

Professional Issues in IT

(~~Spring 2014~~, Spring 2015)

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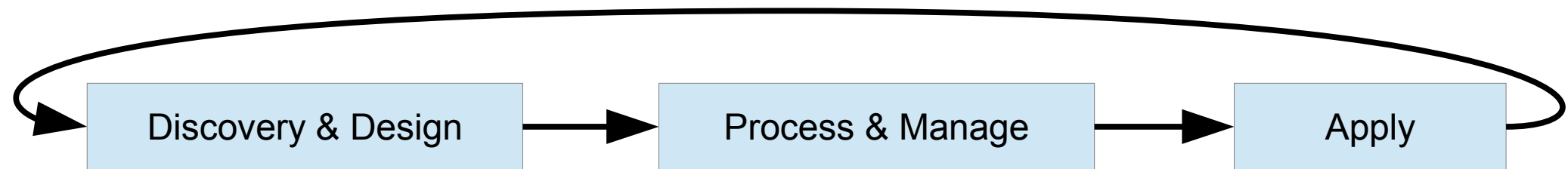
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Peshawar, Pakistan

Ethics

- What is Ethics?
- Why is it important?
- What are the different Dimensions of IT-based Ethics
- Business Ethics Professional IT Ethics
 - Computers Security Privacy
 - Freedom of Expression Intellectual Property
 - Software Development Quality of Life
 - Social Networking e-Governance
 - Right to Information Education Ethics
 - Computer Crimes Computer Un-Reliability
 - Artificial Intelligence Warfare many more

- How do we measure History?
 - Seasonal and planetary motions
 - Relative to occurrence of important events (social, religious) e.g. Hijra, AD, BC, ascension of a king, creation of a nation
 - Lifespan of certain People or dynasties (Victorian era, Ayub Khan era, Ming & Qing dynasties, mongol & mughal empires, etc.)
 - Circumstances, arts & technology (cold war, nuclear age, industrial revolution, age of enlightenment, etc.)
- Development of systems to record events, and hence accumulate and transmit information about the past
- Pre-history: A history where such recording systems were not available, or not in practice

- Human progress and welfare depends mostly on the successful and efficient management of the information life cycle.



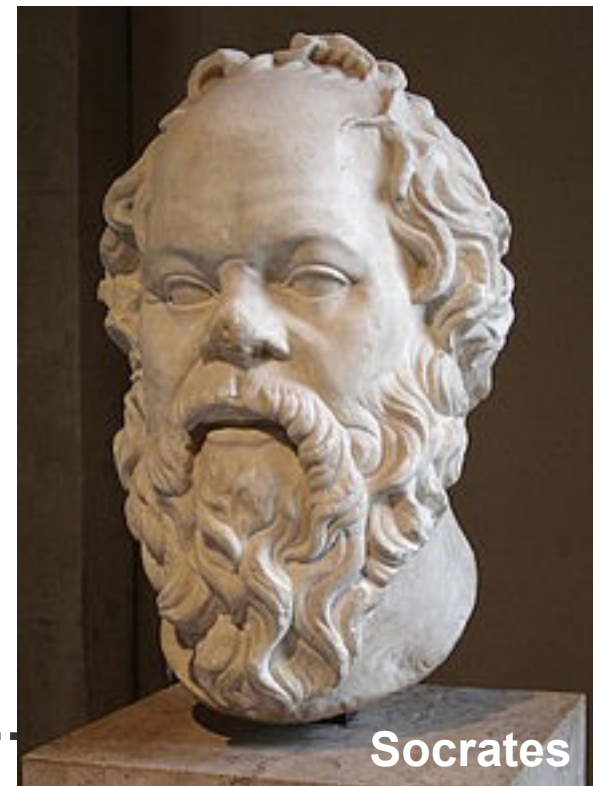
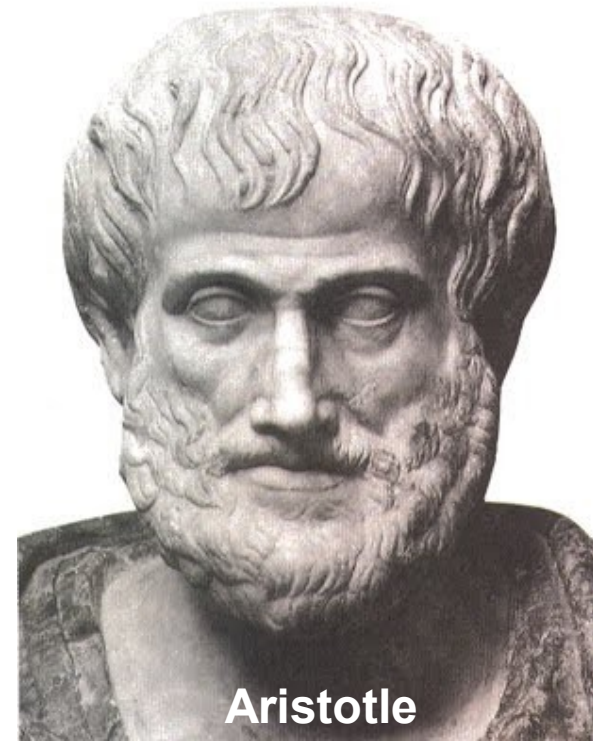
- Information Technology evolved from recording systems → communication systems → processing systems
- With this evolution, advanced economies are highly dependent, for their functioning and growth, upon
 - Information based sources
 - Information based services (e.g. communication, finance, entertainment)
 - Information based public sectors (e.g., education, administration, health-care).
- E.g., In G8 countries, 70% of GDP depends on information based intangible goods rather than material goods obtained from agricultural processes ..
Source: Luciano Floridi, Ethics after the Information Revolution, in Cambridge Handbook of Information Ethics

- Information and Communication Technologies have changed the world
 - (1) Deeply, (2) Irreversibly, (3) **Problematically**
 - Creation of Information (2003: 12 Exabytes so far, of which 5 Exabytes are produced in 2002 ...12,000,000,000,000,000,000 bytes ... exponential growth ... *Source: Luciano Floridi, Ethics after the Information Revolution, in Cambridge Handbook of Information Ethics*)
 - Management, storage, retrieval of this Information
 - Utilization of Information
 - Communication of Information
 - Computation on Information (analyzing this information)
- Analogy of tree: Technology growth, Weak Branches, leads to chaos and fragile growth

- To minimize chaos and fragile growth
 - Develop strong philosophy and ethical use of information
 - Understand less visible implications of information overload
 - Understand impact of information on human and environmental welfare
 - Anticipate difficulties
 - Identify opportunities
 - Resolve problems
 - Resolve conflicts
 - Resolve dilemmas

Ethics

- Ethics (Etica/Ethikos)
- **Branch of philosophy:** Studies the objective and rational background of thought and actions
- **Normative Ethics:** Moral Code on how one should react, given a certain situation (Virtue Ethics)
 - Distinguishes between “right” and wrong”
Rules the choice between “right” and “wrong”
- **Applied Ethics:** What to do given a specific situation
 - **De-Ontological Ethics:** Ethics towards Duties
 - **Information Ethics:** Specifics related to ICT



Ethics: Moral Code

- Set of Rules established by society
- Established boundaries of generally accepted behavior (what people should and should not do)
- Different rules of society can be contradictory
 - A very good friend copies in Exam
Should you tell the truth to authorities
Should you be loyal to your friend
which is more important?
 - Employer monitoring employee Internet usage
Is it good ethics (employer wanting more productivity)
or violation of privacy of employee
which is more important?

Ethics: Morality

- Social conventions about right/wrong ..
conventions which are so established there is no written consensus
- Varies with [Age, Cultural Group, Ethnic Background, Religion, Gender]
- Most societies have uniform agreement upon:
Crime, Murder, Theft, Arson is immoral
- What About
 - Placing parents in an old-house?
 - Attitude towards illegal copying of software/movies

Aristotle's Meta-Physical & Physiological explanation of Human Behavior

- Every physical entity in the Universe is made out of matter and forms (information).
- All animals are information-processing beings (including humans) whose bodily structures account for the ways in which information gets processed within them.
- Information processing within an animal's body initiates and controls the animal's behavior
- Humans have additional sophisticated information-processing capabilities called theoretical reasoning and practical reasoning. These added capabilities make ethics possible.

Introducing the Conceptual Framework

Ideas (Noosphere)	Digital Data	
Cyberspace Communication involving Information	Silicon based On line World	Re-Ontology caused by Ubiquitous Computing, Ambient Intelligence, Internet of Things, RFID, etc.
Infosphere Biosphere + Info + Info Processes		People are being re-ontologized too e.g. smart-phone dependent kids
People	Analogue Data	ITentitiy instead of Identity . We are no longer people. We are Inforgs (Information Agents)
Biosphere Life sustaining parts of planet	Carbon Based Off line World	Agriculture, shipping, transport, and other urban development
Planet		Development of whole new Eco-systems on planet

N. Patrignani, "Conceptual Framework for Computer Ethics", Proceedings of Conference ETHICOMP-2008, Mantova

Information Agents

- Connected Information Organisms (Inforgs)
 - Not through some fanciful transformation of our body
 - But through re-ontologizing our environment and ourselves
 - Difference between online and offline life (future generations may not be able to tell the difference)
- Agents of Ethics
 - Constructing the world through information
 - Follow ethical decisions to shape its development in the right way
 - **Proactive Agents:** Plan and initiate actions responsibly in anticipation of future events
 - **Reactive Agents:** Perform responsible actions once an event has occurred

Reality perceived by humans is actually a simulated reality (the Matrix), created by sentient machines



Ideas

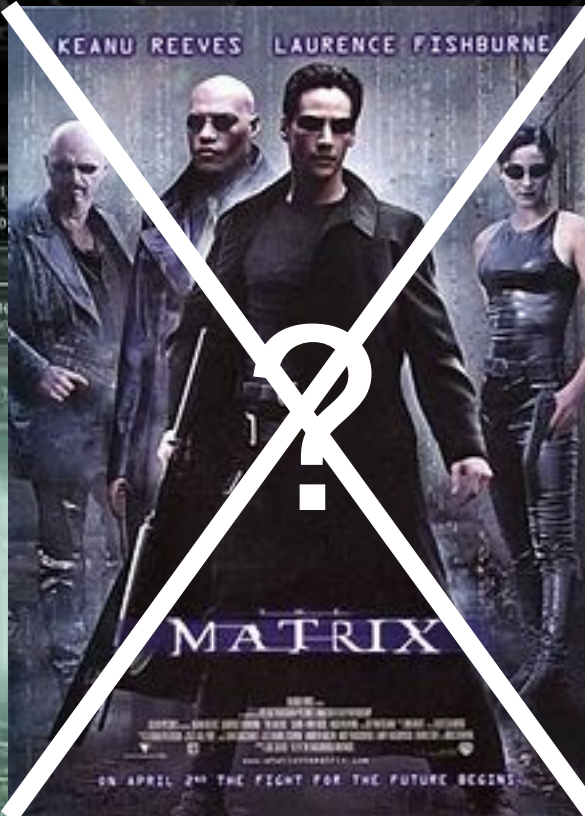
Cyberspace

Infosphere

People

Biosphere

Planet



Reconstructing
ourselves
e.g. self-branding
using online profiles

De-physicalization
e.g. changing
Window Shopping
to www browsing

Right to usage
of information

Right to ownership
of information

Everything must be
conveniently usable
(Human-Comp Interaction)
e.g. foot-mouse to keep hands free

**i.e. it is still the world itself
that will be interpreted and
understood using information
(flawed/un-flawed) available
on the Infosphere**

Ideas

Cyberspace

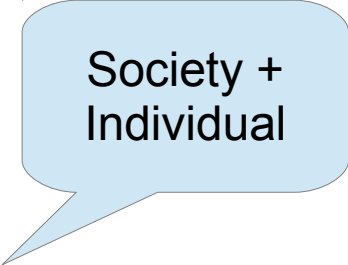
Infosphere

People

Biosphere

Planet

Value System



Society +
Individual

- Scheme of Moral Values

- Virtue ← Habits inclining people to do what is acceptable
fairness, generosity, honesty, loyalty
- Vice ← Habits of unacceptable behavior
vanity, greed, envy, anger, criminal behaviour

- Integrity

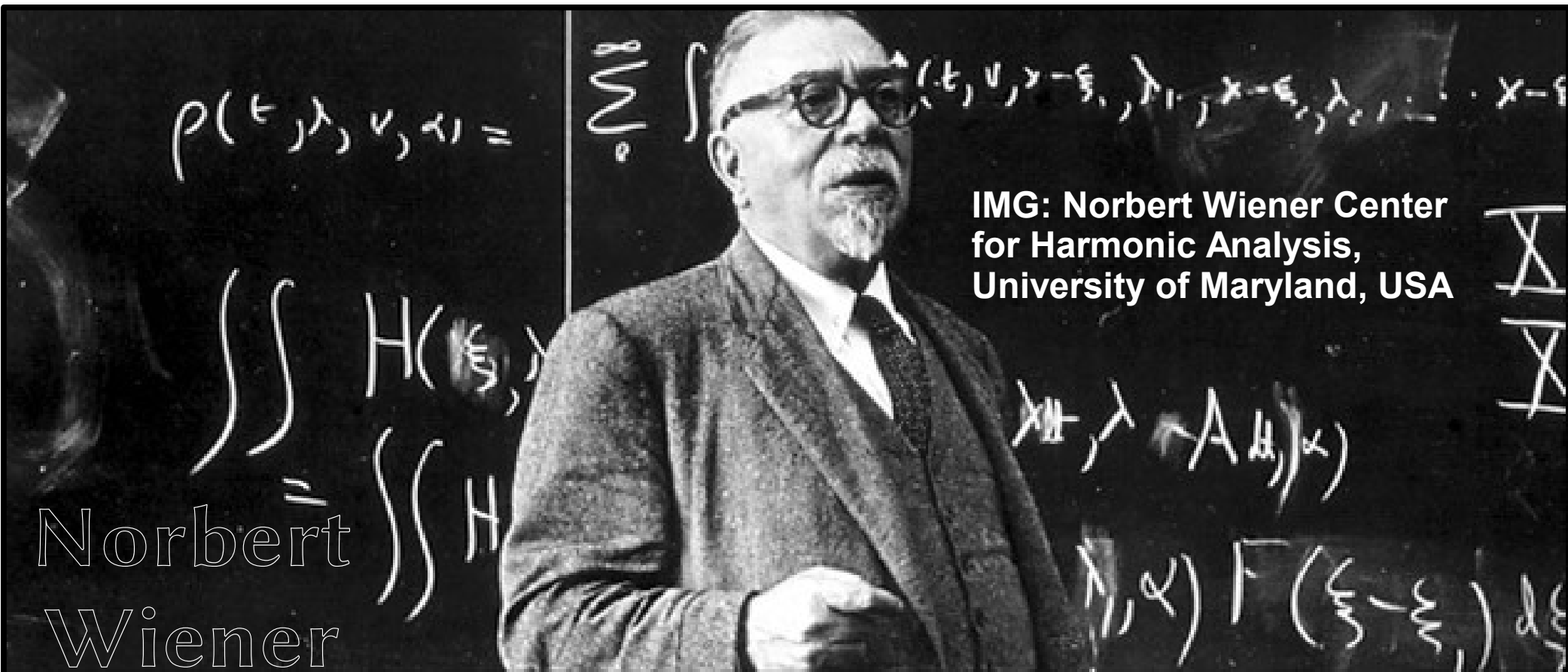
- Act in accordance with Personal code of Principles
- Extend to all people the same respect and consideration that one desires himself/herself
- Apply the same moral standards to all situations



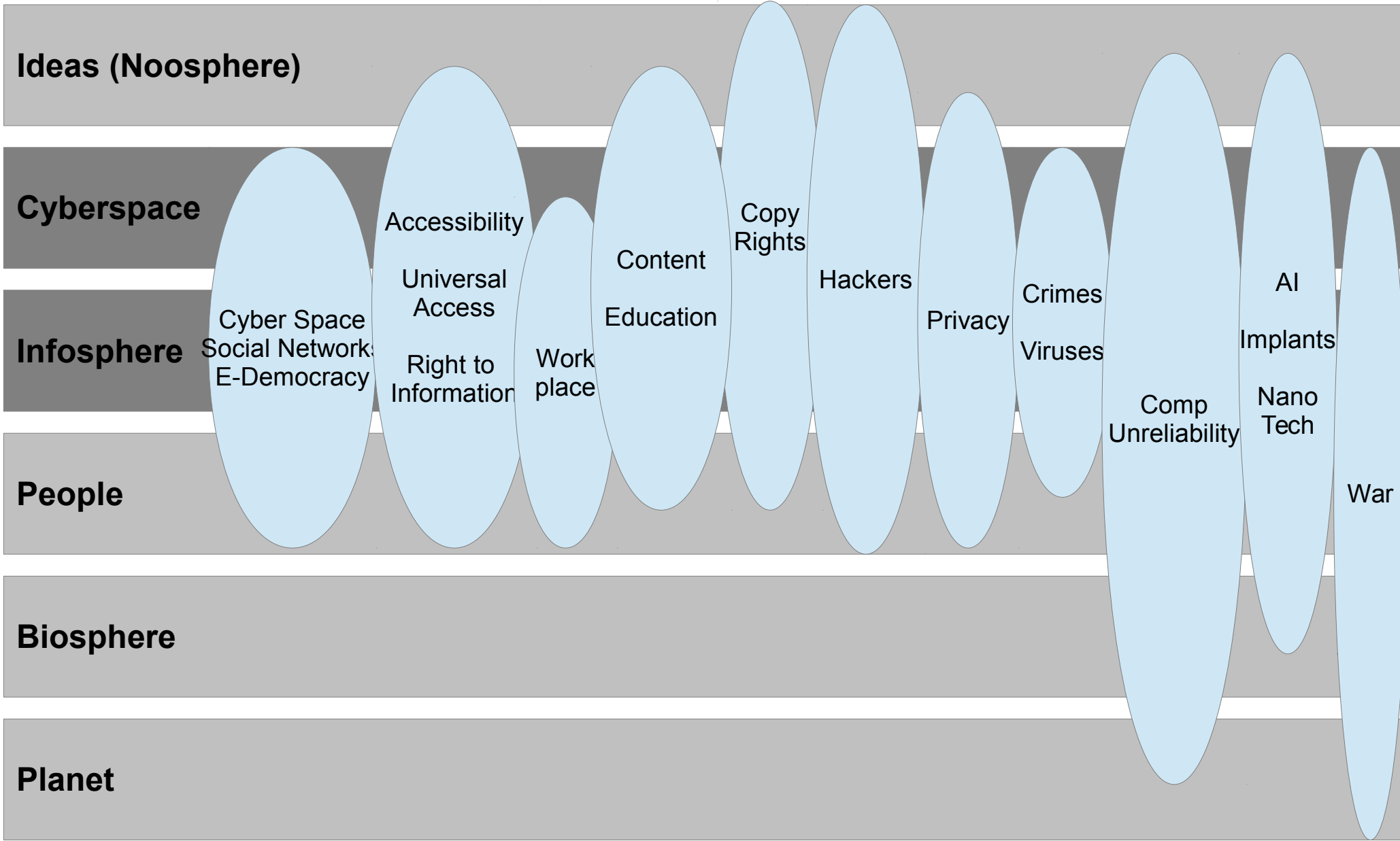
Individual

Father of Modern Computer Ethics

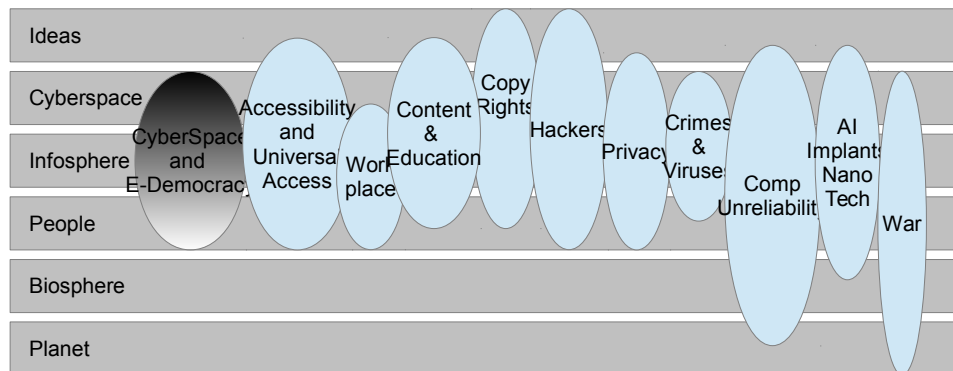
- Mathematician + Philosopher: Double Role
 - Generated necessary technology
 - Formulated philosophical foundations for the technology (Cybernetic Analysis of Human Nature)



Conceptual Framework



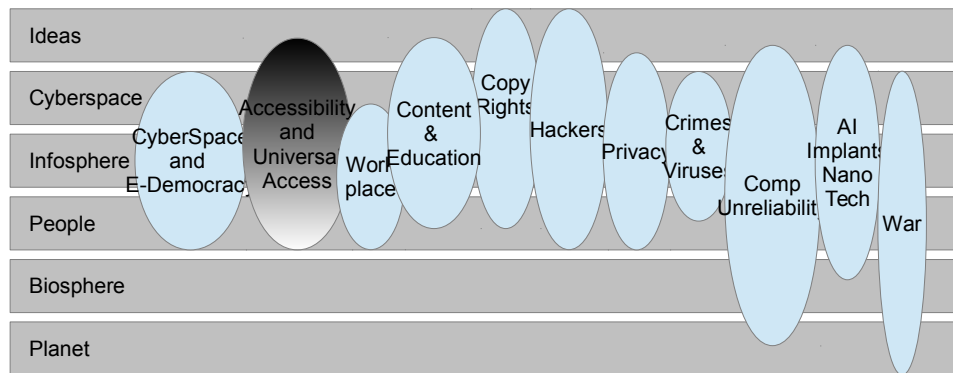
N. Patrignani, "Conceptual Framework for Computer Ethics", Proceedings of Conference ETHICOMP-2008, Mantova



E-Democracy

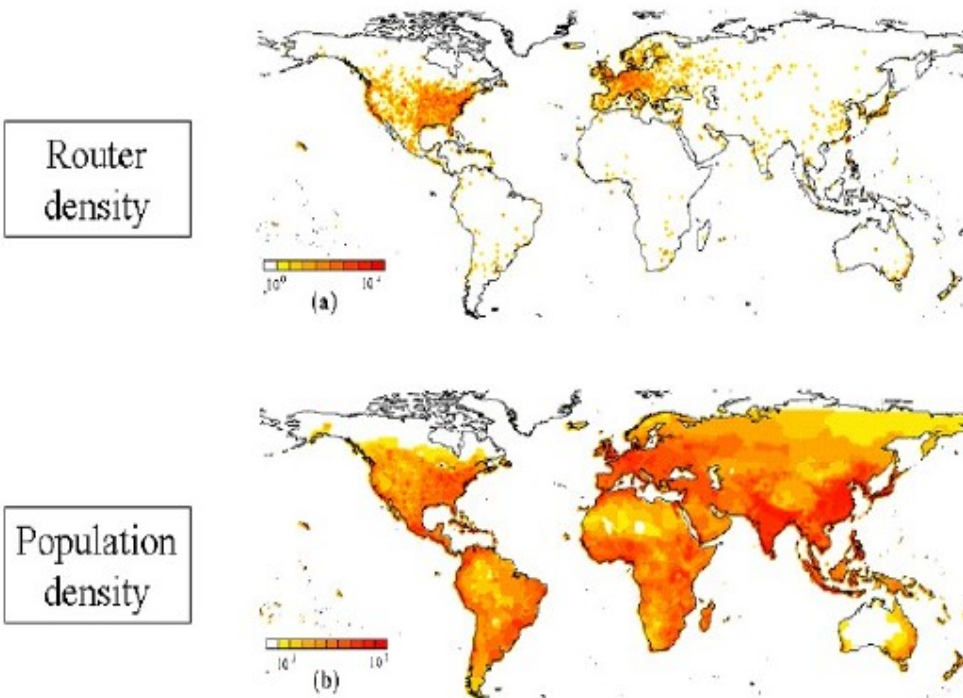
- Ancient Virtues of Democracy + Technology + electronic participation methods (social networking)

Strength	Weaknesses
<p>Many-to-Many</p> <p>Free (low Cost)</p> <p>Speed of decisions</p> <p>Mobility</p> <p>Transparency</p>	<p>Conflict Resolution</p> <p>Less experience (maturity)</p> <p>Internet Governance undefined</p> <p>What decisions online?</p> <p>What decisions offline?</p>
Opportunities	Threats
<p>Unlimited access to knowledge</p> <p>Deep & Broad Discussions</p> <p>More informed decisions</p> <p>Inclusion of Disabled & Elderly</p> <p>Improved Participation</p>	<p>Confusions b/w Virtual & Reality</p> <p>Information Overload</p> <p>Too much speedy decisions</p> <p>Big-Brother</p> <p>Diversity loss (culture, etc.)</p>

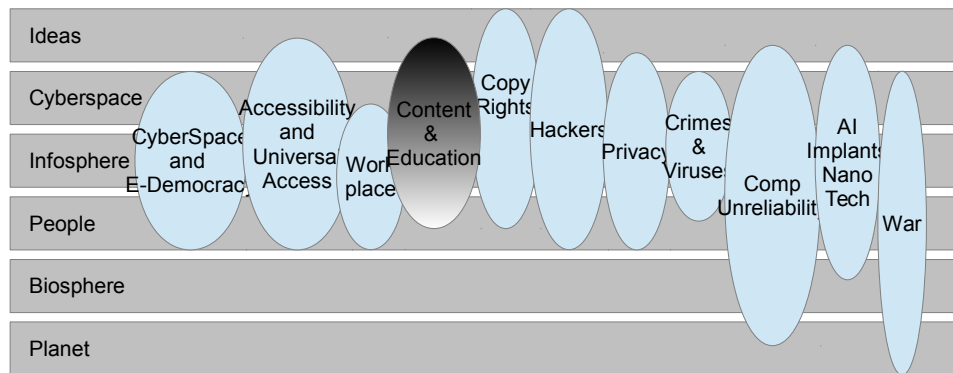


Accessibility & Digital Divide

- Selective access to information
- Economic in-equality due to access to information
- UN: World Information Society Day (17 May, 2001)



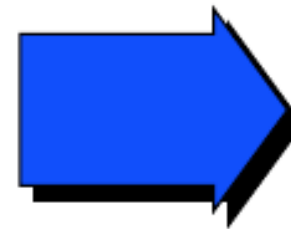
Source: "Modeling the Internet's Large-Scale Topology", Soon-Hyung Yook, Hawoong Jeong, Albert-Laszlo Barabasi, 19 July 2001



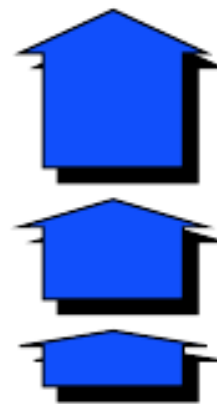
Content & Education

- Search Engine Ethics
 - SE bias per region
 - SE favoritism for sites
 - SE privacy issues (keywords)
 - SE paid content can be misleading
 - SE monitoring and surveillance
- Video-game Ethics
- Virtual vs Real World
 - Social networks
 - 2nd Life
- Role of Teachers →

Human Beings



Computers



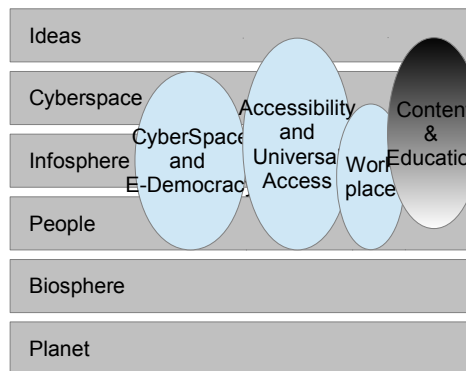
Wisdom

Knowledge

Information

Data

Bits



Retraction Watch

You can't make this stuff up: Plagiarism guideline paper retracted for...plagiarism

Tracking retraction

with 4 comments

This could be an April Fools' joke. But it isn't.

In what can only be described as an ironic twist, the *Indian Journal of Dermatology* is retracting a paper that presents guidelines on plagiarism for...wait for it...

Plagiarism.

Here's the [notice](#):

“The article “Development of a guideline to approach plagiarism in Indian scenario”^[1] is being retracted as the manuscript has been found to be copied from the first round questionnaire of the dissertation entitled ‘Developing a comprehensive guideline for overcoming and preventing plagiarism at the international level based on expert opinion with the Delphi method’ by Dr. Mehdi Mokhtari.

The *Indian Journal of Dermatology* has [taken a hard line on plagiarism in the past](#), banning at least three groups of authors, by our count. Even the (plagiarized) [paper](#) itself — which has yet to be cited, according to Thomson Scientific's Web of Knowledge — states this:

“*Indian Journal of Dermatology* maintains a strict principle of absolute zero tolerance in matters related to plagiarism.

What's more, the author of the retracted paper, [Thorakkal Shamim](#), has himself been a victim of plagiarism, and urged the scientific community to [take a hard line on plagiarism](#).

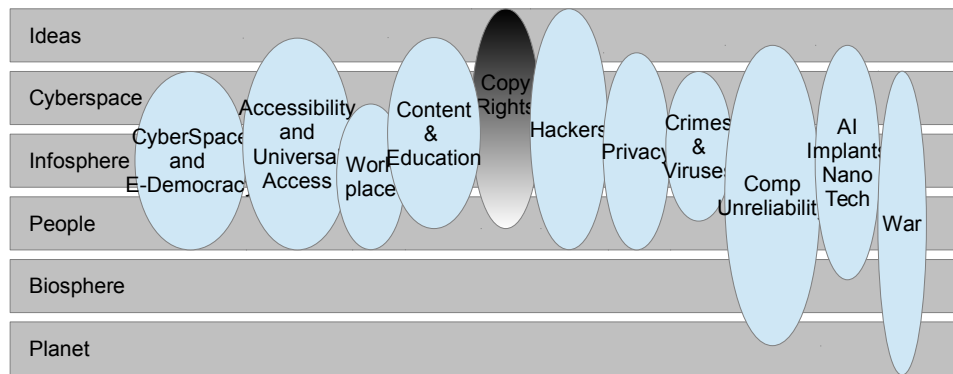
Shamim's paper in the *Indian Journal of Dermatology* includes definitions and strategies to prevent and detect plagiarism. Too bad they didn't work in this case.

We've contacted the editor and Shamim, and will update with anything we learn.



Content
&
Education

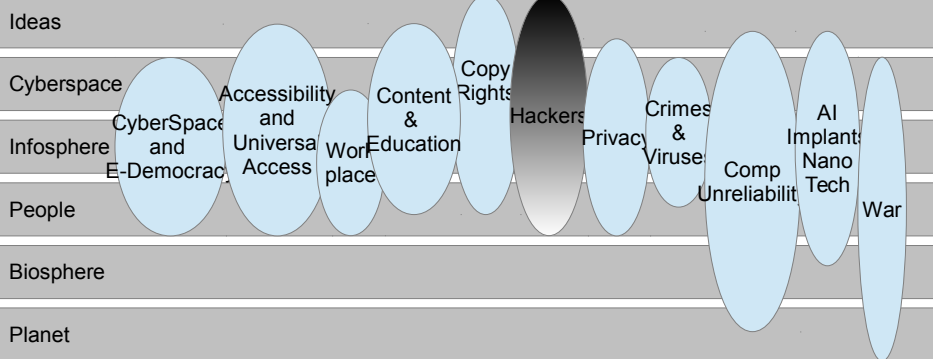
Research
Ethics



Copyrights

- CTRL+C, CTRL+V
- Lack of regulation on copyrights avoids innovators to be awarded/appreciated
- Types of Licenses
 - Open Source vs Proprietary





Hackers

Famous Cyber Criminals ?

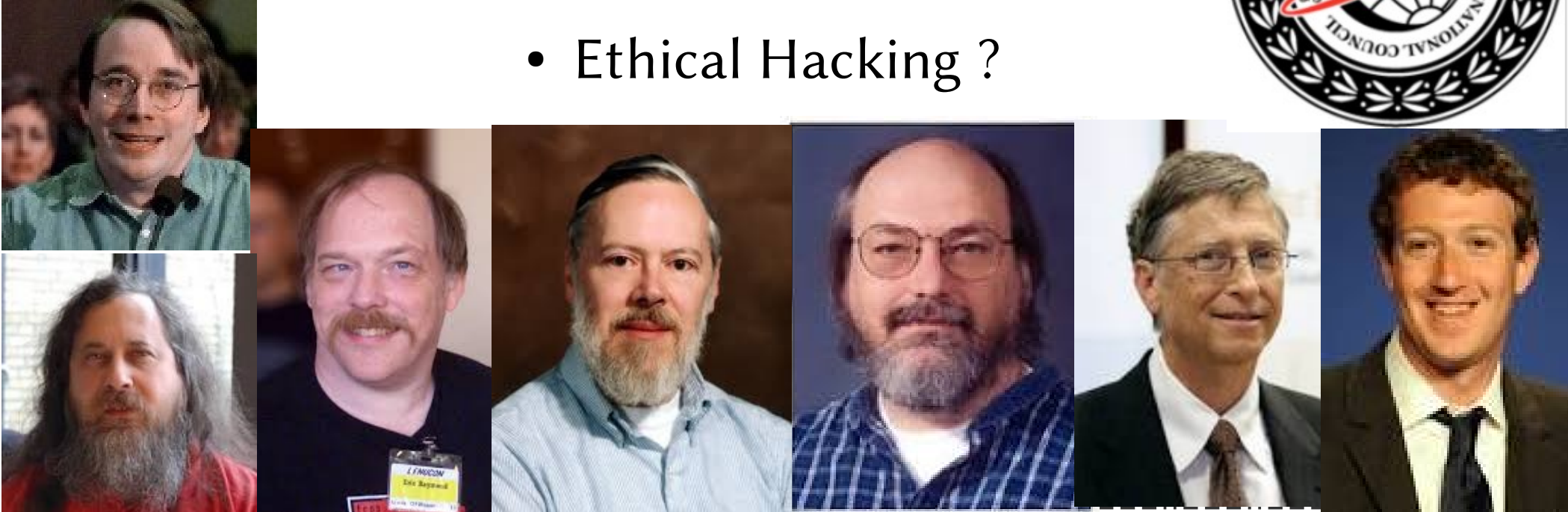
Julian Assange
Wikileaks
Wanted for hacking espionage related crimes in many countries

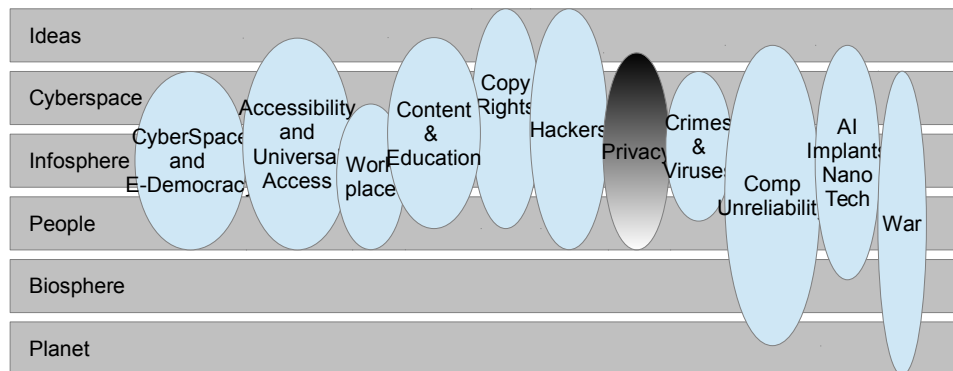
Kevin Mitnick
Life in Prison, but released after 5 years
Most wanted computer hacker in United States
Hacked IBM, Nokia, Sun, FBI, Pentagon, Novell servers.
Hired by companies to setup secure systems.

Adrian Lamo
Hacked New York Times, Yahoo, Microsoft servers.
Arrested 2003 light sentence but heavy fine.
Relaxed after revealing name of soldier who leaked sensitive diplomatic cables to WikiLeaks

Slides by Omar Khan (PhD), omar.khan@mu.edu.pk, FAST-NU, Peshawar, Pakistan

- Linus Torvalds, Richard Stallman, Eric Raymond, Dennis Ritchie, Ken Thompson, Bill Gates, Mark Zuckerberg
- Exceptionally Skilled People ?
- Ethical Hacking ?

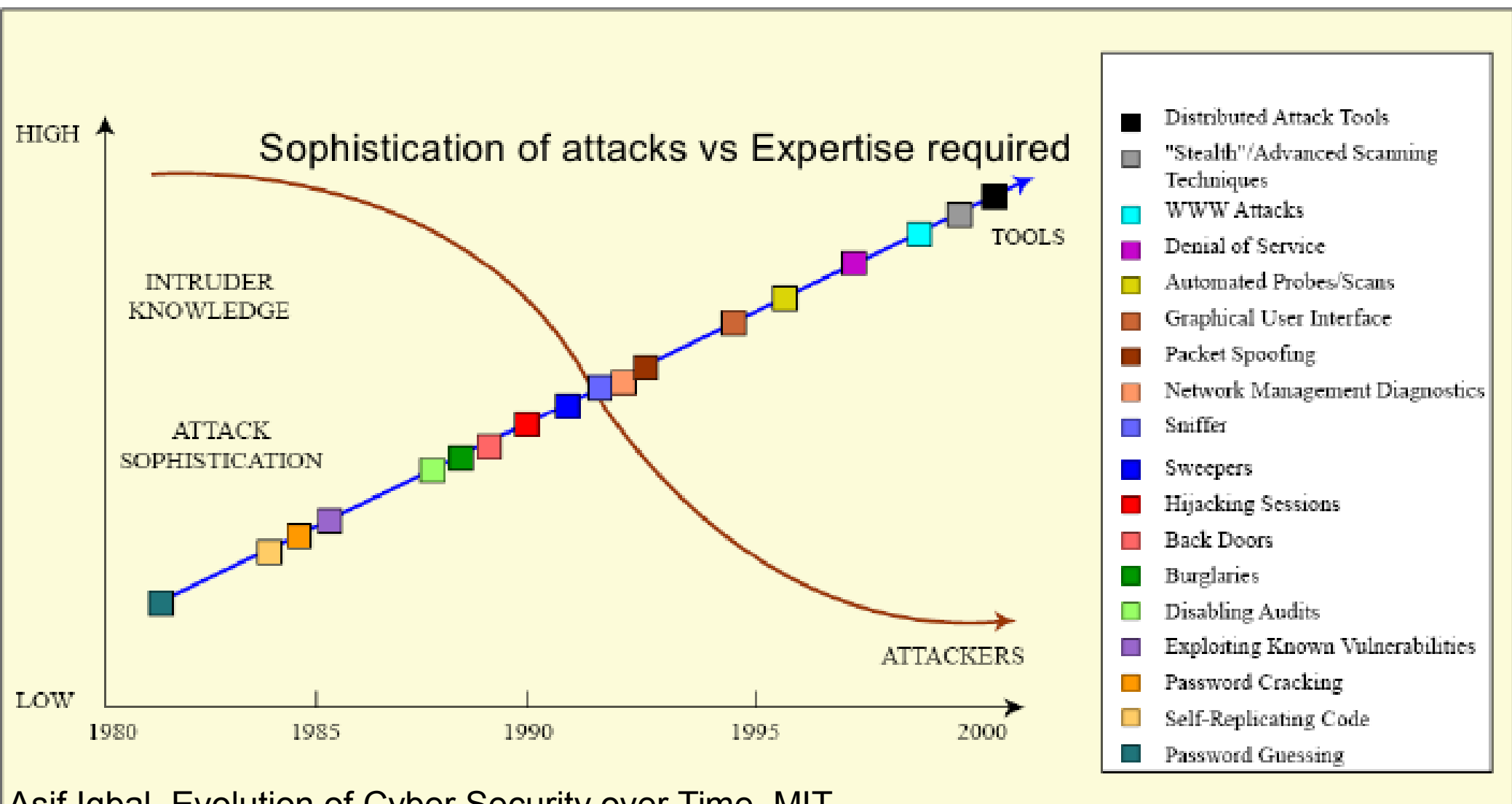
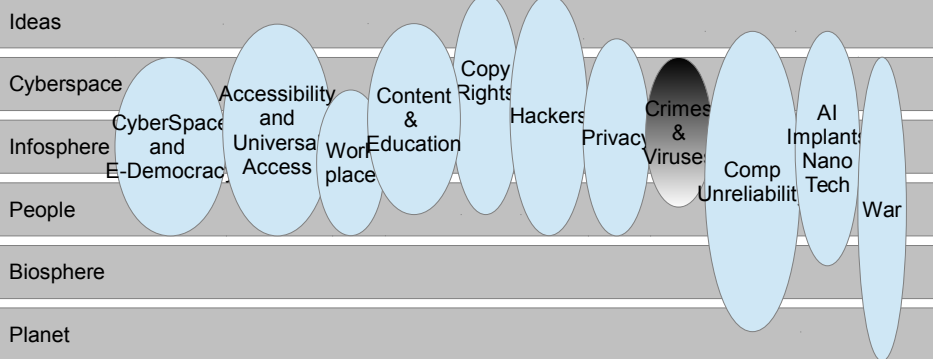




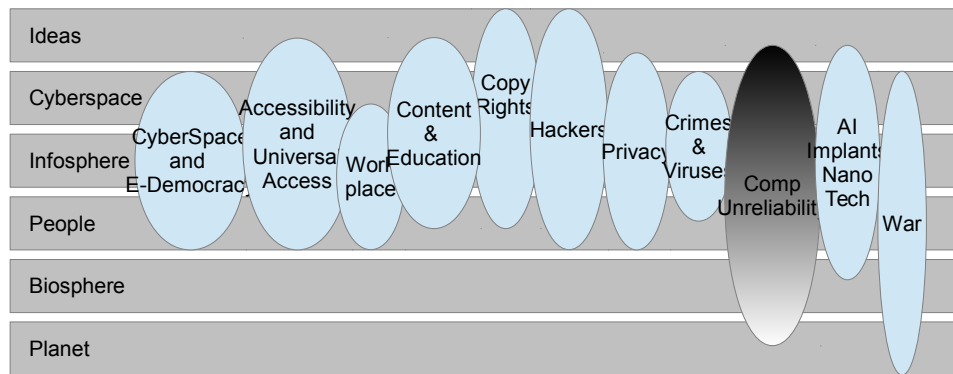
Privacy

- Compromise on Civil Liberties vs National Security?
- Monitoring of Communications
- Ambient Intelligence Problems

Computer Crime & Viruses

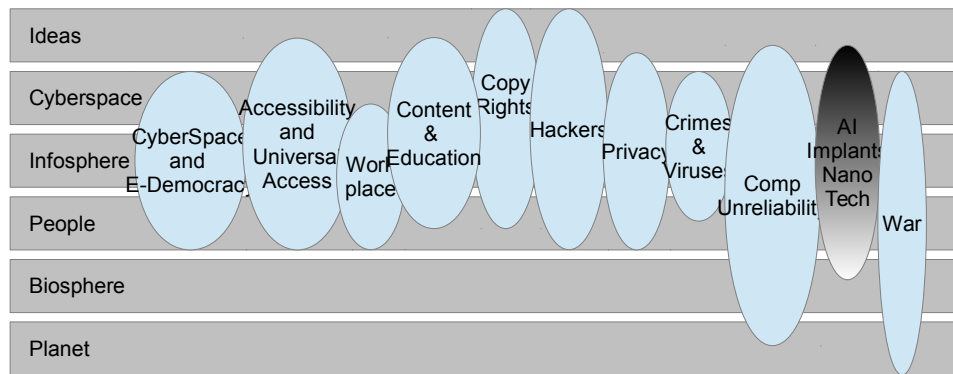


Asif Iqbal, Evolution of Cyber Security over Time, MIT



Computer Un-reliability

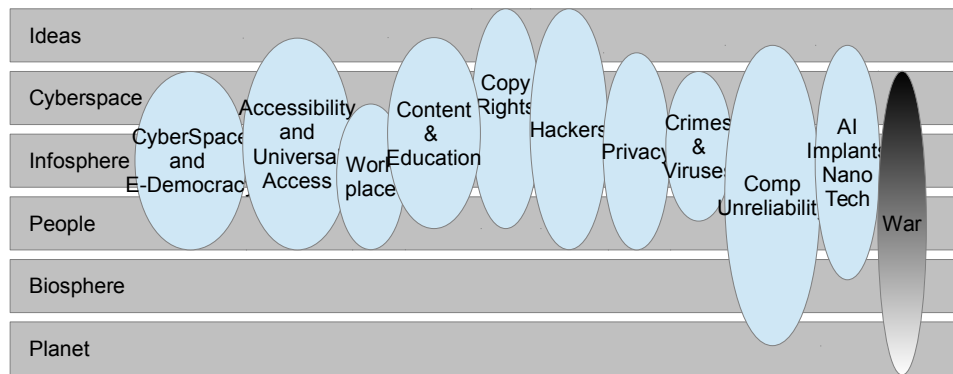
- Industrial societies becoming more technology dependent
- Very little is known about global impact of computer failure over time
- What are the sources of computer failure ?
 - Total Failure vs Partial Failure
 - Thorough Testing not Possible (Formal Verification Methods)
- Case: Automated Vehicles vs Automated Aircraft .. why the disparity?



Artificial Intelligence

- Should Machines make Decisions?
- Autonomous Robots/Vehicles?
- Are Ethical Robots Possible?

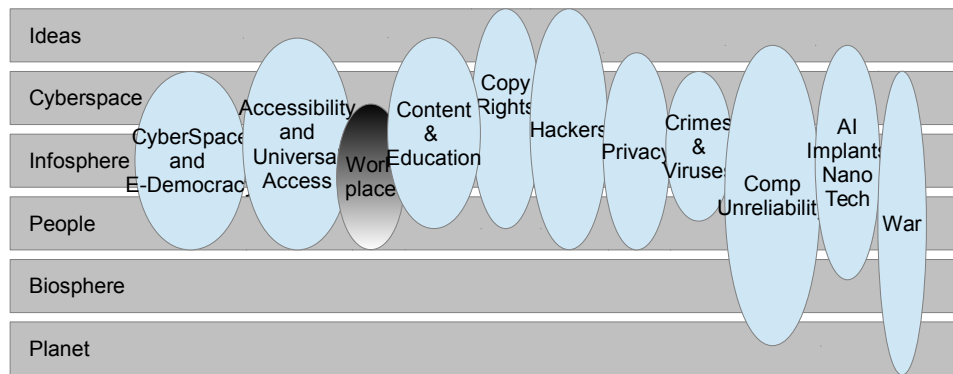




War

- Smart Weapons
- Un-manned Aerial/Ground/Sea Vehicles
- Projectile Bullets (Guided)





Work-Place

- Quantity of Jobs: How many jobs are created and How many jobs are lost?
- **Business Ethics**
 - Are specific business practices acceptable?
 - Salesman hiding facts about a product's safety features
 - Accountant hiding inaccuracies discovered in an audit (or else company will fire him/her)
 - Medical company not recalling a stock after an error to avoid suffering huge losses
 - Developer writing exceptionally difficult coding so that employee will always have to consult him for it whenever an improvement needs to be made
 - Engaging in lying, cheating, plagiarizing to get promoted in an organization?

Why Business Ethics

- To gain the goodwill of community (will bring more business)
- To create an organization that operates consistently (on the basis of uniform principles)
- Good business environment
- Protect organization and employees from legal actions
- To avoid unfavorable publicity (بدنامی)

Make contributions to charity causes from profit

Employee benefits in excess of legal requirements

Operating business honestly, staying true to company principles

treat colleagues, customers with respect

transparent business practices

Public Company → Public Reputation influences value of stocks, influences amount of support received from business partners

Fines can be lowered/waivered if company can prove an efficient ethics regime in company

If Business Ethics are Ignored



- **Business Risk** = Likelihood of a negative event * Impact of it's occurrence
- Un-ethical business can risk destroying business
- Accounting malpractices: Hid real worth of company with the help of accountants 2001: Filed for largest corporate bankruptcy in US history

After Enron restated its financial statements for fiscal year 2000 and the first nine months of 2001, its cash flow from operations was changed from a positive \$127 million in 2000 to a negative \$753 million in 2001. In 2001, with its stock price falling, Enron faced a critical cash shortage. In October 2001, after it was forced to cover some large shortfalls for its partnerships, Enron's stockholder equity fell by \$1.2 billion. Already shaken by questions about lack of disclosure in Enron's financial statements and by reports that executives had profited personally from the partnership deals, investor confidence collapsed, taking Enron's stock price with it.

For a time, it appeared that Dynegy might save the day by providing \$1.5 billion in cash, secured by Enron's premier pipeline Northern Natural Gas, and then purchasing Enron for about \$10 billion. However, when Standard & Poor's downgraded Enron's debt below investment grade on November 28, 2001, some \$4 billion in off-balance-sheet debt came due, and Enron didn't have the resources to pay. Dynegy terminated the deal. On December 2, 2001, Enron filed for bankruptcy. Enron now faces 22,000 claims totaling about \$400 billion.

If Business Ethics are Ignored

- Some western companies have risked their business by outsourcing to third-world developing countries where employees given heavy manual labor
- From Wikipedia:
 - KiK claimed to control enforcement of labour laws and security standards of its suppliers.
 - **However, a security check in 2007 revealed deficiencies in fire protection of the Karachi plant, which KiK claimed were fixed by 2011.**
 - According to the Pakistani Textile Workers Union (NTUF), a **high working pressure and overtime with unpaid additional work** were frequent at the factory.
 - **A few weeks prior to the fire, the factory passed an internationally recognized safety test.**



The Value of a Pakistani Worker: Discounter Offers \$1,930 Per Victim in Factory Fire

By *Hasnain Kazim* and *Nils Klawitter*

German discount textile retailer Kik plans to pay damages totalling \$500,000 to the families of more than 250 workers who died in a fire at a Pakistan factory used to produce its clothing. The families say that is too little and are threatening to sue.

1 October 23, 2012 - 06:32 PM

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Photo Gallery: The Aftermath of a Deadly Factory Fire



Hasnain Kazim

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Six weeks ago, at least 259 workers died in a fire in the Pakistani port city of Karachi at a factory that produced jeans for German discount textile and clothing retailer Kik. The disaster created unfavorable headlines for the Western company because it highlighted the poor working conditions of many who create the inexpensive products sold by discounter firms. This week, the company said it is planning to pay out a combined \$500,000 (€383,700) to the families of the dead, a figure that works out to about \$1,930 per victim.

1960s	1970s	1980s	1990s	2000s
Environmental issues	Employee militancy	Bribes and illegal contracting practices	Sweatshops and unsafe working conditions in third-world countries	Cybercrime
Civil rights issues	Human rights issues	Influence peddling	Rising corporate liability for personal damages (for example, cigarette companies)	Financial misconduct
Increased employee–employer tension	Covering up rather than correcting issues	Deceptive advertising	Financial mismanagement and fraud	Global issues, Chinese product safety
Changing work ethic	Disadvantaged consumer	Financial fraud (for example, savings and loan scandal)	Organizational ethical misconduct	Sustainability
Rising drug use		Transparency issues		Intellectual property theft

Source: Adapted from "Business Ethics Timeline," *Ethics Resource Center*, <http://www.ethics.org/resources/business-ethics-timeline.asp> (accessed May 27, 2009). Copyright © 2006, Ethics Resource Center (ERC). Used with permission of the ERC, 1747 Pennsylvania Ave., N.W., Suite 400, Washington, DC 20006, www.ethics.org.

Bribery

- Money|Property|Favors that add to the value of someone in a business|government in order to get a business advantage
- Kickback ... Payoff
- Person offering bribe ← Committing crime when he **offers**
- Person receiving the bribe ← Guilty of crime when he/she **accepts** the bribe

Bribery

The Nation

Friday, 28 March, 2014

News

Opinion

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Latest News

SPORTS - Gavaskar ready to take over troubled India board - March 28, 2014, 2:19 am

TRENDING DISCUSSIONS



US scholar urges nuclear deal with Pakistan, similar ...



TTP want Pakistan to disassociate itself from the US ...



Imran says, \$1.5bn donation against dignity of nation



Justice Arab hasn't quit the bench, says special court



TODAY'S POPULAR

NAB sets up character building societies in KP varsities

November 19, 2011 OUR STAFF REPORTER


PESHAWAR National Accountability Bureau, Khyber Pakhtunkhwa, under its Awareness and Prevention Regime has set up character building societies in all the universities of Khyber Pakhtunkhwa in order to create hatred among students against corruption.

This was stated by DG, Nab, KP, Brig (Retd) Muhammad Musaddiq Abbasi while addressing at an orientation workshop organised by Nab, KP, for the faculty members and students of various public and private sector universities of KP. Director Awareness & Prevention Nab, KP, Col (Retd) Waheedullah Khan also spoke on the occasion. Besides Additional Secretary, Higher Education, KP, Khalid Khan, as many as 150 students along with faculty members from 20 public and private sector universities attended the workshop.

Giving a Gift or Giving a Bribe ?

- Medical Representatives giving gifts to medical doctors to influence drug prescriptions

- Pens
- Writing Pads
- Clocks
- Calendars
- Free dinners
- Free event + travel tickets + Foreign Tours
- Consultation + Speaking Fees
- Cars + Houses !!!!



Schwag
Promotional Merchandise
With brand name + logo

When is the Line Crossed ??



Giving a Gift or Giving a Bribe?

- Gifts should not be hidden
(If Hidden → Implies Bribe)
- Bribes often through third party.
Gifts directly from donor or recipient.
- Bribes encourage obligation of favor to donor
Gift comes with no expectation of a future favor
- Company acceptable policy:
 - Gifts should be declared, + If above token value, should be declined.
 - Gift Pooling|redistribution, Gift auctioning, Re-gifting to charity organizations

Giving a Gift or Giving a Bribe ?

- Government of Pakistan, Government Service Rules 1964, Conduct and Discipline Rules Section A: 5.1 & 5.3
 - ... no Government servant shall, except with the previous sanction of the Government, accept, or permit any member of his family to accept, from any person any gift the receipt of which will place him under any form of official obligation to the donor. If, however, due to very exceptional reasons, a gift cannot be refused, the same may, under intimation to the Cabinet Division, be kept for official use in the Department or Organisation in which he is working.
 - If any gift is offered by the head or representative of a foreign State, the Government servant concerned should attempt to avoid acceptance of such a gift, if he can do so without giving offense. If, however, he cannot do so, he shall accept the gift and shall report its receipt to the Cabinet Division for orders as to its disposal.

How to Improve Business Ethics in Corporations

- Appointment of Corporate Ethics Officers
 - Senior Level Manager (or member of board of directors), responsible for improving ethical behavior of members in organization.
 - Encourages ethical decision making (Methods will be discussed later)
 - Ensures legal compliance of ethical practices
 - Oversees ethics related investigations in the organization.

How to Improve Business Ethics in Corporations

- Establishment of Corporate Code of Ethics
 - Highlights organization's key ethical issues
 - Identifies principles that are important to the organization



Our Purpose

We will provide branded products and services of superior quality and value that improve the lives of the world's consumers, now and for generations to come.

As a result, consumers will reward us with leadership sales, profit and value creation, allowing our people, our shareholders, and the communities in which we live and work to prosper.

Our Values

P&G is its people and the values by which we live. We attract and recruit the finest people in the world. We build our organization from within, promoting and rewarding people without regard to any difference unrelated to performance. We act on the conviction that the men and women of Procter & Gamble will always be our most important asset.

Integrity

- We always try to do the right thing.
- We are honest and straightforward with each other.
- We operate within the letter and spirit of the law.
- We uphold the values and principles of P&G in every action and decision.
- We are data-based and intellectually honest in advocating proposals, including recognizing risks.

Leadership

Passion for Winning

- We are determined to be the best at doing what matters most.
- We have a healthy dissatisfaction with the status quo.
- We have a compelling desire to improve and to win in the marketplace.

Trust

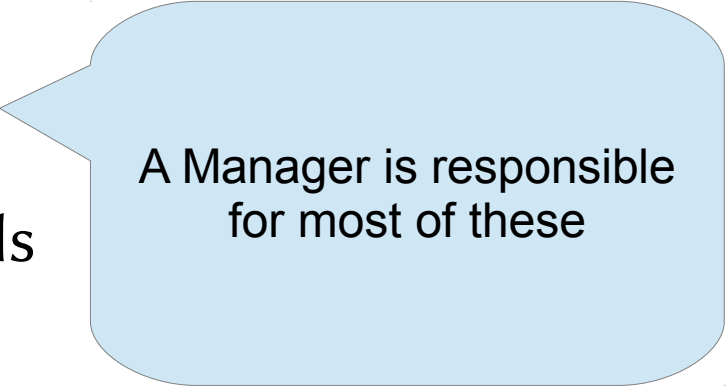
- We respect our P&G colleagues, customers, consumers, and treat them as we want to be treated.

How to Improve Business Ethics in Corporations

- Conduct Social Audits
 - Identifies ethical lapses committed in the past
 - Sets directives for avoiding similar missteps in the future
- Require Employees to Take Ethical Training
- Include Ethical Criteria in Employee Performance Evaluations.
For e.g., whether employee is of good moral conduct, whether employee is effectively operating in multi-cultural environment, whether employee accepts personal accountability.
- Assessment Reports. E.g., Peer Assessments from colleagues, Feedback reports from sub-ordinates of managers, Teacher Feedback from students in universities.

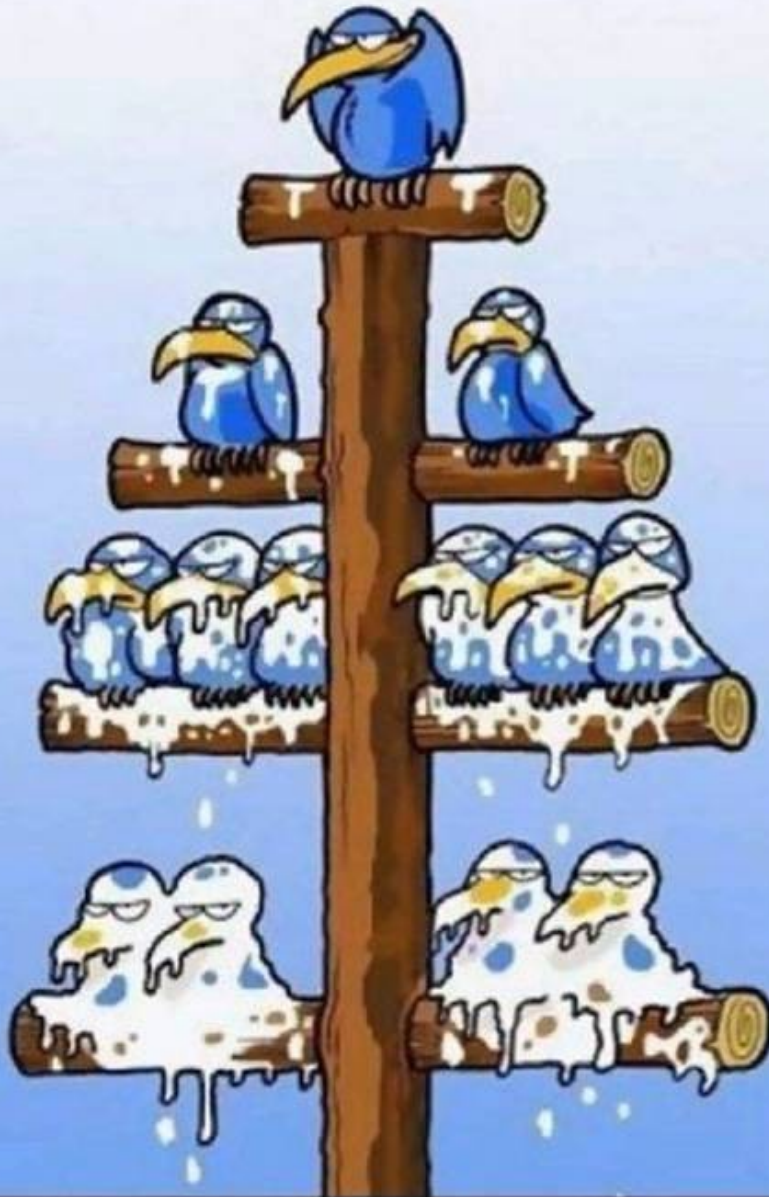
Good Employees making Bad Ethical Choices

- Is the work environment too competitive & demanding? As a result, placing great pressure on the employees
 - Unrealistic Budgets
 - Tight deadlines
 - Bonus incentives for performance goals
 - Aggressive competition from peers
 - Politics
 - Harassment



A Manager is responsible
for most of these

When top level guys look down
they see only [redacted]



When bottom level guys look up
they see only [redacted].

Attitude Problems

Good Managers Use this Check List

Questions	Yes	No
Does your company have a corporate code of ethics?	—	—
Was the corporate code of ethics developed with broad input from employees at all levels within the organization, and does it have their support?	—	—
Is the corporate code of ethics concise and easy to understand, and does it identify the values you need to operate consistently and meet the needs of your stakeholders?	—	—
Do all employees have easy access to a copy of the corporate code of conduct, and have they all signed a document stating that they have read and understood it?	—	—
Do employees participate in annual training to reinforce the values and principles that make up the corporate code of ethics?	—	—
Do you set an example by communicating the corporate code of ethics and actively using it in your decision making?	—	—
Do you evaluate and provide feedback to employees on how they operate with respect to the values and principles in your corporate code of ethics?	—	—
Do you seek feedback from your employees to ensure that their work environment does not create conflicts with the corporate code of ethics?	—	—
Do employees believe that you are fair, and do they seek your advice when they see coworkers violating the company's code of ethics?	—	—
Do employees have an avenue, such as an anonymous hotline, for reporting infractions of the code of ethics?	—	—
Are employees aware of sanctions for breaching the code of ethics?	—	—

**Manager is Good
if answer to all
is YES**