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INIT and the Internationalisation of AIS

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The Association for Integrative Studies (AIS) has long boasted an international membership and encourages international conversations, but only recently has the AIS Board of Directors seriously taken up the challenge to become more international in its focus. In line with this, AIS now has an international Board member from Europe and this column, 'International Perspectives', in this newsletter. Of greater significance has been the involvement of AIS members in the establishment of the International Network for Interdisciplinarity and Transdisciplinarity (INIT). AIS participation in the INIT planning meeting in 2010, involvement in the INIT seminar in Utrecht in 2011 and AIS's contribution to the future of INIT

represent significant advances not only in internationalisation but also in boundary crossing.

In this article I present my perspective on AIS involvement in the establishment of INIT and in the inaugural seminar, which took

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place in June 2011, when Utrecht University celebrated its 375th anniversary by hosting a number of events, one of which was the inaugural INIT seminar, ambitiously titled *Interdisciplinarity and Transdisciplinarity: Exploring, Mapping and Anchoring the Field*. This meeting was sponsored by the US based AIS, the European based Network for Transdisciplinary Research (td-net), and the Center for the Study of Interdisciplinarity (CSID at the University of North Texas). It was

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Insights and Omissions: The Promise and Perils of 'Big' Books on Interdisciplinarity

By Angus McMurtry. LLB, PhD
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A REVIEW

Science Without Boundaries: Interdisciplinarity in Research, Society, and Politics. Willy Østreg, 2010. Lanham, MD: University Press of America. 311 pp. Paperback (ISBN 978-0-7618-4830-1) or electronic (ISBN 978-0-7618-4831-8). \$39.95.

Introduction

This is a broadly-focused and ambitious book by someone solidly grounded in the theory and practice of interdisciplinary research. It delves deeply into theories of science, knowledge, disciplinarity, interdisciplinarity and transdisciplinarity, as well as the ways in

which they interact with social, political, economic and environmental forces. Most impressively, the author "tests" these theories against the reality of a large-scale international, interdisciplinary research initiative in which he was involved: The *International Northern Search Route Program* (INSROP). AIS members will no doubt find Østreg's European, science-focused perspective enlightening and refreshing.

Science without Boundaries' enormous conceptual breadth is, however, both its strength and its weakness. In attempting to cover so much ground, Østreg misses or fails to acknowledge much thinking on interdisciplinarity, especially in North

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INIT & Internationalisation of AIS

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expertly organised by local hosts, Dr. Ria van der Lecq, Liberal Arts and Sciences Utrecht University and Machiel Kestra from the University of Amsterdam, both of whom are AIS members, with Machiel on the AIS Board. Others representing AIS at the event included Veronica Boix Mansilla, Jennifer Dellner, Julie Klein, Jim Macbeth, Bill Newell, Elsbeth Spelt, Rick Szostak, and the present author, Lorraine Marshall.

Phase 1: The Genesis of INIT

In 2009, at the Swiss based td-net conference in Berne, a small group of AIS, td-net, CSID and the Philosophy of Interdisciplinarity Network (PIN) representatives conceived the idea of an international network. This led in June 2010 to a planning meeting in New York, which was attended by eight representatives from AIS, td-net and CSID, with the last organisation graciously sponsoring the meeting.

After several heated discussions about the possibility and desirability of integration of distinct insights, about the inclusion of non-academics in scientific endeavours, about the availability of best practices in interdisciplinary research, and about the relevance of policy issues for science, this group reached partial consensus about valuable goals for INIT. This small group launched INIT to bring together the diverse fields of interdisciplinarity (ID) and transdisciplinarity (TD) and their associated subgroups with the aim of facilitating communication and collaboration among organisations, institutions, and individuals that view Interdisciplinarity and Transdisciplinarity as vibrant ways to respond to the challenges of the 21st century. In New York, the planning

group wrote an initial INIT mission, which was to:

Provide an international platform for discussion and promotion of interdisciplinary and transdisciplinary research, teaching, and policy, and to inventory existing understandings, facilitate and enhance communication, and stimulate new research.

The planning group also planned the inaugural seminar in 2011 and invited 40 international 'experts' in Interdisciplinarity and Transdisciplinarity to participate.

Phase 2:

In June 2011, the medieval city of Utrecht in the Netherlands and the historic Utrecht University became the mecca for 41 educators and researchers on Interdisciplinarity and Transdisciplinarity from North America (9), Europe (26), Australia (2), Africa (1) and South America (3), who had been personally invited to participate in the seminar and to advance the mission and organisation of INIT, and to pursue the aim of INIT becoming a network that is truly 'international'.

The INIT seminar opened with a non-sectarian blessing from Julie Thompson Klein taken from *The Oxford Handbook of Interdisciplinarity* on 'The ethics of Interdisciplinarity'. Julie entreated all present to abide by the virtues and ethical habits of 'shift work Interdisciplinarians' and show five intellectual virtues: generosity (to acknowledge each other's work), confidence (in what we contribute and believe), humility (to acknowledge that our knowledge is always partial and incomplete), flexibility (the ability to change one's perspective and suspend our judgement) and integrity (to show responsible participation and trust in each other). This provided an appropriate reminder and backdrop

that set the general tone and demeanour for the two days of lively debate that followed.

Individual presentations were themed under topics headed: 'Opening alpha perspectives', 'Frameworks', 'Bridging frameworks towards education', 'The case of the humanities', 'From problems to action', and 'Assessing and Valuing'. The workshop progressed towards a concluding session, 'Future steps' that created a concluding statement and a brief for a planning meeting

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the following day. To give AIS members some sense of the breadth and depth of the discussions, here I highlight only a few of the sessions.

Each session opened with a five-minute presentation from each of the participants in the section followed by questions and debate. Short, snappy presentations forced presenters to be concise while allowing adequate time for open discussion. The opening session 'Opening alpha perspectives' set the scene for the debates on the nature of disciplines and the value of Interdisciplinarity and Transdisciplinarity for dealing with major global problems and issues. (Bob Frodeman, Steve Fuller, Britt

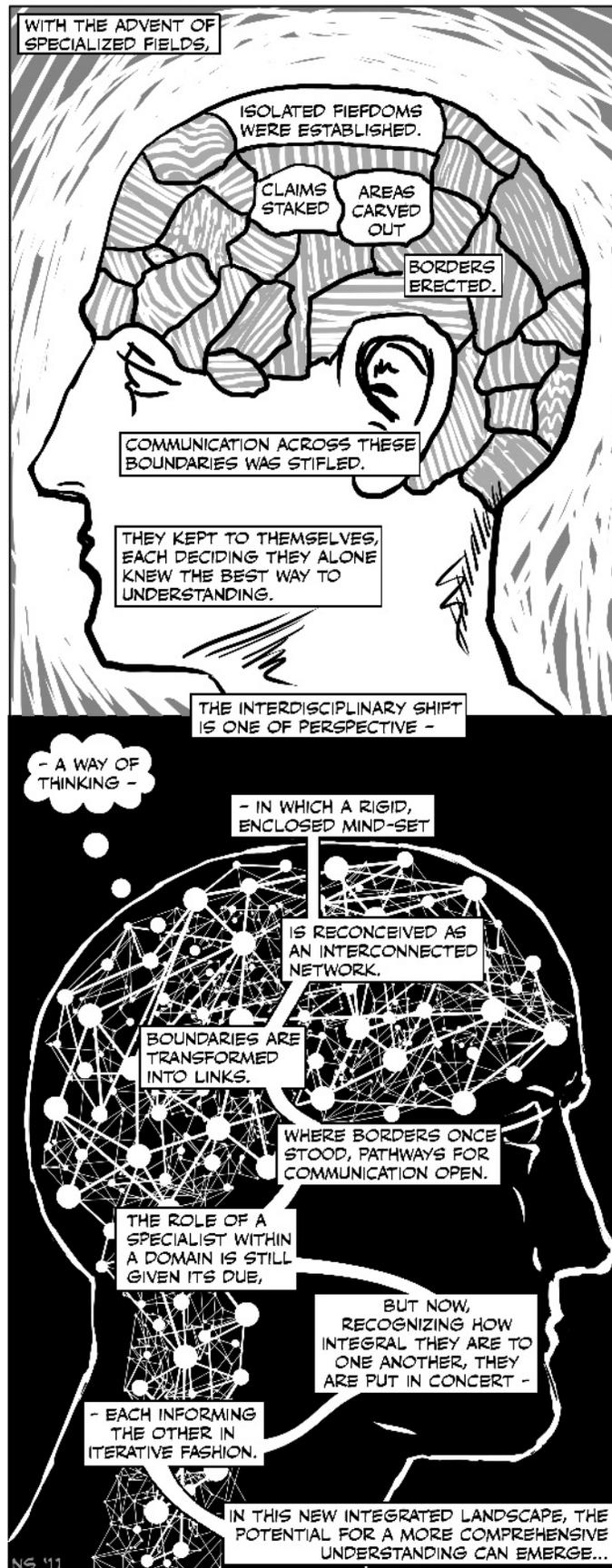
Holbrook, Frank Kessel and Julie Thompson Klein).

Of particular relevance to AIS members was the session 'Bridging frameworks towards education'. Veronica Boix Mansilla raised the fundamental question of the purpose of Interdisciplinary education in the 21st century and how a network of networks can shed light on this. She pointed to the important role of Interdisciplinarity and Transdisciplinarity in counteracting the reduction to learning outcomes of the complex world in which students learn and live. This session also presented a range of approaches to developing Interdisciplinary education (Bill Newell), examined Interdisciplinary conceptual course design (Elsbeth Spelt), and an approach to building a science oriented Liberal Arts and Science curriculum (Ramon Puras). The discussion problematised the notion of best practice models and the notion of a Discipline, questioned the primacy of a discipline before students can become interdisciplinary, and asked the fundamental question of how to measure synthesis in ID education.

Presentations from Manuela Rossini (Switzerland), Bruce Clarke (Texas), Pjotr Wilczek (Poland) and Jennifer Dellner (USA) explored 'The case of humanities'. Some of the key points that arose included: concepts have different meanings in different disciplines but are a point of negotiation between disciplines and can travel between them; the importance of boundary thinking; system thinking as the new lingua franca for Interdisciplinarity; the importance of avoiding reinventing the wheel; and the future of the Humanities in the digital age.

The session 'From problems to action' opened with Bert De Wit from the Netherlands taking a policy perspective on 'the changing role of researchers in the interface of science

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New Maps

By
 Nick Sousanis
 Teachers College
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Nick Sousanis, an interdisciplinary doctoral candidate, has been added as a continuing contributor to *Integrative Pathways*. He previously was immersed in Detroit's arts community and is the biographer of legendary artist Charles McGee. We look forward to publishing his artwork on a periodic basis.

Interdisciplinary Teaching and Learning: SOITL and Graduate Education

By Colleen M. Tremonte, PhD
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Michigan State University, East Lansing
Director, MSU Interdisciplinary Inquiry
and Teaching Fellowship Program

One of the most pressing issues in higher education today is the preparation of future faculty for undergraduate teaching. Not surprisingly, graduate program administrators find themselves puzzling over traditional notions and expectations of graduate study, wondering how to best support doctoral students' preparation as future faculty in issues related to pedagogy (see Golde & Walker, 2006). One response to this critical pressure point has been a turn to the scholarship of teaching and learning, as initially proposed by Ernest Boyer and then advanced by Lee Shulman and his colleagues at the Carnegie Foundation for the Advancement of Teaching. Increasingly faculty and scholars in both the U.S. and the U.K. have been systematically building models or case studies that demonstrate the efficacy of scholarship of teaching and learning (SOTL) in improving graduate students' knowledge of teaching in their respective fields (see Kreber, 2009).¹ This turn is not unexpected given the impact SOTL has had on the landscape of higher education in the last 10 years, including on professional development. As Pat Hutchings, Mary Taylor Huber and Anthony Ciccone note in *Scholarship*

¹ In some models, graduate students are placed within cross- and multi-disciplinary sites, such as centers for teaching and learning, in which they can actively participate in SOTL discussions and the review of such scholarly work. In other models, SOTL is inserted into existing departmental frames, such as graduate courses that focus on teaching and learning questions specific to the discipline (see Gale & Golde, 2004).

of Teaching and Learning
Reconsidered (2011):

The scholarship of teaching and learning is a powerful form of faculty development. Engaging in a cycle of inquiry and improvement allows teachers to identify and investigate questions that they care about in their students' learning and bring what they have found back to their classroom and programs in the form of new curricula, new assessments and assignments, and new pedagogies, which in turn become subjects of further inquiry. This process helps scholars of teaching and learning develop their capacities as observant, thoughtful, and innovative teachers, while making the work public contributes to pedagogical knowledge on their campuses and in their fields. (12)

Integrating such inquiry into the very fabric of graduate study could function similarly—as a form of (future) faculty development in teaching. However, because such development would be occurring in tandem with the acquisition of subject-matter expertise, it has the potential not only to improve teaching writ large but also to effect broader cultural change in the academy.

It is in this spirit that the Interdisciplinary Inquiry and Teaching (IIT) Fellowship Program at Michigan State University (MSU) was envisioned and undertaken in 2008. Funded by the MSU Graduate School, the primary goal of the IIT Fellowship Program is to enrich the professional development of a diverse group of graduate students by placing them within an environment with an established tradition in excellence in undergraduate teaching. In

this manner, IIT is similar to other graduate mentoring programs at Michigan State, aiming to provide

SOITL

doctoral students an opportunity to work with experienced tenured faculty on professional development as teachers. However, IIT differs from most programs in two significant ways: first, it is housed in one of three residential colleges at MSU—James Madison College—thus outside the dominant institutional structures of graduate education; and, second, it explicitly links mentoring to interdisciplinary inquiry and pedagogy through the scholarship of *interdisciplinary teaching and learning*, SOITL.² On the first point, James Madison affords fellows a liminal space in which to engage in structured conversations about interdisciplinary teaching and learning in a site whose primary mission is undergraduate teaching. On the second point, by intentionally linking inquiry and pedagogy through SOITL, IIT illuminates the extent to which interdisciplinary learning is often tied to unacknowledged epistemological biases towards subject matter, as evidenced in the *particular* interdisciplinarity enacted in the classroom. That is, a course grounded in a “conceptual” interdisciplinarity will

² James Madison has no institutional obligations to graduate programs within the University, though individual Madison faculty may have affiliations with such programs. Its four major fields of study are comparative cultures and politics, international relations, political theory and constitutional democracy, and social relations and policy. Madison is also the home of several university specializations, including Muslim Studies and STEPPS (Science, Technology, Environmental and Public Policy).

yield learning outcomes different from one grounded in an “informed” interdisciplinarity, or from one taught from a “transdisciplinary” perspective (Lattuca, Voigt, & Fath, 2004, pp. 24-25).

It is the latter point that is perhaps most relevant (and attractive) to those of us who work in interdisciplinary studies. As numerous scholars have noted, while there are some common expectations of learning outcomes in all interdisciplinary courses, what constitutes *substantive* interdisciplinary learning or “content” in a given course of study can be highly variable (Lattuca et al., 2004; Boix Mansilla & Dawes Duraising, 2007). Because scholarship of teaching and learning requires teachers to become more cognizant of what Lee Shulman (1987) identifies as pedagogical content knowledge, the ability to translate disciplinary subject matter as learnable content for students, it fosters an awareness of the relationship among epistemology, pedagogy, and learning.³

Program Design

As would be expected, the structure of the IIT fellowship program is both generic and unique. Each year six to seven graduate students from the College of Arts and Letters, the College of Social Sciences, the College of Education, and the College of Communication are selected to participate in the IIT program. Selected from a wide range of disciplines and fields across the social

³ Shulman argues that expert teachers of disciplinary subjects possess a particular type of knowledge, a pedagogical content knowledge (PCK) that “represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction” (1987, p. 8).

sciences and humanities (e.g., history, sociology, anthropology, journalism, teacher education and geography), the fellows bring different perspectives on *what* constitutes interdisciplinarity, and by extension, interdisciplinary learning, to the mix. All have had some teaching experience, though to varying degrees (e.g., some have taught upper-division courses in the disciplinary departments; some have

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taught integrative studies courses for the university; and, some have general “teaching assistantship” experience). All have a keen interest in (and many self-identify with) interdisciplinary studies, no matter the specificity or narrowness of their individual doctoral study or research. Collectively, then, the fellows and faculty work to forge a shared pedagogic imagination relevant to interdisciplinarity and interdisciplinary studies.

We begin by reading selectively in the literature on interdisciplinary history and theory (e.g., Klein, Lattuca) and on scholarship of teaching and learning (e.g., Shulman, Hutchings). While we do not specifically engage literature in educational research (e.g., critical thinking, cognition, assessment), our conversations do take up these questions as well as more general instrumental questions about teaching. We next turn to discussions on the ways in which disciplinary epistemologies can shape our understandings of interdisciplinary subject matter content. Here we juxtapose the literature on teaching in the fellows’ home fields with respective processes of knowledge production;

for example, articles on “teaching” sociology are juxtaposed against articles “doing” sociology (fellows provide these articles). Finally, we perform an “anatomy” of an interdisciplinary course being taught by one of the IIT core faculty, interrogating the syllabus, the assignments and student work. Throughout this process, fellows and core faculty are also engaged in

conversations of reflective practice in teaching development, of the politics of boundary crossing when engaging in interdisciplinary research and teaching, and of pedagogies and pedagogic strategies appropriate to interdisciplinary teaching. These early conversations initiate the braided trajectory that we follow throughout the year, the strands of which include class observations and, most importantly, a formal “intellectual application project” centered on a “teaching” encounter with the Madison students. The observations provide openings for discussions on a variety of general questions of teaching, and on issues relative to the Madison student body and curriculum, but they also raise questions about the relationship between disciplinary styles and pedagogy (see Huber & Morreale). The intellectual applications projects extend our efforts, affording fellows concrete venues in which to rehearse their emerging knowledge about interdisciplinary teaching and learning in tandem with professional development in teaching practice. The projects, then, become an anchor of the program.

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SOITL and Graduate Education

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Program Enactment

The intellectual application projects can take a variety of guises, from co-facilitating an honors option for one of the Madison courses with a core faculty, to offering a short readings course with other fellows and faculty, to designing and teaching a “unit” within an already existing interdisciplinary course. And while not every project may constitute a formal SOITL endeavor, each is enacted as puzzling through a problem of interdisciplinary teaching in a particular curricular context. That is, each is undertaken with an eye towards identifying and documenting student learning, and to then sharing this knowledge with the broader community of scholars. Again, this framing cultivates the intellectual curiosity of the graduate fellows by intentionally drawing upon their professional habits of mind. Not surprisingly, most fellows draw heavily upon their own expertise and research interests. For example, one project involved three fellows and a faculty member collaborating to offer a short course (eight weeks) focused on issues of identity, language and performance—key areas in their respective research agendas. Given their divergent perspectives on the planning of the course (i.e., anthropology, second language studies, teacher education and political science), they first had to negotiate the instantiation of interdisciplinarity they wished to enact: what exactly did they wish students to learn. Situating these negotiations within SOITL immediately pushed the group to rethink what *substantive* interdisciplinary learning would be in this instance, to consider how they would recognize it, and to determine how they would assess it. Other projects have involved fellows and

faculty co-teaching an honors option on a range of topics (e.g., media and politics; poetry, schooling and reconciliation, etc.) of interest to undergraduate students of public affairs. In each instance, similar patterns of epistemological reflexivity and pedagogic preference emerged.

Throughout the process, the fellows produce a series of “reports” of the student learning in their various projects, each of which is reviewed and critiqued by the group at large.

This is perhaps the single most powerful attribute of the IIT program: the collaborative and iterative context in which we approach inquiry. By the end of the year, the fellows thus have a set of documents upon which to build a formal SOITL project, one for peer review and public dissemination.

Conclusion

As the Interdisciplinary Inquiry and Teaching fellowship program enters its fourth year, we are mindful of the pressure to evaluate its efficacy as a model for other institutions or programs hoping to improve graduate education and future faculty preparation in the area of teaching. At the same time, we are cognizant of the effects IIT has had on MSU graduate students, and on the Madison faculty. On the level of professional development, some fellows report improved job prospects; and they believe they have acquired a deeper understanding of the complexities of teaching and learning in general, and of interdisciplinary inquiry more specifically, because of our work with SOITL. And almost all express a more nuanced appreciation of students’ lives at a research I institution. Each of these outcomes suggests integrating SOITL into graduate education can go a long way in preparing future faculty for the intellectual work of teaching while contributing to a growing

body of scholarship specific to interdisciplinary studies.

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Review: Insights and Omissions

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America, that could have bolstered his case. Second, weak spots in some of his philosophical positions illustrate the difficulty of being on the “cutting edge” across such a wide swath of intellectual turf. Finally, he adds a large number of typologies—*types of knowledge, types of scientific research, degrees of interdisciplinarity*, and so on—to an area that is quickly becoming crowded with them.

Author, Motivation and Context

Willy Østregren has had an illustrious career so far, with appointments everywhere from Harvard University and the Universities of California (Berkeley) and Alaska (Fairbanks), to Norway’s Ministry of Foreign Affairs and the Centre for Advanced Research at the Norwegian Academy of Sciences and Letters. Although his graduate education was in Sociology and Political Science, he has led research initiatives and published on a diverse range of topics including polar affairs, international security, ocean resource management and, of course, interdisciplinary research.

Østregren’s stated aim is to produce a text that can serve as a resource for both graduate-level students and professionals working with complex problems. His motivation for writing it is twofold: one, to describe and defend interdisciplinarity from critiques and misunderstandings within the scientific community; and two, to examine the way in which science, society and politics interact—with a focus on interdisciplinary research’s place within this complex web.

The author’s own involvement in the *International Northern Sea Route Program* (INSROP) provides a rich case study for testing the ideas he advances. INSROP was a six-

year collaborative, interdisciplinary research effort initiated in 1993 by Russia, Japan and Norway. The project spanned five years and had 52 sub-projects within four main program areas: 1) natural conditions and ice navigation; 2) environmental factors and challenges; 3) trade and commercial shipping; and 4) political, legal, cultural, organizational and strategic factors. Literally hundreds of people from 14 different countries were ultimately involved in the program. They included a wide variety of disciplinarians—biologists, oceanographers, geologists, geographers, ecologists, ice specialists, economists, anthropologists, political scientists, lawyers, and so on—as well as “involved practitioners” such as sea captains, insurers, businesspeople and bureaucrats.

Conceptually Sophisticated and Wide Ranging

In the first half of the book, Østregren surveys and synthesizes relevant thinking on science, knowledge, disciplinarity, interdisciplinarity and transdisciplinarity. After that, he explores how interdisciplinarity is influenced by (and influences) its social, political, economic and environmental contexts. The author undeniably brings to bear a great deal of research, experience and sophistication. Several things can be said of these parts of the book.

First, much of it is directed towards a natural science audience. He offers a comprehensive critique of traditional positivist science and articulates (in line with Thomas Kuhn and other historians and philosophers of science) a view of scientific, “public” knowledge as something that is always evolving, that involves both objective and subjective elements, that includes the social sciences and humanities, and that is contingent

on social, political and economic developments: “the most reliable knowledge available, public knowledge, is relative, culture-specific, corrigible and time dependent, but at the same time, less so than some of the knowledge (religious) acquired by non-scientific means” (pp. 18-19). While persuasive, this account of scientific knowledge will not come as much of a surprise to those who are already well versed in social constructivist and post-positivist accounts of knowing.

Second, Østregren offers erudite descriptions and discussions of disciplinarity, interdisciplinarity and transdisciplinarity. Disciplines he describes as relatively stable clusters of subject matter, method, curriculum, agendas, theories and so on that are continuously evolving and shifting in relation to other disciplines (pp. 20-24). Interdisciplinarity is defined from several angles:

- As a means of solving problems or questions that cannot be addressed adequately using the methods and approaches of individual disciplines (p. 26),
- As the transgression of disciplinary boundaries (p. 26),
- As focusing not on the parts of a complex system (mere disciplinarity) but rather on the interactions of parts within a whole system (xiii), and finally
- As a wide range of integrative activities differing in method and degree of integration—from “simple multidisciplinary” through to “all embracing cross-disciplinarity” (pp. 124-126).

While the terminology and precise distinctions differ somewhat from publications associated with the AIS, the gist and sophistication are quite similar. Østregren recognizes that disciplinarity and interdisciplinarity—

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as well as reduction and holism, and specialization and synthesis—are not contradictory but rather complementary and mutually supportive (pp. 27-28). Transdisciplinarity he sees, in

the interactions between scientific research (especially interdisciplinary) and wider social, political, cultural and environmental forces is similarly sophisticated and well grounded. Basic research, he writes, has traditionally been the province of established disciplines. Interdisciplinarity has been more

account of the relationship between interdisciplinarity and the non-linear, emergent and multileveled qualities of complex systems:

[I]nterdisciplinarity refers to the interactions of parts in complex systems, whereas disciplinary studies refer to the properties of the parts of the same systems. (p. xiii)

To unlock the workings of complex systems there is a need for interactive interconnected synthesizers—for interdisciplinary researchers preoccupied with bringing the bits and pieces of disciplinary research. (p. 14)

However, this account is remarkably similar to one advanced—in even greater detail—by William Newell 10 years ago, in “A Theory of Interdisciplinary Studies” (2001). And Newell is not referenced. As a reader, it often seemed to me that Østreng was developing the same (good) ideas that I have read in Anglo-American literature, but based on a different—and slightly more European—set of conceptual influences.

A related problem with the book is that the author seems to be unaware of the existence of other “big theories” of interdisciplinarity. He writes, for example, that “we have little theory about what happens in the intersections between zones” (p. 28). Really? What about the work of Thompson Klein (1995) whom he actually references, and activity theorists such as Engeström (Engeström et al., 1995) whom he does not? Østreng further observes that,

[T]here is at present no consensual coherent philosophy of interdisciplinary science.... no coherent logical and methodological analysis of aims, methods, criteria, concepts, laws and theories to lean on and to help them understand that

Capturing “the state of the field” is difficult in any one discipline and this applies *a fortiori* to interdisciplinarity.

accordance with much European thought, as going a step farther than interdisciplinarity, transgressing “not only the boundaries between scientific disciplines but also those erected between academe and stakeholder expertise in society” (p. 26). The INSROP initiative, he writes, counts as transdisciplinary because it integrated both a variety of disciplinary perspectives and those of the “involved practitioners” listed above.

Other points Østreng develops are that interdisciplinarity is a distinct field, or “discipline,” in its own right, with its own theories and methods (pp. 90-91); that it requires its own special criteria for judging quality, different from standard disciplinary peer review (p. 67); that attention needs to be paid to the factors—attitudinal, interpersonal, institutional, conceptual and so on—that support successful integration (p. 96); and the need to facilitate interdisciplinarity in universities by establishing interdisciplinarity centers and programs, and perhaps hiring professors to work in more than one faculty (p. 82). Again, not much of this will be new to AIS members. But it is nice to see it articulated from a more science-focused, European perspective and concretely illustrated with rich examples from the INSROP initiative.

Østreng’s discussion of

“applied” in nature and tied to immediate sociopolitical problems. He argues that the time has come for interdisciplinarity to play a larger role in basic, knowledge-focused research and to enjoy a greater degree of freedom from political governance: “what is lacking in knowledge-instrumental research is the pooling together of disciplinary knowledge to create an interdisciplinary basic understanding of how complex systems work” (p. 47). Complex issues like ecology, the “high politics of the collective world state” (p. 75), demand such a deep and sustained approach.

Omissions, Weaknesses, and Parallels

Capturing “the state of the field” is difficult in any one discipline and this applies *a fortiori* to interdisciplinarity. In the current book, there is very little recognition of North American thinking on interdisciplinarity—thinking that would have complemented and strengthened Østreng’s case.¹ As a result, he sometimes offers theoretical arguments that have already been made by others.

For instance, Østreng articulates a theoretically solid and compelling

¹ While Julie Thompson Klein is frequently referenced (as “Julia”), few other North American interdisciplinarians are mentioned.

meaning and logical structure of interdisciplinary science. (p. 135)

But this concern has been both raised and addressed in the past 10 years by, among others, numerous authors associated with the AIS (see, for example, Repko, 2008; Augsburg, 2005; Szostak, 2002; and Newell, 2001).

Science without Boundaries also illustrates the difficulty of being on the “cutting edge” in a wide variety of disciplines. As an education professor with an interest in epistemology, this reviewer noticed that his discussion of learning and knowing, postmodernism and related philosophical topics were not as sophisticated as they could have been. He describes postmodernism as a theory of “absolute subjectivity” in which “truth is absolutely relative and personal” (p. 157). This seems an overly simplistic generalization, and one rejected by the more sophisticated postmodernist thinkers (Belsey, 2002).

Second, Østreng’s thinking seems trapped within traditional object/subject dichotomies. He advocates interdisciplinarians taking a post-positivist stance *between* the extremes of traditional positivist objectivity, on the one hand, and absolutely subjective postmodernism, on the other (pp. 158-159). To me, this seems more like an uneasy truce than a solution. The most “leading edge” epistemological thinking in the field of education these days rejects such dichotomies, defining knowing in terms of on-going, viable relationships, rather than “inner” subjectivity and “outer” objectivity (see, for example, Osberg, Biesta, & Cilliers, 2008; Biesta & Burbules, 2003).

Related to the above critique is Østreng’s treatment of the traditional “correspondence” view of knowledge, that is, the notion that knowledge consists in the accurate representation of some aspect of

“objective reality” in the mind of a subject. He explicitly rejects this theory at one point: “Scientists do not deal with truth in the sense of a precise correspondence between the description and the described phenomenon” (p. 18). But in the rest of the book, he continues to use the vision-based, representational metaphors that underlie the correspondence theory. By straining towards the (unattainable) ideal of impersonal observation, scientists construct “approximate descriptions of reality” that, if never absolutely perfect, are still moving closer and closer towards capturing “the essence of natural phenomena” (p. 18).

Østreng quotes Bruno Latour extensively. But from an educational perspective, it would have been helpful for him to recognize the deeper implications of the “interobjective” perspective that Latour helped to develop (Latour, 1995). We are NOT separate from the world, looking at it through different lenses. Rather, we are IN the world, continuously interacting and evolving in relation with it. Personal assumptions, values, emotions and embodied positions do not just “color [our] interpretation of the world” (p. 160); they are also our points of contact with the rest of the world and *enable* knowing. Furthermore, our individual and collective knowing processes—and thus our actions—are themselves part of the unfolding of the world (Davis & Sumara, 2006).

A final observation—if not exactly a critique—with respect to this generally strong book is the proliferation of formal classifications or typologies. Østreng offers classification systems for types of knowledge, types of scientific research, degrees of interdisciplinarity, methodological tools, the conditions that support interdisciplinary teamwork, ways in which society influences interdisciplinary research, and so

on. While his typologies generally seem thoughtful, I could not help but feel my eyes glaze over whenever I encountered a new one. One reason is that many other such typologies exist, and the fields of interdisciplinarity and philosophy of science are becoming crowded with them. Another is that these are rapidly evolving areas of knowledge; rigid classifications can very quickly become dated.

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(continued from page 3)

and society'. This was followed by 'real life' examples of TD research from Switzerland (first Roland Scholtz and then Christoph Kueffer) with a final presentation reflecting back on Transdisciplinary research processes and methodologies (Barbara Regeer, the Netherlands). The session ended by emphasising the importance of collaboration and learning from each other in research.

Further sessions examined frameworks for Interdisciplinarity and Transdisciplinarity, and how we assess and value Interdisciplinarity and Transdisciplinarity. Sessions followed on indicators of Interdisciplinarity in journals (Loet Leydesdorff), ranking Interdisciplinary research (Ismael Rafols), through to indicators in research quality (Gloria Oggi). The final session looked at future steps for Interdisciplinarity and Transdisciplinarity generally and specifically for INIT.

Some of the overall highlights of the debate and discussion included:

- the importance of situating INIT's mission in the global context;
- the important role of Interdisciplinarity and Transdisciplinarity in addressing global and local problems;
- ensuring that we don't keep re-inventing the wheel;
- the value or otherwise of disciplinising Interdisciplinarity and Transdisciplinarity;
- the problem of validating Interdisciplinarity and Transdisciplinarity knowledge;
- the problem of third world countries and their involvement in INIT;
- the north/south issue and the conceptualisation of power and inequality between the two, including INIT's potential contribution to this structural situation;
- the use of language and defini-

tions in the terminologies of Interdisciplinarity and Transdisciplinarity;

- the need or otherwise for consensus and unanimity to move forward;
- strategies for linking diverse and divergent interests, research, education and work in one organisation.

There was much discussion among participants that INIT will have to navigate a course carefully between two risks. One risk is of INIT developing itself into another organisation that claims exclusivity to represent interdisciplinary and transdisciplinary modes of discourse instead of remaining open to new developments. The second risk is how to assure the respectability and profile of INIT and its member organisations until it has established criteria, a solid organisation and a funding base from which to operate.

For more on the INIT seminar in Utrecht, see: <http://www.inidtd.org/index.html>

Phase 3: The Future

In a seminar room at the Utrecht Railway Station on the morning of June 18, following the previous day's close, nineteen INIT participants met to look towards the future. Four task forces (and conveners) were established to:

1. Develop a website and communication tools for INIT (Jennifer Dellner);
2. Draft a mission or manifesto or charter (Christian Pohl);
3. Propose an organisational structure, including, *inter alia*, membership, incorporation and 'location' (Bill Newell);
4. Consider the potential range of future meetings, seminars, conferences and courses (Bob Frodeman).

Machiel Keestra is convener of the task force conveners.

Each task force has submitted its proposals to the larger group and debate has ranged widely on the location for the next meetings, the manifesto, the notion of Interdisciplinarity and Transdisciplinarity as a new style or mode of thought, and securing funding for ongoing INIT initiatives. In addition immediately following Utrecht, invitations to future events have been forthcoming from Poland (2012) and the United States (2013), with other proposals from Brazil and Africa.

In conclusion the question needs to be asked: Did the Utrecht seminar and the planning meeting achieve its aim of 'exploring, mapping and anchoring' the field of ID and TD? The Utrecht events certainly began this important process and laid the foundation for the future. This seminar was an important boundary crossing event, one which saw boundaries traversed between Interdisciplinarity and Transdisciplinarity, between different approaches to ID, between teaching and research and policy, between different disciplines, between individuals and most importantly between nations, both rich and poor.

Potentials and Challenges for AIS and AIS Membership

Whenever an established organisation shifts its focus there are both potentials and challenges. As AIS internationalises, particularly through involvement with INIT, new opportunities will arise and AIS will face a number of challenges. Members of AIS know well that interdisciplinarity can be an endeavour at risk, so it is to be hoped that positive outcomes will outweigh the difficulties.

Potentials

- An increased profile for AIS outside of North America;
- Opportunities for AIS members

to participate in wider international debate;

- Opportunities for international linkages and exchanges in teaching and research;
- Opportunities for linkages between the educational focus of AIS and more general Interdisciplinarity and Transdisciplinarity research and policy initiatives.
- A stronger role for interdisciplinarity in teaching, research and policy.

Challenges

- Extend the concepts of integration and interdisciplinarity and corresponding methodologies to encompass a wider range of definitions and approaches, including those that stem from transdisciplinarity;
- Encourage the participation of a critical mass of AIS members at meetings and conferences that are held outside of the US, particularly given travel costs;
- Increase international AIS membership and international participation in AIS conferences and publications;
- Effectively widen the focus of AIS to encompass Interdisciplinarity and Transdisciplinarity researchers and policy makers;
- Ensure that AIS is a corporate member of INIT (once there are agreed membership types).

Further updates on progress and developments in INIT will be reported in this column. For comments or suggestions, you may want to contact either the author L.Marshall@murdoch.edu.au or initprogramcommittee@gmail.com.

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CONFERENCES

AGLS in Miami Oct. 6-8

The Association for General and Liberal Studies (AGLS) will hold its 51st annual conference October 6-8, 2011, in Miami, Florida. The theme is "Liberal Education in the Eye of the Storm: Harboring Undergraduate Education." More information can be found on the AGLS Website: <http://web.oxford.emory.edu/AGLS>

AGLSP meets Oct. 13-15

The Association of Graduate Liberal Studies Programs (AGLSP) will hold its 2011 conference October 13-15, 2011, at Saratoga Springs, New York. The theme will be "Source of Life and Strife: Multidisciplinary Perspectives on Water." More information can be found on the conference website, http://www.aglsp.org/2011_Conf_Home.html

ISEA accepting proposals

Inter-Society for the Electronic Arts (ISEA) has extended its deadline for submitting a proposal for its 2012 symposium in Albuquerque and Santa Fe, New Mexico, to October 15, 2011. The symposium is scheduled for September 19-24, 2012. The theme will be "Machine Wilderness: Re-envisioning Art, Technology, and Nature." More information can be found on the ISEA Website: <http://www.isea2012.org/>

AAAS deadline October 24

The American Association for the Advancement of Science (AAAS) is accepting proposals for poster sessions at its 2012 annual meeting. The deadline for proposals is October 24, 2011. The annual meeting will be held February 16-20, 2012, in Vancouver, Canada. The theme will be "Flattening the World: Building a Global Knowledge Society." More information can be found on the AAAS Website: <http://www.aaas.org/meetings/> ■

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INTEGRATIVE PATHWAYS

Come to Grand Rapids Oct. 13-16

Reflect on the roots of interdisciplinarity and integrative learning at the 33rd annual conference of the Association for Integrative Studies. The conference will be October 13-16, 2011, in Grand Rapids, Michigan, at the Amway Grand Plaza Hotel.

The Brooks College of Interdisciplinary Studies and the Liberal Studies Department at Grand Valley State University will host the conference. GVSU is also marking the 50th anniversary of its founding.

The theme of the conference is "Traditions and Trajectories:

Interdisciplinarity and Integrative Learning." Judy Whipps is the conference coordinator.

Dr. Victor Villanueva from Washington State University, author of the award-winning text *Bootstraps: From an American Academic of Color*, will deliver the keynote lecture. Luncheon speakers include Veronica Boix Mansilla from Harvard University's Project Zero and Azfar Hussain from Grand Valley State University.

More information can be found on the conference website, <http://gvsu.edu/aisconference/>.

See you in Grand Rapids! ■

About AIS

The Association for Integrative Studies is an international professional association for interdisciplinary teachers, scholars, and researchers. The use of "integrative" in its name emphasizes the key feature of interdisciplinary activity, namely integration of insights from narrow disciplinary perspectives into a larger, more encompassing understanding. AIS serves as an organized professional voice and source of information on integrative approaches to the discovery, transmission, and application of knowledge. Founded in 1979, it is incorporated as a non-profit educational association in the state of Ohio.

ON THE WEB:

www.muohio.edu/ais

■ WHAT'S NEW

Find the latest news about the Association and integrative studies.

■ CONFERENCES

Link to the 2011 Conference Website and register online.

■ PUBLICATIONS

Find current and past editions of *Integrative Pathways* (formerly the *AIS Newsletter*), *Issues in Integrative Studies*, and other publications.

■ RESOURCES

Resources include the 2nd edition of *Intentionally Interdisciplinary: Master's Interdisciplinary Program Directory*, SOITL section, Peer-reviewed Syllabi, and more.

■ MEMBERSHIPS

Renew for 2012 online.