
  - *Cybertechnology has some unique technological features*
  - *Cybertechnology generates ethical issues*
  - *Therefore, the ethical issues generated by cybertechnology must be unique*

UNIQUENESS ISSUE (CONTINUED)

- Traditionalists and uniqueness proponents are each partly correct
- Traditionalists correctly point out that *no new ethical issues* have been introduced by computers
- Uniqueness proponents are correct in that cyber-technology has complicated our analysis of traditional ethical issues

UNIQUENESS ISSUE (CONTINUED)

- So we must distinguish between: (a) unique technological features, and (b) any unique ethical issues

ALTERNATIVE STRATEGY FOR ANALYZING THE UNIQUENESS ISSUE

- James Moor (1985) argues that computer technology generates “new possibilities for human action” because computers are *logically malleable*
- Logical malleability, in turn, introduces *policy vacuums*
- Policy vacuums often arise because of *conceptual muddles*

CASE ILLUSTRATION OF A POLICY VACUUM: DUPLICATING SOFTWARE

- In the early 1980s, there were no clear laws regarding the duplication of software programs, which was made easy because of personal computers
- A policy vacuum arose
- Before the policy vacuum could be filled, we had to clear up a conceptual muddle: What exactly is software?

CYBERETHICS AS A BRANCH OF APPLIED ETHICS

- *Applied ethics*, unlike theoretical ethics, examines "practical" ethical issues
- It analyzes moral issues from the vantage-point of one or more ethical theories
- Ethicists working in fields of applied ethics are more interested in applying ethical theories to the analysis of specific moral problems than in debating the ethical theories themselves

CYBERETHICS AS A BRANCH OF APPLIED ETHICS (CONTINUED)

- Three distinct perspectives of applied ethics (as applied to cyber-ethics):
- Professional Ethics
- Philosophical Ethics
- Descriptive Ethics

PERSPECTIVE # 1: PROFESSIONAL ETHICS

- According to this view, cyberethics is the field that identifies and analyzes issues of ethical responsibility for computer professionals.
- Consider a computer professional's role in designing, developing, and maintaining computer hardware and software systems.
  - Suppose a programmer discovers that a software product she has been working on is about to be released for sale to the public, even though it is unreliable because it contains "buggy" software.
  - Should she "blow the whistle?"

PROFESSIONAL ETHICS

- Don Gotterbarn (1991) argued that all genuine computer ethics issues are *professional ethics* issues.
- Computer ethics, for Gotterbarn is like medical ethics and legal ethics, which are tied to issues involving specific professions.

CRITICISM OF PROFESSIONAL ETHICS PERSPECTIVE

- Gotterbarn’s model for computer ethics seems too narrow for cyber-ethics.
- Cyber-ethics issues affect not only computer professionals; they effect everyone.
- Before the widespread use of the Internet, Gotterbarn’s professional-ethics model may have been adequate.

PHILOSOPHICAL ETHICS: STANDARD MODEL OF APPLIED ETHICS

- Philip Brey (2000) describes the “standard methodology” used by philosophers in applied ethics research as having three stages:
- 1) Identify a particular controversial practice *as* a moral problem.
- 2) Describe and analyze the problem by clarifying concepts and examining the factual data associated with that problem.
- 3)Apply moral theories and principles to reach a position about the particular moral issue.

PERSPECTIVE #3: CYBERETHICS AS A FIELD OF DESCRIPTIVE ETHICS

- The professional and philosophical perspectives both illustrate *normative* inquiries into applied ethics issues.
- Normative inquiries or studies are contrasted with *descriptive* studies.
- Descriptive investigations report about "what *is* the case“; normative inquiries evaluate situations from the vantage-point of the question: "what *ought to be* the case."

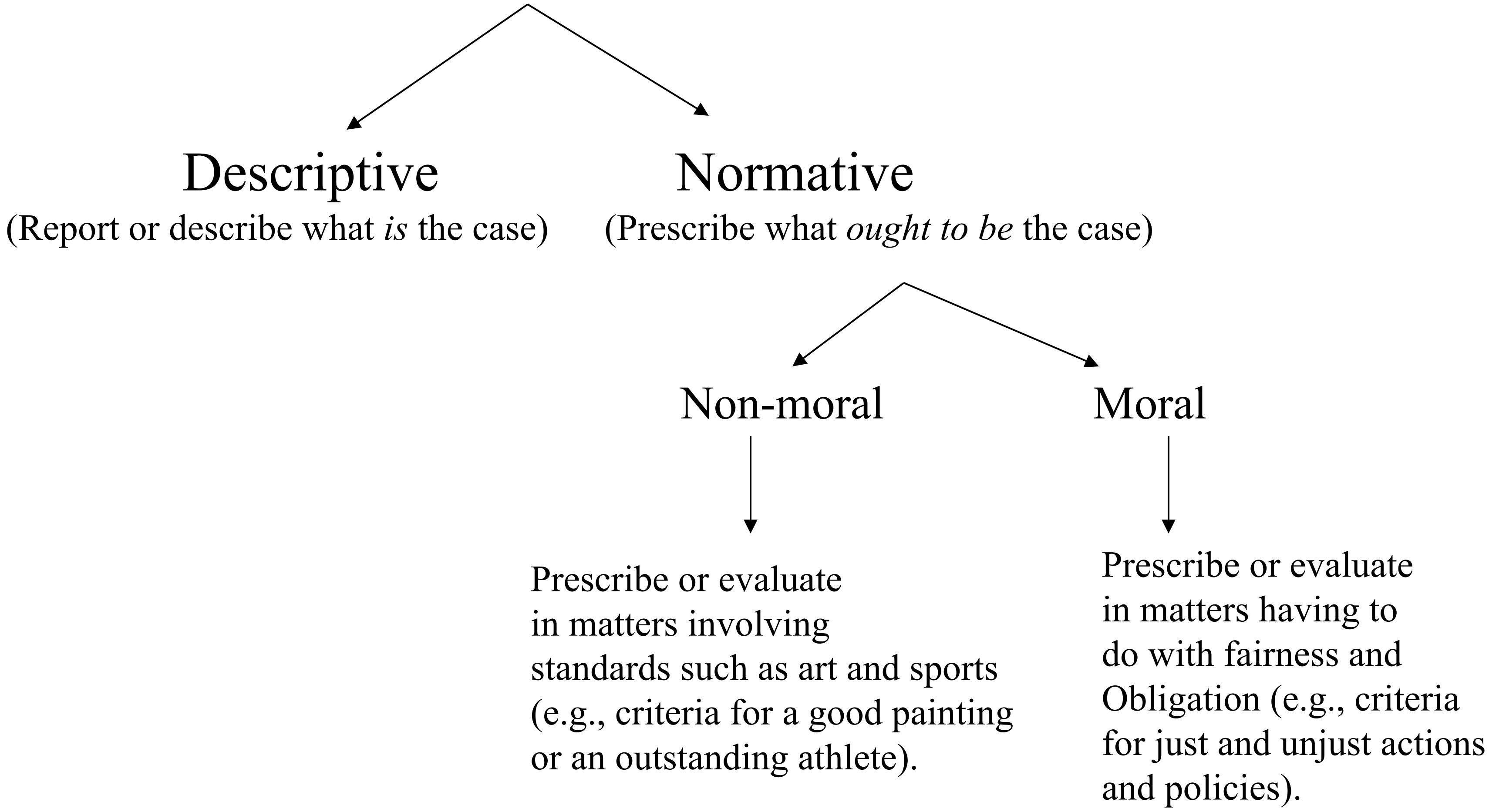
DESCRIPTIVE ETHICS PERSPECTIVE (CONTINUED)

- *Scenario: A community's workforce and the introduction of a new technology.*
- Suppose a new technology displaces 8,000 workers in a community.
- If we analyze the issues solely in terms of the number of jobs that were gained or lost in that community, our investigation is essentially descriptive in nature.
- We are simply describing an impact that technology *X* has for Community *Y*.

DESCRIPTIVE ETHICS PERSPECTIVE (CONTINUED)

- Descriptive vs. Normative Claims
- Consider three assertions:
  - (1) "Bill Gates served as the Chief Executive Officer of Microsoft Corporation for many years.”
  - (2) "Bill Gates should expand Microsoft’s product offerings.“
  - (3) “Bill Gates should not engage in business practices that are unfair to competitors.”
- Claims (2) And (3) are normative, (1) is descriptive; (2) is normative but nonmoral, while (3) is both normative and moral.

FIGURE 1-1: DESCRIPTIVE VS. NORMATIVE CLAIMS



Descriptive

(Report or describe what *is* the case)

Normative

(Prescribe what *ought to be* the case)

Non-moral

Prescribe or evaluate
in matters involving
standards such as art and sports
(e.g., criteria for a good painting
or an outstanding athlete).

Moral

Prescribe or evaluate
in matters having to
do with fairness and
Obligation (e.g., criteria
for just and unjust actions
and policies).

SOME BENEFITS OF USING THE DESCRIPTIVE APPROACH

- Huff & Finholt (1994) claim that when we understand the descriptive aspect of social effects of technology, the normative ethical issues become clearer.
- The descriptive perspective prepare us for our subsequent analysis of ethical issues that affect our system of policies and laws.

IS CYBER-TECHNOLOGY NEUTRAL?

- Technology seems *neutral*, at least initially.
- Consider the cliché: “Guns don’t kill people, people kill people.”
- Corlann Gee Bush (1997) argues that gun technology, like all technologies, is *biased* in certain directions.
- She points out that certain features inherent in gun technology itself cause guns to be biased in a direction towards violence.

IS TECHNOLOGY NEUTRAL (CONTINUED)?

- Bush uses an analogy from physics to illustrate the bias inherent in technology.
- An atom that either loses or gains electrons through the ionization process becomes charged or *valenced* in a certain direction.
- Bush notes that all technologies, including guns, are similarly valence in that they tend to "favor" certain directions rather than others.
- Thus technology is *biased* and is *not neutral*.

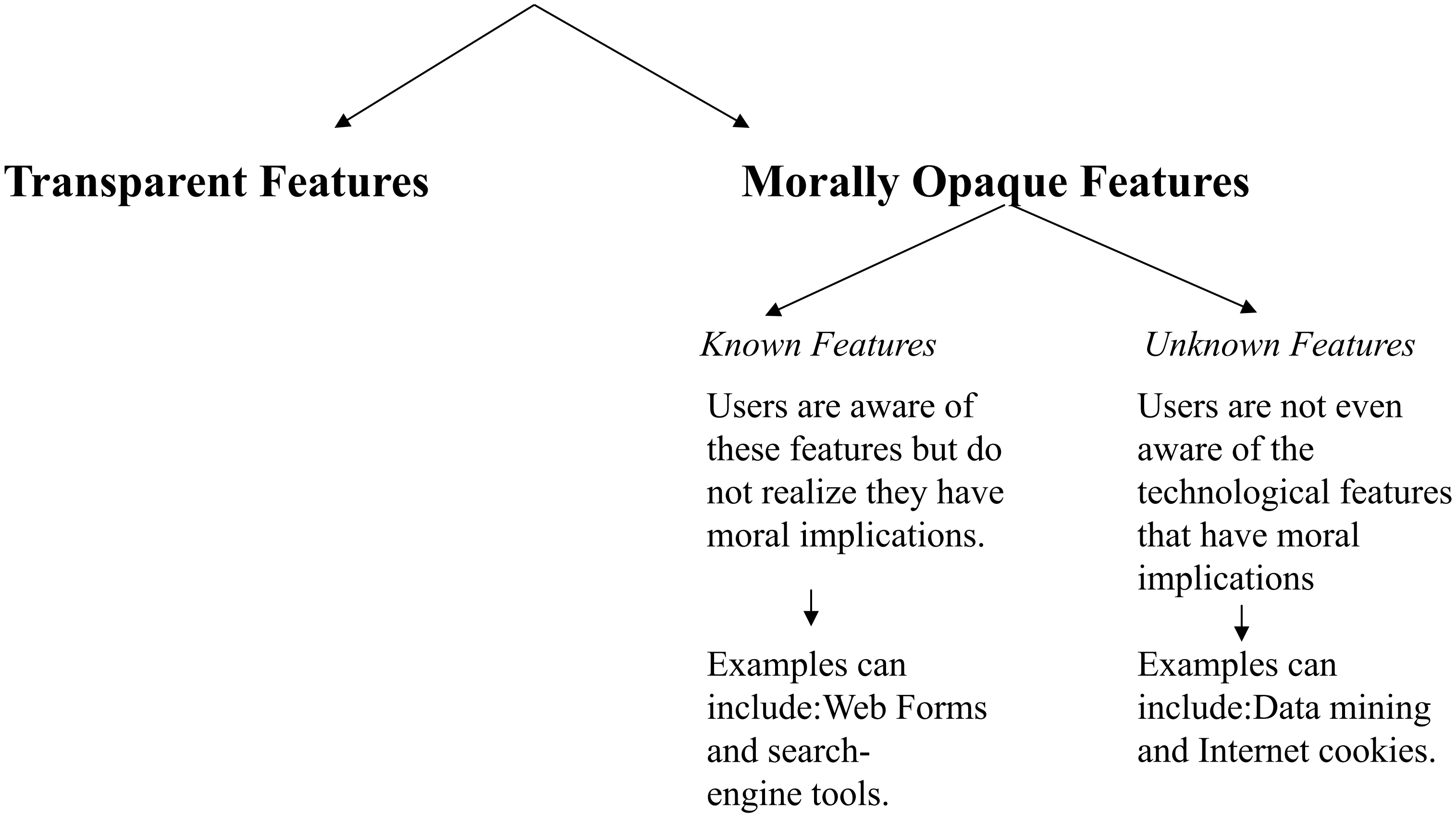
A "DISCLOSIVE" METHOD FOR CYBERETHICS

- Brey (2001) believes that because of embedded biases in cybertechnology, the standard applied-ethics methodology is not adequate for identifying cyberethics issues.
- We might fail to notice certain features embedded in the *design* of cybertechnology.
- Using the standard model, we might also fail to recognize that certain *practices* involving cybertechnology can have moral implications.

DISCLOSIVE METHOD (CONTINUED)

- Brey notes that one weakness of the “standard method of applied ethics” is that it tends to focus on *known* moral controversies
- So that model fails to identify those practices involving cybertechnology which have moral implications but that are not yet known.
- Brey refers to these practices as having *morally opaque* (or *morally non-transparent*) features, which he contrasts with "morally transparent” features.

FIGURE 1-2
EMBEDDED TECHNOLOGICAL FEATURES HAVING MORAL IMPLICATIONS



Transparent Features

Morally Opaque Features

Known Features

Users are aware of these features but do not realize they have moral implications.

Examples can include:Web Forms and search-engine tools.

Unknown Features

Users are not even aware of the technological features that have moral implications

Examples can include:Data mining and Internet cookies.

A MULTI-DISCIPLINARY & MULTI-LEVEL METHOD FOR CYBERETHICS

- Brey’s “disclosive method” is *multidisciplinary* because it requires the collaboration of computer scientists, philosophers, and social scientists.
- It also is *multi-level* because the method for conducting computer ethics research requires the following three levels of analysis:
  - disclosure level
  - theoretical level
  - application level.

TABLE 1-3: THREE LEVELS IN BREY'S "DISCLOSIVE MODEL"

Level	Disciplines Involved	Task/Function
Disclosive	Computer Science Social Science (optional)	Disclose embedded features in computer technology that have moral import
Theoretical	Philosophy	Test newly disclosed features against standard ethical theories/formulate ethical theories
Application	Computer Science Philosophy Social Science	Apply standard or newly revised/ formulated ethical theories to the issues

THREE-STEP STRATEGY FOR APPROACHING CYBERETHICS ISSUES

Step 1. *Identify* a practice involving cyber-technology, or a feature in that technology, that is controversial from a moral perspective.

1a. Disclose any hidden (or opaque) features or issues that have moral implications

1b. If there are no ethical issues, then stop.

1c. If the ethical issue is professional in nature, assess it in terms of existing codes of conduct/ethics for relevant professional associations .

1d. If one or more ethical issues remain, then go to Step 2.

Step 2. *Analyze* the ethical issue by clarifying concepts and situating it in a context.

2a. If a policy vacuums exists, go to Step 2b; otherwise go to Step 3.

2b. Clear up any conceptual muddles involving the policy vacuum and go to Step 3.

Step 3. *Deliberate* on the ethical issue. The deliberation process requires two stages:

3a. Apply one or more ethical theories to the analysis of the moral issue, and then go to step 3b.

3b. Justify the position you reached by evaluating it against the rules for logic/critical thinking .