Digital Futures? The Difference that Web Science Makes

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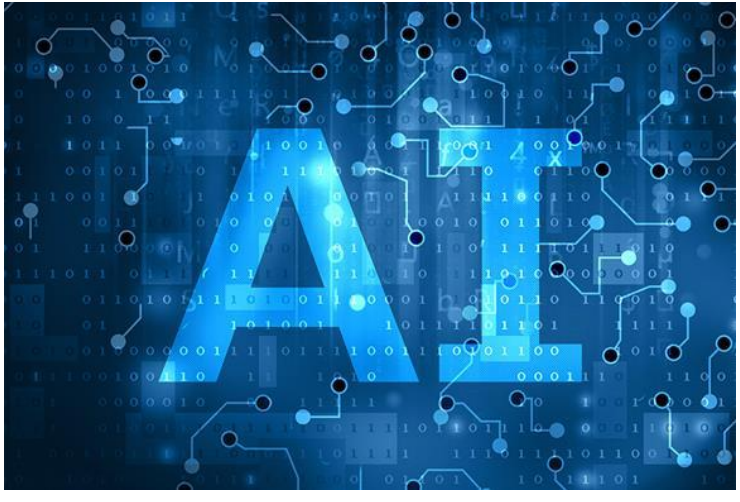
.... the future

THE FUTURE



OBAMICON.ME
REVOLUTION

THE ARPA NET
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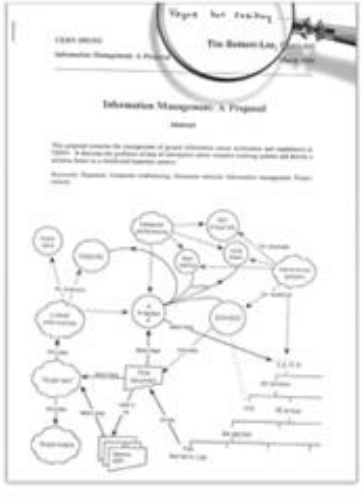

Information Management: A Proposal

Skateboarding Cat Does Tricks | Kitten Impossible

#MeToo

NATIONAL SECURITY AGENCY

My Starting Points:

1: The contingent and undetermined nature of the future is exactly why sociologists should be involved.

2: The future is not made in disciplinary siloes.

Outline:

- What's wrong with the future?
- Principles for thinking about the future
- The present future
- Doing the future differently

What's Wrong with the Future? #1

- Disciplines are marked and shaped by epistemology

Universal Laws
Prediction
Objectivity

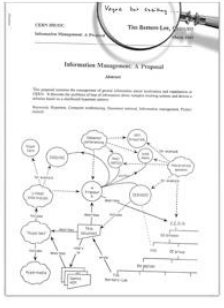
→ Political strengths … and scientific weaknesses for knowing the social world

- No universal laws for society: no context free explanation or prediction
- Objectivity is impossible
- Research is always driven from somewhere … *'fictive neutrality has become the major obstacle in increasing the truth value of our findings' (Wallerstein 1996; 75)*

What's Wrong with the Future? #2

- Failure of technological determinism
- Importance of sociotechnical practices & networks

--> Web Science



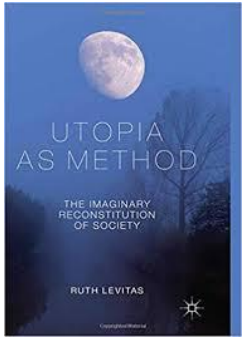
This is a world where massive amounts of data and applied mathematics replace every other tool that might be brought to bear. Out with every theory of human behaviour, from linguistics to sociology … Who knows why people do what they do? The point is they do it … With enough data, the numbers speak for themselves. Anderson (2008).

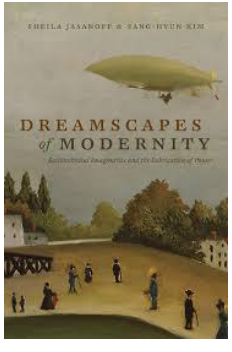
… far from replacing the social sciences new forms of data and computational method should be combined with sociological and other forms of domain expertise (theory, methods and empirical)

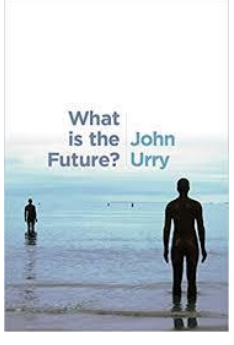
How to harness this towards the future?

Sociologies of the Future

1: The future is made from the past and the present: social and political relations, institutional arrangements, material infrastructures and cultural narratives. It cannot be conjured from nothing – we must pay attention to 'sociotechnical thickness' (Jasanoff 2015) to think about how the future will be *'played out in practice, through the design of institutions and the actual processes of everyday life'* (Levitas 2017; 7) as well as through the processes of technical innovation.

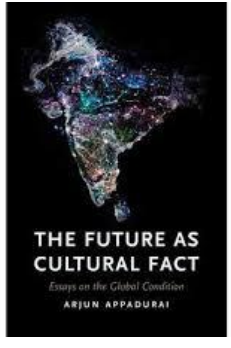


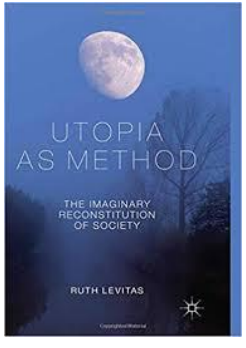


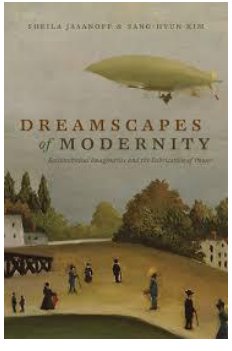


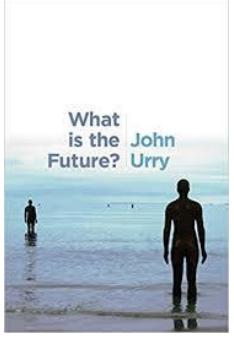
Sociologies of the Future

2: How the future is imagined contributes to making the future. The future is a *'cultural fact'* (Appadurai 2013) made through *'sociotechnical imaginaries'* …*'collectively held, institutionally stabilised and politically performed visions of desirable futures'* that may come to appear as *'unmediated representations of a social body's norms and values'* as they move from *'origins'* to *'embedding'* perhaps *'resistance'* and on to *'extension'* (Jasanoff 2015)



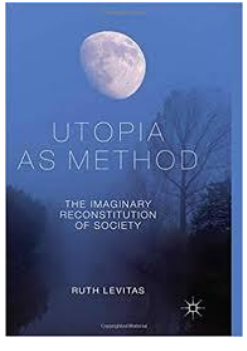


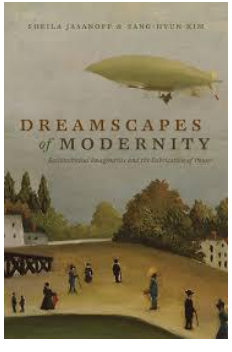


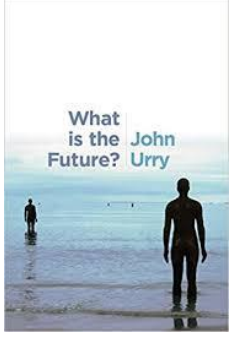


Sociologies of the Future

3: *'Who or what owns the future'* (Urry 2016) is an exercise of power. Dominant imaginaries *'shape what is thinkable'* (Ruppert 2018) - a *'colonization of the future'* (Amsler & Facer 2017). Who has the capacity to do this? The odds are stacked unevenly but the *'politics of possibility'* can triumph over the *'politics of probability'* (Appadurai 2013) – opening the possibility for alternative **futures** that *'people would sooner inhabit'* (Jasanoff 2015).

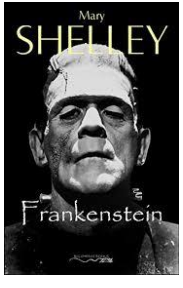


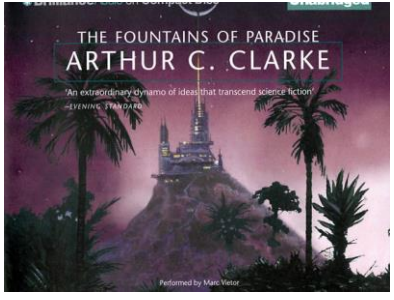


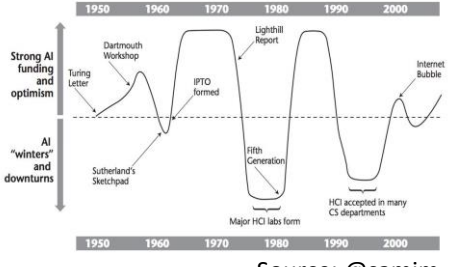


The Present Futures of AI

- Narrative rigidities – from Greeks, to Victorians and into 20th century: from utopia to dystopia, with a cycle of AI 'winters'.
- *'AI promises to transform more than just the way we do business – it will touch every corner of society'* (Intel), will *'solve the world's most pressing problems'* (Microsoft), *'has the potential to solve all the most difficult problems of today and tomorrow'* (IBM), *one of the most important things humanity is working on, its more profound than electricity or fire'* (Google)
- OR *'humanity's biggest existential threat'* (Musk 2018)



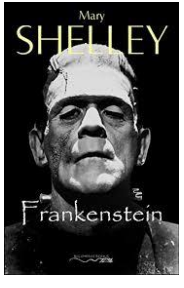


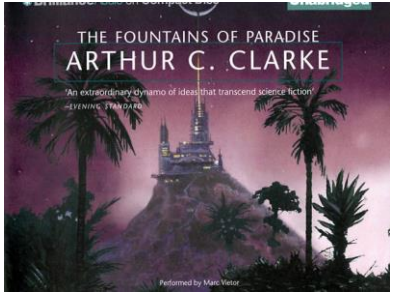


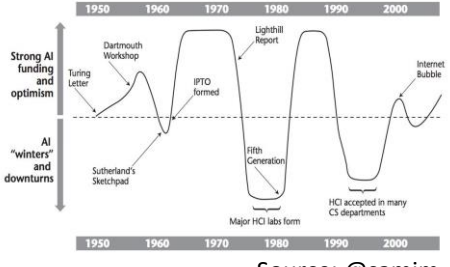
Source: @samim

The Present Futures of AI

- Fires up the imaginary [origins]
- Yet *'when figures like Musk and Zuckerberg talk about artificial intelligence, they aren't really talking about AI—not as in the software and hardware and robots … they are talking about words, and ideas. They are framing their individual and corporate hopes, dreams and strategies'* (Bogost 2017).
- Narrative driven by certainty, little attention to sociotechnical thickness
- Term 'AI' doesn't help …







Source: @samim

Ali Rahimi (NIPS 2017 Test 0f Time award presentation)

Alchemy is OK *‘if you are building a photo sharing website’ but ‘we are beyond that now [and] … I would like to live in a society whose systems are built on verifiable, rigorous thorough knowledge, and not on alchemy’.*

The Present Futures of AI

- Impact of AI will depend on the uses to which it is put
- For all the promises … fire and electricity …

> *'that's why we built Google Assistant, which allows you to have a natural conversation between you and Google. It's one assistant that's ready to help you through your day'.* https://www.blog.google/products/assistant/heres-how-google-assistant-became-more-helpful-2018/

- Whose presents are being directed towards the future?

'…most such ideas come from a small group of elites who have been imagining and misunderstanding the interplay between technology and society since the 1950's' with *'marvellous stories of wacky ideas drowning out social ideas and making it impossible to have proper conversations*' (Broussard 2018)

… for the good of society, we cannot allow our world to be organized by learning algorithms whose creators are overwhelmingly dominated by one gender, ethnicity, age or culture' (Hall 2017)

Doing Futures Differently

- We should raise our ambitions
- It is time for a change

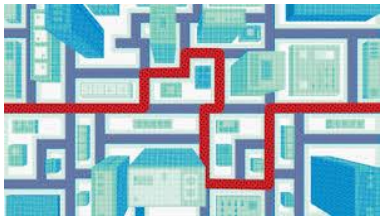
- Ethics training is a start
- ELSI are important

Technology = Promise
Ethics = tick box
Sociologists = naysayers

Source: Balmer et al 2016

- Beyond moral philosophy rights and wrongs at the level of the sovereign individual towards consideration of care, of fairness and equality, of the kind of society that we want to live in

Cambridge Analytica



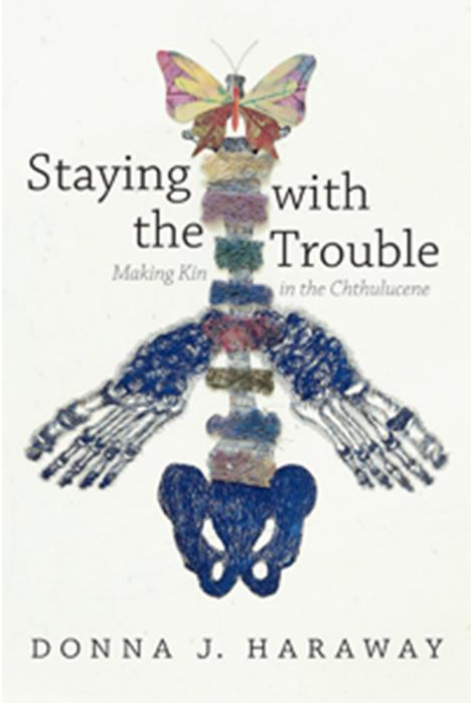
We must think not only about *human futures in the context of rapidly changing technology* but also about *technology futures in the context of complex, unequal and fragile society*.

Doing Futures Differently

- This ties us together – sociologists, computer scientists, and others – whether we like it or not

- Calls on us to move beyond *'comic faith in technofixes'* and the fatalism of critique where *'it's too late and there's no sense in trying to make anything better'*

- To focus on the *'more serious and lively task of making the future'*



Doing Futures Differently

1: AI for good

WeSAI could...

- maintain social overview, detect over-socialization
- foster linkage, interactions and convergence
- prevent bullying, harassment, suicide,...
- protect children, data poor, thin files,...
- fight divide, polarization and radicalization
- bridge, translate, check, report, augment... posts
- act as diplomats (diplomatic AIs on the Web)
- remind past events, posts, opinions,... help us with the history /memory
- help us scale to the world-wide web scale

WeSAI could...

- maintain customized context description
- calls attention to what is exposed & who is seeing
- exemplify what can be deduced
- make things visible/understandable
- burst bubbles, fosters serendipity
- help raise awareness, educational level, computer literacy, Web skills
- report on neutrality, security etc.
- enforce (human) rights
- be scrutiny agent for important values

WeSAI could...

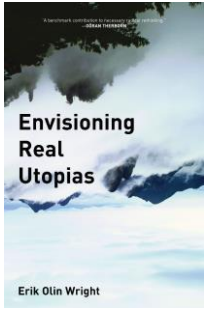
- defend the values we want to defend
- assist the governance we need to setup
- maintain visualizations we need to understand
- automate part of our methods
- help scale multi-disciplinary interactions
- build and maintain boundary artefacts
- enforce a constructive design of the Web
- <YOUR DAGSTHUL IDEA HERE/>

Source: Fabien Gandon (2018)

Doing Futures Differently

2: **Speculative design + web science = re-thinking future sociotechnical assemblages**

- Utopia as methodology
- Real utopias
- the future is *'not a destination but a medium for imaginative thought'* (Dunne and Raby 2013) through which we might look at futures from different standpoints



Doing Futures Differently

3: Democratising Futures

- Where are we now? What works well? And doesn't? For whom, when and why?
- What are the possible futures for specific AI applications?
- What would have to happen to get us there?
- Beyond the usual suspects *'diversifying the vision of the common good'* (Appadurai 2013; 16)
- Empowering participation in the future
- Bringing people back in – not as users or consumers, or in terms of impact but as part of the world we are building
- Building the capacity to aspire

Conclusions

- The elephant in the room
- Strengthens our understanding and may open spaces for action, for crafting *'response-ability'* in the digital age
- More than 'resistance' en-route to 'acceptance'

- Deep expertise remains core and deep collaborations are critical as the digital age disturbs how we are used to thinking and knowing
- Collaboration is difficult
- We have no choice other than to try

- Some thanks ….

References

Anderson, M. (2008) 'The End of Theory: The Data Deluge Makes the Scientific Method Obsolete' *Wired* https://www.wired.com/2008/06/pb-theory/

Amsler, S. and Facer, K. (2017) 'Contesting anticipatory regimes in education: exploring alternative educational orientations towards the future' *Futures* 94: 6-14.

Appadurai, A. (2013) *The Future as Cultural Fact* London, Verso.

Balmer, A., Calvert, J., Marris, C;. Molyneux-Hodgson, S., From, E., Kearns, K, Bulpin,K, Schyfter, P., Mackenzie, A. and Martin, P. (2016) 'Five rules of thumb for post-ELSI interdisciplinary collaborations' *Journal of Responsible Innovation* 3(1) pp.73-80.

Bogost, I. (2017) '"Artificial intelligence has become meaningless"' *The Atlantic* https://www.theatlantic.com/technology/archive/2017/03/what-is-artificial-intelligence/518547/

Broussard, M. (2018) *Artificial Unintelligence* Cambridge, MIT Press.

Dunne, A. and Raby, F. (2013) *Speculative Everything: design, fiction and social dreaming* Cambridge, MIT Press.

Hall, W. (2017) 'Growing role of artificial intelligence in our lives is 'too important to leave to men'" *The Conversation* https://theconversation.com/growing-role-of-artificial-intelligence-in-our-lives-is-too-important-to-leave-to-men-82708

Haraway, D. (2016) *Staying with the Trouble* Durham, Duke University Press.

Jasanoff, S. and Kim, S-H.(2015) *Dreamscapes of Modernity* Chicago, Chicago University Press.

Levitas, R. *Utopia as Method: the imaginary reconstitution of society* London, Palgrave Macmillan.

Levitas, R. (2017)'Where there is no vision, people perish' *Centre for Understanding of Sustainable Prosperity* **https://www.cusp.ac.uk/themes/m/m1-5/**

Urry, J. (2016) *What is the Future?* Bristol, Polity Press.

Wallerstein, E. (1996) *Open the Social Sciences: report of the Gulbenkian commission on the restructuring of the social sciences* Palo Alto, Stanford University Press.

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