# Relevance: Language, Semantics, Philosophy

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## ABSTRACT

THE LITERATURE WITHIN LIBRARY AND INFORMATION SCIENCE (LIS) on relevance comes primarily from the subfields of information retrieval and information systems design. This literature has developed over time from an orthodoxy that has focused on relevance as an objective measure to a comprehension of the dynamic nature of relevance judgment. Other literatures, such as those of the philosophy of language and semantics, also have offered cogent thought that could and should be incorporated into LIS. This thought has broadened discussion to the context in which relevance is assessed, the speech acts that are evaluated, and the dialogic element of human communication.

An individual may use any number of ways to begin an examination of relevance. One beginning is provided by Fred Dretske in his *Knowledge and the Flow of Information.* Dretske acknowledges the usefulness of quantitative theory applied to information but asserts that such theory is limited in that it cannot elucidate the nature of meaning or tell us about the meaning of a particular statement. He says that "if we consult a dictionary, we find information described most frequently in terms of "intelligence," "news," "instruction," and "knowledge." These terms are suggestive. They have a common nucleus. They all point in the same direction—the direction of truth. Information is what is capable of yielding knowledge, and since knowledge requires truth, information requires it also" (Dretske, 1981, p. 45). Dretske's notion may make us wonder about the connection between information and knowledge.

The role of relevance as it relates to knowledge will recur in this pa-

per, but some background should guide this exploration of the philosophy of relevance. Fortunately for us, Stefano Mizzaro (1997) undertook an exhaustive review of the information science (IS) literature relating to relevance. His work renders a descriptive literature review here unnecessary; readers should consult his article and its extensive bibliography. In setting the tone for his review, Mizzaro acknowledged that IS approaches to relevance tend to cluster around two groups—one centering on the object, or bit of information, and the other centering on the human element. The first group (the object cluster) includes three entities according to Mizzaro: a document, a surrogate (or representation of a document), and information (or what the reader apprehends from a document). The second group includes a problem faced by the information-seeker, an information need (defined as a mental representation of the problem), a request (a natural language expression of a need), and a query (or system language expression of a need) (p. 811). He then posited, "Now, a relevance (*sic*) can be seen as a relation between two entities, one from each group: The relevance of a surrogate to a query, or the relevance of a document to a request, or the relevance of the information received by the user to the information need, and so on" (p. 811).

We can take for granted, for the purposes of this examination, that Mizzaro's observations regarding relevance provide a reasonably accurate and accepted summary of IS inquiry and system development work. They do, however, raise some questions for more broadly defined philosophical treatment of relevance. Inherent in his set of clusters (particularly for the first, object-based, group) is the assumption that relevance applies primarily to verbal communication. Further, the assumption is that this communication is formal and structured, that is, it can be shaped and presented in the form of a document. Granted, "document" can be an encompassing idea, but a formal structure inheres in it, even if it is not intended to be limited to a physical artifact that would satisfy a popular notion of what a document is. An assumption that is evident with regard to the second cluster is that humans initiate a process whereby information is sought and located. Further, the two clusters combined (as Mizzaro did to define relevance) suggest a structured human action that entails the making of specific kinds of judgments about objects by people. This model is not particularly problematic (on the face of it) as far as it goes, but it does not go far enough. There are information-related human actions that do not fit so neatly into the clusters, much less into the individual elements of the clusters.

This very brief bit of background serves to demonstrate some of the complications one faces when examining relevance. There is no way that a paper of this length can possibly address all definitions, uses, and implications of the word relevance; what is presented here is a selection of some ways of thinking about relevance. One point needs to be made immediately: whether stated or not, relevance judgments are fundamentally construed

in epistemological terms, that is, the aim of a relevance judgment is, in the end, to foster or justify knowledge. First, a few approaches from library and information science (LIS) will be discussed. Following that, some potentially fruitful philosophical ideas will be dealt with. The desired result is (i) a realization of the complexity of any notion of relevance; (ii) an understanding that different starting points for an examination of relevance may well lead to different conclusions; and (iii) while philosophers do not appear to address relevance directly, many do give serious attention to matters that impinge on our understanding of relevance.

## LIS and Relevance

While Mizzaro provided a succinct summary of IS writings and thought on relevance, a few specific works from the past have been especially influential or have provided examples of particular schools of thought regarding relevance. The first, and what for many readers may be the most striking, aspect of the LIS literature is that the preponderance of writing on relevance comes from IS (including the subfields of information systems design and information retrieval). Very little is present in the literature about libraries that directly addresses relevance (apart from systems-related concerns). In works on the reference function in libraries, for instance, a tacit assumption is that the process is intended to help library users find materials and information that they will find useful, but little reference to writings on relevance itself exists. It could (and probably should) be argued that greater attention to the complexity of relevance and how individuals may make relevance judgments is vitally important to the essence of the library's reason for being. Formal examination of relevance, both as an idea and as a phenomenon, tends to be found in such journals as the *Journal of the American Society for Information Science and Technology* and *Information Processing and Management.* Whether practicing librarians read these journals to learn more about things like relevance is an open question.

Given that the literature of IS tends to be the home of discourse on relevance, it is essential that the substance of that discourse be considered here. It should be noted with some emphasis that what follows is a focus on some particular, but representative, ideas about relevance; what is covered here is by no means exhaustive. While Mizzaro did review a large amount of literature, a few rather consistent themes recur. Moreover, the themes seem to have a kind of temporal aspect, that is, at one point in time a sort of orthodoxy prevailed, and over time alternative conceptions of relevance have been articulated. The orthodoxy tends to fit into Mizzaro's first cluster that centers on the document (and the information system). About four decades ago William Goffman's approach expressed a particular, and apparently widely held, view of relevance assessment. In his article he (Goffman, 1964) wrote that "relevance can be defined as a measure of information conveyed by a document relative to a query" (p. 201). There

are some conceptual and practical difficulties with such a view. For one thing, nowhere in the article is "information" defined; for another, a deterministic theorem and proof are presented as rationale for the measurement of relevance (recall Dretske's skepticism regarding the sufficiency of quantitative theory). Perhaps more fundamentally, relevance is explicitly referred to *as* a measure. The assumption underlying the claim is that relevance is a physical, or at least a tangible, thing that can be assigned a quantitative value, and that value can be related to the value of other variables, such as information.

A similar way of defining relevance was expressed a bit later by W. S. Cooper (1971). He said, "A stored sentence is *logically relevant* to (a representation of) an information need if and only if it is a member of some minimal premiss (*sic*) set of stored sentences for some component statement of that need" (p. 24). Inherent in this definition is a very specific equation of relevance with representation; it embodies what Alvin Goldman (1993) called a representational heuristic. This is "the tendency to judge the probability that an object x belongs in category C by the degree to which x is representative of, or similar to, typical members of category C" (pp. 26–27). Such a heuristic may be entirely effective for certain cognitive processes and informational needs, such as the search for documents or statements that have direct bearing on a claim. Suppose a student or a scholar is examining a claim that an economic policy decision was made in a particular U.S. presidential administration for the primary purpose of helping win votes in an upcoming election. That person would probably seek documents that address the claim rather directly, that is, that discuss the political implications for the specific policy decision. In such an instance, the heuristic described by Goldman holds. Suppose, however, we consider the description of a method of inquiry by the historian William H. McNeill: "I get curious about a problem and start reading up on it. What I read causes me to redefine the problem. Redefining the problem causes me to shift the direction of what I'm reading. That in turn further reshapes the problem, which further redirects the reading. I go back and forth like this until it feels right, then I write it up and ship it off to the publisher" (Gaddis, 2002, p. 48). McNeill's experience describes a different kind of cognitive process; in his account what Goldman refers to as categorization is dynamic, not fixed. Because the category is dynamic, representation is likewise dynamic and shifting. No linear algorithm is sufficient to account for McNeill's process.

Following Cooper were the beginnings of alternative conceptions of relevance. The first expressions of alternative discourse were still substantively grounded in the orthodoxy, but some discomfort with that orthodoxy seems apparent. Building upon Cooper's work, Patrick Wilson (1973) added a refinement, which he called situational relevance. The situation, or context, within which an information-seeker assesses the relevance of a document or an utterance implies a logical functioning that differs from

the one Cooper suggested. In addition to what may begin as a deductive process, iterative steps of reading, inference, and continued searching necessitate, according to Wilson, probabilistic evaluation of each item plus induction stemming from the reading of those retrieved items. On the face of it, Wilson's addition of these stages appears to be only a small twist to the structure that Cooper, Goffman, and others posited. In actuality, the logical complication Wilson interjected begins to resemble more closely the complex process summarized by McNeill. The melding of deduction and induction (and McNeill's anecdote clearly supports this melding) stresses that the ultimate judgment of relevance in all but the most simple instances is a nonlinear and rich process.

Abraham Bookstein (1979), following Cooper and Wilson, added some potentially complicating ideas to relevance assessment. He admitted that "an information retrieval system cannot predict with certainty a patron's reaction to a document, and this, we believe, is the source of many of the uses found in the literature for the term 'relevance.' [At this point Bookstein seems to be migrating from that cluster of the literature centering on the document to the cluster dealing with the user, but the continuation of his thought suggests otherwise.] Rather, the system transforms both the document and the request into forms it can manipulate, and on the basis of these, it *assesses* the relevance of the document to the user" (p. 269). He further defined relevance in terms of a user's satisfaction with the output of a system. This idea begs some questions, including what constitutes satisfaction (is it in fact the retrieval of topical, or more narrowly, linguistically related, documents) and how does an information retrieval system accomplish the goal of satisfaction. These are not trivial questions; if a user's query is reduced to linguistically morphological form (and it must be added that sophisticated systems approach more semantically related goals), then assessment is a simplified, but far less meaningful, task. Since satisfaction is not uncommon in library-related discourse, the questions (and the associated problems) also apply.

Some other IS writings introduce some evaluative mechanisms that can reinforce the objective idea of information. These measures recur in several sources, but two examples of their statement will suffice for illustrative purposes. In her book on information retrieval, Miranda Pao (1989) summarized two measures that are intended to help assess relative effectiveness and utility of searching for and retrieving information. These two measures are (i) recall (the number of relevant items retrieved divided by the number of relevant items in the database) and (ii) precision (the number of relevant documents retrieved divided by the total number of retrieved items) (p. 59). These measures are problematic inasmuch as they either leave "relevance" undefined or assume that items and documents can objectively be categorized as relevant or not relevant (with little or no middle ground). A more fundamental underlying assumption imbedded in such instrumental mea-

sures is that relevance, once a search is expressed, is a property that inheres in the document retrieved. There may be an admission that some information-seeker is making a relevance judgment about the members of a set of documents, but there remains the operational procedure of treating relevance as something that is *of* the document. The measures also are referred to by Michael Buckland (1991, p. 101). Buckland, however, recognized the semantic challenges of claiming that a relevance judgment is an objective one. While admitting that ascribing relevance to a document, as part of the execution of the recall and precision measures, is a matter of treating information as a thing, he readily admitted that information also can be perceived as knowledge and as a process. Both of these conceptions transcend the limited view of relevance as objective.

The shift from orthodox to alternative ideas concerning relevance is well-illustrated in an article by Linda Schamber, Michael Eisenberg, and Michael Nilan (1990). They reviewed traditional and nontraditional conceptions of relevance judgments and demonstrate a shift from static to dynamic factors. In summary they concluded that

1. Relevance is a multidimensional cognitive concept whose meaning is largely dependent on users' perceptions of information and their own information-need situations.
2. Relevance is a dynamic concept that depends on users' judgments of the quality of relationships between information and information-need at a certain point in time.
3. Relevance is a complex but systematic and measurable concept if approached conceptually and operationally from a user's perspective. (p. 774)

The third point relies on confidence in formal relevance judgment as a rational process. While some might challenge such a view, its debate is beyond the scope of our concern here. One thing that is of some importance here is the nature of knowledge itself. A reductionist view of knowledge would hold that knowledge is subject to either an internalist (all knowledge resides inside the individual knower's mind) or an externalist (all knowledge is grounded outside the knower's mind) stance. It seems clear that the orthodox view of relevance is externalist; assessments of the relevance of specific documents are possible primarily because of properties of the documents themselves.

The third point articulated by Schamber et al. presents a difficult, but essential, characteristic of relevance. If we were to take a purely externalist stance regarding knowledge, and if we make relevance analogous to knowledge, then relevance would necessarily be external to the information-seeker, and researchers could conceivably evaluate the relevance of documents. If, on the other hand, we were to take an internalist stance regarding justification (the grounds for generating belief about a claim or statement), and

if relevance were analogous to justification, then relevance would necessarily be within the information-seeker. Rober Audi (1998) in his book on epistemology convincingly argued that knowledge and justification are, to an important extent, separate and that an externalist view of knowledge combined with an internalist view of justification is legitimate, and that, further, justification is important to knowledge (pp. 237–238). Taking a cue from Audi, it may be that we need to look at relevance as dually external and internal to the information-seeker. Some object is read and evaluated, but the evaluation (justification) is an outcome of rational, internal processes. In other words, some meaning inheres in a document (external) and the meaning is contextualized and assessed by a user (internal).

Some recent work in IS incorporates the complex epistemological notion of combined internalist and externalist factors. Stephen Harter 1992) recognized the methodological challenges of discarding ideas of fixed relevance but asserts that matters of topicality are less important than assessment of cognitive change in the information-seeker. Harter drew, in part, from work on the cognitive elements of relevance as set forth by Dan Sperber and Deirdre Wilson (1986), about which more will be said later. In his introduction to a special issue of the *Journal of the American Society for Information Science,* Thomas Froehlich (1994) offered a particular means of broadening the discourse on the matter, tacitly incorporating the dualist principle suggested by Audi. Froehlich wrote, "Hermeneutics can provide a productive framework for modeling systems and user criteria" (p. 130). He described some of the factors that impinge on a hermeneutics of relevance, including the realization that users interpret their needs to and for themselves, understanding how documents become part of an information collection such as a library, and determining how a user's query in interpreted by and through an information system (p. 130). The addition of the interpretive element was not entirely new with Froehlich; hints of it were offered by David Ellis (1984) who noted the need to take into account the perception of the user and the impact of that perception on relevance judgments. With the introduction of hermeneutics, Froehlich made apparent how the interpretive process can itself be examined, without ignoring the intentional nature of system creation and development.

One of the most sophisticated assessments of relevance as a concept was that of Birger Hjørland. In one of his works, Hjørland (1997) reminded us that awareness of relevance coincides with an explicit awareness of information need; the criteria to evaluate the relevance of a document are ineluctably attached to the need itself (p. 172). In this the simultaneous internal and external elements are clear. Hjørland's thought (2002) is most helpful when he demonstrates that the conception of relevance is a manifestation—explicit or not—of a particular school of thought. The criteria for relevance are derived from the epistemological framework within which the researcher works. For example, if the researcher is an empiricist, rele-

vance is related to observations, sense data, and not from outside authority or testimony (p. 117). It is essential to remember that the decisions regarding criteria for evaluation of relevance are grounded in a theoretical stance, whether the theory is articulated or not. A criticism that emanates from many quarters (many disciplines) is that the theory is, in general, far too frequently unstated, even unrecognized. The sub-rosa aspect of theory in LIS leads to problems of conceptualization, definition, assumption, evaluation, and, ultimately, understanding.

## The View from Without

It is impossible to consider relevance without delving fairly deeply into Sperber and Wilson's (1986) book. Theirs has been the most substantive and complete consideration of the cognitive elements of relevance as they relate to communication to date. LIS should pay attention to a few key aspects of their position. One aspect (although not the most major one) is that, in the communication process, interpreters are concerned with utterances (complete, or nearly complete, statements, arguments, propositions, etc.), rather than sentences. This seems minor, but it emphasizes that, as people hear or read, they usually are not simply extracting individual and small parts of a discourse; they are evaluating larger communicative acts. In customary library and information-retrieval settings, individuals tend to be making judgments about documents or substantial portions of documents.

Of greater interest here is an aspect that is more central to Sperber and Wilson's concept of relevance—context. They defined context as "a psychological construct, a subset of the hearer's assumptions about the world. It is these assumptions, of course, rather than the actual state of the world, that affect the interpretation of an utterance" (1986, p. 15). Anyone considering relevance seriously must heed the first part of this definition (the hearer's or reader's assumptions about the world). The second part, if not examined further, could lead us down an unproductive path, though. It is also essential that Sperber and Wilson wrote that context is determined by *more than* the actual state of the world. If one were to interpret their definition as meaning that context is independent of the world, then this would represent an antirealist view of the world. A realist, even a weak realist, view would necessitate that we accept that the state of the world, at the very least, influences our assumptions. To affirm that their position is not a completely antirealist stance, they claim that mutual knowledge is vital to any relevance assessment and, so, to communication. For mutual knowledge to be possible, there must be shared assumptions, which are most likely to come from the common influence of the state of the world. The idea of mutual knowledge applies in many information-related instances; the creator of a document/utterance frequently has an audience (though sometimes an ideal audience) in mind. The utterance, then, may be made with the knowledge base of the audience taken into account. To the extent that there genuine-

ly is mutual knowledge, there is the likelihood that members of that audience may find relevance in the utterance.

What is most fruitful in the development of an idea of relevance by Sperber and Wilson is their outline of the cognitive processes involved in the assessment of relevance. This assessment depends on context, as defined above. Complicating the cognitive evaluation of relevance is the realization that any hearer/reader constantly resides within the framework of multiple contexts. This becomes obvious if we consider the actions of a student or scholar living in a rich environment. At any given point in time, the individual is likely to be working on more than one project. Even when the individual is consciously and intentionally trying to focus on one context (say in conducting a search of a literature with the possible connection with one project in mind), the other contexts do not simply disappear. To the extent that the other contexts become conscious, the literature being assessed may be assessed within more than one context. If the multiple contexts are related by content, then the assessment may be further complicated. The individual reviewing literature may read a given abstract to determine if the related paper is relevant to the project. Something in the abstract, however, is semantically connected to a second project, which shifts the individual's contextual state; the individual begins to read the abstract with the second project in mind. It may be that, if there is a content relation between the two projects, the assessment of the abstract within the context of the second project affects the context of the first project. In other words, as some writers within LIS have noted, relevance judgment is unavoidably dynamic.

Sperber and Wilson explicitly observed that any individual may be assessing intuitions relating to relevance in multiple, and shifting, contexts, and it is difficult, if not impossible, for a third party to be certain within which context assessment resides at any given moment. They wrote, "As a discourse proceeds, the hearer retrieves or constructs and then processes a number of assumptions. These form a gradually changing background against which new information is processed" (1986, p. 118). Sperber and Wilson offered another observation that is essential to a full consideration of relevance—relevance judgment tends not to be a binary decision; rather, it is an assessment made on a continuum. This means that the decision is a relative one; utterance A may be deemed relevant but less relevant than utterance B. One additional point by Sperber and Wilson (1986) must be considered: "We have suggested that the context used to process new assumptions is, essentially, a subset of the individual's old assumptions, with which the new assumptions combine to yield a variety of contextual effects" (p. 132). Relevance judgment is dynamic because context is dynamic because assumptions are dynamic. New assumptions may be formed both on the basis of old assumptions and leading to a transformation of old assumptions. As the transformation takes place, the judgment of the relevance of a particular utterance is subject to change.

The points made by Sperber and Wilson are useful and informative as we in LIS consider relevance more fully. Their thought, of course, did not spring fully formed without being influenced (contextually and via assumptions) by other writings and utterances. Two of these influential utterances (one tacit and one explicit; that is, one not referred to in their book and the other one included in their bibliography) deserve brief treatment here. The tacit influence is Ludwig Wittgenstein's *Philosophical Investigations* (1958). In part, Sperber and Wilson appeared to be reacting against some points by Wittgenstein. For example, Wittgenstein (1958) said, "A proposition, and hence in another sense a thought, can be the 'expression' of belief, hope, expectation, etc. But believing is not thinking. . . . The concepts of believing, expecting, hoping are less distantly related to one another than they are to the concept of thinking" (p. 154). His claim raises the question of whether relevance judgment falls in the realm of belief or of thought. The answer has decided implications for any inquiry into relevance. It seems apparent that Sperber and Wilson did not follow Wittgenstein on this matter; they turned, in part, to some works by Jerry Fodor to support an idea of greater coherence between such things as belief and thought. Fodor (1975) maintained that meaningful use of language necessitates at least some correspondence between an expressible belief and the actual expression (in language) of the belief (p. 72). Wittgenstein, though, posited a notion that requires addressing, even if there is no specific reference to his work. Curiously, this example could be taken to be indicative of the complexity of relevance. While Wittgenstein was not cited in Sperber and Wilson, his work is relevant, even if negatively in this singular instance, to the program Sperber and Wilson set forth.

The explicit influential utterance referred to above is that of John Searle (1983). Two points made by Searle suffice to illustrate both the indication of influence on Sperber and Wilson and some essential considerations relating to relevance. First, Searle addressed the matter of communication from the standpoint of the speaker. If an utterance by a speaker is to be meaningful, then the speaker must have had a set of intentions directed at a set of hearers, at an audience. The set of intentions entails having an effect on the audience (Searle, 1983, p. 161). The importance of this point is to remind us that, as an individual judges the relevance of a document (utterance), the judgment is influenced by the document itself, especially whether, at that moment, the individual falls into the category of intended audience of the creator of the document. If the answer is yes, then there is a higher probability (though almost impossible to calculate) that there is a contextual connection between the individual and the document; the individual's assumptions are related to the content of the document. Stated in Searle's terms, a connection exists between the set of intentions held by the individual seeking information and that set held by the speaker/author at the time of the uttering.

Another point by Searle addressed the question regarding where relevance resides. Sperber and Wilson emphasized their perceived importance of an individual's assumptions about the world (as opposed to the state of the world). Searle (1983) reviewed the distinction (in the mind, or *de dicto* beliefs, and beliefs that are about real objects, or *de re* beliefs). While the evaluation of beliefs may be difficult, he concludes that there can be both *de dicto* and *de re* beliefs (pp. 208–210). If an individual is reviewing a retrieved set of documents, that individual may read one that states putative facts about, say, cognitive processes employed in information retrieval. The individual also may be reading another that argues for a particular kind of behavior to be employed in reference transactions, based on claims of the emotional state of the inquirer. An understanding of the assumptions underlying assessment of these two documents requires attention to the nature of content of the documents. Assessment of the content is itself subject to kinds of epistemic justification. The one document may be deemed justified on the grounds of physical evidence of cognitive processes; the other may be deemed justified on the grounds of effective argumentation. Clearly in Searle, but also apparent in Sperber and Wilson, both kinds of beliefs are integral to relevance judgment.

Searle's insights are certainly valuable for any consideration of relevance, but it should be noted that his position represents one of at least a few possible stances regarding meaning. For any document or utterance to be judged relevant, it stands to reason, that document or utterance should be deemed meaningful by the reader or hearer. Speech acts, which form the core of Searle's concern, can be assessed as potentially meaningful. These speech acts, however, tend to be assessed on the grounds of the matter or content they communicate (a second conception of meaning). Paul Grice (1989) demonstrated that the kinds of communication that generally are considered when attention is turned to relevance (that is, formal assertions based on evidence or logic) are accompanied by particular communicative intentions. The intention is usually to communicate the substance of the idea or thought that the speaker/writer has to an audience. Grice's position is dependent on an even more fundamental notion of meaning (a third conception) as an explanation of "what it is to think that P, what it is to believe that P, to desire that P, etc." (Harman, 1999, p. 158). This notion attempts to theorize on the nature of a language of the mind that allows for communication that can be comprehended internally by the thinker and then communicated to someone else. While this third conception is important, the first two have more direct relationship to an understanding of relevance.

Borrowing from another work from outside LIS, while systemic concerns are present within our field for the consideration of relevance (i.e., answering the question of whether the information system—database, service, etc.—meets the information need of the inquirer), it may be that "sys-

tem" is even more useful metaphorically. Patrick de Gramont (1990) took this tack when he compared the workings of language to a filing system. He wrote:

> Filing systems have two distinguishing characteristics which enable one to compare them to the way language works. First, they operate on the basis of the fact that the information to be filed has meaning before it is filed. Second, the system under which the information is filed is geared, not to the information per se, but to an ulterior purpose. For example, if I file my correspondence alphabetically, the classification I use has nothing to do with the correspondence in itself; rather it is a function of wanting to retrieve letters easily and efficiently. (p. 65)

De Gramont hastened to add that while this metaphor effectively illustrates the ways we employ language for particular purposes, purposes may become conflated and render meaning difficult. De Gramont (1990) said that the meaning of a file (that is, the categorical meaning it has so that items can be attached to it) is not the same as the meaning of the content within the file; the categorization, being an organizing technique, is ineffective as a meaningful indicator of specific content (p. 69). One reason for the difficulty is that the employment of language for the purpose of categorization (filing) tends to be an application of process rules, and not necessarily related to meaning.

De Gramont's metaphor maps onto our disciplinary concern regarding relevance. The system-based work on relevance that characterizes some IS literature is, if de Gramont is correct, not only limited, but also misleading. If the initial concern is determination of the relevance of documents retrieved from an information system (including a library), then the vital matter of the meaningfulness of possible connection of the intention of the searcher, the stated search, and the retrieved output is forgotten. As the process moves from stage to stage, some transformation, along the lines of the metaphor of the filing system, occurs. The searcher's intention is translated into a query, which is further transformed through the mapping of search terms onto document representations. Serious inquiry into relevance judgment should not ignore the transformative processes that take place along the way. Applying de Gramont's thought to relevance might prompt the profession to think seriously, apropos of Mizzaro, about the two clusters of work on relevance, and especially whether the separation into two clusters not only misses the point of relevance but also possibly perpetuates a mistaken notion of system and human operating independently. This is not to say that there is no awareness that the two clusters are really only two emphases within an interrelated phenomenon; there is certainly work that does integrate the two.

One additional view from the outside can help demonstrate the more particular concerns associated with relevance judgment that may be a part of a dialogic process (e.g., reference transactions). While a number of think-

ers could enlighten us, one philosopher in particular has addressed matters of communicative action—Jürgen Habermas. In one specific work Habermas (1998) has critiqued some standard theories of meaning and has found them wanting. A primary difficulty with these theories is that they tend to be constituted almost entirely in language itself and not in what Habermas referred to as the pragmatic relationship between speakers and hearers that can be both linguistic and extralinguistic (p. 280). What is missing in such a case is a lack of attention to action—theoretic contexts in which meaning may be realized. As mentioned above, Birger Hjørland in our field has attempted just such a connection between meaning and action theory. According to Habermas, traditional theory has not fully abandoned a certain articulation of semiotics wherein an object-centered idea of knowledge holds that meaning (signified) relates to a sign (signifier) in the same limited way that a potentially meaningful sign (symbol) relates to the signified object (designatum) (p. 281).

Habermas offered a replacement for the traditional theory by emphasizing the tripartite objective of "a *speaker* reaching understanding/ with *another* person/ about *something*" (p. 293). He added to the dynamic combination of *de dicto* and *de re* beliefs affecting meaning by explicitly recognizing the shared social world in which communication resides (p. 296). His addition of this component has the effect of clarifying that, rather than being a linear, objectified process, communication (and relevance judgment) is a dynamic and transformative force that can enable understanding to take place.

> The telos of reaching understanding inherent in the structures of language compels the communicative actors to alter their perspective; this shift in perspective finds expression in the necessity of going from the objectivating attitude of the success-oriented actor, who seeks to *effect* something in the world, to the performative attitude of a speaker, who seeks to *reach understanding* with a second person about something. (Habermas, 1998, p. 300)

Any dialogic effort to determine the relevance of documents or utterances depends on the kind of teleological stance of which Habermas speaks. This means that, from the professional point of view, it is not sufficient to recognize a simply stated goal of service; a more robust and rich articulation of purpose is required to meet the goal of finding relevance in a dynamic and complex environment.

## Summary

In recent writings, representatives from the IS field have recognized the dynamic and complex nature of relevance and relevance judgments. Some of these writers go so far as to delve into work beyond LIS. The reality, however, is that such treatments are limited. Furthermore, consideration of relevance is to be found in the IS literature, rather than in the literature

on librarianship. As is the case with any absence, reasons are left to specu-
lation. It may be that librarians read the IS literature and learn from it. It
may be that librarians tacitly believe that practice effectively embraces rel-
evance in the form of reference service and measures such as user satisfac-
tion. When we traverse beyond our own literature, we can readily see a rich-
ness of thought relating to language, context, content, and other factors
that are closely connected to relevance. The potential for understanding
and misunderstanding may be the most fundamental of ideas that can guide
the inquiry and practice in which relevance holds a central place.

When Habermas's critique of theories of meaning is considered, the
challenge of understanding what relevance is and how it can be assessed
becomes clear. Habermas, more so than many other writers on language
and communication, comprehends the inherently dialogic nature of com-
munication. To ground an examination of relevance even more explicitly
in dialogic communication, the work of Mikhail Bakhtin should be consid-
ered. Bakhtin, more effectively than anyone else, has captured the elusive
quality of dialogue. Underlying his program is the claim that all communi-
cation is dialogic or monologic. Monologic communication allows no re-
sponse, no appropriation by a reader or hearer; it simply is as it is stated.
Dialogic communication requires interaction between hearer and speak-
er, between writer and reader. This kind of communication also requires
the admission that "Language is not a neutral medium that passes freely
and easily into the private property of the speaker's intentions; it is popu-
lated—overpopulated—with the intentions of others. Expropriating it,
forcing it to submit to one's own intentions and accents, is a difficult and
complicated process" (Bakhtin, 1981, p. 294).

We may be tempted, especially given the force of a narrow empiricist
tradition in our field, to presume that a relevance judgment is not subject
to multiple, sometimes competing, intentions, that the information-seek-
er imposes her intentions on the document/utterance. The full realization
of relevance entails what Michael Bernard-Donals (1994) called the epis-
temological foundation of Bakhtin's work—"the I–other relationship that
takes place between humans through the creation of signs (and more
specifically, with language). . . . [H]umans are radically 'other' in relation
to each other, but it is this relationship that defines human understanding,
and all epistemologies must come to terms with it, as Bakhtin's does" (p.
43). As is stated early in this paper, relevance is necessarily connected to
knowledge. An understanding of the phenomenon of relevance also neces-
sitates examination that transcends a linguistics analysis that ignores the
dialogic nature of communication. Bakhtin (1986) summed up what ide-
ally occurs in relevance assessment:

> The transcription of thinking in the human sciences is always the tran-
> scription of a special kind of dialogue: the complex interrelations be-

> tween the *text* (the object of study and reflection) and the created, fram-
> ing *context* (questioning, refuting, and so forth) in which the scholar's
> cognizing and evaluating thought takes place. This is the meeting of
> two texts—of the ready-made and the reactive text being created—and,
> consequently, the meeting of two subjects and two authors. (pp. 106–
> 107)

Any dynamic conception of relevance requires an understanding of the
dialogic, and essentially phenomenological, process of communication. As
Emmanuel Levinas (1969) has told us, discourse involves the production
of meaning, not merely an ideal meaning, but one that is grounded in the
present act of reading/hearing the words of the writer/speaker (p. 66). A
judgment of relevance is likewise grounded in the present. This brief ex-
amination demonstrates that fruitful thought from philosophy, language,
and semantics can help LIS delve more deeply into the study of relevance.

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