



Escaping the Echo Chamber

Workshop on The Digital Self @ MCETECH 2015
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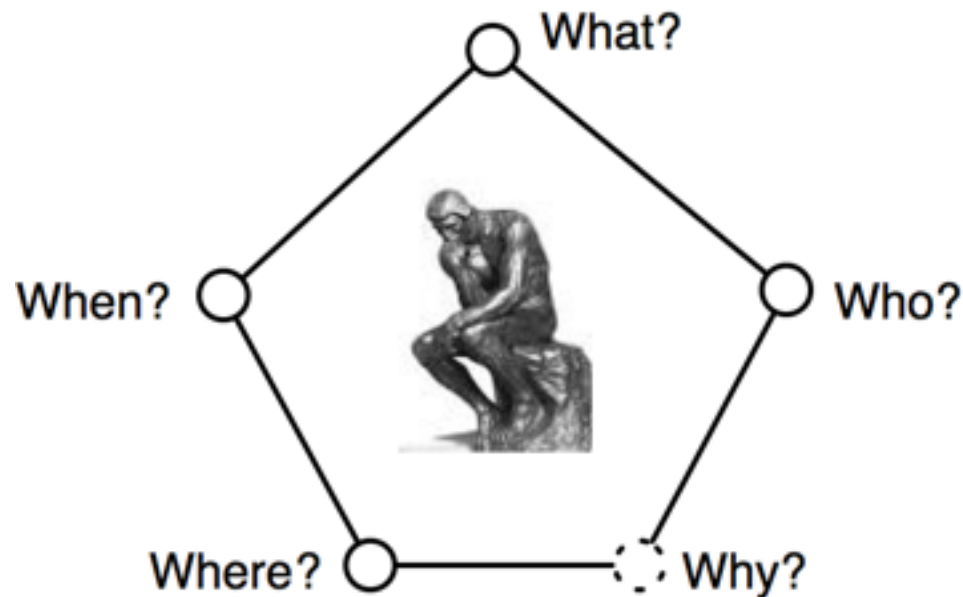
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Digital shadows



- Traces that we leave on the internet: our habits, likes and dislikes, connections, movements, ...
- Bentley et al. (2014) aptly talk of “digital shadows”



How profiling affects our decisions



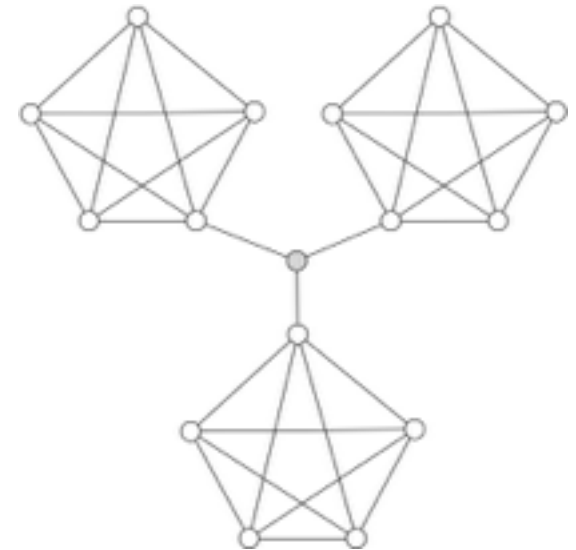
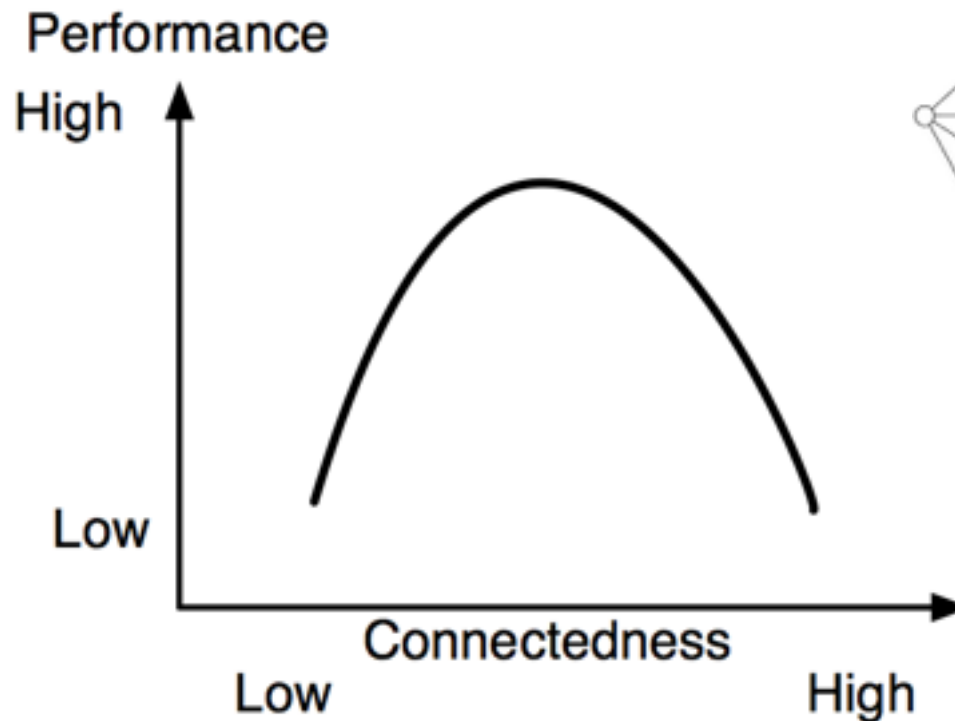
- Our focus here is not on surveillance, but on impact of profiling on our ability to make decisions
- Assumption: profiles capture at least two dimensions – attributes (what) and network (who)
- Echo chamber effect: when our existing views are echoed back to us in a closed system
- Pariser (2011) talks of filter bubbles or “you-loops”: personalized filtering shapes the media we consume, but the media we consume also shape us
- Filtering is done in the name of *efficiency*, but also limits what we are exposed to (short term gains)

- Decisions are a combination of individual and social information (Pentland, 2013; Bentley, 2014)
- When actors are uncertain about the impacts of a decision, social learning increases
- “I’ll have what she is having” (Bentley, 2014)
- Copying with error increases fitness (Lazer, 2007)
- Imitation prevalent in innovation (Weiss, 2010)
- Affiliations based on preferences affect our capacity to select, search, screen & connect (Van Alstyne, 2005)

Connectedness and performance



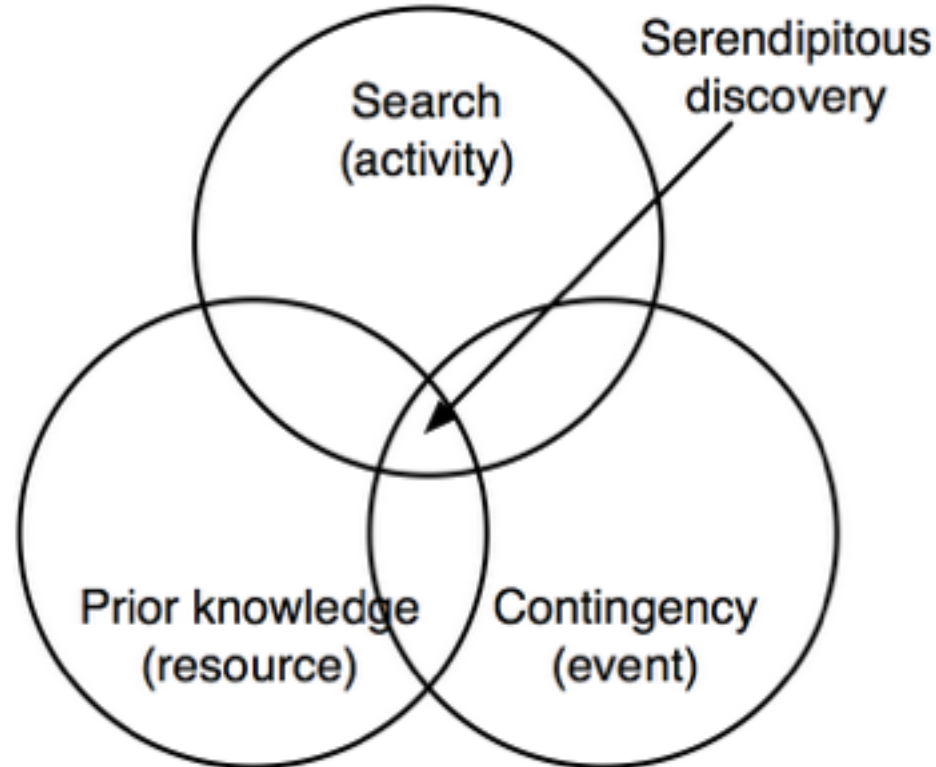
- Both poorly connected and well-connected networks perform badly for complex problems (Lazer, 2007)



Framework for serendipity



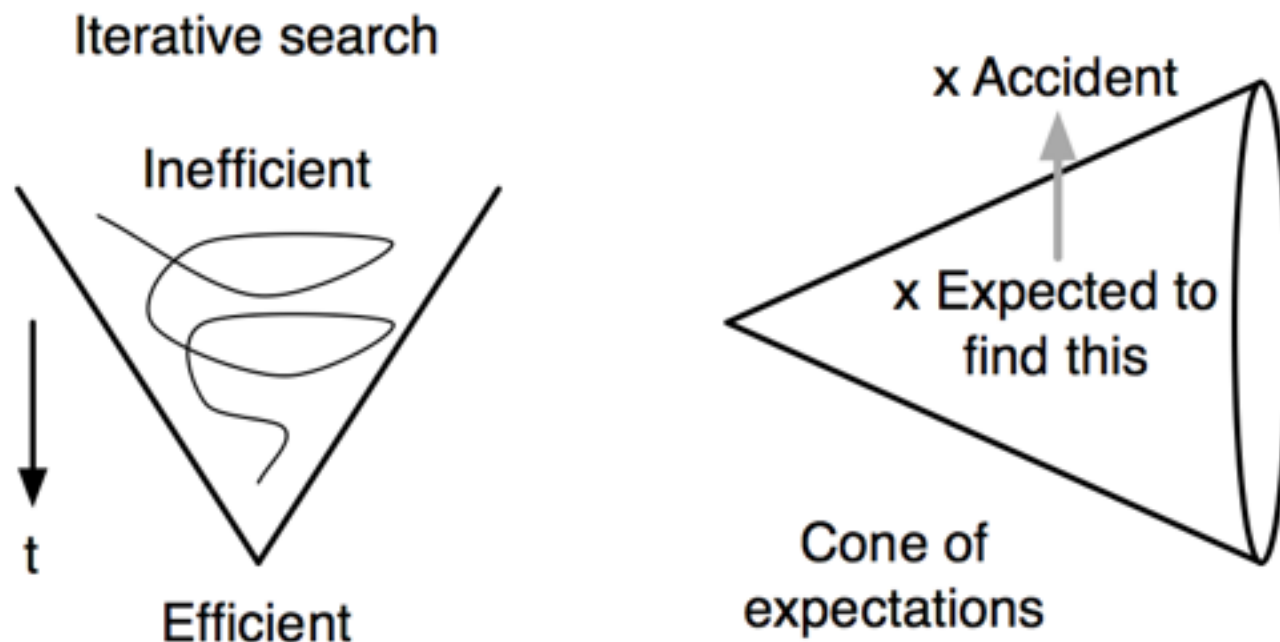
- Dew (2009) identified three domains of serendipity: search leading to unintended discovery



Information seeking



- Austin (2012) argues for an inefficient retrieval process (additional results & frequent imprinting)
- Knowing what to search for is another discovery process: need to iterate your search



Designing for exploration



Diversity	Diversity of information available to actors
Connectedness	Density of the network, or other suitable measures of connectivity
Integration	Overlap in actor affiliations. Fragmentation can be measured as $(1 - \text{integration})$
Access	Degree to which an information resources are spread among actors (redundancy)
Complexity	Ruggedness of the problem space
Velocity	Speed with which information flow between actors
Randomness	Randomness in the search process

A call for *inefficiency*



Inefficient networks – structure, velocity, fidelity – main diversity and perform better in the long run	Lazer (2007)
Collection (inefficient retrieval), not reuse (efficient retrieval), supports unpredictability	Austin (2012)
Systems need to provide opportunities for users to encounter information they may not be looking for	MacKay-Peet (2014)
Efficient search requires random probes in other areas than the ones that look apparently best	Bentley (2014)
Fragmentation in virtual communities is not inevitable, but requires the right level of integration	Van Alstyne (2005)
We need to design for exploration based on our understanding of how people make decisions	Weiss

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