

Human studies and user studies: a call for methodological inter-disciplinarity

[Brenda Dervin](#)

School of Journalism & Communication
The Ohio State University
Ohio State University
Columbus, OH, USA

Abstract

Drawing on extensive literature reviews focusing, in particular, on user (and audience) research in the fields of library and information science and communication studies, the author describes the increasing chaos of human studies and user studies: the plethora of theories, concepts, approaches, methods, and findings which plague researchers within and between fields and bewilder policy maker and practitioner observers. The origins and symptoms of these disciplinary overloads and the usual forms of inter-disciplinarity brought to bear on them are traced. The author argues that most usual approaches to inter-disciplinarity act as more of the same and contribute to overload conditions. She calls for a methodological approach to inter-disciplinarity based on fundamental communicative principles. For library and information science, which as a field has traditionally drawn on multi-disciplinary sources, the author cautions that, as the field sets itself to the task of assisting the inter-disciplinary needs of its constituencies, it is especially important that the field also attend to inter-disciplinary needs within its own walls, between its many disparate and disconnected discourse communities.

Introduction

My purpose is to comment on the state of research focusing on human beings and their activities. Although my comments are cast in this larger general framework, my specific application exemplar is the study of information seeking and use and, in particular, that domain of studies known in library and information science as user studies. I will throughout my essay refer to the larger framework as "human studies" and the smaller as "user studies." I eschew the term "social science studies" deliberately because as shall be seen one of my conclusions is that social scientists and humanists who quest understandings of being human desperately need each other. I will, however, refer to social sciences when this term is the appropriate historical label. (1)

Examined up close, it appears as if research focusing on human beings and that subset we call "user studies" is doing fine, marching along in the accepted ways—accumulating new concepts, new variables, new methods, new theories, new findings—in the hopeful quest of unlocking the riddles of human behaviour and getting it right once and for all.

Examined from afar, however, one sees a converging albeit far from dominant or consensual agreement that our work is piling up, not adding up. A few examples will illustrate the point. In information science studies, Hjørland (1996: 52) challenged: "We must cease the overproduction of unrelated facts." In communication studies, Carter (1974, 2003) has admonished for years that we must "...avoid doing research that 'piles up, but does not add up'" (Dervin & Chaffee, 2003). In psychology, Loftus (1991) has challenged that hypothesis testing in the social sciences is a "tyranny".

As individual researchers, we work within insular discourse communities. These communities are usually far smaller than a discipline or field. They involve, as but one example, that sub-set of psychologically oriented information studies researchers who publish primarily in a particular journal and attend a particular annual conference and rest for their foundations on a particular sub-set of personality theorizing within psychology.

In our insular communities it is easy to move happily along missing the growing and generalized state of disarray in our work. It is also easier when brushing the edges of the chaos to build larger moots and thicker walls to protect our discourse from exterior invasion and the mind-wrenching task of having to attend to the chaos that is, in actuality, the state of human studies.

The chaos within discourse communities is difficult enough to grasp and manifests itself between findings that claim one result and findings claiming the opposite. Moving out from insulated discourse communities we find contradictions and incommensurabilities between researchers using one set of concepts or variables or methods or theories and those using others sets; and between researchers in different disciplines focusing on the same phenomena who arrive at radically different results.

There are attendant challenges launched at human studies from outside research communities—from policy makers and practitioners who are increasingly dissatisfied with what researchers offer to practice and to society and increasingly impatient with the plethora of contradictory conclusions that human studies researchers seem to come to about virtually any topic. Are the electronic media the greatest emancipatory tools ever known to human kind? Maybe yes, maybe no. Will the eBook replace the paper book? Maybe yes, maybe no. Is human information seeking best accounted for based on physiology, personality, domain, context, or situation? Maybe yes, maybe no. Are human beings driven by nature or nurture? Maybe yes, maybe no. Do we get our best answers from surveys, field observations, in-depth interviews, focus groups, and experiments? Maybe yes, maybe no.

It is small wonder that lay observers, including educated intelligentsia, practitioners, and policy makers too often find scholarly human studies wanting. It is small wonder that the research voice that is heard in policy and practitioner circles depends far more on politics and power than on an intrinsic values relating to research quality. It is small wonder that more and more we see the scholar-for-hire, supporting with seemingly creditable research the particular interest of a funding source.

There are, of course, persistent calls to human studies to get its house(s) in order. One manifestation is the call for research to be socially relevant—at one and the same time both a useful call and a symptom of the vain hope that the research to practice-policy gap will be bridged by accumulating a host of new concepts and variables and methods and theories mandated to focus in socially relevant ways on issues relating to community, participation, democracy, and so on. Another manifestation is the call for inter-disciplinarity—also at one and the same time a useful call and a vain hope that somehow the bringing together of these multiplicities will help us find coherence amid the chaos of our findings.

What has resulted on both counts is more of the same—we are drowning in concepts, variables, methods, theories; and we are drowning in an avalanche of contradictory findings. Far too much research labelled as "socially relevant" or "in the public interest" simply replicates prior work in new contexts or new application settings—those deemed important by funding agencies. Far too much inter-disciplinary work simply makes the laundry list of concepts and theories and methods and findings larger and more complex.

It cannot be said that these tensions are immediately apparent on the surface. Surfaces, by definition, are exhibitions inscribed by accepted ways. It is only when one looks in between—at the off-hand comment, at the obligatory but often hard to find research weakness statement, at the voice in the dark—that one sights the embroiling chaos.

The irony of this situation is that even those who call for bridging these gaps—myself included—are part of the problem. As researchers, our very jobs and our rewards come from making of our critiques and challenges to others yet another set of accepted practices. Hidden forces—political, economic, bureaucratic, and cultural—are at work that propel us into insularities and incoherent discrepancies. We struggle to surmount these by such actions as calling for community-oriented research and inter-disciplinary collaboration. But a second irony is that most of the very approaches we use to attempt to build bridges across these gaps are themselves anchored in the very same forces that got us into these dilemmas in the first place.

My purpose in this essay is to muse about the wherefores and whys of this situation and the possibilities for

addressing it. Readers seeking answers of an absolute kind will find none here. This essay is offered as a preliminary cruise with an invitation at the end to readers to embark with me on a variety of long journeys whose ends are not and cannot be charted in any traditional sense. We need a new kind of atlas with new kinds of maps. We will feel lost. We will sometimes be lost. We should sometimes be lost and know it. We will certainly upon occasion be accused of being lost.

Bottom line: I argue in this commentary that we can address the challenges being directed at human studies and user studies—the challenge to matter and the challenge to be more coherent. We cannot, however, do so with the approaches we are using now. We will keep producing more of the same and make the pile higher and wider, but no deeper.

The demand context: external accountability, internal insularity

The calls for human studies to be socially relevant and intellectually coherent are, of course, not new. From the outset, human studies have been driven by far more than a reach for fundamental understandings of human beings. Purposes have ranged from the instrumentalist to the liberationist, with some observers challenging that in fact the two are but the same. From the outset, too, human studies have developed within forces impelled toward intellectual coherence of some kind whether that was the kind of homogenizing philosophic understanding of humans favoured by early Greek philosophers, or the objectivist and instrumental understanding of humans favoured, indeed mandated, by the rise of modernist science. In the modern moment, the challenges to prove both social relevance and intellectual coherence are interrelated. Applying knowledge to human conditions necessarily implies knowledge that has the capacity to point to empirically confirmed answers.

The challenges from the outside to human studies clearly suggest that human studies and user studies are failing on both counts. They are not as useful to practice and policy as practitioners and policy makers want. They do not arrive at consensually agreed upon answers. While the challenges are certainly louder and more insistent in the current moment, it is important to understand that these challenges are not new.

What is new is that certainly the challenges from within policy and practitioner circles are increasing. This increase can be seen as both caused by and escalated by a number of converging and interrelated forces: the exploding and imploding advance of new electronic technologies and the impact of these on virtually every institutional arrangement in society; the diminishing respect for expert knowledge and authority as a mediator of struggles in the human condition; the rise in the capacities of governments and global entities to carry out surveillance, and to control and obscure; the bewilderment and bemusement of lay populations, both victims and beneficiaries, of changes which are always several steps too far ahead for most to grasp; the rising challenge world-wide of the underserved and impoverished; and the pervasive call for increased accountability in every sector on every conceivable dimension to every powerful constituency no matter how diverse the demands.

Also, what is new is that as these challenges from the outside increase, the insularities within scholarly discourses also increase. This move toward insularity within discourse communities in human studies is not unusual, of course. The same phenomenon has been documented in the physical, biological, and natural sciences. However, as many commentators have observed, there is something very different in kind between studies of human beings and studies of atoms, cells, and plants. Perhaps most importantly, it does appear as if only human beings actively argue back. Most alternative scholarships—for example, Africanist, feminist, post-colonial—all number among their founders scholars who studied mainstream sociology (or psychology, or communication, or information science) and found the results wanting because the results failed in describing their own material conditions and realities.

The idea of accumulated knowledge born in the fire of critical dialogue has been an inherent idea in modernist science. Longino ([1990](#): 112) described it well: "Scientific knowledge...is an outcome of the critical dialogue in which individuals and groups...engage with each other. It is constructed not by individuals but by an interactive dialogic community."

It can be said that this idea worked in a fashion for the physical, biological, and natural sciences although far from perfectly. Even in those rarefied circles there have been many documented insularities between discourse communities. Even in these circles there have been challenges to the ways in which particular discourse assumptions or propositions served as blinders allowing biased or limiting approaches to dominate and even to silence competing views. Everything said about the insularity of discourse communities within human studies and

the causes of this insularity can be said about the physical, biological, and natural sciences (e.g., Myers, [1990](#)). Indeed, many of the references I draw on below to examine the problems of disciplinarity come from these sciences and not human studies.

Clearly, with its myriad theories, concepts, methods, and findings and the many competing voices that drive different approaches, human studies remains far from the accumulated knowledge ideal. (2) Literatures are so complex and so inaccessible to one other that everywhere one looks one finds this group or that group of human studies researchers reinventing the wheel. One excellent and pervasive example is what in communication research has traditionally been called channel research asking whether the channel that carries a message (e.g., radio or television or book or magazine or conversation) makes a difference. With the advance of new technologies, hundreds of channel research studies are being conducted anew with little or no knowledge that this was a well-beaten path in media studies. The most important aspect was the strugglings in this body of work—the way, for example, the work pointed to the need to differentiate uses of information that are surface versus those that are deep.

Another example pertinent to today's studies of information seeking and use is the way hundreds of studies today are attempting to determine the uses of the new technologies without taking into account the rate of diffusion and adoption. Early media studies produced a generalizable proposition: during the acquiring stage, one sees the kind of behaviour one observes when people are subjected to mazes—confused moving, experimenting and testing; learning and accompanying emotions such as giving up, being angry; intensely relying on the new channels for information inputs, and so on. Users of new media exhibit entirely different kinds of behaviour after they have made the technologies their own when they start inventing uses and abuses faster than marketers and administrators can keep up with.

Examples such as these can be found virtually any time one dips into current work on information seeking and use. Computer scientists, for example, seem to be reinventing user studies as if library and information scientists had never done any work in the terrain. In every field, researchers study information seeking and use in yet another context (culture, organization, community, domain, and so on) without regard to any understandings of information seeking and use in other contexts. In one discourse community, a conclusion emphasizes the importance of addressing user information needs outside the learning environment of particular concern to the researcher. In another discourse community, this admonition is ignored and the work concludes that users learned nothing of importance from their forays. In one set of research communities, it is concluded that the only effective and appropriate context for studying information seeking is by examining the activities involved in information use in work settings or community settings. In other sets of research communities, it is concluded that we must understand the predispositions people bring to information seeking and use. A frequently given excuse for these myopias is of the sort: "We acknowledge that other factors play a role, but we are studying this one." Alternatively, of course, the argument is: "We have found a better way."

These are but brief examples. There are thousands. If we can think of each theory, concept, method, and finding as a map, then it can be said that in human studies we have thousands of competing maps. Every approach, method, discipline, and genre; every concept, variable, and theme; every finding and conclusion, every critique—all are maps and we have a plethora of them. The lists are endless. In user studies focusing on information seeking and use, for example, examining the contents and reference lists in the compendiums of the Information Seeking in Context conferences documents well the bewildering diversity (e.g., Vakkari *et al.*, [1997](#); Wilson & Allen, [1999](#); see also the issues of the *New Review of Information Behaviour*).

It is indeed true that some of us do reach out and try to get informed by these diversities. But the process of comparison and dialogue is painstakingly slow because our root metaphor is one of map-builders. Maps by definition are intended to point to roads that will get you there—to prediction, or control, or explanation. There is not a step that proposes alternative maps for alternative purposes. There is not a course on how to usefully use multiple maps. There is not a mandate to devote at least half one's energy to unravelling the ways in you failed your own expectations. There are no systematic dialogic tools for building what are termed boundary objects (Star & Griesemer, [1989](#); Fisher, [1990](#); Palmer, [1999](#)) that permit communicating across discourse communities. In Dervin's terms ([Dervin, 1993](#)), we have no verbs for bridge building. We cannot see the other discourse independent of our own and so not only can we not grasp its meanings, we both misjudge it and fail to see the challenges and enrichments it might present to our own work.

Disciplinary tyrannies

At the outset let me say that my purpose is not to tear down or eliminate disciplines. The problem is not disciplines but disciplinarity as practiced. It is inconceivable to think of systematic study without systematizing edifices of knowledge. What is needed is the development of ways, as Mourad (1997: 136) puts it, of "...liberating intellect from the absolute foundations of the disciplines." Disciplines will not vanish. "Their longevity suggests that they are compelling ideas themselves." What is needed is ways to make them more useful, more flexible, more able to find relevancies from discourses outside their boundaries, more able to talk across these boundaries in ways that can lead to more productive and more useful inquiry.

The issue of what is disciplinarity and how to most usefully describe and study it is a topic of increasing current interest. My purpose here is not to focus on the centre of that study but on the edges, on the boundaries whose walls are structured so as to prevent bridging. Sullivan (1996: 221) in his rhetorical study of "displaying disciplinarity" focused in particular on the forces of rhetorical orthodoxy operating within disciplines. He started with the interesting juxtaposition that getting published in a discipline's journals requires that the authors "display disciplinarity and yet... say something novel." He proposed that in fact being accepted within a discipline requires consistent displays of allegiance to a discipline's orthodoxy in how narratives are constructed, in assumptions, in methods, in status hierarchies, and in doctrinal knowledge. To be published, an author presents a minimal challenge to the discipline, a challenge that at one and the same time pays allegiance to the discipline's orthodoxy while moving in small ways against it. Each small move must be supported by its own allegiances to, for example, the discipline's status hierarchies or the appearance (and occasionally the reality) that the move arises from critical dialogue within the discipline.

Disciplinarity, then, might be described communicatively as allegiance to accepted and safe discourse. The same criticism has to be applied to discourse communities within disciplines in human studies in particular because we have bifurcated ourselves into myriad camps each with its own journals. In communication studies, for example, we have journals focusing on each substantive terrain or channel (e.g., interpersonal, mass, technology, small group, organizational); and every potential approach (e.g., quantitative and qualitative, survey and experimental, discourse analytic and rhetorical). The [Communication Institute for Online Scholarship](#) indexes some 70 journals. Cross citation between journals representing different discourse communities is low.

Thus, "**disciplinarity**", more properly, is applied to academic discourse communities than to what are commonly called disciplines. The attributes of such communities that make communicating across them difficult have been well documented. Brewer (1999: 335) presented a useful list in the context of efforts to achieve inter-disciplinary approaches in environmental studies. The obstacles to communicating, he said, include: different cultures and frames of reference, different methods and operational objectives, different "languages" within [discourses] and between [discourses] and the world at large; challenges related to gaining the trust and respect others working in different [discourses] and fields; institutional impediments related to incentives, funding, and priorities given to disciplinary [discourse] versus inter-disciplinary [inter-discourse] work; and professional impediments related to hiring, promotion, status, and recognition.

In library and information sciences, there are a rising number of examples of such challenges (e.g., Hjørland, 1996, 1998, 2000b); Vakkari (1996, 1997); and, Wilson, P. (1996a, 1996b, 1996c) with an emerging agreement that we are suffering from an extreme information overload not only from changing and competing findings but from changing and competing conceptual frameworks. Hjørland (1996: 55) stated it well. The more time we spend on trying to understand our different points of departure, the less time we "...spend on going further together."

Yet, it is an especial irony that even those who challenge that we are drowning in contradictions and chaos, themselves add to it by proposing yet another theory, method, concept, approach—each offered as the synthesizing solution. This is part and parcel of our fundamental understanding of ourselves as map builders. We still believe we are questing right answers, that our job is to achieve certainties. The edifices of the communicative procedures we use for "dialoguing" across our differences reflect this very quest.

It is also an especial irony that the processes in actuality turn against each other the very researchers who have more in common. The way our communicative edifices are built the more different a discourse community from our own, even when focused on the same phenomenon, the more difficult it is to interpret and even critique. It is as if a foreign language is spoken and we become mute in its presence. As a result, it is not uncommon to find researchers whose discourse communities are very close quibbling over details while the big questions go unanswered. As but brief examples, we find one activity informed theorist challenging another as too mentalist; or, one bench science quantoid crashing another's entire body of work to the ground because of charges of improper use of statistics.

There are two tyrannies in disciplinarity as it relates to the study of human beings that breed these communicative dysfunctionalities. One is the tyranny of the quest for certainty that undergirds wittingly or unwittingly all human studies, even those informed by the humanities. The second is the tyranny of polarization, the mandated choice of "either...or" that is a symptom of disciplinary boundary building.

It is useful to look historically at the foundations of the sciences because the roots of human studies, both in the social sciences and in the humanities, rest there. Historically, the contest was between reason and superstition. Morton provides an example summary:

In the early days of science, which were by no accident also the early days of epistemology, the ambition was for a set of beliefs which could largely supplant ignorance and superstition....So the epistemological vocabulary was to be employed from a neutral standpoint from which the advantages of science over ignorance could be adjudicated. (Morton, [2000](#): 700)

Schleifer, drawing on Rorty ([1979](#)) in particular, made a related point in his call for a return to narrative and story telling as a communicative approach for collaborative dialogue in both the sciences and humanities:

Certainty, rather than wisdom, became the object of philosophy, just as "information" became the object of solitary subjects of experience and knowledge. [Epistemology's quest for certainty became]...the function of an individual subject, one who stands outside the experience he [sic] comprehends, seeking a kind of complete and individual mastery that exists once and for all. Such a subject seeks the 'certainties' of formal syntax and nomological system rather than the wisdom, born of time-bound experience within communal life, that is semantic and for that reason neither "established," once and for all, nor always 'redemonstrable.' (Schleifer, [1997](#): 449)

Arnowitz and Ausch levied the same kind of charge when they challenged the social sciences as having an obsession with method, which imprisons both the proponents of method-driven social science and its critics:

...following their perceptions of practices in the natural sciences, the social sciences have reified methodology, making it the chief imperative of social investigation and using it to ground their knowledge claims. We find this to be the case even in the work of social scientists who try to overcome or reject the dominant positivist paradigm. We argue that this obsession with method has led the social sciences to abandon thinking-beyond-the-given in favour of small, specialized studies whose justification is no longer substantive.... (Arnowitz & Ausch, [2000](#): 699)

This foundational emphasis on certainty has led human studies scholars, particularly when thrust into the blinding light of public attention, to frame their work in terms of problems: indeed as Bruhn ([2000](#)) suggests, declaring "war" on them, rather than learning to ask the right questions, a process Bruhn suggests can only be born in genuine dialogue.

Bruhn in his review of inter-disciplinary issues as they relate to integrative physiological and behavioural science enumerated many of the constraining information processing and dialogic strategies that arise from these foundations. We replicate methods we were taught in graduate school so that persistence is more valued than risk-taking. We commission state-of-the-art reviews and meta-analyses from single high status scholars as if one mind operating in one discourse community will find the way to cohere the chaos. We conduct research based on routine and repetitious methods, what Bruhn calls "script-based research" (Bruhn, [2000](#): 64) and what is more familiarly called recipe research.

Add to this roster the normative ways we address our differences. Our strategy is to search for weaknesses that will distinguish "us" from "them", and show how we are stronger and they are weaker. Given that the epistemological foundation breeds this emphasis on winning, it is no surprise that the practices of the academy and modern research institutions add more fuel to our divisions. The emphasis on fame and funding has further inbred scholarly efforts. The hustle for speed leads researchers to cut short the deep deconstructive digs into the historical roots of concepts that used to be normative in the best work. Researchers speak of the work of their opponents not on the basis of an understanding of the corpus but based on a casual reading of as few as one outdated article. Journals hustle their authors into press by not reaching out for the kind of diverse reviews that would mandate rewrites that acknowledge differences in viewpoints. Researchers dabble instead of studying deep, flitting about to wherever funding is available. Quantitative researchers retreat to small, often infinitesimal, increments of variance accounted for; or,

they cloak their results in statistics inaccessible to any but the initiated and far more complex than their concepts. Qualitative researchers protest that context is unique and no generalizing conclusions can be reached while building their discourse communities on promises of generalizing contribution.

Because disciplines and discourse communities are forged within boundaries, with maturation these boundaries have traditionally become more numerous and more rigid. Boundaries, by definition, are born by excluding and, in particular, by creating opposites, by polarizing. The result is a disposition that imposes always a choice. In accounting for information seeking, for example, we must choose: is it nature or it is nurture; is it domain or is it person or is it situation; is it work environments, communities, or individual life journeys. Rarely does one see a mandate to identify the conditions under which boundaries do and do not work. The fundamental strategy (one of polarizing) is reified further because as a species we human beings have few models for interacting with difference other than by polarizing. Our fundamental conceptions of the world, in the western tradition at least, are anchored on nouns as categories and classifications of nouns. When confronted with difference, we classify it as "not us" by using "us" as the model for description. It is as if we are set to the task of describing an orange and the only tool we have is an apple. We necessarily end up describing the orange as "not apple" (Dervin, [1991](#)).

The call for collaboration and inter-disciplinarity

Intersecting all the above, it is entirely understandable why the call to inter-disciplinarity has become a clarion call throughout the academy. One version of this call asks the disciplines to open themselves up to outside input. Drawing on Beck's work ([1995](#)) and that of others, Romm, for example, called for a democratizing of research processes. What is needed, she said, is recognition that:

'Researchers' are no longer seen as accountable primarily to some academic community apparently trained in assessing with what 'confidence' results can be accepted as 'valid.' Rather, it becomes recognized that processes (and purposes) or any inquiry in society can always be revisited by both so-called professional researchers and others in society. ([1998](#): 73)

This call to inter-disciplinarity focuses on epistemological differences and on the well-documented challenges to authority and expertise that are a condition of modern times. Another version of the call pushes much further into the fundamentals of how research is done and judged. Beck ([1995](#)) argued, for example, that inter-disciplinarity requires that researchers must change their accountability rules and practice in new ways. The argument rested on the assumption that the old ways anchored as they were in functioning as expert-led systems of knowledge production mandated to solve specific problems has become meaningless in the light of the complexities and uncertainties of modern society. Beck challenged that continuing research in this mode may well serve to create malfunctions and dysfunctions in societal public spheres. Others have responded that in fact the call to inter-disciplinarity is what scholarship was meant to be about in the first place and that only institutional arrangements and privileges have steered knowledge-making off course.

Clearly, the call to inter-disciplinarity brings with it the same tensions and struggles that have impelled the building of strong and impenetrable disciplinary walls. The terms inter-disciplinary, cross-disciplinary, multi-disciplinary, and trans-disciplinary along with the terms collaborative, multi-method, and multi-field are popularly being bandied about interchangeably both in the sciences and humanities. In most cases, these are responses to calls by administrators and funders for researchers to transcend their differences and bring their separate knowledge together merging them into the bigger, better, more effective pictures of reality that have assumed to be the goal of an accumulative science.

However, in an editorial focusing "on inter-disciplinarity" in *Discourse & Society*, Zuo warned against using these terms "in a graceful casual manner... [as if]... they are simply interchangeable... to add a touch of variety to the wording..." (Zuo, [1997](#): 441). Zuo cautioned against masking the "essence of the issue with a false (and distracting, for that matter) 'meta-discoursal' [sic] inter-disciplinarity."

It is, unfortunately, true that this array of terms is bandied about interchangeably and that most uses refer to a meta-discoursal exchange in which it is assumed that the gap between disciplines involves merely an inconvenient separation of fields that happen to be paying attention to the same object in different ways, or to different aspects of the same object. Resting on traditional conceptions of epistemology, these views of inter-disciplinarity see the accumulation-of-knowledge as naturally flowing from the bringing together of the disparate research communities

into contiguous time-space.

In a special issue of *Policy Sciences* focusing particularly on the challenges faced in environmental studies which cut across multiple physical, natural, biological, and social sciences, Karlqvist reviewed five different modes of addressing the inter-disciplinary challenge each of which he saw as mandating itself to a different and successively more complex set of gaps between disciplines:

1. Doing the same thing in different ways.
2. Doing different things that can be combined.
3. Doing different things that cannot be combined absent an additional framework.
4. Doing things differently.
5. Thinking differently. (Karlqvist, [1999](#): 382)

We now have enough experience with inter-disciplinary efforts to see is that in most instances they address collaboration in Karlqvist's modes 1 and 2 anchored in the same root epistemology within which we created our disciplinary isolations in the first place. This is why so much inter-disciplinary work ends up reading like supermarket shopping lists with ever growing arrays of variables (or factors or dimensions) that must be taken in to account and fewer and fewer conceptual tools for making sense.

The problem is that simply wanting to talk across difference is not enough. Even if we accept as Bruhn ([2000](#)) put it "...that boundaries are illusionary...", we must acknowledge that "...the opposites they create have become our impassioned battlefields." (Bruhn, [2000](#): 65). These battlefields involve every aspect of our beings—not just our categories, propositions, assumptions, methods, but our repertoire of embodied practices—internal and external, cognitive and emotional. In Bourdieu's terms ([1989](#)) our disciplinarity is both enacted in and reinforced in communicative habitus, the inscribing in daily on-going being-in-the-world practices of the institutional and power arrangements of our societies and our institutional places in time-space. We are embedded in the noun worlds of our disciplines with practices that wittingly or unwitting hold them in place. We need to find ways of addressing research differences that are independent of these edifices (Dervin, [1991](#), [1993](#)).

Tapping this sensibility are calls for what some have termed a post-modern inter-disciplinarity. Mourad writing in *The Review of Higher Education* reviewed the work of four scholars who challenged and enlarged the potentials of established disciplines—Foucault (for history); Lyotard (for science); Rorty (for philosophy); and Derrida for the Western intellectual tradition of knowledge). In his call for a post-modern inter-disciplinarity, Mourad claimed that this idea of inter-disciplinarity is:

...different from the way that it is typically conceived. It is not the basis for overcoming the fragmentation of knowledge and the gaps between the disciplines by a unifying of the divergent pursuits of knowledge of reality. Ideas are not pursued to permanently establish them or render knowledge whole. Nor would they be essentially about a pre-existent reality. Post-modern cross-disciplinary encounters and collaborations do not synthesize divergent ideas but use them to produce compelling ideas that are not limited by the disciplines. The aim... would not be to normalize inquiry but to create new compelling discourse, to change what is normal. (Mourad, [1997](#): 136)

Mourad emphasized that his intent was not to eliminate disciplines. Clearly, however, his call was for inter-disciplinarity to proceed differently. "*The point of departing from the disciplines is not simply to depart from them, but to pursue what emerges in the departures.*" (Mourad, [1997](#): 137). Mourad drew a great deal from Barthes, the French semiologist who worked in the genres of literacy theory and history, mythology, and folklore and who applied an approach that analyzed messages and texts as systems of signs involving multiplicities of interpretations. Before his premature death in 1985, he commented on inter-disciplinary work: "*In order to do inter-disciplinary work, it is not enough to take a 'subject' (a theme) and to arrange two or three sciences around it. Inter-disciplinary study consists in creating a new object*" (Barthes, [1986](#)).

Beck ([1995](#)) pointed in the same direction with his call for changing "accountability rules" and thus changing the ways of practicing science. Olaisen ([1996b](#)) pointed similarly when he suggested that research should proceed dialectically. McLuskie ([2001](#)) made a related call when he emphasized the need for putting philosophy back into our "epistemological pursuits." Romm concurred and called for an inter-disciplinarity that was inherently focused on reflexivity and "discursive accountability". She saw inter-disciplinary as tied to reflexivity. It is this reflexive orientation, she said, which allows researchers to:

...entertain possibilities for taking on broad ideas/ interpretations exceeding the boundary of some "source discipline". It is part of the responsibility of inquirers to consider whether single discipline-based research might be unduly restrictive in its way of seeking issues of concern and hence of constructing options for action. inter-disciplinary processes imply that effort is expended to create fresh opportunities for understanding-and-action through working with the juxtaposition and interplay of different vantage points of inquiry. Possibilities for discursive accountability on the part of all concerned are hereby extended. (Romm, [1998](#): 63)

A methodological inter-disciplinarity

Hjorland ([2000b](#)) made a useful point in his piece entitled "Information seeking behaviour: what should a general theory look like?" Instead of "psychologizing epistemology," he said, we should "epistemologize psychology," (Hjorland, [2000a](#): 32) Hjorland's context was a call for applying activity theory to the study of information seeking and use instead of the cognitive, mentalist theories which he challenged have held sway. Hjorland made this call acting in the traditional scholar's way: tearing down work in what he saw as less useful discourse communities, and building the walls to safeguard his own. It is not important to criticize here what I see as a large misunderstanding on his part resulting from too cursory attentions because this would diminish the importance of his insight.

Too many of us have been trying to explain in a multiplicity of ways how users differ in their perceptions of information needs, seeking and use. We have been psychologizing epistemology. Not only have we done this with the object of our focus, that is, users; but, interestingly, we have done it to each other. We do not ask of each other's ideas how these ideas came to be, what constructings and activities produced them in what contexts for what purposes. We do not investigate how we as researchers navigate the struggles imposed on us, standing as we do between our own visions and those of our disciplines and institutions and societies. We stereotype and homogenize each other as "the other."

What the calls for a post-modern inter-disciplinary point to is the possibility of epistemologizing disciplinarity. In order to elaborate this point I first need to alter the frameworks on two terms used frequently in the discussions above, methodology and epistemology. Methodology in the discussions above, as in most treatments in the sciences, is essentially reduced to method. And, method is in turn reduced to merely epistemological choice.

This point is important. Methodology is rightly a branch of philosophy, that branch involving philosophically guided systematic understandings of method. Philosophically, methodology is an equal partner with the other branches of philosophy: epistemology (systematic understandings of the nature and grounds for knowing); ontology (systematic understandings of the nature of being and the existence of entities); ideology (systematic understandings of the role of power and forces in human life, institutions, and cultures); teleology (systematic understandings focusing on designs and purposes as explanation); axiology (systematic understandings of the nature of and operation of values and ethics).

In the philosophical context, systematic understanding refers to philosophical reasoning, to examination of assumptions and axioms and their utilities, constraints, and limits. In the most profound sense, every branch of philosophy has a recursive and synergistic relationship with every other branch. Often referred to collectively as "meta-theoretic" or "metaphysical", the various philosophic domains are assumed to be recursively foundational to methodological considerations which are in turn assumed to be foundational to considerations of method.

The difficulty is that as the development of the sciences have advanced in the realm of human studies; quantitative communities have collapsed methodology into method. The first draft, for example, of Richards' book ([2002](#)) entitled *The Zen of empirical research (quantitative methods in communication)* was *The Zen of methodology*. Reviewers, thankfully, or the author wisely, made the change. The book is an excellent statistics book, but it not a consideration of methodological issues.

Our difficulty is compounded, however, by the fact that on the qualitative, humanities driven side of human studies, methodology is erased into meta-theory as if consideration of underlying assumptions and axioms automatically builds the philosophic bridge to method. It does not.

I discuss this issue at some depth in "Sense-Making's journey from metatheory to methodology to method" (Dervin, [2003](#)) but for purposes here it is sufficient to say that the problem for all human studies is that we are left bereft of

adequate discussions of methodology—that is, what were the researcher's philosophic assumptions and axioms and how did the researcher move from these assumptions to method and back again. I submit that it is only by attending to this full recursive circle that we can begin to get the understanding of other modes of scholarship that we need to be inter-disciplinary.

Borrowing from Hjørland, I would call not for an epistemology of disciplinarity but a methodology in the full philosophic sense of the term so as to enlarge the purview of our considerations; and, so as to not reduce our differences to epistemological considerations alone.

Creating leeway for boundary crossings

An especial irony of the call for a methodology of inter-disciplinarity is that it is asking us to do what we, as researchers, have rarely been asked to do: to change embodied and institutionalized practices; in effect, to communicate differently. If this mandate was envisioned in its widest possible sense, it would apply to the design features of our systems, to how we write and present our work, and even to how we communicate with each other.

Palmer ([1999](#), [1996](#)) in writing about the potential role of library and information services in serving the needs of inter-disciplinary work calls this mandate the creating of "leeway", an idea which:

...incorporates a range of initiatives that make room for, or create the freedom to do inter-disciplinary work. Organizations can undertake initiatives, such as centralizing resources and fostering multidisciplinary communities, to disencumber researchers so they can move in new directions and engage in broader research programs. (Palmer, [1999](#): 251)

Most authors (e.g., Albrechtsen & Jacob, [1998](#); Fisher, [1990](#); Klein, [1990](#); Palmer, [1999](#)) addressing issues of inter-disciplinarity use the metaphor of boundaries and boundary crossing and the concept of boundary objects drawing especially on the germinal work of Star ([1989](#)) and Star and Griesemer ([1989](#)). Star and Griesemer defined boundary objects as concepts that allow people coming together to solve problems or address issues by inhabiting several separate but "intersecting social worlds" while satisfying the "informational requirements of each." Boundary objects are "robust enough to maintain a common identity across sites" and yet flexible enough so each community can capture meaning sufficient to its needs (Star & Griesemer, [1989](#): 393).

In their discussion of design guidelines for user-centred libraries, Theng *et al.* drew on the Star and Griesemer concept when they:

...envision[ed] the development of boundary objects between different cultures assessing shared information resources. Boundary objects organize shared but simultaneously distributed cognition... [and] are used by different communities without presupposing a fully shared definition of an object.... As such they enable collaboration and communication across cultural boundaries on equal terms, for example, without recourse to a single-side dominant mode of symbolization. (Theng, *et al.* [1999](#): 180)

Much of the discussion of boundary crossings in library and information science understandably focuses on a mandate for library and information science to create what Palmer ([1999](#)) refers to as "information leeway... that can benefit the research process." In this context, Palmer calls for information science to improve inter-disciplinary information exchange by translating jargon into terminology that is meaningful across fields. Palmer points to researchers who are making progress in this terrain.

Albrechtsen and Jacob, drawing heavily on Nardi and O'Day ([1999](#)) make a similar call:

Libraries are "intelligent intermediaries...human agents in diverse information ecologies who facilitate the process of knowledge production by collaborating with communities of users in the creation and use of boundary objects such as classification schemes. (Albrechtsen & Jacob, [1998](#): 310)

The call for library and information services to create boundary-crossing tools extends beyond the development of more universally accessible classification systems. Theng *et al.* ([1999](#): 181), for example, in writing about design guidelines for digital user-centred libraries called for providing "opportunities to create boundary objects by users." They saw chat rooms as examples where users' exchanges give ideas to designers who can then adapt design features to meet the cultural needs of users. They also saw "frequently asked questions" (FAQs) and memory

support systems as additional examples of boundary objects.

While all of the above is indicative of potentially useful developments, there is a surprising lack of the kind of methodological sensibilities discussed earlier in these attentions to creating boundary objects. There is an irony present in the sense that an inscribed discipline—library and information science—with many sub-discourse communities which do not communicate very well with each other—is mandating itself to the task of creating objects for boundary crossing in other diverse fields and disciplines.

When boundary crossings are reduced to methods such as chat rooms, FAQs, and so on, without addressing methodological principles for inter-disciplinarity, we end up with a curious replication of the very problems we are trying to address. Romm's ([1998](#)) emphasis on reflexivity as an inherent necessity for inter-disciplinarity is absent in these discussions. Also indicative of the lack of methodological attention in these calls is how they so easily reduce something that is inherently process-oriented—boundary crossing—to the noun worlds of classification. Even the very term "boundary objects" gives the paradigmatic constraint away.

In addition, these calls fall too easily into one of the dominant either-or polarizations of our current moment: the emphasis on cultures and community to the exclusion of other moments of border crossing. Clearly, human activities occur in social, cultural, and community settings. But human activities are not acts of societies, cultures, or communities because these do not have minds, hearts, arms, and legs (Carter, *et al.* [1974](#)). As Zuo so artfully put it: "Human life is vibrant with constant action and interaction; but it is also contingent on human mind" (Zuo, [1997](#): 440). In the gaps between structures and agency, there are many different kinds of verbs—cooperating, colluding, colliding, negotiating, resisting, conspiring, attacking, and so on. Positioning human beings as static entities inside cultures is a methodological choice—it has consequences both useful and dysfunctional. What led our current moment to bracket information seeking into culture boxes? What consequences does doing so have? What is left out? Who is left out? When? A methodological approach to inter-disciplinarity would have to ask these questions.

Getting lost: creating a new kind of map

What would it mean to be methodological in our approaches to inter-disciplinarity? We do not yet know. In the communication fields, of course, we have a large edifice of practical understandings of how to make communicating work better. There is, however, an unfortunate disjuncture between this body of knowledge and the academic arm of communication studies. It is the same kind of practice-theory and practice-research gap that one finds in library and information science. Practice is too often distained as non-theoretic and non-academic and hence little time is spent studying the methodological foundations of practice.

Being methodological about inter-disciplinarity will require creating a new kind of map: a process map. There will be no one approach, of course. There never is. In the literature now, I can identify two beginning examples. Both involve invitations (indeed, mandates) to multi-disciplinary participants to dialogue with each other. One approach I will label the "natural dialogic stance." The second I will label the "designed dialogic stance."

In her article on "Inter-disciplinary practice as reflexivity", Romm provided an example of the natural dialogic stance. Here, participants were involved in two-way open dialogues and discussions particularly in the context of an inter-disciplinary team's movement through time as participants struggled with confusions and dilemmas. As Romm described it:

Different researchers... come into the project with different disciplinary/professional/experiential backgrounds. The point, though, was not to insist that each had to gain sufficient knowledge of these different backgrounds from the start but, rather, to allow the process of unfolding in the research project to qualify them more fully (in other ways of seeing) at points when sensitive issues arise—that is, at points where juxtapositions in situ would help to create multivalent appreciations of the complexities involved in seeing and addressing the issues. (Romm, [1998](#): 68-69)

As Romm structured it, in her approach the use of methods, different sources of input, differing conclusions, and so on were all allowed to emerge naturally and then formed the source of dialogic attentions. Romm's approach is very similar to the approach to communicating recommended in many qualitatively based research projects where at least some researchers have the sensibilities and skills which can facilitate two-way open dialogue.

My second example illustrating a "designed dialogic stance" comes from my own work—the development of Sense-

Making Methodology. (Dervin, [2003](#), [1999b](#)). Most known as an approach that helped to open up user-oriented studies of information seeking and use in library and information science (Vakkari, [1997](#)) as well as various communication sub-fields (e.g., public communication campaigns and health communication), Sense-Making consists of a complex set of meta-theoretic premises which inform a variety of approaches for framing research questions, collecting data, and analyzing results. The Methodology has been developed simultaneously as a theory of communicating practice for researching, and a theory of communicating practice for service delivery and system design. It is the theory of practice for researching that will be emphasized here even though in the larger meta-theory research, practice, and system design are conceptualized as if there were three planes in a cubic space.

In terms of research practice, the most cited aspect of Sense-Making has been its interviewing approach, which has also been called Sense-Making's most developed contribution. (Savolainen, [1993](#)) What is important about the interviewing approach for our purposes here is that it is explicitly designed as an interruption to natural or normal discourse because it is designed to dig deeper than spontaneous communicating allows, and to address hidden, sometimes buried, understandings that actors have of their worlds but which hegemonic communication conditions and habitus-inscribed practices do not permit usual discussion to focus on. Sense-Making asks informants to talk in terms of their real material conditions and situations and the ideas, conclusions, emotions, feelings, questions, confusions they had and the connections between these and their past horizons (past experiences, lived conditions) and their future horizons (hopes, dreams, plans). Sense-Making asks informants to talk about moments of constancy as well as change, habit as well as innovation, centeredness as well as chaos, acceptance as well as resistance as well as apathy. Sense-Making asks informants to relate their sense-makings and sense-unmakings to power arrangements as they experienced them.

In a typical inter-disciplinary application (e.g., a doctoral seminar with students from multiple disciplines), the dialogic mandates of Sense-Making control who speaks when about what. Spontaneous, natural talk occurs only after the Sense-Making confluence of all participants has been displayed. In reacting to a paper by another, for example, each student would be asked to start by describing what of value they got from the paper and how it helped. They might then be asked to answer these questions: "I think the author would be helped by...." and "If I could weave a magic wand, the author would..." Drawing on communication research that shows that when attacked most people can neither learn nor hear anything, the dialogic procedures mandate that the speakers frame their suggestions constructively and always anchor them in their own sense-making contexts. Each speaker is thus mandated to a constant and evolving reflexivity.

One important aspect of this dialogic form is how it inherently draws on story telling or narrative—a terrain that in Sense-Making is seen as a universally natural form of dialogue. Sense-Making trades off its designed qualities with this address to the natural story-telling capacities of human beings and its emphasis in question-asking on concerns that matter centrally to the lived experiences of narrators. Schleifer ([1997](#)) pointed to story telling and narrative as important strategies for collaboration in the sciences and humanities.

Another important aspect of Sense-Making's dialogic practice is its invitation to participants to bring in "evidence" from any sources they find relevant in the humanities or sciences. When, for example, a student is having trouble articulating why she is troubled by the definition of identity offered by another, she might share a poem which gets to the heart of the matter even though she can not yet articulate that core. In this way, the observing strengths of every possible way of knowing can be brought to bear on discussions. Experience has shown that, as often as not, it is the personal story or the meaningful poem which assisted deliberations and advances to new, more comprehensive understandings, better formation of research questions, and more incisive and rigorous analyses and interpretations. While at first participants sometimes resist this merging of humanistic and scientific approaches over time they tap readily into the synergies that emerge.

Systematically, then, Sense-Making as designed dialogue mandates attention to homogeneities and diversities, commonalities and differences, centres and peripheries, habits and caprice, the materially real and the hoped-for-dream. It mandates as well respectful attention to differing perspectives, methods, and theories. It does not depend on well-meaning goodwill or empathic communicating skills to achieve these ends. Rather it mandates the use of a methodological approach to asking questions and speaking, which, based as it is on verbing analytics (Dervin, [1993](#)), is designed to transcend in some small measure the confining and confounding nouns of disciplinarity. In this sense, it can be said that Sense-Making dialogic practices have been explicitly designed as boundary objects although Sense-Making would mandate a name change from boundary object to boundary bridging procedurings. Using these communicative tools, participants become able to bring their attentions systematically to multi-disciplinary circlings of phenomenon in genuinely inter-disciplinary ways.

Essential paradoxes

With these two beginning examples of dialogic forms of inter-disciplinarity, I call readers to this uncharted journey — to create and use methodological approaches to inter-disciplinarity which address inter-disciplinary as the process of (struggling) communicating that it is.

In doing so, it is important to note that there are some inherent and essential paradoxes in this call. One involves the way in which calls for attending to diversity are positioned as politically correct modes of control. Whenever one calls for attention to diversities, differences, and peripheries, those who have a self-interest in emphasis on homogeneities, commonalities, and centres too often point to the call as a kind of tyranny. The message essentially is: you abuse me because you make me listen to others with respect and attention. Communicatively, there is no argument that effectively dissuades this stance. There is, however, dialogic practice because research has shown that over time being listened to and understood respectfully mellows some (albeit not all) participants.

A second paradox involves trust, which is, of course, an essential component of the process. Bruhn (2000: 65) made the point: "Until scientists and researchers respect each other's work across disciplines there will always be a distrust of the quality and validity of another's work." Bruhn emphasized the need for promotion and tenure rules to change. This contradiction between the advancement and reward systems of the academy and the emerging calls for inter-disciplinary centres and research remains an essential paradox. It is also a major source of the "pastiche" method of inter-disciplinary research where disparate, sometimes even incommensurate, viewpoints are pastiched together into one report or article leaving the reader no more (and often a good deal less) informed.

Finally, there is a third paradox, or perhaps more properly labelled, struggle for those in library and information science. The practices of library and information science have been built on edifices of domains, classifications, and indexes. Issues of inter-disciplinarity are, thus, especially pertinent because more than most fields the discussion impacts in two ways—it is about how library and information science conducts research to improve its practice, and it is simultaneously about all the knowledge domains served by library and information science.

Current conditions are such that it is fair to say there is growing chaos on both fronts—within the field and between the field and its constituencies. Numerous authors have concluded that separation of disciplines is being eroded on all fronts. Pinch (1990), for example, challenged that the academic subjects around which we organize libraries are becoming obsolete. Hjørland referred to the Tower of Babel that is the modern library with its discipline and discourse-community driven classifications and indexes and its lack of boundary-bridging points of access.

"...there exist[s] more between the roof and floor of the library than our teachers in school, dared to dream of. This is a lesson in tolerance if not a lesson in resignation and apathy. As tourist in Babel, we must accustom ourselves to the idea that most terms in the subject literature are not meant for our ears."
(Hjørland, 1996: 56)

Library and information science is clearly more aware of the need to address the inter-disciplinary needs of others than of itself. There is, of course, little agreement on what addressing the inter-disciplinary needs of others will involve. Some observers privilege attending to diversity. Some privilege returning to traditional roots. Regardless of their differences, however, most observers (e.g., Albrechtsen & Jacob, 1998; Arant & Payne, 2001; Andersen, 2002; Hjørland, 1996; Jones, 2000; Lombardi, 2000; Olaisen, 1996a, 1996b; Wilson, P., 1993, 1996a, 1996b, 1996c) agree that library and information science must step in to fill a vital role as information intermediaries, experts not on content but on mapping and evaluating knowledge landscapes and developing systems of assessing information quality.

What has not yet developed in library and information science is a focus on developing methodological approaches to inter-disciplinarity within. The field has always had multi-disciplinary sources and, like other fields, it must endeavour to retain the strengths of its separate discourse communities while achieving inter-disciplinary strength as well. Without a coherent and methodologically informed approach to inter-disciplinarity applied within the field, it will become impossible, even self-defeating, to address the inter-disciplinary information needs of constituencies amid the chaos of the cyber-spaced information confluence and collapsing disciplinary boundaries.

The act of serving as a mediator to other fields is itself inherently an inter-disciplinary act. Library and information science faces an especially acute need for reflexivity in its address of inter-disciplinarity. How can it do for others

what it cannot do for itself?

Notes

(1) This commentary is informed by the extensive literature reviews which provided the foundations for recent papers focusing on the meaning of context (Dervin, [1997](#)); meta-theoretical viewpoints on information (Dervin, [1994](#)); the application of communication studies to public communication and education campaigns (Dervin & Frenette, [2001](#)); and the most recent meta-theoretic explanations of Sense-Making Methodology (Dervin, [2003](#), [1999a](#)). In addition, a recent extensive review of the literatures in library and information science, human computer research, and communication as it relates to information seeking and use, particularly in electronic contexts, informs this essay. The review served as the foundation for a proposal for a large scale project entitled "The information confluence: the whys and hows of college and university users satisficing of their information "needs." Funded by the Institute of Museum and Library Resources, the project will be implemented collaboratively by Ohio State University and OCLC. Dervin, Professor of Communication at Ohio State University, is Principal Investigator. Lynn Silipigni Connaway, Consulting Research Scientist, coordinates the research involvement at OCLC as Co-investigator. Chandra Prahba, OCLC Research Scientist, also serves as Co-investigator.

The project proposal is at: <http://imlsosuoclcproject.jcomm.ohio-state.edu/>.

Readers are directed to these reviews for more extensive literature support. Citations in this essay will be limited to those who have been most useful in illuminating and challenging the author's thinking on particular points.

(2) One of my central projects for 30 years has been to interrogate and redirect approaches to communication-related scholarship (Dervin & Foreman-Wernet, [2003](#)). It is not my purpose in this essay, however, to be an advocate for my proposed solutions but rather to call myself and others to the task of inter-disciplinarity in a communicative way. Throughout this commentary, I will make observations that could be read as contradictory to claims I put forth in other writings, although this oppositional reading would depend on point of view. I do this so as to cast the widest possible net for my comments here.

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