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Flint Water Crisis: How did it happen?

- 2011: State of Michigan takes over Flint's finances
- April 2014: Flint switches water supply
- Aug-Sept 2014: boil water advisories
- Oct 2014: GM plant stops using Flint river water
- Jan 2015: public notified of disinfectant byproducts; Flint declines to reconnect to Lake Huron
- Feb 2015: EPA detects high lead levels (10-1000x higher than limit!)
- March 2015: Council votes to reconnect but overruled by emergency manager



Flint Water Crisis: How did it happen?

- June 2015: EPA issues memo:
Flint not using corrosion controls
- Sept 2015: 2 studies released
 - 40% of homes have high lead
 - 2-3x as many children have high lead levels in their blood
- Oct 2015: Schools test high for lead; Flint switches back to Lake Huron
- Nov 2015: Class action lawsuit
- Dec 2015: Flint declares state of emergency

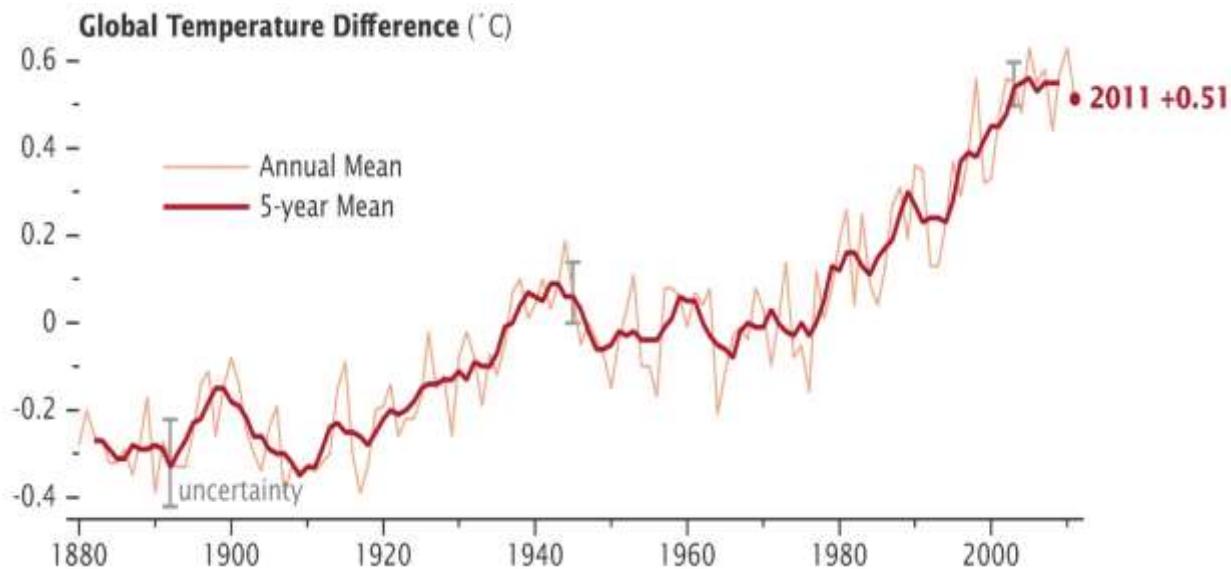


Bad people or bad decisions?

- External pressures
 - Money
 - Time
- Incrementally unethical
- “Ethical blindness”
 - Inability to see the ethical dimension of a decision
 - Context overpowers reason
 - Situational context
 - Organizational context
 - Societal context

Ethical Blindness

- **Framing:** Narrows your focus to a smaller part of the situation around you.



Ethical Blindness

- Framing can enhance your performance
 - Frees you from distractions
- Framing can distort your perception
 - Too narrow focus that misses the bigger picture
- But don't we have control of our framing?

Ethical Blindness

- Three famous social science experiments on the effect of “context” on human behavior:
 - Solomon Asch (1951)
 - Philip Zimbardo (1971)
 - Stanley Milgram (1963)

Asch Experiment



Exhibit 1

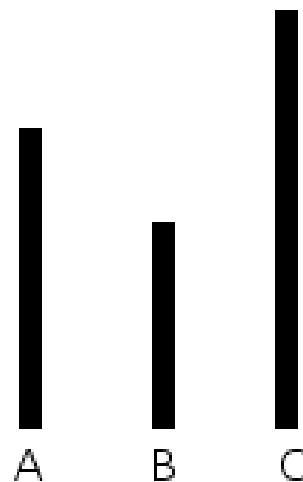


Exhibit 2

Asch Experiment

- **Results:** On average, about one third (32%) of the participants who were placed in this situation went along and conformed with the clearly incorrect majority on the critical trials.
- Over the 12 critical trials about 75% of participants conformed at least once and 25% of participant never conformed. In the control group, with no pressure to conform to confederates, less than 1% of participants gave the wrong answer.

Asch Experiment

- Apparently, people conform for two main reasons:
- because they want to fit in with the group (normative influence) and
- because they believe the group is better informed than they are (informational influence).

Zimbardo Experiment



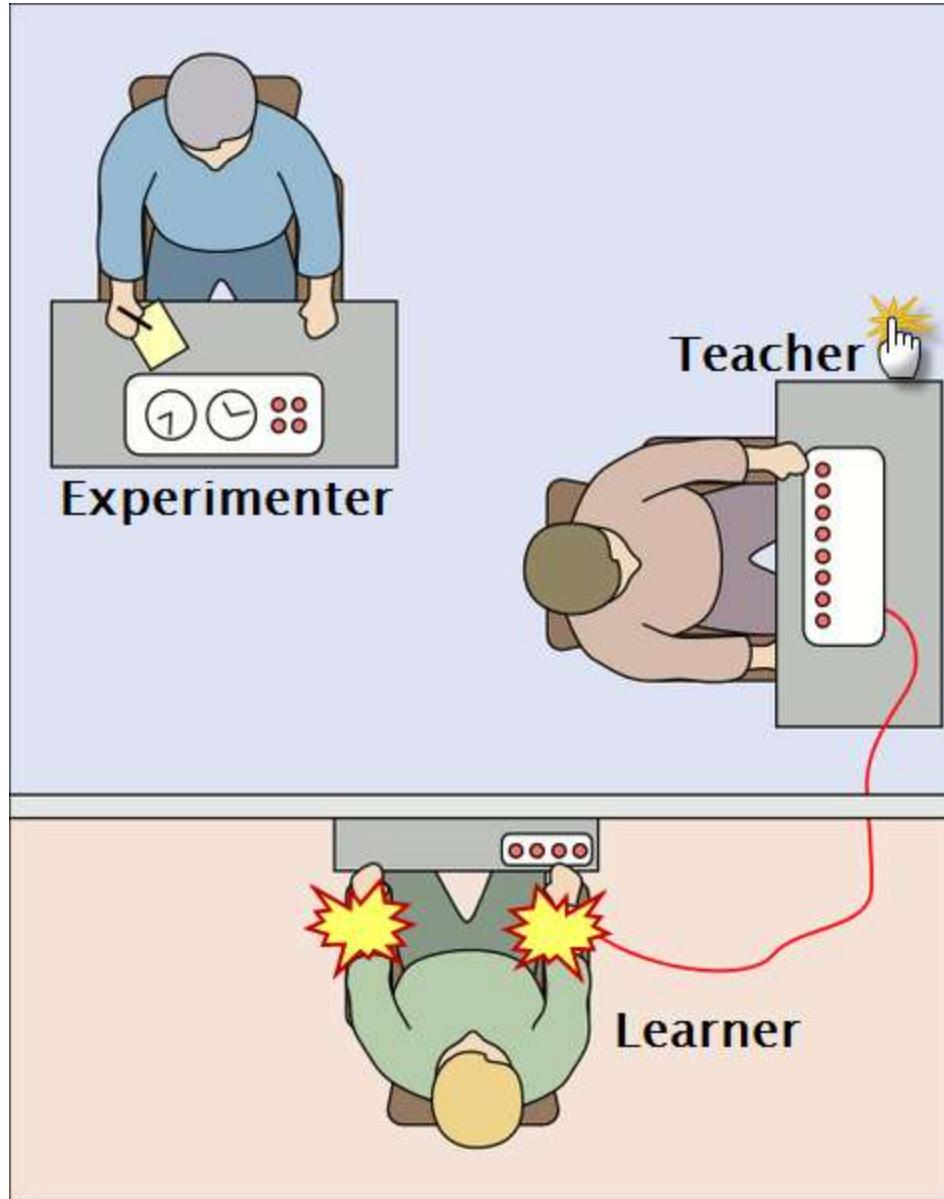
Zimbardo Experiment

- A planned two-week investigation into the psychology of prison life had to be ended prematurely after only six days because of what the situation was doing to the 24 Stanford college students who participated. In only a few days, the guards became abusive and the prisoners became depressed and showed signs of extreme stress.

Zimbardo Experiment

- Lessons learned:
 - “Guards” and “prisoners” readily absorbed their roles and stepped beyond predicted behaviors.
 - Zimbardo himself was so absorbed in his role as “superintendent” that he allowed these acts to continue, i.e. he was not a neutral observer.
 - Of the fifty observers who looked in on the experiment only one questioned its morality.
 - The **context** led to the extreme behaviors more so than the participant’s personalities.

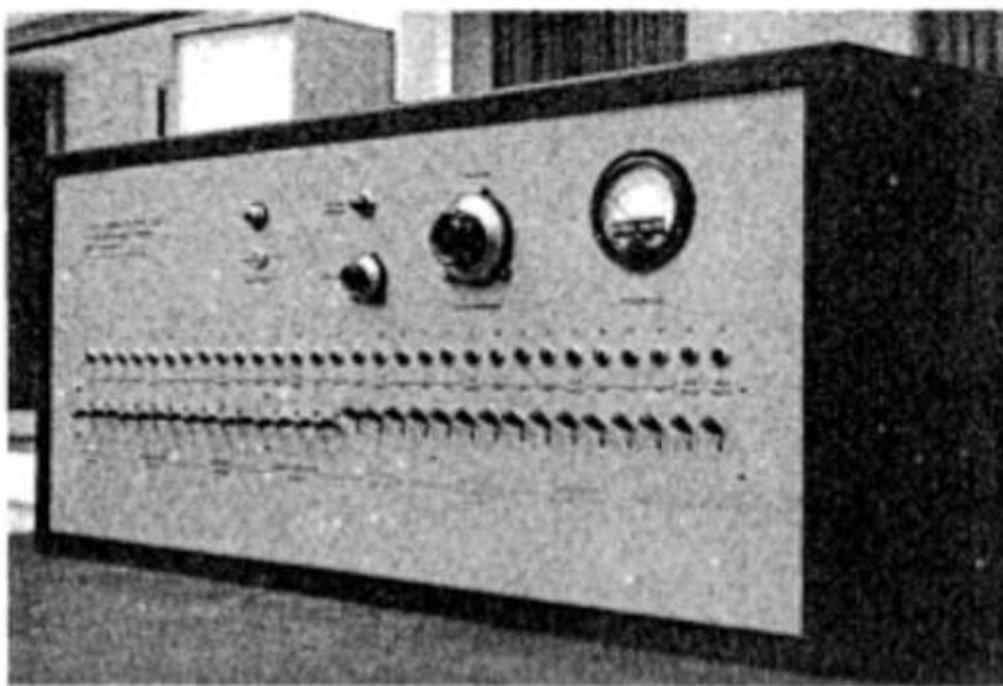
Milgram Experiment



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

15	-	-	75	-	-	135	-	-	195	-	-	225	-	-	315	-	-	375	-	-	435	450							
Volts	30	45	60	Volts	90	105	120	Volts	150	165	180	Volts	210	225	240	Volts	270	285	300	Volts	330	345	360	Volts	390	405	420	Volts	450

Slight shock - - - Moderate shock - - - Strong shock - - - Very strong shock - - - Intense shock - - - Extreme intensity shock - - - Danger: severe shock - - - | X X X



Milgram Experiment

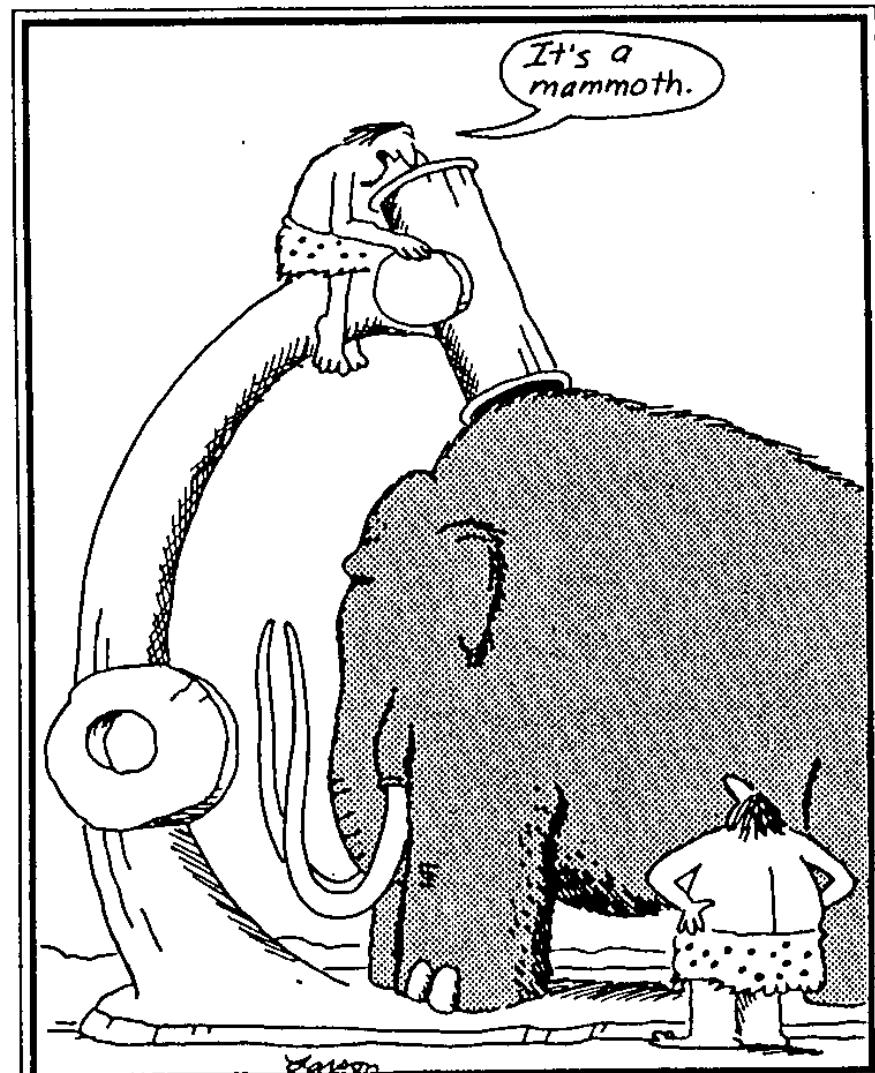
- Conclusions:
- Ordinary people are likely to follow orders given by an authority figure, even to the extent of harming an innocent human being.
- People tend to obey orders from other people if they recognize their authority as morally right and / or legally based.

Ethical Blindness

- Context has a surprisingly powerful effect on human behavior.
 - Situational
 - Organizational
 - Societal
- The person(s) involved are likely not aware of any unethical behavior because of narrow “framing”.

Ethical Blindness

- Framing a situation too narrowly can distort your vision of reality such that you are blind to its ethical dimensions



Early microscope

Ethical Blindness

- If framing is a reality of human nature . . .
- And framing can cause ethical blindness . . .
- how do we make sure good people don't make bad decisions?

Data Integrity

- TNI definition:
- “The condition that exists when data are sound, correct, and complete and accurately reflects activities and requirements. ”
- It is achieved by preventing accidental or deliberate but unauthorized insertion, modification or destruction of data.

Threats to Data Integrity

- Improper practice
 - A scientifically unsound or technically unjustified omission, manipulation, or alteration of procedures or data that bypasses the required quality control parameters, making the results appear acceptable.
- Fraud
 - The deliberate falsification of analytical or quality assurance results, where failed method requirements are made to appear acceptable during reporting.
 - The intentional recording or reporting of incorrect information
 - An intentional gross deviation from method specified analytical practices, combined with the intent to conceal the deviation.

Improper Practice vs. Fraud?

- Fraud is:
 - Purposeful and intentional
 - NOT a mistake.
 - Attempt to hide mistakes and deceive others
- Importance of documentation!
- Acknowledgment and correction

Areas of Concern

- Data manipulation
- Failure to follow SOPs/reference methods
- Falsifying existing data
- Improper calibration
- Inappropriate manual integrations
- Overwriting files: peak shaving, juicing/peak enhancing, deleting
- Inadequate training
- Inappropriate collection process
- Incomplete record keeping

Areas of Concern

- Mislabeled sample
- No demonstration of competency
- No requirement for collector
- Reporting data for samples not analyzed ("dry labbing")
- Retention times not assured
- Sample integrity unknown
- Selective use of QC data
- Sequencing analysis
- Spiking samples after preparation
- Time travel (changing times and dates)

Fraud Prevention

- Be proactive!
- Strong policies and procedures
 - QA program
 - Code of Conduct
 - Ethics Agreement
 - SOPs (manual integration, use of electronic audit functions, data review criteria)
 - Zero Tolerance – fraud is grounds for immediate dismissal

Laboratory Responsibilities

- Continuous data monitoring
 - periodic but random audits
- Clear guidance and policies
 - code of conduct statement signed yearly
- Ongoing employee training (annual)
- Confidential investigations of suspected problems
- Notify clients and reissue reports if data is negatively impacted
- Eliminate undue pressure on analysts – quality ahead of TAT
- Provide mechanism for confidential reporting of abuse without recrimination – whistle blower policy

Employee Responsibilities

- Uphold the ethics policy and practices
- Seek help when the proper course of action is unclear or unknown
- Remain alert and sensitive to actions that could be considered improper, illegal or unethical
- Counsel fellow employees when it appears that they are in danger of violating the ethics policy
- Report violations to a supervisor
- Self survey:
 - I am an ethical person.
 - I will do the right thing even if no one knows
 - I will do the right thing even if under pressure
 - I want other people to think I'm honest and ethical.
 - I will do the right thing even if no one else is doing it.

Consequences of bad decisions

- Who knew what, and when?
 - Resignations
 - Lawsuits
 - Criminal charges



Ethical Blindness

- Good people can do Bad Things...
- but are less likely to do so given the right context.
- *Free of undue pressure*
- *Keep the big picture in mind*
- *Have clear rules of practice*
- *Discuss them openly*



"I FIND IT HARDER AND HARDER TO GET ANY WORK DONE WITH ALL THE ETHICISTS HANGING AROUND."

Keep up the good work!

Certificate of Attendance Available Upon Request



Special Thanks

Keith Chapman

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