



University of Pittsburgh

INFSCI 3005: Introduction to Doctoral Program

Lecture 13: Ethics in Science

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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
 - Plagiarism
- “Noblesse oblige”
- Sources of strength
- Concluding remarks

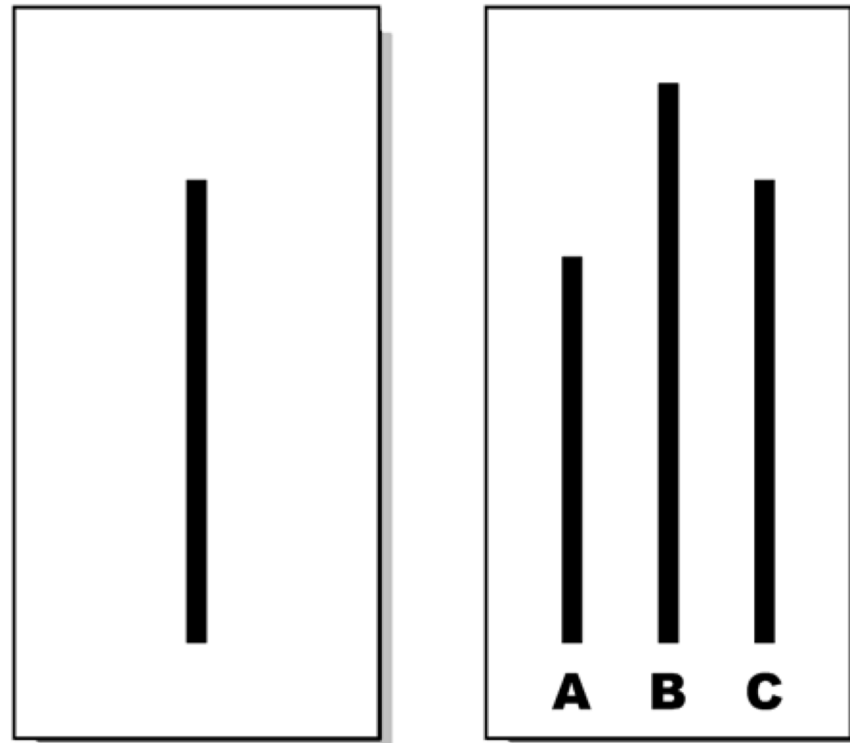


Asch Conformity Experiments

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

Swarthmore College, 1951



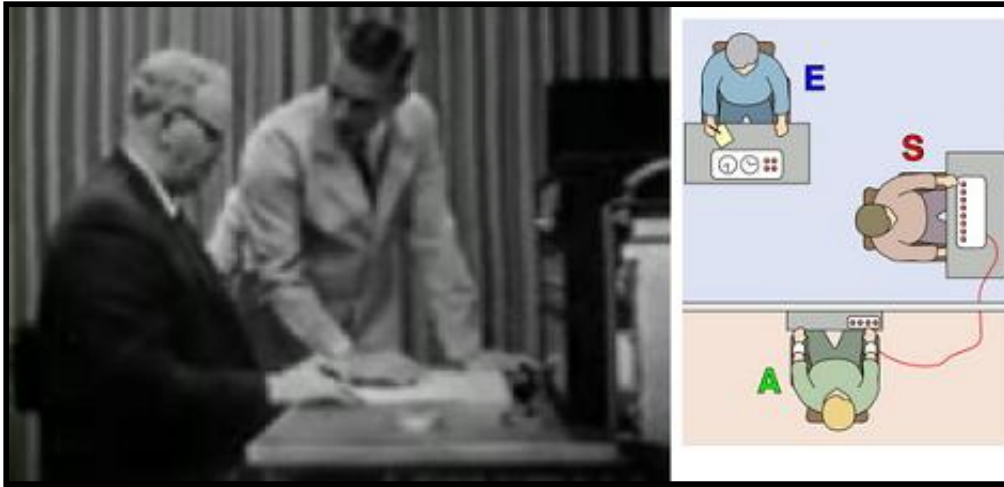
<https://www.youtube.com/watch?v=TYIh4MkcfJA>

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



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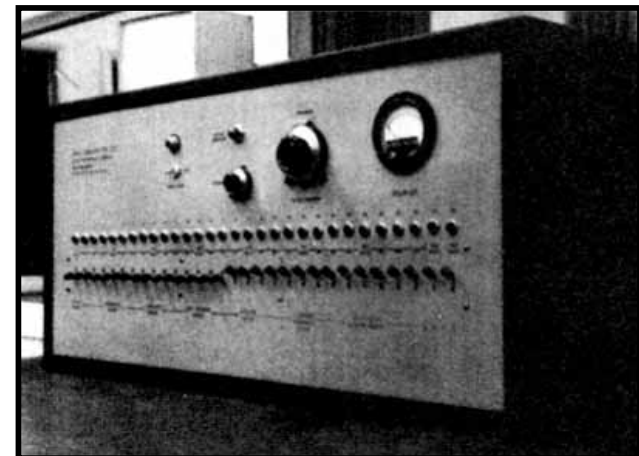
Stanley Milgram's Experiments



Original Milgram pictures

Yale University 1961

Authority vs Conscience

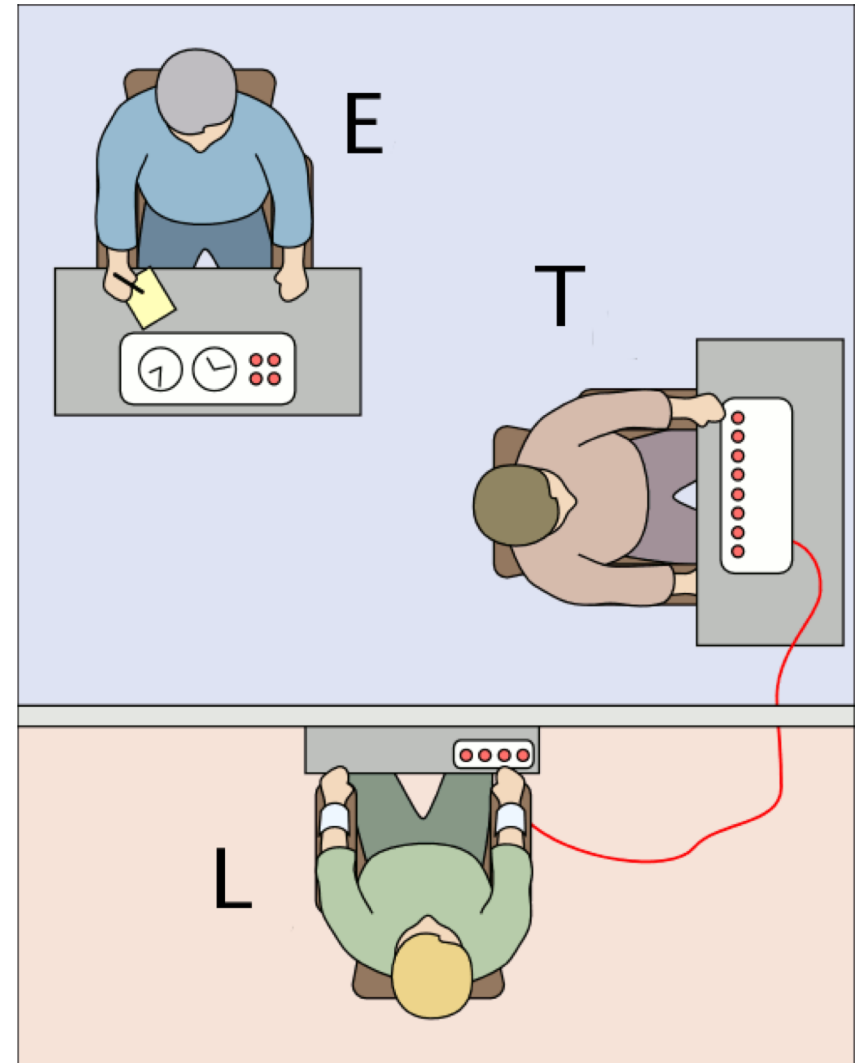


Milgram's faux "shock box"



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.
- **High percentage of subjects fully obey the instructions**





Zimbardo's Stanford Prison Experiment

- Stanford University, 1971
- 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)





The Good Samaritan Experiment

Princeton University, 1973

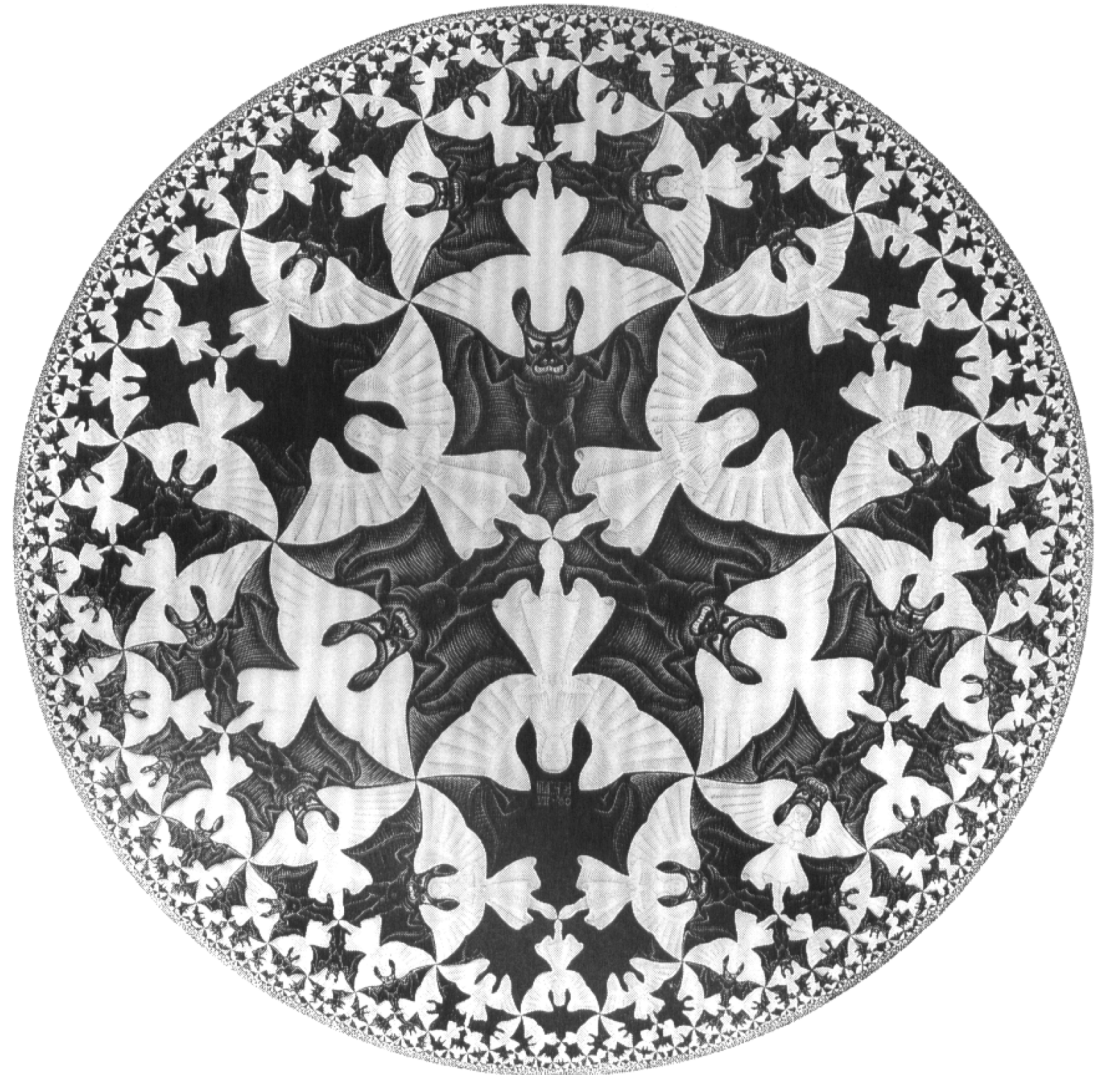
- Half of the subjects (young seminarians!) were given the task to deliver a sermon on the topic of the Good Samaritan parable, the other half were told to deliver a sermon on job opportunities in a seminary.
- Both groups were supposed to go to another building.
- Second factor was time: Subjects were 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.





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.
- Humanity is doomed?
- <http://integral-options.blogspot.com/2008/05/5-psychological-experiments-that-prove.html>





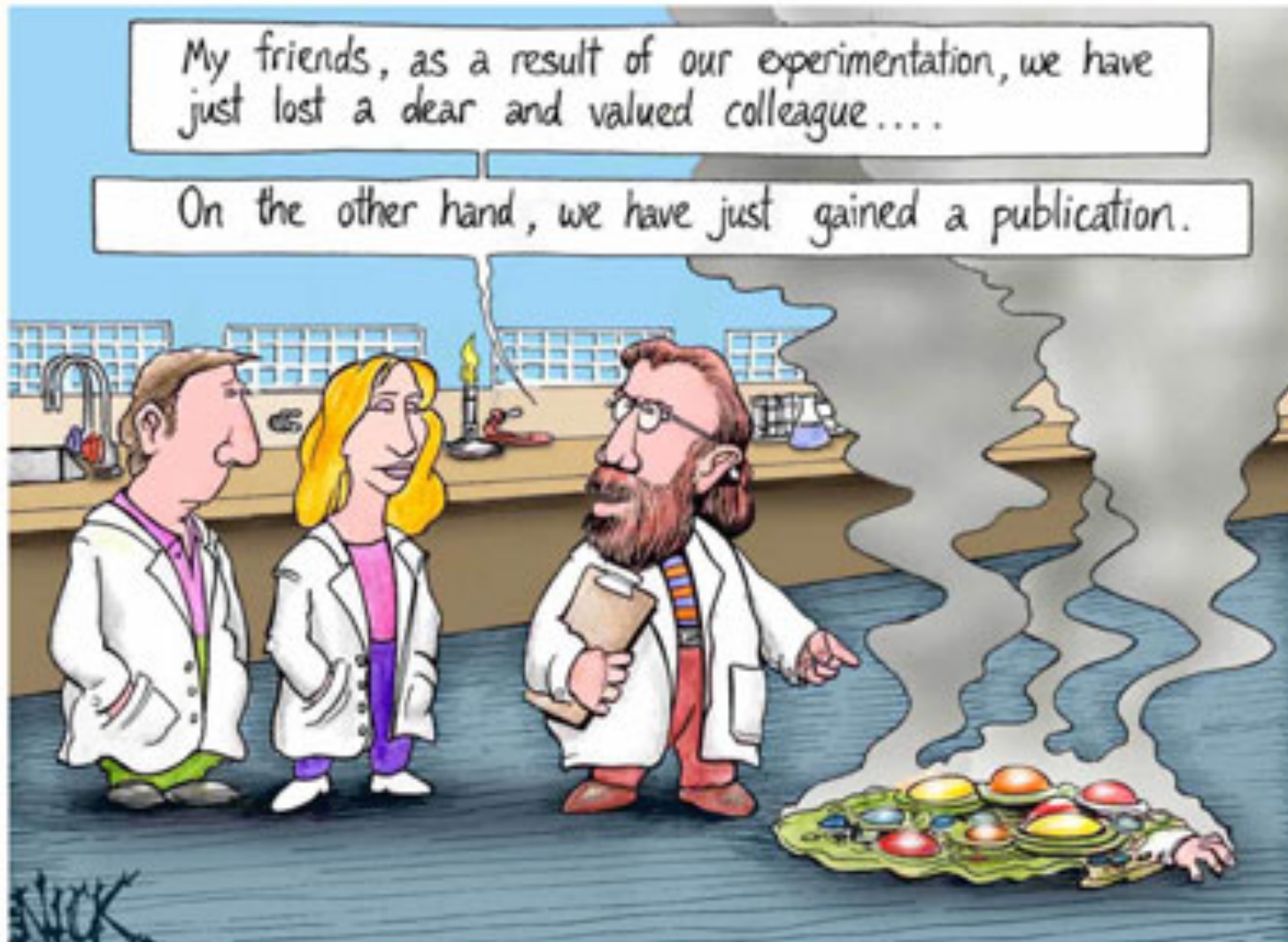
Scientist's Encounter with Ethics: Consequences of Gaining Knowledge

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





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: 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



Scientist's Encounter with Ethics: Plagiarism

- IEEE Definition

- "IEEE defines plagiarism as the use of someone else's prior ideas, processes, results, or words without explicitly acknowledging the original author and source. Plagiarism in any form is unacceptable and is considered a serious breach of professional conduct, with potentially severe ethical and legal consequences.
- <https://www.ieee.org/publications/rights/plagiarism/plagiarism-faq.html>

- ACM Definition

- <https://www.acm.org/publications/policies/plagiarism-overview>



Levels of Plagiarism

- Concepts
 - ideas,
- Details
 - processes, results
- Writing
 - Words



How to Avoid Plagiarism

- Declare!
- Make it clear which part of ideas and processes suggested by you is based on past work, give extensive credit in the intro or related work
- Make it clear what is your own contribution in the paper
- Make citations everywhere you refer to existing process or results!



Own Work or Related Works?

- Analysis of related work is an intellectual contribution, its use is subject to plagiarism rules
- Pointing you to relevant work is one of the goals
- But everything beyond has to be cited
- Do not use the exact words or quote!



“*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*)

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.



You are Responsible for Your Actions

“Everybody does this” is a poor excuse for dishonesty

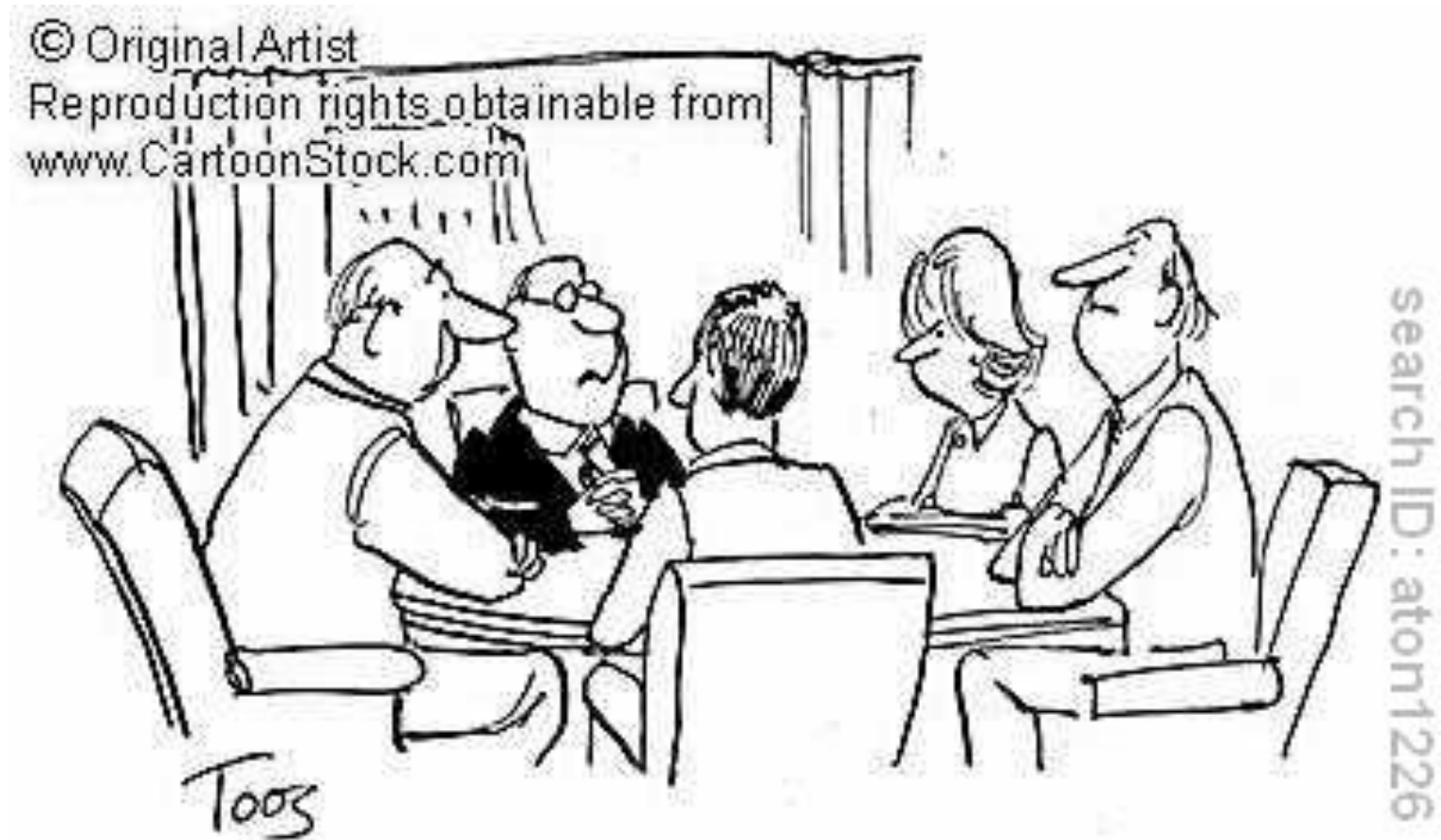
Duke of Norfolk: *“Why can't you do as I did, and come with us, for fellowship?”*

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

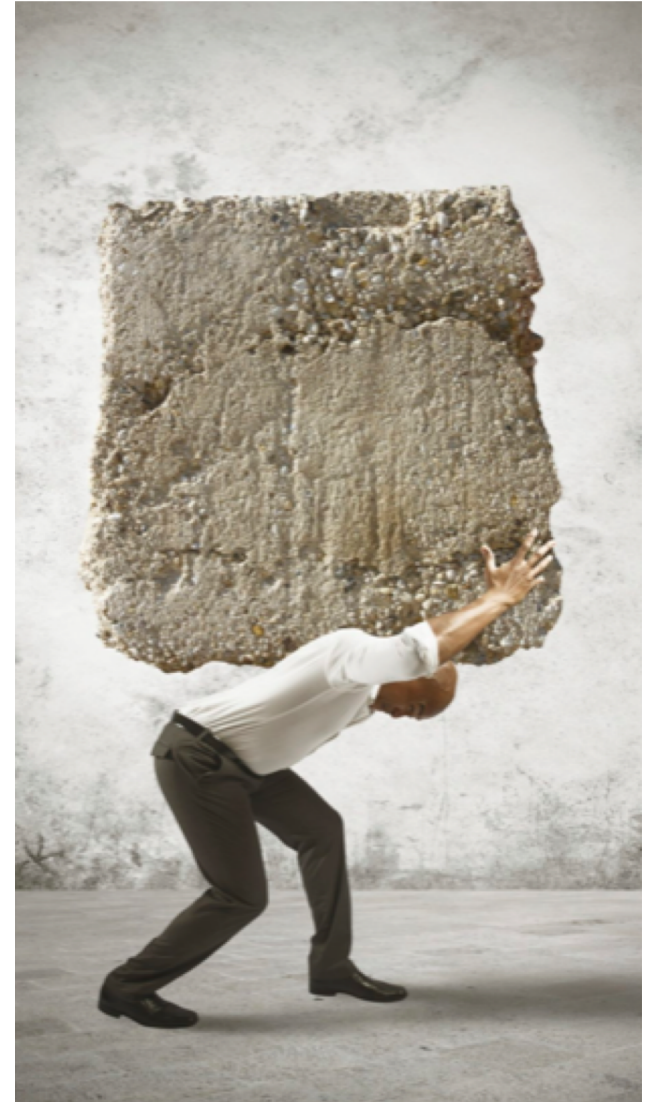


"Make sure everything is done ethically. Within reason, of course."



Where to Get the Strength from?

- You may find yourself occasionally 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 beautiful 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?

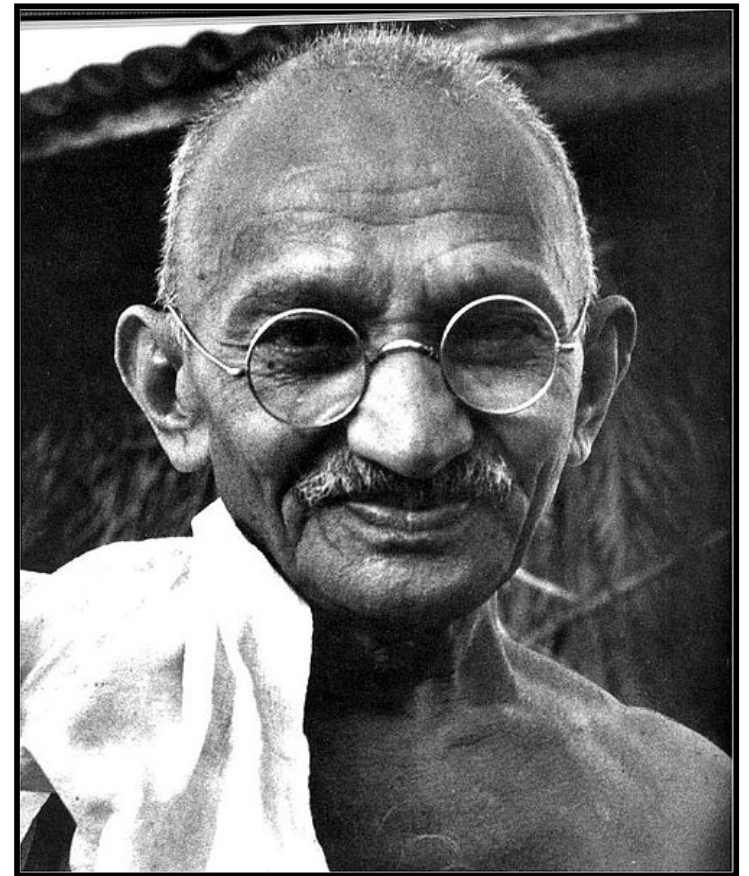
Mahatma Gandhi:

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

Watch Gandhi (1982)

Another source of great quotes and scenes

https://www.youtube.com/watch?v=IRB2MiSjmTk&ab_channel=YouTubeMovies (6’23”-8’50”)





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"



It may be that we are puppets - puppets controlled by the strings of society. But at least we are puppets with perception, with awareness. And perhaps our awareness is the first step to our liberation.

- Stanley Milgram



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.



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

