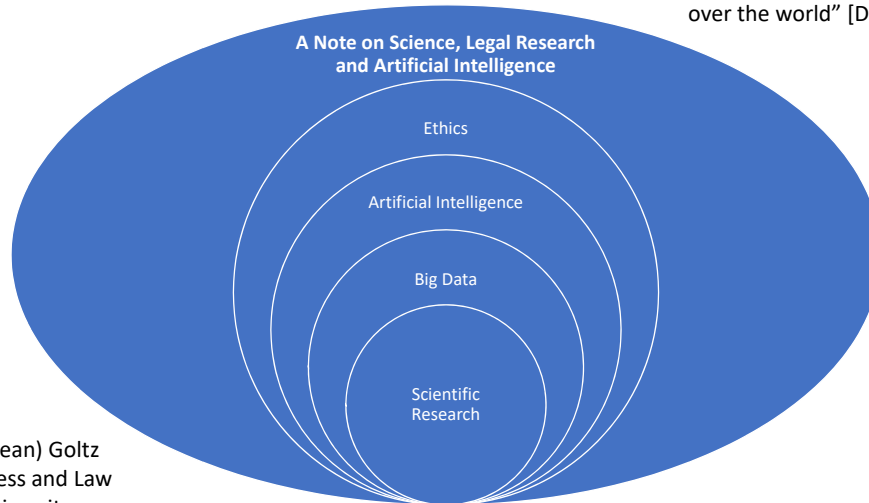


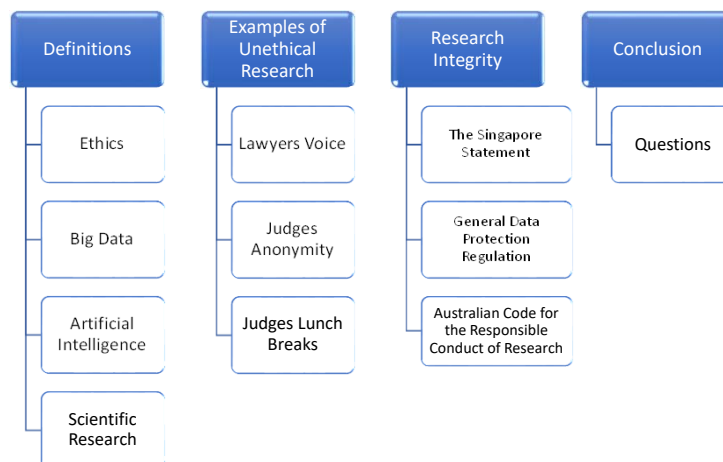
“People worry that computers will get too smart and take over the world, but the real problem is that they’re too stupid and they’ve already taken over the world” [Domingos, 2015]

A Note on Science, Legal Research and Artificial Intelligence

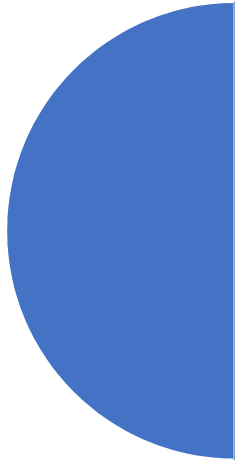


Dr. Nachshon (Sean) Goltz
School of Business and Law
Edith Cowan University

Content



A Note on Science and Democracy



“An institution under attack must reexamine its foundations, restate its objectives, seek out its rationale. Crisis invites self-appraisal...A tower of ivory becomes untenable when its walls are under assault”

[Merton, 1942]

What is Ethics?



The discipline dealing with what is good and bad and with moral duty and obligation

[Merriam-Webster].



Ethics seeks to resolve questions of human morality by defining concepts such as good and evil, right and wrong, virtue and vice, justice and crime
[Wikipedia]

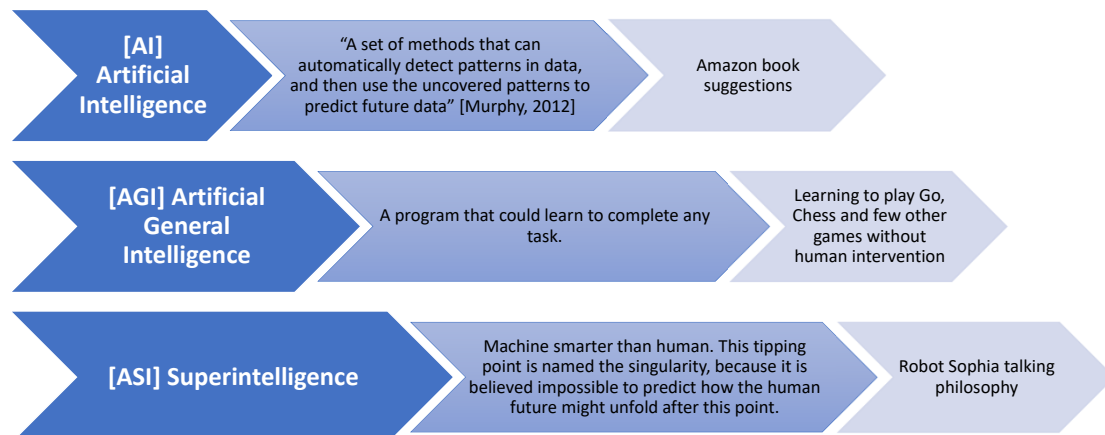
What is Big Data?

Large volumes of extensively varied data that are generated, captured, and processed at high velocity.

“As is often the case with emerging technologies and sciences, a tendency has been recognized to overemphasize the potential benefits of Big Data as a means of explaining ‘everything’, perhaps without the need for theories or frameworks of understanding” [Mittelstadt and Floridi, 2016].

SG1

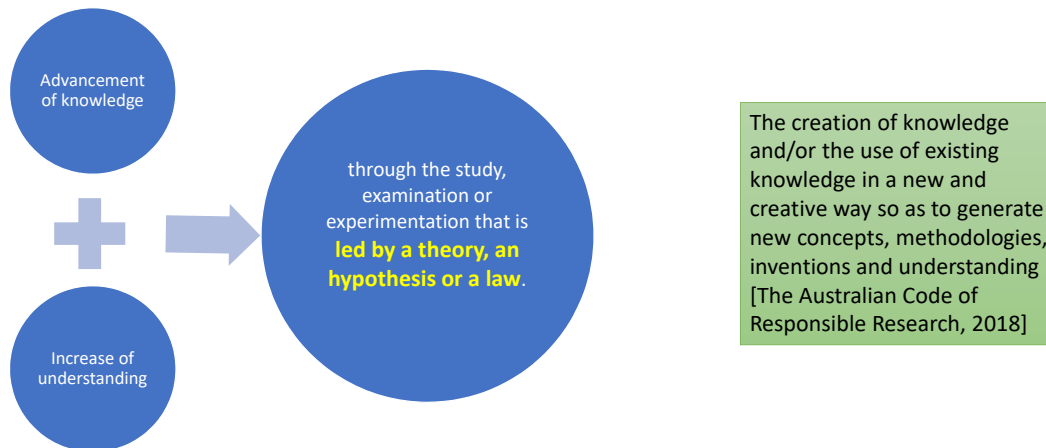
What is Artificial Intelligence?



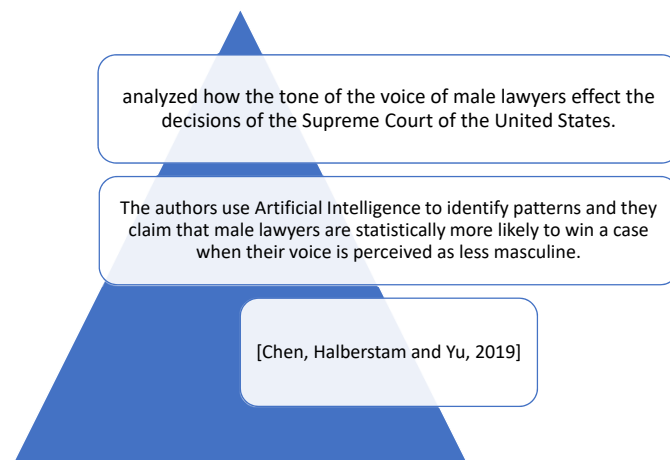
SG1 What is currently existing?

Sean GOLTZ, 19/07/2019

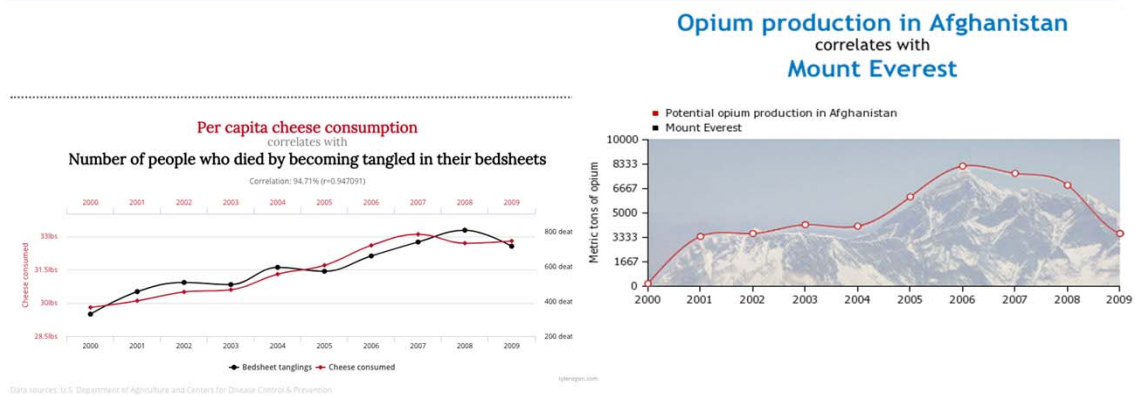
What is Research and Scientific Method?



Example 1 – Perceived Masculinity Predicts U.S. Supreme Court Outcomes

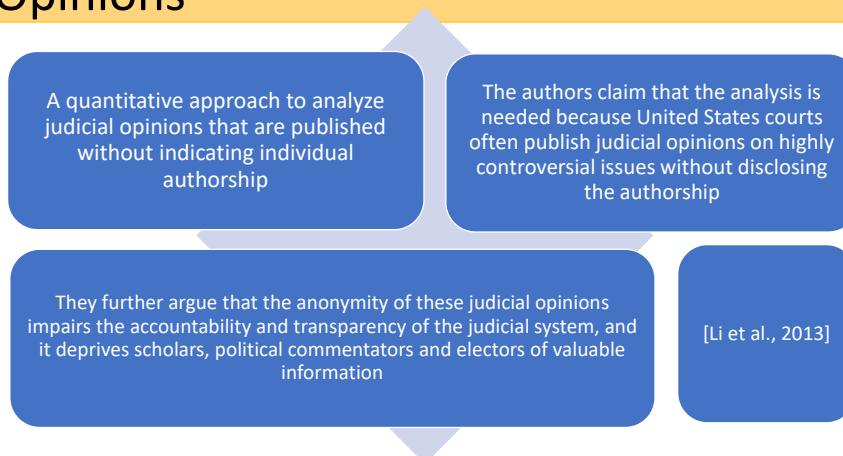


Correlation does not equal causation



<http://tylervigen.com/spurious-correlations>

Example 2 – Using Algorithmic Attribution Techniques to Determine Authorship in Unsigned Judicial Opinions




France Bans Judge Analytics

“The identity data of magistrates and members of the judiciary cannot be reused with the purpose or effect of evaluating, analyzing, comparing or predicting their actual or alleged professional practices”

[Article 33, Justice Reform Act]

Example 3 – Extraneous Factors in Judicial Decisions

	External factors influence judges' decisions
	Analyzed judges' two daily food breaks and the three decision sessions that result from the segmentation of the deliberations of the day
	The authors found that in each session, favorable rulings drop gradually from ≈65% to nearly zero, and then returns abruptly to ≈65% after each break
	In other words, judges are less likely to deny prisoners' requests after a food break
	[Danziger, Levav and Avnaim-Pesso, 2011]

Research and AI

The fact that Big Data and Artificial Intelligence enable the pursue of certain inquiries, does not mean there is no need to question whether such enquiries should be done, i.e. what their social benefits are.

Big Data and Artificial Intelligence are a great research tool, but indeed, it is just a tool, not a scientific method per se. To become a scientific method, Big Data analysis needs to be coupled with a theoretical framework to actually produce knowledge and fulfil science's moral goals.

Big Data approaches analyze a variety of public records with the misleading assumption that because this data is already public, it pose minimal risk to the human subjects

The Singapore Statement of Research Integrity

•founding principles: honesty, accountability, professionalism and stewardship

•drafted nearly a decade ago, they do not take into consideration ethical issues related to Big Data and Artificial Intelligence analysis. However, there are two responsibilities that are particularly relevant to our discussion:

•1. Research methods: "Researchers should employ appropriate research methods, base conclusions on critical analysis of the evidence, and report findings and interpretations fully and objectively."

•2. Societal considerations: "Researchers and research institutions should recognize that they have an ethical obligation to weigh societal benefits against risks inherent in their work."

General Data Protection Regulation (GDPR)



Article 5 of the GDPR postulates the data minimization principle, which is that data collected shall be “adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed”.



It was argued that the clash between the data minimization principle and the practices of Big Data analysis is intuitive, and even that the business model of Big Data is antithetical to the principle of data minimization.



When the theoretical framework is not properly posed, and the research question is not carefully juxtaposed to the society goals of the research in question, the principle of data minimization cannot be fulfilled.

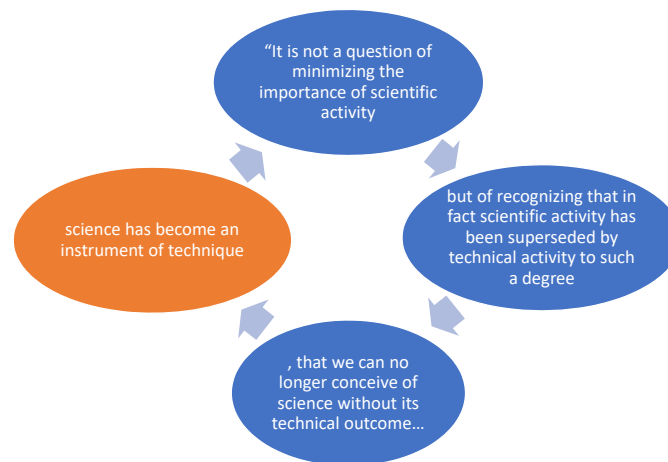


Big Data analysis is ethically problematic due to the fact that researchers who use Big Data analysis are computer scientists, who have not historically engaged in research on human-subjects. [Metcalf and Crawford]

Australian Code for the Responsible Conduct of Research

- **Principles of responsible research conduct**
- **P5 Respect** for research participants, the wider community, animals and the environment
- **P7 Accountability** for the development, undertaking and reporting of research - Ensure good stewardship of public resources used to conduct research.
- **P8 Promotion** of responsible research practices - Promote and foster a research culture and environment that supports the responsible conduct of research.
- **Responsibilities of researchers**
- R14 Support a culture of responsible research conduct at their institution and in their field of practice.
- R18 Ensure that the ethics principles of research merit and integrity, justice, beneficence and respect are applied to human research.
- R21 Adopt methods appropriate to the aims of the research and ensure that conclusions are justified by the results.

The Technological Society, Jacque Ellul



Technology by itself is good or bad?

"[T]he technological pursuit of salvation has become a threat to our survival". [Noble, 1997, p. 208]

"...humans are distinguished from other species by our ability to work miracles. We call these miracles *technology*. Technology is miraculous because it allows us to do more with less, ratcheting up our fundamental capabilities to a higher level...by creating new technologies, we rewrite the plan of the world". [Thiel, 2014, p. 2]

Librarians and the Future



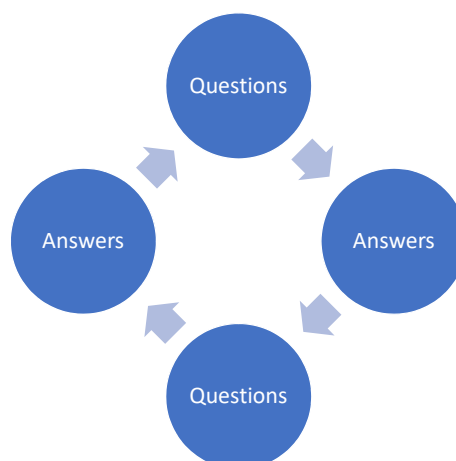
A 2017 survey of librarians from across all sectors in the USA, found that %56.3 of respondents thought supercomputers, like Watson, could transform librarianship.



Respondents saw the effect as mostly positive and not likely to involve the replacement of librarians or disintegration of the library. [Wood & Evans, 2018]



Other work estimate the probability of the replacement by computers of “library technicians” as %99, “library assistants, clerical” %95, archivists %76 and librarians %65. [Frey & Osborne, 2017]



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