Research Perspectives on Serendipity and Information Encountering

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ABSTRACT

Serendipitous discovery has been a research topic for more than one hundred years, but only recently has it been the focus of attention in library and information science (LIS). In 1960, Bernier published the first article on serendipity in a LIS journal. The number of publications gradually grew until 1990s, after which the field experienced a significant interest by the LIS researchers. Currently, LIS researchers are studying serendipity and information encountering from different perspectives, ranging from analyzing various conceptual frameworks to conducting bibliometric studies and investigating factors that trigger and affect the phenomenon. The panel of experts will discuss the issues and challenges of conducting research in this new field of study in LIS.

Keywords
Serendipity, information encountering, mapping a field, cues, mixed methods

INTRODUCTION

Serendipitous discovery has a long tradition in science from Newton’s theory of gravitation to inventing Teflon (Roberts, 1989). Oxford Dictionary defines ‘serendipity’ as “the occurrence and development of events by chance in a happy or beneficial way,” while Merriam-Webster defines the term as “the faculty or phenomenon of finding valuable or agreeable things not sought for.” In 1935, Rosenau traced the origin of the term to Horace Walpole’s 1754 letter correspondence with Horace Mann, who defined ‘serendipity’ as “making discoveries, by accidents and sagacity.” (p. 91)

For more than one hundred years, serendipity has been the topic of study in various disciplines, particularly in sciences (e.g., Van Andel, 1994; McNally, Prier, & MacMillan, 2011). A preliminary search of the literature on ‘serendipity’ in SCOPUS database resulted in more than one thousand publications on the topic. In the field of library and information science (LIS), the term ‘serendipity’ was first used relatively recently by Bernier in 1960, when he discussed the concept of dynamic classification, and display of symbols for information discovery. Bernier defined ‘serendipity’ as “fortuitous discovery” of information. The objective of this panel is to explore and examine the issues and the challenges of conducting research on serendipity and information encountering as a new field of study in library and information science.
Since Bernier’s paper, the number of publications on serendipity has grown significantly in LIS, indicating an increase in interest in the topic. A preliminary search in LIS literature on the term ‘serendipity’ and related concepts such as ‘information encountering’ resulted in more than 70 publications between 1960 and 2015. Figure 1 shows the cumulative distribution of these publications over time. A coefficient of determination (R2) of 98.2% indicates an exponential distribution, with an average growth rate of 7.7%, which is accelerating. The field was relatively inactive until the 1990’s, when LIS researchers such as Toms began investigating serendipity (Toms, 1998; Toms, 2000), Erdelez used the term ‘information encountering’ to formulate a new framework for serendipity (Erdelez, 1995; Erdelez, 1999), and Campanario (1996) conducted a bibliometric study on 400 most cited papers to detect serendipitous discovery. Since, the 1990’s, serendipity and information encountering has been investigated in LIS from different prospective such as human-information behaviour (Erdelez, 2009), knowledge acquisition (Erdelez, Marinov, Allen, 2012), information literacy (Erdelez, Basic, & Levitov, 2011), digital libraries (McCay-Peet, Quan-Haase, Kern, 2015), psychology (Heinström, 2007), music (Zhang, et al, 2012), and social media (Panahi, Watson, & Partridge, 2015). However, the number of studies on serendipity published in LIS literature remains relatively small compared to other fields. Only recently, LIS researchers have begun to discuss conceptual frameworks (e.g., Foster & Ford, 2003; McBirnie & Urquhart, 2011; Makri & Blandford, 2012, McCay-Peet & Toms, 2015; Agarwal, 2015), methodologies and evaluation techniques for measuring and assessing serendipity and information encountering (McCay-Peet, Toms, & Kelloway, 2015; McCay-Peet, Toms, & Quan-Haase, 2016). In today’s world people increasingly acquire information rather than actively look for it. This underlines the importance of underlining serendipity as an adequate way to acquire information within the LIS field.

Considering the amount of attention devoted to the topic of ‘serendipity’ in other disciplines (e.g., de Rond, 2014), is it feasible to declare the topic as a new field of study in LIS, and what are the challenges of conducting research in this new field?

Figure 1. Cumulative distribution of literature on ‘serendipity’ in LIS, 1960-2015

PANEL
Together the LIS panelists will shed light on the importance of conducting research on serendipity and information encountering, and various issues and challenges related to this field of study. The discussions will range from conceptual to applied, showcasing recent research on serendipity and information encountering.

Panelists

1. The Conceptual Space of Serendipity

Dr. Naresh Kumar Agarwal, Associate Professor, School of Library and Information Science, Simmons College, USA
Agarwal will present his work on mapping the conceptual space of serendipity in information behaviour and arriving at a definition. He looks at the relevant terms in the literature on information behavior and serendipity, times when serendipitous finding can occur, the dimensions of serendipitous findings, and a series of assumptions to draw out the key elements of serendipity. Using Wilson’s framework as a starting point, he arrives at a series of frameworks to include serendipity in information behaviour models. The result of his analysis is a framework of continuums that identifies the core of this research area of serendipity in information behaviour and arrives at its definition.

Dr. Naresh Agarwal is an Associate Professor at the School of Library and Information Science at Simmons College, Boston. He has published more than forty articles in international journals, conference proceedings and as book chapters in the fields of information behavior and knowledge management. His next major project is a book on context in information behavior.
2. Mapping the Field: Serendipity and Information Encountering

Dr. Sanda Erdelez, School of Information Science & Learning Technologies, University of Missouri, USA
Dr. Jamshid Beheshti, School of Information Studies, McGill University, Canada

Erdelez and Beheshti will present a bibliometric study on serendipity as a topic of research in different disciplines and in LIS literature. The objective is to examine the nature of the literature in the context of classical bibliometric analysis using the number and characteristics of publications. The preliminary results show utilizing bibliographic coupling and term analysis show clusters of terms that distinguish different disciplines, and networks of authors from various fields that have strong connections within the fields but not outside of the fields. Citation content analysis are conducted on a sample of publications to determine the rate and the nature of expert and import between LIS and other disciplines.

3. What Creates the Spark: Triggers in Serendipity

Dr. Elaine Toms, Professor of Information Science, Information School, University of Sheffield, UK

When serendipity springs to mind, most people think of the "aha" moment when a new idea or thought emerged from inside one’s head. But for that new idea to emerge a person must first have interacted with another human or non-human object such that the spark of that interaction ignited the new idea. What creates the spark? While there are a number of variables in action, a key element is the trigger or cue that stimulated the interaction in the first place. The trigger may be a person, a document, a part of the interface, or element of the person’s environment. This begs the question: what turns any element into a potential trigger? This talk will focus on computer presented triggers and the characteristics of triggers.

Dr. Elaine Toms is Professor of Information Innovation & Management at the Sheffield University Management School, UK (with previous appointments at Sheffield’s iSchool, and Dalhousie University and the University of Toronto in Canada). Her research focuses on how people access and use information, and the evaluation of systems that enable those activities. She first observed serendipity in action serendipitously while observing how people read a digital newspaper during her PhD thesis. Since then she has tested a feature intended to spark serendipity and looked at ways of measuring systems that support serendipity.

4. Capturing Information Encountering

Dr. Stephann Makri, Lecturer in Human-Computer Interaction, Centre for Human-Computer Interaction Design City University London, UK

Makri will present an overview of human-centred approaches for capturing serendipity in digital information environments – from real-time approaches such as direct observation and technology-assisted diary studies to retrospective approaches such as ‘Critical Incident’ interviews and focus groups. He will provide ‘tips’ for successfully applying these approaches based on his and his students’ experiences. He will also argue that serendipity in the context of Information Interaction is not a new field, but a new name - for Information Encountering (a concept investigated by Sanda Erdelez since the 1990s).

Dr. Makri is a lecturer in Human-computer Interaction at City University London and self-proclaimed 'prince of Serendip.' His research focuses on understanding how people encounter (rather than seek) information in digital information environments and feeding this understanding into design. His work on serendipity in the context of information interaction has featured widely in the media, including in the Sunday Times, BBC and ABC Radio and Readers Digest (for more information visit www.stephann.com).

5. Serendipity in Everyday Life Information Seeking

Dr. Jannica Heinström, Associate Professor, Department of Information Studies, Åbo Akademi University, Finland
Heinström will present recent research findings (collected during April-May 2016) on the role of serendipity in young people’s everyday life information seeking. The material was collected by interviews and surveys of 17-19 year old high school students as part of a larger research project. The role of serendipity will be connected to larger patterns in young people’s everyday life information seeking and their personality traits. The increasing importance of serendipity in a world of constant information flow in social media and newsfeeds will be discussed. Serendipity as a mode of information acquisition will also be critically examined through the lens of individual differences. Preliminary findings from the study suggest variability in the respondents’ awareness of and utilization of serendipity as a mode for information acquisition. This underlines the need to address serendipity as an adequate mode of information acquisition, e.g., in information literacy instruction. Heinström will address the challenges of empirically investigating serendipity through interviews and surveys.

Dr. Jannica Heinström is an Associate Professor in Information Studies at Åbo Akademi University, Finland, and a docent at the University of Borås, Sweden. Her research interests lie in psychological aspects of information interaction, such as personality, motivation and emotion. Presently Dr. Heinström is employed as a Senior Researcher in the ARONI project at the University of Tampere (2016-2018). ARONI (Argumentative online inquiry in building students’ knowledge work competences) is an interdisciplinary project funded by the Academy of Finland.

6. A Framework with Key Affordances for Serendipity

Dr. Lennart Björneborn, Royal School of Library and Information Science, University of Copenhagen, Denmark. Björneborn sees serendipity as an interesting phenomenon to study in information science as it plays a fundamental role in how we discover, explore, and learn in all fields of life. Understanding serendipity as an affordance, i.e., as a usage potential when environmental and personal factors correspond with each other, Björneborn will briefly present a conceptual framework connecting key environmental and personal factors important to understand if we want to design affordances in physical and digital environments that can facilitate serendipity. The framework is centred around three key affordances for facilitating serendipity, covering capacities of physical and digital environments to be diversified, traversed, and sensed. Related research is compared to the framework and mapped into it. The outlined affordance approach to serendipity points to the importance of our sensory-motor abilities to discover and explore serendipitous affordances. In this context, different types and degrees of serendipity will be briefly addressed, including micro-serendipity (Bogers & Björneborn 2013) as a commonplace phenomenon in everyday life.

Dr Lennart Björneborn is an Associate Professor at the Royal School of Library and Information Science, University of Copenhagen, Denmark. His main research interests focus on what design dimensions of physical and digital environments may enable and support creative information practices in everyday life, especially in the shape of participatory culture, exploratory behaviour, social navigation, information sharing, and serendipity. He has investigated environmental factors that may facilitate serendipity in digital settings, e.g., web link structures (Björneborn 2004); in physical settings, e.g., public libraries (Björneborn 2008); as well as in mixed settings in everyday life (Bogers & Björneborn 2013).

REFERENCES


