Lecture 1

Introduction to Cyberethics

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Definitions: Ethics

- The study and philosophy of human conduct, with emphasis on the determination of right   and wrong. The basic principles of right action especially with reference to a particular profession (New International Webster's Dictionary 1996)

- a code of behaviour, especially of a particular group, profession or individual. The moral fitness of a decision, course of action, etc.
     (Collins Dictionary 2002)

What is Cyberethics?

- Two Points of View
  - ✓ There is nothing new or special about ethical issues involving computer technology.
  - ✓ First Law of Philosophy

  - ✓ There are new, unique ethical issues that could not have existed without computer technology.
  - ✓ Second Law of Philosophy

Why 'Cyber-ethics'?

- Computer ethics
  - Customised or bespoke software *(machines)*

- Internet ethics
  - Netiquette (www, email) *(content)*

- Cyber-ethics
  - LAN → Internet → Cloud *(environment)*

Policy Vacuums

Computers are logically malleable

- Typical problems arise in Computer Ethics because there is a policy vacuum about how computer technology should be used

What Do We Mean by Cyber Ethics?

- Analysis of the nature and social impact of computer technology
- Corresponding formulation and justification of policies for the ethical use of such technology.

Information Age

- Unprecedented access to information in modern era
- Catalysts
  - Low-cost computers
  - High-speed communication networks
- New technologies continue to emerge
  - Smartphones
  - Video streaming services
  - Voice-activated digital assistants
  - Low-cost drones
  - Self-driving cars

Impact of Modern Computing and Communications Systems

- World in 1950
  - Only a handful of electronic digital computers
  - Internet did not exist

- Contemporary world
  - Networked devices containing embedded microprocessors surround us
  - We engage with these devices for hours each day

Our Relationship with Technology

- Dynamic between people, technology
  - People create, adopt technology
  - Once adopted, technology changes society
- Using technology can change people
  - Experiences cause physical changes in brains (e.g., London taxi drivers)
  - Getting information releases dopamine in brain, producing a desire to seek out additional information
  - Experiences with technology can have psychological effects, too (e.g., dependency on cell phones)

Our Relationship with Technology – (continue)

- Technologies solve problems, but may create new problems
  - Automobiles
    - Greater mobility
    - Traffic jams
  - Web
    - Supports valuable information retrieval tools
    - Children may be exposed to inappropriate content
  - Low-cost international communication
    - Global access to news, entertainment
    - Jobs outsourced to less expensive labor markets

"Computer and information technology creates new possibilities; it instruments human action in new ways. The ethical issues that are thereby created are not out of the realm of human under-standing, but they have unique features with which we must come to grips." (Johnson)

Milestones in Computing

Feminization of Bookkeeping

Mechanical calculators led to the "de-skilling" and "feminization" of bookkeeping.
(Automatic Data Processing (ADP))

Slate and Counting Board

Cash Register

(Library of Congress Prints and Photographs Division]LC-USZ62-95297])

An NCR cash register in Miller's Shoe Shine Parlor, Dayton, Ohio (1904). (The NCR Archive at Dayton History)

In the 1960s, IBM dominated the mainframe computer market in the United States. (H. Armstrong Roberts/Classic Stock/Alamy)

Steve Jobs (right) convinced Steve Wozniak (left) they should go into business selling the personal computer Wozniak designed. They named their company Apple Computer. (Kimberly White/Reuters)

Information Technology

- Definition of information technology:
  - Devices used in creation, storage, manipulation, exchange, and dissemination of data, including text, sound, and images
- Examples
  - Tablets, smartphones, laptop computers
- People making greater use of IT
  - Costs keep falling
  - Capabilities keep rising

Computers and society: the case of software

- Software (Johnson)
  - A series of mental processes that cannot be owned, an internal structuring of a computer that forms a part of the machine, or a standalone product with commercial value?
  - Traditionalist view: adapt existing tools such as patents and copyright? But can this approach capture the novel features and their (sometimes unintended) applications?

- Social context: moral, cultural, political ideas

  "the study of computer ethics turns out [to] be the study of human beings and society -- our goals and values, our norms of behavior, the way we organize ourselves and assign rights and responsibilities"

IT Issues

- Pirating copyrighted content
    - Digitization → perfect copies of content
    - Internet → fast, inexpensive distribution
    - Result: illegal downloading
    - 1st episode of season 5 of **Game of Thrones** illegally downloaded more than 1 million times in U.S.
    - Three-quarters of Chinese users of Microsoft products do not have properly licensed software
- Cloud storage services
    - Convenient to store all kinds of data, access from multiple devices, and share with others
    - Will data be safely stored and secure from hackers?

IT Issues – (continue)

- Credit cards
  - Convenience over cash and checks
  - Increases possibility of identity theft
  - Who owns information about transactions?

- Loan applications
  - Based on credit history, not personal interview
  - Lower interest rates, but less flexibility

- Computers in embedded devices
  - When systems fail and harm humans, who should be liable?

IT Issues – (continue)

- Improved global communication network
  - Allows companies to sell to entire world
  - Allows companies to move jobs out of U.S.
  - Should IT consumers be concerned about working conditions in factories in developing countries?
- Social media
  - A conduit for democratic ideas?
  - Another tool for totalitarian governments?

"On the Internet, nobody knows you're a dog."

Ethical issues for ICT professionals

- Data protection and other legal matters

- Hacktivism

- Business computer ethics

- Surveillance at work

- Ethics in the Cloud

- Online privacy

Descriptive versus Normative Claims

- A "claim" is statement that asserts something that could be either true or false.

- A **<u>DESCRIPTIVE</u>** claim is a claim that asserts that such-and-such IS the case.

- A **<u>NORMATIVE</u>** claim, on the other hand, is a claim that asserts that **such-and-such OUGHT to be the case**.

Normative claims make value judgments.

Descriptive claims do not make value judgments.
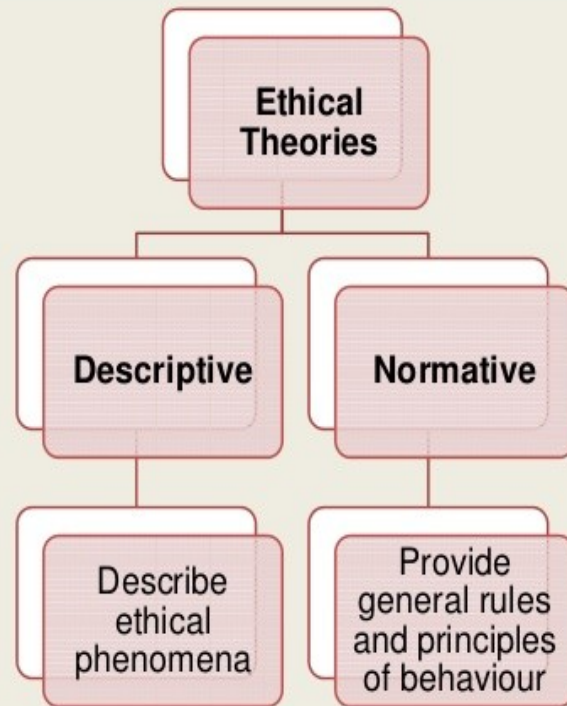
Normative and Descriptive Ethics

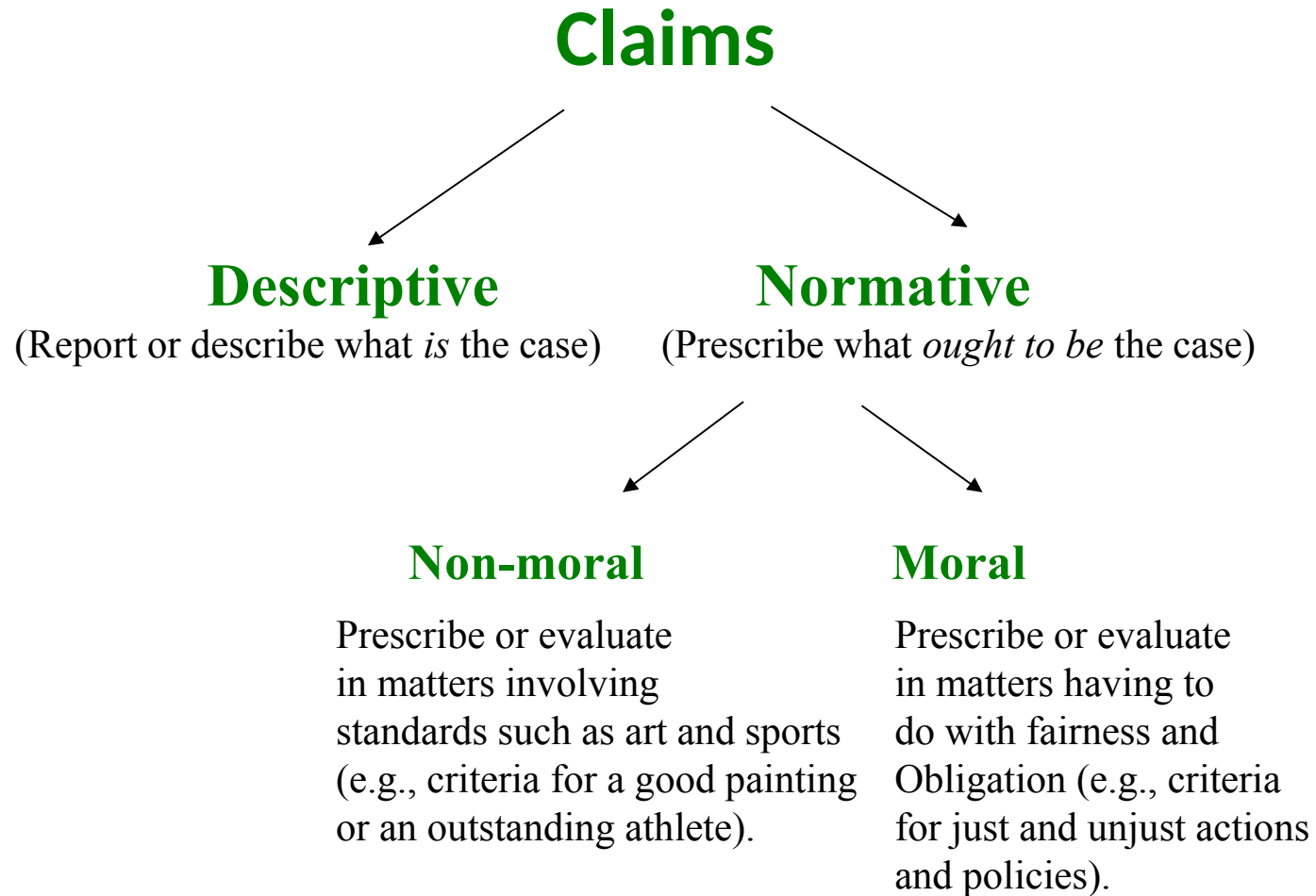| Descriptive Ethics	Normative Ethics
Observes and describes people's actual behaviour	Sets a standard for how people ought to behave
Explains why people behave this way	Justifies why people ought to behave this way
The behaviour we exhibit defines us	Our conscious choices of action define us

Examples of normative claims:

- "*Star Wars Episode VII: The Force Awakens*, is a better movie than *Star Wars Episode 1: The Phantom Menace*".

- "That was a really stupid thing to do."

- "If you wanted to pass that test you should have studied harder."

- "Your electrocardiogram test results are normal."

- "The State should not have the right to take the life of one of its citizens as punishment for a crime."

- **These are all normative claims**. Each one of them expresses a value judgment of some kind.

Examples of descriptive claims:

- "The mug of coffee in front of me is now at room temperature."

- "I had toast and eggs for breakfast this morning."

- "Kevin is under six feet tall."

- **These are all descriptive claims.** They make no value judgments.

Descriptive vs Normative Claims

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).

Reference

Ethics for the Information Age, 8th Edition by Michael J. Quinn (Pearson)

GOT ETHICS ?