

Chapter 1 : Annual Review of Information Science and Technology - Wikipedia

Annual Review of Information Science and Technology (Annual Review of Information Science and Technology)
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I confess I had no idea until two of our doctoral students, Peter Hook and Weimao Ke, decided to crunch the numbers: Should Peter and Weimao rerun their study a year hence, Bush will almost certainly have consolidated his lead. But his footprint extends more widely: Here, if I may be permitted an aside, it is hard not to think of the so-called I-schools movement and its discursive contortions Cronin, But back to matters historical: Burke, although a professional historian, does not here attempt to provide the history, or even an history, of information science—the original title of his chapter, "The Emergence of the History of Information Science as a Field of Study, An Overview of the Literature and Comments and Cautions," clearly delineates his ambitions—but the appetite is whetted. This is certainly not a conventional ARIST chapter, but it is a novel, exegetical approach, one which, inter alia, allows us to reacquaint ourselves with the "the Sage"—J. Bernal see Brown, a polymath, whose formative thinking on scientific information and scholarly communication probably deserves wider recognition. A more technical chapter by Bensman dealing with the validity and utility of the impact factor is planned for the next volume of ARIST. Some of the topics I have selected for coverage e. The national security implications of research in Arabic IR, for instance, hardly need stating, and the pace of developments in digital libraries—a procrustean label, to be sure—is such that regular updates are required, an observation that could be applied equally well to policy and empirical research addressing access issues such as the digital divide. Thanks to the development of the Web, the practical significance of these abstract issues has become much more widely appreciated of late by scholars of all stripes and, indeed, by sections of the general public. One of the Grand Challenges facing computer scientists, information scientists, and artificial intelligence researchers is to create the Semantic Web, which will provide metadata on the semantics, not just the syntax, of Web resources. One of the fastest-growing and potentially most important fields of contemporary research in academia—one that straddles many academic disciplines and fields, from biology and physics to sociology, epidemiology, and information science—is network science e. Together they review a diversity of approaches to analyzing the self-organizing properties of biological, transport, social, and other networks. There is much that will be new to ARIST readers in this chapter, both conceptually and methodologically, but also not a little that will be familiar: Volume 41 concludes with a chapter by Greg Downey, a geographer with a strong interest in the history of science and technology and author of the engaging *Telegraph Messenger Boys* Downey, He makes the case that current thinking in human geography, especially notions of process, context, and relationality, should be of interest to the information science research community. Downey is not the first, nor will he be the last, geographer to appear between the covers of ARIST; there are assuredly potential intellectual synergies between classical information science and postmodern human geography e. But, of course, the same could be said of information science and several other disciplines, a fact that is beginning to be recognized by scholars both within and outside our particular intellectual community, I am pleased to note. How everything is connected to everything else and what it means for business, science, and everyday life. The sage of science. *Communications of the ACM*, 49 1 , 5. The information schools movement. *International Journal of Information Management*, 25, An Overview of Labor, technology, and geography, From science studies to documentation. Integration of information seeking and retrieval in context. A framework for evaluating geographical information. *Journal of Information Science*, 28, 39 Spaces, spatiality and technology.

Chapter 2 : ASIS&T | The Information Association for the Information Age

- Volume 40 Annual Review of Information Science and Technology - Volume 39 Annual Review of Information Science and Technology - Volume 38 Annual Review of Information Science and Technology.

Michael Day reviews another recent volume of this key annual publication on information science and technology. Despite this, however, a neat redesign by the publishers has resulted in a volume that actually contains fewer pages than volume 38. The volume contains fourteen chapters - two more than ARIST 38 - grouped into five sections relating to information retrieval, technology and systems, social informatics, national intelligence, and theory. Information Retrieval The opening chapter is a review of recent developments in the use of statistical language modelling for the retrieval of written text by Xiaoyong Liu and Bruce Croft of the University of Massachusetts, Amherst. The opening pages explain why statistical language modelling techniques, historically mainly used for things like automatic speech recognition or machine translation, have now been applied in support of information retrieval. Following some comparisons with traditional probabilistic information retrieval approaches, Liu and Croft sketch out some of the main application areas where language modelling has been used, including dealing with ambiguity in queries, providing relevance feedback, and supporting distributed and cross-lingual retrieval. A final section sketches out some future research directions. The chapter starts with a consideration of some of the main characteristics of the Web size, interconnectivity, etc. This includes the observation that the analysis of search engine query logs suggests that Web users "expect immediate answers while expending minimum effort" p. In his introduction, Yang notes that the Web is rich in types of information not present in most information retrieval test collections, including hyperlinks, usage statistics, markup tags, and subject-based directories p. The main body of the chapter explores in more detail how these types of information are used in Web retrieval research. Further sections deal with the mining of usage data, the Web track activity in TREC the Text REtrieval Conference [4], and attempts to bring a level of information organisation to the Web, e. The concept of webometrics, as first defined by Almind and Ingwersen in , originated from the realisation that informetric methods like citation analysis could also be applied to Web links [5]. The chapter itself focuses on four main areas of webometrics. Firstly, the authors introduce the basic concepts and methods used, highlighting problems with defining units of analysis and providing an overview of data collection methods and sampling techniques. A second section reviews research that looks at Web linking behaviour in the context of scholarly communication. This includes studies looking at research papers in e-journals and services like CiteSeer [6], as well as the country-based analyses of university Web sites pioneered by Thelwall and his colleagues. The section following covers more general issues, reviewing attempts to analyse the size and nature of the Web, as well as studies of user behaviour and commercial Web sites. The final section introduces the topological approaches that have done much to uncover the underlying structure of the Web as a complex network, including the discovery of scale-free network features and small-world properties. The discovery of any structure at all was a surprise for some. Steven Strogatz has written that while the Web is an "unregulated, unruly labyrinth where anyone can post a document and link it to any page at will Technology and Systems The first chapter in the section on technology and systems concerns information visualisation, written by Bin Zhu of Boston University and Hsinchun Chen of the University of Arizona, Tucson. Visualisation techniques are becoming increasingly important in e-science, e. In their introduction, Zhu and Chen p. Further sections explore emerging applications for visualisation techniques - focusing on digital libraries, the Web, and virtual communities - and evaluation methods. This is especially true in molecular biology, where the new interdisciplinary field of bioinformatics has emerged to deal with the large amounts of data being generated by sequencing initiatives and other biological projects. While the curation of data is a major concern, Luscombe, Greenbaum and Gerstein note that the aims of bioinformatics extend much further, i. It commences with a very brief overview of biological data gathering techniques - e. A second section looks in more detail at

definitions of bioinformatics, concluding with a long quotation from the article by Luscombe, et al. A short section on professional communication is followed by a more detailed review of different database types, the roles of data mining and visualisation tools, opportunities for collaboration and links with clinical medical informatics. The chapter is very interesting, but its structure is sometimes confusing and there is the odd inconsistency. For example, the list of journals publishing 25 or more items annually on bioinformatics in Appendix 5. On one occasion at least there is a lack of precision that could potentially be misleading. The following chapter is an extremely well written review of research initiatives related to electronic records management by Anne Gilliland-Swetland of the University of California, Los Angeles. While ARIST has previously covered general digital preservation topics [15], [16], this is the first chapter to specifically review electronic records management as a research topic. The chapter starts with a discussion of definitional issues, focused on debates about the nature of records and the role of archives, which have themselves in part been driven by the challenge of electronic records. Further sections review the history of electronic records research since the emergence of social science data archives in the s, emphasising the importance of the meeting report *Research Issues in Electronic Records*, issued by the US National Historical Publications and Records Commission [17]. Gilliland-Swetland argues that this report marked the emergence of a new approach to electronic records management, one largely record- and evidence-driven, and informed by empirical study p. The remaining sections of the chapter look in more detail at issues relating to the reliability and authenticity of electronic records and the key topic of metadata, which Gilliland-Swetland notes is "likely to be a locus of considerable research and development for the foreseeable future" p. The late Rob Kling defined it as a new name for "the interdisciplinary study of the design, uses, and consequences or information technologies that takes into account their interaction with institutional and cultural contexts" [22]. The section contains three chapters, the opening one by Ewa Callahan of Indiana University reviewing the influences that cultural or linguistic differences can have on interface design. The chapter first looks at definitions of culture and methodological issues in cultural research, then reviews interface design with perspectives on language, graphical elements, structural presentation and usability. As the title might suggest, this is a preliminary look at the social networks that underpin the Web, concluding that we "are still at an early stage in understanding how the Web is affecting local, national, and global patterns of society" p. The final chapter in the section, by Andrew Large of McGill University in Montreal, concerns the use of the Web by children and teenagers. The chapter reviews a wide-range of topic areas, including national surveys of Web use, studies of Web access and information-seeking behaviour, the use of the Web in educational contexts, and issues relating to content and personal safety. Volume 39 goes one better and has a whole section devoted to national intelligence. First, the editor himself provides a chapter on "Intelligence, terrorism and national security," based on a public lecture delivered at St. In this, Professor Cronin looks at the nature of extreme terrorism, analysing the challenges faced by intelligence and counterintelligence services in the United States. The chapter is not primarily a review of information science research, but an analysis of national security challenges based on a comparison of the organisation and culture of US intelligence agencies with the decentralised, distributed networks used by some terrorist groups. Further sections look at the impact of surveillance on citizen rights and propose a scheme for the management of surveillance in a representative democracy. This last section includes a brief look at the UK context, including some comments on oversight regimes. Theoretical and philosophical perspectives originating in literary criticism and cultural studies have become extremely influential in the wider social sciences and humanities, and it is probably no surprise that interest in these matters is increasing in information science. Evidence of this trend can be found in recent special issues of the journals *Library Trends* and *Journal of Documentation* focusing on philosophical issues [25], [26]. Theoretical approaches have often been criticised for ignoring practical information science problems, but as Talja, Tuominen and Savolainen comment, practical solutions will always be "developed on the basis of theoretical and epistemological assumptions" [27] - whether stated or unstated. Social capital refers to the benefits that accrue to individuals through their social networks, and this chapter investigates how

social capital in organisations may be able to be managed with information and communication technologies. The chapter reviews a number of different approaches but the authors resist synthesising them into a grand narrative because, as they note, the topic is an emerging one and there are few robust, longitudinal studies p. Warner himself acknowledges that no coherent tradition of attention to labour in information systems exists to be reviewed, so here he attempts to synthesise from implied concepts revealed elsewhere p. This chapter starts with a quotation from Genesis, then progresses rapidly through John Milton to Karl Marx. The final chapter investigates the to me at least unpromising topic of post-structuralism, described by Cronin in his volume introduction as "one of the major paradigms of twentieth-century literary theory" p. In this chapter, Ronald Day of Wayne State University in Detroit first introduces post-structuralism with reference to some of the fashionable French theorists that first developed the concept - here chiefly Michel Foucault, Jacques Derrida and Gilles Deleuze. He then tries to relate post-structuralism to information science, noting the traditional dominance of theoretical approaches focused on particular types of information or users. From his overview of existing research, Day concludes that information studies theory has largely remained "a positivist exercise, squarely within the metaphysical tradition of Western Philosophy, in so far as it reifies meaning and understanding in language acts, replacing variable pragmatics with idealistic models" p. The chapter then proceeds to look at different information science issues from a post-structuralist perspective, focusing on issues like the correspondence of meaning which is relevant to the development and use of knowledge organisation systems and the importance of historicity. Further sections provide more detail on discourse analysis, hermeneutics, and events. Day argues that post-structuralism provides "a challenge to the metaphysical and epistemological assumptions that have, for so long, dominated" information science research and practice p. There seems to be at least two things missing from this chapter. Also, it would have been useful to have some comments on the likely practical outcomes of post-structuralist discourse in information science. I do wonder how many of the developers of these tools were actually aware of this. Reading patterns into what will to some extent be a random selection of topics is likely to be problematic, but it was striking in volume 39 that many chapters were focused on the nature of the Web or its users or on the characteristics of networks more generally. The most disappointing of all was the chapter on bioinformatics, which could now be supplemented by a new chapter focusing primarily on the biological problems that the field is intended to support. The final set of theoretical chapters was not to my personal taste, but they do contain ideas that will be of interest to others. The volume contains over 2, bibliographical references, which will provide a mine of information when readers need to investigate new topics of study. In this regard it is perhaps interesting to note that of the 22 contributors, 16 were from the USA, three from the UK, two from Canada, and one from Denmark, resulting in a lower proportion of non-US authors than the previous volume. I, for one, am looking forward to the next volume. Annual Review of Information Science and Technology, 38, , vii. Journal of the ACM, 46 5 , , Nature, , 4 July , A proposed definition and overview of the field. Methods of Information in Medicine, 4, , Nature, , 26 April , Annual Review of Information Science and Technology, 35, , Annual Review of Information Science and Technology, 38, , Minnesota Historical Society, Annual Review of Information Science and Technology, 31, , Annual Review of Information Science and Technology, 36, , Learning about information technologies and social change: The Information Society, 16, , Library Trends, 52 3 , , Journal of Documentation, 61 1 , , Oxford University Press,

Chapter 3 : Book Review: ARIST 39 - Annual Review of Information Science and Technology | Ariadne

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Chapter 6 : Annual Review of Information Science and Technology

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