

The Place of Environmental Ethics in Research and Practice

by what mechanisms and in whose best interests?

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Acknowledgments

- **Gaston Meskens for inviting me and to the Belgian Nuclear Research Centre SCK•CEN for subsidizing my visit.**
- **Those who suggest that what I am about to talk about applies in perhaps only some 3% of scientists ...**



Framework for this lecture

- **The public health context — questions of health sciences and our role in policy formulation**
- **A case study of influence — my doctoral research experience; and more recent reports**
- **Professional ethics, values, guidelines and integrity**
- **Ways forward?**



EPIDEMIOLOGY

An applied science that bridges the basic sciences to human health and well-being

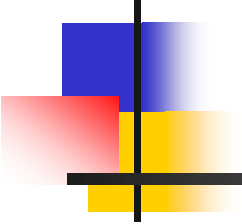
The science that informs public health policy



Lenses through which we apply our training

- **Macro-level lens (from 40,000 feet)**
 - *State, country or global-level*
- **Meso-level lens (from 1,000 feet)**
 - *Regional, city or community-level*
- **Micro-level lens (on the ground)**
 - *One-on-one-level*

EVERYTHING IS CONTEXT-RELATED

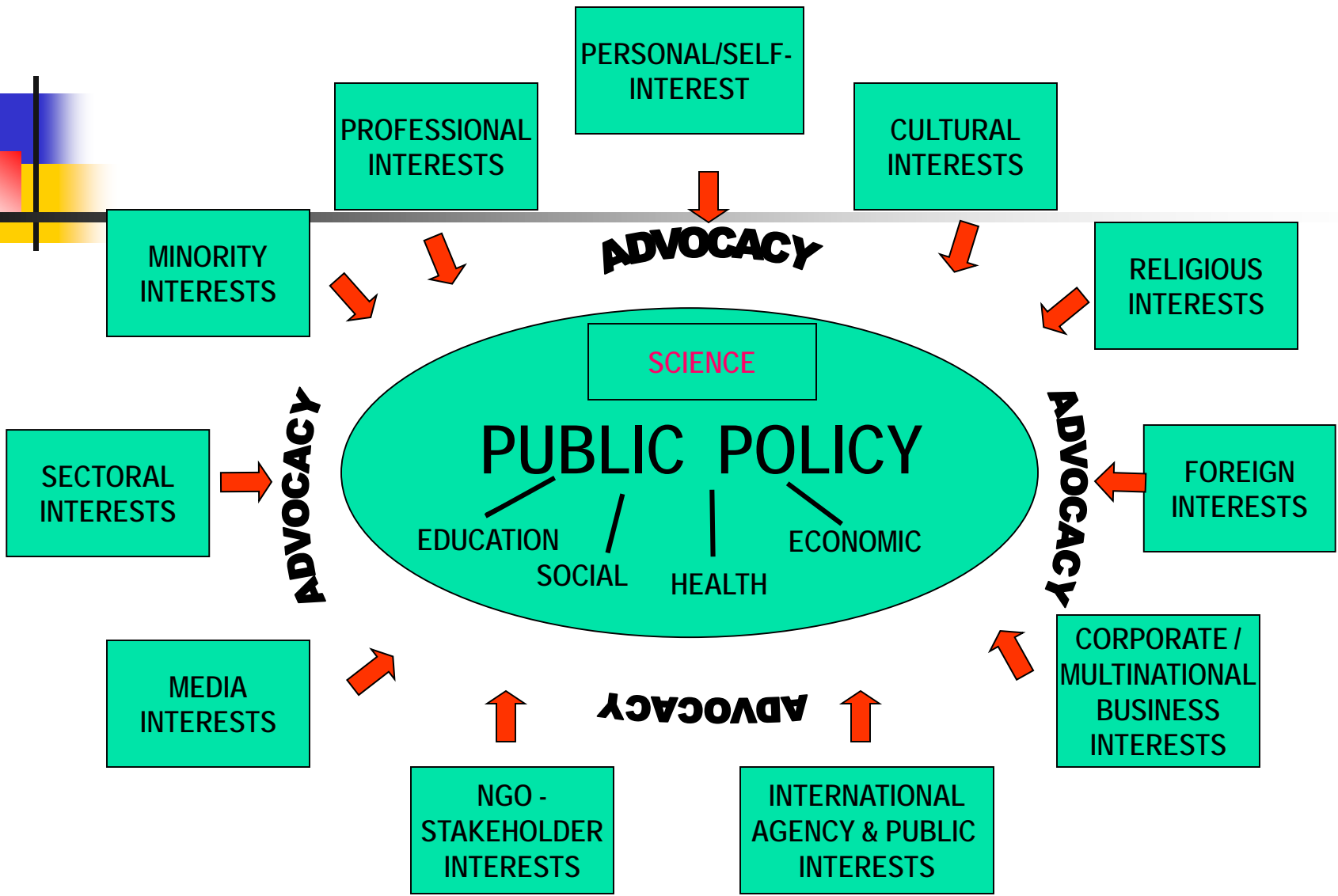
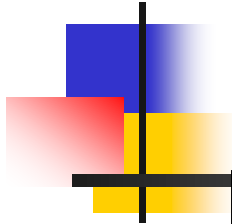


All sorts of pressures come to bear on the applied health scientist ... and they carry over into the policy domain



Influences and pressures

- **From funding sources to peer review**
- **From the questions we ask through access to data**
- **From study design to data analysis and interpretation**
- **From dissemination to job security**





→ There are many **competing interests** in the work done by epidemiologists



**Be aware of the forces at play
that influence both science
and policy.**

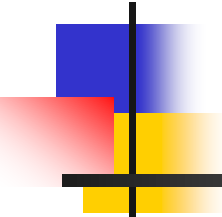
**... Great vigilance and
personal integrity are required
to change course.**



Science is but one such pressure

**--- HUMILITY AND
EMPATHY FOR THE
POLICY-MAKER ---**

*Our job in science is to do the
best possible science*



**“Industry’s offensive against
the regulation of health and
safety hazards uses academics
to downplay or deny the
seriousness of the hazards...”**

Clayson and Halpern

J. of Public Health Policy

September, 1983



Judge Miles W. Lord, 1982

On “*Corporate Ethics and Environmental Pollution*”:

“Corporations create 80% of our GNP. They, of all entities working, have the most potential for good or evil in our society.”

This was in 1982. Today it is surely more like 90%.



Exposing the Manufacture of Doubt

- Epstein. *The Politics of Cancer*, 1978
- Davis. *When Smoke Ran Like Water: Tales of Environ Deception*, 2002
- *The Secret History of the War on Cancer*, 2007
- *Disconnect: The Truth About Cell Phone Radiation ...*, 2010
- Michaels. *Doubt is their Product: How Industry's Assault on Science...*, 2008
- McCulloch & Tweedale. *Defending the Indefensible: The Global Asbestos Industry*, 2008
- Oreskes & Conway. *Merchants of Doubt*, 2010

By fomenting uncertainty, the health policy-maker's role is undermined ...

→ the subversion and ambushing of science 14



The Four D's applied to scientists studying that which does not support the *status quo*

- **Deny**
- **Delay**
- **Divide**
- **Discredit**
- **[Dismiss]**





My own experience as a PhD student ... 1978-1982

- **1977 – paper critiqued; visit ... interview**
- **1978 – relocated – summer research**
- **1979 – project approved; great opportunity!**
- **1980 – commenced data collection**
- **1981 – 1st draft of dissertation completed**
 - **Finding of a positive relationship between long-term, high-level occupational exposure to sulfuric acid and the development of laryngeal cancer**



Experience, continued ...

- 1981 – A contextual change ...

Reagan replaces Carter as President of the USA

- *Female head replaced by male head*
- *Top-Down influence ... ?*



Experience, continued ...

- ***Male head's first task: attempts to destroy my doctorate***
 - Required that I respond to his critiques, despite *a priori* hypothesis demonstrated:
 - Approached supervisory committee (ambush)
 - Required further analysis and data gathering taking 6 additional months of research (delays)
- ***Stopped the "harassment" only after the results progressively worsened each time further work produced more severe findings (RR grew from 4 to 13)!***



Experience, continued ...

- Attempted to make publication impossible
- Employed a reputable consulting firm to “kill” the finding
- Denied woman he replaced the right to co-authorship with her corporate affiliation
- A classical case of an
INDUSTRIAL APOLOGIST?
Became the “blue-eyed boy of the corporation”?



Experience, continued ...

- **He FAILED in that:**
 - **Awarded PhD**
 - **Awarded Annual student prize from the Society for Epidemiologic Research in 1983**
 - **Published in the American Journal of Epidemiology in 1984**
 - **Replicated findings by NIOSH and myself and co-workers after relocating first to Toronto and then to Edmonton, Canada**
 - **In 1992, IARC designated finding as a Group 1 carcinogen**



Context, and the research qualities exhibited by student ...

- **Enjoyed support of supervisory committee**
- **Meticulous rigor in methods and conduct of research**
- **Determination to complete the work**
- **Tenacity – unwilling to “go away”**
- **Resilience and follow-through**



I found at that time ...

- **No professional support - other than a personally supportive supervisory committee - that could help with the ethical dimensions of that to which I was being subjected ...**



I came to realize a year later ...

- **The profession that I had just entered had no code of ethics (or, ethics guidelines) to which one could refer in a time of need ...**
- **I brought this fact to the attention of the profession in 1984, and published it in 1985, my entry point to professional ethics writing in epidemiology**



And this led to

Soskolne CL. *Epidemiological research, interest groups, and the review process.* Journal of Public Health Policy, Vol. 6(2), June **1985, pp. 173-184**

Soskolne CL. *Epidemiology: Questions of science, ethics, morality and law.* American Journal of Epidemiology, Vol. 129(1), January, **1989, pp. 1-18**

Soskolne CL. *Ethical decision-making in epidemiology: The case study approach.* Journal of Clinical Epidemiology, Vol. 44, Suppl. I, **1991, pp. 125S-130S**



And then ...

- Numerous meetings, lectures, symposia, workshops, society business meetings, papers, letters-to-the-editor, proceedings, books, nationally and internationally ... *later*
- The adoption of *Ethics Guidelines*, since 1999, by main and sub-specialty organizations of epidemiologists



Is science value-neutral?

Or, put another way:

Is science value-free?



A 1997 published work of relevance

- **Weed, Douglas L.** Under-determination and incommensurability in contemporary epidemiology.
Kennedy Institute of Ethics Journal,
Vol. 7(2); 1997:107-127



TWO EXAMPLES – Values-based?

- **Alcohol & Breast Cancer**
- **Induced Abortion & Breast Cancer**

VALUES ... CONTEXT

A10 The Edmonton Journal, Tuesday, March 12, 1996

Opinion

Publisher: Linda Hughes
Editor in Chief: Murdoch Davis
Managing Editor: Sheila Pratt
Associate Editor: Duart Farquharson



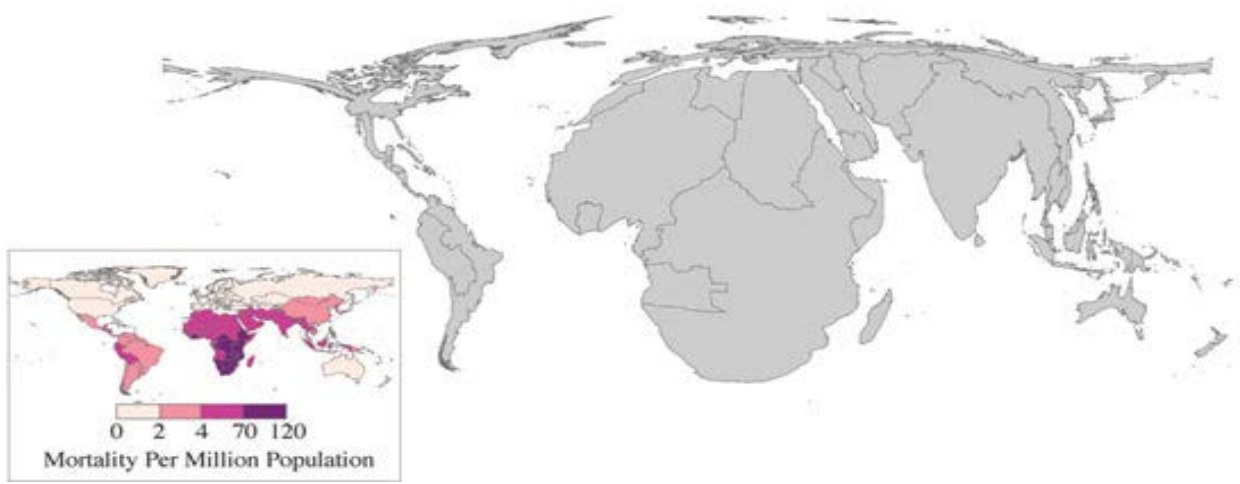
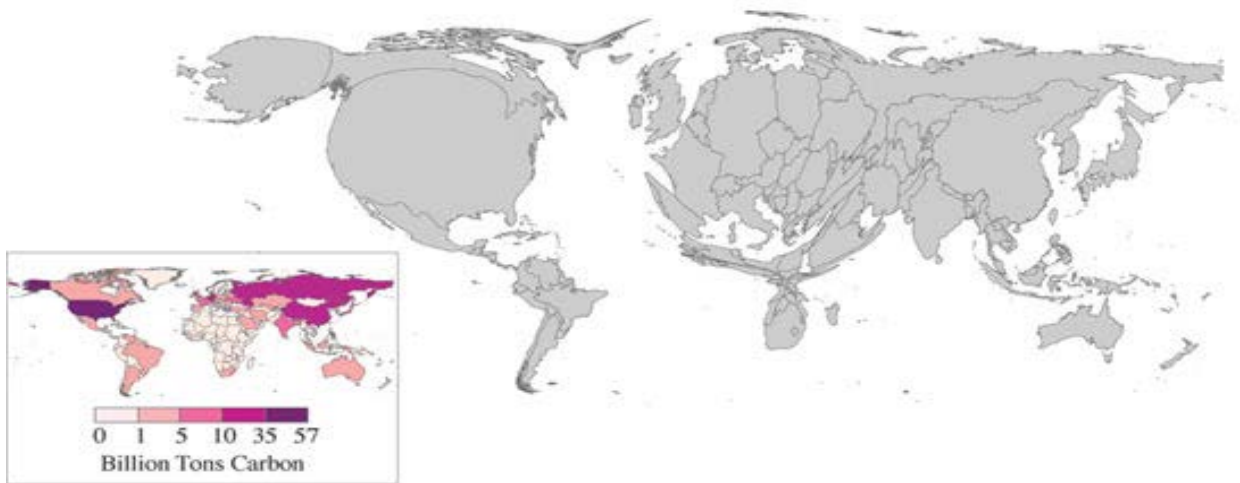


Core Values & Mission Statements

- **They provide the anchor for our activity and collective motivation**
... maintain, enhance, and promote health in communities worldwide ... work to protect the public health interest above any other interest ...

Ethical dimensions of global climate change

November 6, 2007 (*Courtesy J. Patz*) -- Cartograms





The Earth Charter

Preamble — to the 4 major principles:

- **Respect and care for the community of life**
- **Ecological integrity**
- **Social and economic justice**
- **Democracy, non-violence, and peace**

The Way Forward



Definitions

ETHICS - The rules of conduct/behaviour recognized in respect to a particular class of human actions or a particular group or culture.



SELF-REGULATED

MORALS - Principles or habits with respect to right or wrong.



LEGALLY ENFORCED



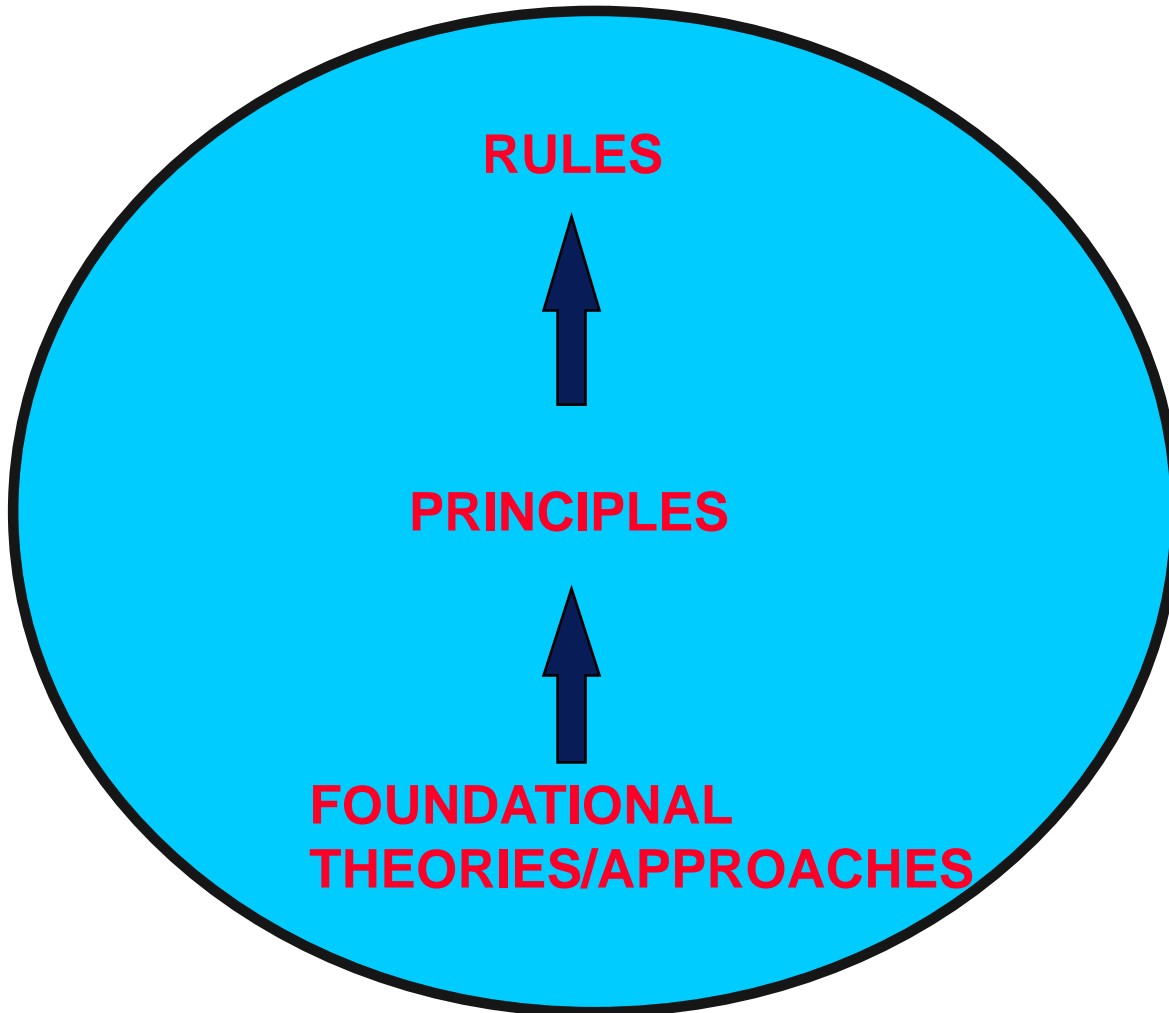
The Scientific Ethic*

A set of norms that define the scientific endeavour → an ethos that evolved gradually and organically.

This ethic defines the **boundaries** that must be respected by those who wish recognition as part of the scientific community.

* Reece, RD & Siegal, HA. Studying People: A primer in the ethics of social research. Mercer 1986, pp. 62-70.

THE DISCIPLINE OF ETHICS





THEORETICAL APPROACHES/MODELS

ETHICAL THEORIES/APPROACHES

- **Utilitarian (John Stuart Mill)**
- **Deontological (Immanuel Kant)**
- **Virtue**
- **Egalitarian**
- **Relational**
- **Libertarian**

- **Casuistry**

Deontological (i.e. duty-based)

In essence, the scientific ethic expects of scientists the duty to:

1. Use appropriate methods
2. Be objective
3. Be honest in reporting
4. Publish results – POSITIVE, NEUTRAL and NEGATIVE
5. Prohibit distortion in, for example:
 - Falsification of data
 - Biases inherent to study design
 - Proper analytical procedures
 - Objective interpretation
6. Do one's own work:
 - Plagiarism
 - Acknowledge sources
 - Graduate students not to be exploited

GOOD ETHICS ↔ GOOD SCIENCE



The **FUNDAMENTAL PRINCIPLES** of **BIOETHICS** include:

RESPECT FOR AUTONOMY

- Requires respect for individual rights and freedoms (Also: **Veracity & Fidelity**)

BENEFICENCE

- Requires doing good / Consider consequences of interventions in people's lives and of findings

NON-MALEFICENCE

- Requires doing no harm

JUSTICE

- Requires fair and equitable allocation (of risks & benefits) to all without discrimination



The FUNDAMENTAL PRINCIPLES of BIOETHICS include (under Justice):

■ ENVIRONMENTAL JUSTICE PRINCIPLE

- *Who is taking the risks?*
- *Who is deriving the benefits?*

■ THE POLLUTER PAYS PRINCIPLE

- *incentive to internalize costs*

■ THE PRECAUTIONARY PRINCIPLE

- *act to prevent even if evidence is limited*

■ THE SEVENTH GENERATION PRINCIPLE

- *consequences seven generations hence*



Primary Principles in Public Health

- **Protect the most vulnerable in society** (e.g., unborn, children, Inuit, frail elderly)
- **Involve communities in our research** (ensure community relevance of our work)
- **Integrity in Public Health**
 - **Serve the public health interest above any other interest**



A natural tension exists among all of the principles

**We simply cannot perfectly
satisfy all four principles fully
on any single issue, but we
must try to optimize each,
transparently**



Why Ethics in the Professions?

- **Keep ourselves on track and keep our house in order**
- **Socialize our students**
- **Professional accountability**
 - **According to norms of behaviour**
 - ***And, while we do our research***
 - **IN WHOSE BEST INTERESTS?**
 - **WHO IS TAKING THE RISKS?**
 - **WHO IS DERIVING THE BENEFITS?**



THE NORMAL RANGE OF HUMAN CONDUCT

VERY POOR



**VERY
GOOD**

AND EVERYTHING

IN BETWEEN

DISHONEST



HONEST

**POWER CORRUPTS. ABSOLUTE POWER
CORRUPTS ABSOLUTELY!**

(Lord Acton's premise)

NO ONE IS IMMUNE!



Prescriptive codes

versus

Aspirational codes



THE TEN COMMANDMENTS

- Thou shalt have no other Gods before me**
- Thou shalt not bow down before graven images**
- Thou shalt not take the name of the Lord thy God in vain**
- Remember the Sabbath Day and keep it holy**
- Honor thy father and thy mother**
- Thou shalt not kill**
- Thou shalt not commit adultery**
- Thou shalt not steal**
- Thou shalt not bear false witness against thy neighbor**
- Thou shalt not covet**

Moses, Mount Sinai



The Buddhist Code of Moral Conduct

by [Vajiranavarorasa](#)

The First Precept:

Abstaining from taking the lives of living beings

The Second Precept:

Abstaining from taking that which is not given

The Third Precept:

Abstaining from sexual misconduct

The Fourth Precept:

Abstaining from false speech

The Fifth Precept:

**Abstaining from distilled and fermented intoxicants
which are the occasion for carelessness which also
includes drugs**



THE GOLDEN RULE - *adapted*

- **What is hateful unto you, do not do unto your neighbour**

Hillel, Babylonian Talmud, Tractate Shabbat, 31B

- **Treat others as we would want them to treat us or our loved ones**

Luke 6:31 and Matthew 7:12

- **Treat others justly so that no one would be unjust to you**

From the Prophet Mohamed's Last Sermon

-
- **Do our level best**
 - **Assert ourselves if we find that someone has done ill**



ETHICS GUIDELINES FOR ENVIRONMENTAL EPIDEMIOLOGISTS

- I. OBLIGATIONS TO RESEARCH PARTICIPANTS**
- II. OBLIGATIONS TO SOCIETY**
- III OBLIGATIONS TO SPONSORS AND EMPLOYERS**
- IV. OBLIGATIONS TO COLLEAGUES**



Oversight and Watchdog Bodies

- **(Health) Research Ethics Boards**
- **Institutional Review Boards**
- **and the like**



GUIDELINES versus CODES

- ❑ Normative statements that are aspirational versus prescriptive
- ❑ A “list” versus a “checklist”
- ❑ “List” provides a basis for discussion:
 - *Context*
 - *Recognize tensions*
 - *Not for application as a “checklist”!*



Tobacco Example is best known

- Full circle – ~50-year story now told
- Disinformation campaigns
- Lies, manipulation, deceit
- Co-opt or appropriate scientists to lie
 - ... Is this bad in itself?
 - *The real tragedy is that scientists accept these monies and then proceed to please their sponsor*



The Edmonton Journal, March 15, 1996

MAKER-SPONSORED STUDIES MORE FAVOURABLE TO PHARMA.

Drug studies published in symposia sponsored by pharmaceutical companies are more likely to show positive results about the drug than studies not backed by drug makers, researchers report.

[Annals of Internal Medicine]



The Environment of “Character Building”

Barry M. Masters, April 2000

Part 3/4

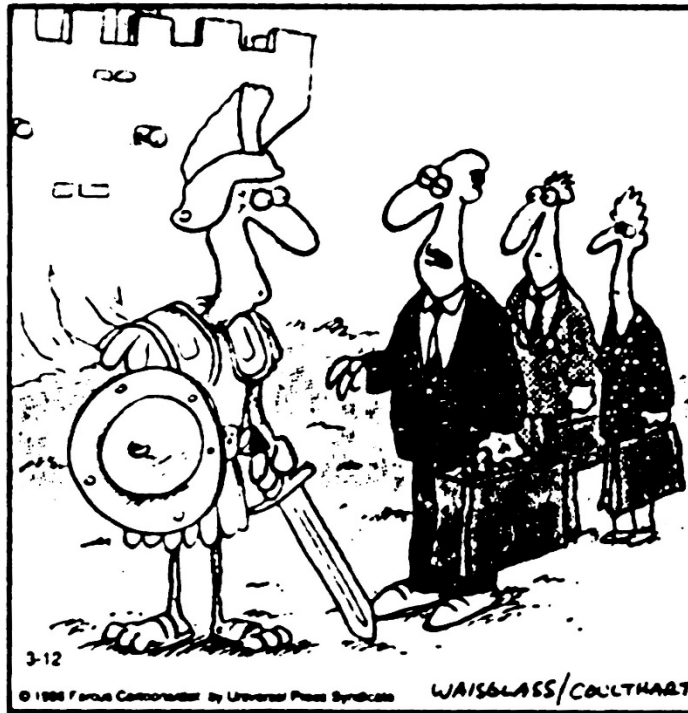
What is the state of our integrity?

Cursory reading of the published reports in the daily press indicates that we are failing to instill a sense of integrity in our children. Inappropriate behavior is evident from the highest levels of our federal government, to our military academies, to our universities, and public schools.

Published reports indicate that cheating in schools, universities, military academies is not only prevalent, but that students do not consider cheating to be deviant behavior.

Farcus

by David Waisglass
& Gordon Coulthart



3-12

© 1988 Farcus Cartoonist by Universal Press Syndicate

WAISGLASS/COLTHART

**"We don't loot and plunder
like that anymore."**



7 December 2006 11:56

Exxon spends millions to cast doubt on warming

By Andrew Buncombe in Washington and Stephen Castle in Brussels

Published: 07 December 2006

The world's largest energy company is still spending hundreds of thousands of dollars to fund European organisations that seek to cast doubt on the scientific consensus on global warming and undermine support for legislation to curb emission of greenhouse gases.

Data collated by a Brussels-based watchdog reveals that ExxonMobil has put money into projects that criticise the Kyoto treaty and question the findings of scientific groups. Environmental campaigners say Texas-based Exxon is trying to influence opinion-makers in Brussels because Europe - rather than the US - is the driving force for action on climate change.

"ExxonMobil invests significant amounts in letting think-tanks, seemingly respectable sources, sow doubts about the need for EU governments to take action to reduce greenhouse gas emissions," said Olivier Hoedeman, of the Corporate Europe Observatory. "Covert funding for climate sceptics is deeply hypocritical because ExxonMobil spends major sums on advertising to present itself as an environmentally responsible company."

It has long been known that the oil giant, which in 2005 recorded an all-time record for quarterly income, has spent millions of dollars to fund climate sceptics. Exactly how much is unknown but some estimates suggest \$19m (£9.7m) since 1998.

In its 2005 report, Mr Hoedeman's group details payments by ExxonMobil to two organisations the International Policy Network, which received \$130,000 and the Centre for the New Europe (CNE), which received \$50,000.

The Observatory suspects Exxon has also funded other groups engaged in undermining legislation. Its report said: "There is mounting evidence that many EU-focused think-tanks are heavily funded by corporations and this raises serious concerns about their agenda and their independence." The two groups cited in the report have long been accused of denying climate change. Greenpeace's ExxonSecret website notes that in 2004 the network issued a press release criticising the Intergovernmental Panel on Climate Change, saying it had "intentionally exaggerated its estimates of temperature increases by using highly implausible scenarios of future growth in emissions of greenhouse gases".

Greenpeace also lists a 2004 posting on CNE's website which claimed: "The Kyoto Protocol is failing because it is ineffective, costly, and unfair. It is also 'scientifically flawed'."

Last year The Independent revealed how a US-based lobbying group which received substantial funding from Exxon was seeking to develop a Europe-wide network of think-tanks, journalists and major businesses to act against legislation to counter climate change. The organisation claimed its approaches had been flatly rejected.

Kert Davies of Greenpeace said: "Europe is leading the world right now in terms of climate policy. Exxon know that if they can [enlist] lobbyists they may be able to slow things down. That is the tactic right now."

Such is the concern about ExxonMobil that earlier this year the Royal Society, considered Britain's leading scientific academy, wrote to it asking that it stop funding groups that have "misrepresented the science of climate change by outright denial of the evidence".

Elen Bisnath, a network spokeswoman, confirmed that the organisation had accepted \$130,000 from the oil company. She said: "We are an independent think-tank and we are contributing to the scientific debate on climate change."

Support for Victimized Colleagues

A Procedure for the ISEE to apply in responding to an appeal by any environmental health scientist who claims to be made to feel threatened for having identified a hazard and/or for proposing to study a suspected hazard



Virtue Ethics ...

- **Wisdom is knowing what to do next; virtue is doing it.** *David Star Jordan*
- **What is right is often forgotten by what is convenient.** *Bodie Thoene*
- **It is curious that physical courage should be so common in the world and moral courage so rare.** *Mark Twain*



Character vs. Actions

Virtues do not replace ethical rules. Rather, an account of professional ethics is more complete if virtuous traits of character are identified, such as:



VIRTUES OF PROFESSIONALS

- **Humility** – Respect the input and opinions of others /Self-effacement
- **Fidelity** – Honour one's commitments /Promote trust
- **Justice** – Act fairly
- **Patience** – Take time to hear others' viewpoints
- **Industry** – Do your level best /Excel
- **Veracity** – Tell the truth /Be honest
- **Compassion** – Empathize
- **Integrity** – Demonstrate good moral character
- **Serve** – Protect the most vulnerable /Serve the public interest
- **Prudence** – Err on the side of caution /Demonstrate good judgment



A few more recent exposés ...

CORPORATE CRIME

Enron executive begins 5½-year prison term

The Associated Press
HOUSTON

Former Enron Corp. executive Richard Causey has reported to prison to begin serving 5½ years for his role in the company's collapse, according to the Federal Bureau of Prisons.

Causey, 46, was listed Wednesday on the prison bureau's website as an inmate in the Bastrop Federal Correctional Institution, about 50 kilometres southeast of Austin.

Causey, the former chief accounting officer who pleaded guilty in 2005 shortly before he was scheduled to be tried

with other top Enron executives, had been listed on the website late Tuesday as "in transit."

Calls to the low-security prison weren't immediately returned early Wednesday.

The *Houston Chronicle* reported Tuesday that Causey, 46, was about to begin the term he was sentenced to in November for securities fraud.

His guilty plea came two weeks before he was to be tried along with Enron founder Kenneth Lay and former CEO Jeffrey Skilling on conspiracy, fraud and other charges related to the company's collapse. Causey admitted that he and other senior Enron managers made var-

ious false public findings and statements.

Enron, once the seventh-largest U.S. company, crumbled into bankruptcy proceedings in December 2001 after years of accounting tricks could no longer hide billions in debt or make failing ventures appear profitable. The collapse wiped out thousands of jobs, more than \$60 billion in market value and more than \$2 billion in pension plans.

After Causey serves his prison sentence, he will also have to serve two years' probation and pay a \$25,000 fine that will be distributed to Enron's victims.

Eleven articles...part of a crime-fraud

<https://www.rightoncanada.ca/?p=2078>

June 7, 2013

- **In a powerful decision, a New York appeal court has found that eleven articles, published in scientific journals, were potentially part of a crime-fraud. The articles, financed by Georgia-Pacific, were intended to cast doubt on the capability of chrysotile asbestos to cause cancer.**

The Center for Public Integrity

www.publicintegrity.org



- **Industry Muscle Targets Federal**
“Report on Carcinogens” July 30, 2013

- ***“Industry attacks on Public Health research have become more strident.”***
Linda Birnbaum, Director, US-NIEHS



Classical techniques that skew results: from biased methods to **junk science**

- **Linear reductionism without post-normal science to complement quantitative methods**
- **Under-powered studies**
- **Inadequate follow-up methods**
- **Inadequate follow-up time**
- **Contaminated controls**
- **Unbalanced discussion**
- **Selective disclosure of competing interests**



Definitions of relevant biases

- **Publication Bias**
- **Suppression Bias**
- **Repression Bias**
- **Funding Bias**



What are we up against?

- **What creates/drives misconduct in science?**
- **What tempts scientists away from the pursuit of truth?**
- **How does misconduct derail scientific discourse?**
- **How does misconduct influence public policy and hence population and global environmental health?**
- **Confrontation, and the challenge of speaking truth to power!**



Discussion