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If one reflects upon the work of those active in studying the origins of information science (including Burke, who provides a chapter in this volume entitled, "History of information science"), we see that the Annual Review of Information Science and Technology (ARIST) could almost be considered as old as information science itself, emerging as it did during the so-called "golden age" of the discipline (1950s-1970s). Now spanning 41 volumes, ARIST continues to be one of the most significant publications within the information science domain.

Like those before it, ARIST 41 reviews the information science landscape and provides a series of chapters, often pondering recent trends and developments; however, these chapters could essentially be described as a collection of extended essays from those active in the discipline. ARIST is not about presenting original research (although some authors provide snippets). It is about wrestling with fundamental theoretical or philosophical questions facing the profession, or reviewing an area of research with analytical and authoritative panache. Probably most important, ARIST is about accessibility. Its overviews are mindful of the fact that information science is a growing organism, encompassing areas that some readers will have little prior knowledge.

The 15 chapters inside ARIST 41 are divided into four sections: historical perspectives (I); availability, access, and use (II); organization and retrieval of information (III), and; space and place (IV).

Section I (historical perspectives) provides a solid opening to volume 41 and the anchor for subsequent chapters; reminding us of the various disciplinary strands that have emerged and that information science itself is of a rock-hard pedigree. Burke traces the historical and intellectual roots of information science, while Bensman provides an "intellectual biography" on the work of Eugene Garfield, probing the thought processes and theories that eventually spawned his citation impact factor.

For the present writer, the highlight of Section I is unquestionably Houston and Harmon's stimulating review of the history, influences and "apparent misunderstandings" surrounding Vannevar Bush's "memex" concept. Originally enshrined in the seminal 1945 article, "As We May Think" (often clumsily abbreviated to AWMT), the memex was a vision of information storage and retrieval facilitated by associative relationships between documents, personal relevance judgements and advanced reasoning techniques. It is therefore no surprise that Bush's memex concept has been an inspiration to the profession. Indeed, it is often cited as the origin of hypertext, the Web and personal computing. Bush's ideas were not always influential and over the years their vagueness has attracted a great deal of criticism. Houston and Harmon explore the originality of the memex concept, its place in history and chart its initial negative reception to its rise from the 1960s onwards. They note that although the memex was not altogether original it constituted a novel synthesis of ideas, comparable to conceptual advances such as that of calculus or universal gravitation. Such a synthesis represents a "fundamental idea set" for the information science community and should therefore not be treated literally. For Houston and Harmon, the memex legacy also suggests a greater need to widen the disciplines qualified to contribute to realising a memex-like technology; greater collaboration with the cognitive sciences, artificial intelligence, management and decision sciences and psychology.

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Section II and beyond deal with current trends and look to the future of information science. Section II (availability, access, and use) begins with a critical review of the "universal access" concept from Sawhney and Jayakar. Sawhney and Jayakar clarify the conceptual ambiguity plaguing understanding of universal access by examining the egalitarian stimuli at the heart of model systems (such as the universal postal service, education, telephone service, and broadcasting). They note the ability of universalist principles to permeate new or emerging domains and identify a series of assumptions and expectations pertaining to the delivery of universal services which have alluded adequate study.

Bearman reviews the large number of recent developments in the area of digital libraries, critically examining the content, technologies, architectures, services, functions, and social impact of current digital library implementations. Bearman's predictions for the future of digital libraries are themselves predictable (e.g. digital libraries will host all types of information, the proportion of "past information" made available via digital libraries to increase exponentially, etc.); however, his comments regarding the need to be more responsive to a "universal clientele" are thought provoking and mark the elastic boundaries now governing the digital library arena. Simply, digital libraries have been designed backwards. Says Bearman: "New ways will have to be found to become more responsive to a universal clientele. I think we will be forced to do so in part because digital libraries share a technological and social space with the public Web and their success will necessarily be measured against it" (p. 253).

Section II also encompasses context in information behaviour research; Courtright reviews recent research by analysing and comparing models. Similarly, Rieh and Danielson provide the reader with, "credibility: a multidisciplinary framework", reviewing the various theoretical and empirical work on credibility and how it impacts on information science and technology.

Section III (organization and retrieval of information) is particularly strong, containing as it does a number of chapters authored by information science luminaries, including Birger Hjørland from the Royal School of Library and Information Science, Copenhagen, and Catherine Legg from University of Waikato. Hjørland explores in depth the semantic issues underpinning the very essence of library and information science, particularly knowledge organization, and notes that we have yet to address any such issues in a systemised manner.

Legg's "Ontologies and the Semantic Web" could be considered a quintessential ARIST chapter, providing a rollercoaster tour of ontological theory and exemplifying the now customary "deep and wide" referencing. In 46 pages Legg introduces the key concepts, reviews and charts the history of ontology (from Aristotle to Peirce), summarises the principal modelling languages, and probes the issues facing the Semantic Web community. Her conclusions suggest that a reality check is order of the day; not because the idea of the Semantic Web is wholly unachievable, but because some people have been promising results that are at present – and for the immediate future – unattainable. Legg also reminds us that many of the problems facing the Semantic Web community are intractable and echo deep philosophical issues that have plagued ontologists for centuries.

Interest in Personal Information Management (PIM) – stimulated by the recent proliferation of software applications, portable devices and other gadgets supposedly designed to aid PIM – is the subject of William Jones' chapter. Jones discusses the problems inherent in PIM and how it differs to conventional information retrieval and management, as well as the overlap PIM has with other disciplines (specifically cognitive sciences and human-computer interaction). Jones also proposes a useful conceptual framework and examines some of the challenges peculiar to PIM research and evaluation, such as the unique nature of users' PIM practices, the danger of focussing on particular forms of PIM at the expense of others (e.g. making generalisations about PIM behaviour by studying such behaviour in email applications only, and so forth), and the challenge of developing methodologies that can track the unique "keeping" and "finding" activities of users over time.

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Section III concludes with an interesting chapter on Arabic information retrieval by Ibrahim Abu El-Khair, El-Minia University, Egypt. The chapter is interesting simply because Arabic is a unique language, exemplifying a structure quite different to the Latin languages. Arabic IR has historically never enjoyed the same degree of funding as IR in Latin-based languages; however, with national security at stake, interest has increased. El-Khair reviews research and applications in Arabic IR, particularly those in the area of computational linguistics.

Section IV (space and place) opens with a chapter by Börner et al. on what Blaise Cronin describes as, "one of the fastest-growing and potentially most important fields of contemporary research in academia" (p. ix). Interest in the emerging field of "network science" has recently permeated the information science community and entails the development of theoretical and practical techniques designed to comprehend the behaviour of natural and man-made networks. Network science itself is an extremely interdisciplinary area of study, often encompassing biology, physics, sociology, epidemiology, and information science. Börner et al. (themselves emerging from electrical engineering and physics) review network science by introducing a theoretical and practical framework to focus the investigation of networks. They also provide a "gentle introduction", including an interesting overview of visualisation techniques.

Complementing Bensman's chapter on Garfield and the impact factor in Section I, Nicolaisen provides a critical review of the theories and assumptions underpinning citation analysis. In particular, Nicolaisen analyses the notion that citation behaviour is best understood as a psychological process, by studying the motivation of the citer, as well as social constructivist theories pertaining to citation behaviour. Nicolaisen concludes by presenting a critical analysis of Wouters' "reflexive citation theory".

Section IV concludes with chapters on "scientific collaboration" and "Human geography and information studies" by Diane H. Sonnenwald and Greg Downey, respectively. Sonnenwald synthesises the diverse literature in an attempt to glean a secure understanding of the scientific collaborative phenomenon, while Downey proposes the use of "human geography" as a means of "asking questions, conceptualising answers, and seeing 'things' such as information objects and information actors, information technologies, and information agencies both relationally and dialectically" (p. 686).

Like its predecessors, ARIST 41 represents a robust work, encompassing a plethora of information science sub-disciplines. And like its predecessors, it is unlikely that one will read the volume from start to finish; ARIST is more conducive to occasional dipping, particularly to read a riveting review of a hitherto unfamiliar area of study. For this reason ARIST is a great place to introduce oneself to, say, ontology and the Semantic Web, or information seeking behaviour. The extended nature of the chapters (probing subjects with a high degree of depth and width), the ARIST proclivity towards critical reviews, and their extensive referencing make them ideal for orientating the new researcher. Indeed, this author would conservatively estimate that ARIST 41 contains a total of circa 3,500 bibliographic references!

The consistently high quality of the contributed chapters is also worth noting. This is due in part to the authors themselves, but also because editorship of the volume is in trusted hands. Blaise Cronin, Rudy Professor of Information Science at Indiana University, who has been editing since volume 36, straddles a wide array of research areas (from citation analysis to cybermetrics to knowledge management) and benefits from having several decades of international experience under his belt. Similarly Debora Shaw – also a Professor at Indiana University and associate editor of ARIST 41 – has a keen interest in information organization and information seeking. If one small criticism could be levelled, it is that the long submission-to-publication time inevitably results in some small portions of chapters being superseded by recent developments or events; however, such minor censure can be ignored in the light of such overwhelmingly top-notch copy. This is a compulsory purchase.

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