Collected Abstracts

Reading Responses from LIS 530

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Abstract 1

Citation:
Svenonius, Elaine. “Information Organization.” *The Intellectual Foundations of Information Organization*, MIT Press, 2001, pp. 1-14.

Abstract:
This chapter proposes an intellectual foundation for information organization, which consists of ideologies, formalized processes, knowledge gained, and key problems to solve. The author establishes a historical framework illuminating the unique nature of cataloging and classification practices over time, as well as a philosophical framework that intersects systems philosophy, the analysis of objects as “parts of a whole,” with the philosophies of science and language to understand the general processes of organization. The chapter defines “documents” as pieces of information expressed in writing, sounds, and images, which are distinct from, and more concrete than, the abstract concept of “information.” The chapter ends by defining problems that arise when attempting to organize information, including the need to differentiate between different editions of a document, designing economical classification systems, and the need to keep pace with political and technological processes, namely in the rise and dissemination of digital information.
(*Word Count: 148*)

Keywords: information organization, classification systems, documents, systems philosophy

Abstract 2

Citation:
Svenonius, Elaine. “Bibliographic Objectives.” *The Intellectual Foundations of Information Organization*, MIT Press, 2001, pp. 15-30.

Abstract:
This chapter discusses the development of bibliographic objectives, a critical first step in the design of a bibliographic system such as a library catalog. The author surveys four traditional bibliographic objectives – “to find, identify, select, and obtain” – meant to assist users in an information setting to select materials and documents. The chapter discusses the history and progressive generalization of these objectives, including their modernization by the International Federation of Library Associations (IFLA) to support digital environments. The author proposes the development of a fifth objective – “to navigate” – based on the ever-present need to facilitate users’ interactions with bibliographic systems and information systems as a whole. The chapter gives additional mention to the objective of collocation, which states that bibliographic systems should be capable of forming bibliographic records, using the contexts of retrieval systems to understand precision and relevance of a system’s bibliography, as they relate to user queries. The chapter concludes with a discussion of the degrees to which real-world bibliographic systems adhere to these objectives, and weighs the costs and benefits of libraries developing “full-featured” systems, which attempt to fulfill all five of the objectives at once.
(*Word Count: 192*)

Keywords: information organization, classification systems, bibliographic systems, information behavior

Abstract 3

Citation:
Wilson, Patrick. “Bibliographical Instruments and their Specifications.” *Two Kinds of Power*, UC Berkeley Press, 1968, pp. 55-68.

Abstract:
This chapter provides readers with a foundation of the way that bibliographic instruments function in information settings and allow for bibliographic control. The author begins by defining “bibliographic instruments” as a generic term for tools that aid in information retrieval, such as catalogs, indexes, and databases, and “bibliographic control” as the identification, description, and classification of documents so that they may be effectively organized, stored, and retrieved from a bibliographic system. The author explains how the domain of a bibliographic system, its units of representation, and the rules of interpretation are integral specifications to make a successful one. The chapter concludes with a statement arguing for the designers of bibliographic instruments to clearly state the specifications and objectives of each instrument and the role it plays in bibliographic control, so that users will be able to get the maximum benefits from their information queries.
(*Word Count: 144*)

Keywords: bibliographic systems, bibliographic control, information control, information retrieval, systems design

Abstract 4

Citation:
Wilson, Patrick. "Subjects and the Sense of Position." *Two Kinds of Power*, UC Berkeley Press, 1968, pp. 69-92.

Abstract:
This chapter discusses subject analysis, the step in the indexing and cataloging process that deals with the conceptual analysis – denoting the content, genre, and format – of an item within a bibliographic system, particularly through the lens of how catalogers classify entire writings in a subject scheme. The author questions how bibliographers decide on the subject matter of a writing to assign them to specific classifications, noting that there are no specific rules or regulations, as the concept of a "subject" itself is vague. The author relates bibliographic systems to broader organizational schemes to argue that catalogers should specify the relationships between the subjects to promote the accessibility of a variety of content. The chapter concludes with an argument that subjects are mostly left to the bibliographers' own judgments, operating by institutional precedents and conventions rather than a universal set of rules that every librarian is supposed to understand.
(*Word Count: 150)*

Keywords: subject analysis, classification systems, classification theory, bibliographic systems

Abstract 5

Citation:
Burke, Peter. “Classifying Knowledge: Curricula, Libraries, and Encyclopedias.” *A Social History of Knowledge: From Gutenberg to Diderot*, Polity, 2000, pp. 81-115.

Abstract:
This chapter provides a historical and socio-cultural analysis of Western systems of knowledge and the social institutions that formed those systems. It begins with an anthropological perspective grounded in the work of Michel Foucault, regarding how knowledge arises from cultural practices and the distinction between theoretical and practical knowledge. Using specific examples of the Protestant Reformation and the idea of the “polymath,” the author discusses considerations of “higher” and “lower” knowledge during various periods of Western thought. The chapter then examines the development and integration of the academic curriculum, and the borders between distinct academic “disciplines,” in Western society. The author argues that disciplinary systems gave rise to the arrangement and ordering of knowledge in libraries and, eventually, encyclopedias, which seek to embody these traditional views of knowledge. The chapter concludes with a discussion on the recent pattern in “re-ordering” these systems, namely in universities, towards more “specialized” views on academic knowledge, using specific observations of economics and political science as disciplines and the development of catalogs in libraries.
(*Word Count: 168)*

Keywords: knowledge systems, knowledge classification, Western knowledge, higher education, higher education history, libraries, encyclopedias

Abstract 6

Citation:
Burke, Peter. “Losing Knowledge.” *A Social History of Knowledge II: From Encyclopedias to Wikipedia*, Polity, 2000, pp. 139-159.

Abstract:
This chapter provides an overview of knowledges regarded as “useless” or “unreliable” throughout history. The chapter introduces the concept of “hiding” knowledge, particularly how public “outsiders” remain ignorant about various concepts from trade or political domains. The author also asserts that knowledge is “destroyed,” and therefore often lost, at the state of analysis as much as it is gained. He discusses a few consistent historical phenomena that lead to the destruction of knowledge, such as accidental destruction of the place they are held, the death of knowledgeable people, purposeful rejections of specific knowledges by disciplinary experts, and the displacement of artifacts’ contexts in art history and archaeology. The chapter then discusses how encyclopedias have discarded or rewritten “outdated” knowledge because of the progression of science, which the author sees is continuing to happen today in the age of wiki sites' deletion of various “outdated” entries from users. The article concludes with four case studies of “rejected” scientific knowledges – astrology, racial “science,” parapsychology, and eugenics – and how they have raised problems of classifying empirical studies as “science” despite potential biases found in their creation and application.
(*Word Count: 185)*

Keywords: knowledge systems, knowledge classification, knowledge organization, paradigms, intellectual history

Abstract 7

Citation:
Crawford, Kate. “Data.” *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence*, Yale University Press, 2021, pp. 89-121.

Abstract:
Beginning with a discussion of how images of faces come from, and how they are used in the development of facial recognition systems, this chapter discusses how data about human lives are collected, scraped, and commercialized by technology. The author expresses that technology companies often build and profit from AI systems that recognize and extract data about humans, since those systems can be used to monitor their lives. The chapter covers the collection of voice data and the quantities of text that was needed to train larger language-based models, such as early efforts in natural language processing and neural networks. The chapter also considers the unauthorized capture or collection of people’s faces and images as data, and ethical concerns that come with researchers saying they “do not know” how their work will be used. The author ultimately argues that the collection, mining, and classification of public data does not center the individuals whom the data is about, but the value of this public data in private settings.
(*Word Count: 167)*

Keywords: data ethics, facial recognition, data privacy, information governance, data collection, artificial intelligence, machine learning

Abstract 8

Citation:
Crawford, Kate. “Classification.” *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence*, Yale University Press, 2021, pp. 89-121.

Abstract:
In this chapter, Crawford examines the power and privilege that comes with classification, and how the power is unequally distributed despite claims of “objectivity.” Crawford begins with a history of human classification in phrenology and racial science, and how they relate to contemporary epistemological problems in classification. She showcases how these “politics of classification” are echoed in artificial intelligence (AI) systems, as many of them produce biased or discriminatory results on different races, genders, and ages, leading to the ignoring of fundamental questions on the social and political theories underlying this classification. Crawford says that classification is always messy, constructed, and never free from bias, giving the example of the machine learning database ImageNet’s image-noun associations and the difficulty coming with its ability to classify photos of people according to object recognition. Crawford’s final argument is that while training datasets made public, like ImageNet, are open to critique, it is more difficult to analyze the classification systems present in contemporary public life, like those from Google and Facebook, which are proprietary and therefore private.
(*Word Count: 173)*

Keywords: data ethics, classification systems, artificial intelligence, machine learning, algorithms, research paradigms, image recognition, privacy

Abstract 9

Citation:
Yoon, Carol Kaesuk. “The Strange Case of the Fish That Wasn’t.” *Naming Nature: The Clash Between Instinct and Science*, W.W. Norton & Co., 2009, pp. 3-22.

Abstract:
In this chapter, Yoon provides an introduction to taxonomy, the classification and categorization of life on Earth, and how it often follows instinct and childhood learning experiences, using a personal narrative about her childhood love for nature to explain the classification models at hand in more depth. Yoon critiques the cladistic approach to taxonomy, which is linear rather than hierarchical because it is based on “evolutionary relatedness,” not recognizing cohesive groups and taxonomical hierarchies widely accepted in the past – causing the “death of the fish,” an “instinct-less” movement in biological science that aimed to make more distinct groups of aquatic organisms than what we would traditionally call “fish.” Yoon claims that while taxonomy and natural order were facilitated by individuals’ umwelts, or environments, which connect them to everything that lives with them, this instinctive classification was changed thanks to individuals’ deference to science and the further inclusion of human-manufactured products in contemporary life.
(*Word Count: 155)*

Keywords: taxonomy, categorization, classification systems, knowledge systems, systems philosophy, natural history, cladistics

Abstract 10

Citation:
Yoon, Carol Kaesuk. “The Little Oracle.” *Naming Nature: The Clash Between Instinct and Science*, W.W. Norton & Co., 2009, pp. 25-52.

Abstract:
In this chapter, Yoon discusses the foundations of what a general population today would refer to as “taxonomy.” Yoon provides an account of the “pre-Linnaean” or “folk” taxonomies pre-dating scientific classification systems – these are vernacular systems that describe how humans traditionally describe and organize the world from their social knowledge. She follows this description discusses the work of Carl Linnaeus, considered the “father of scientific taxonomy,” namely his form of hierarchical, scientific classification – giving rise to the concept of “scientific names” for organisms and the hierarchical classification taught in contemporary science education. While Yoon initially critiques Linnaeus’ classificatory practice as detached from social knowledge and relations, she also sees value in the way that he has intuitively created a binomial classification system similar to “folk” taxonomies of the past, which relates to her discussion of the umwelt, and the natural order observed by humans in their environments, in her previous chapter.
(*Word Count: 154)*

Keywords: taxonomy, classification systems, knowledge systems, natural history, scientific classification, folk taxonomy