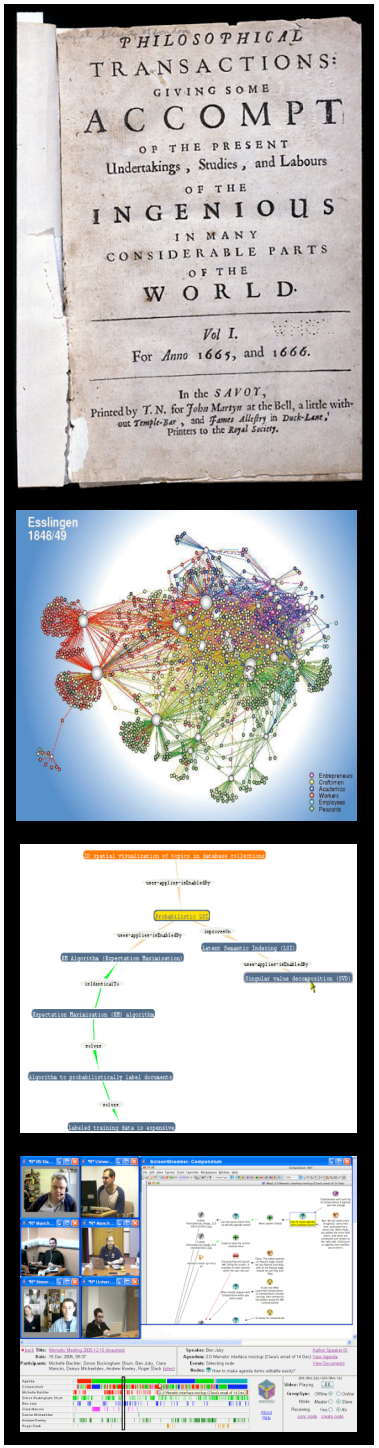


Univ. Edinburgh, School of Informatics
Computational Thinking Seminar, 25th April 2007

Digital Research Discourse?

Simon Buckingham Shum

Knowledge Media Institute & Computing Research Centre
The Open University, Milton Keynes, UK

http://kmi.open.ac.uk/people/sbs
sbs@acm.org

Computation shaping Discourse?

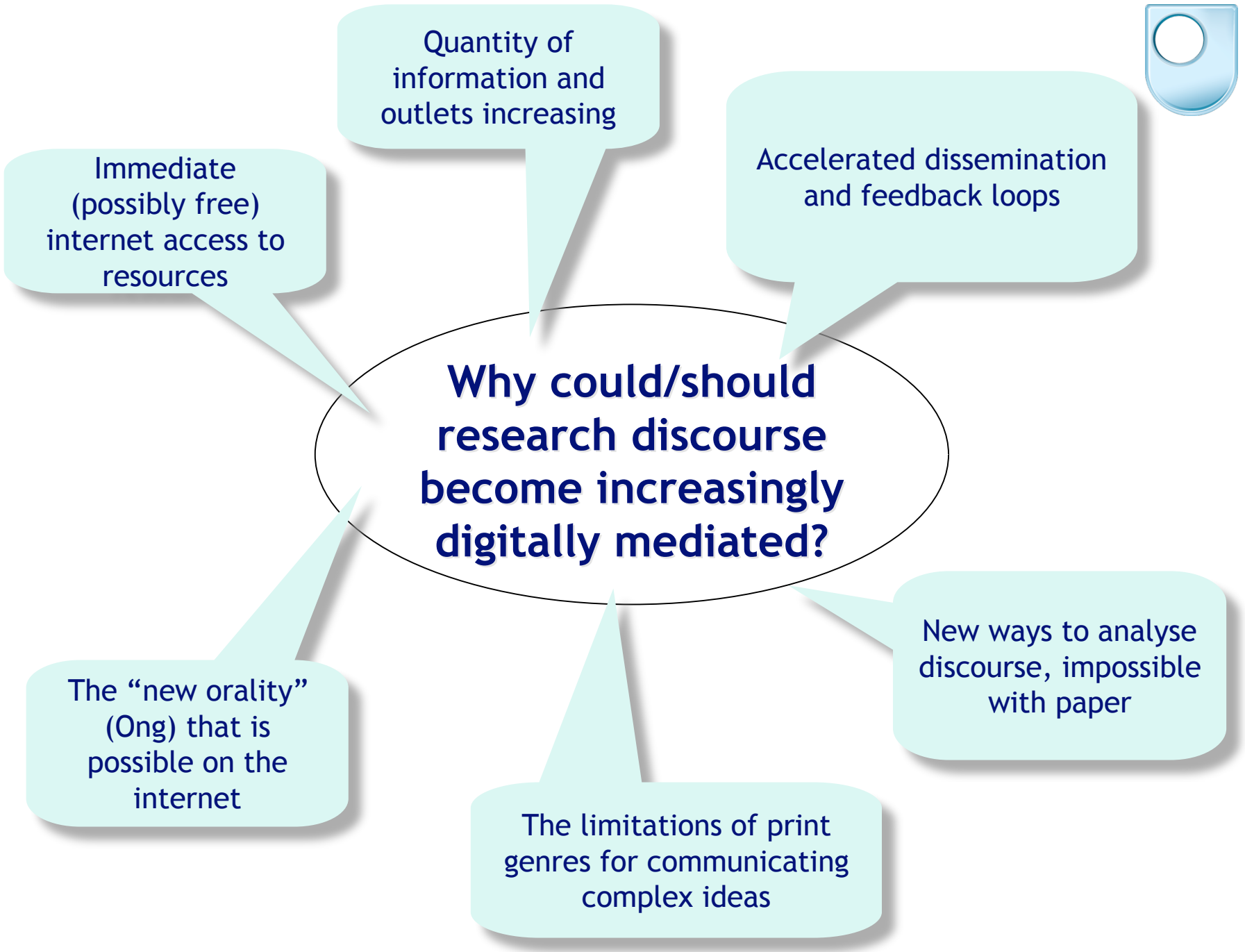
- **How are digital tools changing current practices?**
  - dissemination, peer review, literature analysis, meetings and teamwork
- **How can we conceive 'digitally-native' practices?**
  - dissemination, peer review, literature analysis, meetings and teamwork
- **Research challenges**

An overview, plus some in-depth examples from my own work

What is scholarly communication?

6 services (Van der Sompel, 2000)

1. Registration: claiming ownership of work
2. Certification: an indication of quality
3. Awareness: alerting the world to the work's existence
4. Accessibility: making the work available
5. Archiving: preserving the record
6. Rewards: encouraging scholars to maintain the system


Quantity of information and outlets increasing
Immediate (possibly free) internet access to resources
Accelerated dissemination and feedback loops
Why could/should research discourse become increasingly digitally mediated?
The "new orality" (Ong) that is possible on the internet
The limitations of print genres for communicating complex ideas
New ways to analyse discourse, impossible with paper

Will research results still be published solely/primarily as prose?…

In 2020…

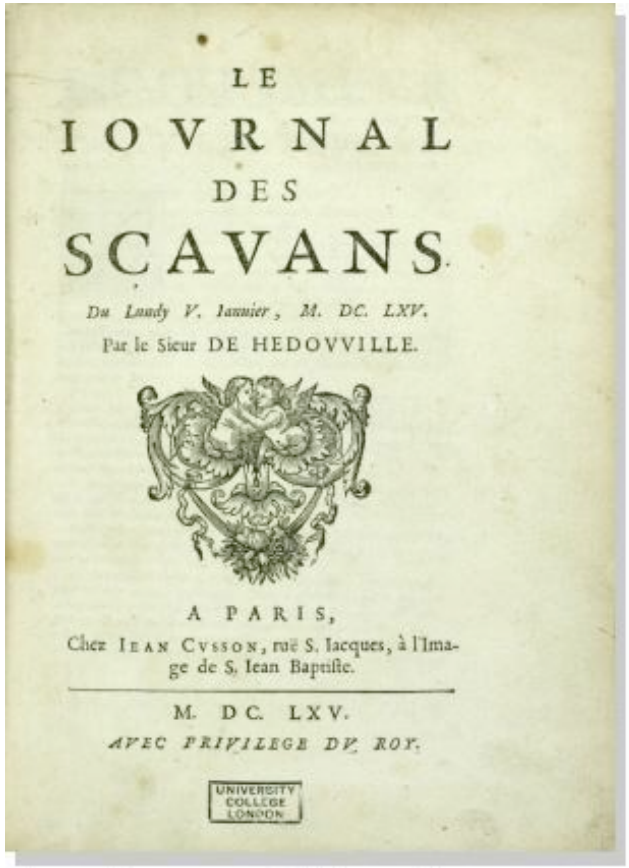
…or can we imagine a complementary infrastructure?

…'native' to the internet, enabling more effective dissemination and analysis of ideas?

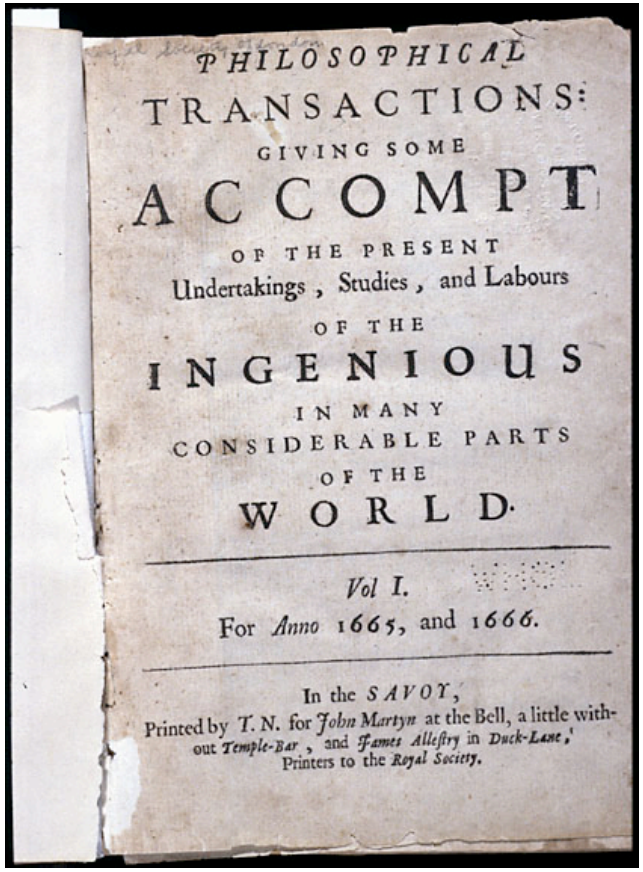
In Gutenberg's shadow

(or standing on his shoulders)

Newspapers + Invisible Colleges = Scholarly Journals


LE
IOVRNAL
DES
SCAVANS.
Du Lundy V. Ianuier, M. DC. LXV.
Par le Sieur DE HEDOVVILLE.
A PARIS,
Chez IEAN CVSSON, ruë S. Iacques, à l'Image de S. Iean Baptiste.
M. DC. LXV.
AVEC PRIVILEGE DV ROY.
UNIVERSITY COLLEGE LONDON

Le Journal des Sçavans
January 1665


PHILOSOPHICAL
TRANSACTIONS:
GIVING SOME
ACCOMPT
OF THE PRESENT
Undertakings, Studies, and Labours
OF THE
INGENIOUS
IN MANY
CONSIDERABLE PARTS
OF THE
WORLD.
Vol I.
For Anno 1665, and 1666.
In the SAVOY,
Printed by T. N. for John Martyn at the Bell, a little without Temple-Bar, and James Allestry in Duck-Lane,
Printers to the Royal Society.

Philosophical Transactions of the Royal Society of London
March 1665

Brave new world…

http://blog.webreakstuff.com/ wp-content/eboy.jpg

"There aren't any icons to click. It's a chalk board."

Computation shaping Discourse?

- **How are digital tools changing current practices?**
  - dissemination, peer review, literature analysis, meetings and teamwork
- **How can we conceive 'digitally-native' practices?**
  - dissemination, peer review, literature analysis, meetings and teamwork
- **Research challenges**

“If it’s not on Google, it doesn’t exist”

Web Images Video News Maps **more »**

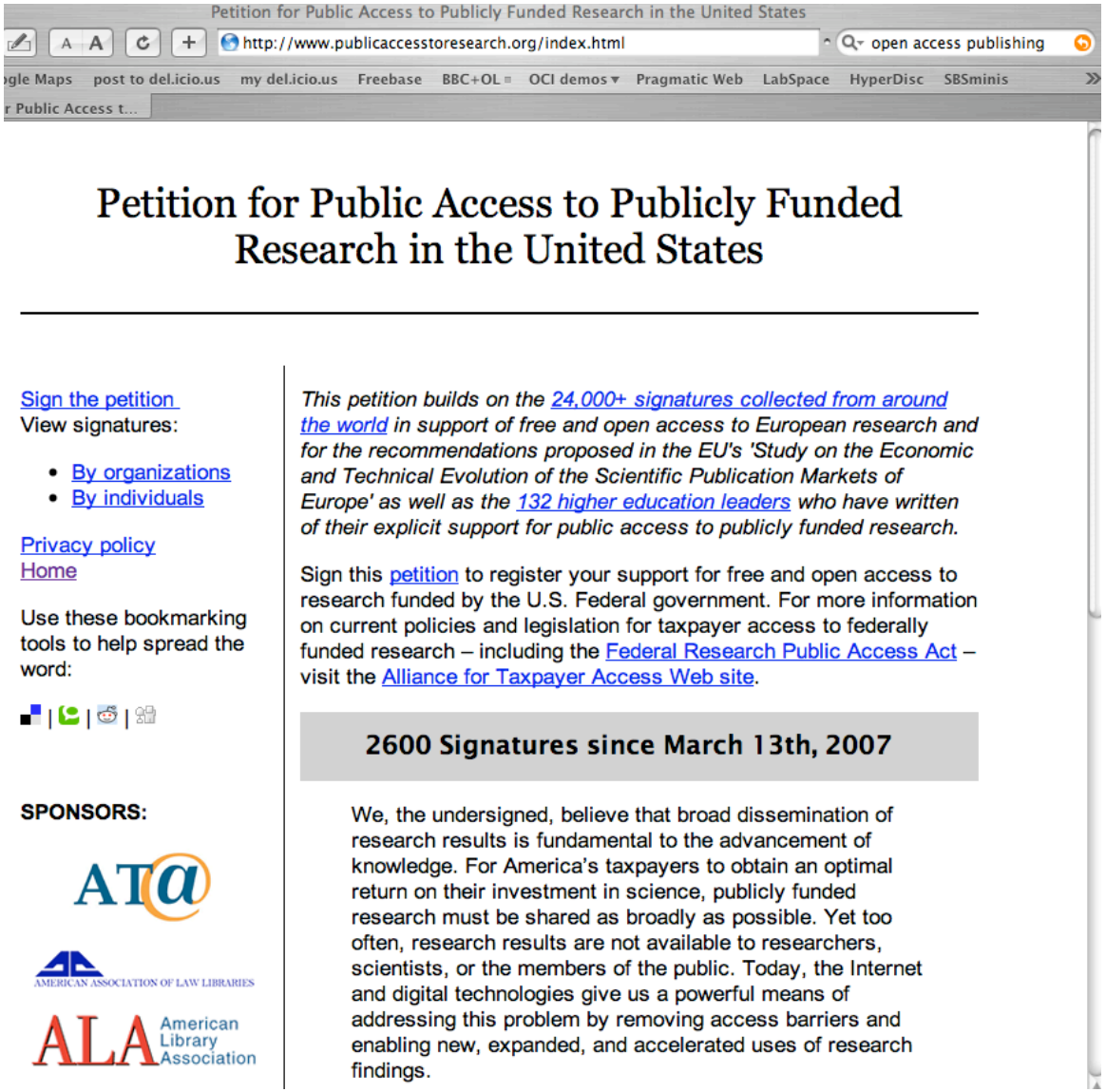
Search

Advanced Scholar Search
Scholar Preferences
Scholar Help

Stand on the shoulders of giants

Google Home - About Google - About Google Scholar

Open access to publications (and some data)



- Now turning in to a major political movement in conflict with commercial scholarly/scientific publishers

eJournals: Levels 1-6

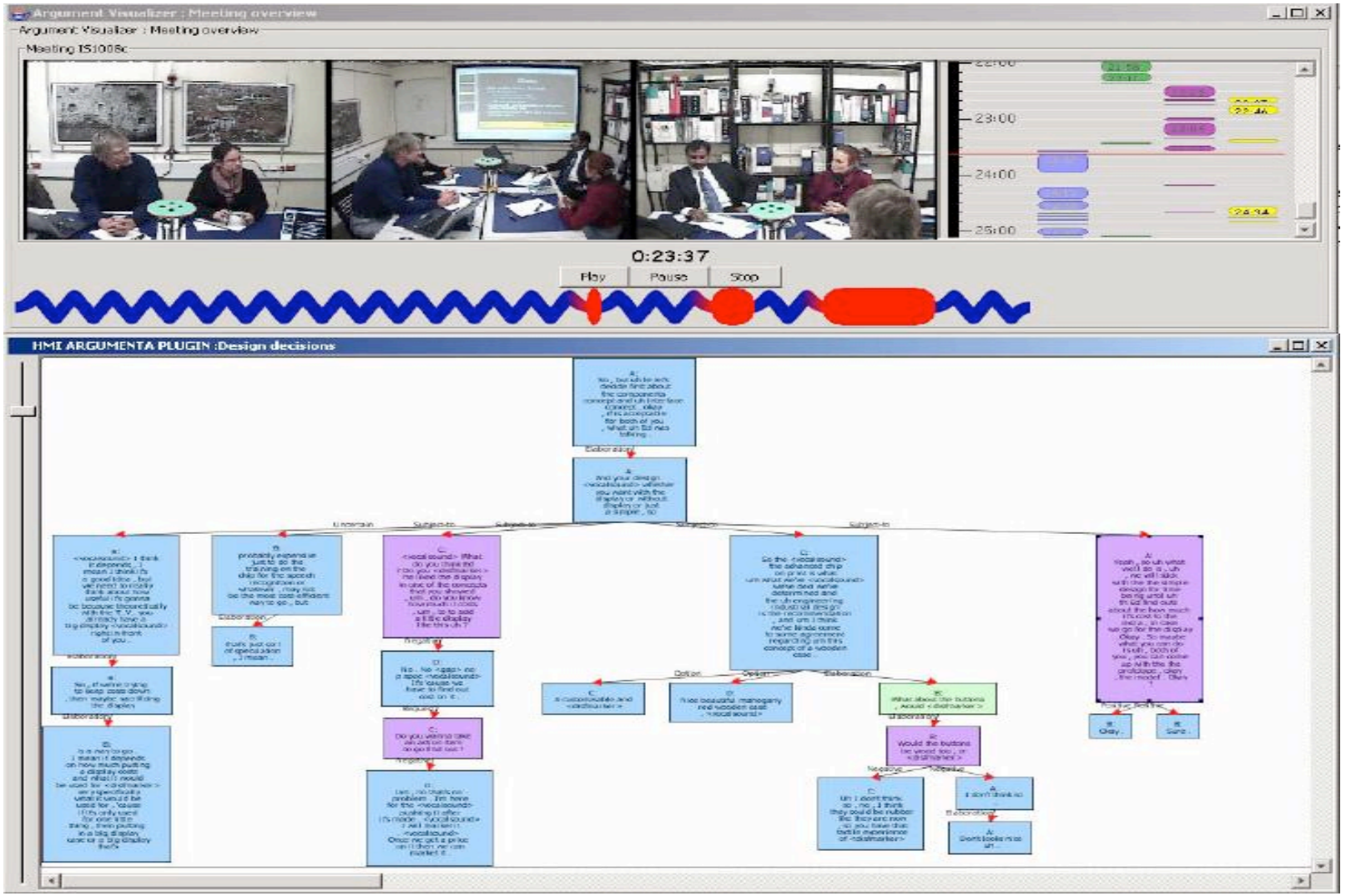
Lancaster, F. W. (1985). The Paperless Society Revisited. American Libraries, 16, (8), 553-555

1. computers used for print production
2. journal distributed in both print and electronic formats
3. publication design is rooted in print, but articles are developed solely for electronic distribution
4. interaction between authors and readers is possible; publications can evolve as a result of such interactions
5. the inclusion of multimedia content
6. both interactive participation and multimedia capabilities are supported

Computational analysis of discourse: meetings

www.amiproject.org

Computational analysis of discourse: meetings



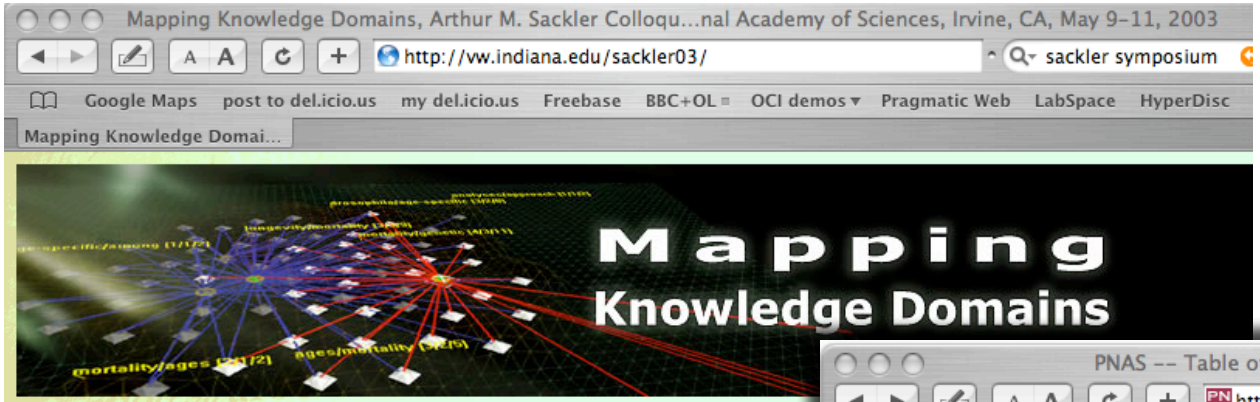
www.amiproject.org

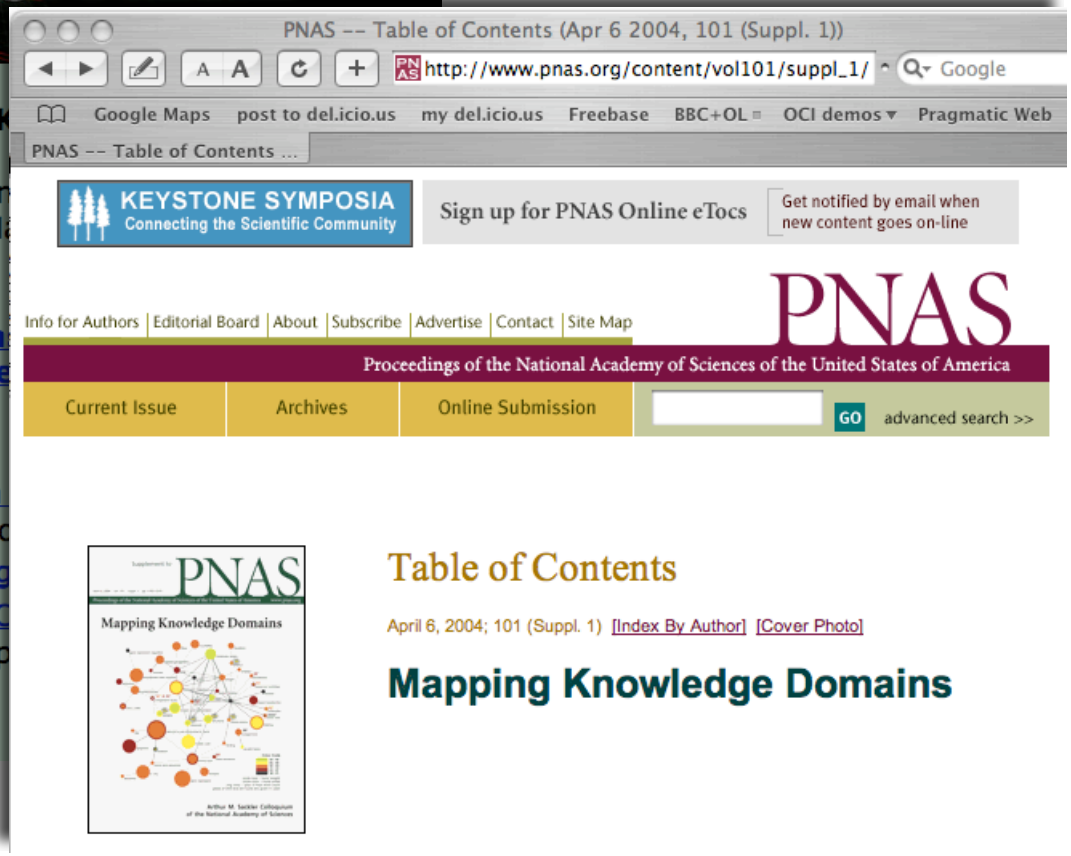
Computational analysis of discourse: texts

- **Simone Teufel & Marc Moens (Edin): Argumentative Zoning in scientific papers**
  - after training, automatic classification of citations, eg. as background, or contrasting

- **Similar work but different approach by Agnes Sandor (Xerox)**

Computational analysis of discourse: literatures



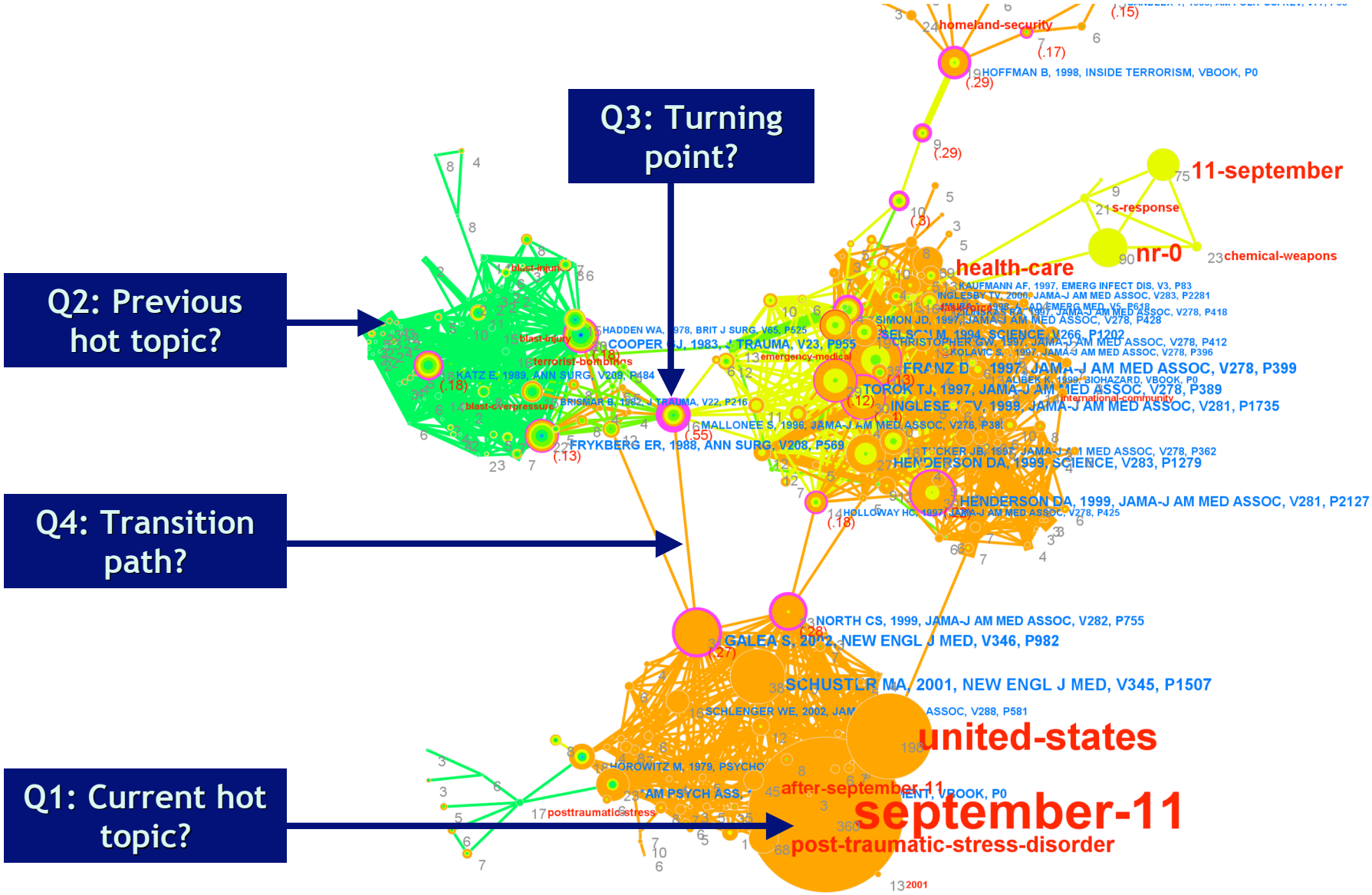


Knowledge Domain Mapping
gaining visibility—but still in the labs

Computational analysis of discourse: literatures and intellectual phenomena

- **Chaomei Chen (Drexel)**
- **"Can we help answer questions such as…**
  1. What is the hottest topic at time T0?
  2. What have been the hot topics between time Ta and Tb? (A Timeline - Temporal)
  3. What are the major turning points between time Ta and Tb? (Turning points - Structural)
  4. How did knowledge associated with these turning points spread? (Diffusion - Spatial)"

Chaomei Chen: visualization of trends in a literature (terrorism)



Access Grid: high quality internet video conferencing

www.accessgrid.org

"The Access Grid® is an ensemble of resources including multimedia large-format displays, presentation and interactive environments, and interfaces to Grid middleware and to visualization environments.

… the Access Grid (AG) is used for large-scale distributed meetings, collaborative work sessions, seminars, lectures, tutorials, and training. The Access Grid thus differs from desktop-to-desktop tools that focus on individual communication."

ACCESS GRID®

Desktop client interface

(you don't need a dedicated room!)

Computation shaping Discourse?

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  - dissemination, peer review, literature analysis, meetings and teamwork
- **How can we conceive 'digitally-native' practices?**
  - dissemination, peer review, literature analysis, meetings and teamwork
- Research challenges

Mapping workshop discussions

This site: www.aktors.org/coakting/eSci-Vis2003

National eScience Centre Workshop: Visualization for eScience (23-24 Jan 2003)

Background note: As part of the workshop, Compendium and ScholOnto were presented by Simon Buckingham Shum (slides). Compendium was then used to capture the discussions in Working Group 4 (Human Issues), and in the closing plenary session (Short, Medium and Long Term Priorities for the eScience Visualization community).

Compendium Maps

Human Issues working group

- Visual Maps (Interactive VML) - requires Microsoft Internet Explorer browser
- Linearised Outline (HTML)
- XML (Compendium DTD-compliant)

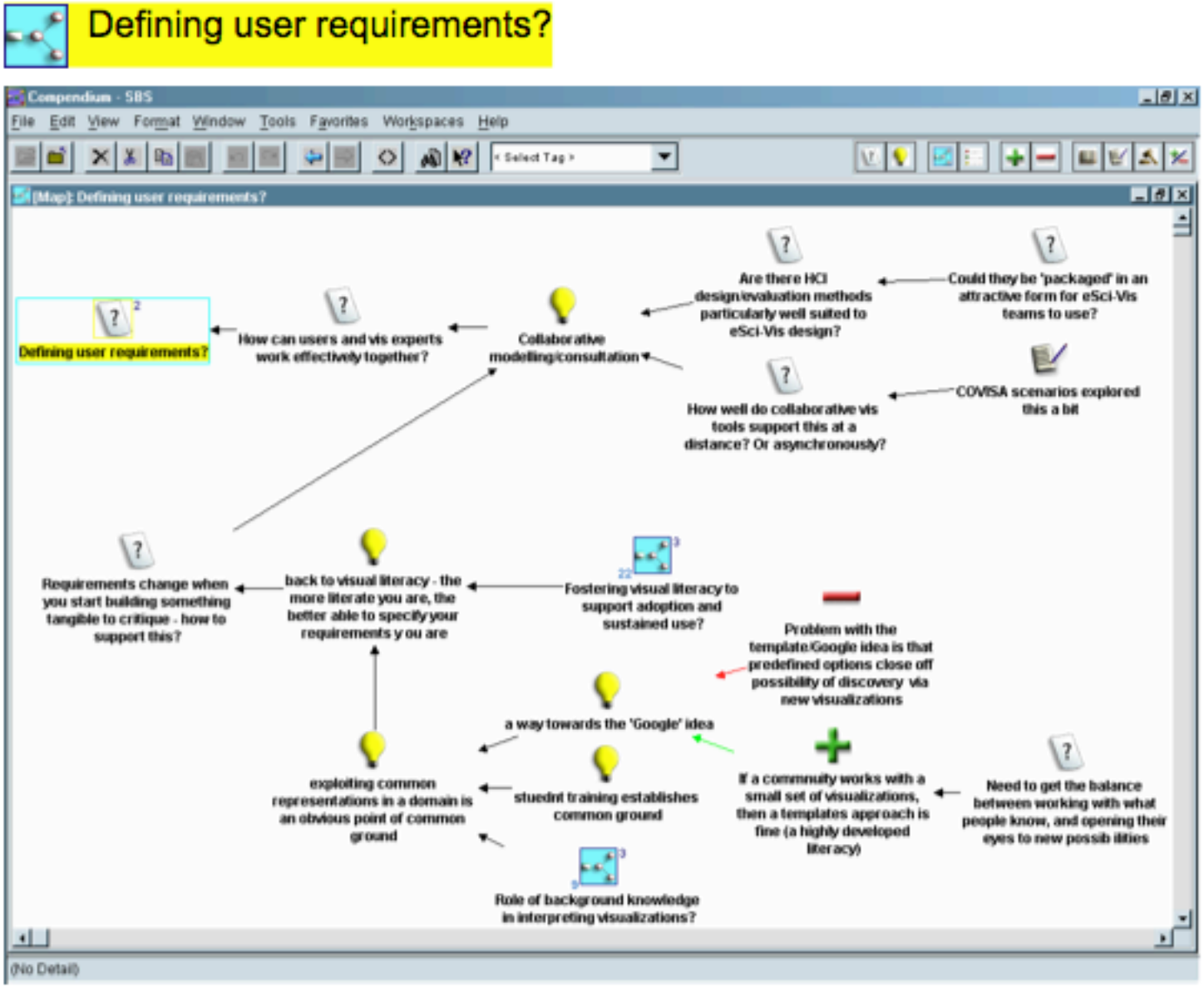
Closing session: Working Group priorities (Short, Medium and Long term)

- Visual Maps (Interactive VML) - requires Microsoft Internet Explorer browser
- Linearised Outline (HTML)
- XML (Compendium DTD-compliant)

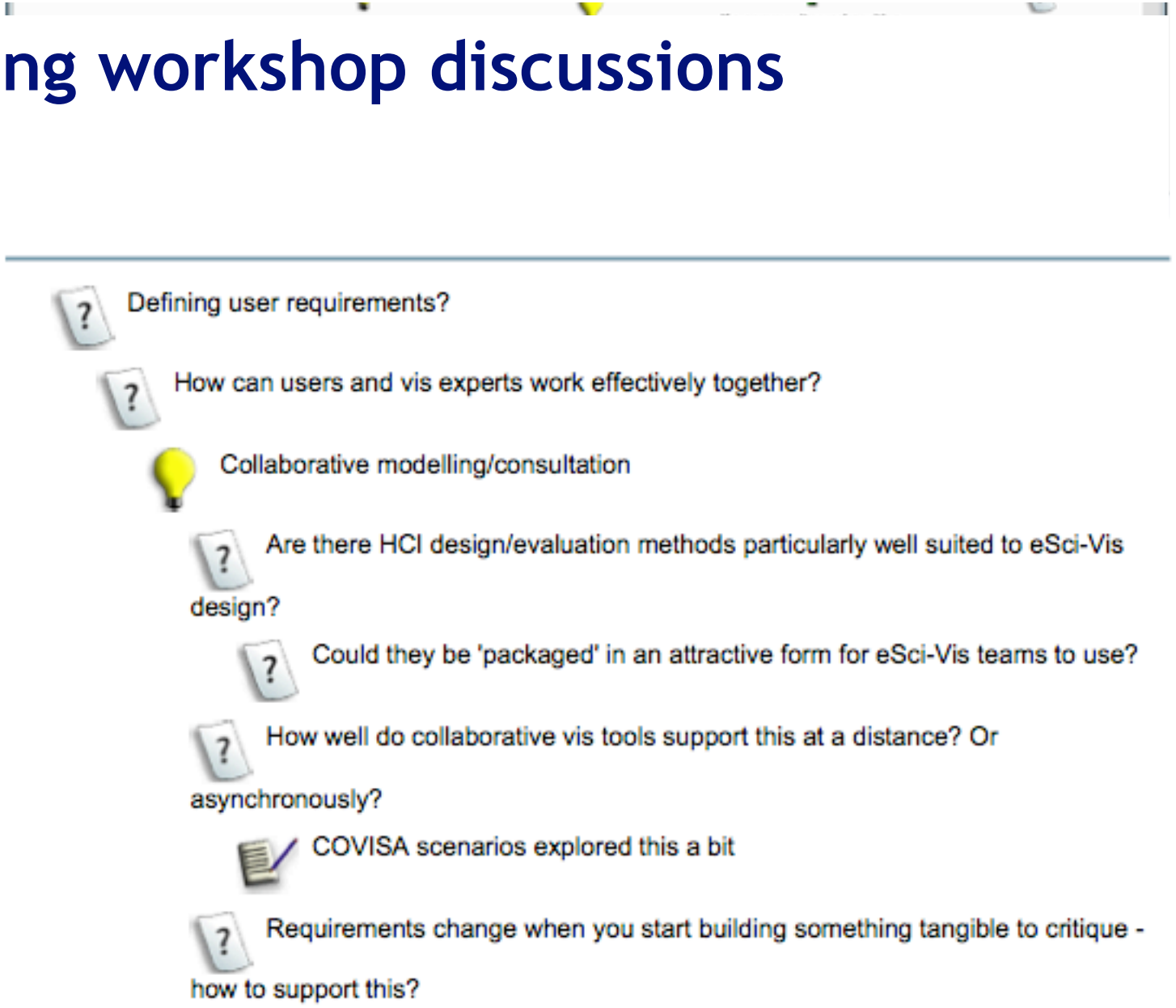
Print version

All maps + outlines to print (PDF)

Mapping workshop discussions

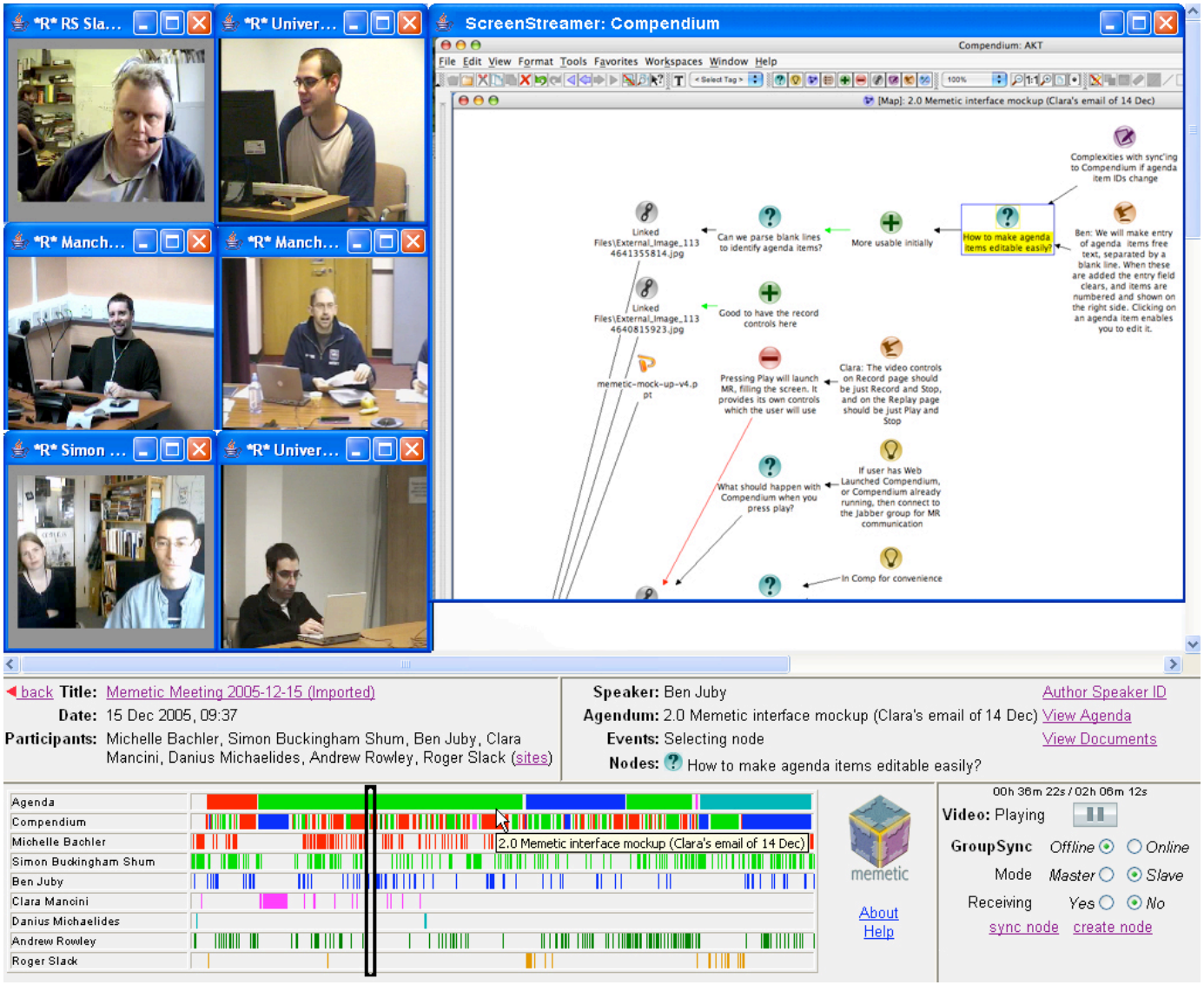


Mapping workshop discussions



Memetic: AG Meeting Replay

Access Grid meetings automatically indexed by slides, and Compendium nodes (agenda items, issues, decisions, arguments)



JISC

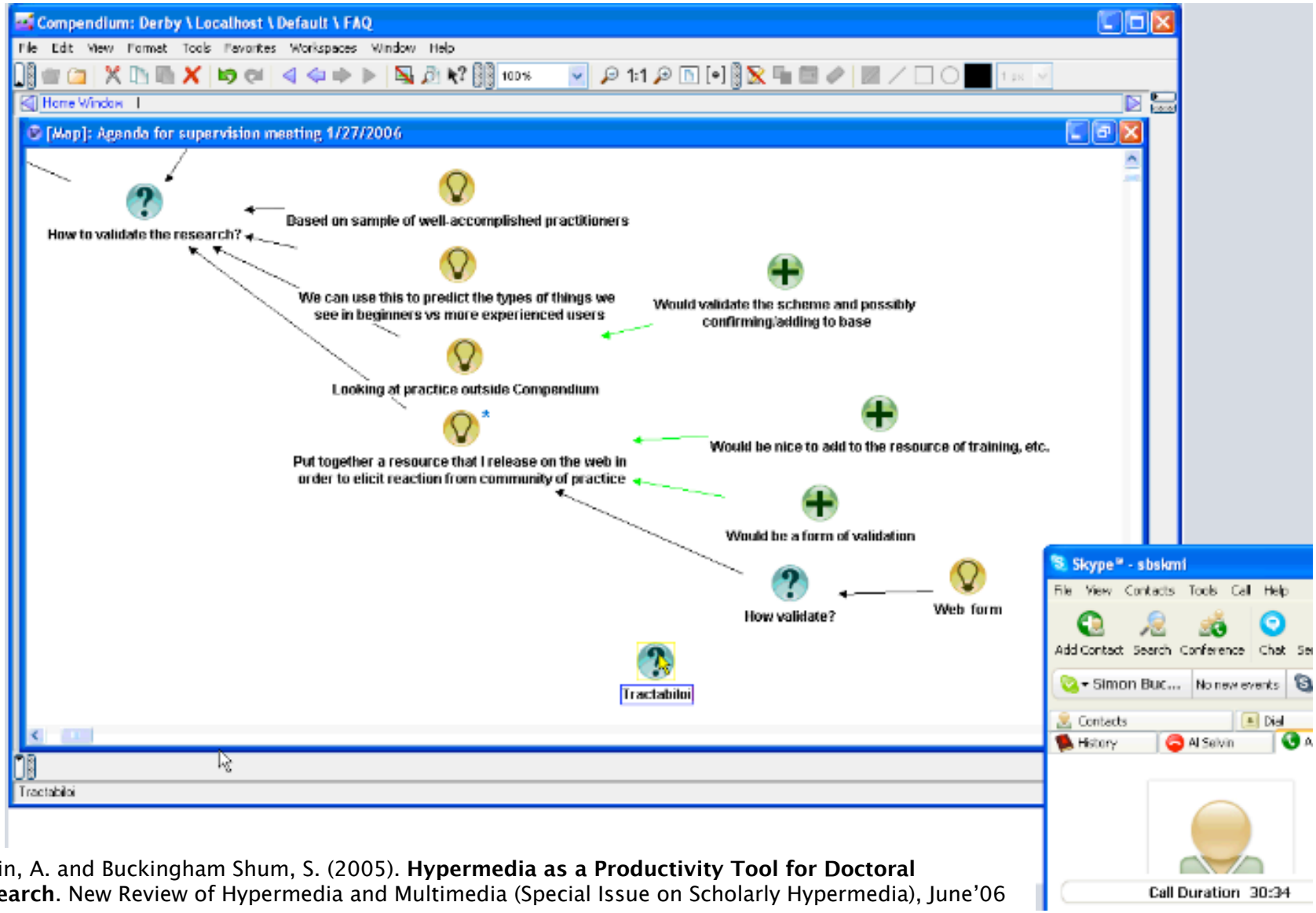
Virtual Research Environments Programme

memetic

Meeting Memory Technologies Informing Collaboration

www.memetic-vre.net

Improving research discourse (4)
Mapping PhD Supervision



Selvin, A. and Buckingham Shum, S. (2005). **Hypermedia as a Productivity Tool for Doctoral Research**. New Review of Hypermedia and Multimedia (Special Issue on Scholarly Hypermedia), June'06

KMi-NASA e-science collaboration tools

www.kmi.open.ac.uk/projects/coakting/nasa

Collaborative
ADVANCED KNOWLEDGE TECHNOLOGIES
CoAKTinG
in the Grid

NASA Mobile Agents testbed: Evaluating CoAKTinG's e-Science Collaboration Tools

www.kmi.open.ac.uk/projects/coakting/nasa

NASA Mobile Agents Project

This website demonstrates the results of a 6 month collaboration between the EPSRC/e-Science-funded CoAKTinG project and the NASA Mobile Agents Project, culminating in a 2 week field trial in 2004 in the Utah desert ("Mars").

Contact: Simon Buckingham Shum

A widescreen is recommended for best viewing, or alternately, this contents column can be narrowed by dragging the frame border, or open each link in a fresh browser window/tab.

The Open University

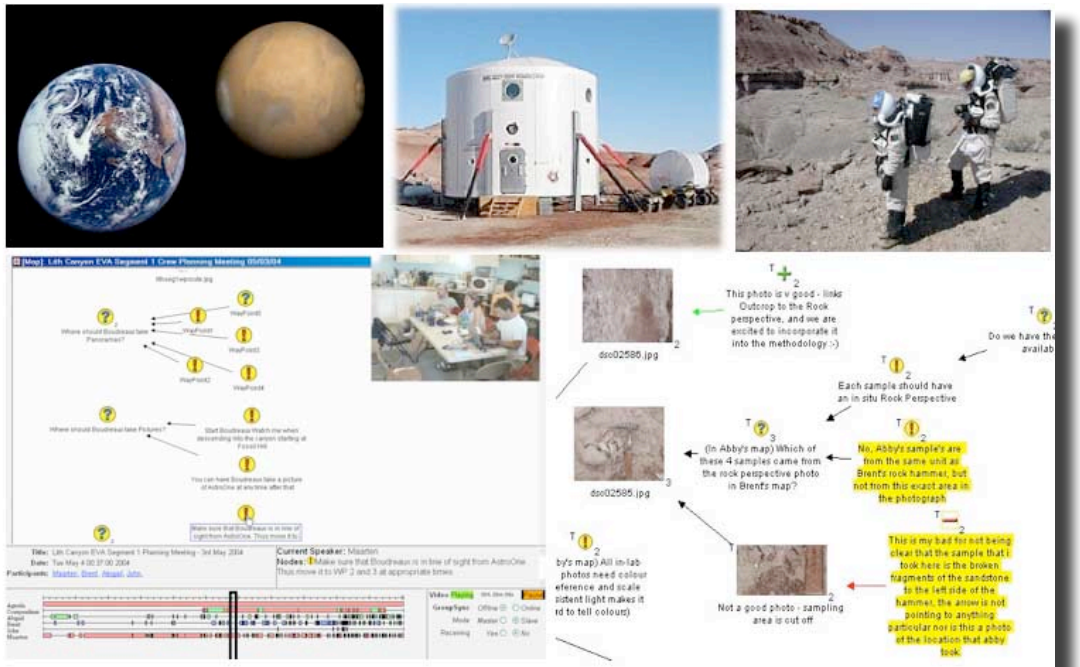
KNOWLEDGE MEDIA INSTITUTE

University of Southampton

I A M

The Scenario

e-Science scenario: The NASA Mobile Agents Project is developing a sophisticated multi-agent infrastructure for human/robot planetary exploration. Part of the project was to investigate how this could support collaborative investigation between scientists distributed between planets, as well as around Earth. In a future multi-month, manned mission to Mars, there is no question that the few scientists in the Mars crew will need to work with their



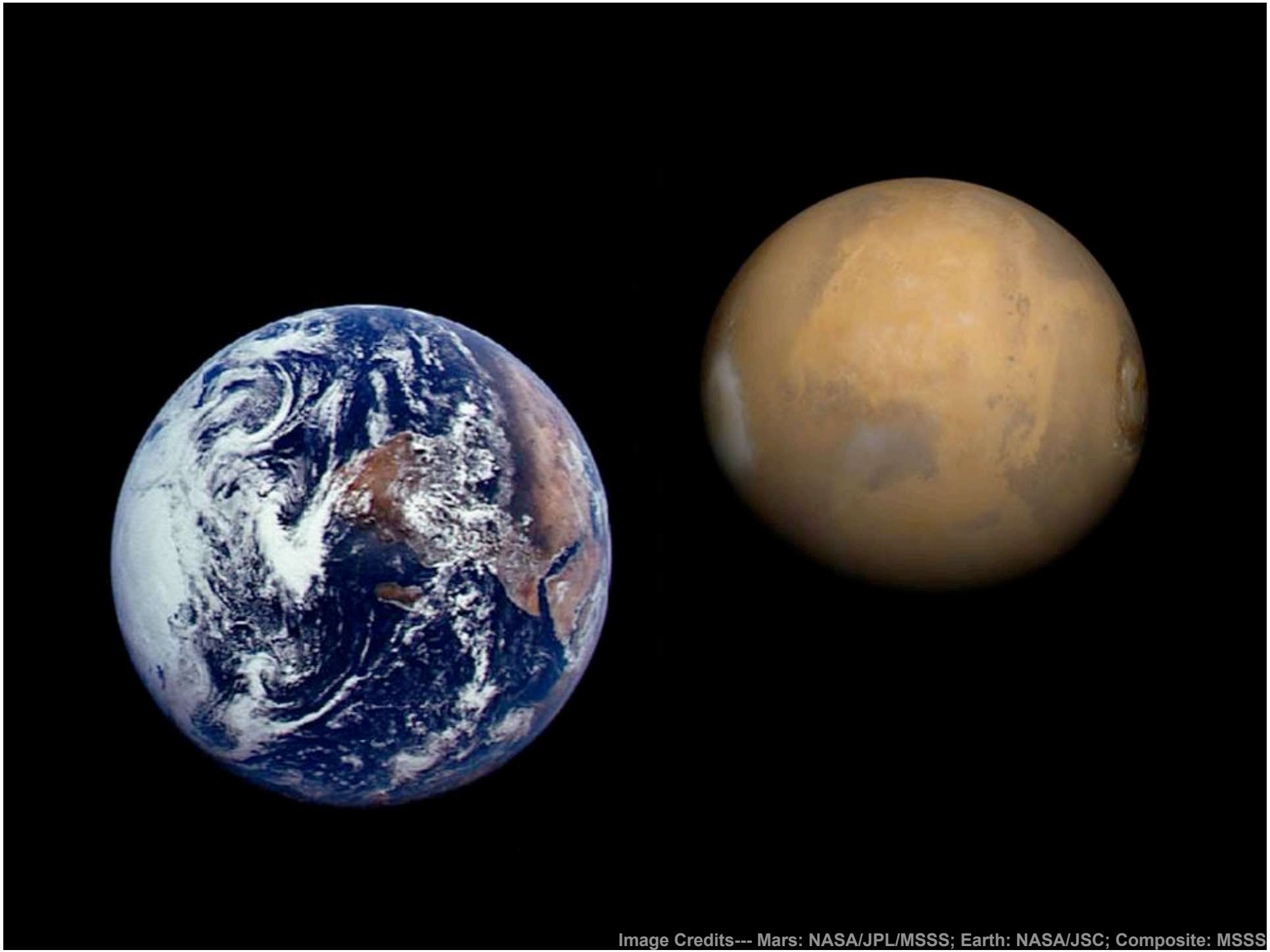
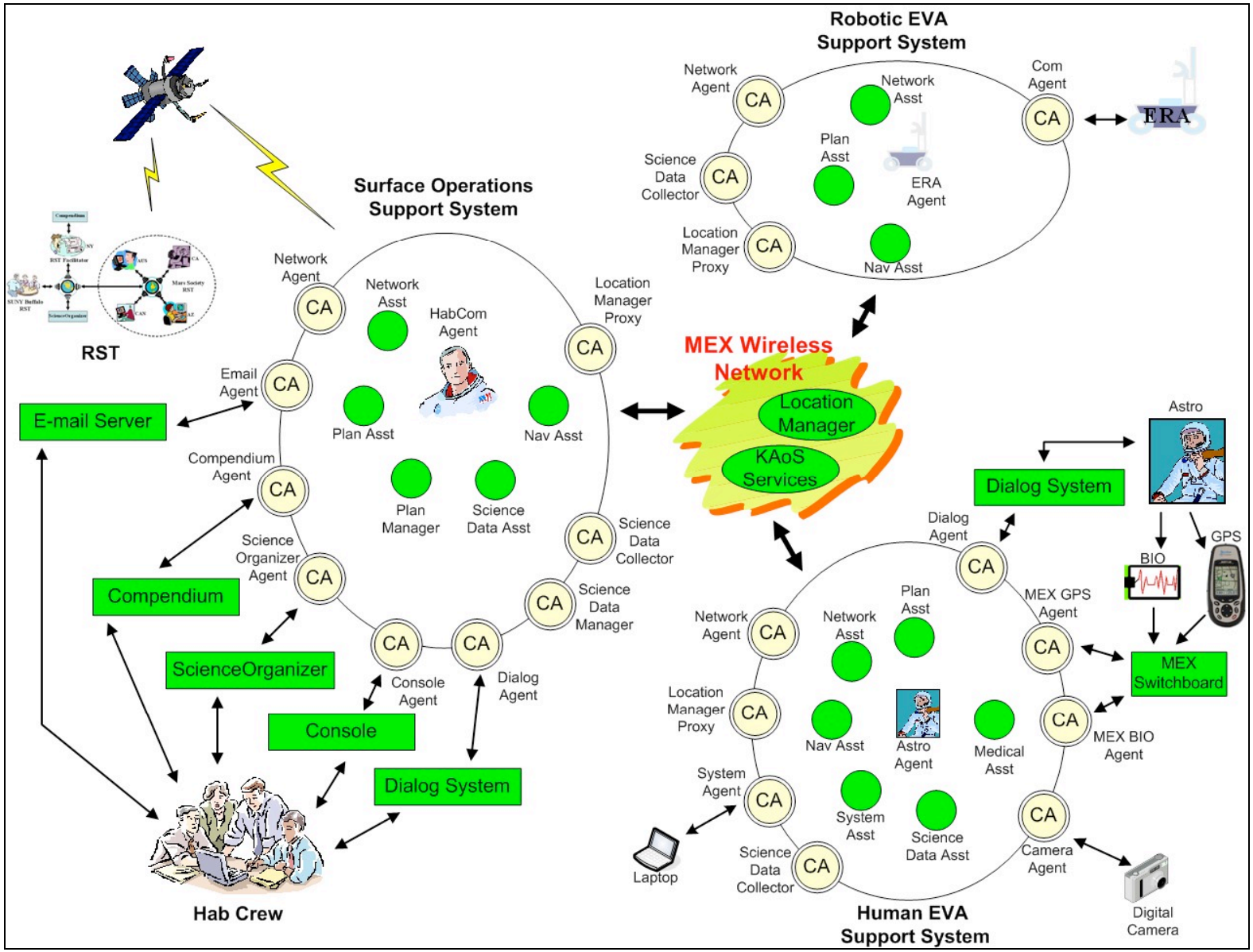


Image Credits--- Mars: NASA/JPL/MSSS; Earth: NASA/JSC; Composite: MSSS

NASA e-science field trials (2004 and 2005)

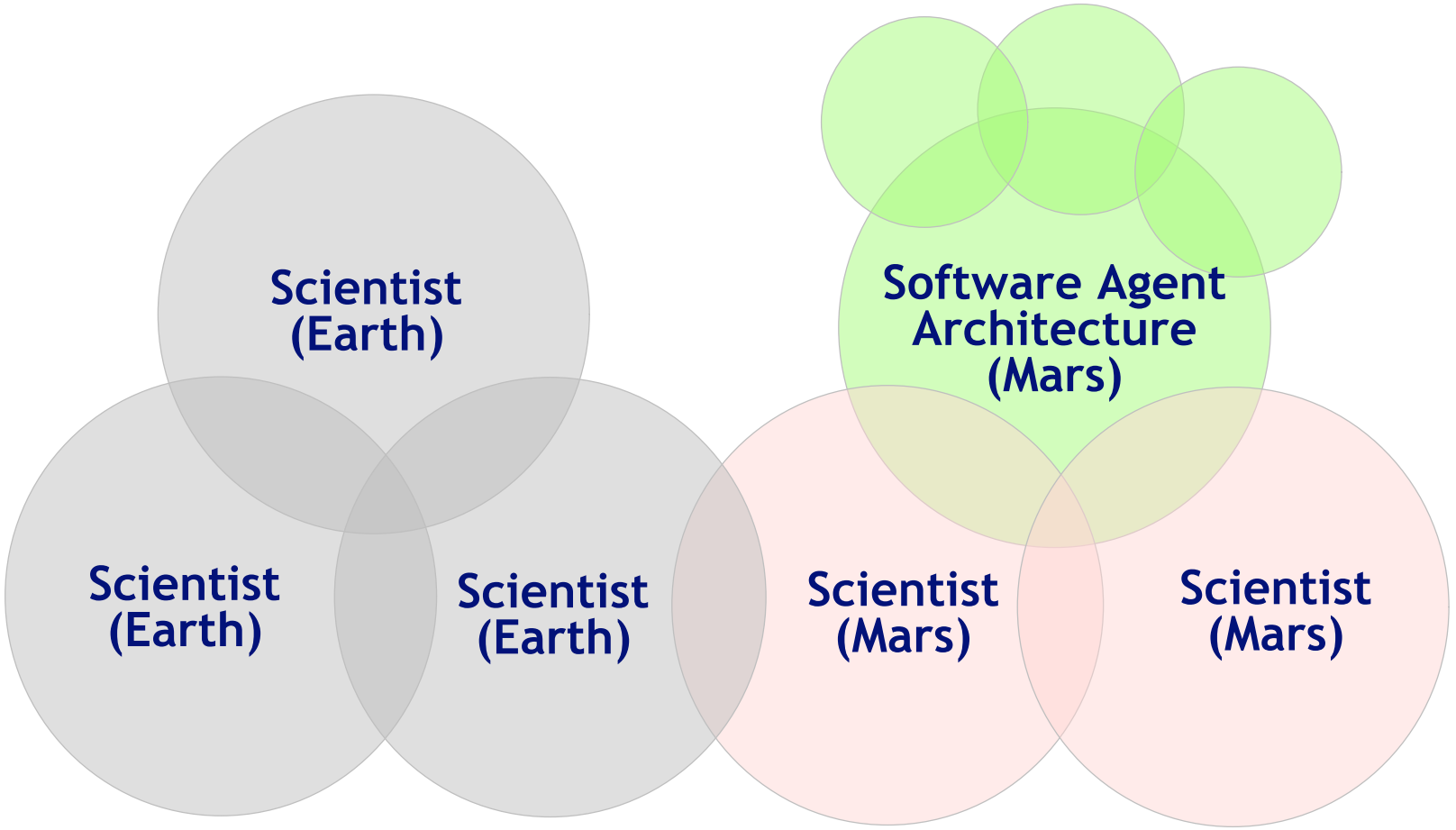
Distributed Mars-Earth planning and data analysis tools for Mars Habitat field trial in Utah desert, supported from US+UK

NASA Mobile Agents Architecture



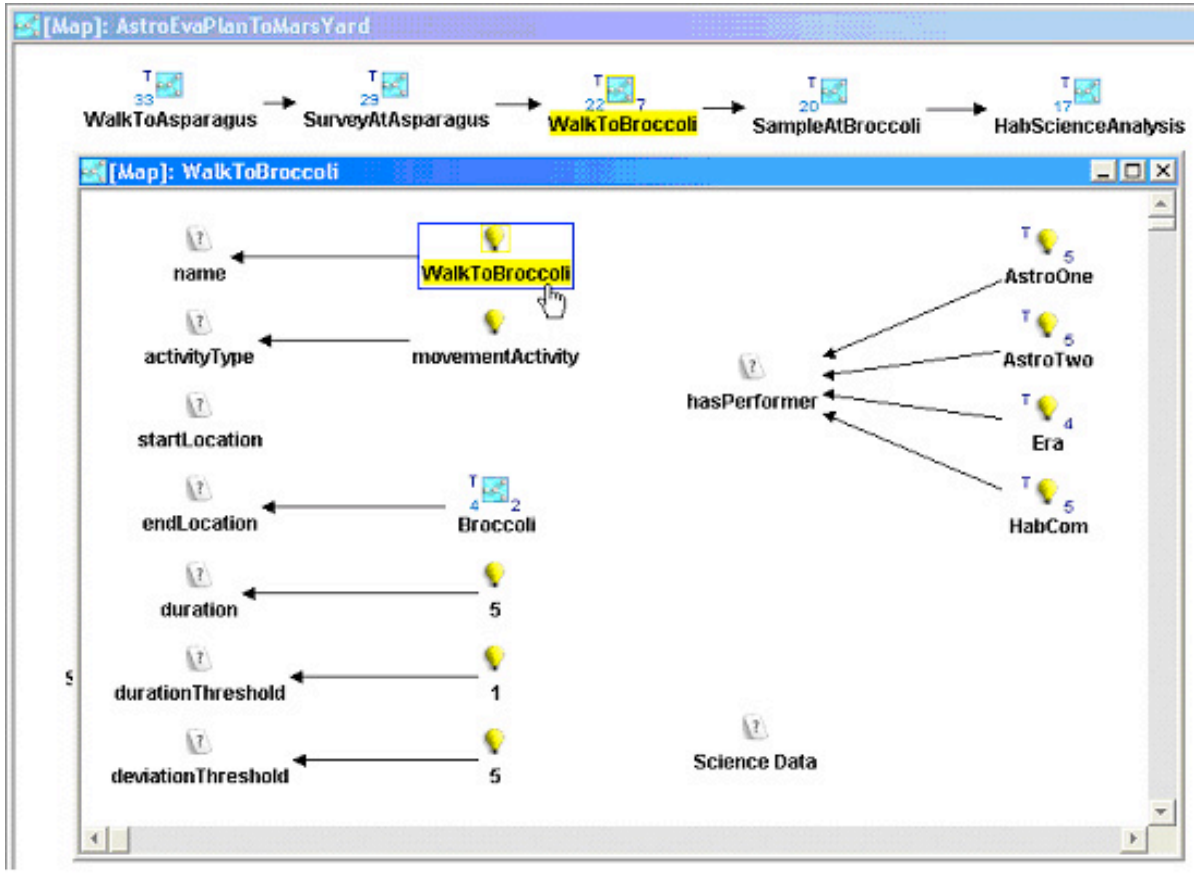
Human-Agent research discourse

Compendium used as a collaboration medium at all intersections: *humans+agents*, *reading+writing* maps



NASA testbed:

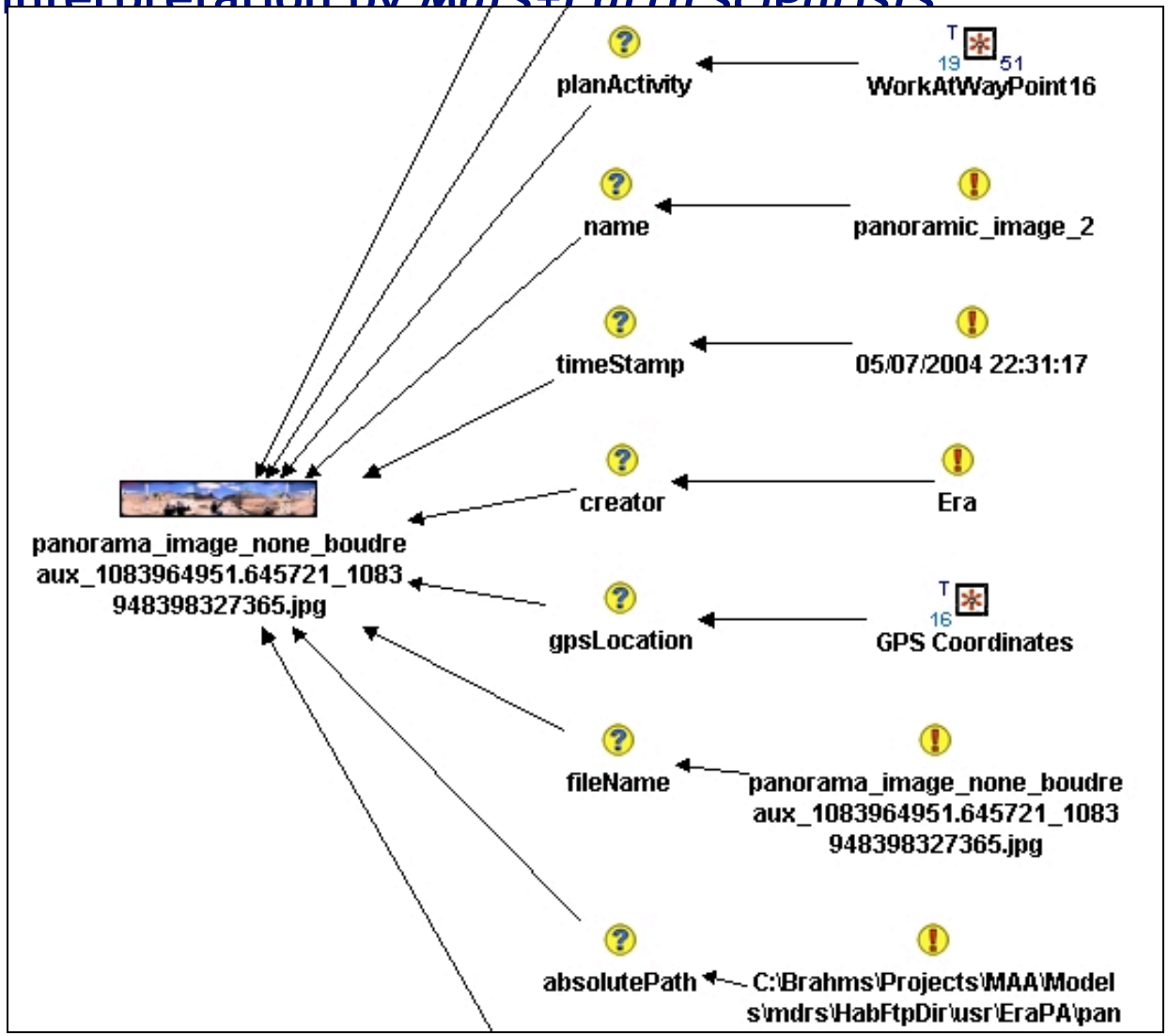
Compendium activity plans for surface exploration, constructed by *scientists on 'Earth'*, interpreted by *software agents on 'Mars'*



The Compendium nodes and relationships in this plan were interpreted by Brahms software agents for monitoring and coordinating astronaut and robot activity during surface explorations.

CoAKTinG NASA testbed:

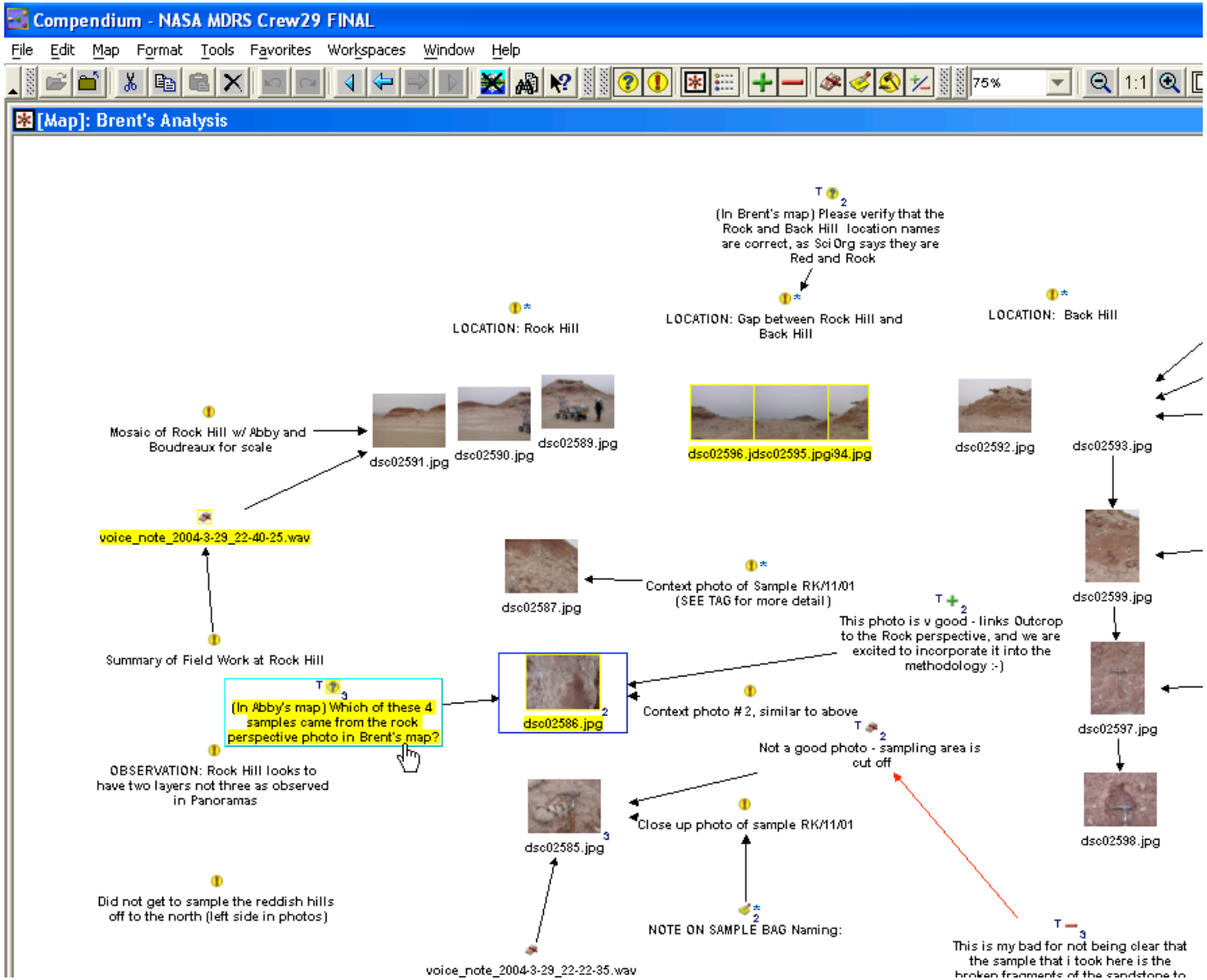
Compendium science data map, generated by *software agents*, for interpretation by *Mars+Earth scientists*



The Compendium maps were autonomously created and populated with science data by Brahms software agents that use models of the mission plan, work process, data flow and science data relationships to create the maps.

CoAKTinG NASA testbed:

Compendium-based photo analysis by *geologists* on 'Mars'



NASA testbed:

Compendium scientific feedback map *from Earth scientists to Mars colleagues*

dsc02586.jpg

This photo is v good - links Outcrop to the Rock perspective, and we are excited to incorporate it into the methodology :-)

Not for these 4 images

Do we have these photos available?

To be clear these 4 images are all from the same sample

Each sample should have an in situ Rock Perspective

dsc02585.jpg

(In Abby's map) Which of these 4 samples came from the rock perspective photo in Brent's map?

No, Abby's sample's are from the same unit as Brent's rock hammer, but not from this exact area in the photograph

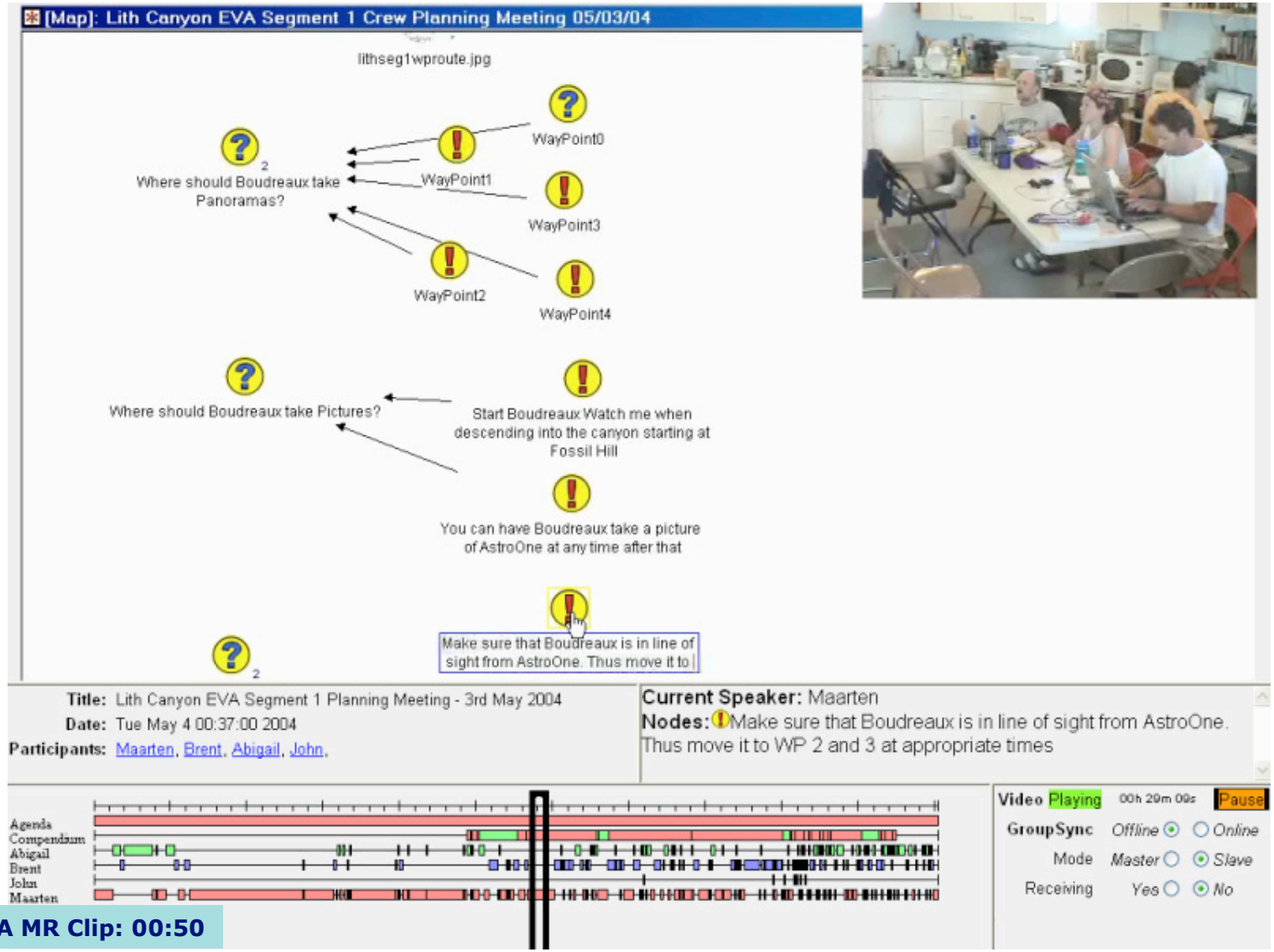
This is my bad for not being clear that the sample that i took here is the broken fragments of the sandstone to the left side of the hammer, the arrow is not pointing to anything particular nor is this a photo of the location that abby took.

Not a good photo - sampling area is cut off

by's map) All in-lab photos need colour eference and scale sistent light makes it rd to tell colours)

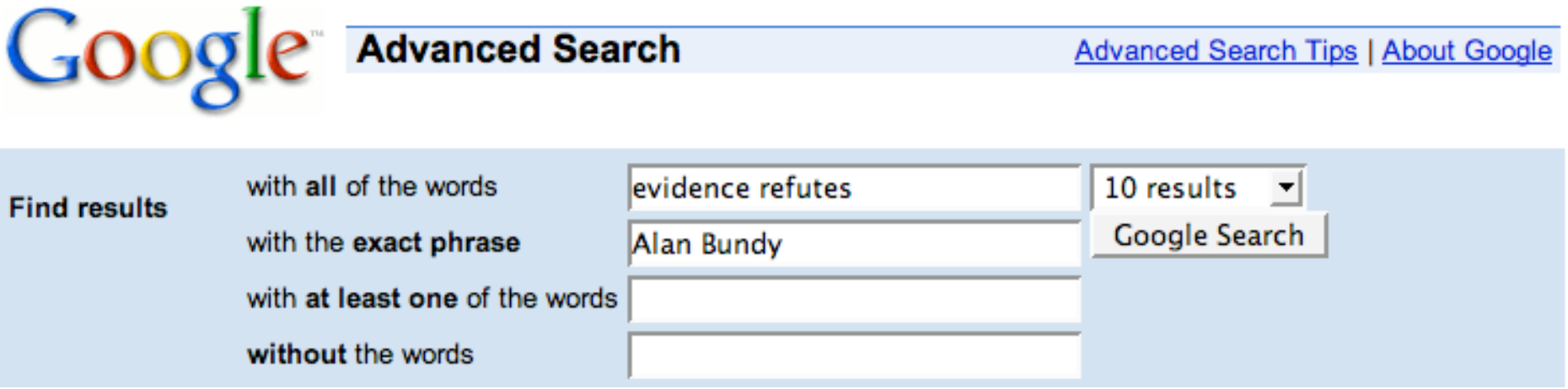
Collaborative sensemaking in e-Science:

Meeting Replay tool for *Earth scientists*, synchronising video of *Mars crew's* discussion as they annotate their mission plans



NASA MR Clip: 00:50

Literatures as discourse networks: Don't try this in Google…



Don’t try this in Google…

Web Images News Maps[New!] Products Groups Scholar more »

evidence refutes "Alan Bundy" Search Advanced Search Preferences

Search: the web pages from the UK

New! View and manage your web history

Web Results **1** - **10** of about **108** for **evidence** **refutes** **"Alan Bundy"**. (**0.43** seconds)

Did you mean: evidence ***refuted*** "Alan Bundy"

Professor **Alan Bundy** - School of Informatics, University of ...
Abstract: All branches of science and engineering advance by the conjecturing of hypotheses and the accumulation of **evidence** to support (or **refute**) them. ...
homepages.inf.ed.ac.uk/bundy/se
Cached - Similar pages - Note thi

[PS] A Scientic Checkli
File Format: Adobe PostS
Alan Bundy. December 3,
provided to support (or **refu**
homepages.inf.ed.ac.uk/bu
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www.fforte.at/kalender_detail.php
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Web Images News Maps[New!] Products Groups Scholar more »

evidence supports "Alan Bundy" Search Advanced Search Preferences

Search: the web pages from the UK

New! View and manage yo

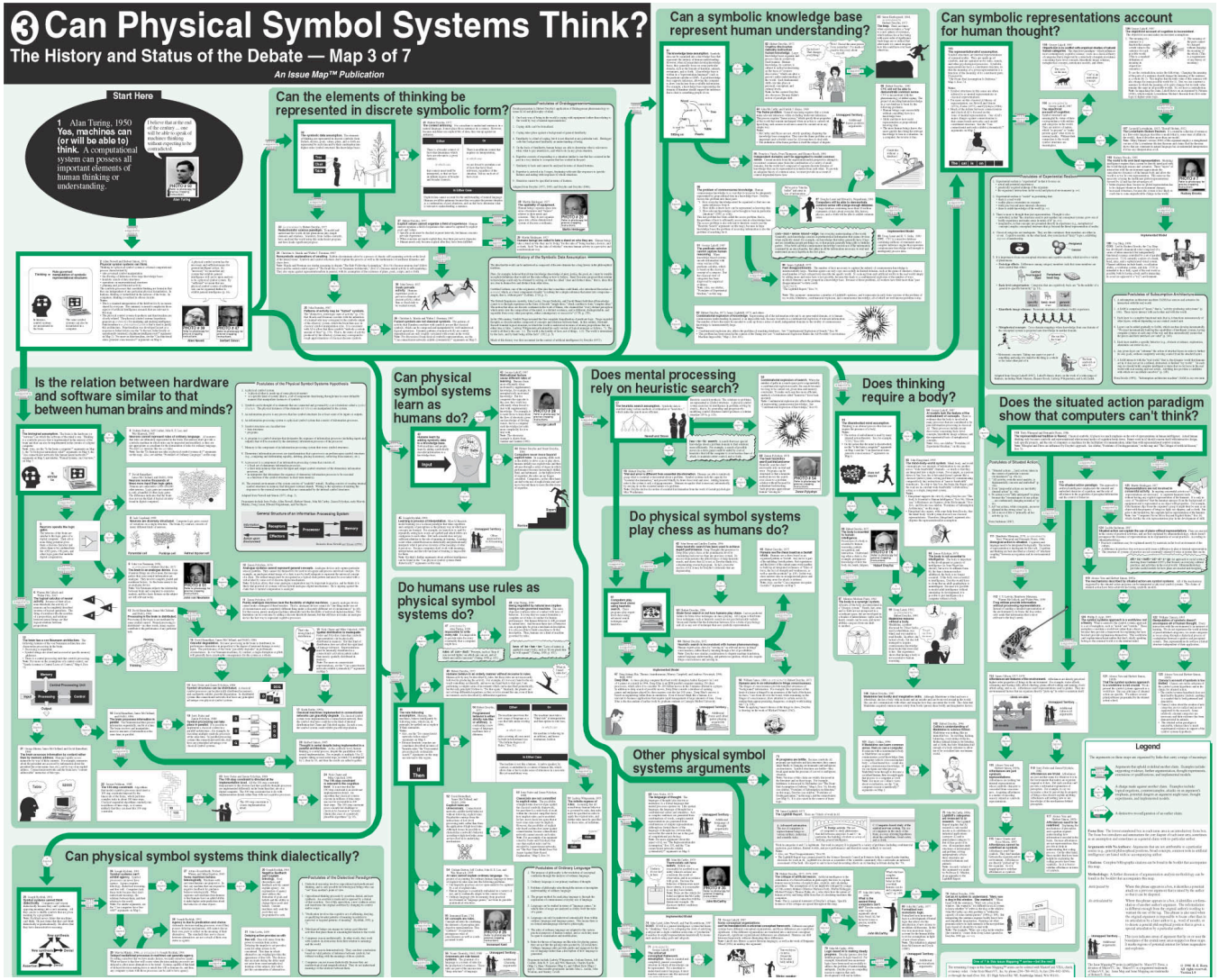
Web Results **1** - **10** of about **924** for **evidence** **supports** **"Alan Bundy"**. (0

Professor **Alan Bundy** - School of Informatics, University of ...
Professor **Alan Bundy** - School of Informatics, University of Edinburgh. ... I provide **evidence** to **support** the following hypothesis: By complementing each ...
homepages.inf.ed.ac.uk/bundy/seminars.html - 5k - Cached - Similar pages - Note this

The Researcher's Bible
Alan Bundy, Ben du Boulay, Jim Howe and Gordon Plotkin 1985 ... This methodology **supports** a variety of approaches to your research project. ...
homepages.inf.ed.ac.uk/bundy/how-tos/resbible.html - 45k -
Cached - Similar pages - Note this
[More results from homepages.inf.ed.ac.uk]

[PDF] Eleventh Knowledge Representation and Reasoning Distinguished ...
File Format: PDF/Adobe Acrobat - View as HTML
30+ years, I provide **evidence** to **support** the hypothesis. that by complementing each other, ... About the Speaker: **Alan Bundy** is a professor in the ...
www.cs.york.ac.uk/seminars/07Spring/bundy.pdf - Similar pages - Note this

What if we could get search results like this?...



One of seven maps in the *Mapping Great Debates: Can Computers Think?* Series. MacroVU Press. www.macrovu.com (Horn, 2003; Yoshimi, 2006)

③ Can Physical Symbol Systems Thinl

The History and Status of the Debate — Map 3 of 7

An Issue Map™ Publication

Start Here

1 Alan Turing, 1950 **Yes, machines can (or will be able to) think.** A computational system can possess all important elements of human thinking or understanding.

I believe that at the end of the century ... one will be able to speak of machines thinking without expecting to be contradicted.

PHOTO # 50 Refer to photocopy for precise cropping instructions

Alan Turing

Can the elements of thinking be represented in discrete symbolic form?

Postulates of Dreideggereanism

History of the Symbolic Data Assumption

Is the relation between hardware and software similar to that between human brains and minds?

Postulates of the Physical Symbol Systems Hypothesis

Can physical symbol systems learn as humans do?

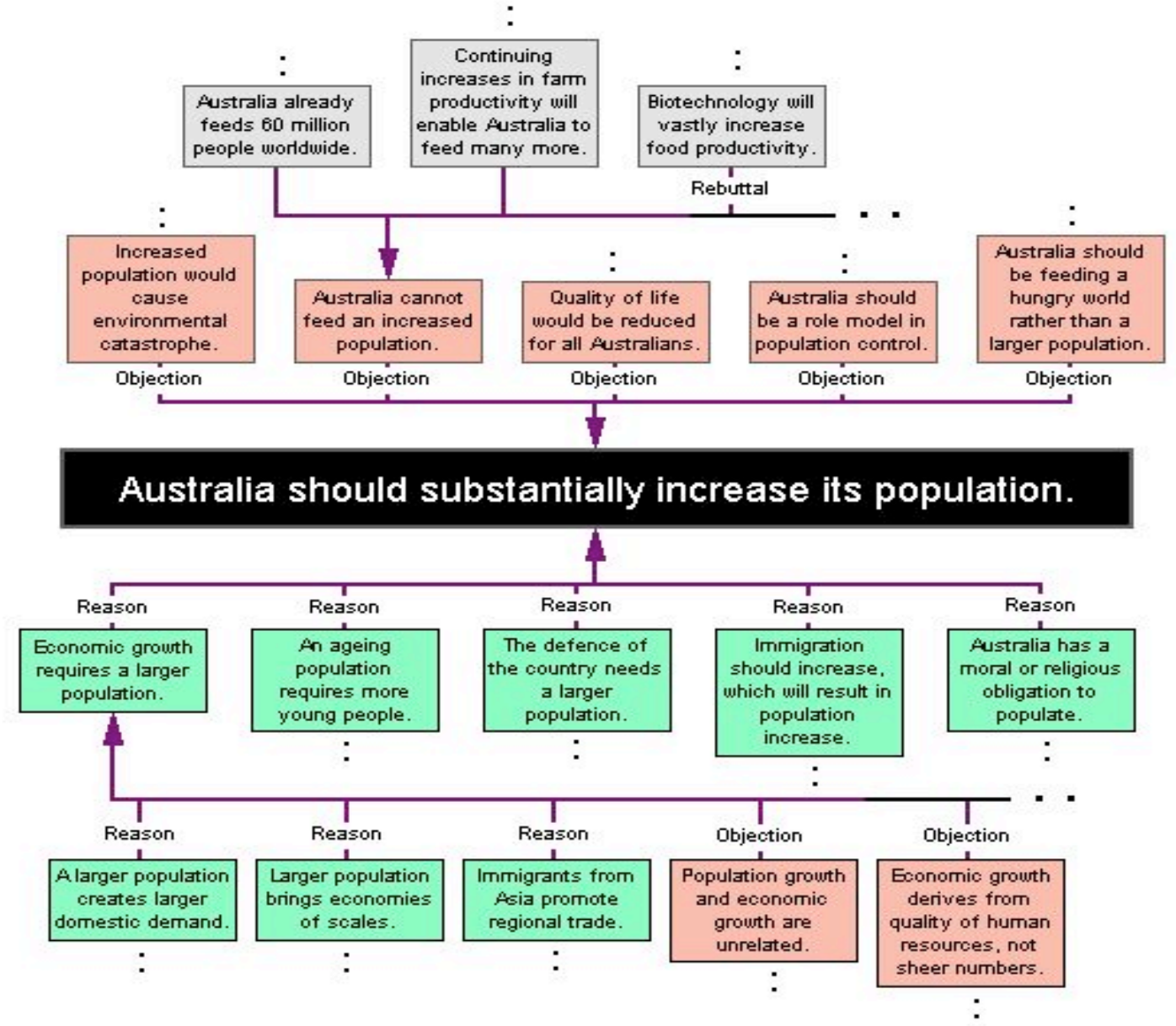
PHOTO # 28 Refer to photocopy for precise cropping instructions

George Lakoff

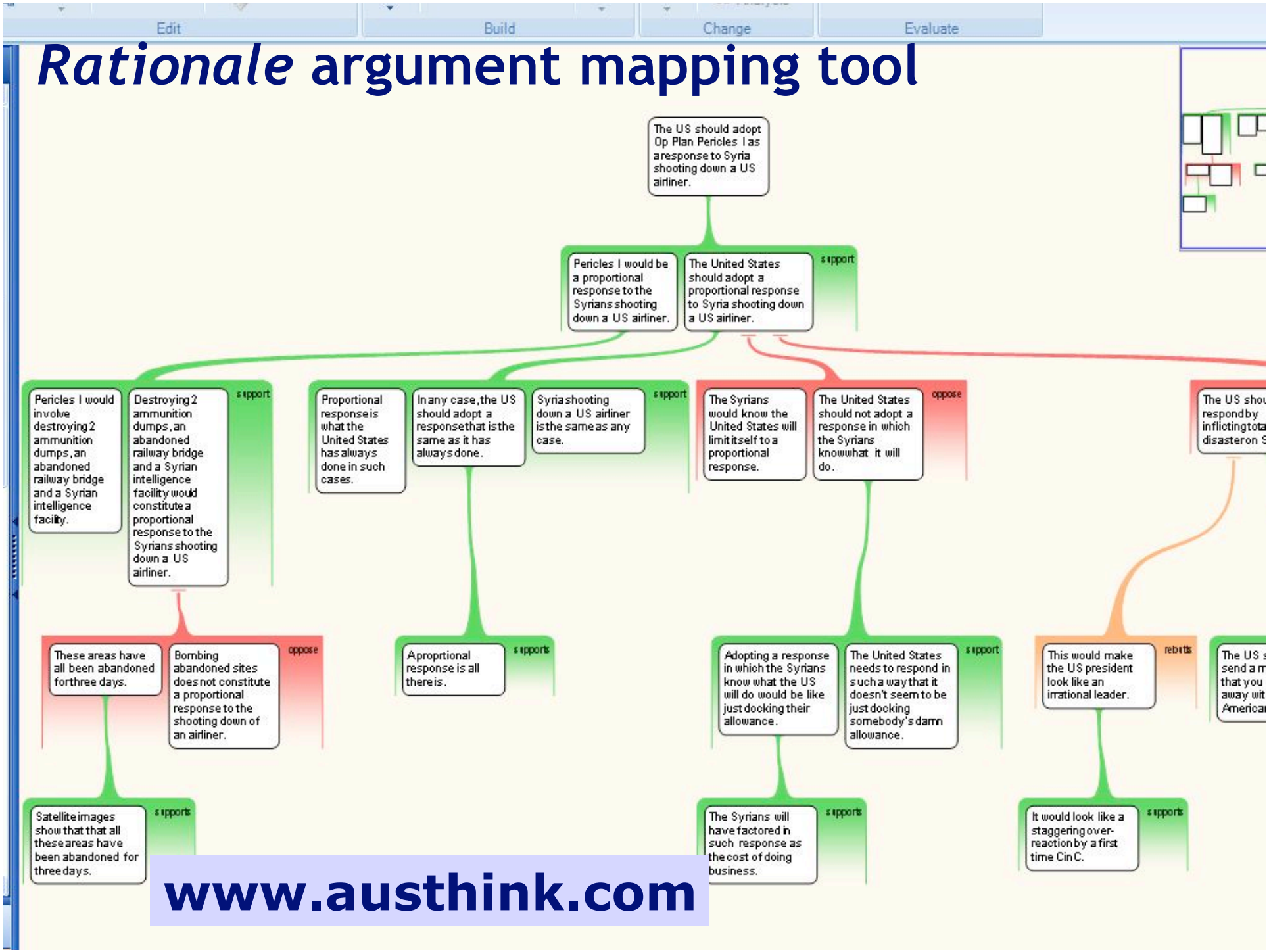
Does rely

MacroVU Press. www.macrovu.com

Reason!Able argument mapping tool



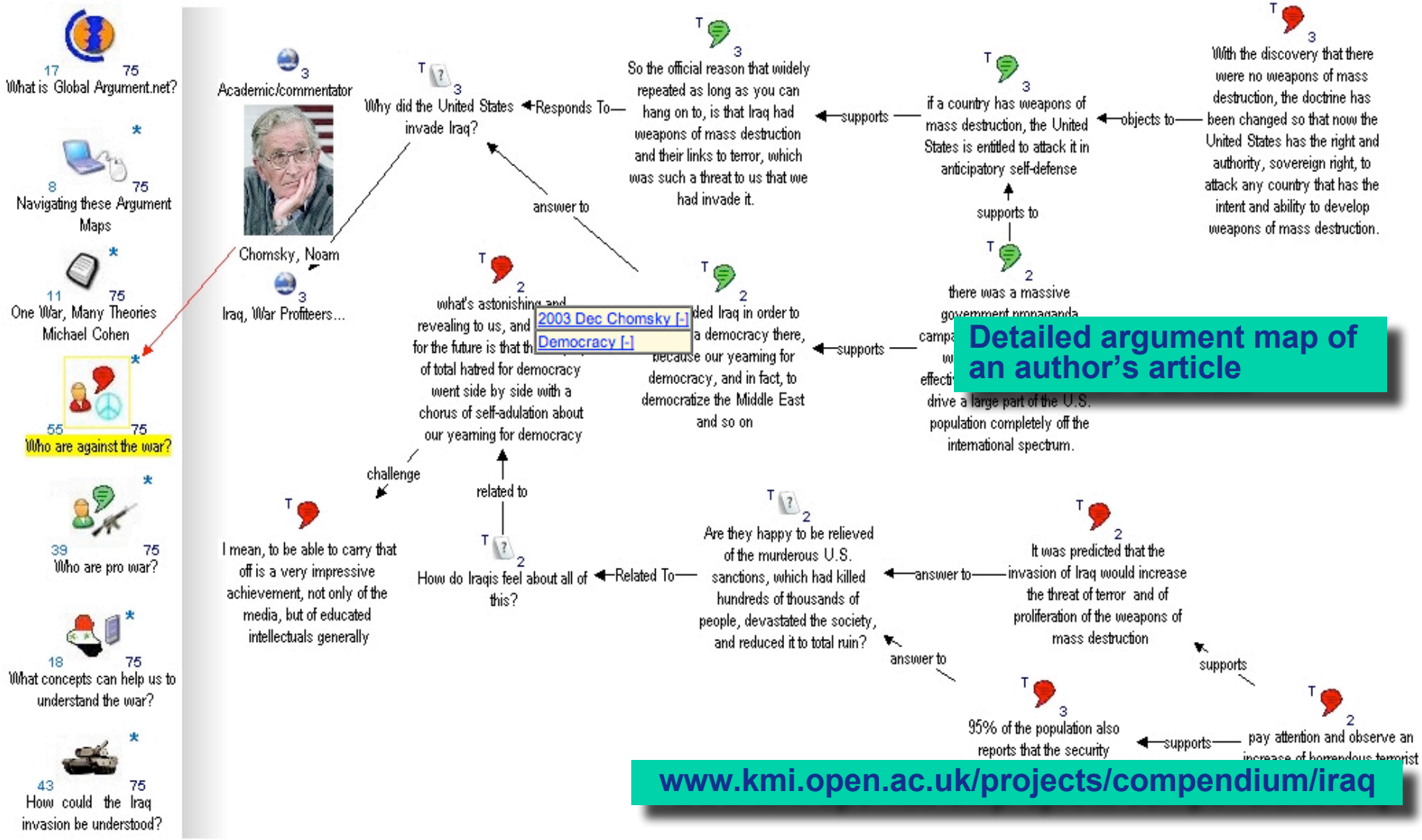
Rationale argument mapping tool



www.austhink.com

Argument mapping

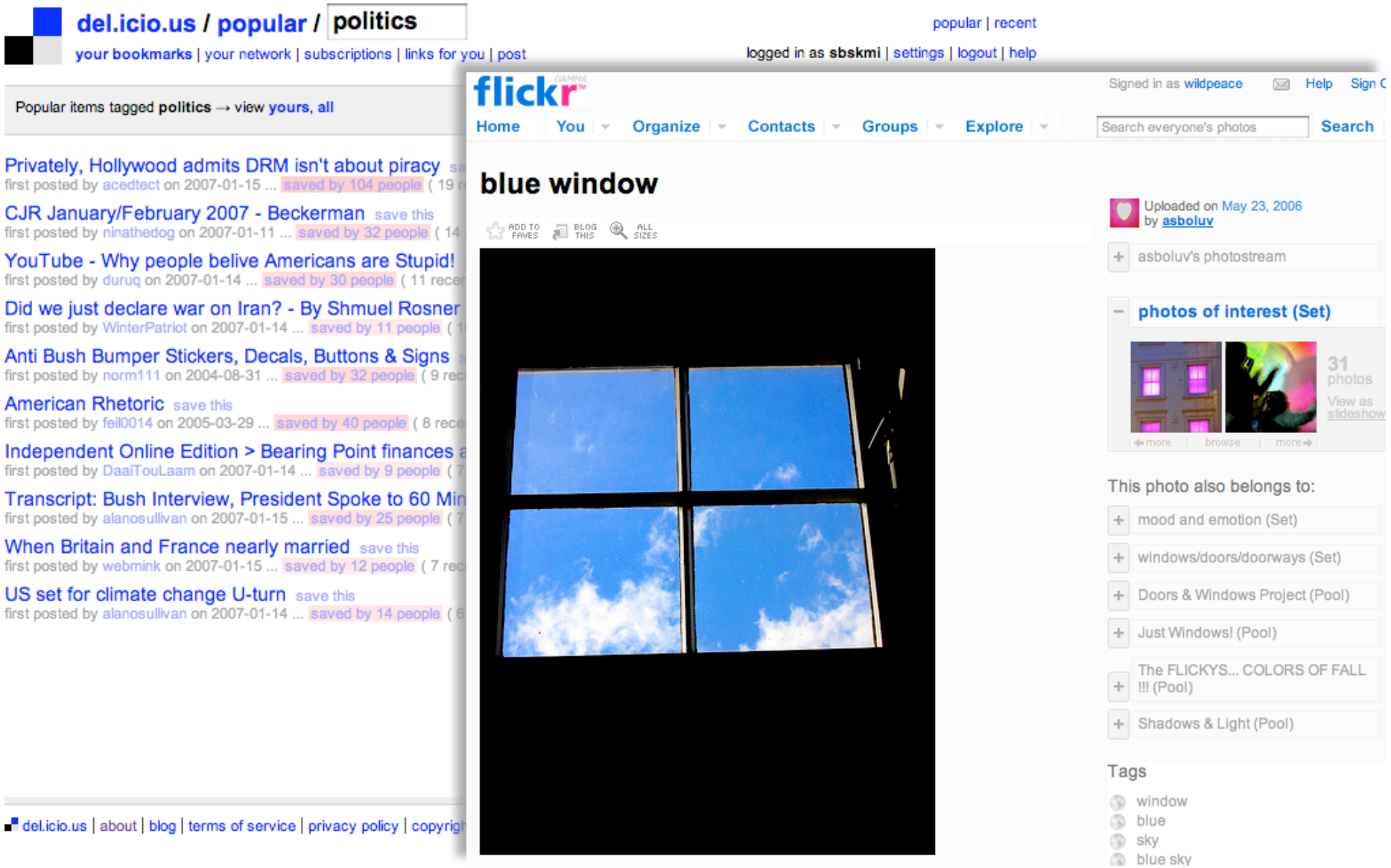
Argument mapping



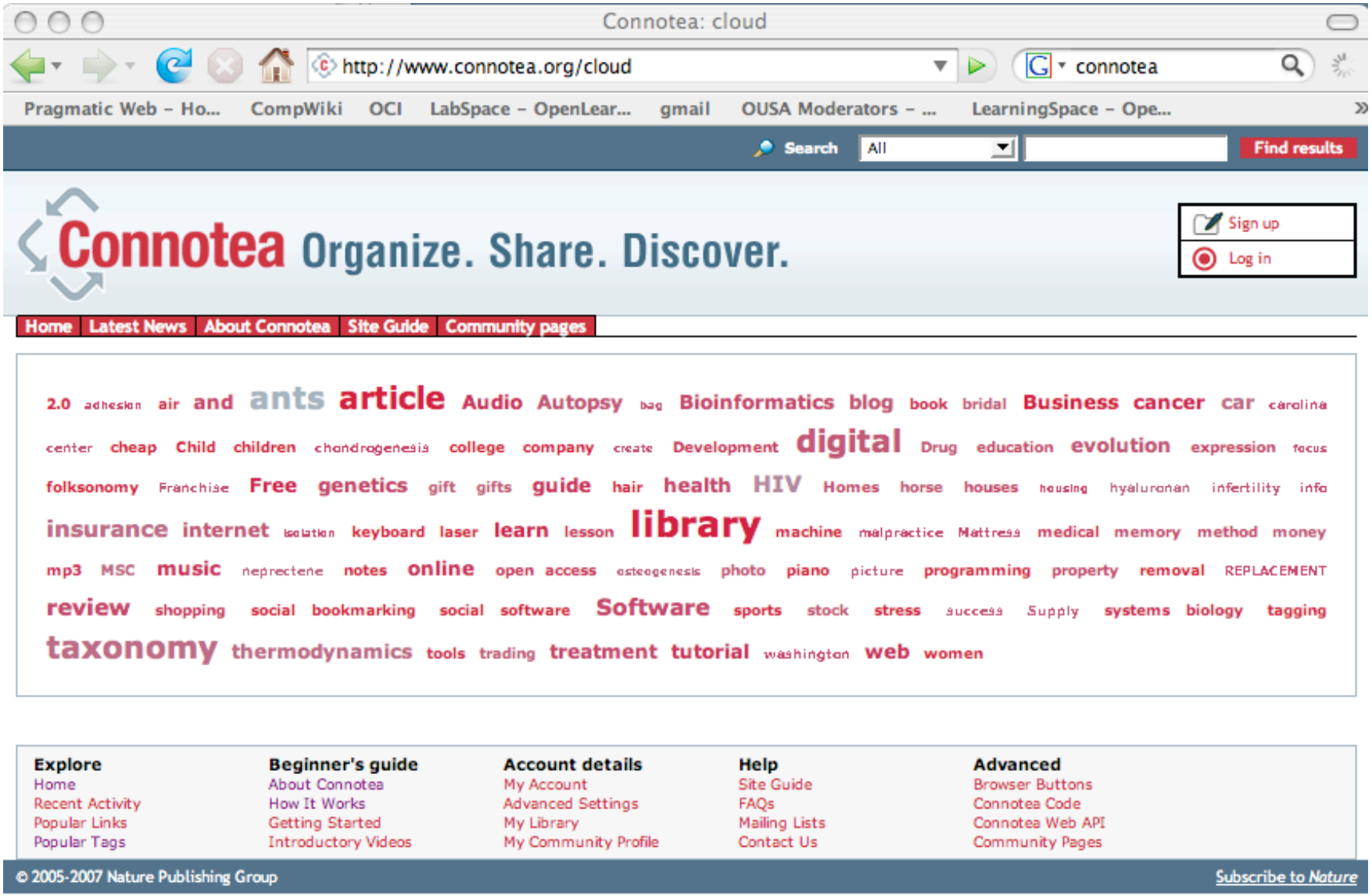
Detailed argument map of an author's article

www.kmi.open.ac.uk/projects/compendium/iraq

Voluntary metadata! People are now up for tagging pages with keywords in personal and social bookmarking



Academic social bookmarking: Connotea



Academic social bookmarking: Connotea

What would it mean to add “tags” to web links?

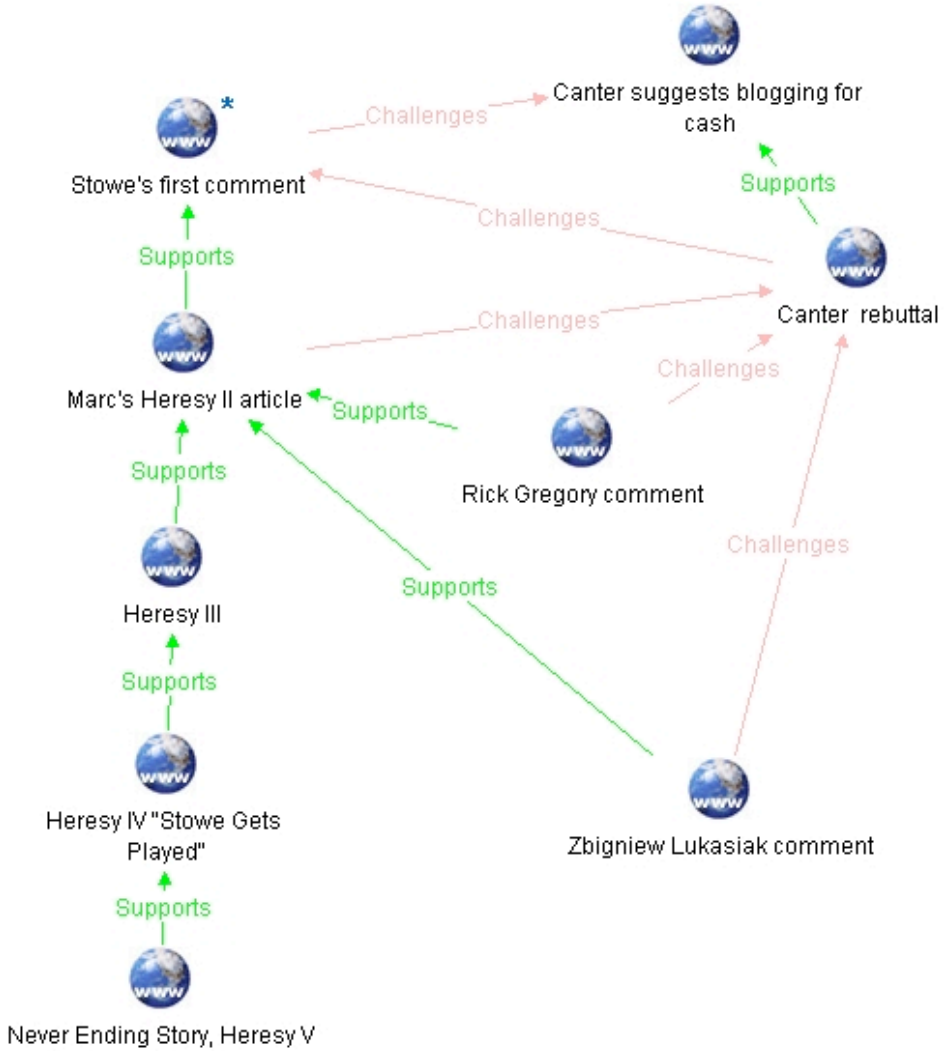
semantic trackbacks between blogs

More Duelling Blogs (w clickable image)

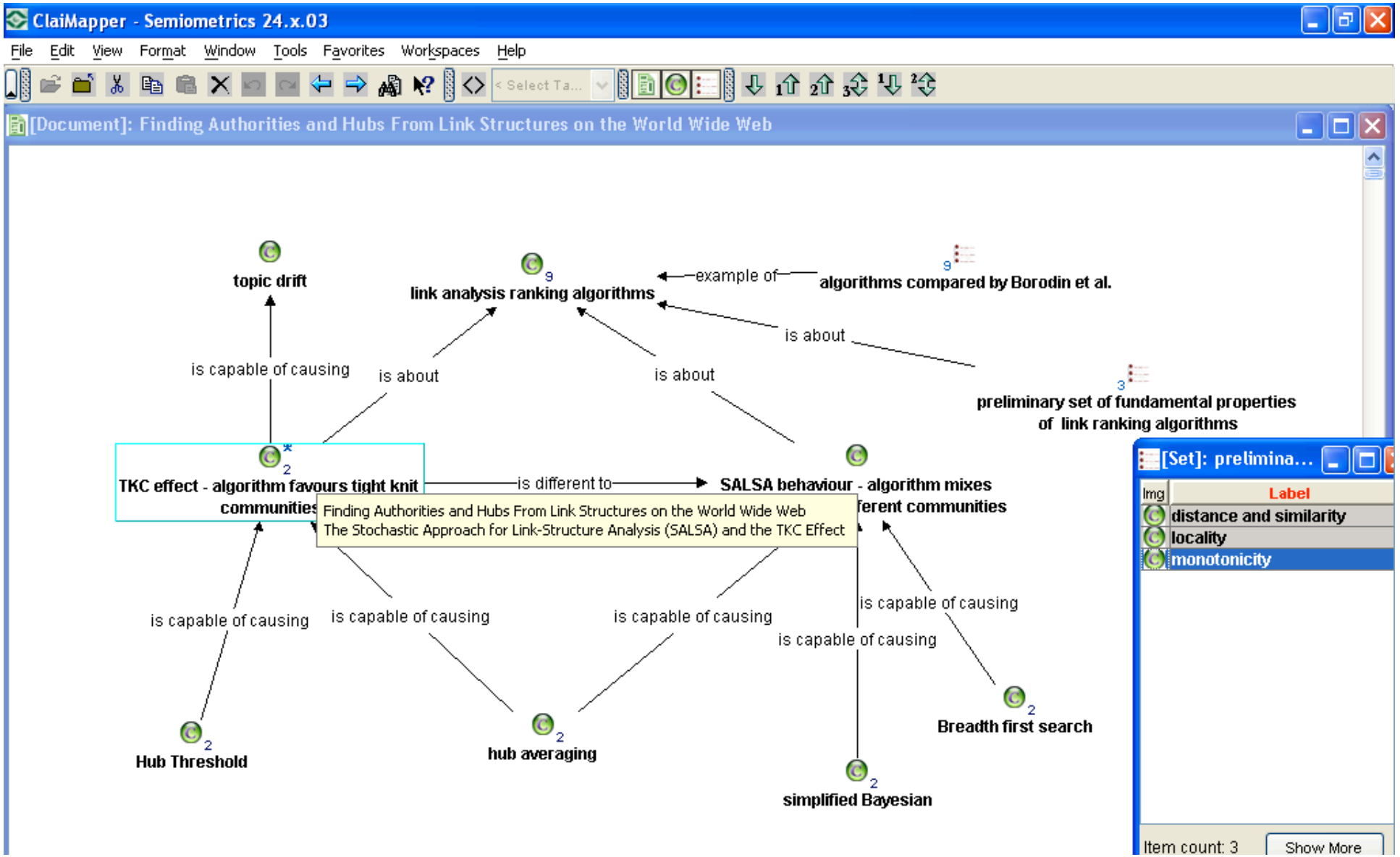
Posted by Marc on Tuesday, November 9th, 2004 at 7:48 pm

UPDATE 9-Nov-04 @ 21:43 GMT: *originally forgot to include the clickable nodes that Compendium generates... so now the nodes in the image below are properly clickable, and take to the original blog entries.*

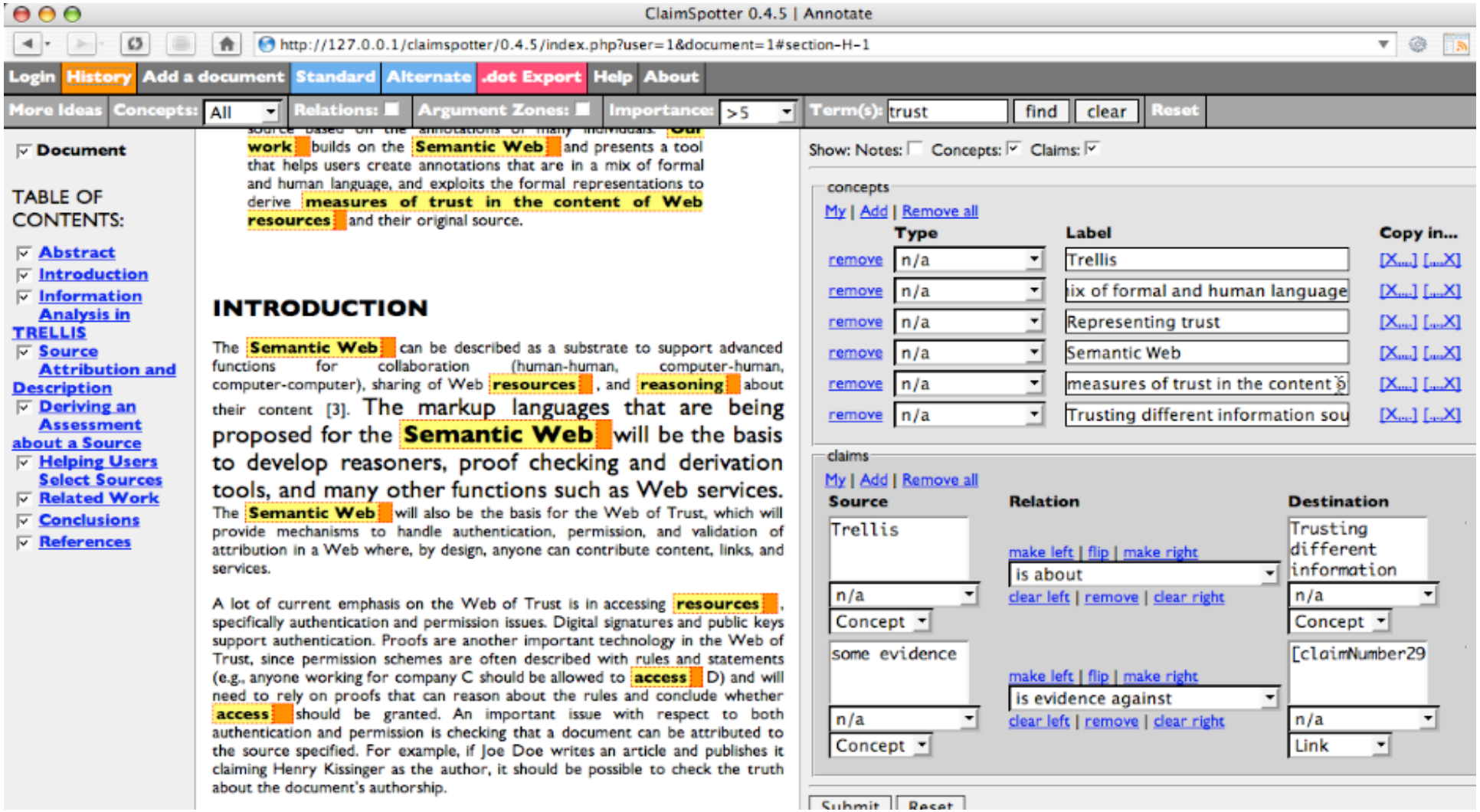
The painfulness of both the manual and diagrammatic representations of the ‘duelling blog thread’ I referred to in the previous post prompted to have another go at doing it more cleanly. I downloaded Compendium (which requires a prior MySQL download to support the database) and quickly whipped u the following, all of which include dragged-and-dropped nodes directly from the websites/blogs/comments in question, and all of which are clickable to launch those aforementioned sites... cool, huh?



And what would it mean to join up not just URLs, but their *tags*? (KMi's ClaiMapper/ClaimFinder)

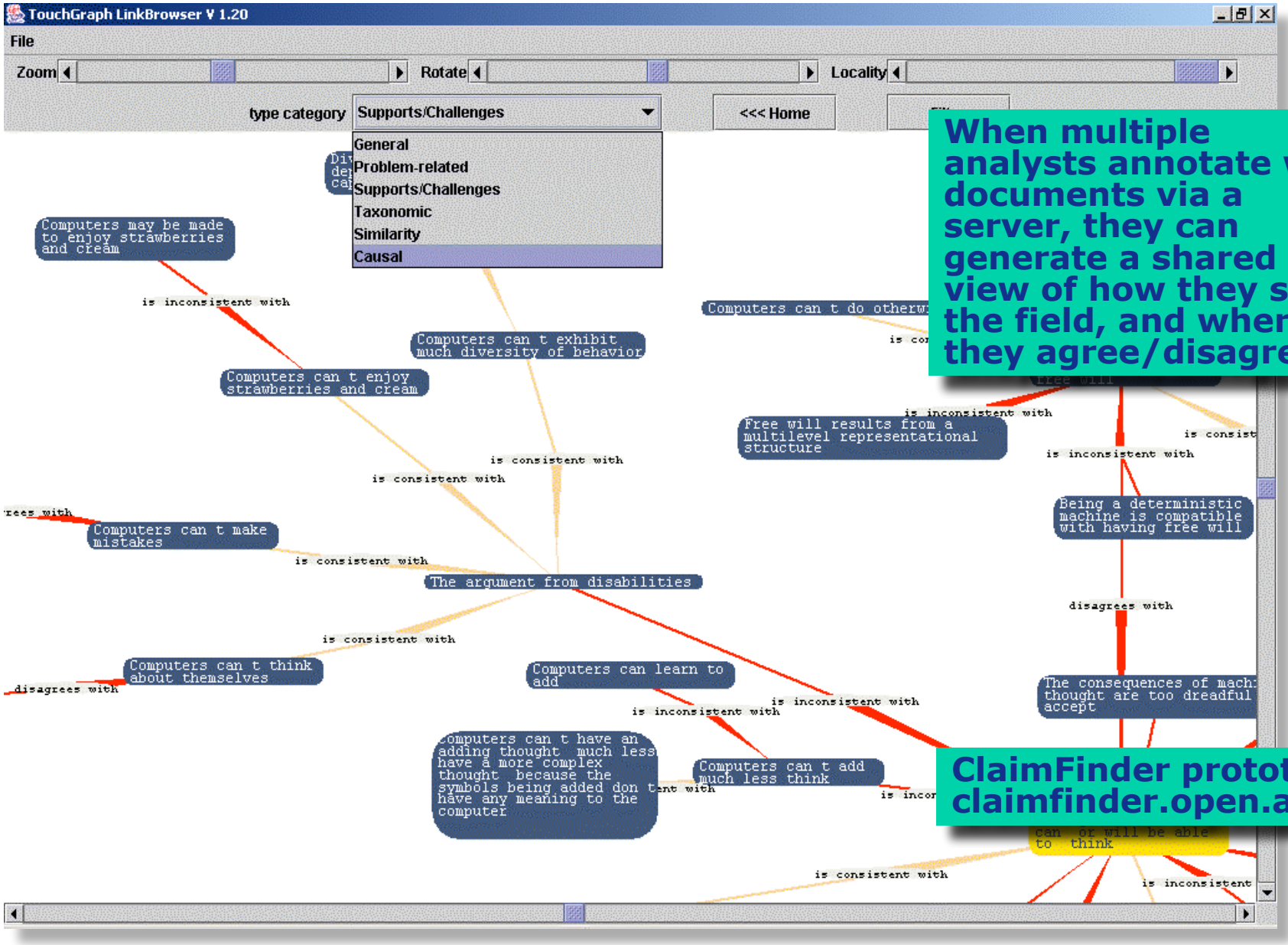


“Semantic del.icio.us”: assigning *and* linking freeform tags



Sereno, B., Buckingham Shum, S. and Motta, E. (2007). **Formalization, User Strategy and Interaction Design: Users' Behaviour with Discourse Tagging Semantics**. Workshop on Social and Collaborative Construction of Structured Knowledge, 16th Int. World Wide Web Conference (WWW 2007), Banff, 8-12 May 2007. http://www2007.org/workshops/paper_30.pdf

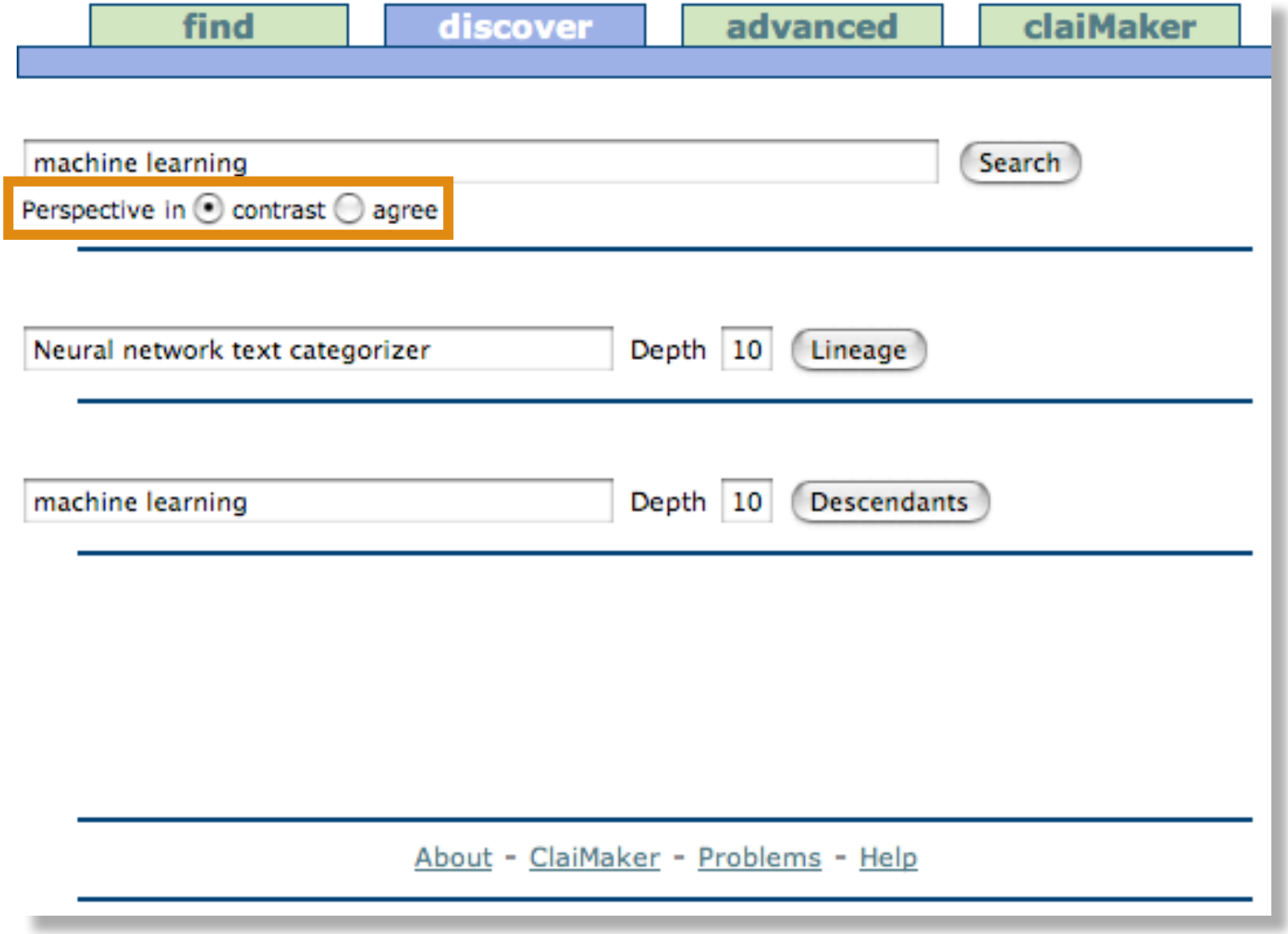
Visualising claims and arguments



When multiple analysts annotate web documents via a server, they can generate a shared view of how they see the field, and where they agree/disagree

ClaimFinder prototype: claimfinder.open.ac.uk

“Semantic Google Scholar”
KMi’s ClaimFinder



“What papers contrast with this paper?”

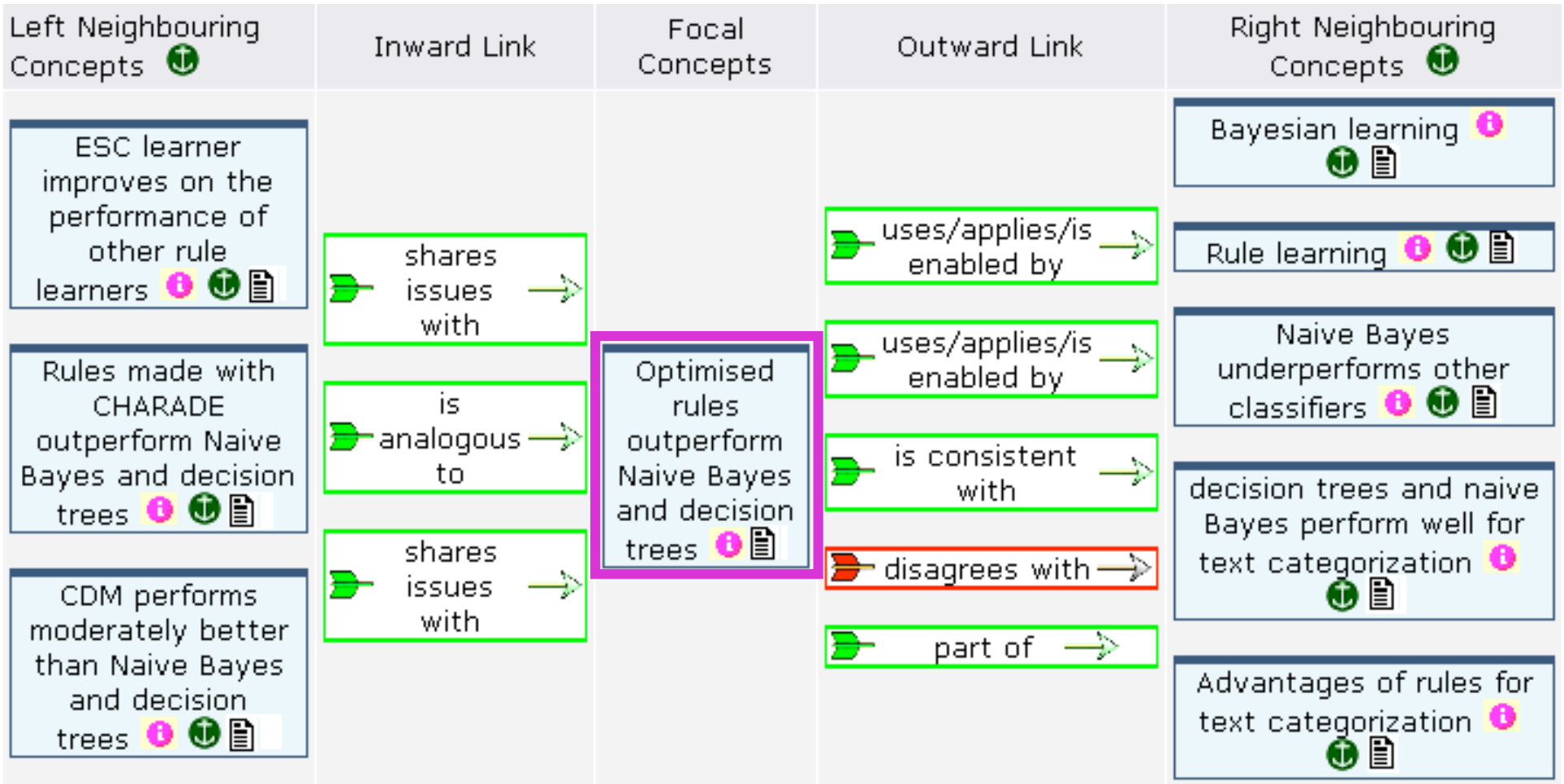
1. Extract concepts for this document
2. Trace concepts on which they build
3. Trace concepts challenging this set
4. Show root documents

The key issues you are concerned with:	
445	Decision Forest classifier
446	Decision Forest classifier improves on C4.5 and kNN

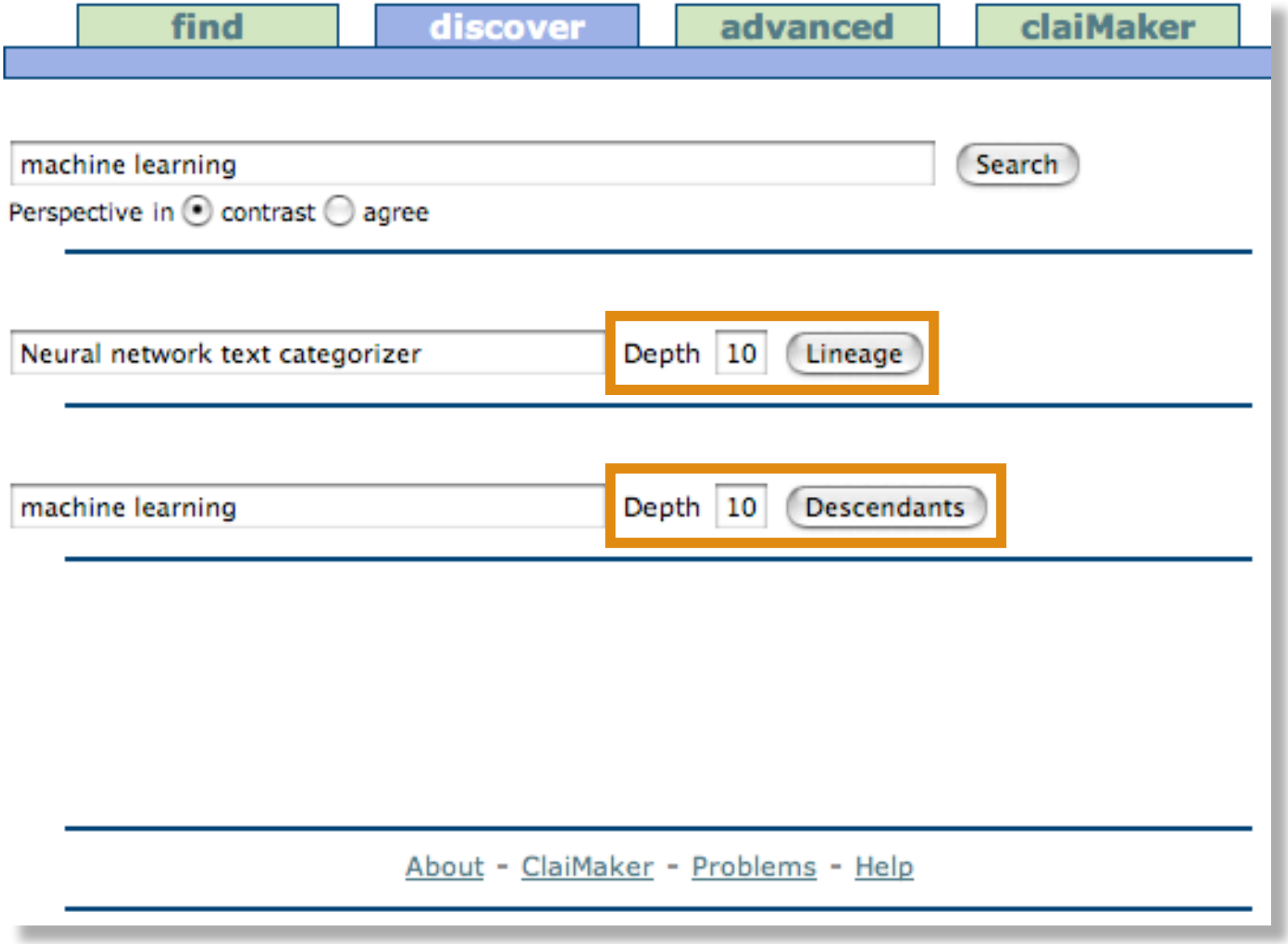
The related issues you may be concerned with:	
446	Decision Forest classifier improves on C4.5 and kNN
515	Instance based learning
511	Decision tree learning
277	decision trees and naive Bayes perform well for text categorization

The following claims disagree ...					
1	Optimised rules outperform Naive Bayes and decision trees	disagrees with	decision trees and naive Bayes perform well for text categorization	3621	2

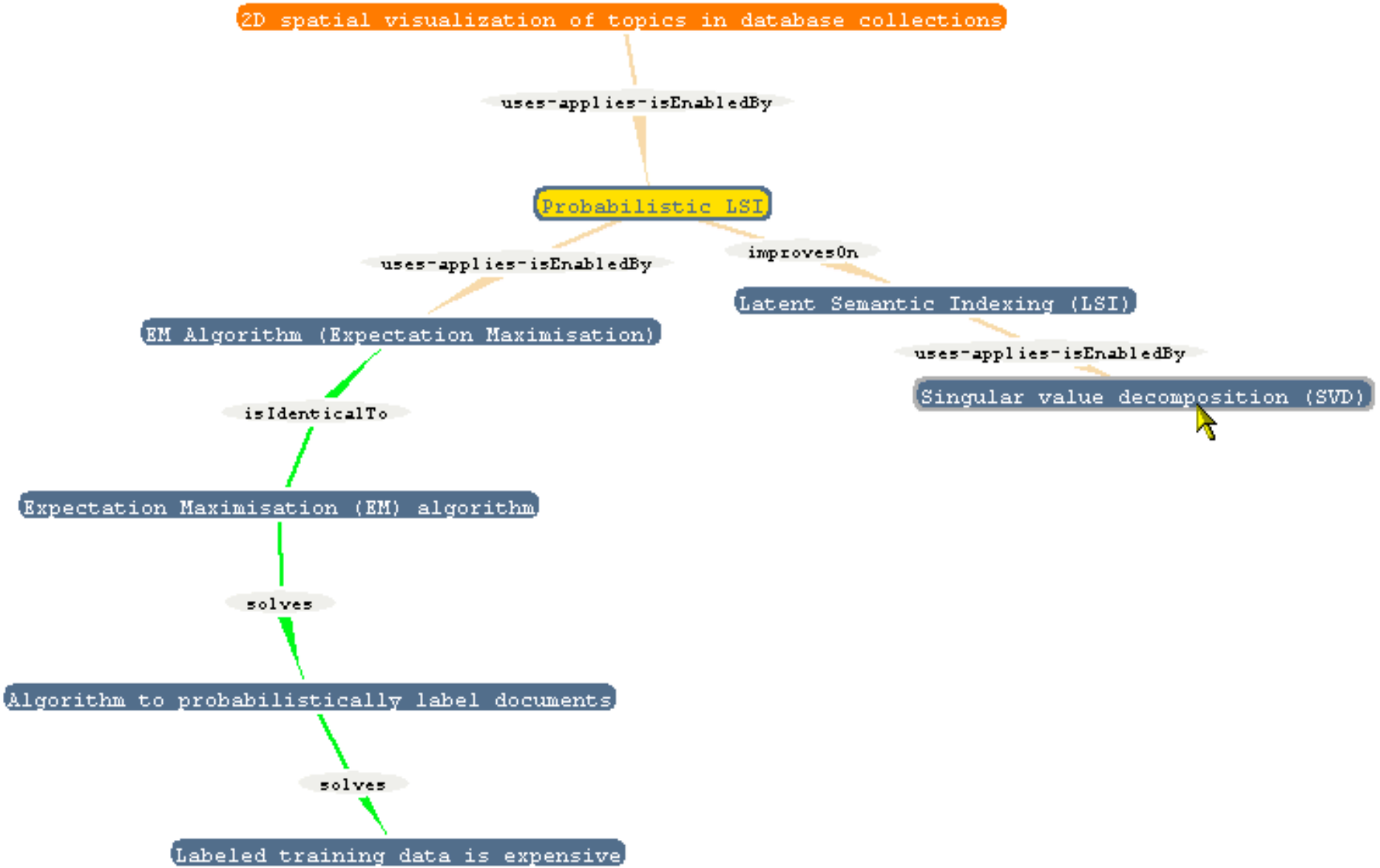
Focusing on a concept incoming+outgoing links



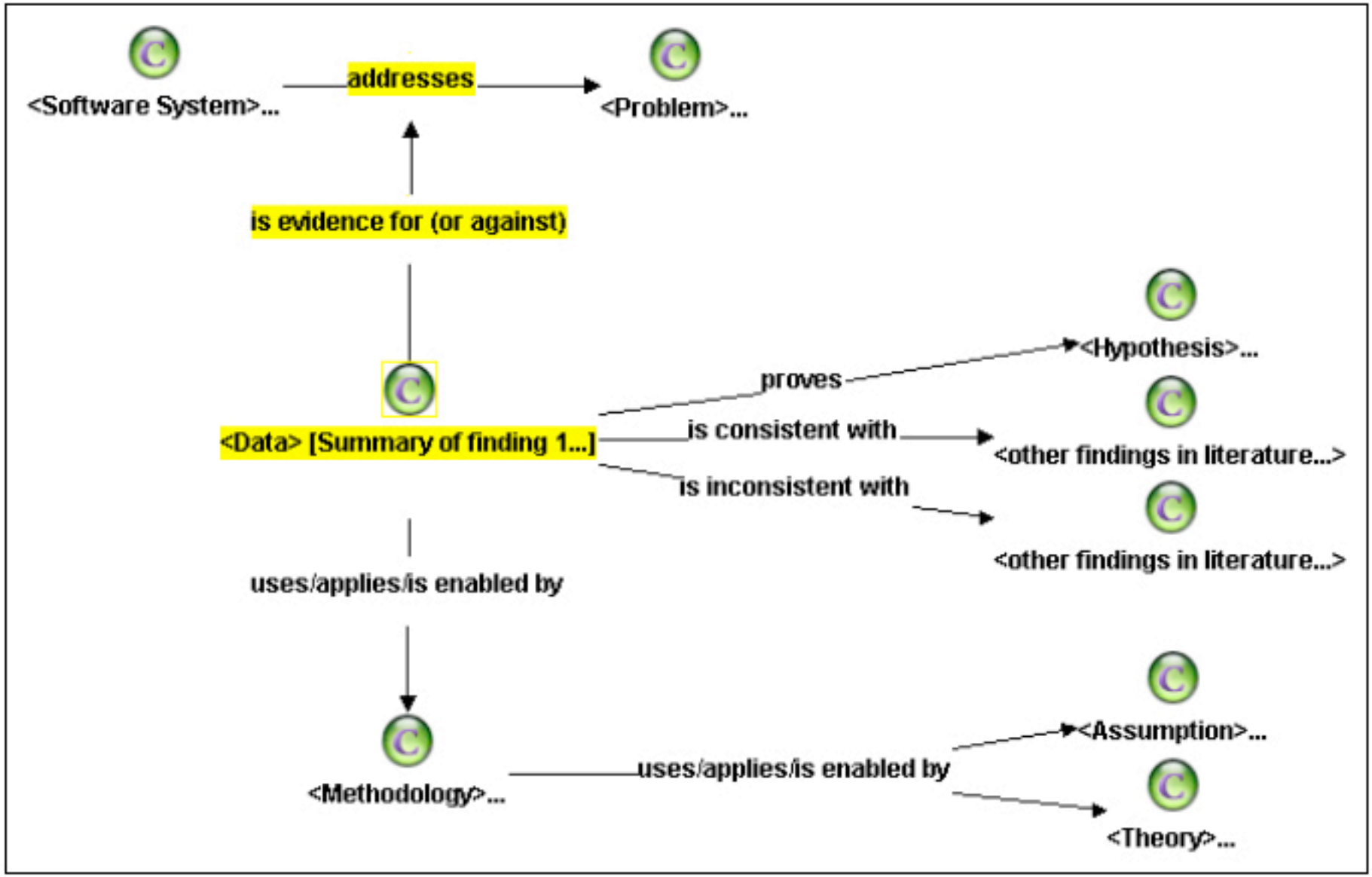
“Semantic Google Scholar”
KMi’s ClaimFinder



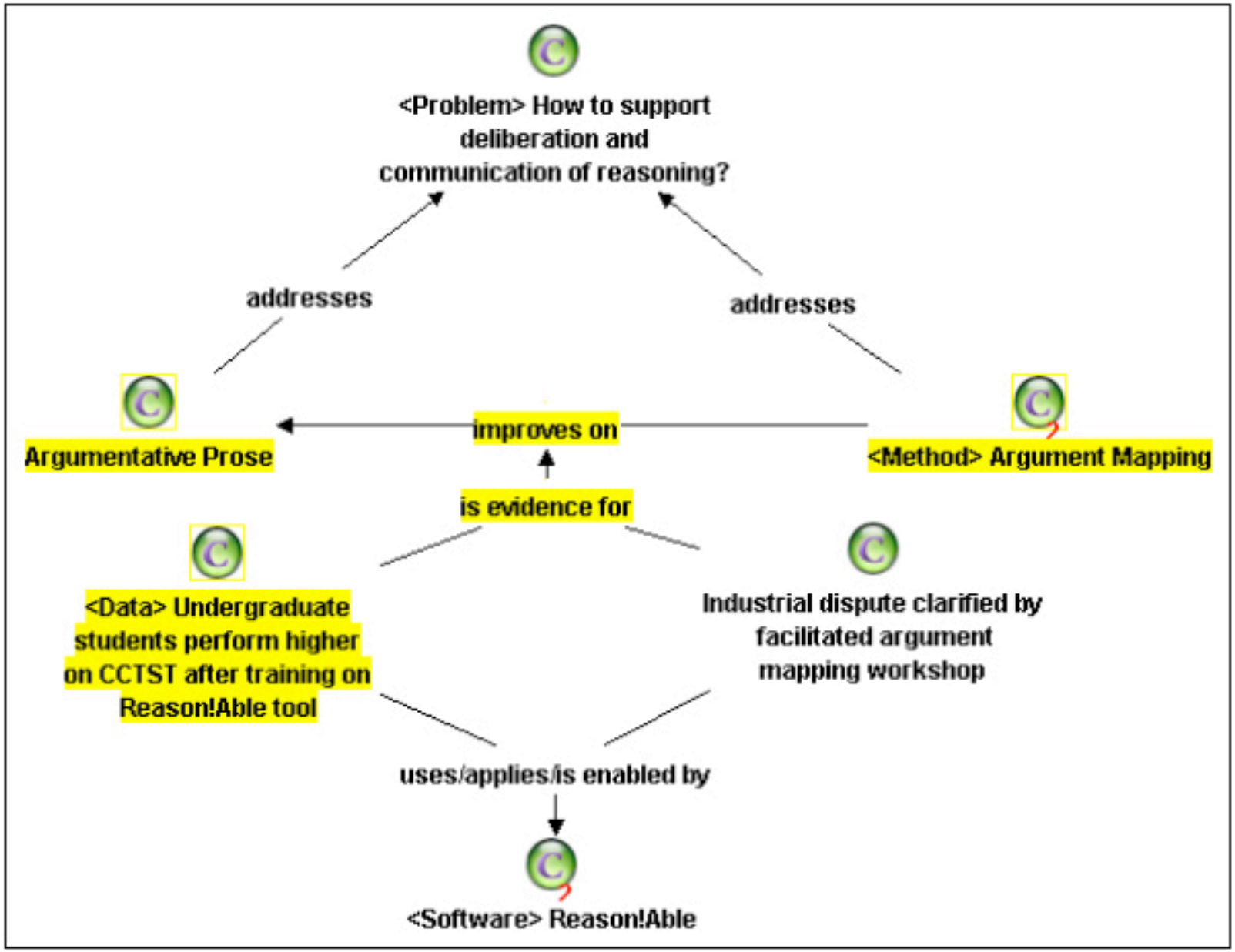
Lineage tree (the roots of a concept)



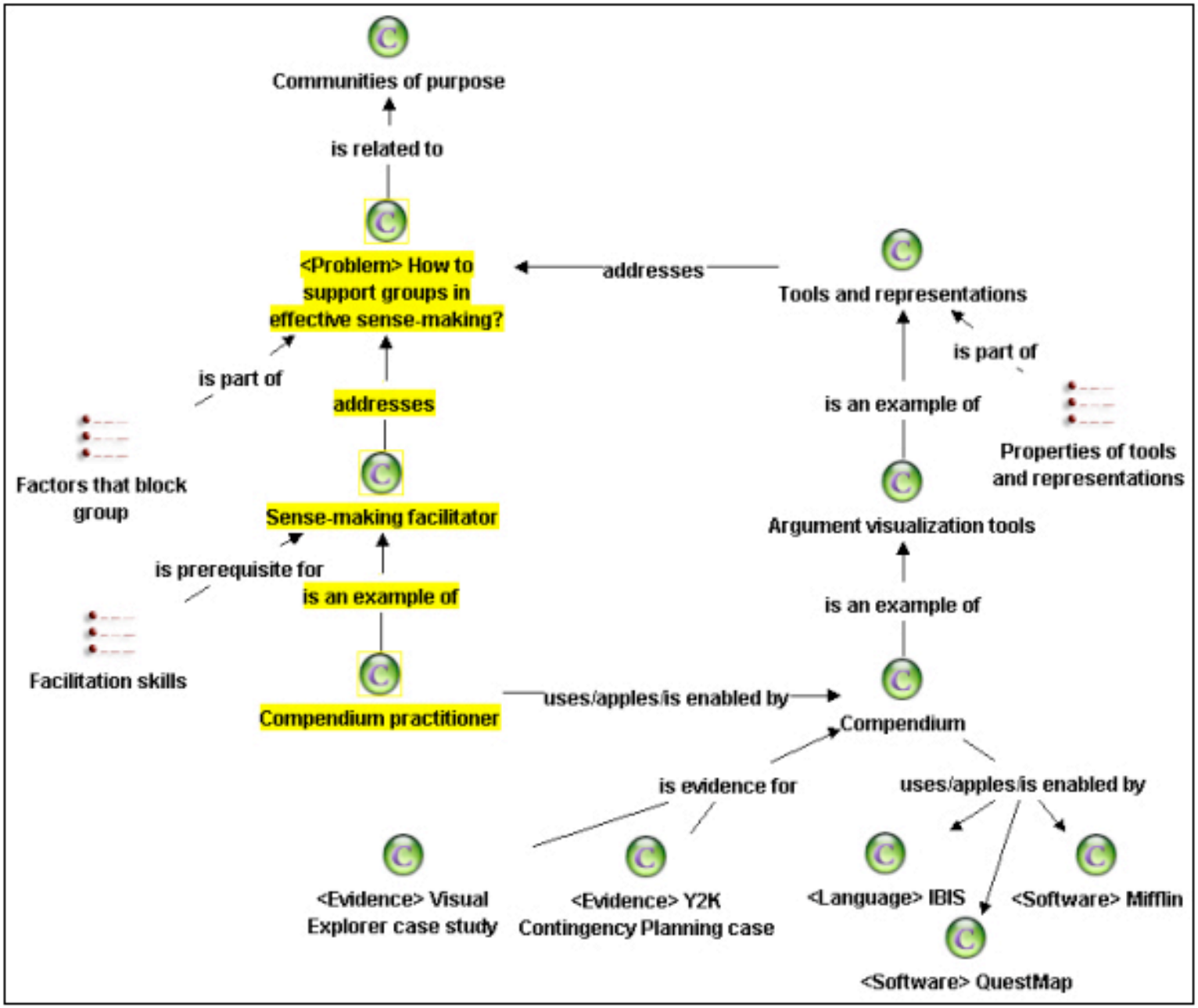
Template for an HCI evaluation paper



Essence of a paper (1)



Essence of a paper (2)



Scholarly hypertexts

Serious writing is linear, right?
Especially
argumentation.

Hypertextual scholarly argumentation

3 REGIONS AND SELF-REPRESENTATIONS

To manage emphasis and attention in extended thought, then, hypertext needs what music has: different kinds of unities on many levels that interact with each other in complex ways. The single node should not stand alone, nor should a single level of linking. There should be larger structures and discursive moves as well as ways to become aware of them and their relations and links. We are familiar with discursive moves such as making an assertion, giving backing, offering alternatives, contesting a question, expanding a topic. Less familiar are moves might be undermining a duality, raising questions about criteria, ironic parody, showing internal tensions within a set of concepts, and the like. Are there new moves possible in hypertext that might take advantage of more expansive and self-reflective linking?[1]

Kolb, D. Scholarly Hypertext: Self-Represented Complexity. In Proceedings of The Eighth ACM Conference on Hypertext, Southampton, 1997, pp. 29-37 http://citeseer.ist.psu.edu/kolb97scholarly.html

Hypertextual scholarly argumentation

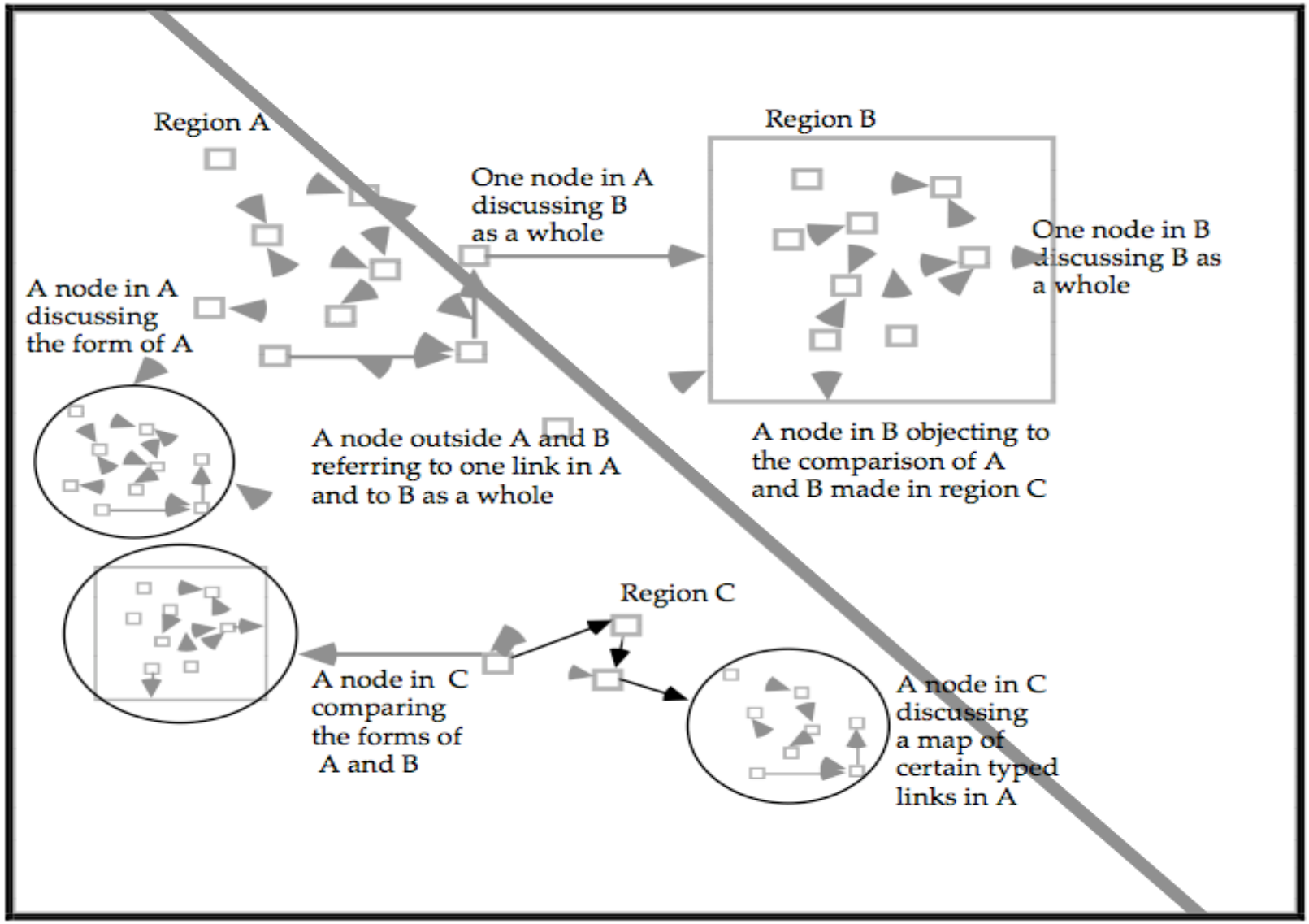
3 REGIONS AND SELF-REPRESENTATIONS

To manage emphasis and attention in extended thought, then, hypertext needs what music has: different kinds of unities on many levels that interact with each other in complex ways. The single node should not stand alone, nor should a single level of linking. There should be larger structures and discursive moves as well as ways to become aware of them and their relations and links. We are familiar with discursive moves such as making an assertion, giving backing, offering alternatives, contest familiar are moves questions about cr tensions within a se moves possible in more expansive and

A complex discursive move could be made by a locality composed of many nodes. There could be a region that is an explorable landscape whose links and transitions are meaningful in themselves but also contribute to the regional effect. Such units of meaning could have complex internal structures and external relationships. There could also be partial localities. Or a region might itself be a node in some larger move or gesture. As in nature, units of meaning would occur on many scales.

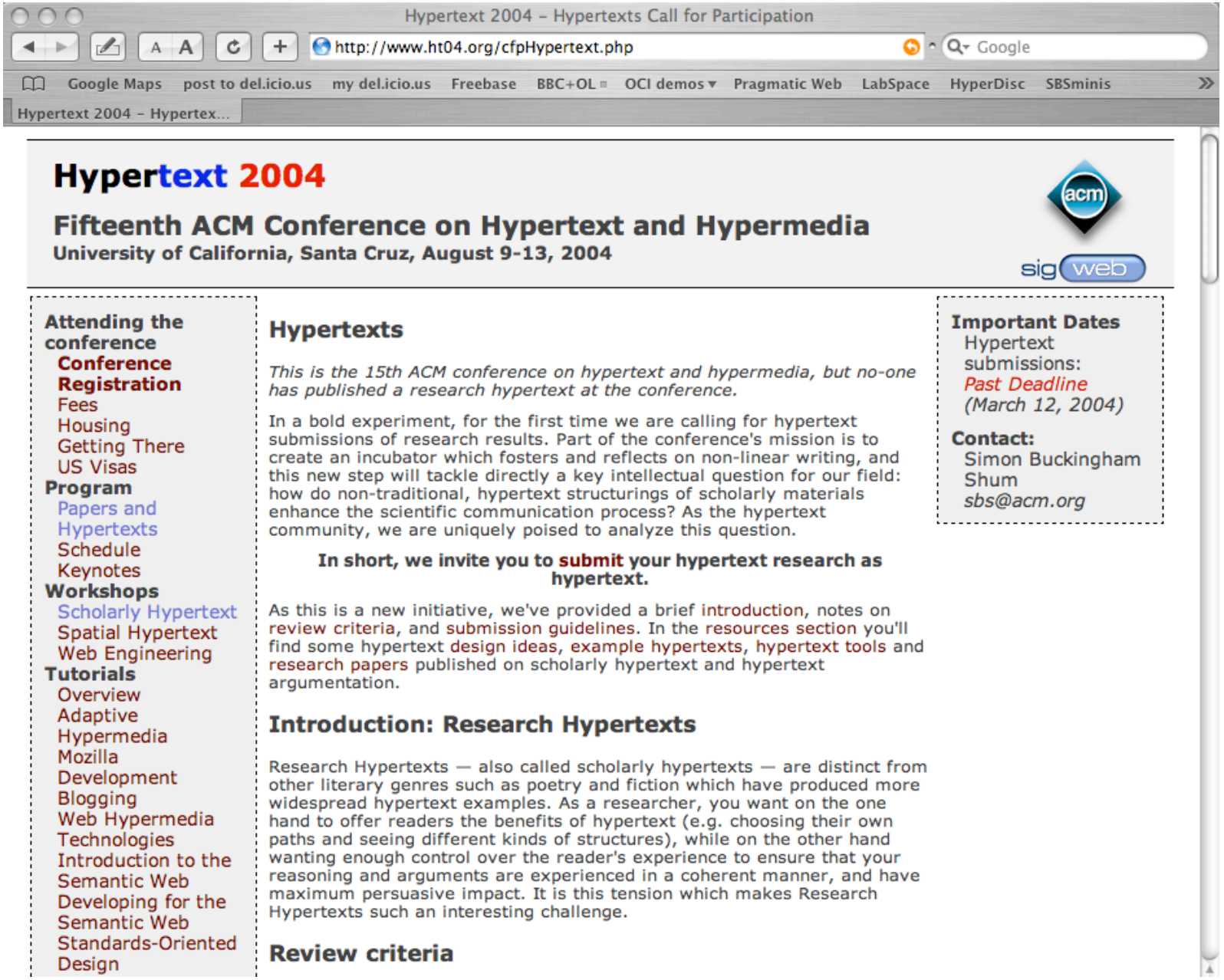
Kolb, D. Scholarly Hypertext: Self-Represented Complexity. In Proceedings of The Eighth ACM Conference on Hypertext, Southampton, 1997, pp. 29-37 http://citeseer.ist.psu.edu/kolb97scholarly.html

Hypertextual scholarly argumentation



Kolb, D. Scholarly Hypertext: Self-Represented Complexity. In Proceedings of The Eighth ACM Conference on Hypertext, Southampton, 1997, pp. 29-37 http://citeseer.ist.psu.edu/kolb97scholarly.html

Scholarly hypertexts



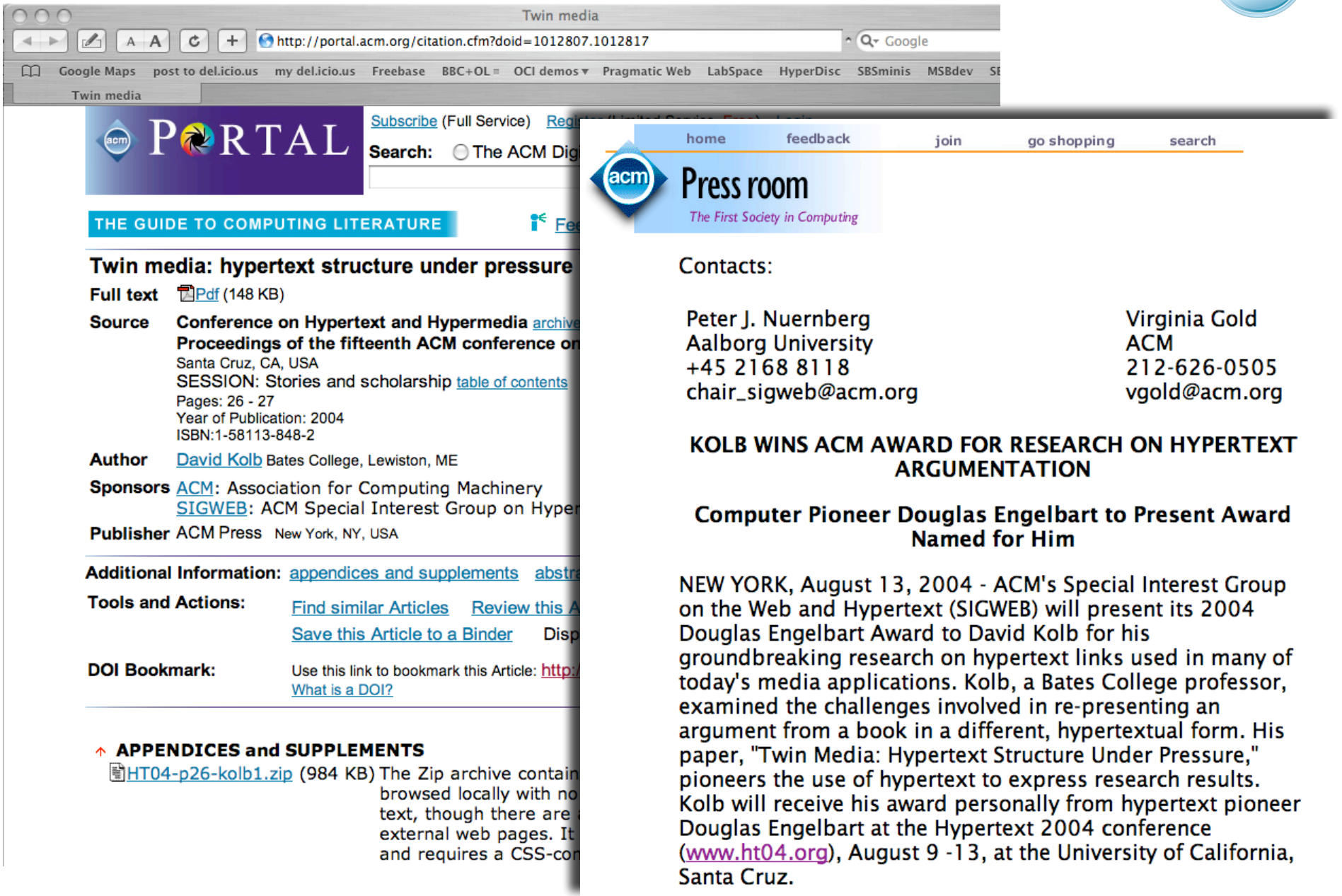
Scholarly hypertexts

Review criteria

Hypertext submissions raise interesting new issues when it comes to peer review:

- **Quality of the contribution.**
  The same standards of scholarship apply to hypertexts as to paper. If the reviewer cannot rate the submission highly on the standard dimensions of quality used by HT reviewers, the submission fails. Cool design is not a replacement for substance.
- **Quality of design.**
  That being said, we do of course want to encourage design excellence, and just as a paper increases its chances of acceptance if it is engagingly written, so will your hypertext. Moreover, content and form may be hard to separate.
- **No size limit.**
  We are not going to restrict a hypertext submission to the same arbitrary word count as can be fitted onto 8 ACM-styled pages. Such a restriction would make the hypertext a derivative cousin to paper, when we want to encourage the breaking of new ground. Removing the size limit will be an inducement for some to move to a hypertext submission (but clearly, you present more at the possible cost of dilution, and reviewer patience). Reviewers will be asked to give the same time to reviewing hypertexts as they would spend on a paper submission, but you may be good enough to communicate more persuasively in that timeframe, or entice the reviewer to read more.
- **Archival versions.**
  The ACM SIGWEB website will archive accepted hypertexts, and the entry in the ACM DL will point clearly to this as the full and definitive version.

Scholarly Hypertext wins “Best Paper”



Twin media

http://portal.acm.org/citation.cfm?doid=1012807.1012817

Google Maps | post to del.icio.us | my del.icio.us | Freebase | BBC+OL | OCI demos | Pragmatic Web | LabSpace | HyperDisc | SBSminis | MSBdev

Twin media

PORTAL

Subscribe (Full Service)

Search: The ACM Dig

THE GUIDE TO COMPUTING LITERATURE

Twin media: hypertext structure under pressure

Full text Pdf (148 KB)

Source **Conference on Hypertext and Hypermedia** archive
Proceedings of the fifteenth ACM conference on
Santa Cruz, CA, USA
SESSION: Stories and scholarship table of contents
Pages: 26 - 27
Year of Publication: 2004
ISBN:1-58113-848-2

Author David Kolb Bates College, Lewiston, ME

Sponsors ACM: Association for Computing Machinery
SIGWEB: ACM Special Interest Group on Hyper

Publisher ACM Press New York, NY, USA

Additional Information: appendices and supplements

Tools and Actions: Find similar Articles | Review this A
Save this Article to a Binder | Disp

DOI Bookmark: Use this link to bookmark this Article: http:/
What is a DOI?

APPENDICES and SUPPLEMENTS

HT04-p26-kolb1.zip (984 KB) The Zip archive contain
browsed locally with no
text, though there are
external web pages. It
and requires a CSS-con

home | feedback | join | go shopping | search

Press room

The First Society in Computing

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Virginia Gold
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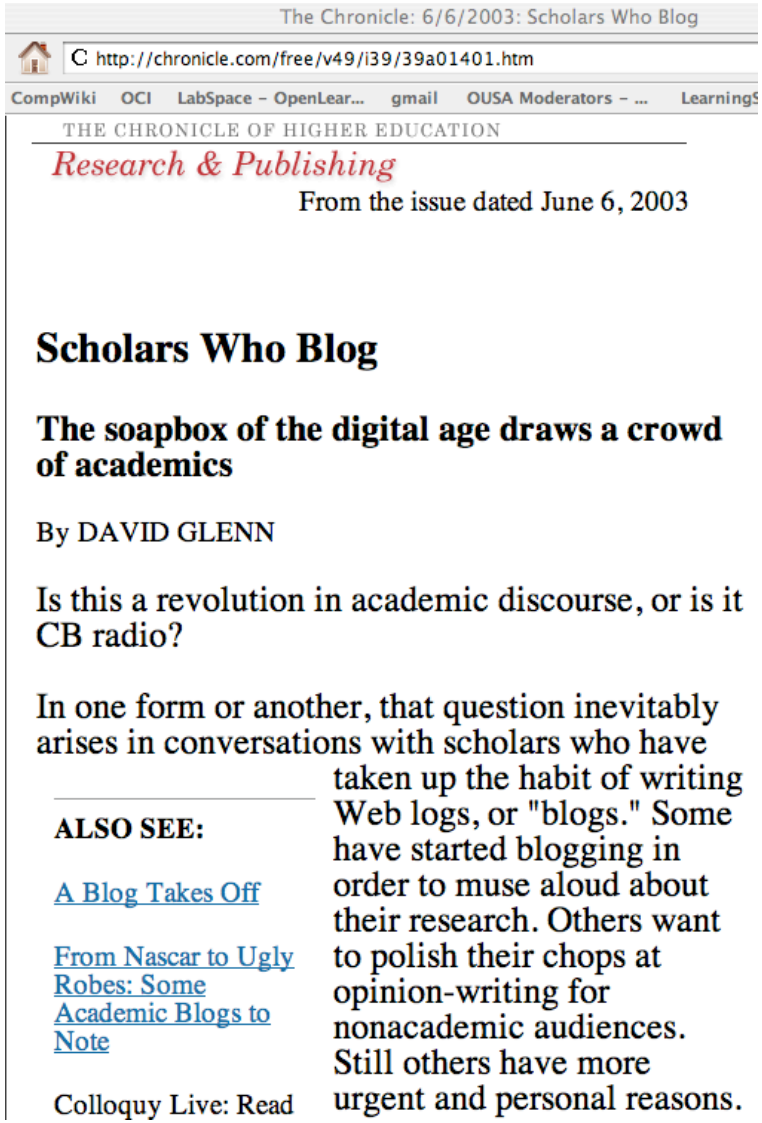
212-626-0505
vgold@acm.org

KOLB WINS ACM AWARD FOR RESEARCH ON HYPERTEXT ARGUMENTATION

Computer Pioneer Douglas Engelbart to Present Award Named for Him

NEW YORK, August 13, 2004 - ACM's Special Interest Group on the Web and Hypertext (SIGWEB) will present its 2004 Douglas Engelbart Award to David Kolb for his groundbreaking research on hypertext links used in many of today's media applications. Kolb, a Bates College professor, examined the challenges involved in re-presenting an argument from a book in a different, hypertextual form. His paper, "Twin Media: Hypertext Structure Under Pressure," pioneers the use of hypertext to express research results. Kolb will receive his award personally from hypertext pioneer Douglas Engelbart at the Hypertext 2004 conference (www.ht04.org), August 9 -13, at the University of California, Santa Cruz.

Accelerating the feedback loop: academic blogging


The Chronicle: 6/6/2003: Scholars Who Blog

http://chronicle.com/free/v49/i39/39a01401.htm

CompWiki OCI LabSpace – OpenLear... gmail OUSA Moderators – ... LearningS

THE CHRONICLE OF HIGHER EDUCATION

Research & Publishing

From the issue dated June 6, 2003

Scholars Who Blog

The soapbox of the digital age draws a crowd of academics

By DAVID GLENN

Is this a revolution in academic discourse, or is it CB radio?

In one form or another, that question inevitably arises in conversations with scholars who have taken up the habit of writing Web logs, or "blogs." Some have started blogging in order to muse aloud about their research. Others want to polish their chops at opinion-writing for nonacademic audiences. Still others have more urgent and personal reasons.

ALSO SEE:

A Blog Takes Off

From Nascar to Ugly Robes: Some Academic Blogs to Note

Colloquy Live: Read

http://chronicle.com/free/v49/i39/39a01401.htm

Accelerating the feedback loop: academic blogging

EducationPR

Technology for communicators in education

Home | About EducationPR | Paul's speaking schedule

Profs who blog

"The hope of all of us who blog is that we will become smarter, do more useful work, be happier and more productive, and will also impress our deans so they will raise our salaries," writes Brad DeLong in his Semi-Daily Journal. He's an economist at UC-Berkeley. "The first three hopes are clearly true: Academics who blog think more profound thoughts, have a bigger influence on the world — both the academic and the broader worlds — and are happier for it. Are we more productive in an academic sense? Maybe. We will see when things settle down."

"Are our deans impressed? Not so far, but they should be. A lot of a university's long-run success depends on attracting good undergraduates. Undergraduates and their parents are profoundly influenced by the public face of the university. And these days, a thoughtful, intelligent, well-informed Web logger like Juan Cole or Dan Drezner is an important part of a university's public face. Michigan gains in reputation and mindshare from having a Cole on its faculty. Yale loses from not having an equivalent."

(via Canuckflack)

CATEGORIES

- AERA
- blogging
- book review
- education
- education research
- EWA
- how-to
- IABC
- measurement
- Organizations
- podcasting
- Policy
- presentations
- public relations
- Publications
- radio
- reading list
- resources
- RSS
- Social media
- Strategy
- Uncategorized
- wikis

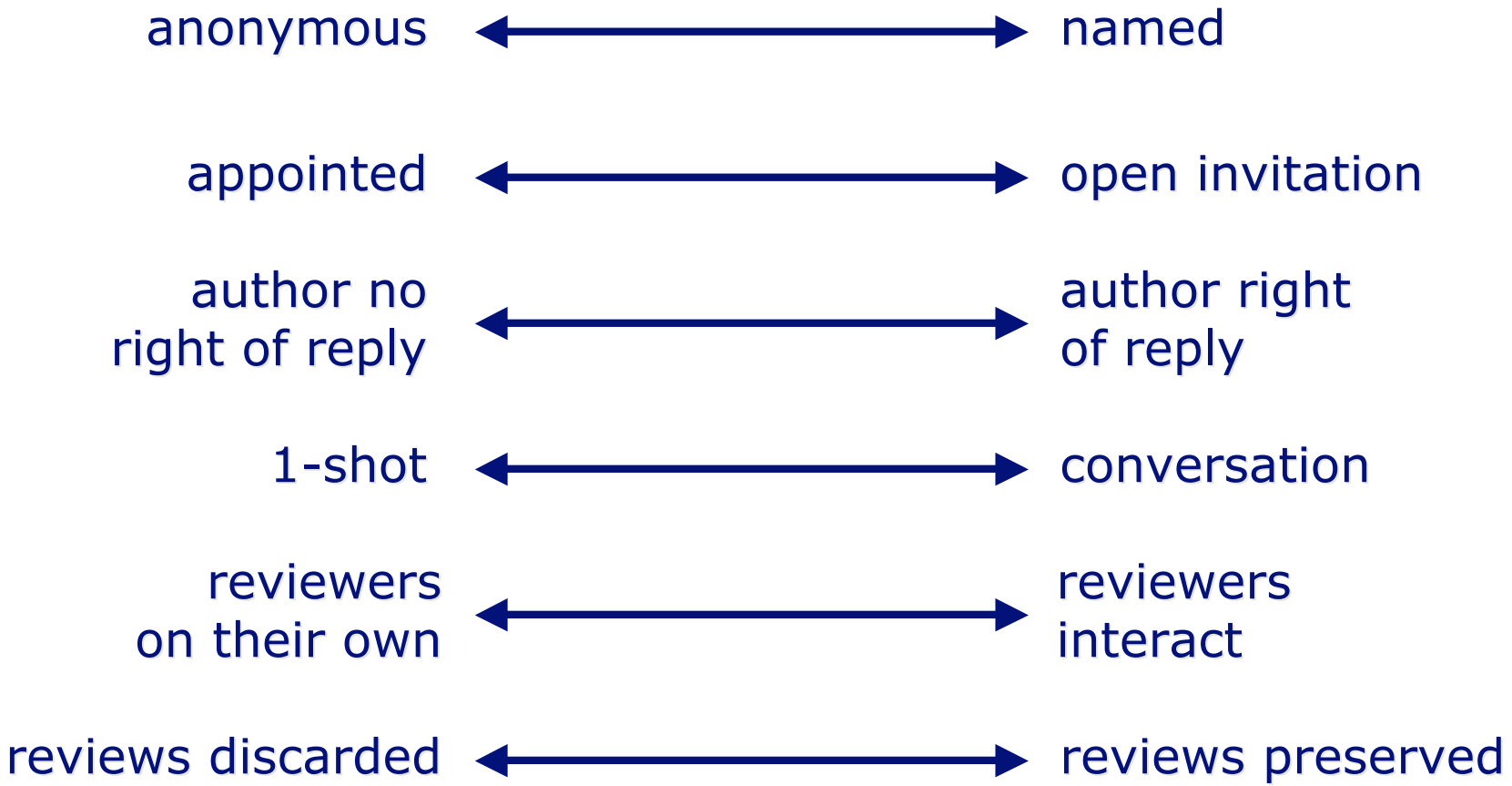
http://pbaker.wordpress.com/2006/07/25/profs-who-blog/

eJournals: Levels 1-6

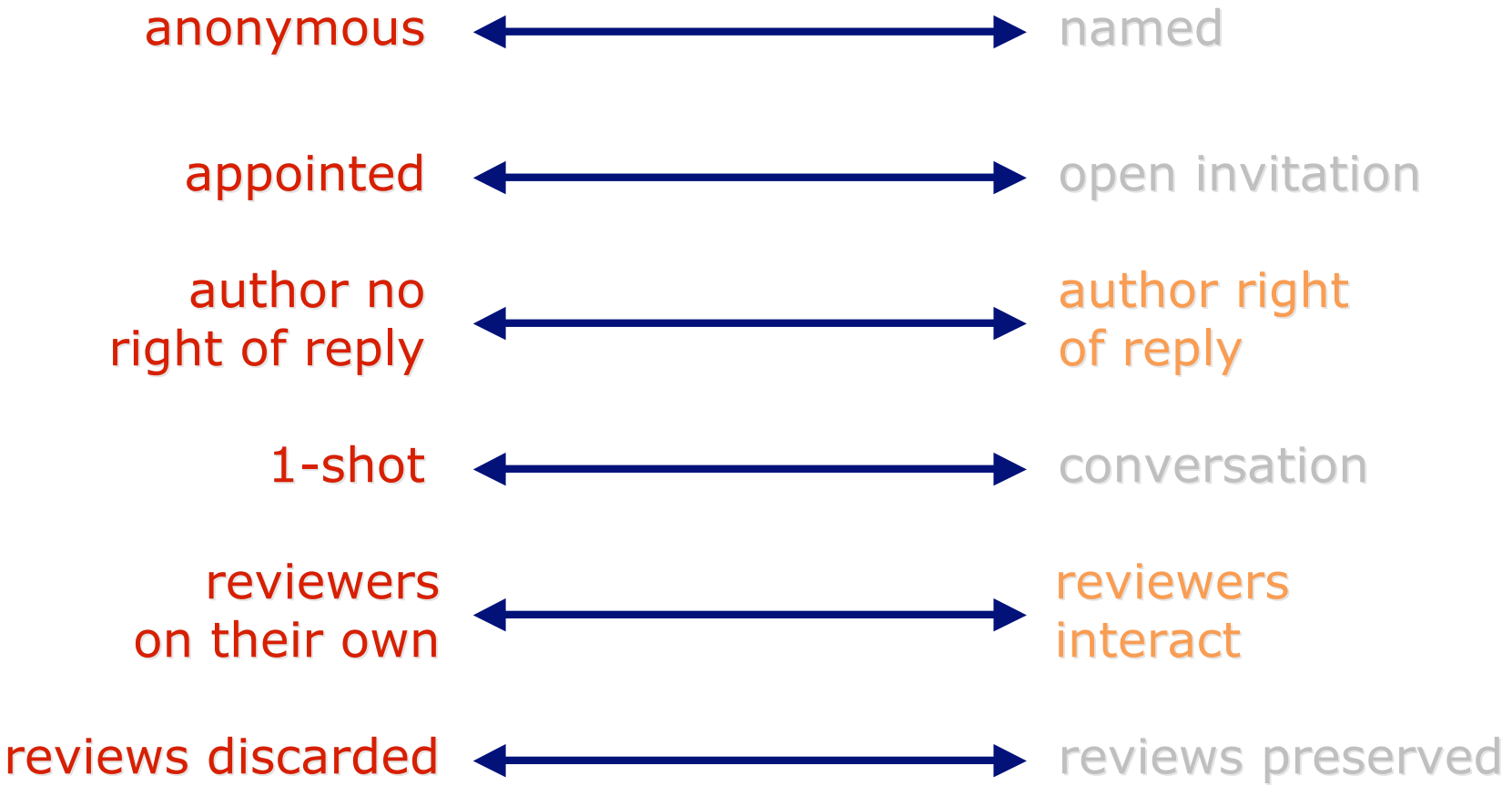
Lancaster, F. W. (1985). The Paperless Society Revisited. American Libraries, 16, (8), 553-555

1. computers used for print production
2. journal distributed in both print and electronic formats
3. publication design is rooted in print, but articles are developed solely for electronic distribution
4. interaction between authors and readers is possible; publications can evolve as a result of such interactions
5. the inclusion of multimedia content
6. both interactive participation and multimedia capabilities are supported

Peer review dimensions



Peer review dimensions: most journals and conferences (recent changes with the web)



Conventional peer review

- **All peer review models have +/-**
- **Anonymous, 1-shot peer review**
- **Pros**
  - + anonymity ➠ honesty
  - + 1-shot job
  - + “stick with what you know…”
- **Cons**
  - - – anonymity ➠ lack of accountability
  - - – research demonstrates its weaknesses
  - - – typically no author right of reply

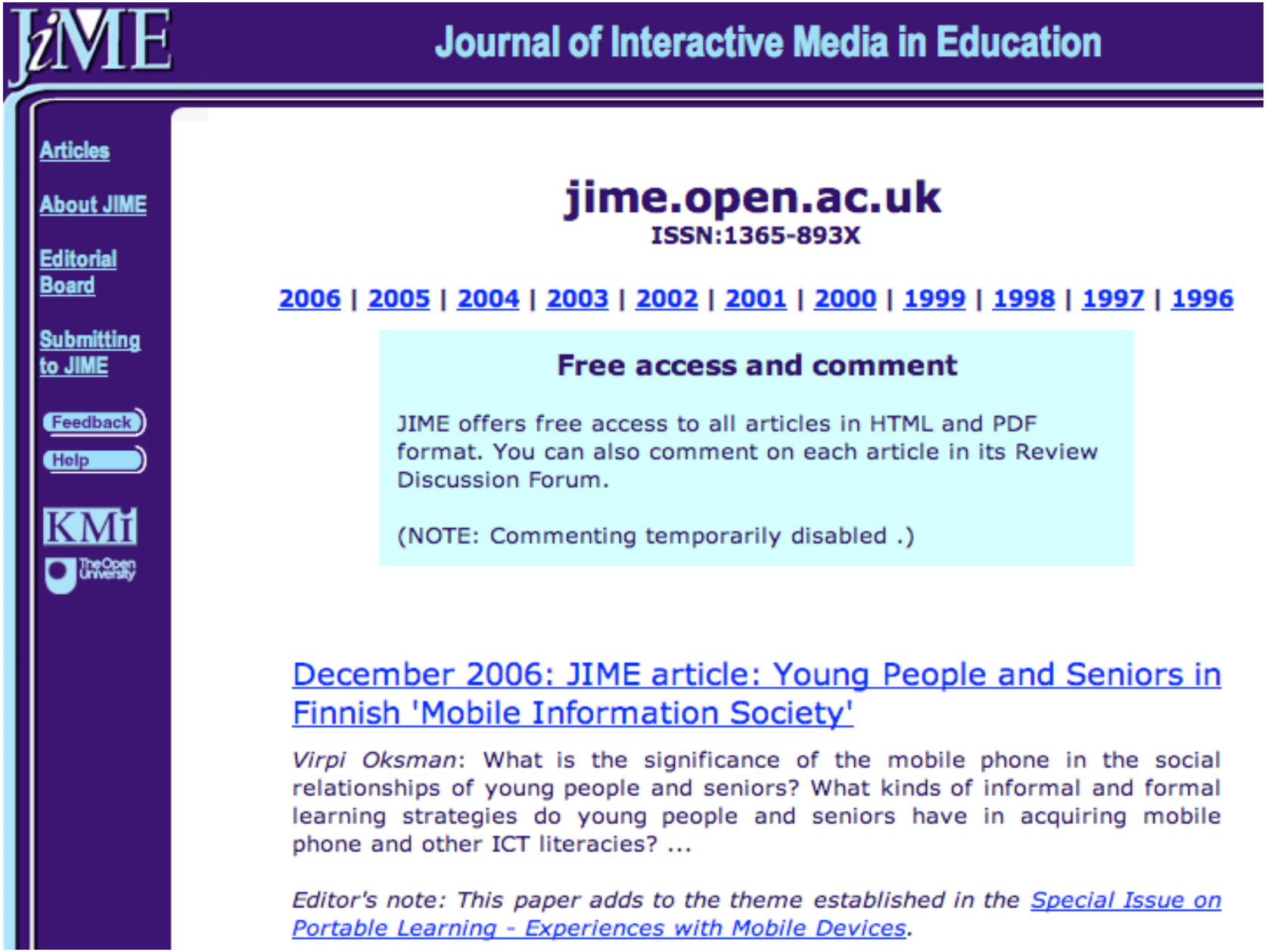
Journal of Interactive Media in Education

An Interactive Journal
for Interactive Media

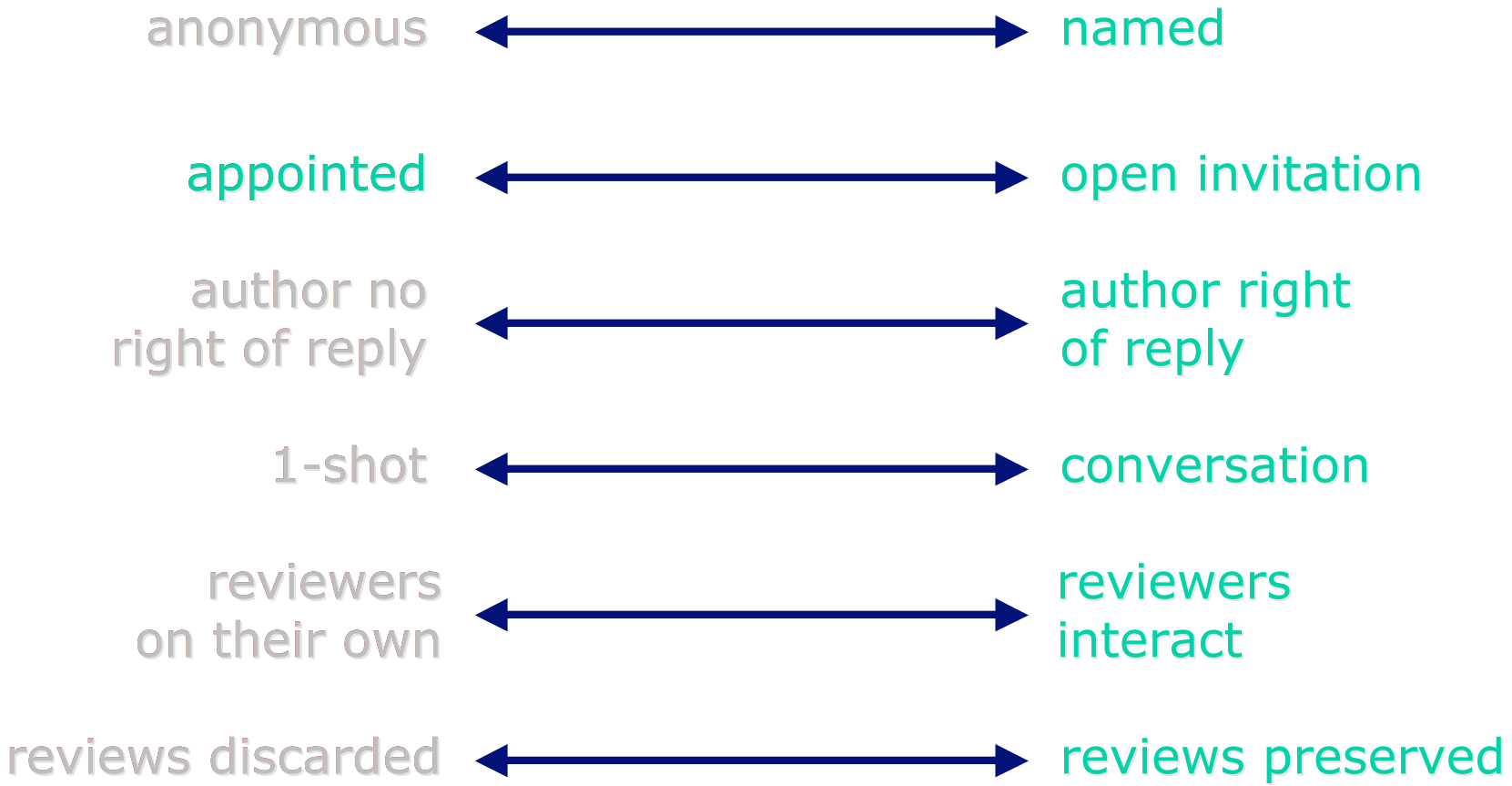
www-jime.open.ac.uk

jime@open.ac.uk

JIME: a venerable 10yr old e-journal



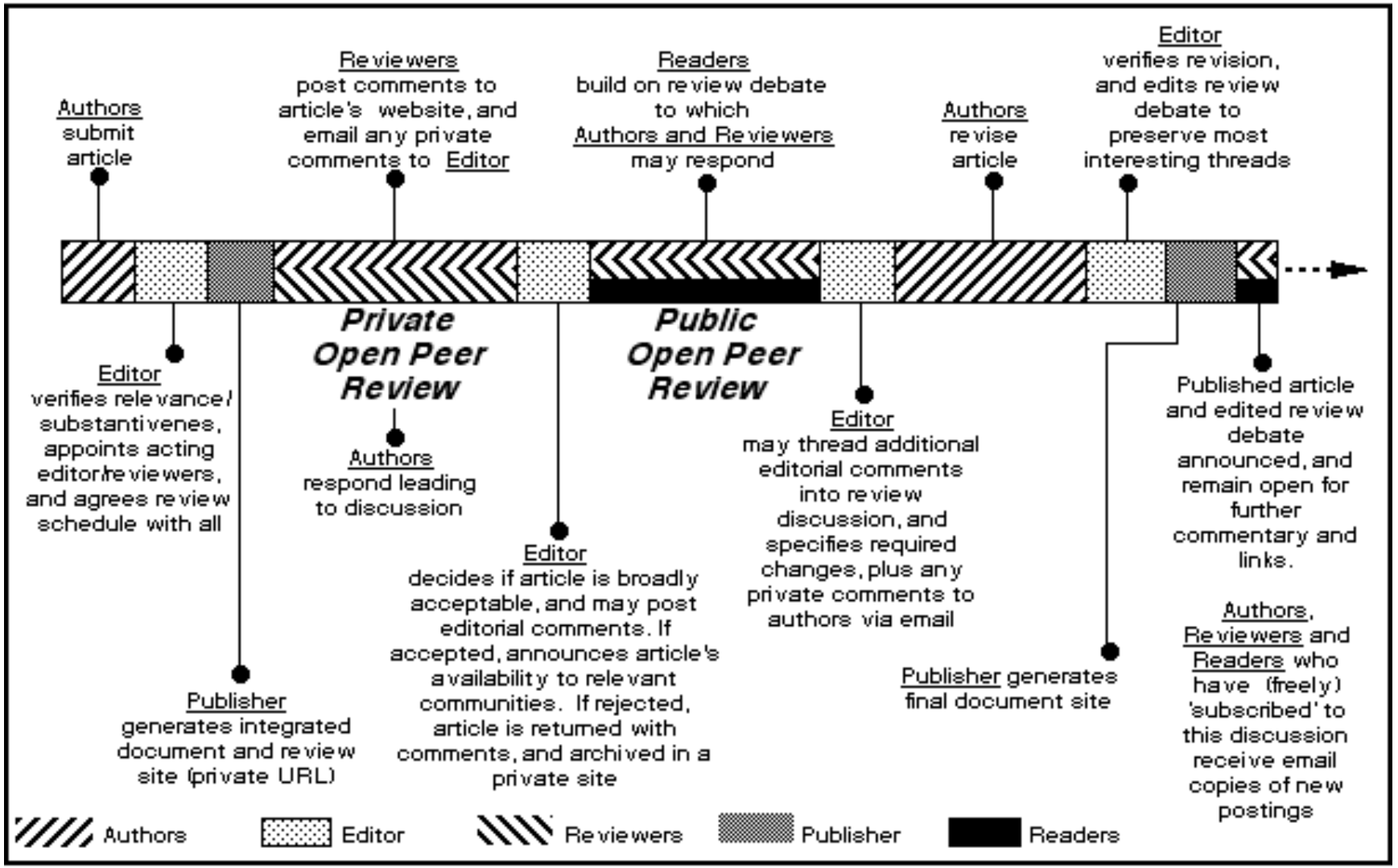
Peer review dimensions: most journals and conferences



A ‘native internet’ peer review model

- Private+Public conversational open peer review edited + co-published with final article …
- Reviewers assigned and named/ hyperlinked
- Conversational/argumentation model (web)
- Private emails to editor if preferred
- Hybrid 2-step process: private then public
- ➠ revision, publication + open for further comments
- Intellectual trace of the article’s history

JIME's peer review lifecycle



JIME

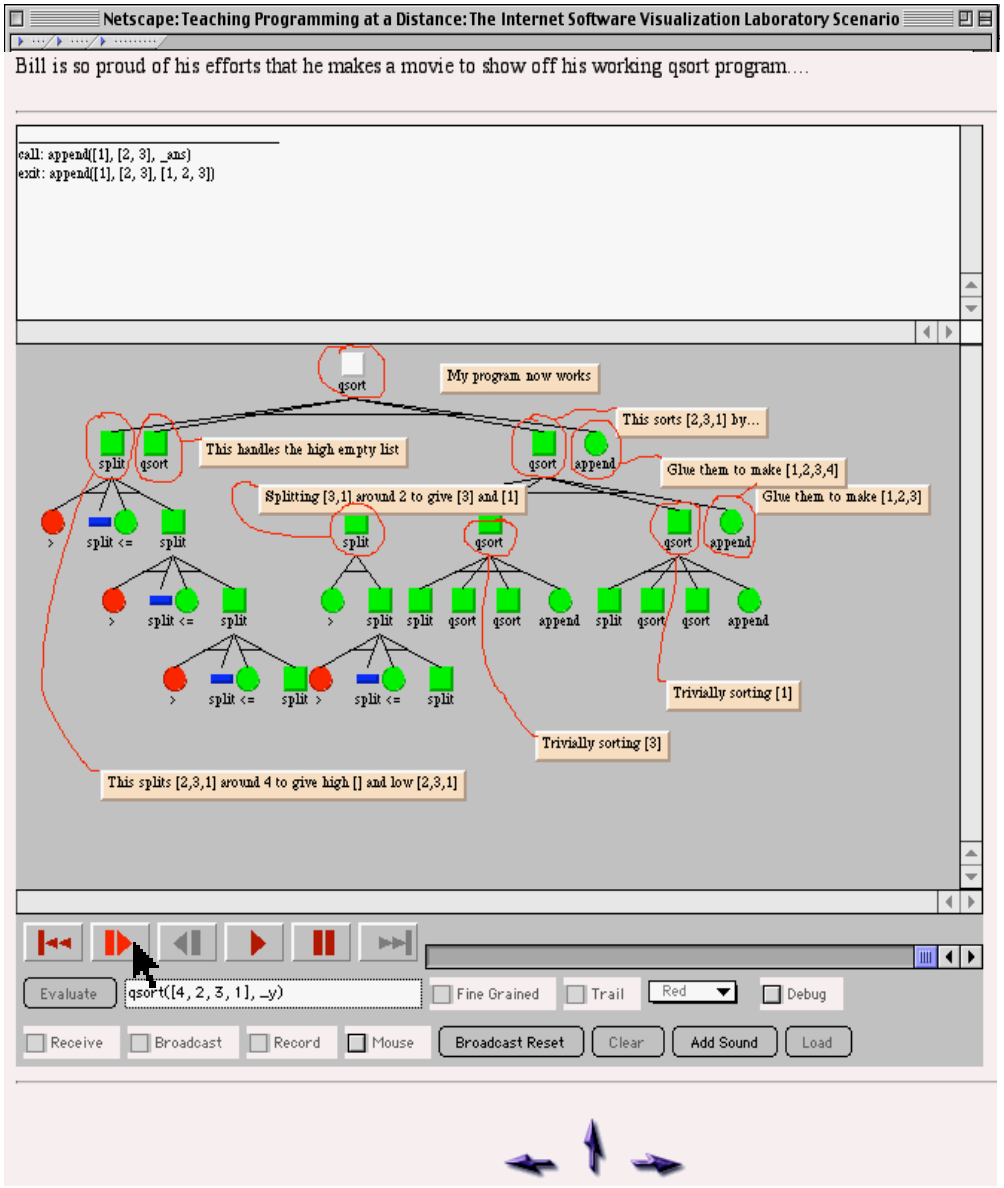
- conversational open peer review intrinsic to journal's review model: *the social contract*
- authors encouraged to back claims about technology with demonstrations/ walkthroughs for readers and reviewers

Interactive Web demonstration of a CD-ROM

Readers can 'play' with the construction of a painting, as students were encouraged to do

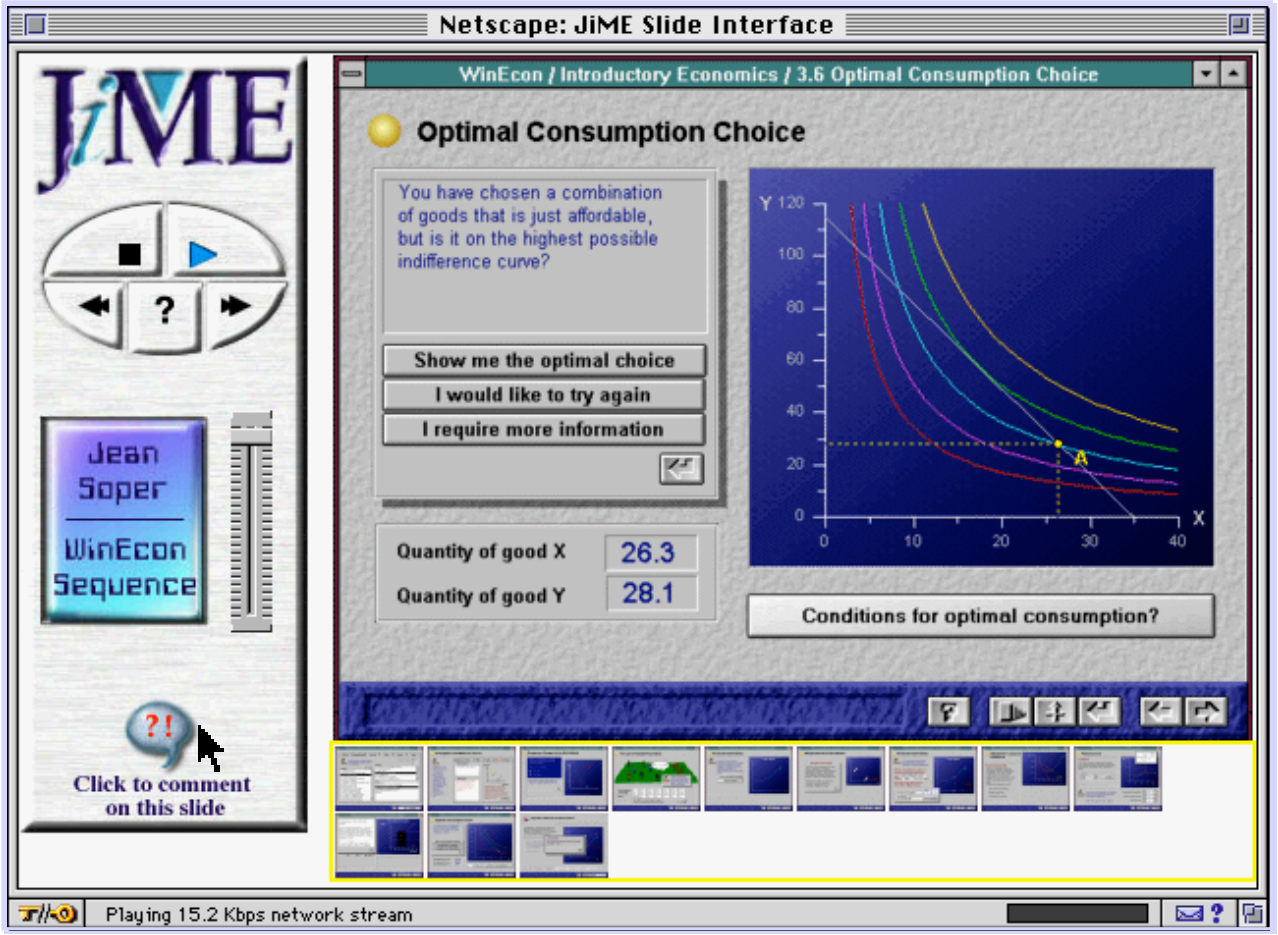
Interactive Web demonstration of a Java applet

Readers can visualize the execution of a program using the Java applet tested with students



AV presentation guiding the reader through the e-learning tool

The author introduces the multimedia system with a series of slides and commentary (streaming audio)



Video data embedded in the article

The authors include video clips showing their work (children programming a robot)

JIME

- conversational open peer review intrinsic to journal's review model: *the social contract*
- authors encouraged to back claims about technology with demonstrations/ walkthroughs for readers and reviewers
- articles tightly integrated with reviews in a web document-discussion interface
- edited review discussions co-published with final article

JIME document user interface
(generated by D3E from an HTML submission)

Submission under review

PrePrint* or *Published

Peer review comments and discussion:

tightly integrated + co-published

JIME return home — Published

Abstract
1. Introduction: The Computer as a Communication Medium
2. The Media Cube
2.1 Interactivity
2.2 Richness
2.3 Accessibility
4.1.1 Visual AgenTalk: Allowing Active Construction
4.2 Richness
4.2.1 The Weather Agent: Simulation Meets Web Browser
4.2.2 Moving from the Computer to the Real World: LEGOsheets
4.3 Accessibility
4.3.1 The AgentSheets Behavior Exchange
4.3.2 Ristretto™: the Agent-to-Java Generator
5. Future
5.1 Combining Simulation with

2. The Media Cube

Out of the many dimensions one could select to classify media, we have chosen the following: media *richness* , *interactivity* and *accessibility* to ground the following discussion. Mok defined a subset of this framework relating the richness and interactivity dimensions of media (Mok, 1996). The cube (Figure 4) formed by these dimensions is used to classify different media and to help understand the value added (or lost) by moving to different spaces within the cube.

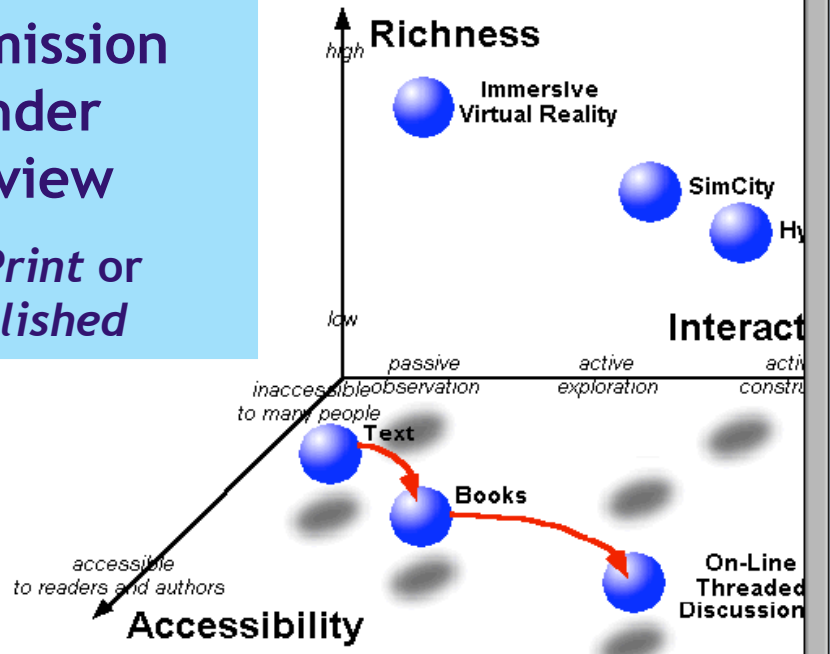


Figure 4: The Media Cube

Even though learning is implicit in these media dimensions, we do not explicitly discuss the effects they have on knowledge construction, but focus mainly on the effects these dimensions have on information communication.

The media cube framework provoked some interesting review discussion (Editor).

Reprint PDF HTML

Mok, C. (1996). *Designing Business.* Adobe Press: San Jose, CA. [cited]

2. The Media Cube

(JIME Editor (Simon Buckingham Shum) , S.Buckingham.Shum@open.ac.uk)
10 Mar 1998 13:40 GMT

Add Comment to: "2. The Media Cube"

[Next Thread] [Previous Thread] [Go to top of Review Debate]
[First Response To This Comment]

Responses [Expand comments to level: Off 1 2 3 *All]

Re: 2. The Media Cube

(Tom Moher, moher@eecs.uic.edu)
09 Apr 1998 19:47 GMT

I have some concern about the rendering of specific technologies as points rather than as spaces within the cu

In particular, the characteriz point on the interactivity di such applications (such as a examples of applications wh exploration or even constru

Areas for Debate [Expand con

Re: 2. The M

(S. Buckingham Shum
12 Jun 1998 12:02 GMT

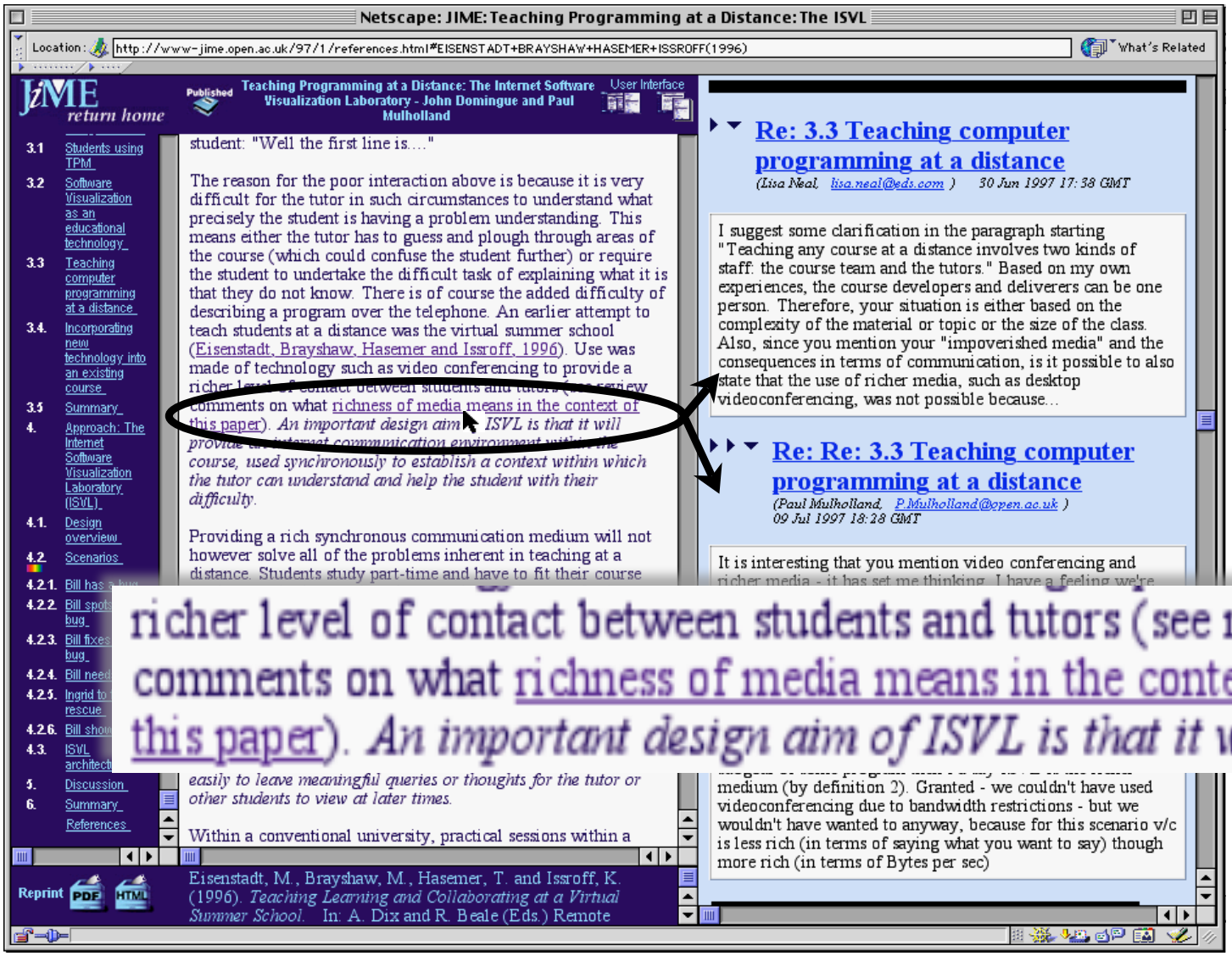
Reflecting on the reviewer-author exchanges which took place with respect to the different dimensions of the 'media cube', I've ended up writing more than I planned, but I hope it's useful...

A conceptual space which clarifies tradeoffs is always useful, so I'd like to explore this further. However, a space is only as useful as its dimensions, and as reflected in the review exchanges, the ones you have defined seem to conflate more than three dimensions, and fail to address some other important ones.

Why we were confused...

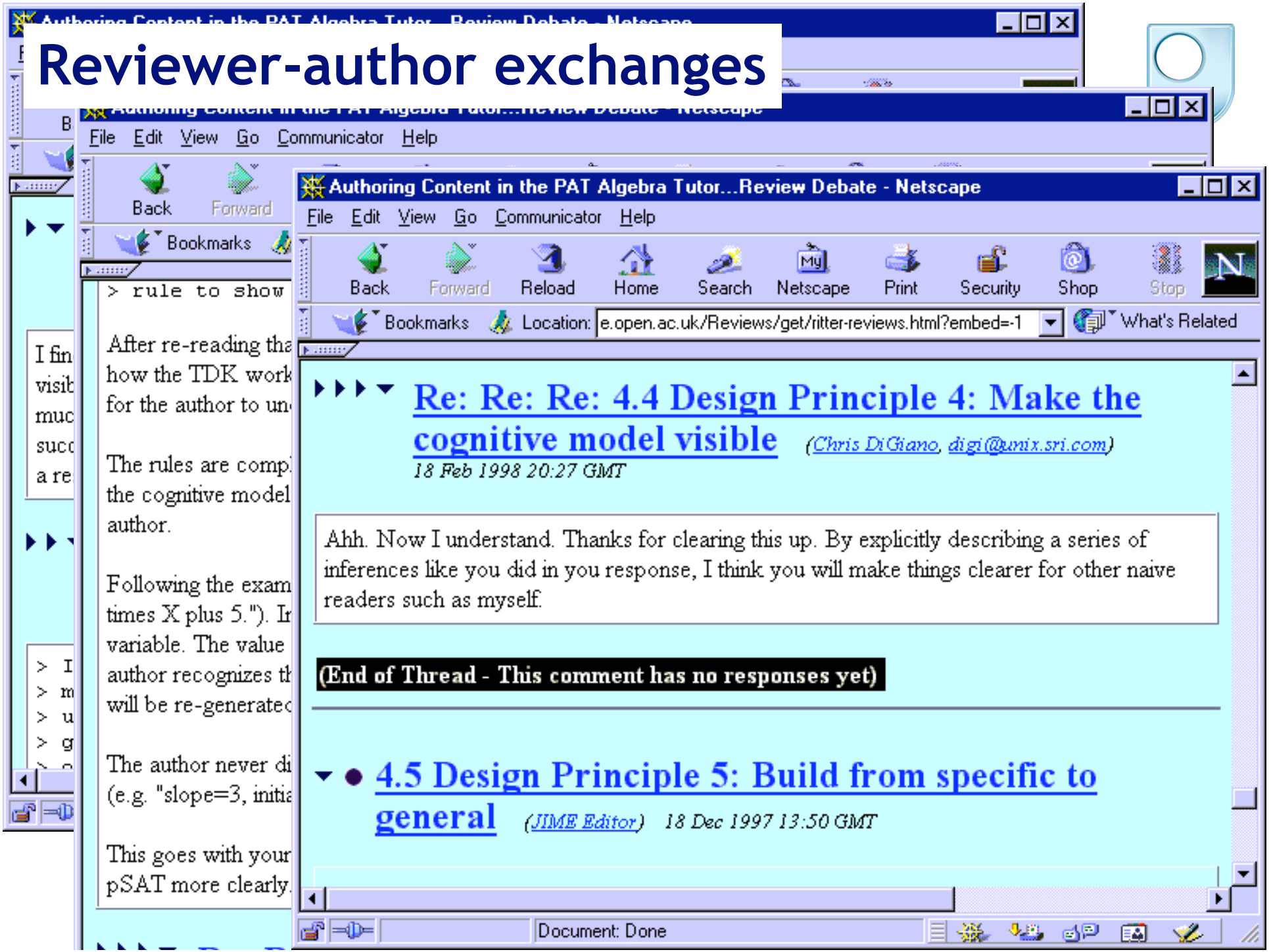
There seems to be an important distinction to make between the symbol system and the technology by which it is instantiated and rendered tangible. You might want to look at Salomon (1979), who presents a detailed analysis of media and learning. He argues that a medium comprises a *technology* and a *symbol system*. A medium also has *content* and a *situation of use*. Or take Thomas Green's (1989) analysis

Author links from revised article to a discussion thread

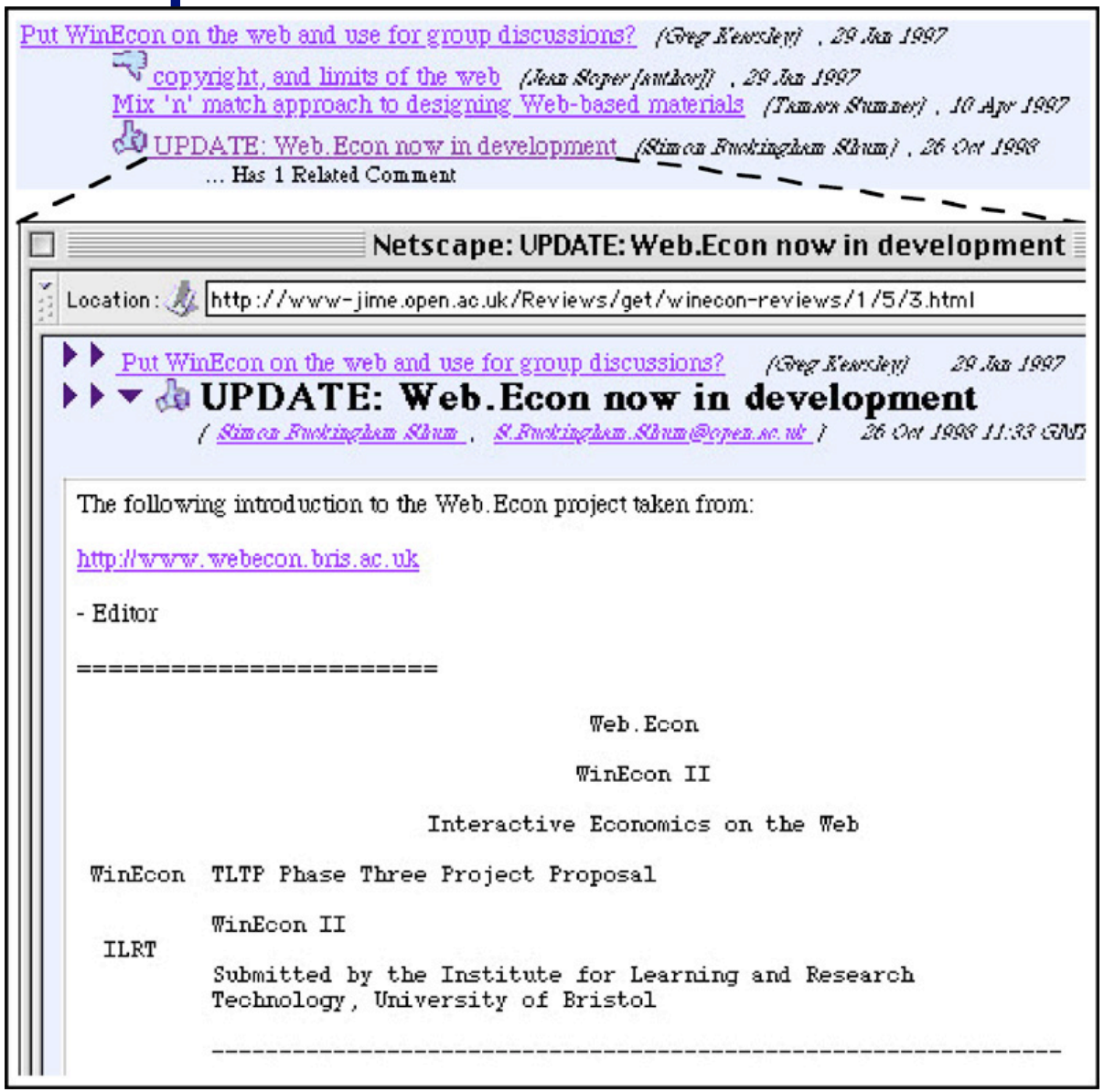


Linking from one review discussion to a relevant document

Reviewer-author exchanges



Document-related news updated in the discussion space



So, there are signs of more radical changes…

- You can look at a visualization of a research literature and spot possible turning points in the field
- You can search a literature for inconsistent positions, or evidence refuting a prediction
- A hypertext wins best "paper" award at an ACM conference, and is archived in the Digital Library
- A research meeting can be recorded and indexed in real time to provide an instantly replayable webcast

Computation shaping Discourse?

- How are digital tools changing current practices?
  - dissemination, peer review, literature analysis, meetings and teamwork
- How can we conceive ‘digitally-native’ practices?
  - dissemination, peer review, literature analysis, meetings and teamwork
- Research challenges

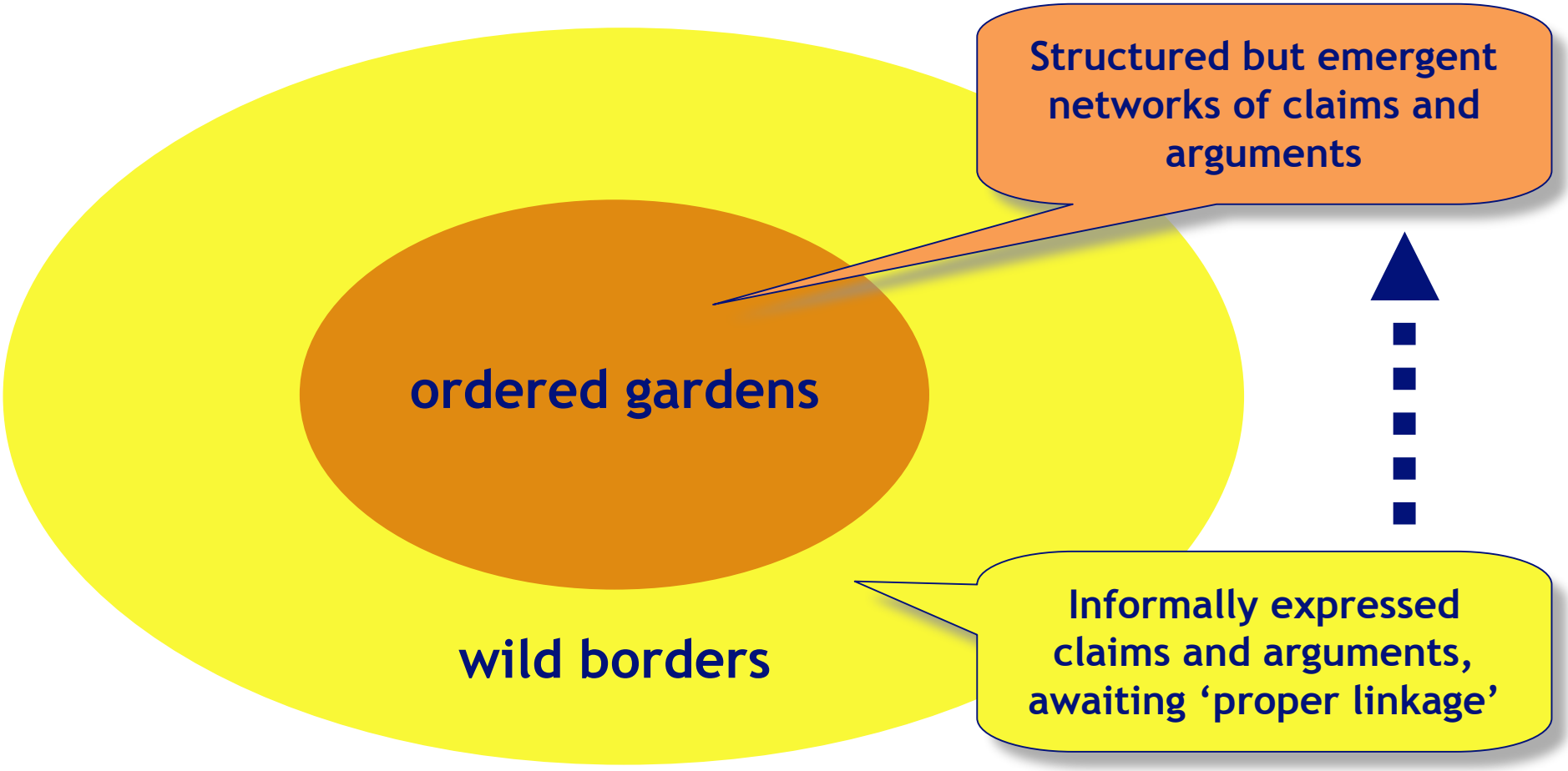
Challenge 1:
Representing large scale discourse

- **How to model "naturally occurring" argumentation**
  - striving for the optimal balance in computational power 'vs' usability:
    http://kmi.open.ac.uk/projects/hyperdiscourse

- **Web-centric argumentation**
  - KR: Argument Interchange Format
  - Argumentation schemes (patterns)
  - Argument visualization
  - Web 2.0 social tagging as a way in?…
  - From the *Syntactic* Web, via the *Semantic* Web, to the *Pragmatic* Web: context, interpretation, negotiation, commitment [www.PragmaticWeb.info]

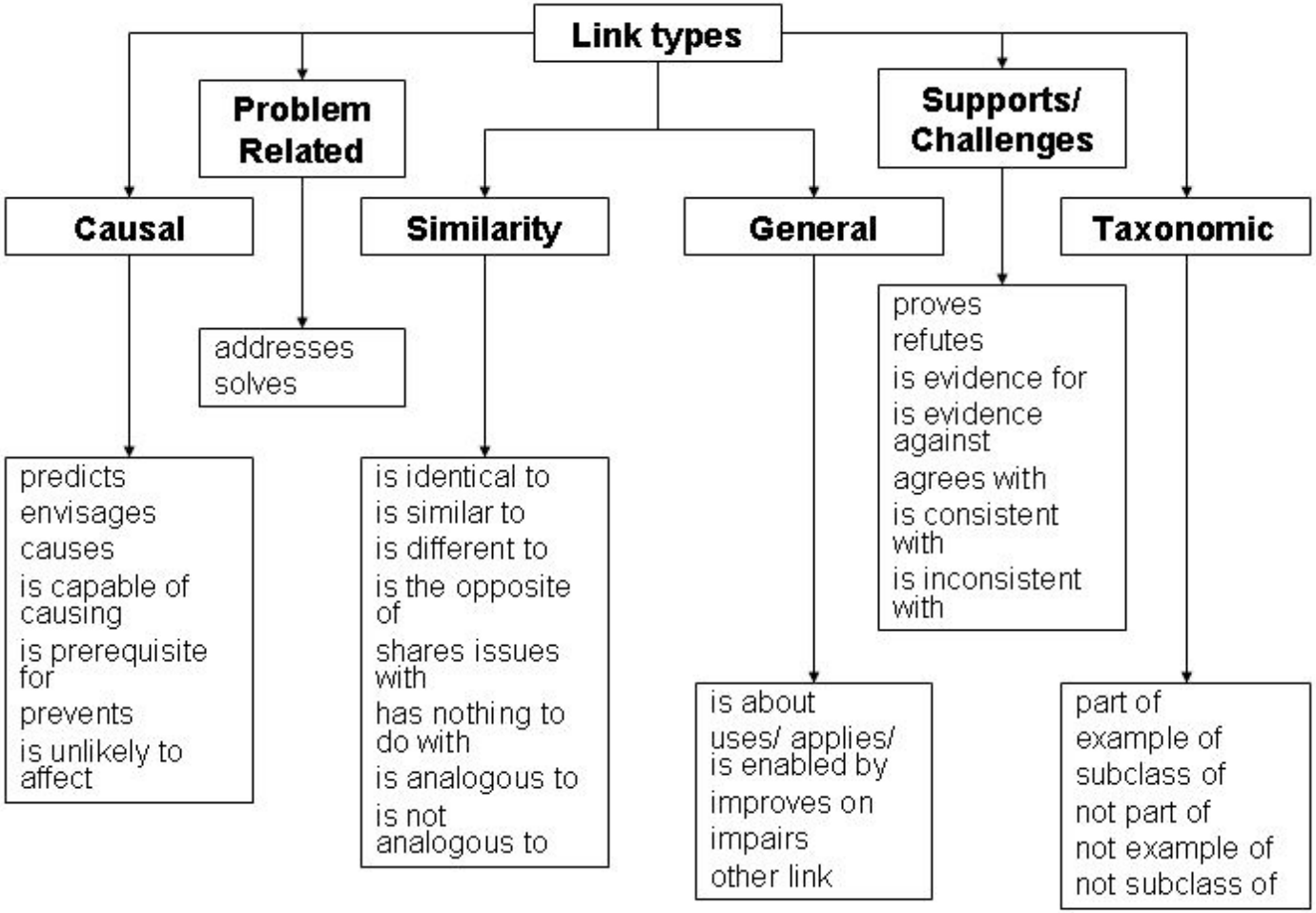
Challenge 1:
Representing large scale discourse

- Towards a cultivated ecosystem?…



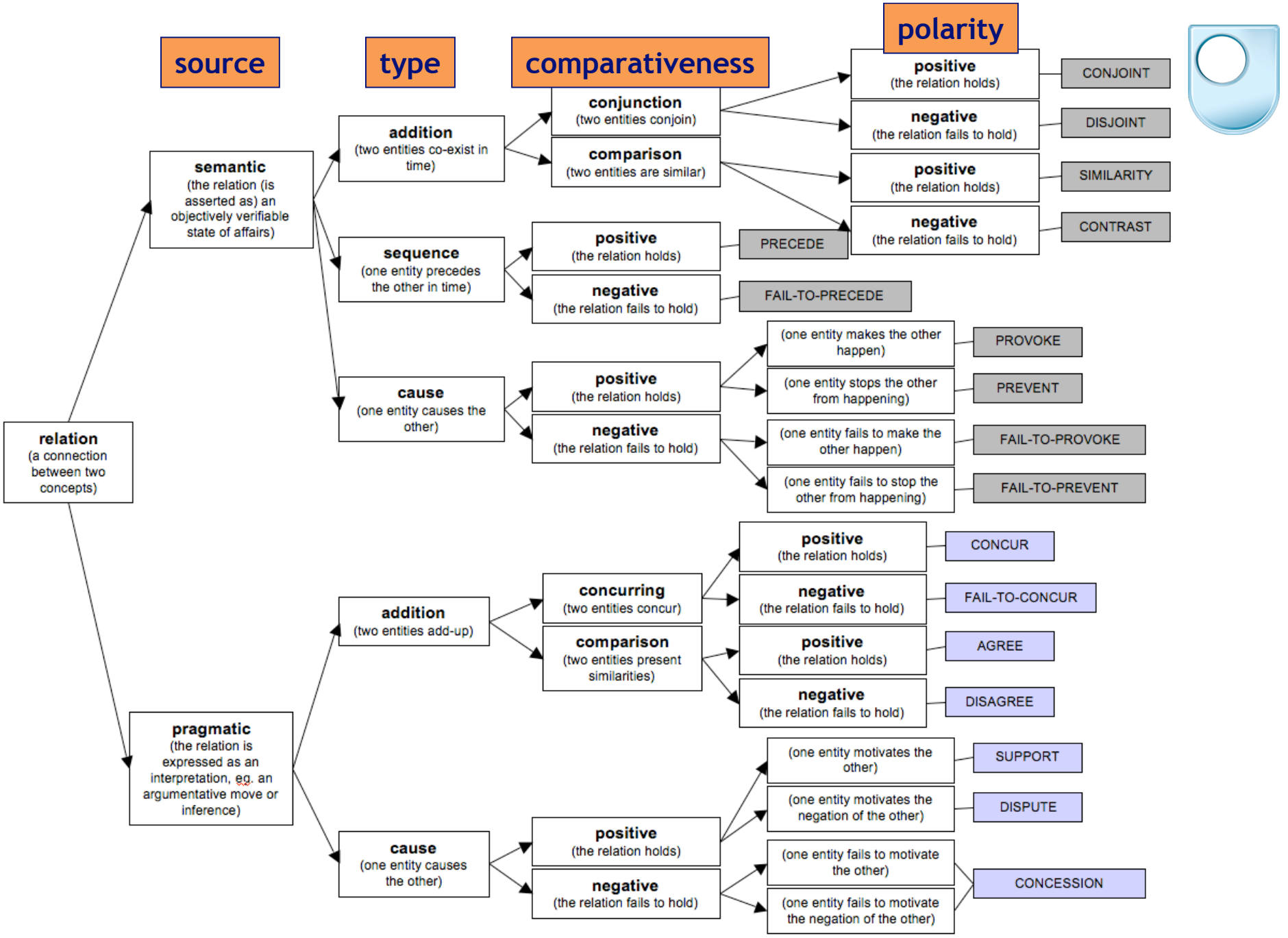
Combining formal relations with the expressive freedom of 'folksonomies'

Relational classes and dialects (KMi Scholarly Ontologies project)



Cognitive Coherence Relations as abstract discourse primitives

Mancini, C. and Buckingham Shum, S.J. (2006). **Modelling Discourse in Contested Domains: A Semiotic and Cognitive Framework**. International Journal of Human Computer Studies, 64, (11), pp.1154-1171



Mancini, C. and Buckingham Shum, S.J. (2006). **Modelling Discourse in Contested Domains: A Semiotic and Cognitive Framework**. International Journal of Human Computer Studies, 64, (11), pp.1154-1171

Challenge 2:
Co-evolving new work practices

- **Embedding new tools into personal, organisational and professional community activity**

  cf. how our practices are changing:

  - Web-based peer review
  - E-typesetting
  - ePrint Archiving
  - Use and sharing of slides
  - Academic blogging
  - Academic social bookmarking

- **Understanding what it means to become literate: reading and writing in the new medium**
  - Empirical research is ongoing
  - Observation of naturalistic behaviour as it takes off

Indicators of ClaiMaker literacy?

expert user makes more extensive use than novices of semantic queries to interrogate the network

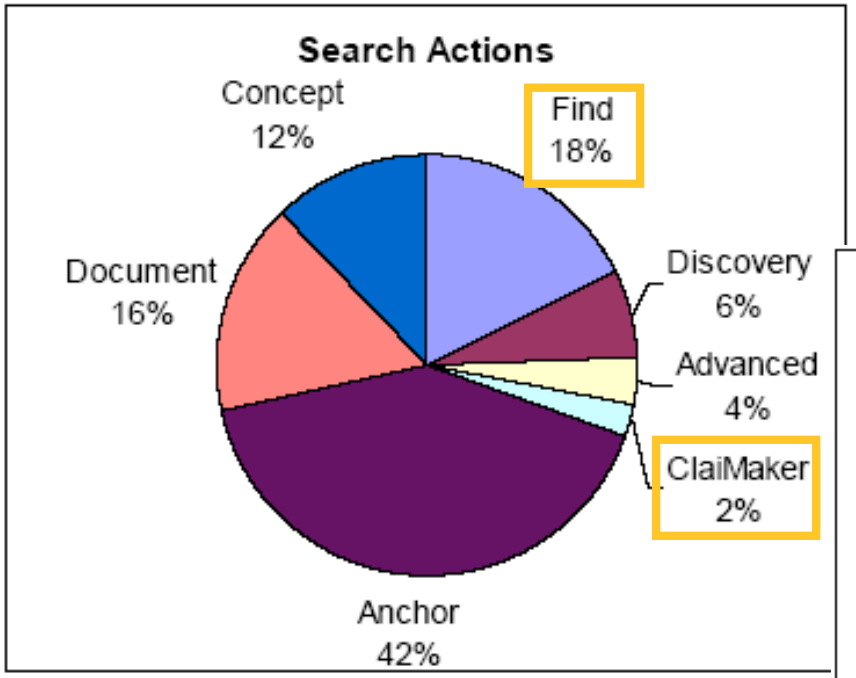


Figure 19: Breakdown of search actions by type (totals for Claim Network

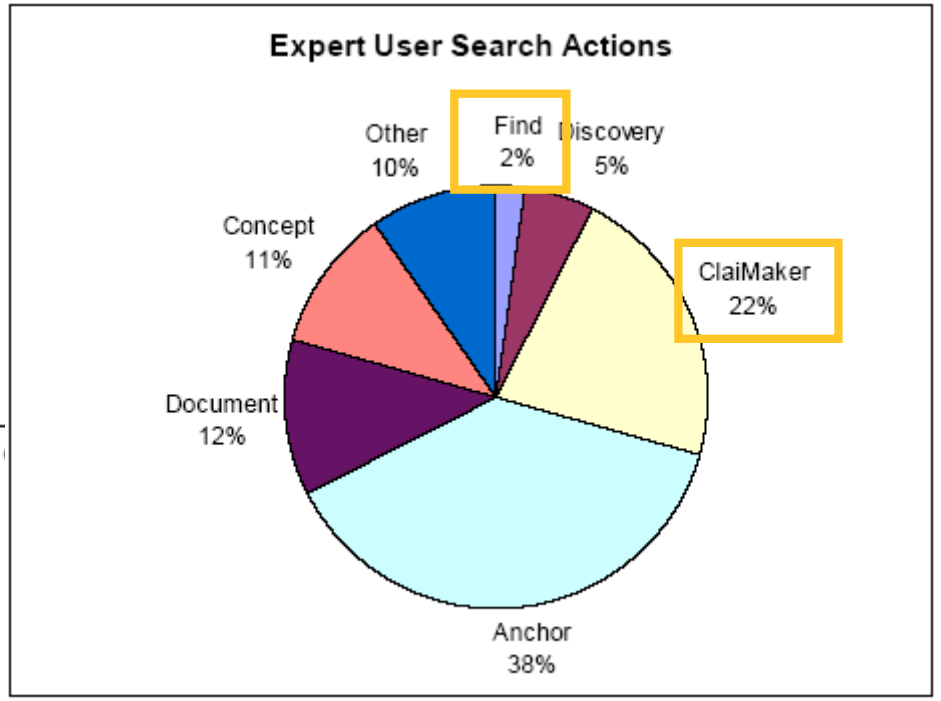


Figure 20 Breakdown of expert user search actions

Victoria Uren, Simon Buckingham Shum, Michelle Bachler, Gary Li, (2006) **Sensemaking Tools for Understanding Research Literatures: Design, Implementation and User** Evaluation. International Journal of Human Computer Studies, Vol.64, 5, (420-445).

Literacy: expertise analysis
(Albert Selvin)

- ***What is the nature of expert human performance in creating and modifying real time conceptual structures for groups?***

- **The NASA knowledge mapper role:**
  - Listening and interpreting
  - Intervening in 'normal' conversation flow
  - Getting validation for captured material

Conventional facilitation skills

  - Building hypertext representations on the fly
  - Interrelating data and objects
  - Adding metadata
  - Software-specific skills

Knowledge media facilitation skills

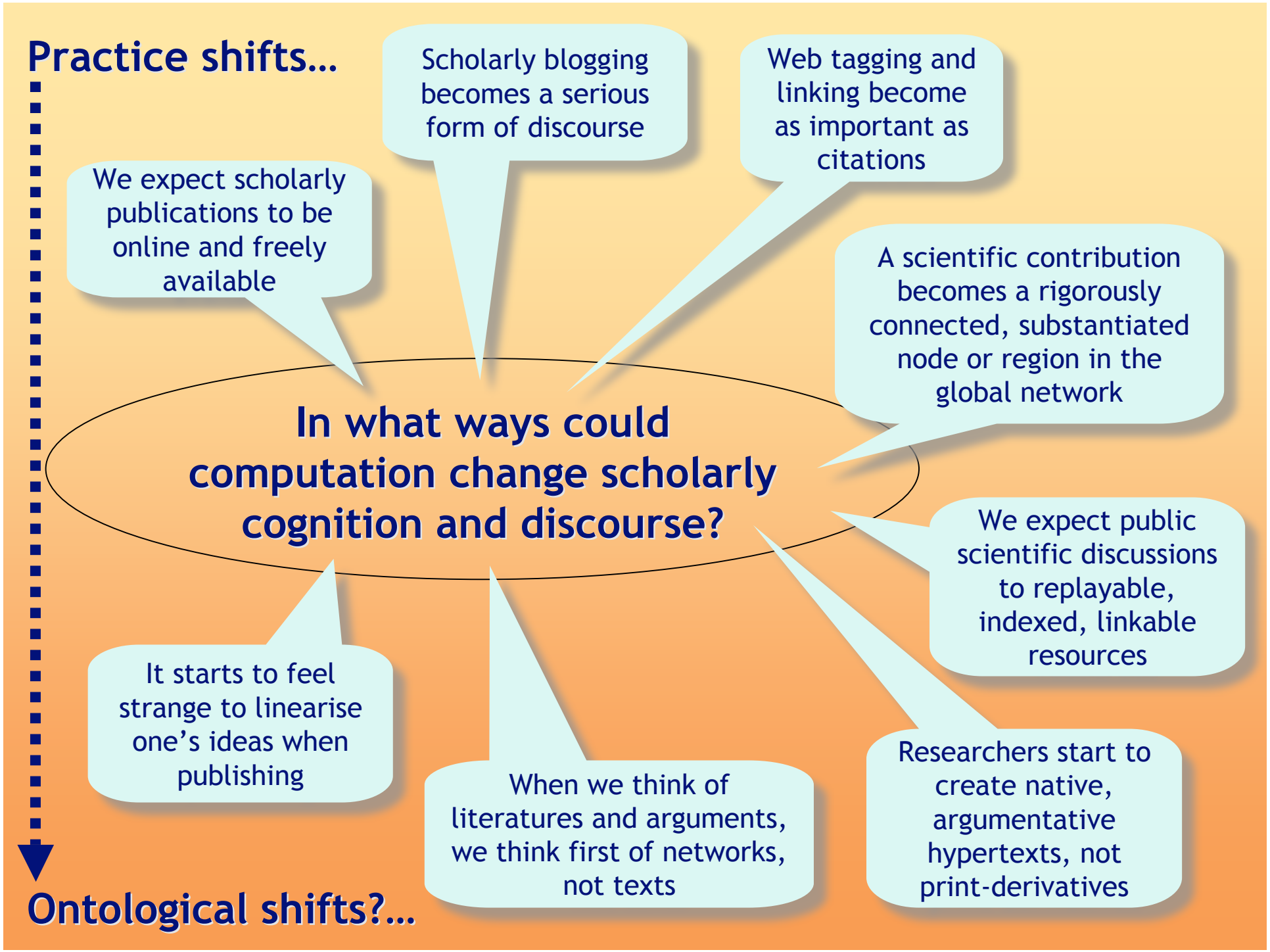
Aesthetic and Ethical Implications of Participatory Hypermedia Practice: First Year Report
Selvin, A. (2005), Technical Report KMI-05-17, Knowledge Media Institute, Open University, UK

Compendium literacy: expertise analysis
Selvin 2005

Practitioner stances

- **The position of the practitioner with regard to the current activity:**
  - Knowledge Navigator
  - Facilitator
  - Participant
  - Technical Expert
  - Editor

Aesthetic and Ethical Implications of Participatory Hypermedia Practice: First Year Report
Selvin, A. (2005), Technical Report KMI-05-17, Knowledge Media Institute, Open University, UK


Practice shifts…
Scholarly blogging becomes a serious form of discourse
Web tagging and linking become as important as citations
We expect scholarly publications to be online and freely available
A scientific contribution becomes a rigorously connected, substantiated node or region in the global network
In what ways could computation change scholarly cognition and discourse?
We expect public scientific discussions to replayable, indexed, linkable resources
It starts to feel strange to linearise one's ideas when publishing
When we think of literatures and arguments, we think first of networks, not texts
Researchers start to create native, argumentative hypertexts, not print-derivatives
Ontological shifts?…

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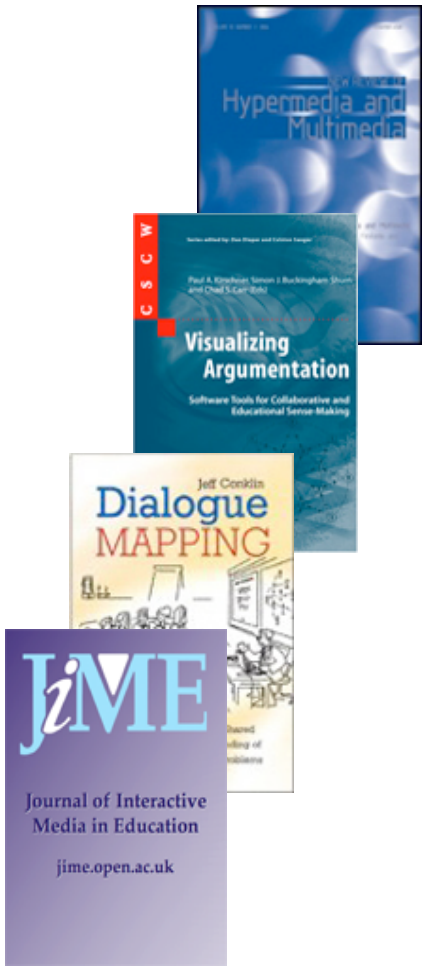
E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

THE WILLIAM AND FLORA HEWLETT FOUNDATION

To know more…

Reading

- **Scholarly Hypertext by David Kolb**
  www.dkolb.org/twin.media.ht04/covershe.html
- **Scholarly Hypermedia, NRHM special issue**
  www.informaworld.com/smpp/title~content=g723956903~db=all
- **Towards Electronic Journals**
  Historical review and survey: Tenopir & King, 2000: SLA
- **The Electric Word**
  Philosophical reflections on how the digital medium changes how we think and write: Michael Heim



KMi's scholarly software R&D

- **Hypermedia Discourse project**
  www.kmi.open.ac.uk/projects/hyperdiscourse

KNOWLEDGE MEDIA

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