Facets of Access: A Conceptual and Standard Threats Analysis

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Abstract

The concept of information access is central to both Library and Information Science and to human rights discourse and practice. This paper offers a definition of information access and proposes a relational understanding of it. Using a "standard threat analysis," based on the work of political philosopher Henry Shue (1996), the access relation is analyzed in terms of five facets: (1) availability, (2) reachability, (3) findability, (4) comprehensibility, and (5) useability. It is shown how this theory can be synthesized with another prominent account of access (Burnett, Jaeger, and Thompson, 2008) to create a rubric to guide the evaluation and creation of information systems and services that satisfy the human right to information access.

1 Introduction

As the discipline that studies "the ways that society stores, retrieves, analyzes, manages and disseminates information" (ASIST 2014), the majority LIS research and practice is concerned with improving people's access to information. To illustrate, in the 2013 *iConference Proceedings*, the terms "access," "accessible," and "accessibility" were used 670 times (more than "computer," "computing," and "computable" at 553 mentions). Concern about "information access" is not limited to LIS researchers and practitioners, however. Access to information is a human right guaranteed by Article 19 of the Universal Declaration of Human Rights (UDHR). Furthermore, as has been pointed out by a number of authors, access to information is a particularly important human right (Bishop, 2012; Britz & Lor, 2010; Byrne, 1999; Calland & Tilley, 2002; Jagwanth, 2002; Koren, 1997; Mathiesen, 2012; Raseroka, 2006; Sturges & Gastinger, 2010; Weeramantry, 1994). Without access to information it is impossible to exercise many if not all of one's human rights. For example, access to information is an essential component of the rights to political participation (UDHR, Article 21), a fair trial (Article 10), freedom of conscience (Article 18), and even to health (Article 25(1)).

In order for LIS researchers and practitioners to improve access to information and for policy makers to determine how the right to information access can be fulfilled, they need to understand what "access to information" is. However, as has been noted by a number of researchers (Burnett, Jaeger, & Thompson, 2008; Lievrouw, 2004; McCreadie & Rice, 1999a; McCreadie & Rice, 1999b; Oltmann, 2009), the *concept* of information access is under-theorized in LIS. Leah Lievrouw's (2004) comment that, "'access,' as it relates to information and communication technologies, is seldom explicitly defined, even by experts" (p. 269), is hardly less true today than when she said it ten years ago. Most certainly compared to other key concepts in LIS, such as *data*, *information*, and *knowledge* (Bates, 2005; Capurro & Hjørland, 2003; Frické, 2009; Furner, 2004; Hjørland, 2007; Rowley, 2007), the concept of access has received scant attention.

This note proposes an account of information access. This account has three components: a definition of information access, a characterization of access as a relation, and a delineation of five facets of

access. These facets are the *constituents* of access—those conditions that must be met in order for information to be accessible to some person or group of persons. This account was developed using a philosophical methodologies of conceptual analysis and the human rights concept of a "standard threat." Finally, it is shown how this account can be combined with another analysis of information access (i.e., Burnett, Jaeger, & Thompson, 2008). This synthesis can then be used to guide the evaluation and creation of information services and policies to ensure the human right to information access is satisfied.

2   Related Research

While there are numerous papers that discuss some aspect of access, to my knowledge there are only two fully developed accounts of the *concept* of access. The first is Maureen McCreadie and Ronald Rice's (1999a) study of the ways in which the term "access" is conceptualized in a variety of disciplines. They found access used in six different senses: technology, commodity, control, participation, communication and knowledge. The second is a tripartite theory of access proposed by Gary Burnett, Paul Jaeger, and Kim Thompson (2008), which, in addition to the generally accepted categories of physical and intellectual accessibility (Fidel & Green, 2004, pp. 564-66), added the factor of social accessibility. (Hereafter, this will be referred to as the PhIS analysis.) This analysis was further elaborated by Kim Thompson and Waseem Afzal (2011), who added "culture" to the mix, calling the third factor "socio-cultural" access, and arguing that all three factors should be considered simultaneously (Thompson & Afzal, 2011, 30). Shannon Oltmann (2009) synthesized the PhIS analysis with McCreadie and Rice's categorization, showing the relationships between the two conceptualizations and illustrating how PhIS can incorporate the conceptualizations noted by McCreadie and Rice.
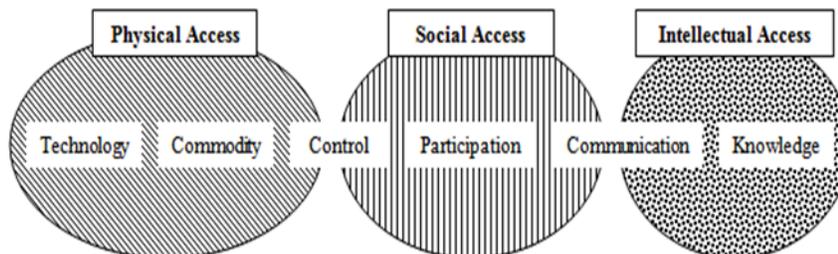

Figure 1: Synthesis of Two Conceptualizations of Information Access (From Oltmann 2009, 7).

Each of the proposed accounts of access to information was developed using a different method. McCreadie and Rice focused on how the term has been used in the scholarly literature, while Burnett, Jaeger, and Thompson developed their theory in a more intuitive manner, validating their theory by showing how it can illuminate various case studies. Oltmann (2013) has done further work showing that PhIS can be used to analyze the ways that access can be facilitated or restricted in cases involving access to scientific information. While each of these accounts has contributed to our understanding of information access, none of the existing accounts says what the *constituents* of access are. Such an account is needed in order to diagnose deficiencies in access and to guide the creation of effective interventions to improve access. The facets account proposed here fills this gap.

3   Methods

The account of information access proposed here was developed using a philosophical method; it uses a combination of conceptual analysis and a "standard threats" analysis based on the work of political

philosopher Henry Shue. The goal of this analysis is to provide an account of access to answer a particular question, i.e., what conditions would need to be fulfilled so that someone's human right to information access is satisfied? How we answer this question depends partly on what it means for someone to have a human right. Here I rely on Shue's (1996) analysis of human rights as protections against standard threats to vital interests (e.g., the interest in access to information). Shue's standard threats approach starts from the premise that it is impossible for policy makers to protect against all possible threats to an interest. Thus, in developing an account of human rights and corresponding state obligations, the theorist ought to focus on those threats that are most likely to arise (typically based on past experience). A standard threats analysis of a right, such as the right to information access, proceeds by asking, "What are the standard threats to information access?" The answer to this question can then be used to delineate the facets of access. The account provided here was initially developed by looking at the threats to the human right to health information (Article 19, 2007; Parker et al., 1999; Ramsay, 2001; Warren et al., 2012; Yamey, 2008).

4   Information Access Defined

First, it is important to note that "access to information," does not refer to access to an information system or service (i.e., a system or service that organizes and presents information), but access to information itself. "Information" as it is used here means, following the philosopher of information Luciano Floridi, semantic content (Floridi, 2013). (I differ from Floridi, however, in allowing that information may be false (Fallis, 2009)). Information may be provided via documents or other information sources (including human beings). Simply starting with the dictionary definition, the term "access" has been defined as the "freedom or ability to obtain or make use of something" (Merriam-Webster Inc., 2004) and "the right or opportunity to use or benefit from something" (Oxford University Press, 2001). These definitions actually capture the core of what a *right* to information access is; thus, I suggest the following definition of information access:

A person has access to information when he/she has the freedom or opportunity to obtain, make use of, and benefit from that information.

It is not being suggested that this is *the* only possible definition of access. For different purposes one might, for instance, focus only on the ability "obtain" the information, leaving aside questions of whether the information can be used or whether the person would be able to benefit from that use. This definition is appropriate, however, if what we are concerned with is the *right* to information. The right to have access to health information, for instance, will not be satisfied if a person can obtain, but cannot use or benefit from this information. The point of the right to information is that one should be able to gain some sort of benefit from it. Note that this does not mean that the person must or will benefit—it is merely that she is capable or has the opportunity to benefit.

4.1   Access is a Relation

Discussions of access often point out that it does not depend merely on the *availability* of information or information technologies (be they books, computers, or cell-phones), but also on the capacities of individuals to effectively use these resources. The basic nature of access as a *relation*, however, has not been clearly articulated. According to the definition given above, access exists when there is at least one person and at least on piece of information such that the person is able to obtain, use, and benefit from that piece of information. Thus, access is a relation between a person (or group of persons) and a piece (or complex set of pieces) of information. The fact that access is a relation between persons and information has important consequences. First, as a relation, one can never talk about "access" to information per se, one must be clear on *who* has access. What may be accessible for one person may not be accessible for another. There is no "accessible" full stop; information is always accessible *for* some person(s). Second, since access is a relation, to make a piece of information accessible there are two sorts of interventions one can make. One

can effect a change the information (or the information system or service)—e.g., make it easier to find, easier to understand, easier to verify—or one can effect a change in the person or her environment—e.g., teach information seeking skills, reading comprehension, or information literacy.

5   Facets of Access

By using a standard threats analysis focusing on access to health information, we find that information may be inaccessible due to one or more of the following 5 factors:

1. The information was not **available**. For example, persons have a right to know the prevalence of contagious diseases or other health threats in their areas. But, governments did not collect this data due to a lack of resources, incompetence, or a desire to look good (Article 19, 2007, p. 75).[1]
2. The information was not **findable**. For example, the person seeking information on her health problem does not have the skills necessary to find the available information (Warren et al., 2012).
3. The information was not **reachable**. For example, important medical information may be behind pay walls that physicians from poor countries cannot afford (Yamey, 2008).
4. The information was not **comprehensible**. For example, prescription information or labels on essential medicines may not be in the local language (Article 19, 2007, p. 30).
5. The information was not **useable**. For example, medical information is out of date or simply inaccurate (Article 19, 2007, p. 5).

Putting these 5 facets in positive language, in order for information to be accessible it must be available, findable, reachable, comprehensible, and useable. While the feature of availability is almost entirely dependent on the *production* side of the information system, the other four factors—the ability for a person to find, reach, comprehend and use information—depend on both the state of the information and the state of the person. So, for example, it is possible to make the medical information more reachable either by lowering the price or by providing more monetary resources to the physician. Whether an intervention to improve access should be on one side of the equation or the other depends on the relative costs and benefits of such interventions.

The terms used above focus on the perspective of the information seeker/user, but if we look at these factors from the perspective of the information provider we will find some familiar concepts from LIS.
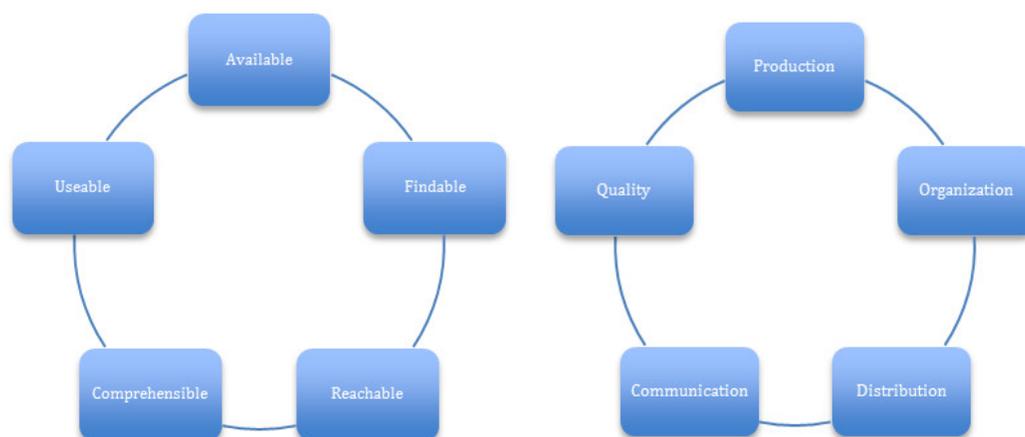

Figure 2: Facets of Access--User Perspective and Provider Perspective

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[1] "Article 19" is a human rights organization based in the UK, which focuses on issues related to freedom of speech and access to information.

5.1   Integrating the Facets Account and PhIS

Far from this analysis of access being a replacement for the PhIS analysis, it is perfectly compatible with it. While this analysis picks out those factors that *constitute* whether a piece of information is accessible or not, the PhIS analysis allows us to focus on *determinants* of whether and to what degree that factor is satisfied. Thus, for each factor we can ask what are the physical, intellectual, and social determinants of its satisfaction?

Figure 3: PhIS Analysis Applied to Facet

Combining the two analyses, we can ask 6 questions with regard to the comprehensibility facet:

1. What physical determinants limit/enable comprehensibility on the side of the information/system/service?
   - For example, is the copy poor—e.g., too faint, illegible?
2. What physical determinants limit/enable comprehensibility on the side of the persons who need information?
   - For example, does the person have a visual disability?
3. What intellectual determinants are limit/enable comprehensibility on the side of the information/system/service?
   - For example, is the material written only for subject experts?
4. What intellectual determinants limit/enable comprehensibility on the side of the persons who need information?
   - For example, do they have a literacy deficiency in this area?
5. What socio-cultural determinants limit/enable comprehensibility on the side of the information/system/service?
   - For example, is the material written in a way that is culturally relevant?
6. What socio-cultural determinants limit/enable comprehensibility on the side of the persons who need information?
   - For example, do they have the cultural competence to understand information from or about other cultures?

Similar questions can be developed for each of the facets to provide a rubric for evaluating the accessibility of a piece of information or set of information by some user or users.

6   Conclusion and Future Work

This note presents a model of information access as a relation between a person and information, constituted by five facets—availability, findability, reachability, comprehensibility, and useability. Each of these facets

is complex, including a number of factors. Thus, more work needs to be done to characterize each of these facets. More generally, work needs to be done to connect this conception of access to related work in LIS, such as Lievrouw's concept of the information environment (Lievrouw, 2004) as well as empirical work on information seeker's conceptualizations of information accessibility (Fidel & Green, 2004). In addition, while intuitively the account appears to be applicable to information topics besides health, it will be important to test whether it captures all the standard threats to information access across various subject matters.

Ultimately, the test of this conceptualization of access is whether it is useful for diagnosing access deficiencies and designing policies and systems to address them. This semester I am running a small test by asking students in my Introduction to Digital Cultures course to use this analysis to diagnose and suggest interventions to improve access to information for underserved populations. Each student is focusing on a particular underserved user group, an information content area, and a service or system, such as a library, Internet service provider, or website. Based on their preliminary research, they were asked to fill out a chart based on the model provided above, noting whether access to the information provided by that service or system was adequate or deficient. The students will then use this analysis to develop a concrete proposal for improving access for their user group and to provide a justification of this proposal. Once the final papers have been submitted, I will be analyzing the students' work to determine if there are any gaps in the model, such as constituents or determinants of access that were not captured.

7   References

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