7

Literacy Studies and Interdisciplinary Studies: Reflections on History and Theory[1]

> One of the slights of hand of interdisciplinarity is that it deludes us into the belief that we've escaped our disciplinary boundaries. But that delusion also allows us freedom from interdisciplinary longing. Such freedom and our now more comfortable habitation in disciplinary mobility are well suited to the spatial and geographic paradigms we currently inhabit. We think of ourselves as global: rather than defy boundaries, we leap over them, less disciplined, perhaps, but also less frustrated by imaginary constraints. Worrying less about how to find something real on the other side of the interdisciplinary divide, we have more room to think about the consequences of interdisciplinary tourism, to ponder the new terms we've erected as touchstone of our common project, and to offer richer readings of those real (and sometimes hyperreal) objects of our study (Peters, 2005, p. 451).

Literacy Studies

Claims about literacies, and their lack, surround us, multiplying like metaphorical insects. Different observers see either an abundance of literacies forming foundations for flowing multimodalities, or a crisis rooted in the presumed absence or inadequacy of appropriate literacies threatening the foundations of our civilization and polity (Graff and Duffy, 2007; Graff, 1995a).[2] Reflecting more of the historical legacies of literacy and certain powerful literacy narratives than he acknowledges, Leon Lederman (2008, p. 36), director emeritus of the Fermi National Accelerator Laboratory, writes in an editorial in *Science News*, "In a world in which illiteracy is the shame of societies where it is found, science illiteracy is increasingly disastrous. And wherever it is measured, this illiteracy rate is 90 to 95 percent." "Science literacy" is only one of many examples. Yet its implicit significance and presumed trajectory need no extended argument or explanation. In itself, it constitutes a narrative, an interdisciplinarity narrative.

In this typical formulation, literacy studies embraces two more-or-less opposing positions: that of "many literacies" *and* that of dangerously low levels of literacy, their causes and their consequences. When conceptualized complexly—not the most common practice—their contradictory relationships form part of our subject of inquiry and part of the challenge for explication and explanation.[3]

The difficulties and the potentialities attendant with literacy gave rise to a field of literacy studies during the last one-third to one-quarter of the twentieth century.[4] Sociolinguist David Barton (2007, p. 23) relates, "The meaning of the word literacy is to be found not just by examining dictionary entries. It has become a unifying term across a range of disciplines for changing views of reading and writing; there has been such a growth of study in the area that is now referred to as Literacy Studies or the New Literacy Studies."[5]

Literacy studies developed as an *interdisciplinary* field of study and knowledge, the theme of this exploratory essay. Barton (2001, p. 93) further notes, "In many ways Literacy Studies grew out of a dissatisfaction with conceptions of reading and writing which were prevalent in education in all areas, from early childhood reading to adult literacy programmes: these were conceptions of reading and writing which were based on over-simplistic psychological models. The critique has been made from a range of disciplinary vantage points and in a range of ways...."[6] From "dissatisfaction" and "over-simplistic models" to criticism from multiple disciplinary "vantage points" and "ways": This is one of the principal paths to the development of areas of interdisciplinary study and interdisciplines. Exploring the strengths and weaknesses of this path to interdisciplinarity within the context of both literacy studies and interdisciplinary studies constitutes the fundamental task of this essay.

Not surprisingly, tensions between the principal disciplines and their contributions to an interdiscipline mark the dynamics of change and development. The most common and perhaps most notorious is the clash between the cognitive/psychological in psychology (and sometimes also in literature, history, linguistics, or philosophy), *and* social/contextual approaches in anthropology, sociology, linguistics, and history. These differences often parallel the conflicts between "strong" or "great divide" theories *and* practice/contextual understandings. More practically but no less important is the long struggle between departments of English and colleges of education over institutional "ownership" of literacy. These recognitions remind us that efforts at interdisciplinarity are inseparably

part of the processes of disciplinary formation, maintenance, and shifts themselves, not a later or separate movement.[7]

The perspective outlined here also highlights key factors among the critical elements that contributed to the decline of an earlier consensus. That understanding–indeed, faith—was rooted in an integrative and "over-simplistic psychological" narrative that promulgated the universal unmediated and transformative, epoch-making power of writing and/or reading—literacy—(what Brian Street calls "the autonomous model" of literacy), and stimulated the search for alternatives. Brockmeier and Olson (2002, pp. 6-7) summarize evocatively,

> a theory of literacy was outlined that made strong claims for the cultural and cognitive implications of writing. It was argued that alphabetic literacy is a unique technology of representation and communication which has been of fundamental importance for the development of Western culture. According to this theory, oral language and written language are intellectual technologies which are causally responsible of two different types of culture, cultures of orality and of literacy. Some critics of the "literacy hypothesis" thus spoke of a "great-divide theory" (Finnegan). The watershed, to stick to the metaphor, between speech and writing, oral and literate culture was the invention (or, once it was invented, the introduction) of the alphabet....

According to this version of the "received wisdom," the consequences were epochal and without limits. "Patently, the domain of culture upon which literacy was expected to have its impact was exceedingly broad."

> Literacy was claimed to impinge upon the entire gamut of cultural phenomena from the intellectual to the aesthetic and political, including the production of science, philosophy, history, literature, art, and religion, as well as the institutions of education, documented law, and democratic forms of social organization. Further, literacy was seen as having an impact on the individualism of modern Western thought along with forms of mentality (rational and logical), cognition (conceptual and analytical), memory (objective and accumulative), as well as forms of communication (decontextualized and emotionally distanced) and grammar (reflective and prescriptive). Here, the vision of culture that unfolded with literacy, printing, and the alphabet, merged with the idea of civilization in general.[8]

Alternatives that arose to counter this understanding include Barton's Literacy Studies or New Literacy Studies, or Brian Street's "ideological model" of literacy, claiming authority in part by the act of naming. How often do incipient interdisciplines proclaim or identify themselves as "new"? It is no coincidence that the earlier dominance of "strong theories," "great divides," or dichotomous understandings of literacy had no need for a nominal cover like "literacy studies." Literacy was unreflectingly incorporated into the principal narratives of the rise of

the West and the triumph of democracy, modernization, and progress. Indeed, literacy was equated with those qualities, each seemingly the cause of the other in confused causal order. Regardless of confusion, the qualities presumed for modern civilization and for literacy became interchangeable.[9]

No less coincidental is that the search for confirmation of grand theories of literacy and their "consequences," in Goody's and Watt's original formula, ironically did more to fuel skepticism and the search for more specific and documented contextual interpretations. (This was revised to "implications," by Goody in response to criticism.) That shift, in turn, led to new and different findings, and orientations, that contributed to bringing literacy studies explicitly to the realm of interdisciplinarity research.[10]

Interdisciplinary literacy studies thus developed from different methods and sources, and different presuppositions and expectations. As suggested by Brockmeier and Olson, "over-simplistic psychological" notions were often rooted in reductive great leaps across relatively rarified cognitive and philosophical artifacts. Radical dichotomies substituted for dynamics of social and cultural change. Generalizations without qualification were applied without hesitation to large numbers of persons. And the dynamics of literacy itself were reduced to cartoonish images of literacy versus orality and print versus manuscript.

In contrast, across the sweep of the twentieth century, empirical and critical studies in oral literature, folklore, psychology, anthropology and archaeology, linguistics, philosophy, sociology, classics, and history began to tell different and more variegated stories. They turned to more direct evidence of literacy's development, distribution, and uses via case studies, ethnographies, and histories that gave more attention to matters of practice and social context. Sources and subjects were approached and read more carefully and critically. Ironically, New Literacy Studies scholars over the past three or four decades only slowly rediscovered the truly groundbreaking work earlier in the century of oral literature researchers who climbed mountains in Eastern Europe from the 1920s to record performances, constructing "Singers of Tales," as Milman Parry and Albert Lord famously dubbed them, and comparing oral narratives (Lord, 1960, 2000; Parry, 1971). No less momentous but often neglected is the dynamic activism of the cultural-historical psychology of Lev Vygotsky, Alexander Luria, and their colleagues from the 1930s.[11] So much richer than the modernization studies of American sociologists after World War II, this work seems destined for repeated rediscovery.

That phenomenon may also be a stop on paths to interdisciplinarity, constituting a step forward accompanied by a constraining half-step backward.[12]

By and large, these approaches and their appropriation for literacy studies derived from several distinct disciplines, in particular anthropology, linguistics, and cognitive psychology. Through these origins or sources, literacy studies represents a search for a different but common or shared place amid the disciplines, and often outside the walls of colleges and departments of education and/or psychology. More implicitly, that place ideally should be outside the blinders of Western civilization. Literacy studies turned toward anthropology, linguistics, and cognitive (psychology) studies, with strong assistance from history, classics, and most recently cultural studies.

Brian Street (1993, p. 1) articulates a credo and point of origin for the New Literacy Studies:

> The field of literacy studies has expanded considerably in recent years and new, more anthropological and cross-cultural frameworks have been developed to replace those of a previous era, in which psychologistic and culturally narrow approaches predominated (as they arguably still do in much educational and developmental literature). Where, for instance, educationalists and psychologists have focused on discrete elements of reading and writing skills, anthropologists and sociolinguists concentrate on literacies—the social practices and conceptions of reading and writing. The rich cultural variation in these practices and conceptions leads us to rethink what we mean by them and to be very wary of assuming a single literacy where we may simply be imposing assumptions derived from our own cultural practice onto other people's literacies. Research in cultures that have newly acquired reading and writing draws our attention to the creative and original ways in which people transform literacy to their own cultural concerns and interests.[13]

David Barton (2007, p. 24) speaks more specifically to certain central threads of interdisciplinary literacy studies and the making of an interdiscipline of literacy studies: "A key to new views of literacy is situating reading and writing in its social context... people in different disciplines has been moving in the same direction. ... three important academic studies, the work of Sylvia Scribner and Michael Cole, Brian Street, and Shirley Brice Heath.... In their different ways they provide three threads to weave together to represent the beginnings of literacy studies and they have become classics in the field." Psychologists Scribner and Cole wrote *The Psychology of Literacy* (1981); anthropologist Street, *Literacy in Theory and Practice* (1984); and sociolinguist Heath, *Ways with Words: Language, Life and Work in Communities and Classrooms* (1983). As classics, they became powerful signposts and markers. Barton

(2007, p. 24) elaborates, "They are part of different research traditions but they actually have a great deal in common. All three academic studies looked at particular societies in detail, examining different groups within a society and how they use literacy. They start from everyday life and what people read and write. They observe closely and they are willing to make use of a wide range of evidence.... Part of what comes with these studies is a recognition of the complexity of the idea of literacy and the fact that much of our understanding of it is not obvious. This leads to new definitions of literacy." History, represented by my *The Literacy Myth: Literacy and Social Structure in the Nineteenth-Century City* (1979, 1991), is one missing link. In these charter statements, there is no room for precedents or longer-term perspectives.

Nevertheless, these are important observations. Implicit in Barton's words are both the possibilities and the complications for literacy studies' turn (necessarily incompletely) toward interdisciplinary studies. The impact of both similarities and differences in "research traditions" demands more attention, especially with respect to the institutions and traditions of disciplinarity and changing sociocultural currents regarding literacy and its imperatives. However ironic, literacy studies lacks a memory and a sense of its own history or genealogy. Neither Barton nor Street casts their gaze much before the recent past, not even to the middle decades of the twentieth century, let alone earlier. Neither Street nor Barton is much concerned with the institutional, intellectual, or cultural context of either older or more recent literacy studies. Interdisciplinary studies of literacy would benefit from knowledge of, at least, the history of specific fields, disciplines, and interdisciplines.[14]

Regardless, literacy studies simultaneously seeks to distinguish and differentiate itself in an effort to integrate, synthesize within clearer limits, and re-bound major components of the "new" field. Along with other interdisciplines, literacy studies developed and grew both within disciplines and across them, sometimes building toward interdisciplinarity, sometimes developing separately.[15] Both efforts influenced interdisciplinary movements, together constituting contradictory influences on the field's integration and differentiation. This mode of inter/disciplinary development can risk a linear, progressive, or almost teleological epistemology and explanation for the rise and effects of literacy itself as well as interdisciplinary literacy studies. For example, the more one looks, the more literacy, or literacy practices, one finds, often in complex cultural and communicative contexts. This may be accompanied by a tendency to see "more" literacy leading to more and greater effects, in

part by blurring distinctions between individual, collective, and societal impacts, shifting ideologies, causes and effects, and expectations. Developments within several disciplines at once only exacerbate these complications.[16]

Theories of modernity and post-modernity create anticipations of soaring needs for literacy/literacies that sometimes exceed those that can be estimated or measured empirically, or attained popularly. At times the opposite—the limits of literacy—seems at least as compelling. Modernization models do this in part by projecting incomplete or erroneous narratives (and images) of the past on to the future.[17] Ironically, constructing a separate, recognized field of literacy studies runs the risk of reifying Street's "autonomous model" of transformative unmediated literacy. Yet when literacy studies initially sought confirmation of "strong theories" and "great divides," more was learned about the specific contexts of literacy's uses and influences. There is also a danger of exaggerating the import of a new field of study striving for and promoting its case for recognition and institutional place. This, too, is a common component of paths to interdisciplinarity.

Interdisciplinary Studies

My approach to, and strong presumptions about, the social history of interdisciplinarity in my current research project, *Undisciplining Knowledge: Pursuing the Dream of Interdisciplinarity,* contrasts with most writing in this area. It begins with the argument that interdisciplinarity is a central part of the historical process of the making and ongoing reshaping of modern disciplines since at least the mid- to late nineteenth century. Contrary to many notions, interdisciplinarity is inseparable from the disciplines, neither a rejection nor opposition or circumvention, neither an end run nor an end-point or end-game. Nor is it primarily a post-World War II or more recent development as implied by Barton, Street, or many others. *Undisciplining Knowledge* seeks to demonstrate historically that the organization, structures, production, and dissemination of knowledge around universities, disciplinary departments, and research institutes, especially in the United States and the modern West more generally, give rise to interdisciplinary efforts and movements across the expanse of fields over time. Interdisciplinarity is a (historical) construct that varies by field and also by time, place, relationships, and circumstances. As educational and research institutions have changed over time and space, so too have interdisciplines and disciplines in various ways that demand to be charted comparatively.

Literacy studies' relatively recent rise and race for recognition is a case in point. But so too are the important historical developments that are often obscured. Among the many contributions from recent studies in the history of literacy are important lessons for the present and future (Graff, 1995a, 1995b).

Although their presentation requires a lengthy critical discussion, even a short listing of the variety of major explanations/descriptions found in the literature, ascribed for the construction of interdisciplines, suggests the breadth, depth, and complicated, contradictory nature of the process, structures, dynamics, and narratives. They include evolutionary progressive, functional, structure and process, market-driven, specialization, novelty, fission or fusion, collective movement, boundary-making and maintaining, conflict, internalist and externalist among other models or approaches. They are suggestive, but none is particularly historical or comparative.

Literacy studies, and interdisciplinary studies, can be better understood with more attention to a longer chronological span of intellectual and sociocultural development and a broader, more dynamic focus on its place and play among a wide array of disciplines and institutional locations (subfields in disciplines or interdisciplines that deal with literacy include reading, writing, child-and human development, cognitive studies, comparative and development studies, communication or media studies). "External" factors and developments—social, cultural, political, economic—that is, external to the normal workings of a discipline or field, such as war-time needs, consequences of global cross-cultural contacts and colonialism, "discovery" of new social problems—combine, often contradictorily, with shifting currents within and across disciplines. They may then stimulate changing views that, in the context of universities and their organization of knowledge, lead to criticism, different assertions, and sometimes institutional articulations both within and outside the "boundaries" of departments or divisions that take the name of interdisciplinarity.[18]

A more complete and useful approach to literacy studies, one that also deepens our understanding of interdisciplinarity, begins no later than the 1920-1930s (as above). It looks back carefully to the period spanning the mid-eighteenth century through the early twentieth century. Ideally, it embraces a longer (if briefer) glance back to the Renaissance and also classical antiquity. There it locates in historical context the dynamic building blocks for our expectations, understandings (including theories and policies), and institutions that culminate in modern literacy(ies) and their travails, and literacy studies.

Modern arrangements and judgments grew from the foundational (if sometimes contradictory) currents of Enlightenment emphases on human malleability, perfectionism, learning capabilities, environmentalism, and institutionalism. They were partly reinterpreted by Romanticism's deeply divided recognition of the power and significance of the "other," the alien or primitive within ourselves and in "strangers," both within the modernizing West and in "newly discovered" regions. Questions about language and order lay at the core of both. The beginnings and foundations of literacy studies also lay in "civilization's" confronting many "Wild Child[ren]" (*enfants savage*), noble or savage; South Sea islanders who confronted explorers; missionaries (whose work in creating alphabets and written languages initially to "translate" the Bible in aid of their proselytizing is fundamentally a part of literacy studies and linguistics); colonizers and colonists. They all deployed early (and later) modern notions of Western literacy and its expected influences in their efforts at expansion, "conquest," and domesticating and elevating the primitive and different.

Charles Dickens and Henry Mayhew taught that the "other" was also close at home especially in the swelling cities of the "modernizing West," sharing the difference, deviance, and deficiency of those much further away. Those nearby could be more threatening than those farther afield. In anthropology and the arts, the primitive and the oral were grounds for celebration at times, compromising wholly positive associations of literacy and negative associations of illiteracy. Strong currents from the Enlightenment and Romanticism intertwined, sometimes contradicting but sometimes supporting expectations about progress and modern development.[19]

From earlier eras, including the Renaissance and classical antiquity, came haltingly at first the conviction that writing, and reading it, were, at least in some circumstances, superior to other means of communication, especially the oral. On one hand, this was a functional development, but, on the other hand, personal and eventually collective cognitive change might follow, some persons of influence thought. So commenced *early* literacy studies. The first general uses derived from the needs of religion, government, and commerce. That was followed slowly by a faith in the powers of formal instruction in places called schools, initially first for the relatively few, primarily boys. Some agendas stressed socialization for citizenship and its correlates; others emphasized literacy as useful or necessary practices or abilities. Over time, places for instruction expanded to include many more and to focus especially on the young. In

these formulations, literacy stood at the center of training that embraced social attitudes and control, and civic morality, along with at least rudimentary intellectual practice, and training in skills for productive contributions to economy, polity, and society. The tools began with simplified alphabets that helped to link signs and sounds to words and sentences, and expanded to include paper, pens, and various means of reproducing and circulating texts that were first handwritten and later printed. The superiority of technology and the inferiority of the "unlettered" stood as certainties, framing constructions of literacy. Literacy's story, right or wrong, came to occupy the center (though often implicitly) of the rise of civilization and progress in the West.

These elements became inseparable as they joined capitalism's relentless efforts to remake the world—and the word, written or printed—in the image of the marketplace and its institutions (with other images), and to remake the young, in particular, for the strange new world. They mark, and also serve as representations of literacy in the traditions that emerged to study and understand literacy from the Renaissance (or earlier) forward. Not surprisingly, the development and institutionalization of disciplines in the nineteenth- and twentieth-century Western university incorporated the understandings of literacy to which they were the heirs, especially but not only in the social sciences—anthropology, linguistics, psychology—and the humanities—classics, history, literature, philosophy, politics. Early relationships resist efforts at change. The resulting disciplinary fragmentation, as discussed in this essay, not only contributes to efforts to build interdisciplinary literacy studies, but also limits them. They also underwrote the many contradictions—what I call "the literacy myth," for one—in the place of literacy in Western cultures, and the lives of many persons yesterday and today.

Interdisciplinary possibilities and limits on opportunities stem from the interplay within and across what I call "disciplinary clusters." (The humanities, arts, social sciences, and basic sciences constitute major disciplinary clusters.) No less important is the sometimes very dynamic interplay—critical and complementary—between disciplines. Of this, the key disciplines of anthropology, linguistics, and psychology provide powerful examples. Among them, orality and oral literature, everyday and privileged writing practices, the ubiquity of "reading" across multiple media, and the search for cognitive and noncognitive "implications" of literacy are telling. So, too, is literacy's active presence as values, ideology, and both cultural and political capital. Destabilizing times can

become opportunities to advance or to fall from favor for disciplinary approaches, and moments for interdisciplinary movements.[20]

For literacy studies across the last two centuries at least, one of the most powerful forces has been the fear, and often the certainty, that literacy is declining (or not rising), and with it, families, morality, social order, progress, and socioeconomic development are also declining. This accompanied one of the most momentous transformations in the history of literacy and its study: from a "premodern" order in which literacy was feared and (partly) restricted, to a more modern order in which illiteracy (or literacy gained outside of formal institutional controls) is feared. When taken comparatively, and further heightened by international conflict or competition (most famously perhaps in France's defeat by Prussia in the 1870 Franco-Prussian War), social disorder and division, international migration of "aliens," declining fertility and rising mortality, failure for "human capital" to grow, and similar circumstances, literacy levels become flashpoints for study and action to reverse the dreaded tide. Schools and popular culture attract attention which has in turn the potential to propel disciplinary action and conflict, and, sometimes, interdisciplinary efforts. The apparently endless "crisis" of literacy in the mid- to late-twentieth century is inseparable from Cold War anxieties, global economic restructuring and collateral social and cultural change, communicative and media transformation, and both new and persisting inequalities. Seemingly unprecedented "social problems" become calls for and stimulants of interdisciplinary "solutions." Literacy's role as either or both cause or consequence is very tricky to unravel, a complication in literacy studies' development.

For literacy studies, these complications often impinge on one or another of the "great divides" prominent among approaches that see literacy—almost by its very "nature"—as universal, unmediated, and transformative in its impact. Often cited are reading or writing as "technology of the intellect," the power of the Greek alphabet, the impact of print, cognitive shifts from writing or reading, and the like. Constructing this tradition of study and understanding was relatively uncomplicated.[21] In recent decades, however, others have emphasized increasingly the sociocultural influences and contextual effects from literacy. Among the elements stressed are psychological theories, schools and other environments; families and communities, cultures of practice, practice and use of reading and writing.

In the second half of the twentieth century, in conjunction with other disciplines and interdisciplines, literacy studies has taken social, con-

textual, cognitive, linguistic, and historical, among other "turns." With the turns came the adoption of signifying French theorist "godfathers" from Levi-Bruhl and Levi-Strauss to Pierre Bourdieu and Bruno Latour. These developments at times interact with and deepen conflicts among disciplines and promote interest in interdisciplinary resolution.[22]

Literacy studies' paths are revealing. Recent years witness an emphasis on the everyday and the practical, including the concept of practice itself. This led to an effort at overturning the dominance of grand theories that stressed the universal importance of the written over the oral, the printed over the written, the literate over the unlettered and untutored. Practice and context, explored in a variety of contexts and traditions, replaced presumptions of the unmediated powers and advantages of literacy. In part, literacy studies' emerging interdisciplinarity stemmed from perceptions of the inadequacy of earlier conceptualizations and presumptions, the search for new methods and sources on which to base a major revision, and reactions to it.

Successful construction of recognized interdisciplines is *not* the most common consequence of developments and changes in the disciplinary process. Although success or failure can be hard to determine, literacy studies is no exception. Some observers refuse the interdisciplinary mantle to literacy studies because of a general absence of Departments of Literacy Studies, despite many centers and programs.[23] Adding to the complexity and grounds for confusion is the fact, on the one hand, that interdisciplinarity can be strikingly different, say, in the sciences or technology fields than in the humanities or social sciences.[24] On the other hand, disciplines and interdisciplines are not synonymous forms of organization or production. They differ considerably from each other, both within and across disciplinary clusters, from history to physics or the arts. Consequently, while most programs and the occasional department of literacy studies are often in colleges of education, there are also programs, concentrations, or definite interests in the social sciences and humanities, with either or both institutional location or intellectual foundation. A few programs reach for the mantle of science.[25] In other words, understanding literacy studies calls for a critical perspective derived from interdisciplinary studies along with a comparative and historical view. At the same time, literacy studies provides a valuable case study that tests our understanding of interdisciplinarity.

Claims and conflicts about interdisciplinarity are almost as frequent and strong as those about literacy(ies). In a mix of recurring and current

issues, intellectual and professional issues associated with the organization and production of knowledge prompt periodic debates over the promises and perils, including the faddishness and, of course, the definitions of interdisciplinarity. The spectrum is wide but not straight. It embodies both light and darkness.[26] For example, Guy Michaud (1972) asserts, interdisciplinarity "is a way of life. It is basically a mental outlook which combines curiosity with open-mindedness and a spirit of adventure and discovery," while Georges Gusdorf (1977, p. 580) declares, "The appeal to interdisciplinarity is seen as a kind of epistemological panacea, designed to cure all the ills the scientific consciousness of our age is heir to ... [although] even those who advocate this new image of knowledge would find it hard to define." On the other hand, Marc De Mey (1982, p. 140) states, "Interdisciplinarity is an ambivalent term in science.... For practical problems it is considered valid and unavoidable but for theoretical purposes in science, interdisciplinarity is handled with great caution and even with suspicion." Others see an affinity between the sciences and interdisciplinarity (Weingart and Stehr, 2000).

Neil Smelser (2004, p. 52) writes more expansively:

> My own sense is that this positive aura—which has a staying power even though the positive consequences of interdisciplinary activity remain unknown—retains its appeal on account of its connection with quasireligious and quasicommunal imagery. Interdisciplinarity is powerful because it promises to be an antidote to the disenchantment with specialization and fragmentation of knowledge, and because it evokes an unspoken but persistent romance with the idea of the unity of knowledge.... Interdisciplinary thus bears some of the marks of a utopian ideology and social movement.

Smelser continues, "On closer examination, moreover, interdisciplinarity reveals a darker, more negative side. We smile on it in principle and frown on it in practice. Our reward system discourages it."

Then, there is the evangelical chapel of transdisciplinarity. The First World Congress of Transdisciplinarity (Portugal, 1994) adopted a charter with fifteen articles "which comprises the fundamental principles of the community of transdisciplinary researchers, and constitutes a personal moral commitment, without any legal or institutional constraint." The charter (1998) enunciated a "transdisciplinary vision."

Claiming a high middle (if slightly evasive) ground, Marianna De Marco Torgovnick (1996, p. 282) avers, "Interdisciplinarity has no promises to keep and none to break. It is not a mantra or a magic potion. Work that cuts across areas of study is as good or as bad as the individual books and articles that do it. Certainly, working across disciplines is not the

only or even always the best way to do scholarly work." Whereas some see it as the easy way out of hard problems, English and sometimes law professor Stanley Fish (1989) famously declared "Being Interdisciplinary Is So Very Hard to Do."[27] Across the steep discursive mountains and deep canyons between disciplines and interdisciplines, there is room to play, including the spaces occupied by literacy studies. That is another part of the paths to and from interdisciplinarity.

That literacy studies and interdisciplinary studies have a number of attributes in common raises important questions about these distinctive fields and their relationships. Both stimulate strong sentiments of allegiance and dissent. Both are linked inextricably with disciplinary "boundary issues."[28] Arguments for and against interdisciplinary programs mirror the sometimes utopian or otherwise extraordinary dreams that interdisciplinarity represents to many inside and outside the academy, but to others the dystopian nightmares. Paralleling claims about the powers of literacy and imperatives of literacy studies, they are long on repetition of strong claims, or their denial. They are short on focus, key distinctions and qualifications, and historical, temporal, and institutional context. Despite significant and sometimes urgent questions and issues, and an identifiable body of writing (often either polemical or technical), interdisciplinarity is poorly grasped and often misunderstood. So too is literacy studies. What at first appear to be substantial literatures, on closer inspection reveal themselves riven by a distorting, disorienting, and exaggerating positive *or* negative discourse about multi-, pluri-, inter-, and transdisciplinarity, even anti- or adisciplinarity.[29]

Magnifying and denying myths mark both interdisciplinary studies and literacy studies.[30] Conceptual, evidentiary, and interpretive contradictions complicate efforts to understand them. Most views are also truncated chronologically to a constricting association with the post-World War II era, often later for literacy studies, the 1970s-80s, which is too late.

Barton's and Street's emphasis on "over-simplistic psychological models" shifts attention away from the *re*discovery of frequent illiteracy among soldiers in the West, and its powerful relationship to social class, race, and geography in the United States, and elsewhere. It also distracts from observing how the understanding and promotion of literacy for development became a weapon in the Cold War between the Western and Eastern blocs, regarding the foundations of democracy,

international competition, and both the theories and data to support the presumed relationships.

At issue was the reconstruction of postwar Germany, Japan, and the Soviet Union as more (or less) democratic, and the roles that education and print—textbooks and beyond—should play. The future of democracy in the West itself was also at stake, threatened by "the authoritarian personality" and more. No less important was the future of the lesser-developed, or under-developing nations, as they were represented. Political ideology and attitudes mattered, and literacy and schooling commanded attention as vehicles. The search for modern personality types helped to shift ostensible attention away from the Western and especially the American need for markets and materials, inseparable from political allegiance. Modernization theory became the banner for Western democracies in their struggles with communism. Consequently, they strived to export plans for literacy *and* attitudes—including school systems and print materials—along with other goods and services. Studies like Daniel Lerner's (1965) *The Passing of Traditional Society* or the more statistically oriented *Becoming Modern* by Inkeles and Smith (1974) used literacy among their key variables. Their measures were weak; findings and arguments were often unpersuasive. They also confused attitudes with skills, much as they did with their concepts of development, including political development. Literacy studies was socially relevant and worth a struggle, as literacy took its place in a privileged list along with democracy, communications, economic productivity, cultural development, social mobility, and social order and stability, in sometimes contradictory connections. For literacy studies, these relationships were not new; nor were perceptions that literacy was at issue in threats to civilization in the West. Although a boost to literacy studies, interdisciplinary literacy studies lacked, and still need a historical foundation.

For interdisciplinary studies in general, the biological or physical sciences *or* the behavioral sciences or cognitive science stand on top, slighting the humanities, historical and social sciences, and many professional programs.[31] For literacy studies, emphasis and a struggle for dominance come from anthropology, psychology, and linguistics, amid confusion over the proper disciplinary (or interdisciplinary) place for the critical (re)consideration of reading and writing to occupy. The search for understanding and applications to the contemporary literacy scene within the domain of Education has mixed results and raises other issues regarding location and disciplinary status or power.

The lines between disciplines and across them are less clear than we are trained to expect. Perceived overlap leads to competition as well as collaboration. There are linguists, for example, in anthropology, psychology, English, and education departments. English has long claimed (if somewhat incompletely and inconsistently) a special relationship with reading and writing via tutelage and practice, but more formally through subdisciplines like Rhetoric and Composition. During the last 5-10 years, RC programs, as they are called, began to rename and sometimes reframe themselves as RCL—"L" for literacy. This act represented what I call "the lure of literacy" for currency and relevance, and enrollments and funding. English and literature departments are also (at least sometimes) home to other elements of interdisciplinary literacy studies, including oral literature, folklore, popular culture, graphic literature, film, linguistics, as well as variations along the lines of writing and reading. Seldom do they work closely together or build interdisciplinarity within their space.

At The Ohio State University, since 2004, my own work focuses on constructing what I call the LiteracyStudies@OSU initiative, an experiment in campus-wide interdisciplinary program development in theory and practice.[32] (See figures in chapter 8.) The program's multi-level and multi-centered hallmarks are historical, comparative, and critical. These building blocks integrate a series of public programs, faculty and graduate student seminars in literacy and the history of the book, a Graduate Interdisciplinary Specialization or minor open to all graduate students, and other student, faculty, and staff activities. Our cross-university breadth with primarily horizontal connections is unprecedented and path-breaking. Faculty, staff, and students across OSU's 18 colleges (with more than 90 graduate programs) have participated in one or more programs. Informal and formal linkages dot the huge campus. Worthy of attention in its own right, both the successes and the constraints on interdisciplinary development are provocative. (See figures in chapter 8 for LS@OSU program.)[33]

Literacy Studies and Interdisciplinary Studies

Interdisciplinary literacy studies continues to struggle with foundational dichotomies—the making of myths—between oral and literate, writing and print, print and electronic, and literacy as transformative—that continue to guide and divide opinion and orient studies. Consequently, the longstanding neglect of rich research on orality and oral literature is almost as much a mark of the limits of many interdisciplinary endeavors as of the power of disciplines. The proponents of the New Literacy

Studies have not reclaimed Lord or Parry or Vygotsky. The persistence and importance of orality is regularly rediscovered across disciplines. The heterogeneity of constructions of the cognitive domain also plagues literacy studies, another instructive matter of connections.

More generally, we confront the antimonies of interdisciplinary studies. They are mirrored in literacy studies. To begin, there is the swamp of confusing, conflicting, contradictory definitions. They come in many versions, including disciplinary, multidisciplinary, pluridisciplinary, interdisciplinary, and transdisciplinary; indiscriminate interdisciplinarity (hodge-podge, cafeteria-style), pseudo-interdisciplinarity, auxiliary interdisciplinarity, composite interdisciplinarity, supplementary interdisciplinarity, and unifying interdisciplinarity. *Or* nondisciplinary, adisciplinary, antidisciplinary. metadisciplinary. supra-interdisciplinary, omnidisciplinary, trans-specialization, and post-disciplinary. Leaving aside the transcendent disciplinarities (that is, those *beyond inter*disciplinarity), the distinctions between interdisciplinary and non- or adisciplinary blur disturbingly. The unceasing proliferation of hyphenated-disciplinaries is silly, even funny, but its negative impacts do not stop there. To too many persons, the number of disciplines somehow brought together is the magic potion, rather than such alternatives as the nature of the inquiry, the elements of disciplines brought together, or the questions asked.[34](See Figure 7.1.)

For many interested people, interdisciplinarity represents synthetic and integrative general education (sometimes called IDS) in major clusters of the curriculum or the search for unification across broad realms of knowledge, This is especially but not only the case for those who claim the mantle of science as a foundation for interdisciplinarity (to a lesser extent in philosophy or literature) (Klein, 1990, 1996, 2005). At the same time, interdisciplinarity to other observers and practitioners is basic and foundational, while to yet others it is specialized and advanced (sometimes termed IDR). For the first group, instruction in general education takes a higher priority; to the second, sophisticated research and the difficult interpretation of its results rules. Literacy studies at times seems to aspire to the former. One traditional narrative of (Western) civilization is logos centric, with literacy as engine of modernizing changes. But literacy's study and understanding tends to contribute more to the latter, however ironically or contradictorily. This is the advanced track, more closely aligned to specialization or fragmentation of knowledge, not general education or unification. Claims of interdisciplinary synthesis or integration are often asserted; yet they need to be read within specialized research areas.

Figure 7.1
Types of Interdisciplinarity: 57 Varieties Or ?:
Terms of Endearment, or Not? and Explaining Interdisciplinarity

UNESCO 1972
Discipline
Multidisciplinary
Pluridisciplinary
Interdisciplinary
Transdisciplinary
Source: Centre for Educational Research and Innovation (CERI), *Interdisciplinarity: Problems of Teaching and Research in Universities*, report based the results of a Seminar on Interdisciplinarity in Universities, organized by CERI in Collaboration with the French Ministry of Education at the University of Nice, Sept 7-12, 1970 (1972).

Heckhausen
Disciplinarity
Interdisciplinarity
- Indiscriminate interdisciplinarity
  - Hodge-podge, cafeteria-style
- Pseudo-interdisciplinarity
- Auxiliary interdisciplinarity
- Composite interdisciplinarity
- Supplementary interdisciplinarity
- Unifying interdisciplinarity

Source: Heinz Heckhausen, "Discipline and Interdisciplinarity," in CERI, *Interdisciplinarity: Problems of Teaching and Research in Universities*. Paris (Organisation for Economic Co-Operation and Development, 1972), 83-89.

UNESCO 1998
Transdisciplinarity
Charter of Transdisciplinarity
Source: UNESCO, Division of Philosophy and Ethics, *Transdisciplinarity: "Stimulating Synergies, Integrating Knowledge,"* 1998.

Boden, six types of interdisciplinarity
- Encyclopaedic
- Contextualizing
- Shared
- Co-operative
- Generalising
- Integrated

Source: Margaret A. Boden, "The Character of Interdisciplinarity," in Richard Cunningham, ed., *Interdisciplinarity and the Organisation of Knowledge in Europe*. Luxembourg: Office for Official Publications of the European Communities, 1999, 13-24.

Raymond Miller, approaches to interdisciplinarity
Multi-disciplinary
Cross-disciplinary

Figure 7.1 (cont.)

Trans-disciplinary
Source: Raymond C. Miller, "Varieties of Interdisciplinary Approaches in the Social Sciences: A 1981 Overview," *Issues in Integrative Studies*, I (1982), 1-37.

Louis Menand
Disciplinary
Interdisciplinary
Postdisciplinary
Antidisciplinary
Source: Louis Menand, *The Marketplace of Ideas.* ACLS Occasional Paper, no. 49, 2001.

Others.....
Cross-disciplinary
Linear interdisciplinarity
Method interdisciplinarity
Restrictive interdisciplinarity
Problem interdisciplinarity
Border interdisciplinarity
Interdisciplinarity of neighboring disciplines
Structural interdisciplinarity

Nondisciplinary
Adisciplinary
Antidisciplinary
Metadisciplinary
Supra-interdisciplinary
Omnidisciplinary
Trans-specialization
Post-disciplinary

Integration
Integrative
Unification

Specialization
Basic, general, foundational
Specialized
Complex
Complexity
Hybridity
Transdisciplinarity
Critical interdisciplinarity
Integrative interdisciplinarity
Disciplined interdisciplinarity
Multi-modality

Striving for recognition, literacy studies occupies ambiguous ground both disciplinarily and interdisciplinarily. In part, this is a question of location. But it is also a question of status. The "rise" of literacy studies, part of its generally successful emergence and development (within limits), contributes to its presence in many academic departments and disciplines. This holds for education, the social sciences, and the humanities, but usually to a lesser extent also in the sciences, medicine, public health, the law, and business.[35] This pattern is problematic in some critical respects. In the pantheon of disciplines, centers of interest in literacy studies do not usually rank highly.[36] That literacy, for good reasons, is often seen as basic or elementary does not boost its standing. By reputation, it is often viewed as inseparable from Education.

Mainly in Education has literacy studies achieved institutionalization as an interdisciplinary unit, in the form of departments, degree programs, or areas of concentration often under the name/rubric of "Literacy, Language, and Culture," sometimes complemented with a research, outreach, or service center.[37] Both "literacy" and "interdisciplinary" at times become promotional labels: new, relevant, sexy—in academic terms—and appealing for applied and practical reasons to citizens, governments, corporations. Perceptions of crises or at least serious problems with popular literacy abilities add to this mix. Such promotion, which is less problematic in professional schools, aims to benefit programs and their home departments, colleges, or universities. It also can provoke negative reactions from more traditional faculty in the arts and sciences. A sometimes unstable mix of sexiness, practicality, and applied "science" paves certain paths to interdisciplinarity, with ambivalent (or negative) responses by others within universities.

Of course, literacy studies is often an active presence in departments that are home to the disciplines that are most often identified as predominant contributors to the New Literacy Studies or literacy studies more generally. These are the social sciences of anthropology, linguistics, and psychology. At one time or another, each of these disciplines has claimed the status of a science, applied if not always "pure" or "basic." Psychology, followed by linguistics, exhibits the greatest ambitions, with strong interests in reading, writing, development, and cognition. All three stress contemporary and sometimes comparative relevance, usually reserving the strongest claims for the perspectives, methods, and theories of their own discipline, even when also proclaiming their interdisciplinarity. Practitioners in these fields often occupy central places in interdisciplinary literacy centers, programs, or concentrations in Education.

That interdisciplinarity is often deemed best-suited to "solving problems" that fall outside the domain, traditions, or intellectual resources of any given discipline is commendable to some but damning to others. This is no less true for literacy studies with its strong affinities to the practical and applied. While the interdiscipline has serious interests in theory and knowledge generation about the uses and influences of literacy, social and geographic variation, or multiple literacies, practice, problem, and applied studies are very common. Barton (2001, p. 93) observes, "Within education, Literacy Studies sometimes supports particular pedagogical practices...."

In *Chaos of Disciplines* (2001, p. 134), sociologist Andrew Abbott argues that "interdisciplinarism has generally been problem driven, and problems ... have their own life cycle. There is ample evidence that problem-oriented empirical work does not create enduring, self-reproducing communities like disciplines, except in areas with stable and strongly institutionalized external clienteles like criminology." Abbott points toward one perspective on paths toward interdisciplinarity for literacy studies. Perhaps only with respect to Education does literacy studies have a "strongly institutionalized external clientele...." Perhaps others remain to be developed. The field of play is potentially broad. On the one hand, if Abbott is correct, there *are* opportunities for literacy studies to develop as interdisciplinary, within limits. This would build upon its dimensions that are "problem driven." They in turn may include larger questions of theory, comparison, connections, and even history, in addition to matters of contemporary relevance or application. On the other hand, such interdisciplines are likely to be shorter-lived, not "enduring, self-reproducing communities." That might be a very useful, potentially liberating path.

Likening interdisciplines to disciplines, and to each other, in search of similarities, our common, even reflexive practice, may mislead more than clarify. Interdisciplinary developments follow different paths toward a variety of institutional, intellectual, and societal ends, different timelines and lifetimes. They may prove influential without attaining the niche and continuity of disciplines. That is one of their strengths whose understanding may carry benefits. If this is, in fact, the case, it may carry powerful implications for literacy studies and for interdisciplinary studies.[38]

Notes

1. My own *definition of literacy* emphasizes literacy as the ability to read—make and take meaning—and the ability to write—express understanding and make other

communications—and their metaphors and analogies across distinct media and modes of communication.

For me, *interdisciplinarity is defined* by questions and problems and the means developed to answer them in new and different ways that are constructed or built on or from elements from different disciplines. This might involve approaches, methods, theories, orientations, comparisons, understandings, or interpretations. I emphasize the former—questions and problems, not the disciplines.... Or to put it another way, interdisciplinary defined or realized comes from fashioning interdisciplinarity via method, theory, conceptualization to form a new and distinct approach or understanding derived from or based on aspects of different disciplines. This will differ by discipline and disciplinary clusters. Interdisciplinarity is not a matter of the number of disciplines. Therefore, there is no need to "master" two or more disciplines, as more than a few pundits have asserted.

2. The subject of this essay, it should be clear, is literacy studies, not literacy itself. Although they are inseparable, they are not the same.
3. See the literature on New Literacy Studies including Bartlett, 2003; Barton, 2001, 2007; Collins and Blot, 2003; Gee, 2007; Lankshear, 1999; Stephens, 2000; Street, 1984, 1993, 1998; Street and Besnier, 2004; also Graff, 1995a, 1995b.
4. Scott Frickel (2004, p. 269): "Interdisciplines are hybridized knowledge fields situated between and within existing disciplines (Klein 1996). Like disciplines, interdisciplines are sites of institutional conflict. Their formation involves disputes over access to organizational, technical, financial, and symbolic resources, and their stabilization reflects a reordering of theoretical loyalties, epistemic assumptions, research practices, standards of evidence, and professional credibility and identity. But unlike disciplines, whose "maturity," coherence, or status within the broader academic field is often judged in terms of the strength or hardness of professional boundaries, interdisciplines maintain themselves through interactions with other fields and thus require boundaries that are *intentionally permeable*...."
5. Barton (2007) himself examines dictionary definitions of literacy. See also Barton, 2001; Brockmeier, Wang, and Olson, 2002; Collins and Blot, 2003; Olson, 1988, 1994; Street, 1984, 1993, 1998.
6. Compare with Street; 1984; Collins and Blot, 2003; see also Graff, 1995a, 1995b; Olson, 1988, 1994; Lankshear, 1999.
7. This occurs in a variety of forms and locations. In general, see Klein, 1990, 1996, 2005; Davidoff; et al, 1993. For literacy studies, compare the work cited below of Goody and Olson with Street, Graff, and Barton.
8. See also Goody, 1968, 1979, 1986, 1987; Goody and Watt, 1968; Havelock, 1976a, 1976b, 1982; Brockmeier et al. 2002;Greenfield, 1972; McLuhan, 1962;Olson, 1988, 1994; Ong, 1982; Tannen, 1981; Cole, 1996; Scribner and Cole, 1981; Halverson, 1991, 1992; Heath, 1983; Lord, 1960, 2000; Parry, 1971.
9. See Goody and Havelock in References; compare with Harris, 1989; Clanchy, 1979, 1993. See now Clark, 2007. Post–World War II studies include Lerner, 1965; Inkeles and Smith, 1974. See also Olson, 1994.
10. See Goody and Watt in Goody, 1968, pp. 27-68. That article was first published in 1963. Goody's Introduction to this volume was entitled purposefully imprecisely "The Implications of Literacy." For tensions in the field, see Goody, 1968; Halverson, 1991, 1992; New Literacy Studies in general; Graff, 1979, 1987, 1995a, 1995b.
11. See Cole, 1996; Wertsch, 1985. Steve Witte also worked for their rediscovery.
12. Lerner, 1965; Inkeles and Smith, 1974. Among others, see Scribner and Cole, 1981; Heath, 1983; Street, 1984. See also McLuhan, 1962; Ong, 1982.
13. See Street and his critics, Bartlett, 2003; Brandt and Clinton, 2002; Collins and Blot, 2003; Collins, 1995; Maddox, 2007; Reder and Davila, 2005; Stephens, 2000.

Neither Barton nor Street employs historical perspective on the relevant fields; their focus can be very narrow—a sign of striving for distinction as interdisciplinary. At times, they seem to presume the dominance of linguistics or anthropology that is implied.

14. See for example ENG 750 Introduction to Graduate Studies in Literacy syllabus. This is a required core source in the Graduate Interdisciplinary Specialization at Ohio State University. For studies of disciplines, see Klein and Davidow, cited above; Abbott, 2001; Allen, 1975; Cole, 1996; Dogan and Pahre, 1990; Frank, 1988; Frickel, 2004; Kaestle et al, 1991; Lankshear, 1999; Timothy Lenoir, 1997; Peters, 2005; Smelser, 2004; Smith, 2006; Weingart and Stehr, 2000.
15. See Graff, 1995b. There are excellent examples in history, economics, education, and rhetoric and composition.
16. See for example Clanchy, 1979, 1993; Heath, 1983; Barton et al, 2007; Barton and Hamilton, 1998.
17. See Pattison, 1982; also Graff, 1979, 1991, and some of the responses to it.
18. Not discussed here but important are issues of interdisciplinary activity and establishment *before* interdisciplinary is recognized and at least struggles to be institutionalized within universities. The accepted narrative of origins takes a supposedly early use of the word "interdisciplinary" at a meeting at the Social Science Research Council in New York in the late 1920s as the initiation of its arrival on the academic scene. See Frank, 1988.

    While being aware of the dangers of anachronism, we need not wait so long to look for and find recognizable interdisciplinary at play. Important examples include the fields of biology, genetics, biochemistry, and efforts, say, in sociology in the nineteenth century and the mid-twentieth. We must beware of romanticizing pre-modern university organization of knowledge as interdisciplinary or "before the fall." Nondisciplinary does not equal interdisciplinary.
19. On non-literate and preliterate, see Duffy, 2007.
20. Good examples are the field of education, and the long-standing and persisting conflicts among those who endorse reading's and writing's special affinities to cognitive development and "cultures" of reading and/or writing, as opposed to those who emphasize social context and practice. For recent efforts to go beyond a dichotomy, see Brandt and Clinton, 2002; Collins and Blot, 2003.
21. For more complications, see Brockmeier et al, 2002; Olson, 1988, 1994; Goody after the 1970s; Halverson, 1991, 1992; Kaestle et al, 1991; Graff, 1995a, 1995b; Graff and Duffy, 2007; New Literacy Studies more generally.
22. See and compare, for example, the work of Goody and Olson with Cole and Street. See also Brandt and Clinton, 2002.
23. Alternative locations for literacy studies include departments—disciplinary and interdisciplinary—centers, programs, committees, degrees, subgroups in departments or colleges, etc. Ph.D. programs include Language, Literacy and Culture at UC-Berkeley in Graduate School of Education; Language and Literacy Studies in Education at UC-Santa Cruz; Ph.D. in Literacy Studies in the Department of Literacy Studies, Education, Hofstra University; Ph.D. in Language, Literacy, and Culture, Education, University of Iowa; Ph.D., Department of Counseling, Leadership, Literacy, and Special Education, Lehman College, CUNY (with a link to disabilities); Language and Literacy Education Concentration, Rutgers Graduate School of Education; Ph.D. in Culture, Literacy, and Language, Division of Bicultural-Bilingual Studies, College of Education & Human Development, UT-San Antonio; Graduate Program Area of Study, Literacy Studies, Department of Curriculum and Instruction, School of Education, University of Wisconsin-Madison. In addition, graduate minor in literacy and rhetorical studies, University of Min-

nesota; Graduate Studies in Composition, Rhetoric, and Literacy Studies, MA & Ph.D., University of Oklahoma; Ph.D. in Rhetoric, Composition, and Literacy, Ohio State University; also at OSU Graduate Interdisciplinary Specialization in Literacy Studies open to all graduate students at OSU. See figures in chapter 8 for this program.

Examples in detail:

> Reading/Writing/Literacy, in Language and Literacy in Education Division: University of Pennsylvania. "The RWL Program is guided by four principles. First, it is interdisciplinary because literacy, language and culture are studied from sociocultural, cultural, psychological, historical, linguistic, and literary perspectives. Second, the program is inquiry-based, intended to raise questions about the relationships among theory, research, policy and practice. Third, it focuses on diversity and on urban settings, and the contexts of different schools, communities, families and cultures. Fourth, educational institutions are sites to work for social justice, transformation and equity."
>
> New Interdisciplinary Ph.D. in Literacy Studies, 2008, Middle Tennessee State University claims interdisciplinary breadth and basis in science. Apr 30, 2008 press release: "School psychologists, speech-language pathologists, reading teachers, classroom teachers and school administrators at all levels will be among those enrolling at MTSU's new Ph.D. in Literacy Studies degree. The program will come face to face with why the National Assessment of Education Progress consistently shows that an average of four out of 10 children fail to read at grade level by fourth grade.
>
> "The interdisciplinary doctorate is based on the idea that narrow expertise in a single area does not equip graduates to understand the many factors that support successful literacy. The new doctorate is a first-of-its-kind partnership that has emerged from the Center for the Study and Treatment of Dyslexia at MTSU, a hands on learning lab that may be the only one of its kind in the nation. The Dyslexia Center is a unit within the School of Education and Behavioral Science where professionals with different backgrounds work together to improve educational outcomes for children with dyslexia. The doctorate has been shaped and will be governed by faculty representing several academic departments: educational leadership, elementary & special education, dyslexic studies, psychology, sociology, English (linguistics) and communication disorders."

Some are research, some are teaching; some are other practitioners.

24. In the humanities and social sciences, there is nothing like the hybridity or conjoint compounding of biochemistry and other compounds linking biology, chemistry, physics, for example, or the development of technical fields across or between science and engineering.
25. Middle Tennessee State University doctoral movement is based on shifting from dyslexia to Literacy Studies, with the claim to science both implicit and explicit.
26. For example, see Klein, 1990, 1996, 2005; Davidow et al, 1993; Weingart and Stehr, 2000.
27. See also quotation from Julie Stone Peters that begins this essay.
28. Increasingly, I have doubts and discomfort about usefulness of the notion of "crossing boundaries" as a guideline, a mode of discourse, or a governing metaphor. There may be a necessary amount of permeability on the edges or perimeter of most disciplines, and that may well be part of the nature or order of disciplinarity itself. Boundaries are so slippery that caution is the best practice. To focus on

boundaries perhaps also unduly limits the interactions and relationships open to interdisciplinarity.

29. There is a need for a sophisticated and comparative study of the discourse of interdisciplinarity. Many of us comment on it but there is little deep probing. This is a trickier problematic than it is often expected to be.
30. See Graff & Duffy, 2007. See also, on the one hand, Goody in general; Olson, 1994; on the other hand, Street, Barton; also Halverson, cited herein. More or less in between are Collins & Blot, 2003; Brandt & Clinton, 2002; Graff, 1995b.
31. This is complicated and well worth study in its own right.
32. For LiteracyStudies@OSU, see http://literacystudies.osu.edu/. See also my essay, "Literacy Studies @ OSU in Theory and Practice," presented to the Conference on College Composition and Communication annual meeting, New Orleans, 2008. See also chapter 8 below.
33. That LS@OSU resides in the English department (within the former College of Humanities, and also in the Institute for Collaborative Research and Public Humanities) is partly a matter of chance and partly one of strategic thinking. It is not an outgrowth of disciplinary attributes or affinities. (No more, that is, than that our only major public conflicts are with the College of Education and Human Development, who claimed "ownership" of literacy.) Appropriately, the Office of Academic Affairs declared that literacy is a university-wide matter. The lessons for interdisciplinary literacy studies are ambiguous. A stable base with sufficient resources, wide-ranging goals, good advisors, interested and varied audiences and potential participants, and lots of energy may be more important than which disciplines lead and which ones follow. That LS@OSU is led by a social historian is probably more important.
34. See above, Fish, 1989; Smelser, 2004; Dogan and Pahre, 1990.
35. Science seems to have its own path(s) to interdisciplinarity. See Smith, 2006; Weingart and Stehr, 2000, among others. As suggested by the statements in support of or in opposition to interdisciplinarity quoted earlier, some see science as allied closely, even fundamentally connected, with at least some forms of interdisciplinary. Others find it firmly opposed or resistant. The contradictions evoke the antimonies of interdisciplinarity as they relate to disciplinary clusters. Natural science is also home to such conjointly constructed or compounded interdisciplines as biochemistry and other compounds linking biology, chemistry, physics, and, recently, technology fields. The social or human sciences lack that kind of compound.

    Interdisciplinarity in biology, for example, looks and proceeds, and has contributed historically, very differently than interdisciplinarity in history or anthropology or geography. Historian of biology Garland Allen (1975) suggestively calls twentieth-century biology itself "a convergence of disciplines." On disciplines in science, see Lenoir, 1997. Similarly, when social scientists and natural scientists talk about laboratories and experiments, what they have in mind and what they expect to happen there is likely to differ greatly. Replication in the social sciences shares more metaphorically than materially with replication in natural science. This is part of common confusion with respect to interdisciplinarity, and perhaps disciplinarity, practice, meaning, discourse, location, and evaluation across clusters.
36. The sense of an implicit contradiction here is very real.
37. In addition, the accurate measurement of literacy levels with "hard" data is a perennial quest but probably an impossible dream. That, of course, doesn't limit generalizations or judgments. Research in different dimensions of literacy studies proceeds very differently. Psychologists including "cognitive scientists" and economists, in particular, seek the status of science within the domains of reading and writing as cognition for the former, and "human capital" for the latter. They

design their research to construct numerical data, often conducting experiments. Disability researchers increasingly join them. Discourse studies; ethnographies, and case studies of literacy practices, written or recorded testimonies including life histories, and other studies of the acquisition, uses and value, impact, or ideologies of reading and writing, quantitative or qualitative, occupy other researchers across the human and social sciences including education and professional studies. Each of the two divisions constructs its vision of interdisciplinary in accord with these distinctions.

The imprecision of literacy's definitions and measures adds a certain vagueness that may facilitate its general appropriation for many incommensurate ends (for example, as one of a number of factors in a statistical manipulation, say, to explain economic growth or fertility levels). At the same time it counters efforts to gain higher marks for the field when compared to other research of a more scientific or prestigious bent. Literacy studies has seen limited development in neuroscience and the more experimental domains of cognitive science, despite proclamations of their great value. Studies of disabilities and deficits are more common.

Another sign of literacy studies' emergence with limits on its status follows from the ubiquity of literacy as a factor—a "variable," independent or dependent—commonly employed in a wide range of studies across disciplines. Imprecision combines with a general but typically vague sense of its actual importance to simultaneously encourage the use of literacy data inconsistently, sometimes as indicators of schooling, training; or skills, but also with respect to attitudes, values, morality, or experience; symbolically or materially. Sometimes deemed "human capital," the answer to the basic question "what does it mean to be literate?" is seldom satisfying. Yet, the simple fact that both notions and theories of civilization, progress, development, modernization, and so on, include literacy among their ingredients enhances its appeal despite the limitations. See Graff, 1979, 1995a, 1995b; Graff and Duffy, 2007.

The order of the terms Literacy, Language, and Culture and the acronyms varies from program to program, regarding the place, for example, of anthropology, linguistics, or psychology.

38. That this constructive consequence is not literacy's alone is suggested by the history of nanotechnology and perhaps materials science more broadly. I plan to consider that in *Undisciplining Knowledge*.

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