

THE STATE OF THE FIELD: Institutionalization of Interdisciplinarity

by

Julie Thompson Klein

Wayne State University, Detroit, MI

Professor of Humanities, English Department and Faculty Fellow
for Interdisciplinary Development, Division of Research

Abstract: This reflection on the state of the field of interdisciplinary studies presents a conceptual framework for thinking about the institutionalization of interdisciplinarity, accounts for developments that have expanded its nature and modes of implementation, addresses the role of professionalization, and weighs the balance of universality and local political economy. The underlying argument is that interdisciplinary studies is a constellation of fields, not a single sphere of interest. Static models and universal theories disguise the complex plurality, diversity, and dynamism of research and education today. Traditional models still exist, but new strategies are also advancing prospects for inter- and trans-disciplinary approaches across the heterogeneous landscape of the academy.

Keywords: interdisciplinary research, interdisciplinary education, institutionalization, complex systems, collaboration, transdisciplinarity, professionalization, academy.

The plenary session on “The State of the Field” at the 2011 annual meeting of the Association for Integrative Studies (since renamed the Association for Interdisciplinary Studies) invited speakers and audience alike to assess the current state of Interdisciplinary Studies. The AIS Executive Board asked speakers, in particular, to present broad overviews, balanced assessments, and historical perspectives informed by their recent work and pertinent literature. The topic of institutionalization has become more prominent in recent decades with the proliferation of interdisciplinary approaches. Colleges and universities

of all sizes and types have been engaged in campuswide conversations and strategic planning to implement new initiatives and to examine their local climates for interdisciplinary research and education. They often embark on these efforts in an additive fashion, trying to fit new interests into an existing structure. Yet, a cluster of concepts exposes the limitations of that strategy for institutionalizing interdisciplinary research and education.

Conceptualizing Institutionalization

Institutionalization is a process of establishing something within a particular organization or a social sphere. In the academic world, the dominant principle of establishing knowledge domains for most of the 20th century was the division of disciplines into separate departments. The model of institutionalization that derived from this history subordinated interdisciplinarity to a primary order of disciplinarity. Studies of academic culture, however, furnish a more nuanced framework for thinking about the current state of the art of institutionalizing interdisciplinarity (adapted from Klein, 2010, and Klein, forthcoming).

Two studies highlight dynamic properties of academic institutions that defy the singularity of the traditional model. Modern systems of higher education, Burton Clark (1995) found in an international comparative study of research universities, are confronted by a gap between older, simple expectations and complex realities that outrun those expectations. As a result, definitions that depict one part or function of the university as its “essence” or “essential mission” obscure changes that are transforming the way we think about knowledge and education. Interdisciplinarity, without doubt, is one of those realities. Trowler and Knight’s (2002) studies of institutional change shed further light on the gap Clark identified. The standard model of “contextual simplification” assumes that organizations are simple, fitting activities into a small number of pigeonholes. Yet, institutional cultures are protean by nature: “[A]ny university,” Clark found, “possesses a unique and dynamic multiple cultural configuration which renders depiction difficult and simple depictions erroneous.” Viewed from an analytical telescope, differences in values, attitudes, assumptions, and taken-for-granted practices look small. Viewed from an analytical microscope, they loom large (p. 143).

Visibility and legitimacy go hand in hand. Reviewing the track record of educational experiments during the 1960s and 1970s, Keith Clayton (1985)

suggested that the “concealed reality” of interdisciplinarity may be greater than the “overt reality.” Some activities, in fact, flourish most readily when they are not labeled “interdisciplinary” (p. 196). Organizational charts often obscure the concealed reality. Charles Lemert’s (1990) metaphors of “surface” and “shadow” structures underscore the implications for legitimacy: out of sight, out of value. Key institutional elements, Trowler and Knight (2002) also found, resist change in curricula, budgeting, workload, and the reward system of tenure and promotion. Yet, change does occur because bureaucracies, to echo Cathy Davidson and David Theo Goldberg (2011), cannot completely contain and constrain all of the energies within them. They propose a more dynamic definition of “institution” as a “mobilizing network” that harnesses energies to create alternatives. Borrowing Michael de Certeau’s (1984) distinction between “place” and “space” to explain how the interdisciplinary field of Digital Humanities is mobilized, Anne Balsamo explains that a “place,” such as school, has stable boundaries and a fixed location. Space is “a practiced place,” created in time through actions and practices (2011).

Institutionalizing interdisciplinarity, then, requires rendering the concealed reality and shadow structure more visible while harnessing related energies to spatialize new practices. Nothing short of a reconceptualization of institutionalization occurs when those energies are recognized. Canonical practices in organizations, John Seely Brown and Paul Duguid (1996) advise, are prescribed and set down in official documents, mission statements, and other defining texts that function as road maps for members of an organization to follow. Yet, the relatively static nature of canonical practice cannot keep up with the complexity and variability of events on the ground, in the rough terrain missed by large-scale maps. Moreover, they emphasize, the dynamic character of knowledge and expertise drives divergence as new ideas, understandings, modes of work, and reinterpretations and reconstructions of tasks, projects, and roles emerge. The implications are readily apparent in the difference between initial approaches to institutionalizing interdisciplinarity and the expanded array of forms and strategies today.

From Simple to Complex Systems

When William Newell and I (1997) were asked to write a state-of-the-field account of interdisciplinary studies for the *Handbook of the Undergraduate Curriculum*, we situated mobilization within a conceptual framework of simple versus complex systems. In the initial simple system model, interdisciplinary work was often innovative, but its home was a

familiar structure or format. New forms and practices were accommodated but did not challenge the existing structure. They were typically added to the discipline-dominated structure of a campus. Simple systems may have multiple levels and connections in a hierarchy, but they operate according to a single set of rules. In contrast, complex systems are non-hierarchically structured. They obey multiple and conflicting logics and may exhibit a chaotic element. Simple structures still exist, we argued, but the academy system today is more complex.

Features of a Simple System	Features of a Complex System
<ul style="list-style-type: none"> • Free-standing institutions • Autonomous and cluster colleges • Centers and institutes • [ID] departments • [ID] majors, minors, and concentrations • Mainstream and alternative general education programs • Individual courses within disciplinary departments • Tutorials • Independent study and self-designed majors • Travel-study, internships, and practicums 	<ul style="list-style-type: none"> • Learning communities of students and faculty • Problem-focused research projects • Shared facilities, databases, and instrumentation • Interdisciplinary approaches, schools of thought • Enhanced disciplinary curricula to accommodate new developments in scholarship and research • Subdisciplinary boundary crossing • Educational functions of centers and institutes • Training in collaborative modes and teamwork • Interinstitutional consortia and alliances

(Klein & Newell, 1997, pp. 397-398)

Since we devised this framework in the mid-1990s, several new developments have fostered greater plurality and diversity. Collaborative interdisciplinary research (IDR) has gained priority, documented by the rise of new interdisciplines such as clinical and translational science and heightened support for team-based IDR in funding agencies and science policy bodies. The ascendancy of transdisciplinarity is another noteworthy change, benchmarked by a new conceptual and methodological paradigm in health and wellness and trans-sector problem-oriented research involving stakeholders in society. Shifting patterns in education also factor in, documented in Brint, Turk-Bicakci, Proctor, and Murphy's (2009) longitudinal study of interdisciplinary degree programs over a 25-year

period from 1975 through 2000. The most notable increases were in fields of technological innovation and traditionally underrepresented populations. International relations/global, race and ethnic, and women's studies more than tripled. So did brain and biomedical science. In addition, the number of programs in environmental studies nearly tripled, and in non-Western cultural studies more than doubled. Western studies also nearly doubled in count, although civic/governmental studies and American studies grew more slowly.

Another study, conducted by the Social Science Research Council (SSRC), revealed patterns in liberal arts colleges and universities that parallel Brint, Turk-Bicakci, Proctor, and Murphy's findings. Of the top 10 majors, more than half were in international and global or area studies, two were in a biology-plus model, and the most popular other majors were in areas often considered advocacy/activism fields. Environmental studies and science, women's and gender studies, neuroscience and psychobiology, and American studies were the top-cited ID majors. Moreover, two-thirds of respondents to the SSRC's national survey expected to increase their interdisciplinary offerings over the next five years. The most commonly cited motivation was research, based on a belief that the kinds of questions students and faculty are investigating today often require expertise from more than one field. Other drivers include student demand and student outcomes (Rhoten, Boix-Mansilla, Chun, & Klein, 2006). All of these developments have implications for a key mechanism of institutionalization—professionalization.

Professionalization

Professionalization is a process by which a group establishes and maintains control of a social world, whether it is an occupation, such as teacher or physician, or a subject area, such as archaeology or music. With the exception of groups devoted to particular occupations, early learned societies reflected a wide range of interests until the early 19th century. When higher education was restructured around the modern system of disciplinarity during the late 19th and early 20th centuries, these groups became outnumbered by new professional organizations dedicated to specialized interests. Their annual meetings and publication venues became the locus for presenting research in specialist languages. The authority of expertise was also reinforced in mechanisms of disciplining, foremost among them degree qualifications, sanctioned practices, and criteria of evaluation in the reward system.

Multiple professional groups have formed to institutionalize inter- and

trans-disciplinary practices. The Association for Integrative Studies (AIS), Rick Szostak recalls in this issue of the AIS journal, was established with an emphasis on undergraduate education. That commitment continues, though Newell describes looming research interests in this same issue. The American Studies Association (ASA) and the Women's Studies Association (WSA), to cite just two examples of interdisciplinary fields, serve the research and education needs of their respective members. The Network for Transdisciplinary Research (td-net) centers on problem-oriented research, with a prominent focus on sustainability. The Integration and Implementation Sciences (I2S) network advances concepts and methods for research on complex, real-world problems, situating inter- and trans-disciplinarity within systems-based and action-oriented approaches that also incorporate stakeholder knowledge. The Science of Team Science network targets collaborative research, with emphasis on health care and science. And, other groups such as PIN (Philosophy of/as Interdisciplinarity Network), CIRET (the International Center for Transdisciplinary Research), and ATLAS (the Academy of Transdisciplinary Learning and Advanced Studies) focus on interests in philosophy, the new worldview of complexity in science, and engineering.

Recognizing the need for cooperation to advance shared goals, members of several groups formed an alliance in 2011, the International Network for Interdisciplinarity and Transdisciplinarity (INIT). The I2S network is also engaged in a new initiative to foster cross-organizational interaction. However, weak links between organizations diminish prospects for advancing common goals. Efforts to promote curriculum reform offer a cautionary parallel. When Jerry Gaff tallied professional organizations engaged in some way in this broad-based movement, he deemed them "significant players" but vulnerable in their fragmentation. They are not typically involved with each other and kindred groups, and their leaders tend to be uninformed about innovations in other areas. As for interdisciplinarity, projects and literature of AIS are ignored or minimized by other organizations; at the same time pertinent literature and resources of ASA, WSA, and other groups are not incorporated into AIS-centric modeling of research process (1997, pp. 699-700). Consequently, the body of wisdom and practice on interdisciplinary studies remains fragmented across organizations with separate agendas under the combined umbrellas of inter- and trans-disciplinarity.

From Universality to Political Economy

Comparative analysis is crucial to mobilizing interdisciplinarity, enhancing local efforts with awareness of common strategies and structures. Even with comparative analysis, though, self-definition will remain important for organizations that advance particular fields. In a genealogy of science and technology studies (STS) in the *Oxford Handbook of Interdisciplinarity*, Sheila Jasanoff (2010) observed that nearly 50 years after its emergence, the field remains weakly institutionalized in upper tiers of the academy. Despite respected accomplishments, STS still faces the challenges of populating spaces between disciplines with well-trained scholars, securing new offerings in the curriculum, and conducting long-term research programs. Meeting the challenges will require greater intellectual coherence, higher academic standing, and institutional stability. Like other interdisciplinary fields, STS must also grapple with contradictory self-understandings. The challenge of interdisciplinarity, Jasanoff concluded, is strategic positioning. All fields need to establish relations to their objects of study and other disciplines while asserting their own missions. All fields demand organization for survival and continuity, to demarcate them from neighboring territories and set up internal markers by which to measure essential attributes of originality, quality, progress, and contributions to knowledge. They also need to define what makes them part of a common enterprise, make the case for what they have to offer, create spaces where goals can be developed and sustained, and situate them within the larger academic agenda.

Jasanoff's call to action also raises the question of whether any organization can speak for interdisciplinarity. Claims of their "true" and "genuine" nature abound, from programs that are strongly rooted in the disciplines to initiatives that supplant or reject disciplinarity. The reverse sloganeering of "let a thousand flowers bloom" is no less problematic. Szostak admonishes in this issue that the greater challenge to interdisciplinarity in today's academy is not from disciplinarians who claim it is impossible to do. Echoing Augsburg and Henry's 2010 volume on *The Politics of Interdisciplinary Studies*, he highlights "the far more insidious claim that we are all interdisciplinary now and thus interdisciplinary programs are redundant." If we do not proclaim best practices, Szostak admonishes, we will be swamped by superficial interdisciplinarity. At the same time, we must test the appropriateness of best practices in the particularities of context.

In the closing decades of the 20th century, when interdisciplinarity was new to the academic system, the typical forms of institutionalization were special

programs and emergent fields. By the turn of the new century, the plurality of models and strategies depicted in Klein and Newell's model of complex systems was evident across campuses. Yet, institutionalization remains an uneven process. Pierre Bourdieu's (1991) definition of an intellectual field offers a more apt metaphor of interdisciplinarity than universal theory or a one-size-fits-all model. Like a magnetic field, the intellectual field is made up of a system of power lines that cannot be reduced to a simple aggregate of isolated agents or the sum of juxtaposed elements. By their very existence, opposition, and combination, multiple forces determine the structure of a field at a given historical moment. The same may be said of interdisciplinarity. A research campus may herald a cluster hire in biomedical sciences, but marginalize or close a women's and gender studies program. A liberal arts campus may center its general education curriculum on integrative themes and offer problem-focused learning communities, but hopes for a new program in digital humanities or in business anthropology falter for lack of infrastructure. Boundary crossing and crossfertilization have become familiar characteristics of knowledge production today. Yet, the rhetoric of transformation and powerful precedents are checked by the local political economy of institutionalization. Clearly, we have more work to do.

Biographical Note: Julie Thompson Klein is Professor of Humanities in the English Department and Faculty Fellow for Interdisciplinary Development in the Division of Research at Wayne State University. Klein is a recipient of the Kenneth Boulding Award for outstanding scholarship on interdisciplinarity, Ramamoorthy and Yeh Transdisciplinary Distinguished Achievement Award, and Joseph Katz Award for Outstanding Leadership in General and Liberal Education. Her authored books include *Interdisciplinarity; Crossing Boundaries; Humanities, Culture, and Interdisciplinarity;* and *Creating Interdisciplinary Campus Cultures*. (Co)edited books include *Interdisciplinary Studies Today, Transdisciplinarity, Interdisciplinary Education in K-12 and College, and The Oxford Handbook of Interdisciplinarity*. She is also co-editor of the University of Michigan Press series *Digital Humanities@digitalculturebooks*. She may be contacted at ad5820@wayne.edu

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