

Critical Realism as a Means of Exploring Information Seeking

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Abstract:

1. Introduction

How many ways are there to conceptualize information seeking? This may as well be a rhetorical question; an answer is elusive and, in terms of the professional literature, the number would be quite large. There are so many ideas and theories that it is legitimate to ask if the world needs one more. We can take it as self-evident that the number of conceptions is not material; the important consideration is whether any idea is fruitful. The ways people frame questions, translate their questions into searches, seek answers, and reconcile possibilities with their questions constitute one of the most complex, yet essential, human intellectual efforts. The conceptualizations that have held promise are those that are not reductive or mechanistic. The work of Tom Wilson (see 2006 as an example) includes some of the cognitive complexity that is indicative of information seeking. Allen Foster and Nigel Ford (2003) examine the phenomenon of serendipity as an intentional act. Sanda Erdelez (2004) inquires into the kinds of connections that seekers may make in the act of encountering information while engaged in other specific tasks. Some features that the work of these people share are: attention to the social element of informing, complex cognitive operations at all times in the seeking and retrieval processes, and the reflective actions that people are capable of as they make sense of dynamic information. This paper reports on two things: (1) the efficacy of critical theory, as articulated by Roy Bhaskar, as a theoretical construct that can have normative uses in research and education and (2) examination of specific information seeking acts by a set of respondent, as a way to contextualize critical realism within the area of information seeking.

2. Critical Realism

One possible theoretical exploration comes from the examination of science studies—critical realism. Critical realism is the brainchild of Roy Bhaskar, who has articulated and refined his theory in several works. He initially presented the idea as a corrective to both positivism and relativism as explanatory models of scientific practice.

In his earliest work, *A Realist Theory of Science* 1997 [1975]), Bhaskar distinguishes between two objects of knowledge, the intransitive and the transitive. Intransitive objects of knowledge exist regardless of human perception and are usually typified by independent physical phenomena. Transitive objects of knowledge are those which are interpretable, which can be within the scope of human imagination, creation, and linguistic description. In *Realist Theory* he makes the vital point that many theories of scientific practice are guilty of an “epistemic fallacy”: “This consists in the view that statements about being can be reduced to or analysed in terms of statements about knowledge; i.e., that ontological questions can always be transposed into epistemological terms” (p. 36). Both objects of knowledge—the intransitive and the transitive—possess fundamental, but distinct, ontological qualities.

Bhaskar’s ontological foundation has implications for the examination of information seeking and retrieval. The ontology we speak of here is not of the mind-independent sort (at least not entirely), but the questions, searches, and possible answers are real. Bhaskar (2002) states that the philosophical world has not been, and is not entirely open to discussions of ontology: “Hume and more especially Kant had declared a taboo on ontology. . . . In other word we could not talk directly about the world. . . . This taboo on ontology is still very strong. I call that taboo the epistemic fallacy” (p. 9). A hallmark of this species of reality is that person A can explain her question, the search strategy she employs, and her means of assessing retrieved documents so that person B can understand her. That is, the elements of information seeking (admittedly not discrete) can be described according to some categorization that can be shared. Bhaskar (1997 [1975]) explicates how this categorization works: “To classify a thing in a certain way. . . is to commit oneself to a certain line of inquiry. Ex ante there will be as many possible lines of inquiry as manifest properties of a thing, but not all will be equally promising” (p. 210). In his early work Bhaskar was still developing his idea of critical realism, and that work was substantively influenced by a tradition of scientific realism that limited the flourishing of his critical realism at that time. Even then, though, there were seeds of a flourishing theory. A component of his early thought is the creative and dynamic tension between immanent and transcendent reality.

One of the more difficult elements of critical realism is the distinction between immanence and transcendence. “Immanence” refers to immediate experience; perceiving something without any mediation (or, one might say, “naturally”) constitutes immanence. In everyday life, seeing a Stop sign and bringing one’s vehicle to a stop is in the realm of immanent experience. In information seeking, someone seeing words in a document’s title that match the search terms that person entered (and going no further with the perception) is an immanent experience. Transcendence literally means “going beyond.” The type of transcendence that is pertinent to information seeking entails moving past mere appearances to seek meaning that is connected to other things and can be a locus of reflection. When that person just mentioned reads the entire document, thinks about it, and places it in the context of the initial question (including the possibility of questioning the question), there can be a transcendent experience. Edmund Husserl (1970), acknowledged pioneer of modern phenomenology, has delved more deeply into transcendent experience than almost anyone else. He writes, “The whole transcendental

set of problems circles around *this*, my ‘I’—the “ego”—to what it is at first taken for granted to be—my soul—and, again, around the relation of this ego and my conscious life to the *world* of which I am conscious and whose true being I know through my own cognitive structures [*italics in original*]” (p. 98). Transcendence requires a reaching out beyond mere perception to an interpretation of what is presented. Robert Sokolowski (2000) clarifies: “Phenomenology provides a new interpretation of the status of judgments, propositions, and concepts, one that is simple, elegant, and true to life” (p. 99). Transcendence is dependent on immanence; there must be a perception of what is given before there is any possibility of going beyond the given. For a coherent application to information seeking the two must be envisioned as aspects of one reality. Bhaskar does not integrate Husserlian phenomenology into his work, but injection of Husserl’s transcendental phenomenology is a necessary addition to full realization of critical reality.

For the purposes of examining information seeking it is necessary to recognize that a document (defined broadly) has a specifiable being; it has a grammatical, syntactic, and semantic structure that is established with the creation and transmission of the document. [N.B.: The “documents” discussed here are those that are fixed as books, journal articles, reports, etc.; variable digital documents are different ontological things.] A document is definitely not the same as a stone; it has had an intentional creator and has to be perceived *as* intentional. While a document can be interpreted, the interpretation is constrained by the being of the document. A document, as an ontological entity, guides possible interpretation in various, but limited ways. For example, a journal article in information science includes vocabulary and usage that rely on some conventions. Someone familiar with the conventions of information science is less likely than those who are unfamiliar with them to misinterpret what an author intends. In short, communication depends on the application of conventions—societal, professional, cultural, and so on—to be effective. Bhaskar’s critical realism, then, is a weak form of materialism. He writes (1998), “people must be material objects capable of acting intentionally on a world of other material objects and communicating the results of their activity to other intentional agents and for subsequent moments of time. . . . [K]nowledge must be a reproduced process irreducible to a purely individual acquisition” (p. 14). The last sentence is of particular import; knowledge is not individualistic (in the sense of being either the product of *one* consciousness or separable from other parts of the process that leads to knowledge).

3. Application to Information Seeking

Bhaskar’s conception of individuals in society provides a useful analogue in the study of information seeking, especially in the realm of formal communication (recorded information). He maintains that people do not create society; rather, people arrive in pre-existing society. In the course of living in society, both the individual and the social are transformed by complex interacting forces. Likewise, an information seeker enters into an existing world of documents. That world of documents is not static; it changes and grows. The individual information seeker is “informed” (shaped) by the world of documents and can contribute to the transformation of that world; the relationship is dynamic. Further, documents themselves are part of a whole; each represents a (real)

component of the intertwined thoughts of many. If we add the interactions among individuals (class discussions, conversations, speeches, etc.), the transformation becomes even more complex. The lesson from Bhaskar's critical realism is that information seeking is not an atomistic behavior; it is the action of an individual *in* society.

Bhaskar's ideas are put into practice in the project reported on here in a particular way. First, there is the definition of document as an ontological thing that embodies immanent and transcendental reality. On one hand a document is the sum of the words, sentences, and paragraphs (and possibly images) that are intentionally structured by someone (an author) in order to convey an explicit meaning. For example, a journal article (on, say, information seeking) is created by a conscious person who attempts to communicate reasoned, propositional, cohesive thoughts about that topic. The propositional character of the document, along with the reasoning and cohesion, enable other conscious people to read it in an intentional way that resembles the intentionality of the author. The structures that are partly constitutive of the journal article of the journal article are immanent. On the other hand, given that knowledge is more than a discrete and immanent product, there is also a transcendental aspect of the article. This aspect stems from the reality of reflective integration of knowledge and claims. The integration is manifest in complex and unpredictable ways, because the possibilities that flow from reflection are too vast to reduce to some algorithm. The immanent reality of the journal article—the words structured as they are—include the potential for the transcendental reality. The reader is initially bound by the immanent reality but, through reflection, draws from, inserts, sifts, selects, and replaces other elements of the knowledge process. In this way, the immanent parts of the article contribute to a transcendental (and not unitary) whole that *is* the reading of the article.

The challenge to applying this theory is to design some way through which immanence and transcendence can be manifest. It is here that the question framing, searching, and evaluating of results, as a process, is employed. Information seeking, for humans and in the context of the profession, necessitates a somewhat linear (though quite possibly iterative) array of actions. For example, a search query is almost impossible to conceive unless there is first an articulable question. The query, the words that are entered at the outset of a formal search, is symbolic of immanence. It incorporates specific morphological and semantic signs that are manipulable, according to formal protocols, in a database. The resulting set of retrieved documents also represents immanent reality. The documents, as has been shown, embody particular structural being. The action of reviewing the retrieved documents by the searcher is a complex reflective act. A couple of observations can illustrate the complexity. If one reads a journal article today, within the reflective context of the work and thoughts of today, will contribute to knowledge in a particular way. The same person reading the same article next week, within a somewhat different reflective context, may reach a different conclusion about that transcendental reality of the article. Also, if one reads Document 1 in the set of retrieved documents, reflects upon it, the same with Document 2, then returns to Document 1, the transcendental reality of the first document may not be identical at the different times. The nature of transcendental reality is not at all random,

though; a reader still apprehends the immanent reality of the article. The multiple iterations of transcendental reality are themselves parts of a whole.

This project is not meant to suggest that there are predictable algorithmic approaches, either to information seeking research or education for the information professions. Critical realism is explored as a potentially fruitful and normative theoretical foundation upon which future inquiry and education can be based.

4. The Study

A small pilot examination was undertaken in the fall semester, 2007. Students in a library science course were asked to seek information on a specified topic—the status of academic librarians—and to list the ten most relevant items. The purpose of the survey was to determine whether one specific aspect of Bhaskar’s components of critical realism, the existence of an ontological factor in such things as documents created intentionally by people, could be identified in independent searches for information on a common topic. Hypothetically, identical lists of relevant documents would indicate some shared being among the documents that lead to the relevance judgments. Six respondents completed the search and submitted ten documents deemed to be relevant to the topic. Nine items occurred in the lists of at least two respondents. One item made the lists of five respondents; two other items appeared on three lists. This pilot provides some support for the one element Bhaskar’s critical realism.

A larger study was conducted in the spring 2008 semester. Students in another library science course, “Managing Collections and Access” (which is required of all students), were asked to search for items of potential relevance (and to identify three such items) to a particular topic—“freedom of speech and the First Amendment.” Thirty students responded. Assessment of the ontological aspect reveals that two items are each mentioned by six respondents. Two other items were each mentioned by four respondents. The conclusion that can be drawn from this particular result (along with that of the pilot study) is that it is possible for documents to embody some pragmatic aspect of reality. That is, the documents as intentionally created by their authors have syntactic and semantic characteristics that are sufficiently real that a person can retrieve them by means of a search. Further, the documents can be deemed by the searcher as relevant to the question that contributed to the search. This finding does not contradict any claim that there is more to any document than the intentional structures; it states simply that the intentional structures are sufficiently real as to be sharable. Intentionality that is manifest through syntactic and semantic systems, while not extra-mental, is a real part of human action. The finding supports a notion that the immanent experiences that humans have include a commonality that is discernible. **[N.B.: This project is not meant to suggest that there are predictable algorithmic approaches, either to information seeking research or education for the information professions. Critical realism is explored as a potentially fruitful and normative theoretical foundation upon which future inquiry and education can be based.]**

Meaning, then, is partly possible because of an ontological character of intentional human communication. The responses to the task posed to the students demonstrate an additional bit of evidence for the ontology. As might be expected by anyone who has taught a course component on searching for information, students are likely, when the topic is imposed upon them, to use the imposed terms as part of the search. The respondents in this project did just that, but only to a limited degree. As we enter this part of analysis it is essential to note that aggregating the responses is not a very useful form of examination. The very nature of immanent and transcendent experiences tends to require taking into account the particular intentional identifications applied by the respondents. The processes of perceiving and reflecting entail applying universal concepts to particular instances of the concepts, especially in order to reflect upon the uniqueness of the instances. Insight into an essence—"eidetic intuition" in Husserlian phenomenology—is not mentioned by Bhaskar, but it is implicit in his criticism of the objectivist strain in the social sciences. Sokolowski (2000) explains the stages that lead to eidetic intuition:

1. On the first level, we experience a number of things and find similarities among them.
2. On the second level, . . . a kind of identity synthesis now occurs in which we recognize not just similars, but the very same, a "one in many."
3. In our third and final stage, we strive to reach a feature that it would be inconceivable for things to be without (pp. 177-78).

5. Findings

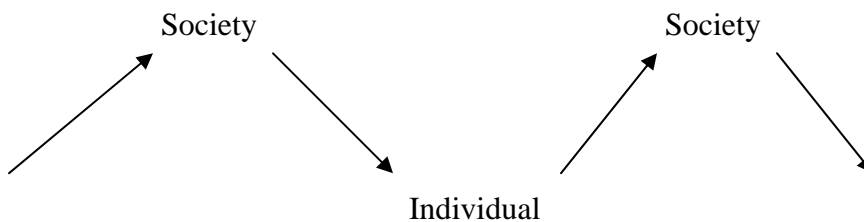
Taking the above into consideration, analysis of the responses necessitates looking at the individual reports of the searches and evaluations. In keeping with Bhaskar's stance regarding the social sciences, inquiry cannot be identical to that conducted in the natural sciences; the transitive and the intransitive objects of study are fundamentally different. "In the social sciences we do not have decisive test situation, we cannot really do true analogues of natural scientific experiments and we do not find, except in very rare cases, closed systems spontaneously occurring" (Bhaskar, 2002, p. 18). When it comes to the descriptions of the searches, some of the responses do not go into detail; they simply state search terms. Examples include searching the keywords "first amendment" and "free speech," searching "librarianship" and "freedom of speech," and searching "freedom of information" and "library." On the face of it, these responses show only a limited immanence; there is no *apparent* reflection in the reports. Other respondents who did not provide rationales for the specific search strategies do offer, through accounts of the terms used, some indications of intention. Terms that were used, frequently in conjunction with the terms just mentioned, include "censorship" (a specific potential action), "internet" (indicating a medium/venue), and "academic libraries" (a particular locus or environment where certain aspects of freedom of speech may be present). In keeping with the immanent experience, some students reported how they began a search using one database, found some things that were relevant, and then searched a second (or even a third) database. Occasionally, a student offered more extensive expression of the search rationale: "In my work in a pharmaceutical and chemical library, many times a patron requests a scientific article, I can perform a Google

search by simply searching for the title of the article within quotation marks.” One immanent experience informed another one in this case. One respondent reported on approaching the topic from a historical standpoint (something that Bhaskar does emphasize so that the present state can be more completely understood): “I decided to go ‘old school.’ Okay, not entirely. I didn’t use the bound Reader’s Guide to Periodical Literature. Instead, I accessed Reader’s Guide Retrospective. I did a keyword search using the terms ‘libraries’ and ‘free speech.’” The item mentioned was published in 1935.

When the respondents reported on the reasons for mentioning the three specific items they did, the reporting demonstrates the two characteristics of a single reality. One student searched, in particular, for something on the controversy surrounding the Danish cartoons that satirized Islam. The reasoning employed by the student is apparent in the brief report:

I chose the Malek article [from the *Columbia Journalism Review*] because it was interesting to hear from the source (Flemming Rose is the culture editor at *Jyllands-Posten*, who solicited the cartoons about Muhammed) about a notable free speech issue. Obviously, the Danes don’t work under our First Amendment, but they do have their own guarantees of free speech, and Rose wanted to make a point about free speech by publishing something he knew would be inflammatory. I think it’s worthwhile for librarians to reflect on the fact that free speech issues can sometimes be life or death issues.

This report demonstrates something that Bhaskar emphasizes—the social aspect of individual informing. This aspect, he says, embodies, of necessity, a dialectic. He provides a simple model to show the basics of the dialectic.



Model: The “Dialectical” conception

The interaction of society is more complicated than the model, but Bhaskar draws it as a means to illustrate continuous (and ideally reflective) interaction within and across space and time. The respondent knew something, from some social source (newspaper, television, radio, Web) about the Danish controversy, but wanted to learn more. The knowledge enabled this person to construct a search in which the likelihood of retrieving something relevant was high. Additionally, the student connects the outcomes of the controversy (threats, demonstrations, accusations) with the nature of the cartoons, thereby acknowledging the reflection that is needed for understanding.

Bhaskar (1993) also expresses precisely what he means by dialectic:

In its most general sense, dialectic has come to signify any more or less intricate process of conceptual or social (and sometimes even natural) conflict, interconnection and change, in which the generation, interpenetration and class of oppositions, leading to their transcendence in a fuller or more adequate mode of thought of form of life (or being), plays a key role (p. 3).

The modes of dialectic are related to phenomenology; they include parts and wholes, presence and absence, and what Sokolowski (2000) refers to as “identity in manifolds” (pp. 27-33). Identity in manifold is exemplified by the need for perception from multiple standpoints or perspectives in order to apprehend a complete thing (a cube, for example) as it is given. The matter of addressing identity in manifolds is also clear in some of the respondents’ reports. One of these reports serves to represent the attempt to come to grips, dialectically, with anything that includes multiple perspectives:

I chose this particular article because it was the only result that appeared under the terms I searched under [in a particular database]. It also happened to address the assigned topic towards the college campus, which reflects my interest in the academic library.

I wanted to find an article that would discuss the first amendment in a more active manner, rather than passively discuss the “theory” of what the first amendment could mean. The article struck me as particularly interesting because it dealt with issues of censorship demanded by librarians, rather than the presupposed stance of opposition of material by the community.

I chose the particular result because it seems to present a good example of an article discussing the ramifications that could occur in the digital age and the problems of over-commercializing of the internet and use in a library setting.

Among other things, this response demonstrates the adoption of what can be called a phenomenological attitude towards retrieved information. The phenomenological attitude is an exercise in dialectics as Bhaskar speaks of it. The respondent refers to oppositions in the way that freedom of information can be thought of and in the ways freedom is applied. This respondent eschews the taken-for-granted and follows Bhaskar’s (1993) advice to “revise our descriptive, taxonomic and explanatory vocabularies in the light of unexpected, and possibly recursive, epistemic and/or ontic change (p. 12). In dialectical critical realism knowledge is not fixed, cannot be reified. For information seeking the implication is that one’s process of knowing is not completed by any instrumental acts (such as searching a database). It was mentioned above that one illustration of critical realism is the act of reassessing a document both in light of changing contexts (over time, for instance) and of becoming aware of other documents. This aspect of critical realism is represented very clearly in the respondent’s report; no

single document (and, by extension, no single statement, image, or claim) is sufficient, given the dialectical nature of knowledge growth. This finding cannot be overemphasized; it carries import for any future research in information seeking and also education in information studies.

Some of the responses include explicit cognizance of the dialectic of presence and absence. This may be the least surprising element of critical realism to information seeking, since the process of seeking is grounded on *something*; that is, the question that is formulated has some foundation in the known. Further, the question includes some of what can be called the known-unknown, the absence that is least removed from the knowledge that is present. One example from the project is a respondent's search for the particular purpose of filling in a gap. The gap was the free speech of employees in the publishing industry, rather than library patrons. The intention stated was augmenting knowledge about library services with an understanding of workplace speech. Another respondent adds an item that pays special attention to students in K-12 schools providing documentation in their work to materials retrieved from the Web. The addition was intended to supplement knowledge of appropriate behavior in schools. A third respondent includes an item on challenges to textbooks in public schools, in addition to other items on use of the Web by students in public schools. The respondent says, "Librarians could probably learn a lot from the similarities/differences between challenges to books being taught and challenges to books being available in the library." The dialectic is apparent in this statement; the respondent makes explicit reference to the tension between presence and absence.

The concept and the reality of absence are especially challenging, according to Bhaskar; he argues against ignoring absence, preferring instead urging that we account for absence, or non-being. Such accounting is vital to the examination of transitive, or interpretable objects (which would include such things as document and the ideas and thoughts they represent). His concept of absence is somewhat apart from a colloquial one; it must be defined more clearly.

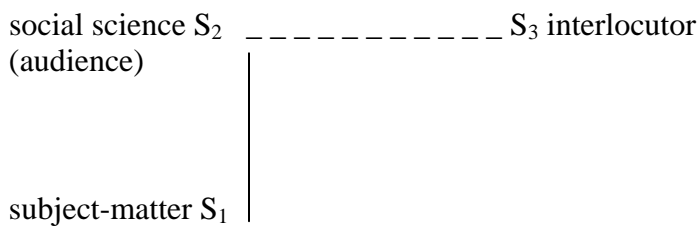
The causal "absenting" sense of real negation is better brought out by the concept of negativity, which also designates the other main sense of negativity with which I will be concerned. . . . There are of course many senses of "to negate", including to "deny", "oppose", "contradict", "exclude", "marginalize", "criticize", "condemn", "erase", "undo". . . . How might one set about a transcendental deduction of the concept of real negation in, say, science? By noting the spaces (absences) in the text of a research report, its reliance on data not present in it, on pre-understanding of its context, including its spatio-temporal geo-history (Bhaskar, 1994, p. 56).

This concept of absence is one that makes sense in the study of information seeking. One purpose of seeking to know more is attempting to locate the opposition, contradiction, exclusion, and so on that allows for the application of the dialectic. Any examination that explores only the one side (the presence) is missing an essential component of the process.

6. Discussion

This exploration of critical realism's potential application to information seeking has promise for research in this area and for education in information studies in general. To reiterate, critical realism is a normative theoretical program. As theory it has propositional reasoning that is coherent and cohesive. It allows for the explanation of human actions that are cognitively, intellectually, and pragmatically complex. Also (while there is not space to delve into the matter here), Bhaskar's critical realism is non-positivist; in fact, Bhaskar critiques positivism and finds it deficient. His critique includes influential frameworks of the social sciences, such as that of Peter Winch (1959). Winch espouses epistemological principles for the social sciences that are problematic for any realist stance. Bhaskar (1998) points out, "Winch's point is, then, that essentially human behaviour exists only in concepts and concepts exist only in such behaviour. . . . The subject-matter of the social sciences has the unique property that it entertains beliefs about itself, and (for Winch) unless this were so, its subject-matter would disappear" (pp. 134-35). Perhaps most telling, Bhaskar says that positivistically framed social science "depends critically upon the ideologically supersaturated and philosophically underanalysed notions of 'experience' and 'fact'" (p. 124).

Bhaskar emphasizes the social element of the social sciences, and the examination of information seeking depends on the social. For Bhaskar's critical realism, the subject matter (such as information seeking) is important, but so is the audience to whom the social science communicates. This characteristic of the social sciences is emblematic of, not only the ontologically realist aspect of critical realism, but also the epistemologically relativist element as well. This relativism is not the sort that allows anything to count as knowledge, but accepts that knowledge is fallible and corrigible. In short, the purpose is the conveyance of an understanding of what would constitute explanation of any social phenomenon. Bhaskar (1998) models this aspect (p. 59):



If any single point from this project were to be stressed, it may be the necessary conjunction of immanent and transcendental objects as parts of one reality. As has been mentioned, Bhaskar does not speak in these terms, but he does feature the ideas underlying them. To conclude, Bhaskar (1998), in describing complex, sometimes interdependent characteristics of the social, writes, "it is characteristic of the social sphere that surface structure is necessary for deep, just as *langue* is a condition of *parole* and intentionality of system" (p. 43).

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