

Web Science Big Questions

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**The Information Big Bang &
Its Fundamental Constants**

Overview

- Using the analogy of the Big Bang, this presentation describes how the Web spread the conditions of its initial creation throughout the whole of society as it underwent an initial inflationary phase.
- Consequently, the assumption of the open exchange of information (found in an academic physics research laboratory) is now being imposed on the rest of society.
- The question that Web Science must address is whether open access, open data and the Scientific and Creative Commons offer us a beneficial opportunity, or a dangerous cul-de-sac?
- For further details see Carr, L., Pope, C. and Halford, S. (2010) Could the Web be a Temporary Glitch? In: *WebSci10: Extending the Frontiers of Society On-Line*, April 26-27th, 2010, Raleigh, NC: US. <http://eprints.ecs.soton.ac.uk/21032/>

Dissemination of Knowledge



- An old tradition and a new technology have converged to make possible an unprecedented public good. (*Budapest Open Access Initiative, 2001*)

Institutional Repositories

Registry of Open Access Repositories (ROAR)

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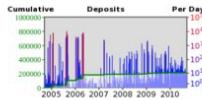
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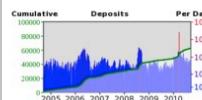
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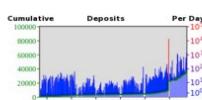
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1 | 2 | 3 | 4 | 5 | 6 | Next

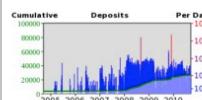
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Search Content Graphical analysis

1.   DSpace at Cambridge (212777 records) Cambridge University - 02 September 2004 [Record Details]

2.   University of Southampton: e-Prints Soton (62299 records) University of Southampton - 31 July 2003 [Record Details]

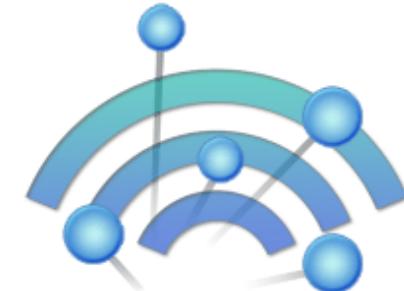
3.   Glasgow e-Prints Service (35910 records) - 03 February 2004 [Record Details]

4.   Lancaster E-Prints (26397 records) - 24 February 2005 [Record Details]

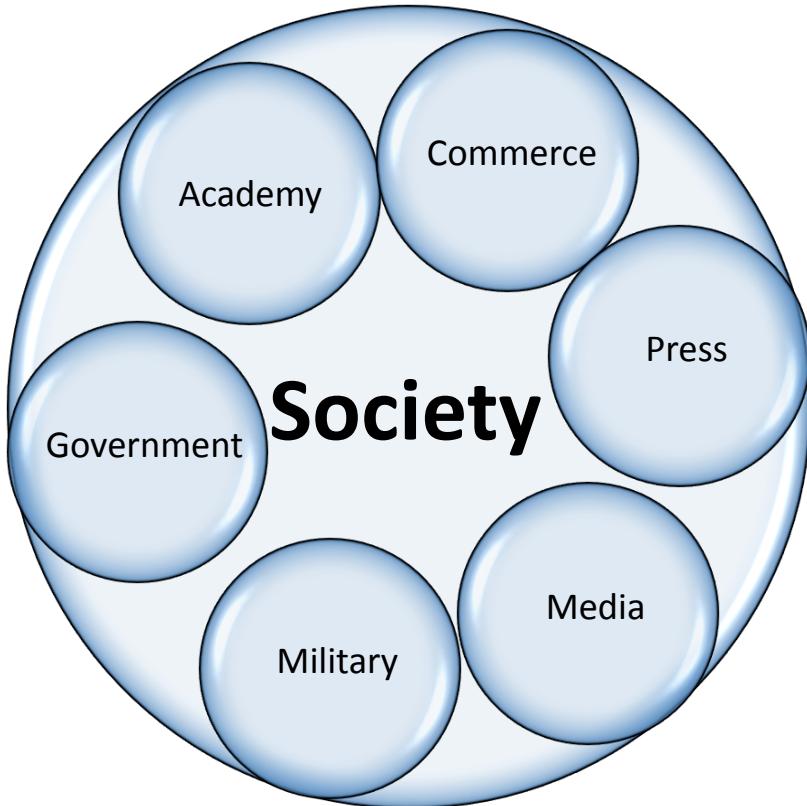
-   Newcastle University E-Prints (23376)

 FlyingBinary 16 hours ago

Zittrain: Key to maintaining Web success - we as individuals must proactively contribute and curate - as we already have. #RSWebSci

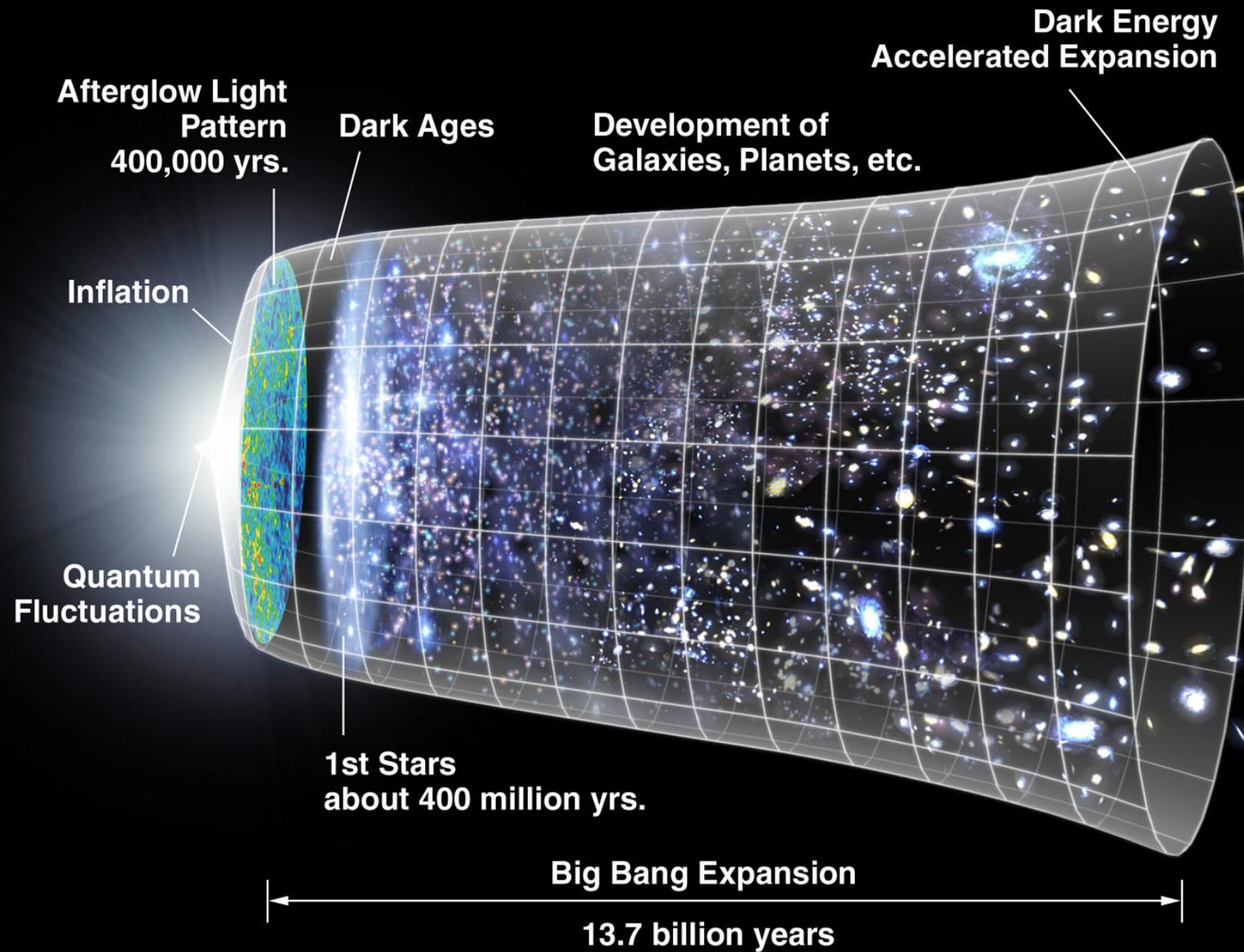


Society is Diverse



Institution	Objective
Academy	Create and transmit knowledge
Commerce	Trade goods
Press	Report news
Media	Broadcast content
Military	Defend society
Government	Control society & share resources

The development of society as a whole (nuanced and structured and refined) is inextricably related to the technology of information provision, consumption and dissemination (e.g. writing, reading, printing, education). *Different parts of society have different objectives and hence incompatible Web requirements, e.g. openness, security, transparency, privacy.*



Web Science



- Are the *public* and *open* aspects of the Web fundamental constants of its operation?
- Do they mark a fundamental change in our society's information processes, or just a temporary glitch?
 - Are open source, open access, open science & creative commons efficient, effective and sustainable alternatives to fee-based transfer of knowledge-bearing artefacts?

Summary

- We take for granted a Web that provides free and unrestricted information exchange
- But the Web is under pressure to change
 - to respond to issues of security, commerce, criminality, privacy
- Web Science needs to
 - explain how the Web impacts society
 - predict the outcomes of proposed changes to Web infrastructure on business and society.

