



Review Article

The Life and Times of Aboutness: A Review of the Library and Information Science Literature

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Abstract

Objective – This paper explores the concept of “aboutness”, its related terms, and the process of aboutness determination as found in the Library and Information Science Literature.

Methods – A review of the literature pertaining to aboutness determination and related terms specific to Library and Information Science was undertaken, borrowing extensively from the literature review of Daniel Joudrey’s (2005) dissertation, *Building puzzles and growing pearls: A qualitative exploration of determining aboutness*, as well as examining a small selection of research and articles not discussed by Joudrey. In addition, a concept map was developed to outline many of the concepts and theories found.

Results – The LIS literature demonstrates conflicting positions surrounding the term aboutness and its correlates. Despite the lack of firm agreement on terminologies, the notion of subject is explored because it featured prominently in the literature. As well, intensional and extensional aboutness are explored in contrast to a more subjectivist perspective which asserts that a document's aboutness cannot be separated from its reader. Aboutness determination is also examined through the lens of theme and rheme, that is what is presupposed in a document versus what is new. Aboutness from the user perspective featured considerably in the literature, with many authors asserting both the

importance and the challenge of mediating knowledge on behalf of the user. The stage of aboutness determination in the complete process of subject indexing is also presented here, and the findings demonstrate that the stages are anything but linear and sequential.

Conclusion – While the findings are more expositional than conclusive, they demonstrate the complexities and challenges surrounding the concept of “aboutness” and the process of its determination. The value of this review is in its ability to present the ways in which scholars and practitioners have attempted to grapple with this conundrum. Although indexers may find temporary solace in cataloguing manuals that outline aboutness determination procedures, underneath these “safe surfaces” is an ambiguous concept further complicated by obscure and incomplete processes. This review provides an opportunity to reflect on those challenges and to further the discussion.

Introduction

The philosophical problems of information organization may appear inconsequential and inflated within the context of slashed library budgets, the rise of information exhaustion (a.k.a. information overload), and the popularization surrounding the notion of the library as an “endangered species”. Yet, underneath what appear to be musings among scholars and researchers, there is a sincere desire to understand the complexities of information organization.

In a discipline such as Library and Information Science (LIS) the philosophical does not operate within the theoretical realm alone, but is deeply engaged in practice. When scholars, researchers, and librarians discuss concepts within the field, they are discussed within the context of a practice. More particularly, discussions surrounding information organization are considered in a purposive context, even if they are based in the theoretical realm. In other words, information organization would be based in hollow ponderings if not for its usefulness. The theoretical basis is an essential component to the daunting task of contemporary information organization. It assures that the implications of the practice are considered in light of their various influences and potentialities.

In this light, the problem of aboutness determination in information organization is significant and worthy of exploration. It does not exist merely in the “clouds”, but penetrates into the “heart” of organization. This researcher was once warned that “writing a paper about ‘about’ is a recipe for a brain burnout feedback loop” (C. Read, personal communication, August 6, 2011). While this may prove true, it is not sufficient grounds to avoid the discussion. One can acknowledge the challenge, and near impossibility, of reaching a universal definition, and at the same time “chew” on the various colourful ways in which LIS has dealt with the complexity. This is precisely the purpose of this paper.

Aims

While the term *about* is commonly employed among speakers, the term *aboutness* is less common. This may have to do with a certain *je ne sais quoi* or abstract condition of the word. To explain, the term is constructed of the preposition, *about*, followed by the suffix, *-ness*. A preposition is commonly used to link relationships between other words in a sentence (e.g. the book is *about* cats). A preposition is generally followed by a determiner, which is exemplified above as “cats”. As well, prepositions are generally difficult to define because they are not used in isolation. Although

the word *about* is frequently used at the end of a sentence, it is often in the form of a question (i.e. What is the book *about*?). When the suffix *-ness* is added to the preposition, *about*, the preposition becomes an abstract noun and refers to a quality or condition of being *about* something (Oxford English Dictionary, *aboutness*). Thus, the example above becomes: the *aboutness* of the book is cats; or the book's *aboutness* is cats. While this example appears somewhat clumsy, H.H. Joachim (1906) in *The Nature of Truth* iv 174, provides a rather more eloquent application of the term:

Knowledge, so far as that is judgement and inference, is primarily and explicitly thinking "about" an Other. And even though discursive thought may find its concentrated fulfilment in immediate or intuitive knowledge, its character of 'Aboutness' is not thereby eliminated.

According to the Oxford English Dictionary online (OED) (2011), Joachim (1906) is credited as being the first to coin this term, and his application of the term in the example above is synonymous with the definition provided in the OED.

In the LIS literature, Robert Fairthorne (1969) was the first to employ the term *aboutness*. Fairthorne had specific ideas surrounding *aboutness* in subject indexing, and he further narrows his understanding into two types of *aboutness*: *extensional aboutness* and *intensional aboutness*. These two types will be explored more deeply at a later point in this paper. What is useful here is to understand that the term *aboutness* is fairly recent to the general discourse, and even more so in the LIS literature. As a result of its newness, the term can either be highly simplified or made otherworldly. The proceeding review seeks to critically examine its use in the LIS literature, and especially as it applies to the task of subject indexing.

This paper borrows from the literature review of Daniel Joudrey's (2005) dissertation, *Building puzzles and growing pearls: A qualitative exploration*

of determining aboutness, as well as a few articles not presented by Joudrey, but considered important in the discussion. Reference to Joudrey's literature review, however, is not exhaustive. Textbooks were not employed due to their pedagogical structure in presenting established concepts. In other words, this paper is more interested in exploring concepts aside from their position within an established framework of practice. As well, some texts are neglected in this discussion because they did not prove useful, or do not fall within the realm of its boundaries. For example, Joudrey presents numerous references to works related to facet analysis. Despite the fact that facet analysis has made significant contributions within LIS, it is not within the parameters of this paper to present a detailed exposition on the topic. Rather the focus remains as a broad review of *aboutness*, as opposed to an exposition on specific systems. The author also acknowledges that the topic of *aboutness* is much broader than its application in LIS, and that the literature exploring link patterns through search engines and recommendation tools on discovery engines could offer additional insight into this complex phenomenon. However, the purpose of this paper is to interact with the broad LIS literature exclusively. Future research could extend the discussion beyond the LIS literature to see if useful connections could be made, and greater insights gained through alternate methods of naming and discovery.

Methods

Joudrey's review was chosen based on its intentional examination into the nature of *aboutness* and the conceptual analysis processes involved in the determination of *aboutness*. The relatively recent publication of his dissertation made it possible to examine a broad range of accessible literature, both contemporary and classic. As well, Joudrey is recognized for his work within the LIS community, and specifically for his contribution to information organization. He has co-authored the latest edition of *The Organization of Information* (2009), alongside

Professor Emeritus, Arlene Taylor. Thus, Joudrey's review was deemed a valuable source for research into the topic of aboutness. While the researcher does not necessarily share the same philosophical perspectives as the author of the review, she acknowledges his contribution to scholarship, and in a "pearl-growing" like fashion, extends the discussion.

One challenge in writing a paper on aboutness in LIS is the difficulty in separating the theoretical from the practical. While every attempt has been made to provide the clearest explanations of concepts and practices, it may so happen that the two overlap. For the understanding surrounding the notion of aboutness cannot happen in isolation from the practice of its application.

Many of the issues presented in this review are also outlined in a concept map at the end of the document (See Figure 1). The map provides a visual display of the concepts explored here.

Findings

The findings are presented under the following headings: terminology debates; aboutness as a two-type distinction; aboutness from the user perspective; theme and rheme, the notion of subject; and stages in organization. These headings are intended to gather and organize literature that explores a particular aspect of aboutness determination. As is the case with many classification systems, these headings distinguish the various ideas presented here. However, it may be additionally fruitful to examine them as a whole, and the concept map in Figure 1 provides a visual representation of the literature explored in this review.

Terminology debates

It may be a simple matter of convenience that the term *aboutness* was drawn into the library science community. After all, it is difficult to talk about *about* because of its prepositional nature. By converting the preposition to a noun, it

becomes possible to describe it, despite it being an abstraction. In other words, as a noun, aboutness is "capable of functioning as the subject and direct object in a sentence, and as the object of a preposition" (OED, 2011, noun). Converting this preposition to a noun may, however, only create a semblance of precision. In reality, the term is fraught with numerous contradicting definitions as scholars and librarians attempt to grapple with this abstraction in application and theory.

Joudrey (2005), himself, claims that the movement towards the use of the term *aboutness* in LIS literature relates to its being more "pragmatic" and "practice-oriented" in definition (p. 3). He makes a distinction between the terms *subject* and *aboutness*. Due to its "richer and longer history" the term *subject*, is riddled with complexities and ambiguities that relate to its use within the philosophical and literary theoretical realms (p. 3). "Thus", he explains, "it is not difficult to leap from the term *subject* to the related but more philosophical terms: *meaning, understanding, interpretation, and idea*" (p. 3). Metcalfe (1973) also comments on the unsatisfactory use of the term *subject* in LIS because of "conflicts and confusions of meaning, particularly with distinctions of general and specific, and of object and aspect" (p. 336).

Hjørland (2001) does not share Joudrey or Metcalfe's perspective. He states that the "concept of aboutness did not remove this inherent unclarity, it only changed its name" (p. 774). Likewise, Albrechtsen (1993) states that the previous vagueness surrounding the term *subject* was eventually transferred to the term *aboutness* (p. 220). Rather, says Hjørland, "we should regard subject (including the compound *subject matter*) and aboutness as synonymous concepts (and prefer the former). The subject of a document is that 'something' that subject analysis and retrieval are supposed to identify. This is closely related to the questions that a document should provide answers to" (p. 776). The value of this perspective is that the indexer considers the document's aboutness alongside

potential information seeking queries. The indexer engages with both the document and its potential users as she considers the questions it may seek to answer. She is not simply a neutral automaton extracting the inherent aboutness from the document, but an engaged and active participant in the discussion.

Hjørland (2001) attempts to find a theoretical basis for defining synonymous terms that are not “biased towards any specific kind of IR-system” (p. 775). “If we are going to compare different approaches and develop general theories of information science and information retrieval,” says Hjørland, “we have to develop concepts that do not give priority to certain kinds of systems at the expense of others” (p. 775). For Hjørland, it is the theoretical basis behind the usage of terms like *aboutness* that defines them. He examines the most important terms that are used both synonymously and in distinction from one another. These include: *subject* (subject matter; subject-predicate); *aboutness*; *topic* (topicality; topic/comment); *theme* (with central theme and the German *leitmotiv*); *domain* (cognitive domain, scientific domain); *field* (information field, field of knowledge, field of research); *content*; and *information* (p. 775).

Also in contrast to Joudrey’s claim that the term *aboutness* is free of ambiguities, Swift, Winn, and Bramer (1978) suggest that the notion of *aboutness* is far from clear, despite the fact that it forms the basis for models of indexing (p. 182). The problem with the application of aboutness as an indexing model relates to their view that aboutness statements are usually oversimplified, and rarely describe the complexities surrounding searches carried out within the social sciences. They call instead for a “multi-modal” approach that involves characterising documents in a way that will serve a variety of search formulations. Their multi-modal system is a means to achieve a small-scale approach to indexing that acknowledges specific needs within specific disciplines, such as the social sciences and education (1978, p. 94). This disciplinary focused approach to subject

indexing provides the opportunity for specific disciplines to define their methods of aboutness determination and document characterisation. Winn and Bramer’s methodology is a distinct move away from universal, “one size fits all” approaches to subject indexing. The value of this approach is that it serves subject specialization by creating a meaningful and relevant vocabulary that is defined by and speaks to those who understand their disciplines best.

Hutchins (1977) states “that the subject description is merely one form of expression of some part of what the document is about” (p. 2). He distinguishes between *subject description* and *topics*. Topics act as a summarization of a document’s content for purposes of information retrieval (p. 2) and are based on references to relationships within a particular textual context. “In isolation a word has a sense, but it has no actual referent; it can have a referent only in a particular context” (p. 2). While subject descriptions, as exhorted by Hutchins, act as isolated parts, topics function within a particular context. Hutchins seems to be advocating a more holistic understanding of aboutness determination; one whereby topics point to the resource and provide a glimpse of its contents.

Aboutness as a two-type distinction

Aboutness as a two-type distinction was discovered in the LIS literature. In these readings, the aboutness of a resource was seen to have intrinsic and extrinsic properties. This section of the paper will examine and analyse aboutness as a two-type distinction, and the issues associated with such a division.

As mentioned above, the term *aboutness* was first coined in the LIS literature by Robert Fairthorne (1969). Fairthorne (1969) bifurcates aboutness into two types: *extensional aboutness* and *intensional aboutness*. Fairthorne’s two “camps” of aboutness distinguish between what is inherent in the document (extensional aboutness), and what is inferred from it (intensional aboutness) (p. 79). The former is

fixed, stable, and unchanging, while the latter is meaning-based, fluctuating, and subject to interpretation. Extensional aboutness is sometimes considered the concern of the indexer, and some would argue that it is the indexer's purpose is to extract the document's innate aboutness without interpolation of bias, subjective meaning, or interpretation. Intensional aboutness implies a relationship between the inanimate resource and the user engaged with its content. As a result, meaning is derived. Since users come to resources from various perspectives and for various purposes, the interpretations and meanings drawn from a resource will be from numerous vantage points.

Fairthorne's two types of aboutness can be found in the literature under different headings. Beghtol (1986) recognizes two kinds of document aboutness, but names them *aboutness* and *meaning* to create a sharper distinction in terminology (p. 84). Joudrey (2005) supports the distinction between extensional and intensional aboutness, and uses the terms *aboutness* and *subject* to distinguish the two (p. 59).

Boyce (1982) uses the terms *topicality* and *informativeness* from a two-stage view of relevance and the retrieval process. While considered "operationally necessary" (p. 106), topicality is considered an insufficient condition for user based relevance. It may or may not serve user relevance judgements. Informativeness, however, is based on the premise that the knowledge acquired from information retrieval is both "understandable and novel" (p. 106). While Boyce's two stages relate to Fairthorne's two types of aboutness, his description of informativeness is also similar to Hutchins's (1977) notion of *theme* and *rheme*, which is based on the idea that documents consist of a general knowledge base supplemented by an exposition of something new. Theme and rheme will be discussed in more detail ahead.

Some argue against the concepts of extensional and intensional aboutness. Todd (1992)

challenges the notion of a document's permanent aboutness. He argues that the current low measure of inter-indexer consistency in subject determination does not support the view of extensional aboutness (p. 102). Wilson (1968), too, demonstrates the indeterminacy and elusive nature surrounding the notion of subjects. He argues that we "cannot expect to find one absolutely precise description of one thing which is *the* description of *the* subject (p. 90). Wilson's approach to the notion of subject will also be explored in greater detail later in this paper.

Mai (1999), who does not talk specifically about the distinct types of aboutness, offers an alternative perspective by challenging the notion that words and their meanings can be separated. Instead, he argues that language is not merely words pointing to an objective reality, but is defined by the discourse of the "people or the community in which the words are used" (p. 553). Therefore, knowledge organization becomes more concerned with the "interpretive process" and "the cultural and social context which the knowledge organization is a part of" (p. 555). Merrell (as cited in Mai, 1999) says that "classifications are never innocent but constantly streaked with arbitrariness and motivated by preconceptions and prejudices. Besides they are constantly shifting, whether by design or in spite of our efforts to capture them" (p. 92). In other words, neutral and objective knowledge organization is a "pie in the sky", merely a fanciful idea that is impossible to attain.

As a premise to their research, Bertrand-Gastaldy, Lanteigne, Giroux, and David (1995) claim that "all reading is subjective and oriented in terms of a project" (p. 15). Similar to Mai's social construction, Bertrand-Gastaldy et al. assert that reading is both an individual and a social act of interpretation. As a social act, reading reflects certain shared characteristics among individuals within their respective communities. Reading as an individual act reflects instances of differences between

individuals within their communities which are based on their goals and needs.

If indexers are considered members of a specific community, it becomes possible to study the shared characteristics of their 'readings' of a document for the purpose of indexing, as well as to examine individual deviations or differences within the community, and to engage in an ongoing discussion surrounding those deviations and/or differences.

Campbell (2000) asserts that the knowledge organization community has become sceptical of the idea that a document has an intrinsic aboutness, and concurs with Mai (1999) that knowledge organization is a social construction. As a result, knowledge organization has come to embrace multiplicity and community-identity, while acknowledging that previous notions of universal neutrality were in fact laced with cultural bases and bias (p. 123). By admitting to the problem of bias, knowledge organizers will inevitably look to communities (such as the gay and lesbian communities) for their response to updated vocabularies and classifications. (p. 123). However, this approach does not leave indexes and classification schemes free from further scrutiny. Campbell explains:

The makers of new classification systems will be expected to articulate their positions relative to the community for whom the system is designed. This position will make a fundamental part of the tool's nature, and will be the means whereby readers, users, and critics of the system will rebel, and find their own provisional categories (p. 129).

Even as organization systems endeavour to include a multiplicity of communities within their systems, contentions can and do arise within those same communities as to how they understand themselves in relation to the labels used to define them (p. 130). This fits with Bertrand-Gastaldy et al.'s (1995) assertion that

reading is both an individual and a social construction. In other words, the idea of universality within communities is itself a myth. As Campbell says, "categories are fluid and unstable" (p. 130). This does not negate the importance of acknowledging the concerns of communities. Rather, "that the tough questions are here to stay, and that complexity, debate, and controversy can be negotiated, but not banished" (p. 130).

While Joudrey (2005) acknowledges the validity of the "subjective, interpretivist viewpoint" his acknowledgement is cast-off with a statement that the "work of subject analysis must continue to be done", and that "those arguing against the concept of extensional aboutness appear to be embracing an extreme view of relativism, one that is ultimately untenable for information organization" (p. 58). His assertion suggests that the rejection of extensional aboutness is a mere philosophical musing that has no place in the "real" world. Joudrey's statements seem fractional, incomplete, and complacent. To acknowledge the subjective and social constructs that inform knowledge organization is to work within the confines of an ever-changing reality. This reality is not built of absolutes waiting to be discovered and applied in the completion of what was once incomplete. Rather, it is a recognition that organizational processes are themselves temporary and unstable precisely because the language and societies within which they function are also of this nature.

Aboutness from the user perspective

The notion of the user and her requirements also featured prominently in the literature examining aboutness determination. Since indexers serve a community of users, however broad or narrow that may be, a focus on users, their behaviour, and requirements was thematic to the literature and paramount to the findings.

In addition to supporting the notion of extensional and intensional aboutness, Wellisch (1996) extends the discussion by bringing in

Fairthorne (1971) and Lancaster's (1991) call to consider not only what the document is about, but its intended use (p. 7). He uses the term *aboutness* to describe the conceptual analysis of a document from a "two principal criteria – what does it mention and for whom is it intended?" (p. 7). Topics are assigned following the aboutness determination process which is based on the response to the questions above. For Wellisch, relevance is an additional consideration in the selection of topics, especially in the case of depth indexing. The indexer must ask, is this "relevant to the aboutness of the document...and will this statement, fact, issue, problem, opinion or belief expressed in the text of the document be relevant to the prospective users of indexes" (p. 7). Wellisch's discussion of user relevance raises an important point in the discussion. The degree of depth in indexing relates to the level of specificity desired by index users. The indexer must have an idea about who the users of the database are to inform her decisions about relevance and specificity.

Maron (1977) examines the concept of *about* from its perspective within information retrieval. Maron identifies three types of about: *S-about* (subjective about); *O-about* (objective about); and *R-about* (retrieval about). *S-about* is defined as "a relationship between a document and the resulting inner experience of its reader" (p. 41). In other words, for *S-about* to be successful, a document's aboutness must relate to the reader's personal experience of it. *S-about* is a complex psychological concept that "cannot be examined further in objective terms" (p. 41). *O-about*, however, is based on observable, individual behaviour, and "refers to the (actual or potential) behaviour of asking or searching for writings. It is the external correlate of *S-about* because it would be actually (or potentially) observable by an external observer in a retrieval situation" (p. 41). *R-about* relates to the observable behaviour of groups or classes of individuals, such as a group of people with who actively engage with an information retrieval system, in contrast to individual behaviour

observed through the notion of *O-about*. It is based on the probability that what a group of users find most relevant within a given document is the term or concept most likely to be used in searching. In others words, a document is about dragonflies if most of the people who found it relevant used the term dragonflies during their search (Olson, 2010, slide 13). The merit to Maron's argument is the direct correlation between aboutness determination and user perception and behaviour. Current subject indexing practice of library catalogs, for example, involves the consideration of a user, but in practice, few links are being made between aboutness determination and information retrieval behaviour. Indexers are encouraged to consider audience and/or their users when determining aboutness without having any real sense of their information seeking behaviour. One way that indexers could access their users is through analysis of folksonomies. There are challenges to analysing folksonomies, most notably that tagging serves two functions: the user's personal collection, and the community of users (Gerolimos, 2013, p. 42). What has been observed is that tags attributed within personal information spaces do not necessarily aid in information retrieval for a community of users. For folksonomies to provide insight into how users attribute aboutness to a resource, it would be necessary to assign tags with the community purpose in mind. For a detailed review of the effectiveness of tagging systems for library catalogs, see Gerolimos.

Albrechtsen (1993) advocates a requirements-oriented approach to subject analysis. The focus of the requirements-oriented approach is based on the intent to convey the knowledge of the document to those who may be interested or find it useful. In other words, the document is analysed for the potential knowledge it offers to prospective groups of users. The ability of indexers to predict or forecast user behaviour and to determine the priority of subjects based on supposition is indeed a tricky assignment. Regardless, Albrechtsen argues that indexers

should pick-up the “challenges posed by the social and cultural reality within which we operate...new frameworks like requirements-oriented approaches have potentials for supporting a broad and open transfer of knowledge, which is a primary responsibility of our profession” (p. 223).

User based approaches to aboutness determination are inherently problematic. While librarians do have a certain knowledge surrounding their community of users, they cannot know the full extent of information use, nor can they be certain of when individuals deviate from standard user behaviour within their respective communities. Still, user based approaches provide challenges that present great opportunities for information interaction. Indexers are presented with the opportunities to move beyond “modest, value-free ethics for dissemination of knowledge” towards a “new consciousness of the impact of our profession for mediating knowledge” (Albrechtsen, 1993, p. 223). The task of mediating knowledge provides indexers with a level of responsibility that compels them to engage in an ongoing discussion with their communities.

Theme and rheme

Another two-type distinction, borrowed from linguistics, and applied within LIS, is the notion of *theme* and *rheme*. Hutchins’s (1977) article is frequently cited with reference to theme and rheme. The OED defines *theme* as “that part of a sentence that indicates what is being talked about”, and *rheme* as “that part of a sentence or utterance giving new information about the theme” (OED, 2011, *theme* and *rheme*).

Hutchins offers a reading into the notion of aboutness within the context of text linguistics which is beyond the limits of this discussion. Of interest, however, is Hutchins’s description of the problem of relevance, which relates to the “persistent and perhaps inherent conflict between what readers regards as the ‘aboutness’ of a document and what indexers define as its

‘aboutness’” (p. 34). Readers are interested in what is new to them in a document, whereas indexers are concerned with the “given framework” (p. 34). “For the reader, relevance is a function of his current interests and his personal ‘state of knowledge’; for the indexer, relevance is a function of the place of the document in the current ‘state of knowledge’ as a whole” (p. 34). Hutchins concludes that the indexer can only concern herself with those parts of the document that form the “knowledge base upon which the writer builds the ‘new’ information she tends to convey” (p.34).

Akin to the notion of *theme* and *rheme* is Weinberg’s (1988) discussion surrounding the concepts, *aboutness* and *aspect*. Weinberg claims that indexing fails the scholar or researcher because it places its emphasis on aboutness while neglecting aspect. To better explain, she compares *aboutness* and *aspect* to their linguistic analogs, *topic* and *comment*. Topics are defined as “subjects of discourse”, while comment as “that part of the utterance that adds something new” (p.4). Weinberg claims that topics are particularly relevant for the student or general reader looking for information on a given subject. The scholar or researcher, however, is rarely in need of topical information. Rather, she seeks content that comments on a particular aspect of a given topic (p. 3). Through repeated observation, Weinberg has observed that scholars rarely use subject indexes because they lack aspectual perspective.

Hutchins (1978) also distinguishes between two types of document need. The first concerns the reader who is interested in acquiring information on a specific topic that she may know nothing or very little about. Her need is based on satisfying a basic understanding of a subject. The second type concerns readers who are already well-versed in a subject, but are looking for a new approach or perspective on it. Both share the need for something new within the information they seek, but the first type is looking for something foundational, while the second pre-supposes a certain level of

knowledge, that while the information may speak to that level of knowledge, it also offers something new (p. 178).

Weinberg's dissatisfied subjects, however, would likely not be fulfilled with Hutchins's suggestion for indexing. What Hutchins suggests is a "definition of the 'aboutness' of documents which is formulated in terms of the knowledge presupposed by the authors of the texts" (p. 178). Hutchins lays the burden of expressing the newness of a document onto abstracting services since the use of summarization provides a greater opportunity to inform users in greater detail as to what the author has had to say on a particular topic (p. 180). The pangs of neglecting what is new in a document may no longer be felt as readily given new discovery tools. For example, WorldCat provides a summary of the resource, tags, table of contents, and reviews, and looks much more like the Amazon interface than a library catalog. The responsibility of aboutness is not relegated to subject heading attribution alone, but can be determined through a number of fields. If the subject index is formulated by the knowledge presupposed by the authors of the text, than it can only serve as a starting point, not a direct link, for those seeking what is new in a document. Here additional discovery tools may be necessary.

The notion of subject

Joudrey's (2005) argument was that the term *subject* was riddled with complexity as a result of its longstanding position within the philosophical and literary realms. While it is true that in the OED the term *subject* clearly has a greater list of definitions and historical references, it remains unclear whether the complexities are thereby eliminated by changing the reference to the term *aboutness*.

To accept, or to not accept, the distinction between *aboutness* and *subject*, while certainly a noteworthy debate, is not the intention of this paper. Rather this paper seeks to provide an

analysis of the issue of aboutness in LIS, and the distinction between terms is merely one component. To neglect the notion of *subject* because of disputes in terminology would be to do injustice to the literature. Therefore the following section provides an overview of the notion of *subject* within the literature. In some examples, the notion of *subject* is intricately linked to the practice of subject determination. For that reason, the following discussion will also include details on various approaches to subject determination as a manner of understanding the notion of *subject*.

Ranganathan (2006) discusses the notion of *subject* as an "organized or systematized body of ideas, whose extension and intension are likely to fall coherently within the field of interest and comfortably within the intellectual competence and the field of inevitable specialization of a normal individual" (p. 82). Ranganathan's definition falls very much within the framework of his classification, and the term is broken down further into *basic subject*, *compound subject*, *complex subject*, *micro and macro subjects*, and *spot subject*.

According to the Classification Research Group (CRG) (1957) the notion of *subject* as a simple isolated concept or theme "that can be neatly tucked away in a single pigeon-hole in the vast cabinet of knowledge" is insufficient (p. 139). Rather, according to the group, it is a compound of simpler concepts. They explain that co-ordinate indexing systems and analytico-synthetic classification schemes recognize the compound nature of *subject*, the former by listing multiple subject terms in reference to one another, and the latter by use of classification symbols which form an aggregate of the one subject (p. 139).

Reynolds (1989) also discusses the inadequacy of the "pigeonhole" approach to subject determination that attempts, through various clues such as table of contents, title, and summary statements, to find an overall theme and where it fits into the subject (p. 232). She

states the ability to do so depends, not only on the work, but also on the reader (indexer). From a subjectivist perspective she states:

We like to think that the text conveys a message, but that is only part true. Readers (or cataloguers) project their own perceptions, experiences, and level of comprehension onto the text. Each reading experience, even by the same person, is unique. There is always a degree of tension between the new information and what the reader already knows or believes (p. 232).

In an attempt to find a subject cataloguing code, Reynolds (1989) acknowledges the need for it to have a theoretical basis, not simply a list of arbitrary procedures and rules. For this theoretical basis to be useful, however, it must be put to good use. At the same time, she claims the near impossibility of establishing such a code given that subjects are defined by individual perceptions that we can neither fully understand, nor describe (p. 234). Despite, and in fact, given, the elusive nature of subjects, she suggests we re-evaluate the use of concepts such as *relevance* and *specificity* because their current role within subject determination is limited. In other words, is it possible to define *specificity* within a variety of contexts, or to discard the notion of *relevance* given the unpredictability of future information needs (p. 236)?

In response, it can be said that the terms are themselves not fixed, but function within a milieu of potentialities. Seeking to find a stable definition of a term such as *relevance* in all circumstances is, as Donovan Leitch (1965) aptly said, like “trying to catch the wind”. The concepts that surround subject cataloguing must be malleable if we aim to eliminate philosophical frustration.

Hjørland (1992) takes on the task, considered elusive by Reynolds, of investigating the theoretical notion of *subject* and *subject matter* as it has been used in LIS. He argues that an

explicit investigation into the theoretical underpinnings is necessary in order to understand the process of subject determination. He explores five epistemological positions surrounding the concept of *subject*: *the naïve conception*; *subjective idealism*; *objective idealism*; *the pragmatic concept of subject matter*; and a *realist/materialist subject theory*. It is evident in Hjørland’s examination, that the notion of *subject* is affected by the epistemological framework through which subject analysis takes place. In order to illustrate, a brief description of each is provided.

The naïve conception is not particularly burdened by the notion of *subject*, but understands subjects to be fairly obvious. There are gradations within the naïve conception, as Hjørland talks about “a slightly less naïve viewpoint” that “would recognise that there need not be a correspondence between for example, the title of the book and its actual subject” (p. 172). Still, the naïve view-point does not “differentiate between linguistic forms and meanings” (p. 173).

Idealism is a fundamental philosophical tenet that claims that what exists in the mental realm is of greater consequence, or serves as a primary function and determinant of the external, material world. From this perspective, the concept of *subject* is first an idea, whether in a subjective or an objective sense. Therefore, subjective idealism concerns points of view, whether they are from the author, reader, or indexer, while objective idealism takes the position that ideas, or subjects, are, in fact, objective realities with universal or fixed properties (pp. 173-179).

The pragmatic concept is concerned with the notion of *subject* based on the needs of users. The concept of *subject* is applied within the practical realm, anticipating the varying user requirements. “User-oriented or need-oriented indexing is a description of a subject which must be perceived as the relation between the

properties of a document and a real or anticipated user need" (p. 180).

The last theory presented by Hjørland, and the one he appears to endorse, is the realist/materialist subject theory, which is based on the "viewpoint that things exist objectively and encompass objective properties" (p. 181). Similar to the pragmatic theory, the materialist theory suggests that the extent to which subjects represent the potential of documents will have an effect on "optimising the potential perception of the document" (p. 185). In contrast, however, realistic and materialistic theory has as its aim to penetrate the "innermost essence" of reality, so that subjects represent the "general and the significant aspects of reality" (p. 185). Thus a subject description of a document is, in one way or another, an expression of the epistemological potentials of the document. The better the description predicts the potentials of the document, the more correct, more objective, the description of the subject is (p. 186). While Hjørland's examination may appear to abide within the philosophical realm, his investigation is applicable to the discussion of subject analysis because it raises to the forefront the epistemological positions that influence the process of subject determination. As Hjørland says, "a very close connection exists between what subjects are, and how we are to know them" (p. 172).

According to Langridge (1989), there is a greater need for precision surrounding the term *subject*. He claims that the term *subject* has been used exclusively in what are invariably two distinct senses. These two distinct meanings are related to the following two questions asked of a work: What is it? and What is it about? (p. 9). The first question is answered by reference to what Langridge terms *forms of knowledge*, which may include history, philosophy, music, science, and so on. The second question is answered by observable facts or events, known as phenomena. Langridge employs the term *topic* to describe this approach. He clarifies the distinction between *forms of knowledge* and *topics*

based on their aims and methods. To explain further:

Philosophy aims to clarify by examining beliefs, science to reveal natural laws, criticism to evaluate, technology to facilitate production. There are very obvious differences between such forms of knowledge, ways of looking at the world, and the topics they discuss, such as morals, animals, symphonies and steam engines (p. 31).

Wilson (1968) is an important contributor in the discussion surrounding aboutness determination and the concept of subject. His discourse on subject determination is concerned with the movement from understanding the parts of a writing to knowing what the writing is about as a whole (p. 78). He outlines four possible methods in the determination of subject, and as a result, demonstrates the complexities surrounding the notion of subject. Usefully, his exposition of each method also describes the potential problems and deficiencies therein.

The first he calls the "purposive way", which relates to the identification of the author's purpose in writing. In some cases the author's intentions are clearly outlined by the author, but other instances may require a detailed examination in order to be deciphered. There are problems with both approaches. The author may misrepresent her purpose, fail to express her purpose, or fail to achieve a definite purpose. The analysis may also be thwarted in attempts at finding a primary purpose to the writing. Writings may, in fact, be constructed of subjects independent of one another, and "recognition of those (independent aims) requires an ability to see which of the things done or attempted in the writing are done only because necessary as a means to an end, and which are done 'for their own sake'" (p. 80).

His second approach is known as the "figure ground" way. This approach is based on the

idea that there is dominant subject in a writing which “stands out” or is “most emphasized” (p. 82). The problems herein apply to the argument surrounding what constitutes the dominant subject. Wilson explains, “dominance is not simple omnipresence; what we recognize as dominant is what captures or dominates our attention, but we cannot expect that everyone’s attention will be dominated by the same things” (p. 83).

Again, Wilson offers another approach to subject determination, this one based on the notion that dominance can be determined from an objective stand-point. More specifically explained, the objective way involves counting references to items within a writing. It is an objective correlate to the notion of *dominance*. However, Wilson is quick to contend, the objective way is plagued with the problem that the item most frequently represented may not be the dominant subject of the writing, but rather background. As well, the primary concept might be signified in various ways, or may not be expressed concretely within the writing. In fact, says Wilson,

One can always rewrite a text in such a way as to reduce the number of references to any item and increase the number of references to any other without materially altering the general sense of the writing or even, if one were skilful enough, changing the balance of impressions of dominance and subordination (p. 83).

Wilson’s final method is based on the “appeal to unity” (p. 86). For a work to hold together, there must be something that binds it; that holds it together; that makes it complete. The binding component is based on that which is necessary versus that which is dispensable in a writing. Once again, Wilson is forthright in his acknowledgement of the problems of this ideal. After all, not all writers attain unified writings. In certain circumstances this may be the result of a certain deficiency in ability, but in other cases, the writer may lack a subject simply because

questions are left unanswered. Wilson explains that our efforts to take the unified whole, what he calls the “Cast of Characters”, and extract one subject from the cast may not reveal what the subject really is, but “may result in a piece of artistry on our (librarians) part, rather than on the part of the writer” (p. 88).

In conclusion, Wilson argues that “the notion of the subject is indeterminate” (p. 89). He acknowledges that things are what they are, but that descriptions are vague, nebulous, and inexact (p. 90). While there can be incorrect descriptions, there are also no perfect descriptions of the subject. “The uniqueness implied in our constant talk of *the* subject is non-existent” (p. 90). Therefore, the position that a writing is given in an organizational scheme is based on the methods used to determine its subject. It is possible to deduce that items positioned in subject proximity share some characteristic in common. This does not suggest that these writings belong exclusively within selected positions. On the contrary, the indeterminacy surrounding the notion of subject means that their assignment is not definite. Thus, “the place has no definite sense” (p. 91).

What is particularly revelatory in Wilson’s analysis is his demonstration of the flaws inherent in each of his methods. He does not attempt to hide the defects, nor “brush them under the table” as though insignificant. Rather, his four methods illustrate the impossibility of finding the perfect subject through the perfect method. At no point, however, does Wilson suggest that the search for methodologies is in vain. After all, he, himself, provides four approaches to subject determination. Instead, Wilson’s exposition suggests that there is great benefit in understanding what is insufficient in our methods and impossible in our attempts.

Stages in organization

Several identify stages to subject indexing, and aboutness determination is often considered the preliminary stage. Although stages are outlined,

the literature demonstrates that the movement from aboutness determination to subject heading attribution is anything but linear, especially among seasoned indexers. This section of the paper examines how these stages have been identified, and their inter-influence.

According to ISO 5963-1985, there are, in fact, three stages to indexing (p. 2). They are:

1. Examining the document and establishing the subject content;
2. identifying the principal concepts present in the subject;
3. expressing these concepts in the terms of the indexing language.

Perhaps it is for the sake of convenience and analysis that these stages are identified as three separate processes within this International Standard. Ranganathan (2006) also discusses the notion of stages in what he calls "the three planes of a work" (p. 327). Ranganathan's three planes are known as the *ideas plane*; the *verbal plane*; and the *notation plane*, and share similarities with ISO 5963-1985.

While ISO 5963-1985 acknowledges that these processes may overlap, they do not concern themselves with the influence of intersection between stages. Ranganathan does acknowledge the potential influence that may take place between the planes, although he also claims that it is possible to separate the three planes. Of course, Ranganathan is working within the framework of his own particular system, while ISO is providing guidelines for indexing as a general phenomenon, thus making it difficult to deal with too many specifics.

While it is not within the realm of this analysis to examine this issue in great detail, it is certainly an area that requires additional research, for it is indeed rare for processes so closely connected to be separable without some degree of influence, unless, of course, purposefully calculated. The following section illustrates research performed in one or more

stages of the ISO 8963-1985. In this paper, a link is made between ISO 8963-1985 and the research presented herein.

Joudrey's (2005) dissertation research focuses on the conceptual analysis processes involved in aboutness determination. His research was set forth for the purpose of finding clues into how humans analyze documents to determine aboutness. According to him, there is a distinction between conceptual analysis and subject analysis, for the latter involves both the conceptual analysis stage and the translation process.

Joudrey expected to find patterns emerging in the conceptual analysis processes of his subjects, as well as the use of bibliographic, content, or visual features such as table of contents, chapter headings, titles, illustrations, and so on (p. 10). He makes a distinction between the processes involved in aboutness determination and the bibliographic features used in conceptual analysis. The distinction appears to relate to the first two stages presented in ISO 5963-1985. The first stage involves an examination of various features of the work, followed by the analytical processes involved in the identification of concepts.

Reynolds (1989) makes a similar distinction between the mental processes involved in aboutness determination and the examination of clues provided in the work advocated by cataloguing texts (p. 232). Wilson, too, comments on the manuals of library practice that outline common recommendations in the examination of a work to determine its subject. These manuals, "full of references to 'the subject' of a writing", are "curiously uninformative about how one goes about identifying the subject of a writing" (p. 73).

The examples above demonstrate an interest in moving from the application process to the intellectual process as a manner of understanding what informs decision-making. Understanding how cataloguers determine or

identify topics and select appropriate subject descriptions was also the basis for Šauperl's (1999) dissertation research. The background to her research was based on the lack of illumination surrounding the cognitive processes involved in identifying the topic of a work followed by the selection of subject headings. Similar to Joudrey, Šauperl mentions that cataloguing manuals provide lists of parts of a work that should be consulted in the determination of subjects, but fail to address the selection process itself. In other words, cataloguing guidelines provide us with clues in the identification of topics, but do not explain how cataloguers select topics for subject representation. The goal of her research was to investigate the cognitive processes of topic identification and subject description from a holistic perspective. While she does not define holistic, it is assumed to mean a complete examination surrounding the conscious intellectual activity of aboutness determination, and is usually based on or capable of being reduced to empirical factual knowledge. Research of this nature is concerned with the cognitive processes in information organization, and not merely in the application of applied techniques by catatonic cataloguers.

Although not the basis of her dissertation research, nonetheless, Šauperl did indeed observe the overlapping of the three stages mentioned above, particularly with respect to the last two stages. In fact, Šauperl's samples were found to have selected tentative headings following an examination of the document, and to have applied these headings through a search of titles or subject headings, followed by an analysis of the search results to determine the appropriateness of the subject headings in relation to the tentative headings. In other words, her observations revealed that the identification and translation processes were not conducted separately. As noted by Šauperl, this approach "is sensible in terms of collocation" but may be problematic "in the assumption that all the documents described with the same

subject heading or a set of subject headings actually address the same topic" (p. 255).

Šauperl's samples seem to exemplify Hickey's (1976) claim that American librarians have no clear philosophy surrounding the issue of subject control, in part due to their reliance on lists of headings and classificatory divisions that are centrally issued and updated (p. 275, 288). Hickey says that "since the Library of Congress has only infrequently published any official explanation of the principles underlying the maintenance of its list and schemes, it is not surprising that most librarians are unable to state with any assurance the basis for selection of subject terms and classification symbols beyond the general rule of 'specificity'" (p. 275). Hickey raises an important point in the discussion of aboutness, namely the issue of applying preferred terms that may not be explicitly defined or understood by the cataloguer. As well, the preferred terms themselves may be insufficient in their descriptions of the contents. There is indeed a problem in applying the preferred term, *feminism*, to a work written from a feminist perspective. The two are clearly not the same thing (Olson, personal correspondence, July 20, 2011).

In a similar manner to Joudrey (2005), Chu and O'Brien's (1993) study focuses on the initial process of subject analysis, which involves analysing the text and expressing the subjects in natural language. Their study did not include the translation stage from natural language to indexing terms so as to not hinder the analytical process by the act of trying to fit terms into a controlled setting. Considering the activities of Šauperl's samples, it was intuitive of Chu and O'Brien to neglect the translation stage.

Interestingly, their investigation revealed that bibliographic elements were a major factor in determining aboutness, but that the level of difficulty in using these elements depended in great part on the discipline of the resource. For example, bibliographic elements for texts within

the humanities, (their study employed documents in the humanities, social sciences, and sciences), were much less factual than the sciences, and, as a result, more difficult to decipher subject content. Another point of interest relates to the difficulty participants had in isolating primary and secondary topics. Their problems related to the issue of prioritisation, as some texts seem to have two subjects of equal priority, especially within the sciences (p. 453). This observation fits with Wilson's (1968) discussion of dominance, and the problems associated with determining one dominant subject over another. As well, their research suggests that subject analysis carries different issues based on the discipline of the subject being analysed. It begs further investigation into the study of the conceptual analysis process as it applies within varying disciplines. The rules that guide one may not be suitable for another. In other words, "one size may not fit all".

Research in the cognitive structure of classification by Hovi (1988) demonstrates that classifiers most commonly approach a document from a theme-oriented approach, and references to other parts of the text, such as its "newness", or to the user and his/her purpose with the text were less common (p. 127). Her samples were nearly unanimous in the determination of a book's main subjects. Hovi does not question the unanimity of the theme-oriented aboutness determination of her subjects, but is more interested in the influence that classification systems can have on the conceptualization of the subjects derived from a book. Her research, which included all three stages, was predominantly concerned with the translation stage. She explains that "in spite of the fact that the classifiers were unanimous about the main subjects of the books, they picked up the 'important concepts' in different ways according to the classification system" (p. 130). For Hovi's participants, the classification system influenced the selection of important concepts.

This researcher, Rondeau (2012), also conducted qualitative research using a hermeneutic

phenomenological approach with the intention of seeking to understand the cataloger's lived experience of aboutness determination. In addition to outlining degrees of variability in determining the aboutness of a resource, as well as assuming the role as mediator, the catalogers that were interviewed also demonstrated a predisposition towards the systems and structures that they used in later stages of subject work. In other words, the systems and structures they used influenced their work in determining the aboutness of a resource. Not only would catalogers consult with subject heading systems, but depending on their familiarity with the subject matter, and years of cataloguing experience, they would immediately start thinking of headings in their initial examinations. This research, like that of Hovi and Šauperl, is significant because it demonstrates that the movement between stages is not necessarily a linear one. From the researcher's perspective this suggests that the systems may not be serving analysis, but defining it.

Discussion

As mentioned earlier, an Aboutness Concept Map (see Figure 1) has been drafted to provide a visual summary of the paper's findings. The findings of this review began by examining how the LIS community has applied and responded to the term aboutness in relation to its correlates. The literature demonstrates that for every agreement on terminology there is disagreement; some claiming aboutness more fitting to the task of indexing than its correlate subject, others arguing no difference, and others choosing different terminology altogether. Although arguments of terminology can be helpful in understanding frameworks of meaning, this review also sought to examine how the term aboutness and its correlates have been understood and defined.

Aboutness as a two type distinction featured prominently in the literature. The notion of a document's inherent aboutness has been guiding

indexers since the advent of the objective ideal. In other words, indexers have been taught to put aside interpretation, or tendencies to become subjectively involved with the resource, in favour of a detached and stable approach that extracts what is intensional in the document. However, not all agree that a document has an inherent aboutness. Some authors argue that words and their meanings cannot be separated from the community of readers, and that there cannot be a precise and singular description of what a document is about, not only because of the difference in readers, but also because authors may not be singular or have clear and easily distinguishable subject-matter in their writings. Instead of favoring a subjective approach over a two-type distinction that seeks to eliminate the possibility of too much interpretation, this researcher suggests a more holistic approach to aboutness determination. With this approach, the indexer is engaged with the resource in a manner that does not deny her interpretation, but through openness and questioning, continually seeks to clarify when that response has become distorted. In other words, the relationship between indexer and resource becomes inter-subjective, involving an engaged manner of relating to the resource that recognizes the indexer's ability to extrapolate meaning, but within a framework that remains pointed towards the resource.

Aboutness from the user perspective also featured prominently in the literature. Through this approach, indexers consider not only what the resource is about, but also in consideration of the user. The challenges of this approach are evident in that indexers may not have a full understanding of their user communities or be able to anticipate all user needs. Some argue that despite these concerns, indexers would do well to mediate that knowledge on behalf of users. Perhaps it need not be a "guessing game." Studies in user behaviour may help to identify how user communities think about unknown item needs. Analysing community-oriented folksonomies may be one way of gaining access to user behaviour, as well as search-log analysis,

and staying abreast of the community's discourse through active engagement. Relegating the indexer to the backroom without providing insight into her community of users may create an unnecessary divide. This divide may be further expounded by using subject heading systems that don't accurately represent the discourse of the community or the resource. This researcher suggests that, despite the initial cost of implementation, it may be time for disciplinary communities and indexers to define their discourse, that indexers continuously engage in this dialogue, and become active mediators between the resource and their community of users.

Theme and rheme is another two-type distinction in the discussion surrounding aboutness determination. Despite discontent among scholars that subject indexes fail to address what's new in the document, some argue that the indexer cannot concern herself with what is new in the resource, but must be satisfied to determine its placement within a framework of knowledge. This viewpoint provides a clear definition of the task of aboutness determination as it relates to the subject index. However, it also restricts the benefits of the index to an important group of users, many of whom have the skills and knowledge to effectively exploit the subject index. While scholars may be grateful for summarization and new discovery tools that allow them to garner a more detailed understanding of the surrogate records, as a tool for discovery, the subject index only proves useful as a starting place for those seeking what is new in the document.

Despite differences of opinion surrounding terminology, the notion of subject was also explored in this paper because of its prominent and noteworthy place within the literature. What was paramount to the literature on the notion of subject was the need to extend beyond simple concepts and practices related to subject identification towards an epistemological framework. As well, the issues associated with

methodologies surrounding the determination of a document's subject were presented, as well as how methodologies may be stunted by the document itself. Revealing the limitations of subject indexing may leave some feeling defeated by the task. However, rather than submitting to defeat, it challenges the LIS community to devise a broad range of opportunities for discovery that may not be achievable through a singular notion of subject.

Lastly, this paper explored the literature examining stages in the subject indexing process. This literature was found important because aboutness determination is defined as a distinct stage in indexing, and yet proved to be influenced by later stages in the process, especially among those with some level of experience. Given the influence of later stages, it raises questions around the meaningfulness and relevance of aboutness determination as a distinct stage if it is being influenced by subject heading systems. Is it possible to "meet" the document freshly within a framework whereby subject headings are ascribed by external bodies? In what ways do indexers lose their power to mediate on behalf of their users by ascribing to such systems, and how do these systems reflect the needs of their users? These are questions that require further exploration.

Conclusion

One of the key issues is the complexity of terminology and the various definitions applied to terms in an attempt to understand phenomena presented in documents. This relates to the transient and ever-changing quality of language as a result of its subservience within human communities. The debates within communities further highlight the inconsistency of language use. This is exemplified in LIS with respect to the term

aboutness. As discussed, some find the term aboutness most fitting, while others regard it as unclear, and even problematic. As Alfred Korzybski said, "the word is not the thing". Language is used to describe the thing, and the number of ways that it may be described is indeed remarkable. Remarkable...and tricky, especially in light of considerations surrounding consistency, relevancy, and specificity, and under the framework of various epistemological viewpoints. As well, as Wilson (1968) points out in his discussion surrounding the indeterminacy of the notion of subject, there may not even be a single "thing" that can be clearly determined.

While the issue of terminology may be left unsolved, nonetheless, as Joudrey (2005) says, the "work of subject analysis must continue to be done" (p. 58). The process in which this task is realized is indeed an additional anomaly. While it appears to be obvious and straightforward as expounded by ISO 5963-1985, in reality, it is a process of inter-influential stages that lack clarity and specific direction. As well, the lack of clarification surrounding references created by distant sources further complicates the issue and may create a hierarchical divide between indexers and those in charge of the creation and maintenance of headings. Libraries have been willing to pay for a central body to provide controlled headings, but at what cost to their communities? Might there be greater benefit in giving disciplinary communities the power to name their subject matter accordingly? Within these communities, the indexer acts as the mediator, bridging the gap between resource and user in a way that is meaningfully relevant to those using the index. This may involve on-going interaction between indexers and those they serve; one that invites conversation, and potentially even controversy, but one that draws the indexer out of the backroom and into the discourse.

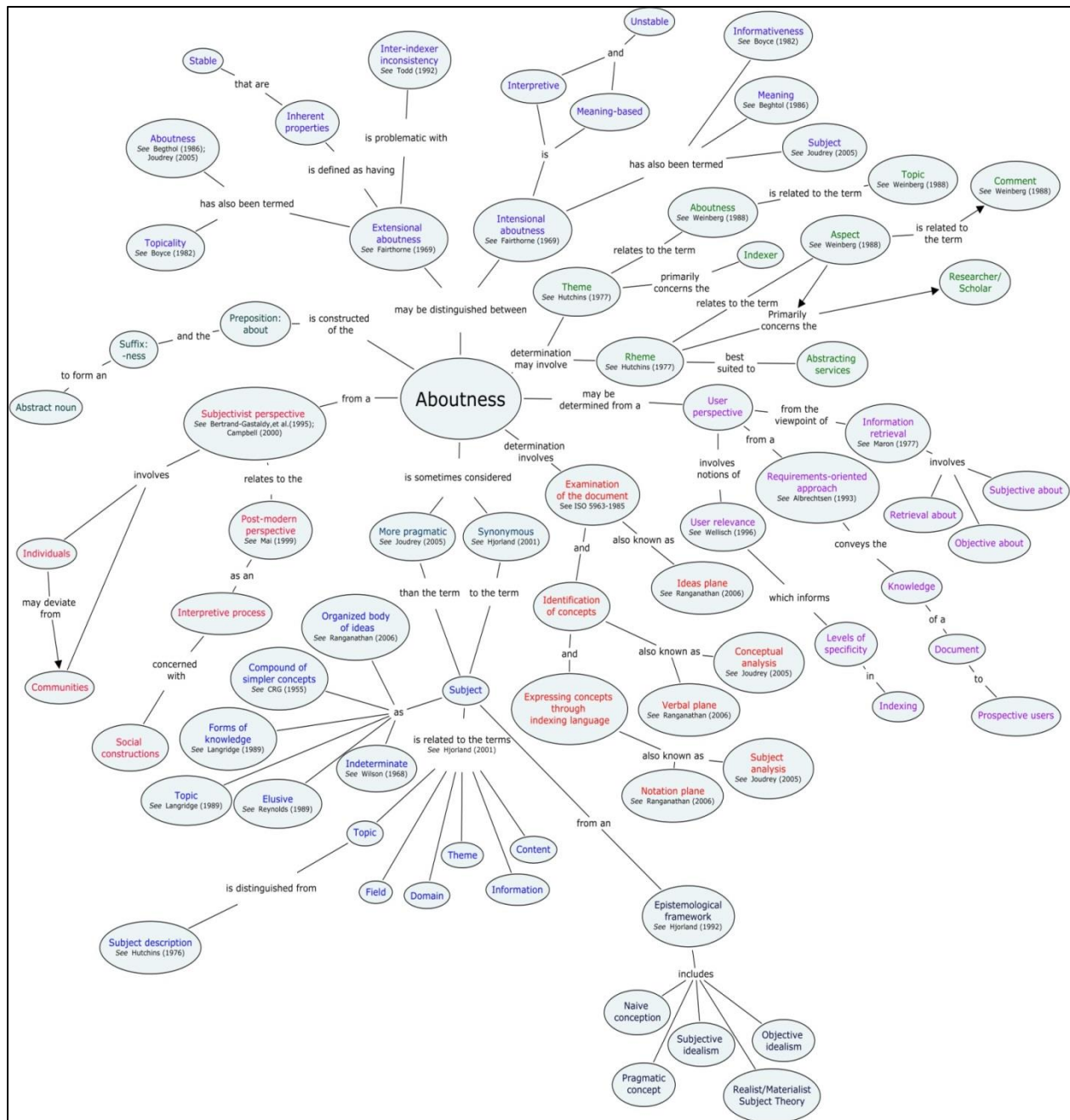


Figure 1
Aboutness concept map.

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