Making a (collection of) molehill(s) out of a mountain: E-discovery case study .

E-discovery case study

Digital Forensics for Preservation briefing day

Study reported here...

Attfield S. & Blandford A. (2011) Making Sense of Digital Footprints in Team-based Legal Investigations: The Acquisition of Focus.

Human–Computer Interaction - Special Issue on Sensemaking 26(1-2).

Attfield S. & Blandford A. (2010) Discovery-led Refinement in e-Discovery Investigations: Sensemaking, Cognitive Ergonomics and System Design. *Artificial Intelligence and Law* - Special Issue on e-Discovery, 18(4) pp. 387-412

Legal E-discovery

- A process in which electronic data is sought, located, secured and searched with the intent of using it as evidence in civil or criminal proceedings, or as part of an inspection ordered by a court or sanctioned by government. (Conrad, 2007)
- Conducted by teams of lawyers.

- **Their goal:** Make sense of facts relevant to case based on documents (30% email) and inteviews
- **Our goal:** Understand this process 'in the wild'.
- **Our method:** Interviews with lawyers focussing on process, artefacts, and coordination.

Conrad, JG (2007) E-discovery revisited: a broader perspective for IR Researchers', DESI Workshop on Supporting Search and Sensemaking for Electronically Stored Information in Discovery Proceedings. http://www.umiacs.umd.edu/*oard/desi-ws/papers/conrad.pdf.

‘Information inflation’ - challenges tractability

Jeane Thomas, Crowell & Moring
(Keynote at DESI II, 2008)

Mergers and Acquisitions for AT&T
Document requests from US Department of Justice

- 1996 – 12 to 15 lawyers – 300 boxes of paper
- 2004 – 125 contract lawyers – reviewed 30 million pages and produced 12 million relevant documents
- 2005 – 600 lawyers – reviewed 112 million pages and produced 17 million relevant pages

Method

14 in-depth, 1:1 interviews (45min to 1hr 40min) – three cases

2 fraud cases, 1 about anomalies in a rules for a legal product

Open and informal - ‘How did the investigation unfold?’ – directed towards information interaction and collaboration

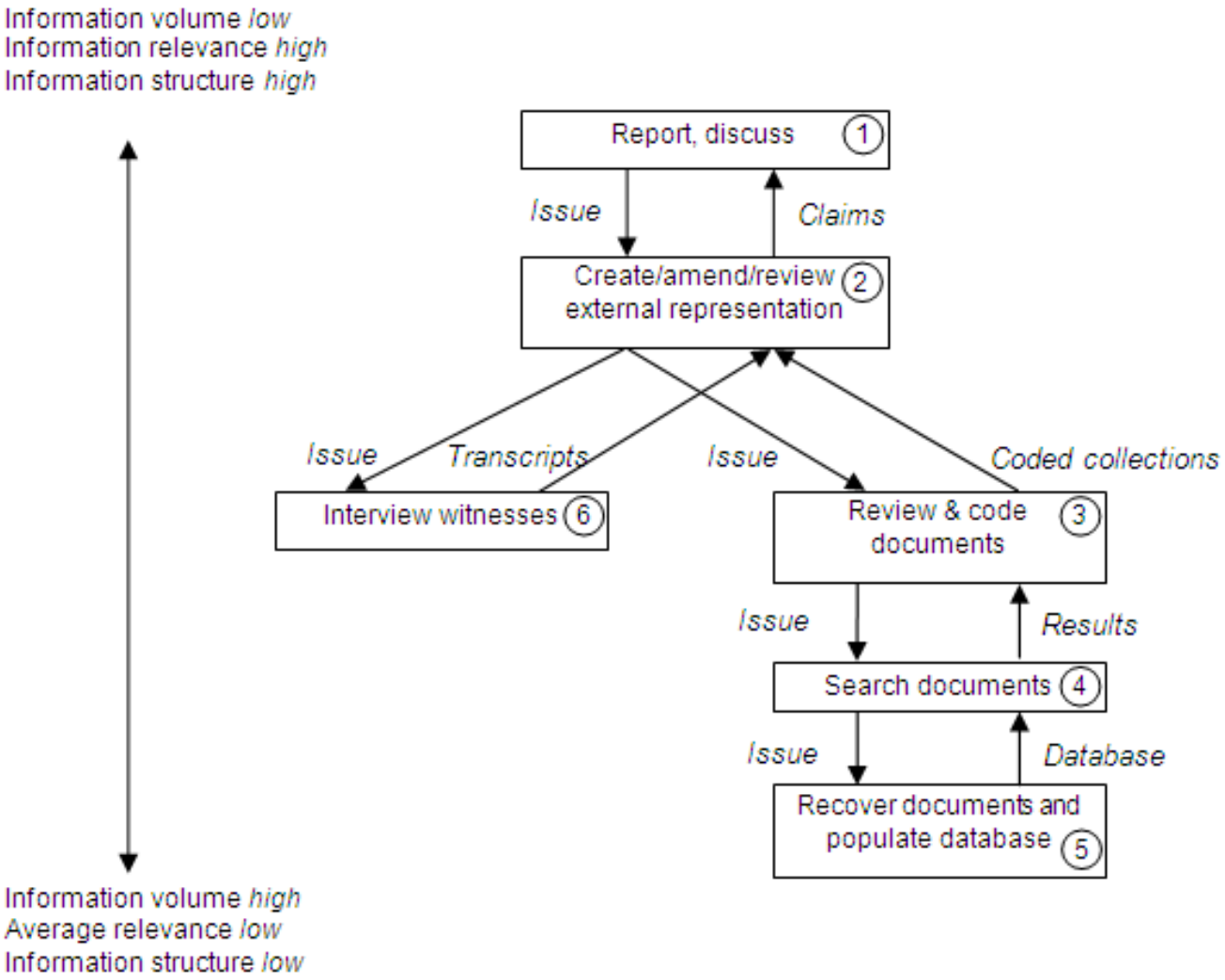
Key artefacts made available

Qualitative, interpretative method (Strauss and Corbin, 1998)

Generating conceptualisations to account for data – process model (member checking)

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory. 2nd ed. London, England: Sage.*

Workflow model – continual data focusing and issue focusing



Boxes are interaction processes

Each performs a transformation

Arrows are flow of information (resources)

Pirolli and Card's model of intelligence analysis

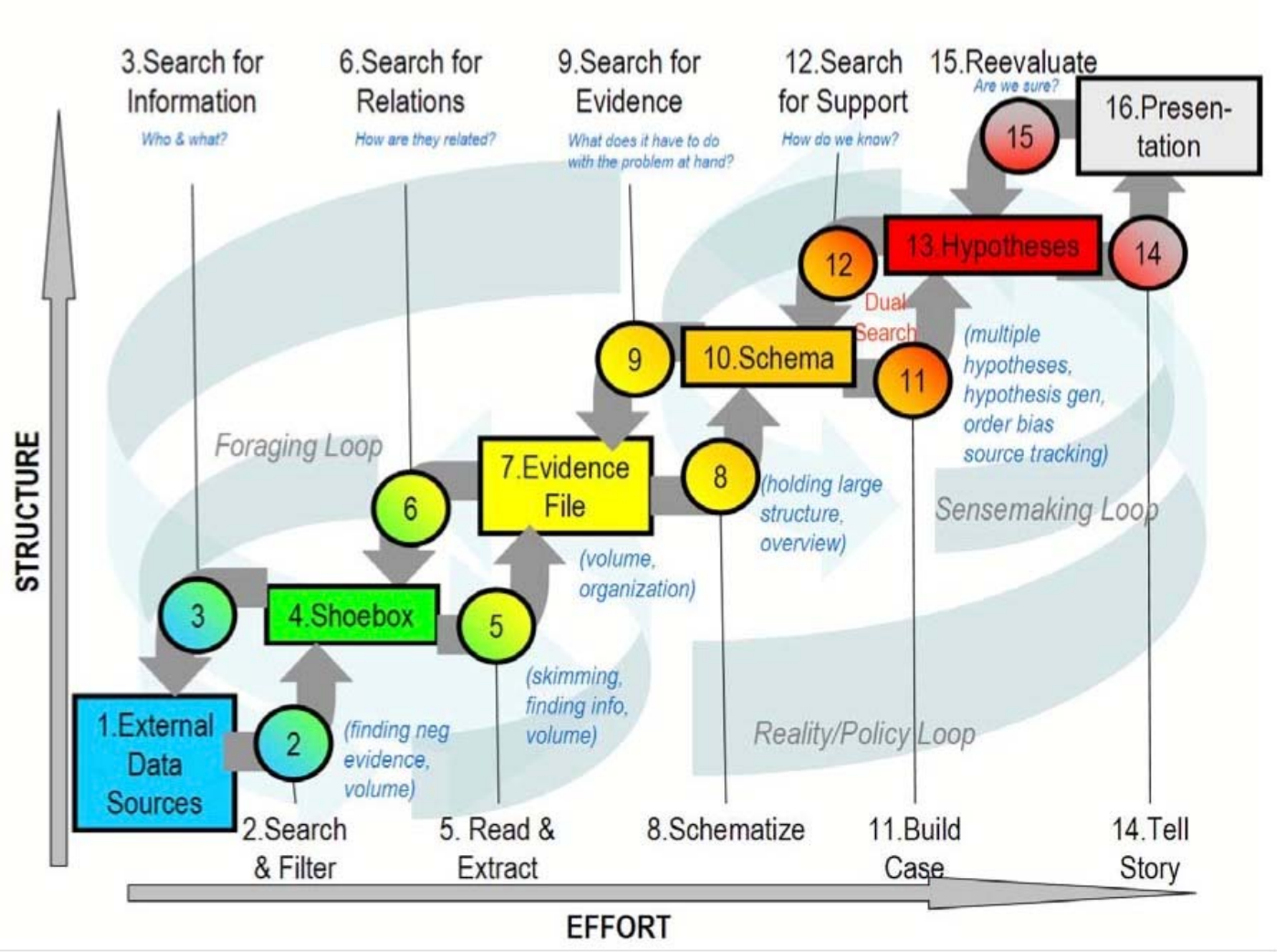


Figure 2. Notional model of sensemaking loop for intelligence analysis derived from CTA.

Discovery led refinement

P4: Well actually what [class] contracts does the company have? And no one in the company knows or can tell you so you're then trying to piece that together. You know you're seeing references to [contract a], you're seeing references to [contract b], to [contract c], to [contract d] and you've got no idea and you're trying to build up absolutely everything. I mean the scope of what you're trying to do is immense and you're having to define it as you go along…

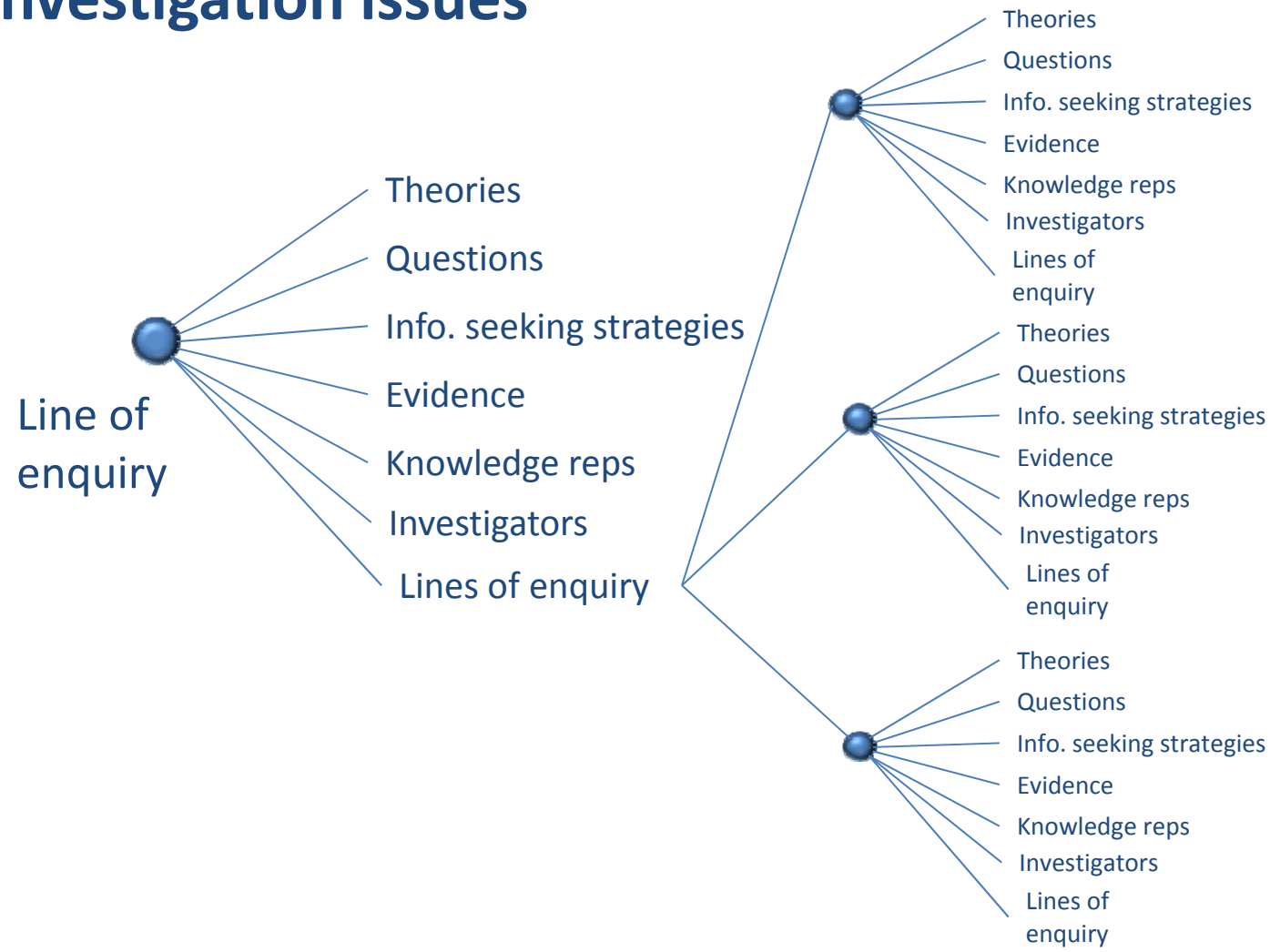
Discovery-led recursive decomposition

(1) Researching brought information to light that acted as a cue for more focused lines of enquiry. Without this these focused lines of enquiry would have been impossible;

(2) New lines of enquiry were not complete departures but sub-problems. Once the investigation of a sub-issue had been exhausted, outcomes could propagate back up to inform the superordinate issues;

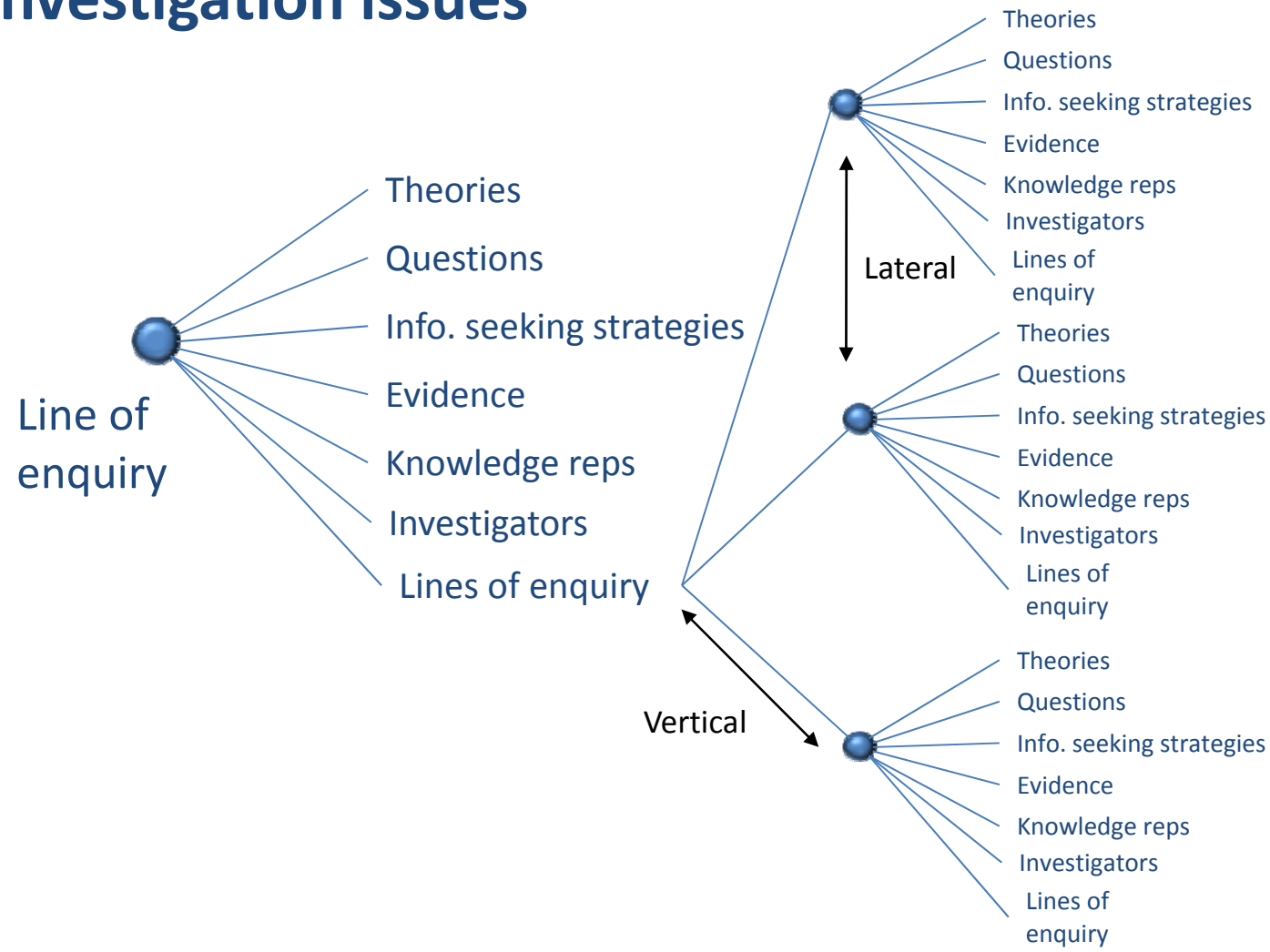
(3) Despite 2, each new line of enquiry was independent insofar as it posed new questions and gave rise to new research strategies;

The line-of-enquiry framework - recursive decomposition of investigation issues



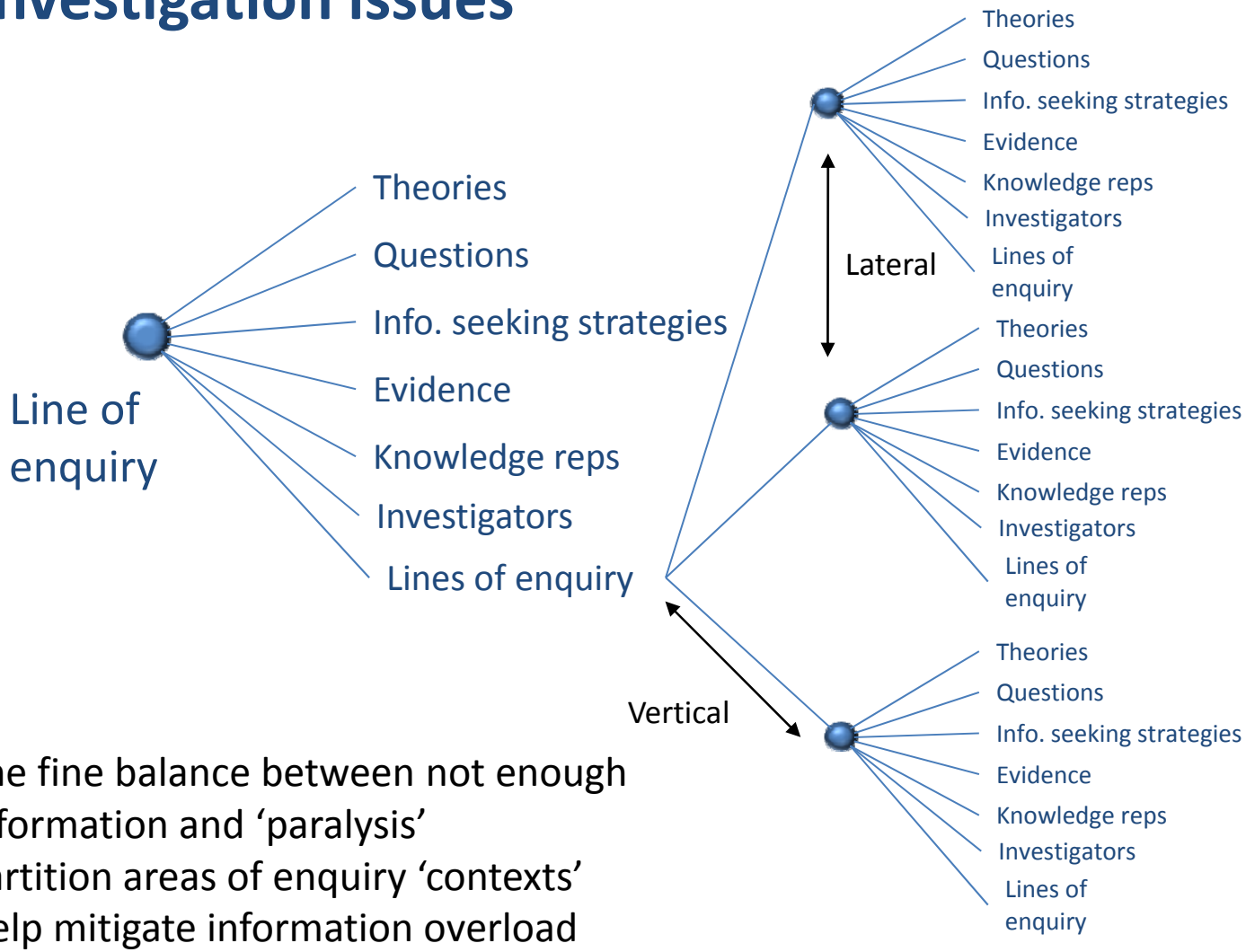
The line-of-enquiry framework - recursive decomposition of investigation issues

Information flows



The line-of-enquiry framework - recursive decomposition of investigation issues

Information flows



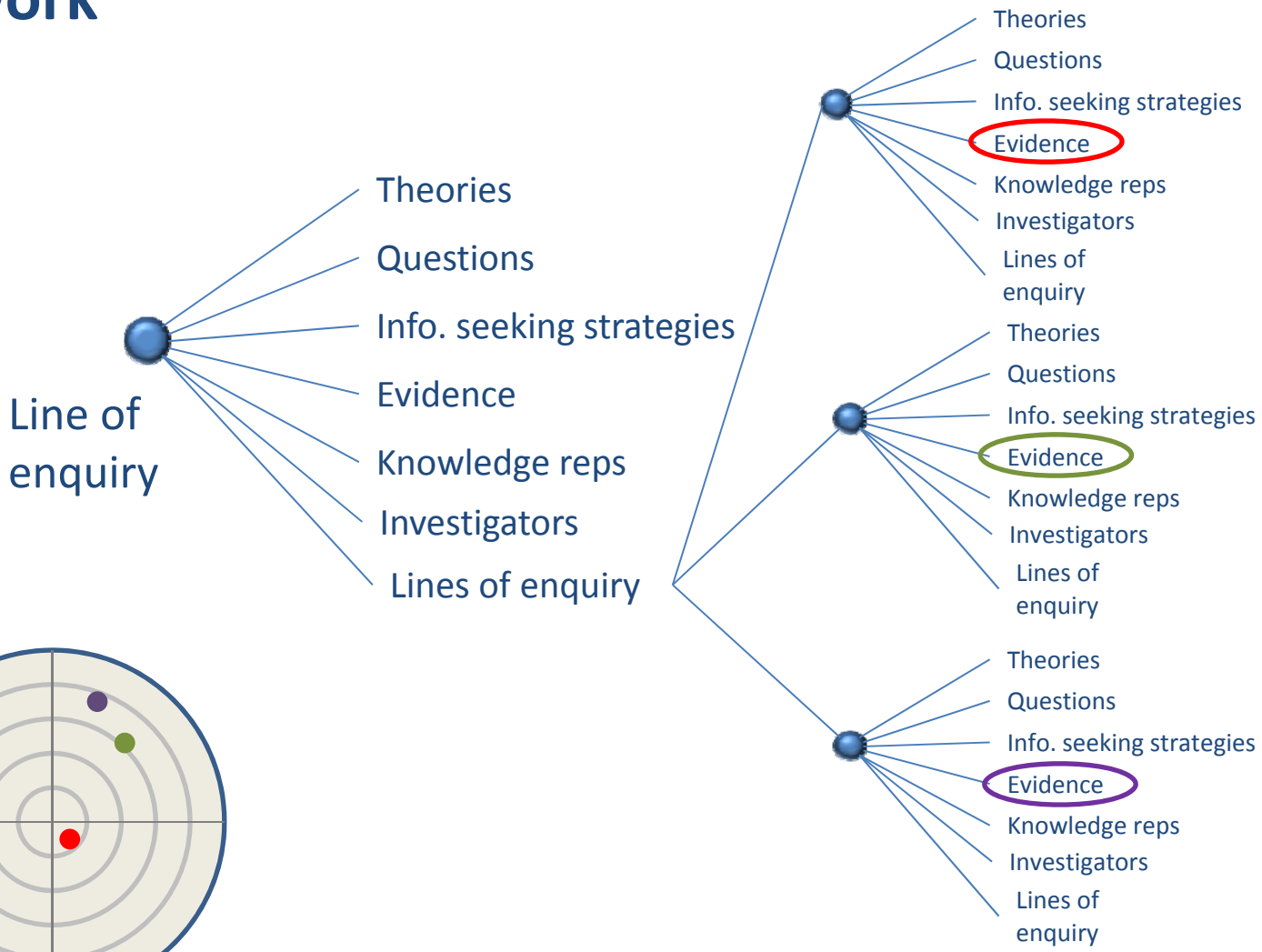
The fine balance between not enough information and 'paralysis'
Partition areas of enquiry 'contexts'
Help mitigate information overload

Social translucence

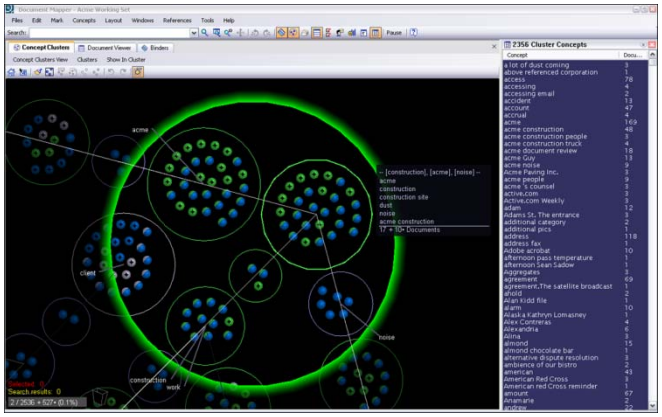
- Thomas Erikson and Wendy Kellogg

"design digital systems that support coherent behaviour by making participants and their activities visible to each other"

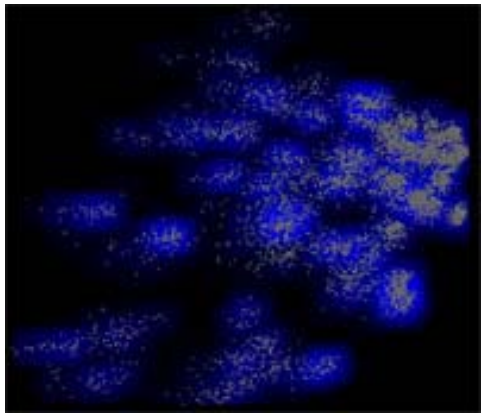
Supporting social transparency through the line of enquiry framework



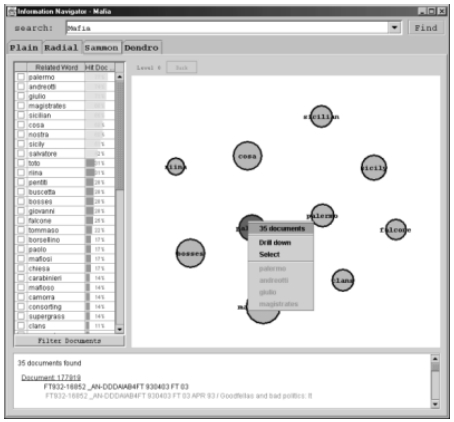
Thinking beyond clustered views



Patterns
(Attenex)

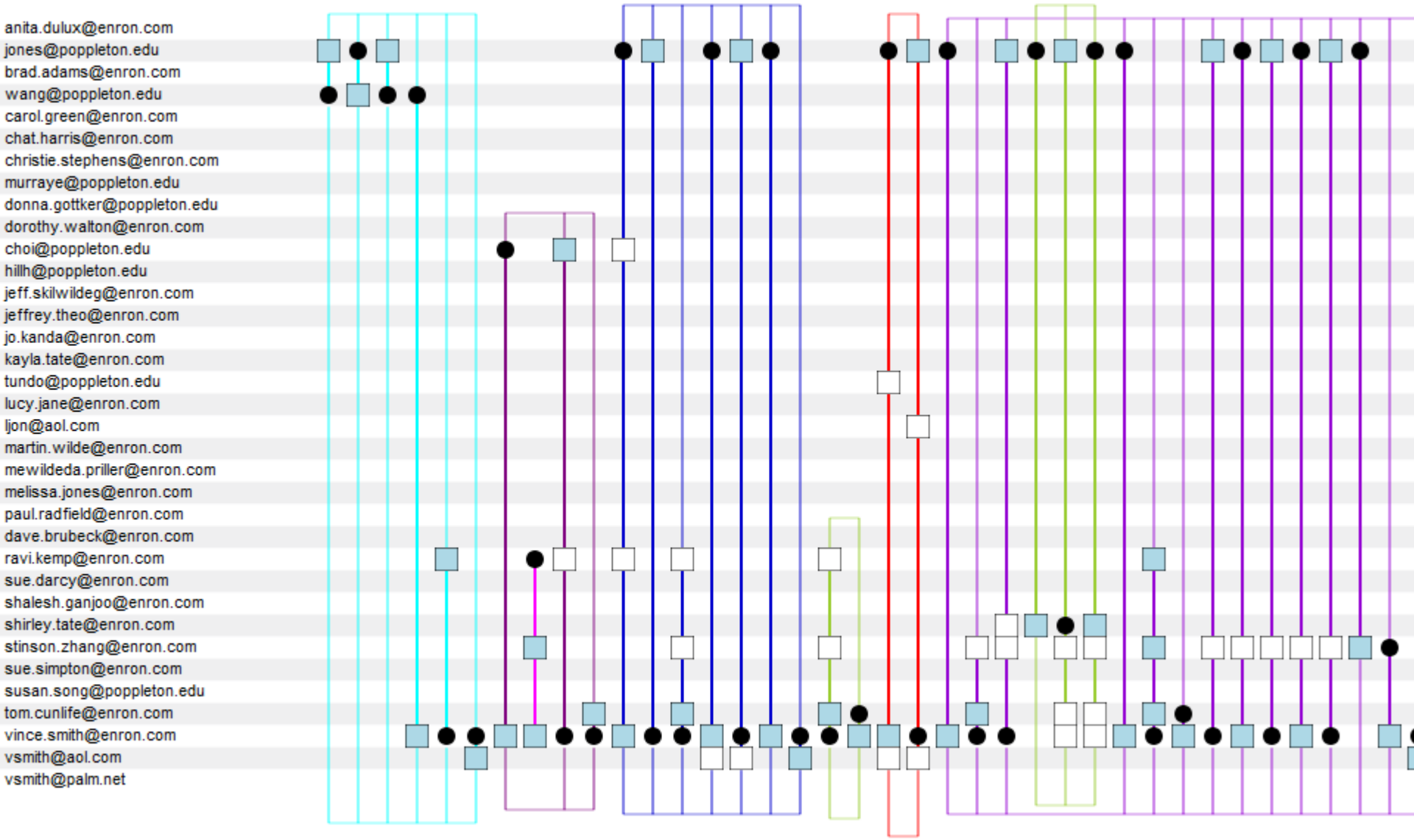


Galaxy
visualisation
(Inspire)



Sammon map
(Greenstone
Digital Library)

Threads VI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