

Facets of Access: a Typology of Information Dissemination Systems

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ABSTRACT

In this poster, we describe a new way of conceptualizing relationships between systems for information dissemination throughout history, based on a set of basic attributes or facets. This poster illustrates one way in which these attribute-based relationships might be visualized, as a step toward illuminating novel perspectives on and comparisons between these phenomena.

Categories and Subject Descriptors

H.3.0 [Information Systems]: Information Storage and Retrieval – General.

General Terms

Documentation, Theory.

Keywords

Information access, information dissemination, classification, typology, facet analysis.

1. INTRODUCTION

Classifications have many uses: organizing objects for retrieval, describing the contours of the natural world, setting concepts (or objects, or even people) into relationships of kinds [1], separating “like” and “unlike.” Classifications provide a map to a given topic; a lens for viewing a conceptual space. In this poster, we seek to create one such map for the space of information dissemination systems, broadly conceived, as systems or phenomena that have had the effect of increasing access to information, throughout history. The outlines of this map are drawn according to certain basic facets or attributes of these phenomena, described in more detail below. We suggest that this attribute-based perspective on information dissemination systems helps to highlight parallels and points of comparison between these projects that are not otherwise obvious, and which may hold significant interest for researchers in the information field, by providing a novel viewing angle on their particular areas of focus. For example, at first glance, Twitter may not seem to have much in common with a Socratic dialogue; nor cave paintings with academic publishing. Yet, we suggest here that there are significant linkages between these phenomena (and many others) at the level of their most basic attributes, and that these linkages provide thought-provoking new insights into how we might approach the study of a key set of phenomena for the information field: information dissemination systems.

2. RATIONALE

This typology was initially conceived as part of a dissertation proposal, to structure a rationale for comparing two superficially quite dissimilar phenomena: early American public libraries, such as Boston’s, and current large-scale digitization efforts, such as Google Books. In that case, the goal was to iteratively eliminate the many kinds of information dissemination efforts that the dissertation would not be examining – everything from public school systems to television to Wikipedia. Following operational guidance for domain analysis [6, 9], and relying on the historical literature for a wide variety of such phenomena, a set of core attributes (detailed in the next section) was identified to lend structure to the winnowing process.

In formalizing this process of elimination, it became clear that with some extension, the underlying typology it employed might well be relevant in other areas of the information field. Information dissemination systems are, after all, perhaps one of the most pervasive foci of research in Information Science: from libraries to blogs to YouTube, a vast number of our objects of study can be seen as falling under the basic definition of information dissemination systems provided in the introduction. The current typology thus addresses a foundational question for the information field: what are the core attributes of the systems we build to provide access to information, and along what lines can those systems be contrasted and compared; grouped together and split apart?

The attributes that comprise this typology are not exhaustive; nor do they represent the only possible means of segmenting this space. However, they do serve to make a statement about the concept of information dissemination; to communicate one of many possible perspectives on the many ways that humans have sought to make information available over time. In this, the typology draws upon the theory of organization as expression presented by Feinberg [3, 4], in which classifications serve to make a particular kind of statement about the objects or entities that they arrange. It is hoped that this set of attributes will provoke thought about what other kinds of attributes might be relevant, and about which information systems belong where. It is also hoped that by illuminating some of the attributes that past and current systems have exhibited, this typology will help to inform thinking about the kinds of attributes designers might include in *future* systems for information dissemination: in a time where new such systems emerge on virtually a daily basis, such consideration can help to lend a more deliberate cast to discussions about the kinds of social entities that those systems might aspire to be.

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3. ATTRIBUTES

As a starting point, we propose ten key sets of attributes that help to differentiate and organize the various kinds of information dissemination systems that have developed over time. These attributes could be arranged hierarchically, or in a more fluid set of relationships, and also allow for a chronological perspective. Each is listed and briefly defined below:

1. *Self-direction*: Some systems (e.g., public schools) require dialogue and/or human intervention; others allow for users to gather and consume information in a more self-directed way.
2. *Produce vs. Provide*: Some systems (e.g., publishing) are oriented toward producing information; others (e.g., libraries) seek to provide access to information produced by others.
3. *Stability*: Conceived as a spectrum, following Levy [7]. Some systems and media happen at a particular time, then disappear without a trace (e.g., streaming audio, traveling shows); others are more fixed or stable (e.g., books).
4. *Collection-orientation*: Some forms of information dissemination (e.g., Twitter) do not necessarily imply the accretion of a collection for reuse over time; others do.
5. *Orientation toward communicative objects*: Some collections (e.g., museums) focus on artifacts writ large; others focus on communicative artifacts (text, film, audio) in particular.
6. *Access vs. Preservation*: Many systems might have the effect of increasing access to information, but not all take that as their primary goal. This attribute segments systems according to whether the primary aim is to preserve information (e.g., most archives) or to provide access to it (e.g., bookmobiles).
7. *Generality*: This refers to generality of collections. Some strive for general inclusiveness; others are more idiosyncratic (e.g., private libraries) or specialized (e.g., PubMed).
8. *Breadth of Audience*: This refers to the intended users of the system: for some, this is the public; for others (e.g., academic libraries), there is a more circumscribed user base in mind.
9. *Cost*: Some services are free, some cost money to use in any way, and others charge for particular pieces of the service.
10. *Century of Initiation and Conclusion*: In which century the first recorded example of this phenomenon occurred, and in which the last occurred (including “ongoing”).

As noted, this set of attributes is not exhaustive; however, it does lay the groundwork for a variety of interesting visualizations of the relationships between information dissemination systems, which we present on the poster itself. The examples noted above help to indicate the variety of cases considered in constructing the typology; to more fully illustrate how it might function, one more fully-specified example – public libraries – is presented below.

3.1 Example: Public Libraries

In the U.S., public libraries emerged in the 1830s, as explicitly public institutions where individuals could utilize general collections of books and other material, free of charge [8]. Based on the literature on the history and mission of public libraries in the United States [2, 5, 8], we suggest that they map into the above typology as in Figure 1, below.

With reference to the numbered attributes above, public libraries (1) provide a mostly self-directed user experience; (2) focus on providing content produced elsewhere rather than producing



Figure 1. Attributes of Public Libraries

content of their own; (3) tend to be fairly stable institutions, persisting over many years; (4) gather together collections of (5) communicative objects; (6) tend to be oriented first toward providing access, and then toward preservation (with perhaps a few exceptions); (7) tend more toward general collections in most cases; (8) are intended for a broad, public audience; (9) are free to enter and use; and (10) emerged in the 19th century and persist to the present. This could also be visualized as a hierarchical tree, with splits in the order listed above, or as a web, illustrating the commonalities, divergences, and clusterings of different dissemination systems according to particular attributes.

4. CONCLUSION

Following contemporary theory in knowledge organization [3, 4], this poster details a typology of information dissemination systems, and in so doing argues for a particular perspective on 10 attributes of how such systems can be conceived. Benchmarking this diverse and complex phenomenon in this way allows us to make comparisons, and through abstraction understand this activity and its anatomy as it unfolds both historically and in the contemporary information environment.

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