The Concept Formerly Known as Information (The Panel)

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ABSTRACT

This session introduces a new approach to the concept of information, utilizing an arts-informed, visual approach. 137 graduate students from a North American iSchool were asked "What is information?" and responded by drawing upon a 4" by 4" piece of paper, coined an "iSquare." The drawings of information (Figure 1) were analyzed using compositional and thematic analysis techniques adapted from precedent visual studies. The results include the identification of the most common graphical representations used to express information, as well as three themes pertaining to the social, technological, and "informational" dimensions of information. This panel employs the iSquare study and its outcomes as a springboard to engage -- afresh -- the concept of information today. After the original research is reported, invited experts from information science, museum studies, and social epistemology will offer commentary. "The Concept Formerly Known as Information" is a riff on the antics of American singer-songwriter Prince, who in 1993 changed his name to an unpronounceable glyph and was called (for a short time) "The Artist Formerly Known as Prince." This panel seeks a similar jolt to the status-quo when the concept of information is transformed from word to image.

Keywords
Information; information behavior, arts-based research; visual methods; draw-and-write technique.

INTRODUCTION

A survey of the concept of information (Bates, 2010) in the *Encyclopedia of Library and Information Sciences* covers many propositions and each reflects the metatheoretical trends of its time. For instance, inspired by cybernetics, Parker posited information as "the pattern of organization

of matter and energy" (1974, p. 10). Taking a cognitive view, Brookes defined information as "that which elicits a change in a knowledge structure" (1980, p. 131). As research into information became more diverse, historian Buckland argued for three major forms: information-as-process, information-as-knowledge, and information-as-thing (1991). Just recently, in a postmodern climate, Furner (2004) surprisingly called for an information studies without the concept of information.

These statements and many others have enriched our understanding of information, yet have common shortcomings. First, they are generated by scholars and fail to capture a broad and everyday conception of information. Second, they are word-based, though information is part and parcel of a highly visual, multimedia society. Third, they are singular and fixed declarations, though change and perspectivism are markers of this era. The research project and associated conference panel outlined here creatively engages the concept of information and offers a contemporary interpretation that is visual, egalitarian, and dynamically multi-perspective.
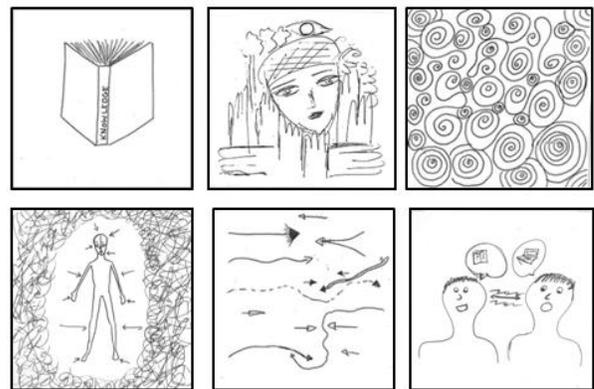

Figure 1. A sample of iSquares drawn by graduate students at a North American iSchool. 137 unique, hand-drawn iSquares constitute the data set for this investigation.

METHODOLOGY: A VISUAL APPROACH

This original research employs an arts-based (McNiff, 2008), empirical, visual approach (Prosser & Loxley, 2008)

and specifically the data gathering technique of drawing. Drawing is an effective means to slow down response time, generate contemplation, and express things that may be difficult to put into words. Though an uncommon strategy in information science, drawing has been used to capture children's perspective on food (Caraher, Baker, & Burns, 2004), celebrity (Gauntlet, 2005), health (Pridmore & Landsdown, 1997), and inclusive education (Prosser, 2007); and among adults has been employed in the study of teachers (Weber & Mitchell, 1995) and the experience of disease (Guillemin, 2004).

A convenience sample of graduate students at a North American iSchool were asked to answer the question "What is information?" in the form of a drawing. The activity occurred during 15 minutes of class time. Research assistants provided verbal and written instructions and supplied a 4" by 4" piece of white premium bond paper and a black pen. A pilot study occurred in summer 2011 to refine all features of the data gathering process, which was later implemented without major changes. 137 drawings of information - iSquares - were collected. Given the involvement of human subjects, the research design was approved by the Office of Research Ethics at the University of Toronto.

ANALYSIS AND RESULTS

The iSquares were analyzed in sequential stages using two different analytical techniques. The process involved many hours of viewing the iSquares one at a time, in thematic sets, and as a single collection, as shown in Figure 2. Each stage of analysis was driven by a distinct research question.

Figure 2. **During analysis the iSquares were spread across a table. Here, research assistant Karen Pollock picks up an iSquare to take a closer look.**

First, to answer the research question: *What kinds of images appear in the iSquares?* we implemented a modified version of compositional interpretation (Rose, 2001). Compositional interpretation is native to the humanities and the tradition of art criticism, whereby an artwork is

evaluated in terms of its genre. We decided that the iSquares were instances of the genre graphic representations, following a theoretical statement and classification scheme of that genre by Engelhardt (2002). Applying Engelhardt's framework we assessed each iSquare as a: map, picture, statistical chart, time chart, link diagram, grouping diagram, table, symbol, written text, hybrid, or other.

Our research subjects most often cast "information" as a picture, link diagram, or symbol. In our presentation we will introduce Engelhardt's framework of graphic representations. Then, the various graphical types appearing in the data will be qualified, quantified, and illustrated with exemplar iSquares. This stage of the analysis reflects the humanistic and arts-based sensibility within the study by engaging the iSquares as artworks that mirror the conventions of a genre.

Second, to answer the research question: *What do the iSquares actually show?* we applied a generic inductive approach known as "thematic analysis." In thematic analysis codes are invented to represent concepts that the researchers see in the data. In the study we named more than 100 codes and logged them in a spreadsheet. Examples of iSquare codes include: animal, arrow, book, box, brain, computer, document, eye, heart, key, light bulb, magnifying glass, money, network, path, people, plant, smiley fact, sun, text, thought bubble, tree, umbrella, and world. (Our panel includes a critical statement - in the form of a short comedy skit - on the complexity of interpreting the images and assigning codes.)

The codes were organized into logical themes and sub-themes related to the social, technological, and informational dimensions of information. For the presentation, the thematic analysis process will be described and then themes will be illustrated with exemplar iSquares. This stage of the analysis reflects a contrasting social scientific and positivist sensibility within the study.

Overall, the project generated new views of information that are novel, accessible, artful, and memorable -- hallmarks of visual research (Weber, 2008). At the same time, the iSquares reflect several prior definitions of information by Parker (1974) Brookes (1980), Buckland (1999), and Furner (2004), showing their resonance with the intellectual history of information science.

AGENDA AND INTERACTIVITY

The panel features the research team and three outside commentators who represent information science, museum studies, and social epistemology. The audience will have an opportunity to experience the research project by creating their own iSquare. We will demonstrate the data-gathering approach and then supply the necessary paper and pen. The act of drawing will likely produce new insights on the concept of information for the ASIS&T community.

Presentation Title	Presenter	Time (min.)
Overview of the Study and Results	Dr. Jenna Hartel	30
Create Your Own iSquare	Karen Pollock, Rebecca Noone, & the audience	10
The View from Information Science	Dr. Jens-Erik Mai	10
The View from Museum Studies	Dr. Kiersten Latham	10
The View from Social Epistemology	Dr. Steve Fuller	10
Open Discussion	Panelists & the audience	20
		90

Table 1. The Agenda for the panel.

THE SPEAKERS

Research team

Dr. Jenna Hartel is an Assistant Professor at the Faculty of Information, University of Toronto, and the primary investigator of the project. Her research explores the nature of information in the pleasures of life through concatenated ethnographic research of serious leisure (Hartel, 2003, 2010). She is a practicing ethnographer and an advocate of the application of visual methods to the study of information (Hartel & Thomson, 2011). Dr. Hartel will moderate the session and present the *Overview of the Study and Results.*

Karen Pollock is a 2010 graduate of the Master of Information program of the Faculty of Information, University of Toronto and a research assistant for the project; she is also a practicing archivist. Karen is passionate about the philosophy of information and will eventually enter a PhD program at an iSchool. She was instrumental during the data-gathering and analysis stages of the study. Karen will engage the audience in the hands-on activity *Create Your Own iSquare*.

Rebecca Noone is a 2010 graduate of the Master of Museum Studies program at the Faculty of Information, University of Toronto and a research assistant for the study. She is a creative person with a background in the arts and her aesthetic sensibility infuses the work. Rebecca hosts guerilla Science Fairs in Toronto and designed an exhibit and website that feature the iSquares. Alongside Karen, she will run the hands-on activity *Create Your Own iSquare*.

Commentators

Dr. Jens-Erik Mai is a Professor at the Royal School of Library and Information Science, University of Copenhagen. He is interested in basic questions about the nature of information phenomena and has explored these from a variety of conceptual points (e.g. semiotics, cognitive work analysis, late-modernity, philosophy of language, trust) often with a focus on issues and questions in the organization of information. Dr. Mai has recently published "The Quality and Qualities of Information" in *JASIS&T* (Mai, 2013). As the first commentator to speak, he will offer *The View From Information Science*.

Dr. Kiersten Latham is an Assistant Professor at the School of Library and Information Science, Kent State University. Her interests lie in phenomenological methodology, the museum object as document, affect in the museum, and lived experience as a way of knowing. She is the author of recent article "Museum Object as Document: Using Buckland's Information Concepts to Understand Museum Experiences" (2012) in the *Journal of Documentation*. Her dissertation Numinous Experiences with Museum Objects (Latham, 2009) explored the meanings made by people who have had deeply moving experiences with museum objects. Dr. Latham will provide *The View from Museum Studies*.

Dr. Steve Fuller is the Auguste Comte Chair in Social Epistemology at the Department of Sociology, University of Warwick (UK). He is a philosopher, sociologist, and historian of ideas with a doctorate in the History and Philosophy of Science from the University of Pittsburgh; the founder of the journal Social Epistemology; and the author of more than twenty books on science, religion, knowledge production, and academic and intellectual life. A recent publication of his of relevance to this panel is *The Knowledge Book: Key Concepts in Philosophy, Science and Culture* (Fuller, 2007). Dr. Fuller will contribute *The View from Social Epistemology*.

CONFERENCE THEME AND TRACKS

The 2013 ASIS&T annual meeting theme "Beyond the Cloud: Rethinking Information Boundaries" reflects the spirit of our study. (Of note, four iSquares contain images of actual clouds.) In a striking visual format we provide empirical evidence of information objects, information environments, and information behaviors in states of transformation. To conclude the panel, we assert that the collection of drawings form a new theoretical device for rethinking information and its boundaries today. The panel content is wide-ranging and germane to all conference tracks, especially information behavior.

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