Ethics in Science

(How to Be a Hero and not a Demon)

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Overview

- Of demons and heroes: The duality of human character
- Opportunities for misconduct in science
  - Consequences of our discoveries
  - Intellectual property
  - Peer review
  - Funding
  - …
- “Noblesse oblige”
- Sources of strength
- Concluding remarks

Eighteen fundamental skills of a scientist

1. How does science work?
2. What is research?
3. Identifying good research problems
4. Writing papers
5. Presentation in front of an audience
6. Obtaining funding
7. Reviewing/refereeing the work of others
8. Teaching
9. Guiding students, running a lab, managing projects
10. Scientific creativity
11. Information finding
12. Career planning
13. Interacting with people and networking
14. Marketing your skills: job hunt
15. Balancing your life between work and family
16. Coping with stress
17. Ethics in science
18. Appreciation for quality rather than quantity

Of demons and angels: The duality of human character

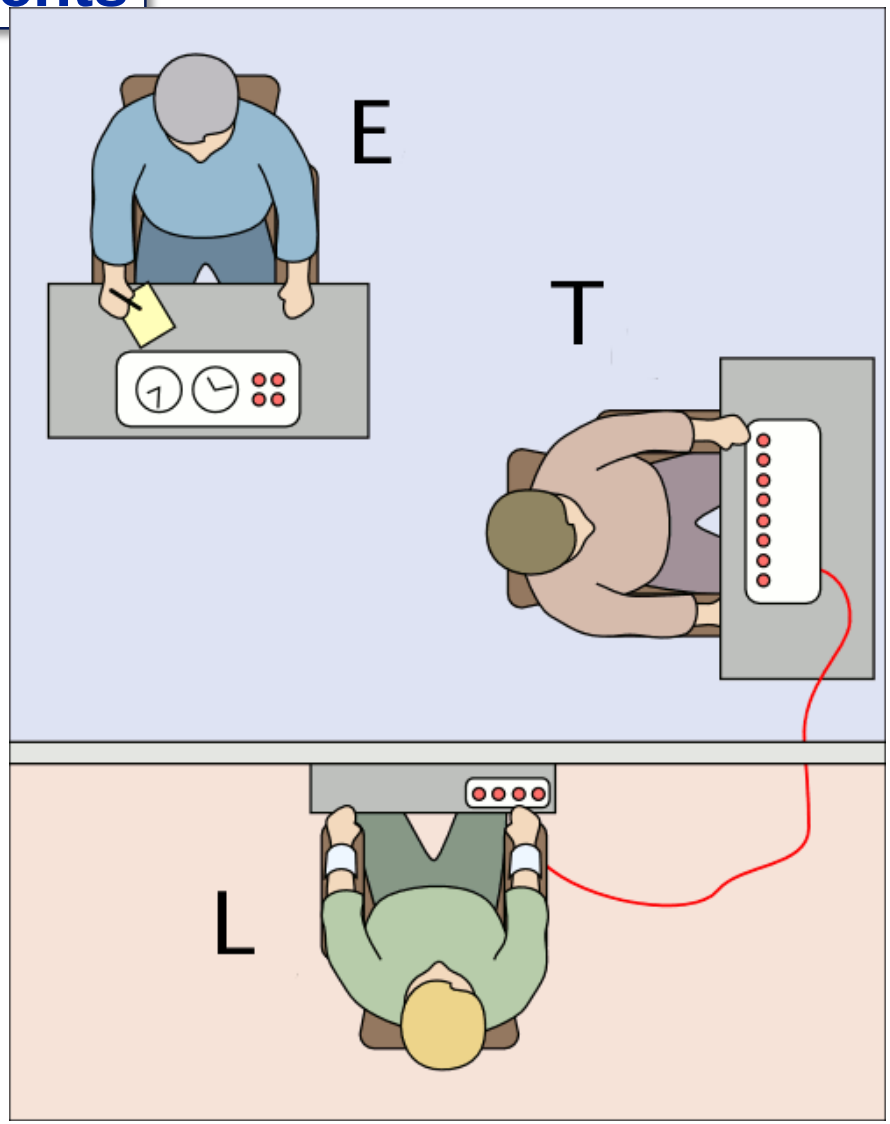
- **Psychology of the evil by Phil Zimbardo:**

  http://www.ted.com/talks/philip_zimbardo_on_the_psychology_of_evil.html

Philip George Zimbardo in Warsaw, Poland - 07.04.2009

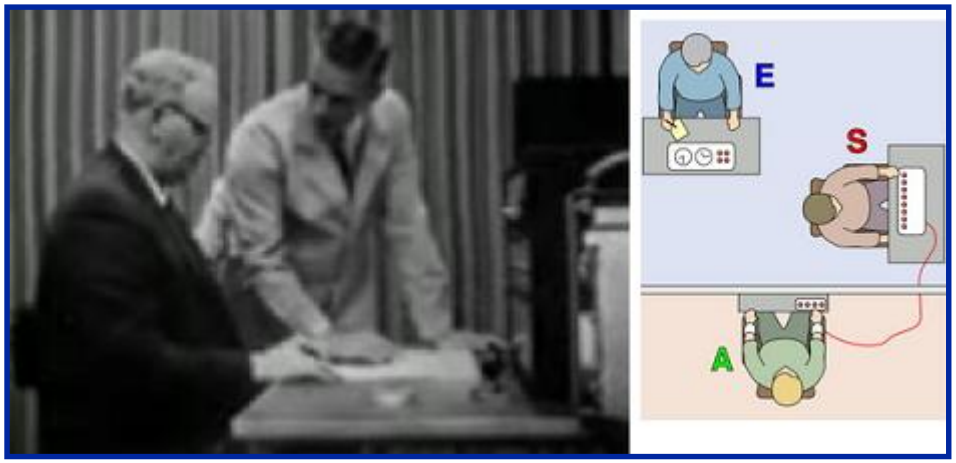
Stanley Milgram's experiments

- The experimenter (E) orders the teacher (T), the subject of the experiment, to give what the subject believes are painful electric shocks to a learner (L), who is actually an actor and confederate.
- The subjects believed that for each wrong answer, the learner was receiving actual shocks, but in reality there were no shocks.
- Being separated from the subject, the confederate set up a tape recorder integrated with the electro-shock generator, which played pre-recorded sounds for each shock level.

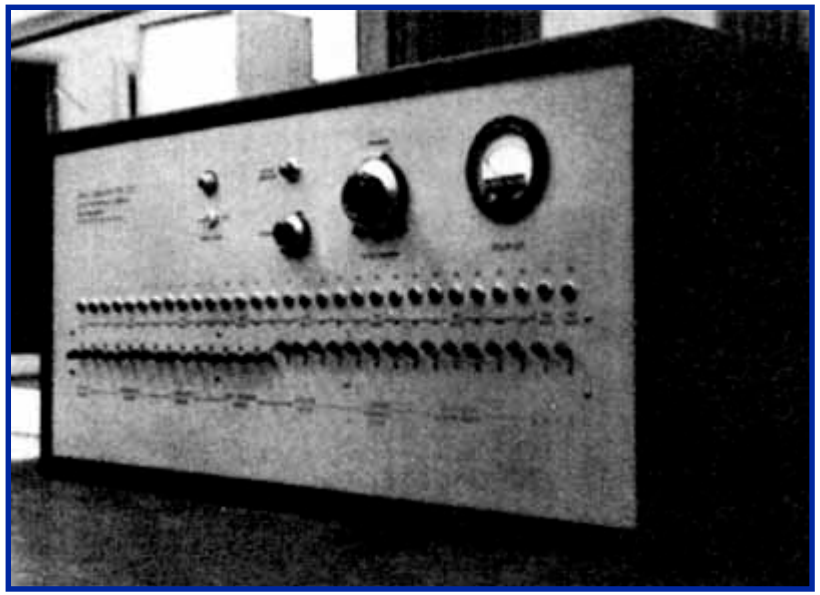


Source: http://en.wikipedia.org/wiki/Milgram_experiments

Stanley Milgram’s experiments



Original Milgram pictures



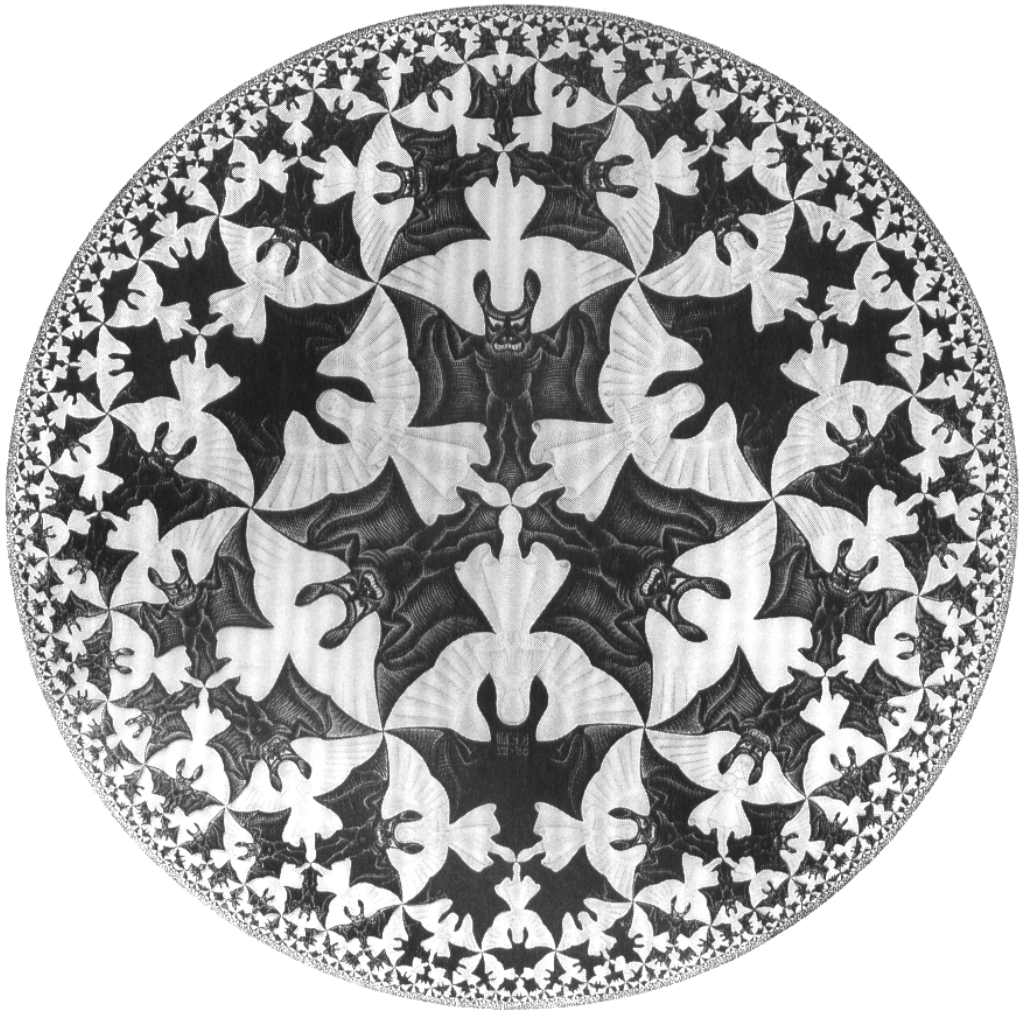
Milgram's faux "shock box”

Zimbardo's Stanford Prison experiment

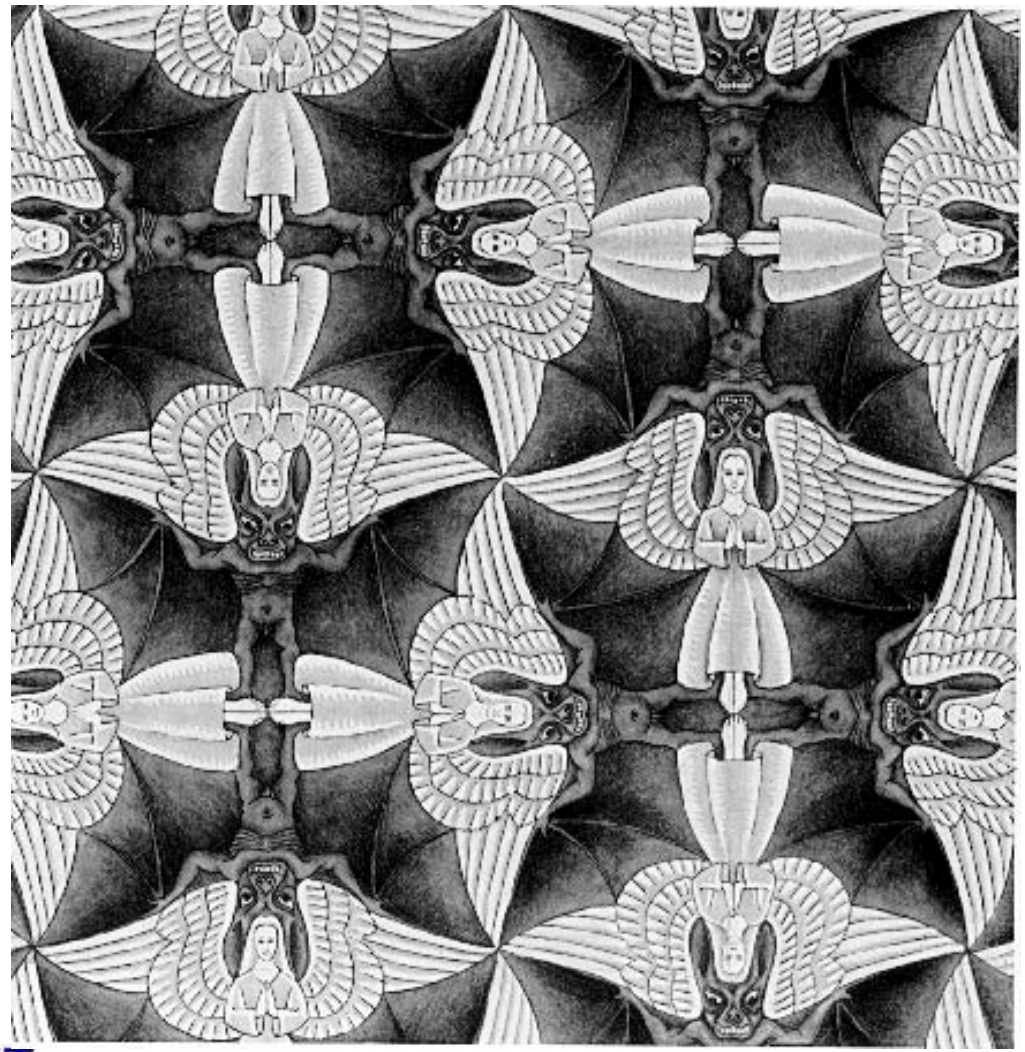
- Subjects (coming from the same population) randomly assigned to Prisoners and Prison guards group
- Subjects asked to play their roles
- The experiment had to be terminated after a few days because it went out of hand (subjects were treating their roles too seriously)

Of demons and angels: The duality of human character

- It seems that we are all able to perform heroic or evil acts
- It often depends on the circumstances and our preparation for these circumstances.
- http://integral-options.blogspot.com/2008/05/5-psychological-experiments-that-prove.html



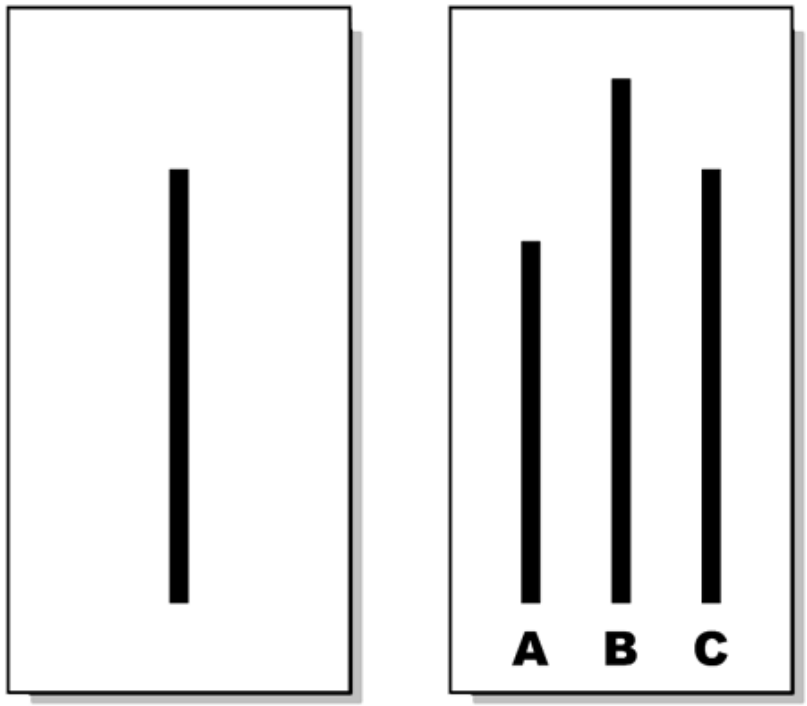
Of demons and angels: The duality of human character



Asch conformity experiments

Which of the three lines on the right is as long as the one on the left?

Subjects who are told what others think suppress their own sound judgment and agree with others



https://www.youtube.com/watch?v=TYIh4MkcfJA

http://en.wikipedia.org/wiki/The_Asch_Conformity_Experiment

The Good Samaritan experiment

Half of the subjects (young seminarians!) were given the task to deliver a sermon on the topic of the Good Samaritan parable, the other half were told to deliver a sermon on job opportunities in a seminary.

Both groups were supposed to go to another building.

Second factor was time: Subjects were given different times to get to the other building.

On the way, there was a person in need (an actor).

No significant difference between the two groups on the first factor: Seminarians, who have just heard the Good Samaritan story did not stop for the person in need more often than others.

Time left to get to the other building was the most important factor in whether to stop and help.

e.g., http://www.experiment-resources.com/helping-behavior.html

Make your first steps carefully

- Nurture a hero in yourself
- The first 15 Volts were crucial in Stanley Milgram's experiments
- "Beware of the first sin"

Scientist's encounter with ethics: Consequences of gaining knowledge

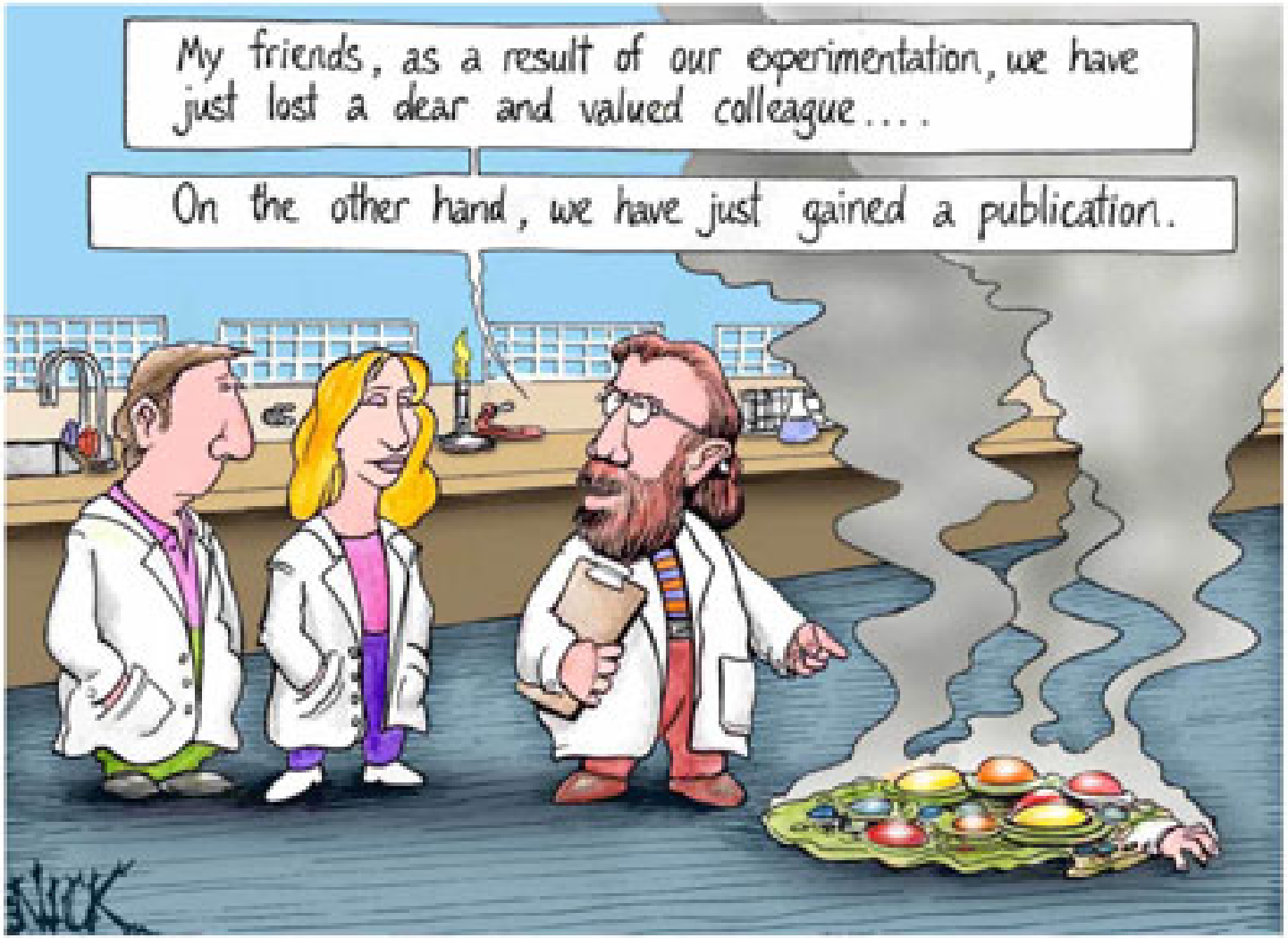
With any knowledge, how do you know what it is going to be used for?

- **Starting with the invention of fire, which can be used for cooking and for arson, almost every piece of technology can be used for good and bad things.**
- **Scientists have the obligation to participate in the societal dialog about the consequences of their inventions and discoveries.**

Scientist's encounter with ethics: Curiosity has limits

- Curiosity drives science.
- But curiosity is not a sufficient justification for scientific research: There are many examples of abuse of science in the name of curiosity.
- There are committees in every university that need to approve a piece of research with human and/or animal subjects before the research is going to be conducted.
- There are even cases of judging afterwards whether the research was ethical or not (e.g., after the 2nd World War).

Scientist's encounter with ethics: Curiosity has limits



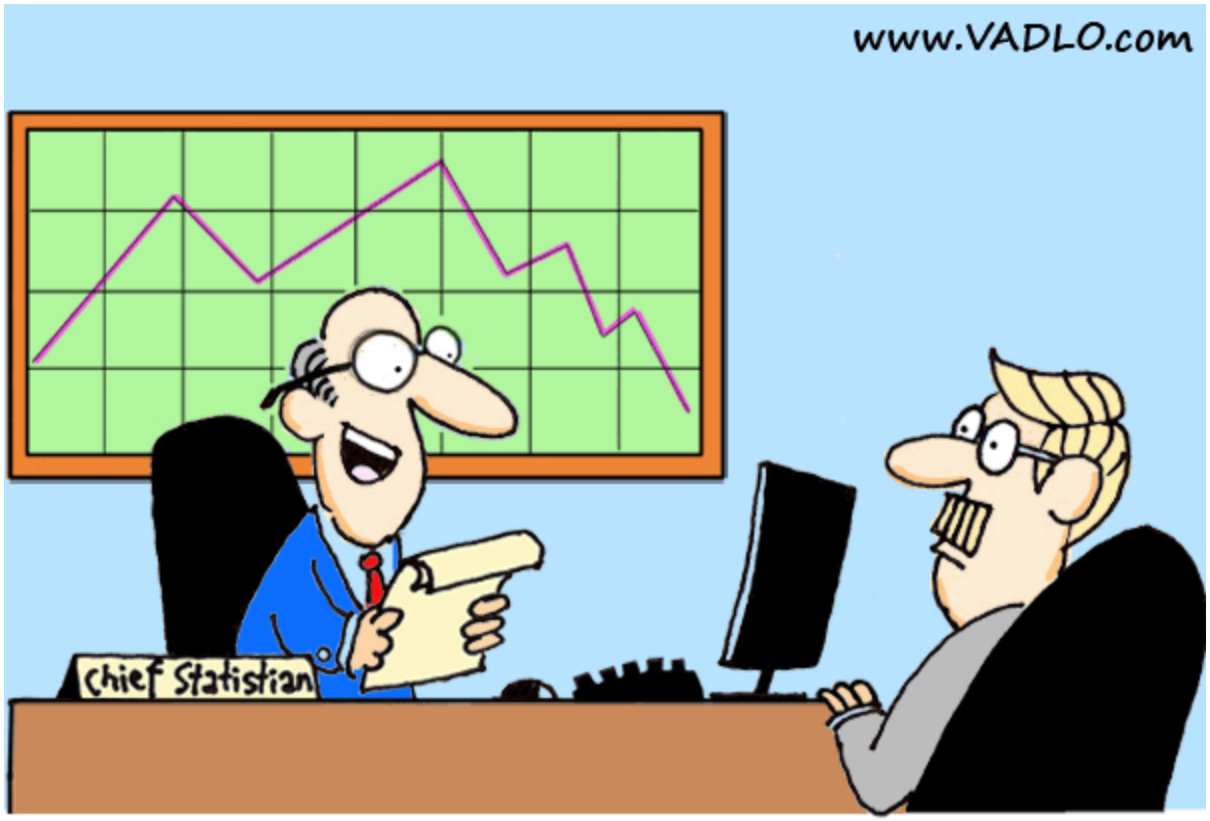
Scientist's encounter with ethics: Conflict of interest in research funding

Watch out where your money comes from

"You are completely free to carry out whatever research you want, so long as you come to these conclusions."

Scientist's encounter with ethics: Conflict of interest in research funding

You are in the business of serving the humankind in the long run, not pleasing some individuals in the short run!



"I can prove it or disprove it! What do you want me to do?"

Scientist's encounter with ethics: Intellectual property

- Inventions and ideas should be properly attributed and not "stolen"
- Many, many "borderline" situations
- What are the rules for paper authorship?

Scientist's encounter with ethics: Peer review

- Conflict of interest issues
- Protecting the intellectual property of the authors from others
- Protecting the intellectual property of the authors from yourself

"Noblesse oblige"

- **Power, education, and prestige come with responsibilities**
- **You are watched by your students, by the society**
- **It is truly shameful when an academic, a person who is teaching others, behaves dishonorably**

Andrzej Frycz Modrzewski (1503 – 1572)

***Lascius sive de poena homicidii* (*Lascius, Or On The Penalty For Manslaughter*, Polish title *Łaski albo o karze za mężobójstwo*)**

Criticized the inequality in terms of law faced by various social classes: while the penalty for killing a nobleman ranged from 120 grzywna through life imprisonment to death, the penalty for killing a peasant was only 10 grzywna.

Source: http://en.wikipedia.org/wiki/Andrzej_Frycz_Modrzewski

You are responsible for your actions

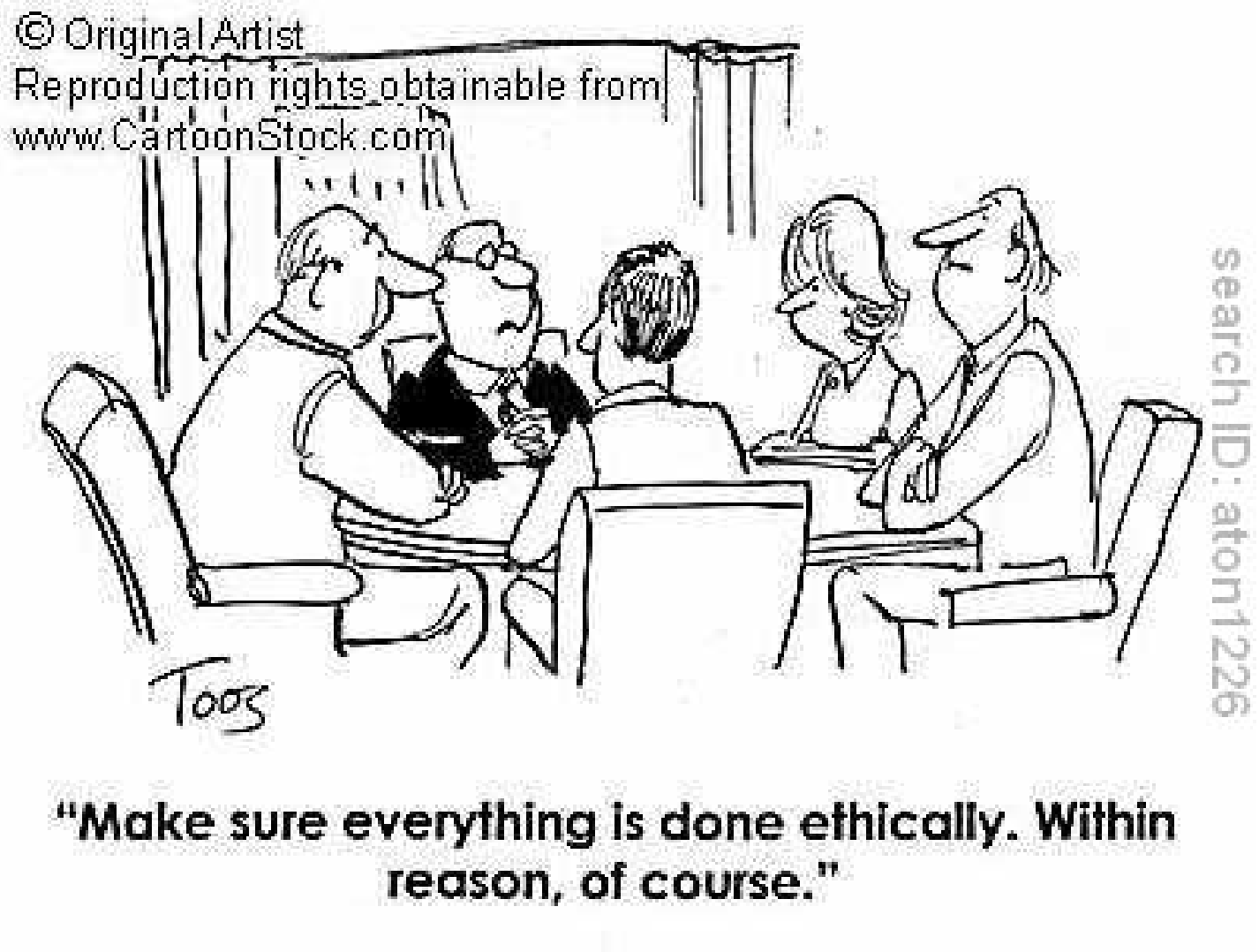
"Everybody does this" is a poor excuse for dishonesty

Duke of Norfolk: "Why can't you do as I did, and come with us, for fellowship?"

St. Thomas More: "And when we die, and you are sent to heaven for doing your conscience ... and I am sent to hell for not doing mine, will you come with me, for fellowship?"

From the movie "*A Man for All Seasons*" (1966)

There is no compromise in ethics



There is no environment without political pressures

There are no environments without political pressure

"All the other women in the office are suing you for sexual harassment. Since you haven't sexually harassed me, I'm suing you for discrimination."

Where to get the strength from?

- You may find yourself occassionally under an enormous political or other pressure or perhaps strong temptations that make it hard to be ethical.
- Everybody has his/her inspiration and sources of strength to rely on.
- What are possible sources of inspiration/strength?

Where to get the strength from?

- St. Thomas More (1478–1535)
- Pictured beautifully in a 1966 movie "A Man for All Seasons"
- The movie is full of great quotes and great scenes
- http://www.youtube.com/watch?v=bLIsqYKDqY8 (a beatiful scene, in which More reminds a false witness, Richard Rich, Mark 8:36 *"What good is it for a man to gain the whole world, yet forfeit his soul?"*, 3':30"–4'20")

Where to get the strength from?

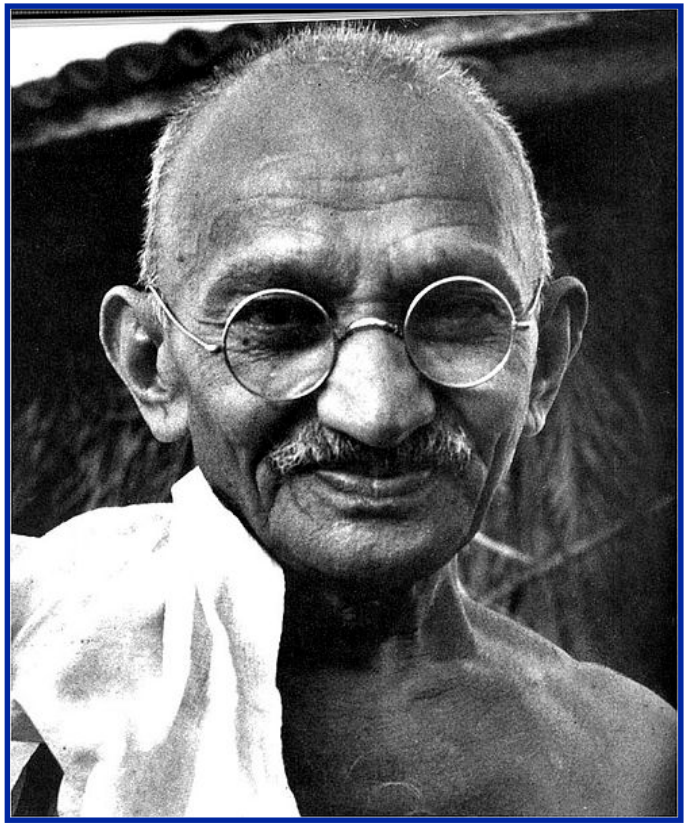
- **hm. Danuta Magierska ("Aniela," "Weronika") (1910-1984), school librarian in my high school**
- **Always remained faithful to the ideals of scouting, whether during the German or the Soviet occupation**
- **Risked her life for Poland during WWII, imprisoned by the Soviets in 1952 for, as she said ironically herself, "patriotism"**
- ***"Ms. Basia, please do not worry. This will all be over one day." („Pani Basiu, niech się Pani nie martwi. To kiedyś minie.")***

Where to get the strength from?

Mahatma Ghandi:

"When you are fighting in a just cause, people [who will support you] seem to pop up right from the pavement ..."

http://www.youtube.com/watch?v=vH-CNwjJjyI **(6'23"-8'50")**



Where to get the strength from?

- **Father Jan pictured in a 1993 movie *"Time for Witches"* (*„Pora na czarownice"*)** (the real-life figure who inspired the director was supposedly O. Arkadiusz Nowak, MI, http://www.kamilianie.eu/index.php?k=1&p=3e)
- **http://www.youtube.com/watch?v=YiX3QCC9RoA (watch his conversation with a colleague priest towards the middle of the clip, 4'20"– 6'07")**

"Follow your conscience"

Where to get the strength from?

Stefan Kardynał Wyszyński (1901-1981):

"You were not there while the forest was there.

You will not be there but the forest will be there."

(„Nie było was, był las. Nie będzie was, będzie las.")

Stefan Kardynał Wyszyński (1901-1981):

"Strach zapukał do drzwi, otworzyła mu odwaga, i nikogo tam nie było."

(„Fear knocked on the door, courage opened and nobody turned out to be there.")

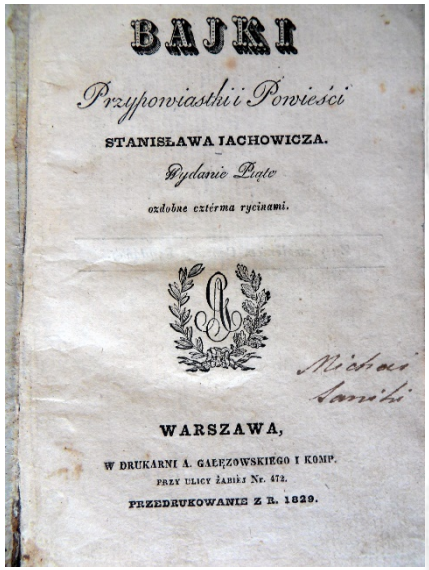
Did not yield to communist opression of Poland and of the Polish Catholic Church. He won.

Reputation is easy to lose, hard to regain

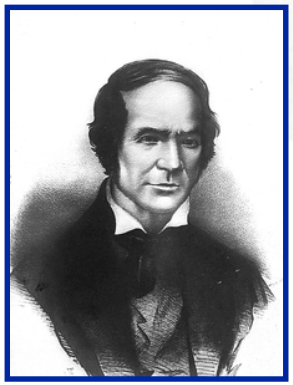
Remember "Dr. Dropkin" joke ☺?

Honor

Staś na sukni zrobił plamę;
Płacze i przeprasza mamę.
Korzystając z chwili, mama
Rzecze: na sukni wypierze się plama;
Ale strzeż się moje dziecię,
Brzydkim czynem splamić życie:
Bo ci, Stasiu, mówię szczerze,
Ta się plama nie wypierze.


BAJKI
Przypowiastki i Powieści
STANISŁAWA JACHOWICZA.
Wydanie Piąte
ozdobne extérma rycinami.
WARSZAWA,
W DRUKARNI A. GAŁĘZOWSKIEGO I KOMP.
PRZY ULICY ŻABIEJ Nr. 472.
PRZEDRUKOWANIE Z R. 1829.


— 26 —
G g
Gęsi.
Zkąd ten krzyk gęsi, to ich geganie?
To trzech chłopaków napadło na nie.
Bawi ich popłoch niebogich ptaków:
Złe widać serce u tych chłopaków.



Stanisław Jachowicz (1796-1857)

http://en.wikipedia.org/wiki/Stanis%C5%82aw_Jachowicz

Concluding remarks

"All people die, some never live" (supposedly by William Wallace, more likely by *Braveheart* ☺)

Some things are greater than life

The world changes because of single people

Concluding remarks

- Always react to dishonesty: If you tolerate dishonesty towards others, one day it will be your turn to be "the other."
- How to recognize people who are weak? Hard problem, but some skill comes with age.
- I have observed that people, who suspect others of something are usually guilty of acts that they suspect others of.
- People assuring you that they are honest are often precisely those whom you should distrust.
- A scoundrel in one thing is typically is a scoundrel in other things as well.

Eighteen fundamental skills of a scientist

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