ISSUES IN INTERDISCIPLINARY STUDIES
Vol. 36(2), pp. 14-44 (2018)

Integrity in Education: William H. Newell in Conversation with P. Sven Arvidson

by

William H. Newell
Emeritus Professor of Interdisciplinary Studies
Miami University

and

P. Sven Arvidson
Director of Interdisciplinary Liberal Studies
Seattle University

P. Sven Arvidson: On the occasion of a 2018 *Festschrift* in *Issues in Interdisciplinary Studies* in honor of your work, I am very pleased that you have agreed to this May 2018 interview to appear alongside the articles in the volume. To prepare, I re-read a dozen or so of your most important works, and read all the others that I had not read before as well. So having now read your oeuvre, I have come to the conclusion that every new co-editor of this journal – heck, every new AIS member! – should be required to read all of your writings.

William Newell: Thanks to ResearchGate.com, anyone can download copies for free of all my publications on IDS [Interdisciplinary Studies] (except the book AIS published in 1986, *Interdisciplinary Undergraduate Programs: A Directory*, which is now mostly of historical interest). [See Appendix for a complete bibliography 1973-2018.]

Arvidson: I have heard it said that the Association for Interdisciplinary Studies (AIS, formerly the Association for Integrative Studies) was founded in 1979 as a radical movement of disenfranchised scholars. Do you consider yourself an academic radical?

Newell: I would characterize the thirty-odd charter members of AIS as pioneering educators of undergraduate students, not disenfranchised scholars.

At the time I fancied myself an "educational radical," but in all of my teaching and program-building throughout my career I was committed to building on disciplines, not rejecting them, and to modifying and working within existing institutional structures, not tearing them down, so "educational liberal" might be a more accurate term. Pedagogically, I was drawn to innovative pedagogies, but again not as a substitute for conventional teaching methods but as a complement. What I did wish to tear down was the status quo – the hegemony of disciplines and disciplinary departments, and exclusive reliance on "sage on a stage" pedagogy. So in retrospect I too was probably more pioneer than radical.

Arvidson: Much of your writing is about higher education, and you have traveled the country many times and throughout the world to consult with people representing interdisciplinary programs of all stripes. How did a liberal arts-educated philosophy major from Amherst College, with a subsequent PhD in economics from the University of Pennsylvania, bloom into the founding leader of interdisciplinary studies in the U.S.? Put another way, how did researching and writing about *Population Change and Agricultural Development in Nineteenth Century France* (1977), your first book and the title of your 1971 dissertation, reflect the interest in interdisciplinarity you'd begun to develop at that time?

Newell: I tried out seven different majors at Amherst in the humanities, social sciences, and natural sciences before settling on philosophy, and for my doctorate in economics I took courses in demography and economic history as well as economics, so my interests have long been broad. For my dissertation I gravitated to the research of Richard A. Easterlin, who was interested in the interrelations of economic and demographic variables in historical context, so one could argue that my dissertation on 19th century France was IDR [interdisciplinary research]. But it was really my first year of teaching, in 1969, when I team-taught a year-long interdisciplinary social science course at Temple University with the anthropologist Judith Goode, that convinced me of the importance of interdisciplinary education. After a semester comparatively introducing the social sciences, our second semester focus on urban problems led us to bring in as guest lecturers city officials charged with addressing different problems. They lamented following the advice of disciplinary experts because it inevitably improved the aspect of a problem of interest to their discipline at the cost of making worse aspects of interest to other disciplines. They all encouraged us to continue work on developing an interdisciplinary approach to understanding urban problems in their totality.

Arvidson: The first European meeting of the annual AIS conference will be in Amsterdam in Fall 2019. What are your thoughts on this historic develop-

ment?

Newell: I'll never forget Machiel Keestra's emotional declaration at the wrap-up session for the Atlanta AIS conference in 2006 that he had finally found his intellectual home and that he would return the following year with more of his colleagues. What I failed to appreciate at the time was how the more pragmatic, applied approach to undergraduate education in Europe, with its focus on solving contemporary real-world problems, would make AIS-inspired interdisciplinary studies appealing to so many other European educators. Given the continuing, complacent unwillingness of bellwether U.S. colleges and universities to rethink the liberal arts to make them more relevant for life in the 21st century, I would not be surprised to see the locus of activity in undergraduate IDS (and thus in AIS) soon shift from the United States to Europe.

Arvidson: You are well-known for your promotion of IDS in the United States, but most AIS members might be surprised how often you have consulted with institutions and scholars abroad, from Europe to Asia and the Caribbean. In your experience, have there been notable differences in how IDS has been conceived and developed inside vs. outside the U.S.?

Newell: Even though the foundational European work on interdisciplinary studies – the OECD's (Apostel, et al., 1972) *Interdisciplinarity: Problems of Teaching and Research in Universities* – listed teaching before research, subsequent thinking there about interdisciplinary studies was mainly in research, typically team research. Discussions of IDS teaching tended to focus on graduate education aimed at preparing students for such research. So it should not come as a surprise that over the last quarter century, interest in Europe has shifted to transdisciplinary studies, with its emphasis on real-world implementation of interdisciplinary insights (and concomitant de-emphasis on more comprehensive interdisciplinary understandings). Nor that countries as widespread as Australia, South Africa, and parts of Latin America have imported this approach. Nonetheless, I have been pleasantly surprised at the level of interest in U.S.-developed approaches to undergraduate interdisciplinary studies shown by teachers in the Netherlands, New Zealand, Hong Kong, Singapore, parts of the former Soviet Union, and most recently Latin America. The United States has been exporting undergraduate liberal education at the same time Europe has been exporting graduate-level transdisciplinary studies. Particularly fascinating are a few Western European countries such as the Netherlands that have been both exporters and importers. As you might expect, AIS has played a major role in these exports as the locus of intellectual activity on interdisciplinary undergraduate education and as a source of consultants. I have found my own work in this re-

gard particularly rewarding, as a nurturer and reviewer of manuscripts (e.g., The Netherlands), dissertations (e.g., England, Canada), courses (e.g., Hong Kong), and grant proposals (e.g., Singapore, Canada). Other work abroad includes being a formal on-site consultant and external reviewer (e.g., Canada, New Zealand, Virgin Islands, Saudi Arabia), IDS representative editorial board member for a London-based journal (*Palgrave Communications*), invited/plenary presenter at conferences in Istanbul, Paris (at the OECD), and on the outskirts of Paris (sponsored by UNESCO), and founding member of INIT (an international network for inter- and transdisciplinary studies) in Utrecht, The Netherlands.

Arvidson: Are there authors, works, or organizations that interdisciplinarians could gain much from right now, but seem to ignore or just don't know about?

Newell: There are a range of kindred professional groups that are unfortunately off the radar of most interdisciplinarians in the United States, such as td-net (transdisciplinary studies), I2S (Integration and Implementation Sciences), SciTS (Science of Team Science), and SPS (Society of Policy Scientists), to name just a few. AIS has encouraged leaders of these groups to submit articles to our journal and attend AIS conferences, we've announced their conferences and sometimes published articles on them in our newsletter, and some AIS leaders have occasionally presented at their conferences or published in their journals. These contacts have been increasingly frequent in recent years, but AIS needs to do much more to explore connections with these groups (especially since it's the only membership organization among them) and to bring potential synergies to the attention of the AIS membership in particular and the IDS profession in general.

Arvidson: In looking at the earliest writings on interdisciplinary studies (IDS), I was impressed that the newly formed organization of AIS, in its first issues of this journal in 1982 and 1983, opened with arguments about whether interdisciplinary study is possible. A gutsy move, but indicative of the kind of "let's figure this out together" attitude that supports and pervades your subsequent work. Thomas Benson (1982), playing devil's advocate, wrote "Five Arguments Against Interdisciplinary Studies." You responded in the next issue with "The Case for Interdisciplinary Studies." In that article, you wrote that before our IDS courses can meet the arguments against interdisciplinary studies, we have two major tasks: "We need to set standards of excellence in the conduct of interdisciplinary study, and we need to train faculty who teach interdisciplinary study in its method" (Newell, 1983, p. 14). It appears that 35 years later we are accomplishing these two tasks well. Would you agree?

Newell: AIS and its leaders have put a lot of effort into training faculty in IDS and its best practices. Most far-reaching in their effect have been the textbooks by Tanya Augsburg, Allen Repko, and most recently, Machiel Keestra and several of his colleagues at the University of Amsterdam, especially when supplemented by so-called Teaching with Repko sessions at AIS conferences. Also of major importance (mostly within the U.S.) have been faculty development workshops offered by AIS consultants at a surprisingly large number of colleges and universities. Off-shoots of those consultancies have been the long-standing Nuts & Bolts workshops before AIS conferences that offer a powerful educational opportunity to faculty attending AIS conferences. Via such means and via the annual conferences, the newsletter, and the journal, we have reached a large proportion of the faculty teaching IDS courses. Having said that, I can't help but be dismayed at the still-substantial proportion of IDS faculty who choose to ignore all those efforts. Of course they may simply share with many of their disciplinary colleagues a suspicion of the professional literature on teaching in general.

Arvidson: I can attest to the power of the AIS conference, since what I learned at my first one in San Diego in 2010 helped me save my program! I'm guessing this is not the first time you have heard someone make an exclamation like this?

Newell: Normally testimonials are less dramatic. Most take the form of "I was appointed to chair this department and was at a loss for how to proceed until I discovered AIS. After reading AIS-inspired publications (or attending an AIS conference and participating in the Nuts & Bolts workshop, or bringing in an AIS consultant), we were able to rethink our courses and requirements and give the department a coherence it never had before. We now have a popular major and the respect of our colleagues."

Arvidson: In the 1980s you were understandably anxious to establish the new field as legitimate. In 1983, you wrote "The Role of Interdisciplinary Studies in the Liberal Education of the 1980s," an article about professionalization (a theme you took up later in Newell, 1998). You say "Before the disciplines can accept interdisciplinary studies as an integral component of liberal education, they must be convinced that interdisciplinary studies are of commensurate quality to the disciplines. This means that interdisciplinary studies have to take on the professional characteristics and organizational structure of the disciplines" (1983, p. 254). To what extent has this organizational structure happened, and what more needs to be done for it to happen more widely and effectively?

Newell: AIS has done quite well in this regard. Indicators of discipline-like structure include an annual conference with vetted presentation propos-

als, a regularly published and indexed journal that subjects submissions to at least two blind reviews and has a substantial rejection rate, a quarterly newsletter, a board of directors with (mostly) elected positions and a regular succession of officers, awards made to candidates for honors evaluated according to established written procedures, quite a number of successful official collaborations with the Association for American Colleges and Universities and with the College Board, and peer recognition via joint conferences with the Association for General and Liberal Studies and the Society for Values in Higher Education. Discipline-like characteristics include longevity (forty years so far and getting stronger not weaker), expansion from a national to an international membership, and a website rich with resources. The biggest remaining challenges to achieving legitimacy in the eyes of disciplines are: (a) to establish formal, on-going, productive relationships with kindred professional groups, and (b) to develop a body of rigorous, scientifically generated, empirical evidence in support of the claims we make about IDS.

Arvidson: I would add to your list of discipline-like structures something that has been important for my program, the *Alpha Iota Sigma* Honor Society for undergraduates in interdisciplinary studies – a very successful initiative.

Newell*:* I was quite ambivalent about the formation of *Alpha Iota Sigma* because of my larger reservations about honor societies. However, if such an honor society would further integrate IDS into the fabric of the institution, get IDS majors to identify more with IDS and AIS, associate IDS with high academic standards in the minds of faculty in the disciplines and administrators, create a new stream of AIS members, and give AIS a means of exerting some influence over the quality of undergraduate IDS education, then I had to support it, even though I did not want IDS or AIS to be perceived as elitist. After all, my main goal has been to make IDS a normal part of *everyone's* liberal arts education. My contention (and Repko's in his texts) has been that the IDS process is challenging but doable by undergraduates in general, and not just by a talented few.

Arvidson*:* In 1986 you compiled *Interdisciplinary Undergraduate Programs: A Directory*, showing the extent to which interdisciplinarity had blossomed in the U.S. education system. In the introduction to that work, as again in your 1997 "Advancing Interdisciplinarity Studies" article with Julie Klein, you reported that women's studies was an area of IDS growth. Now it might seem that women's studies and interdisciplinary studies could have been more collaborative since 1997. In your opinion, are there theoretical or assumptive differences that have kept the two fields moving forward together in disconnected ways, rather than converging somehow? I guess

what I am asking is, how compatible are women's studies and interdisciplinary studies?

Newell: I think Nancy Grace (1996) makes a compelling argument in "An Exploration of the Interdisciplinary Character of Women's Studies" [*Issues in Integrative Studies, 14*] that women's studies programs are often not as interdisciplinary as they claim to be and that they can and should benefit by becoming more interdisciplinary. But I would add that the dual nature of women's studies programs, as centers of activism as well as scholarship and education, ultimately limits the extent to which they can or should try to be interdisciplinary. The very connection with women's movements that gives them vitality and personal engagement also leads them to privilege some perspectives over others, in contrast to the self-consciously neutral approach of interdisciplinary studies that asks us to come up with understandings that are responsive to all contributing perspectives but dominated by none of them.

Arvidson: In your 1988 work "Education for Citizenship: The Role of Progressive Education and Interdisciplinary Studies," you make the point that "the combination of progressive education and interdisciplinary studies…is the best way to educate future citizens" (p. 30). This seems true now more than ever. I am struck by how there seems to be a renaissance, as we head toward the 2020s, of student empowerment and student-centered teaching (along with student-centered curriculum design, support services, living arrangements, etc.). Some think this "progressive education" has become "pandering to students" and we have gone too far in being progressive. What's your take?

Newell: Many years ago driving home from the office I listened to an NPR reporter in New York goading a reformed rabbi to criticize an orthodox rabbi for making a rather extreme statement on abortion. He wouldn't do it. Finally he said, "Look. We need voices of tradition such as Rabbi Shlomo as well as voices of change such as myself if we are to make sound social policy. If Rabbi Shlomo didn't exist, I would need to invent him." Throughout my career I have tried to balance out voices of tradition and change even as I have been strongly attracted to progressive ideas. Indeed, I have argued that one of the (implicit) values of IDS is intellectual balance. It seems to me that current debates about the increasingly student-centered approach to education could use more attention to this value. The critics (especially males of my generation) seem to me to be excessively traditional while some of those proposing new "progressive" policies seem excessive as well. For example, I am all for student empowerment, and I value the motivational effect of giving students more control over their own education. But I think a so-called

"open curriculum" with no foundation or breadth requirements is an abdication of faculty responsibility, especially when advising consists of connecting a student's interests at the moment with the courses that address those interests, for two reasons: (1) Traditional college-age students have brains that are still plasticized, and part of what students are paying for is the judgment of the faculty about what they need to learn; (2) There's no such thing as informed consent in liberal education. Only after students have completed their education are their minds sufficiently prepared to appreciate what they needed to learn. So I continue to believe college students should start out taking a mix of (disciplinary) courses of their own choosing and required interdisciplinary core courses.

Arvidson: You have reviewed over a hundred integrative and interdisciplinary programs of all types over the years. What are several things that good programs seem to get right? What are several things that weaker or less developed programs consistently don't get right?

Newell: Good programs pay attention to interdisciplinarity instead of merely assuming they are interdisciplinary, i.e., they act like self-conscious interdisciplinarians, and they demand the same of their students. Good programs never ask of students what faculty are unwilling or unable to do themselves, i.e., their faculty teach students how to integrate instead of leaving that for the students to figure out on their own (often in a final exam or term paper). Good programs interested in longevity set up collaborative/cooperative agreements with other parts of the institution, offering expertise in interdisciplinarity in exchange for disciplinary expertise, i.e., they integrate structurally into the institution. Many weak or bad IDS programs have their origin in administrative convenience, i.e., in shotgun marriages forcing leftover programs into a single department casually labeled "interdisciplinary." They often include degree completion programs, which are valuable for keeping retention rates high but lower the academic stature of the department. IDS cannot be forced on unwilling or uninterested faculties. Having said that, it has been gratifying to see faculty forced into catch-all departments occasionally decide to take the IDS label seriously and develop interdisciplinary introductory and capstone courses which they then require of their diverse majors as a way of lending coherence and intellectual legitimacy to their department.

Arvidson: You often address the problem of interdisciplinary integration, what it is, whether and how it is accomplished. It seems that in your 1997 work with Julie Klein, "Advancing Interdisciplinary Studies," you threw down the gauntlet for both IDS and integration: "The acid test of IDS is the extent to which integration is achieved in the learning experience of

students" (p. 12). Then a decade later, in 2006, you picked up the gauntlet (thereby accepting the challenge) by recounting and assessing integration by seniors in Interdisciplinary Studies in the Western Program at Miami University in "Interdisciplinary Integration by Undergraduates." J. Linn Mackey (2001) and others had argued that interdisciplinary integration was not possible. Your 2006 article shows interdisciplinary integration can be done and done well. Reading it can be heartening for current teachers just taking on IDS in their programs, since the achievement of integration (or partial integration) should be included in some course learning outcomes. I am curious if the achievement of integration in the learning experience of students is still "the acid test of IDS" in 2018?

Newell: The social scientist and lover of natural science in me still want to focus on constructing more comprehensive understandings of complex real-world problems, understandings that can inform efforts to solve those problems. Nonetheless, I have to admit that strategy implicitly presumes people (policy makers, public administrators or politicians, members of affected interest groups, and the electorate as a whole) make decisions based primarily on reason and evidence. That presumption flies in the face of growing evidence to the contrary compiled by psychologists and behavioral economists. While I still have faith in the *capacity* of humans to act rationally, and in education (especially liberal arts education) to develop that capacity, I must acknowledge the validity and indeed the utility of the strategy of the interdisciplinary humanities and fine and performing arts to provide alternative perspectives and then provoke readers, audiences, and viewers to feel emotionally and then think through a complex issue for themselves. I still see integration as the goal of IDR, and empowerment of students to carry out integration as the acid test of IDS education, but I now appreciate that the integration can also legitimately take the form of provocation.

Arvidson: You sought out and became experienced with experimental colleges early in your career, and of course, the Western College Program you took the lead in developing is a well-known example. The idea of integrative education, as you came to call it, goes hand in hand with these kinds of learning environments. In a number of works, you discuss that integrative education involves bringing insights to bear on complex problems that are not discipline-generated insights, but life-generated insights – drawn from dorm conversations, political activism, service-learning, volunteer positions, and so on. Toward the end of your 1999 work, "The Promise of Integrative Learning," you suggest that a complete interdisciplinary program of study, or one that aspires to be complete in the sense of being an integrated learning experience, should involve either residential learning, service learning,

or a learning community for students. Is one or more of these necessary for a top-notch undergraduate interdisciplinary program?

Newell: Some sort of communal learning experience is essential for top-notch educational programs, whether or not they are interdisciplinary.

Arvidson: Moving to another topic….Many colleges and universities dissociate scholarship from teaching, for example, by under-supporting or even denying full-time faculty funding for presenting at annual conferences by which they keep abreast of developments in their disciplines. This underfunding or denial of funding is especially affecting non-tenure track faculty, as so many are nowadays. It would seem you feel a close connection between the two. How would you characterize the connections between your own scholarship and teaching?

Newell: Teaching interdisciplinary core courses was the crucible in which I developed my scholarly ideas about interdisciplinarity. And the more clarity I got about IDS through my scholarship, the better I was at designing IDS courses for our students. That was most true in my redesign of the senior project workshop, which led to a dramatic improvement in the quality of senior projects and, more generally, in the capacity of seniors to harness and apply IDS process.

Arvidson: "A Theory of Interdisciplinary Studies," published in this journal in 2001, is your most widely read publication. Complexity is the central idea in that discussion of your theory of interdisciplinarity. As you explained, a complex problem or issue is one that invites insights from multiple disciplinary perspectives. If the complex problem is approached interdisciplinarily, the researcher can create common ground and achieve integration, which means constructing a more comprehensive understanding. In your Reply to Stanley Bailis and his critique of your "Theory" article in that same volume of the journal, you say you are working on two things that Bailis is asking for as a kind of demonstration that your theory of interdisciplinary studies is viable (Newell, 2001, p. 138). One is "thoroughly described exemplars" of the connections between complexity theory and interdisciplinary studies. The other, which you say is much tougher, is a "formalism" of complexity theory. I do not believe this latter has been accomplished. But the former may have been. As I review your works, I wonder if you meant the following to provide "exemplars" of the theory?

- "An Interdisciplinary Approach to Web Design" (Smith & Newell, 2004)
- "Complexity, Interdisciplinarity, and Public Administration: Implications for Integrating Communities" (Meek & Newell, 2005)
- "Complexity and Interdisciplinarity" (Newell, 2006)
- "Interdisciplinary Integration by Undergraduates" (Newell, 2006)

- "Decision Making in Interdisciplinary Studies" (Newell, 2007)
- "Complex Systems, Governance and Policy Administration Consequences" (Meek, De Ladurantey, & Newell, 2007)
- "Educating for a Complex World: Integrative Learning and Interdisciplinary Studies" (Newell, 2010)

Newell: The articles on web design, public administration, and undergraduates indeed provide exemplars, but I think of the ones on complexity, decision-making, and education as focused on the theory itself, not on application. The best exemplars published so far have been those included in *Case Studies in Interdisciplinary Research* (2012) that Allen Repko, Rick Szostak, and I edited.

Arvidson: In her response to your "Theory" article, Julie Klein (2001, p. 143) asks if your theory of complexity in interdisciplinary studies is a theory or a metaphor. You respond that seeing it metaphorically could be useful. Can you give an example of what "seeing it metaphorically" might mean? And, to your knowledge, has anyone used it this way?

Newell: The humanist Mieke Bal (2012) successfully treats the theory metaphorically in her *Case Studies* chapter, "Mektoub: When Art Meets History, Philosophy, and Linguistics." I expect such metaphorical treatments will be limited to the humanities and fine and performing arts, where systems thinking is uncomfortable if not anathema. For interdisciplinarians from the social and natural sciences, the theory is no more a metaphor than The Scientific Method is a metaphor for disciplinarians in the natural sciences.

Arvidson: If the concept of complexity is developed or surpassed in the future, what would that development look like, in your opinion?

Newell: I have hoped for some time a science of complexity would develop that uses computer simulations to study the behavior of complex systems by systematically varying the number of variables, the proportion of strong and weak relationships between variables, the degree of nonlinearity of those relationships, and the structural effect of sub-systems. Such a science could be of great value to interdisciplinarians trying to anticipate the behavior of any particular model of a more comprehensive understanding. Instead, complexity studies have increasingly focused on agent-based modeling of complex adaptive systems that is of much less utility to interdisciplinarians.

Arvidson: Early in "Theory," you refer to how your Miami University program divided up areas of knowledge into social systems, natural systems, and creativity and culture (2001, p. 4). This leads me to ask how the organization of knowledge at one's own institution might affect how one does interdisciplinarity or views the role of interdisciplinarity.

Newell: Prior experience in IDS and having IDS embedded in the institution's culture are the primary variables affecting an institution's receptivity to IDS, but also important is the administration and faculty's receptivity to experimentation and change more generally. Some institutions are forward-looking, others more content to build on existing strengths. If becoming or remaining cutting edge is central to institutional culture, IDS can thrive.

Arvidson: In "Decision Making in Interdisciplinary Studies" (2007, p. 261), you state that in interdisciplinary studies, the work is unbalanced if one disciplinary perspective dominates. Your advocacy for balance may sound too idealistic to IDS scholars, teachers, and students. Even while favoring concepts, theories, and assumptions of one discipline, interdisciplinarians may produce useful, more comprehensive understandings of a complex problem, an understanding (integration) that the favored discipline alone could not produce. What's wrong with relying primarily on one discipline in integrative interdisciplinarity, while making sure to use concepts, theories or assumptions from other relevant disciplines in creating common ground and achieving integration?

Newell: If the perspective of one discipline appropriately dominates, then the problem under study is probably complicated more than complex. Much more likely, however, the dominance of one perspective results from the voice of one discipline being permitted to shout down the others (or, garner more attention than the others) based on disciplinary differences in the academic pecking order or differences in rank, reputation, gender, or race/ethnicity among individual researchers on an IDR team. Thus, given the prevalence of these cultural and institutional biases, the dominance of one perspective in a proposed more comprehensive understanding should immediately raise a red flag.

Arvidson: That same year, in "Distinctive Challenges of Library-based Interdisciplinary Research and Writing: A Guide" (2007), you wrote that in a literature review, the interdisciplinary author must bracket or set aside convictions while trying to understand a disciplinary perspective. Critics might claim this neutrality is impossible. How would you respond?

Newell: Year after year I watched our students do it in their senior project research. If they didn't, other students in the senior project workshop would quickly bring the need for neutrality to their attention. More broadly, the possibility of self-imposed neutrality is largely determined by the motivation of the researcher and the research culture. If one's research goal is to prove a position decided on in advance, then bracketing one's convictions is unnecessary (even counter-productive). But if one's goal is to find out what is really happening, then such bracketing is essential. And if the research culture demands

such bracketing, as it does throughout the natural sciences, then bracketing is not only necessary but likely. There are maverick, corner-cutting natural scientists, but the checks and balances of other researchers who test or replicate their work mean they will eventually be caught and their findings corrected. Why should bracketing work any less well so in IDS?

Arvidson: Buried deep in that same work ("Distinctive Challenges of Library-based Interdisciplinary Research and Writing: A Guide," 2007) is a fantastic paragraph that I want to bring to readers' attention. As I read this description of the interdisciplinary process, it starts to sound like a very graceful dance.

> In a sense, one needs to understand each discipline's contribution in the context of all the others. Because interdisciplinary study is about the relationships between parts and whole (text and context) as well as the interrelation of parts, interdisciplinary scholars cannot fully appreciate the whole (or the context) until the parts (or the texts) are understood, but neither are they ready to appreciate the parts apart from the whole. So how does one break into the loop? Parts and whole (or texts and context) cannot be presented simultaneously, so one is forced out of the linear reasoning that works so well in a disciplinary (or single-perspective) context. One starts to think instead about multiple passes through the material at increasing levels of sophistication (starting with a very general, impressionistic assessment of the contribution of each discipline, then in more depth each time), spiraling in through the disciplines from the general towards the specific, repeatedly bracketing the main line of argument to reach back for new parts or jump ahead to an emerging understanding of the whole, or a dialectical process of oscillation between different parts and the whole (as well as between one part and another part). Within that framework, one increasingly understands what each discipline has to say in the context of what the other disciplines have to say, gaining more depth or sophistication of understanding with each pass. (p. 99)

When you picture or imagine IDS processes, are they like a dance, and if so, what kind, or is there another analogy you favor?

Newell: Dance serves as a lovely aspirational metaphor for team IDR. Since my career was focused on teaching undergraduates, my mental image is of seminar discussions in one of my interdisciplinary courses, which were more like the movement of a pinball bouncing from one disciplinary perspective to another, from this week's reading to a previous week's, from the insights of a discipline to its underlying assumptions, and from connections

to students' lived experience to the effects on humanity. I could exercise a bit of control over the movement of the ball by flipping the little handles at strategic moments, and of course, I had designed and set up the pinball machine to meet the needs of the interdisciplinary class in the first place. But students controlled whether and how well the machine operated, and provided most of the impetus for the movement of the ball.

Arvidson: Re-reading your substantial article – "The Intertwined History of Interdisciplinary Undergraduate Education and The Association for Integrative Studies: An Insider's View" (2008) – was delightful! Any AIS members who have interdisciplinary fire in their hearts should make reading it a priority, in my opinion. It is clear that as IDS was developing you strove to connect this field with diverse fields and movements: public administration, critical thinking, civic learning, experimental higher education, multiculturalism, study abroad, living-learning, experiential education. What was your overall strategy in making these connections?

Newell: Two strategies, actually. The initial one was to bring out commonalties (amid differences) between IDS and other curricular or pedagogical innovations to create common ground with other innovative educators in order to promote acceptance and collaboration. It didn't take long, though, to discover that such comparisons also helped clarify our understanding of interdisciplinarity.

Arvidson: What were the commonalities between IDS and other fields and practices, including innovations in higher education?

Newell: I tried to address this question in my "Powerful Pedagogies" (2001) chapter. My claim was that these curricular and pedagogical innovations are not only mutually compatible but synergistic: They all draw from multiple, diverse perspectives (though the source of the perspectives varies with the pedagogy), seek to integrate their insights, implicitly embody common liberal values, and are mutually reinforcing. The label I gave to these commonalties was "integrative learning."

Arvidson: It is very easy to see you as a historian, in addition to an interdisciplinarian. Not just because of works like "Intertwined History" (2008), but a number of others as well. I am curious if this attention to history comes naturally for you or is it something you found you needed to cultivate in order to fight the good fight to establish IDS as a field?

Newell: I am not a very good historian but an avid student of history. I'm not interested in an historical period in its own right and am pretty poor at remembering and organizing large numbers of facts. My interest in history is partly as a laboratory for testing out generalizations about the present and future – to see if they pass the "smell" test when applied to the past. I'm

more interested in history, though, because it provides context for understanding the present. Still, those professional explanations don't account for why I'm much more interested in contextualization across time than space. Why not geography? Perhaps my lifelong fascination with origins and roots comes from growing up entirely within the geographical confines of Vermont, which was rich in history.

Arvidson: In the "Intertwined History" (2008) article, there is a fascinating account about your first meeting with Julie Klein.

> Well into the Ramapo conference [AIS, 1983], I attended a session on interdisciplinary studies in the humanities by a woman new to AIS, and I was blown away. Unlike the tightly reasoned but slightly dry and closely scripted presentations by fellow social scientists, Julie Klein offered up an inspiring pastiche of ideas about interdisciplinary studies, painted seemingly extemporaneously with a broad brush wielded by a master. I actually did not follow much of what she was saying, but she was brilliant, enthusiastic, energetic, and inspiring. That summer, Julie conducted her own national tour, interviewing interdisciplinarians (including Douglas Hofstadter, author of *Gödel Escher Bach*) for what became *Interdisciplinarity: History, Theory, and Practice* (1990). We spent a couple days in my study debating the nature and practice of interdisciplinary studies. I realized afterwards that the reason I had not understood what she was saying in her conference presentation was that we had rather different understandings of interdisciplinarity – hers based in the humanities and fine arts, mine in the hard social sciences and the conference at which AIS was founded. By the end of our discussions, however, we had narrowed the gap enormously, and a highly productive long-lasting collaboration on interdisciplinary studies was underway that ended up spanning three joint articles and numerous projects over the next quarter century. (2008, pp. 24-25)

Just recently, Julie (2016) edited that wonderful homage appearing in *Integrative Pathways*, the AIS newsletter, on the occasion of your stepping down as Executive Director. That you each come from very different disciplinary origins and have found much common ground in AIS and IDS is a remarkable story – another kind of intertwined history perhaps?

Newell: Julie and I are both entrepreneurial networkers, but her mind is encyclopedic and concrete whereas mine is theoretical and abstract. So we complement one another nicely. We both come out of the experimental college movement of the 1960s – she from Montieth College and then the Interdisciplinary Studies Program at Wayne State University, me from the Para-

college at St. Olaf College and then the School of Interdisciplinary Studies (Western College Program) at Miami University. So we share a similar set of values, sensitivities, and sensibilities. Considering that we respect and like each other, it's not surprising we became friends, even though we've gone off in somewhat different directions.

Arvidson: You also write in "Intertwined Histories" (2008) about an important difference in definition of IDS between you two. My question is, does this difference remain, in your opinion? Asked another way, is the following description of the difference from that article still valid?

> While Julie and I collaborated frequently and I fully supported the exposure of our membership to diverse perspectives on interdisciplinary studies, she tended to see these diverse perspectives as ends in themselves whereas I saw them as a means of enriching our understanding of interdisciplinarity. Underlying this difference was a more fundamental difference in our understanding of interdisciplinarity: She believed there are many interdisciplinarities whereas I believed there is a single interdisciplinarity that can take many forms or guises. If there are many interdisciplinarities, I wondered, what do they have in common that gives meaning to the word "interdisciplinary"? She felt that commonality is integration, whereas I thought there must be some common process as well (since interdisciplinarity is at core a process). This issue about pluralism of interdisciplinarity reemerged in *Mapping Interdisciplinary Studies* (Klein, 1999) where she expanded on the relationship between integrated knowledge and diversity by arguing that the concern for pluralism applies to interdisciplinary knowledge itself, manifesting itself in the different forms of "instrumental" and "critical" interdisciplinarity. (2008, p. 34)

Newell: I don't know whether Julie agrees with that description, but it still seems apt to me.

Arvidson: Speaking of differences in interpreting IDS, I am interested in a Newell/Repko difference. Like many others, I initially learned IDS by teaching from Allen Repko's *Interdisciplinary Research: Process and Theory* (2008). You wrote in "Intertwined Histories" (2008, pp. 44-45) that you mentored Allen in writing his first version of this work in 2005, as well as Tanya Augsburg in writing the first version of her *Becoming Interdisciplinary: An Introduction to Interdisciplinary Studies* (2005). Whenever I read what you wrote about IDS and higher education near the end of the 2000s, I can almost feel the relief on the page as you were now able to direct IDS educators to these classroom texts (which have now gone through subse-

quent editions and have been joined by other quality IDS classroom texts). In your 2013 article, "The State of the Field: Interdisciplinary Theory," you point out there is a Newell/Repko difference in modeling the interdisciplinary research process, based on how complexity theory is interpreted. You note that Repko's "Broad Model of Interdisciplinary Research" leaves out an important step.

> My version of interdisciplinary process, grounded in the nature of complexity, includes a separate step of identifying linkages between variables or phenomena studied by different disciplines, as no single discipline is likely to have studied them. Repko's process, however, makes no mention of these linkages between the subsystems studied by different disciplines. The difference in scholarly activity utilizing each process could turn out to be the difference between comprehensive understandings that solve complex problems and those that fail to do so. (p. 33)

How does this Newell/Repko difference matter for researchers, and does it matter at all for undergraduate teachers who might be using Repko's "Broad Model" to help students do research?

Newell: Allen and I are in complete agreement on IDS process, the last I knew. But he is constrained in his textbooks by the current state of the art whereas my publications focus on what IDS ought to be. When he published the first edition of *Interdisciplinary Research: Process and Theory* in 2008, the IDS profession had little if anything to say about identifying linkages, so we agreed he should leave that step out. He has been able to include a lot more on constructing a more comprehensive understanding in the 2nd [2012] and 3rd [2017] editions, but identifying linkages remains uncharted terrain.

Arvidson: Re-reading your chapter on the Miami University, Western Program collapse that opens the 2009 book edited by Tanya Augsburg and Stuart Henry, *The Politics of Interdisciplinary Studies: Essays on Transformations in American Undergraduate Programs*, I was disheartened all over again. If the presence and work of such a significant leader can't keep an IDS program from closing, what chance do the rest of us have when a program starts going south?

Newell: Integrate, integrate, integrate. Tie your program so closely into other programs that no new administrator can come along and lop it off without ripping apart the fabric of the larger institution. To accomplish that feat, the faculty of the IDS program need to be clear about its distinctive strengths, including those that distinguish it from other so-called IDS programs such as American Studies, Women's Studies, and Environmental Studies. For me that distinction is a focus on interdisciplinary process and

all the skills it requires. (I took a first cut at identifying those skills in my (2007) chapter on decision-making in interdisciplinary studies, and Repko lays them out in more detail in his textbooks.)

Arvidson: In "Educating for a Complex World: Integrative Learning and Interdisciplinary Studies" (2010), you use complexity theory to look at integrative education. You show that the problem of goodness in education – making education into good education, which, if I am reading correctly, is synonymous with integrative education – is itself a complex issue deserving of consideration by interdisciplinary researchers. Integrative education features outside-of -classroom experiences. You say,

> We need to define integrative learning as outside-the-classroom activity (off as well as on campus) that provides students with certain types of experiences that facilitate the integrative process, experiences through which they are confronted with new perspectives and are challenged to integrate insights from divergent perspectives. (2010, p. 8).

A reader might expect more discussion about the possible resulting integrity (in the sense of good character) for students, professors, and programs. When you think about integrity in an interdisciplinary curriculum, or good character promoted by such a curriculum, what might integrity and good character mean and what are some ways they could be encouraged?

Newell: I wouldn't want to argue that IDS is essential to good character or integrity, though it leads to a set of liberal values I stand for, such as open-mindedness, empathy, intellectual balance (perhaps even good judgment), diversity, seeking out ambiguity, strong-sense critical thinking (in which the critical gaze is turned inward to ask yourself why you believe what you believe), and (perhaps most difficult for most people) seeking out the weaknesses in the positions you endorse and the strengths of those you do not. And I concur that integrative learning is at least highly desirable for good education, though I have encountered at least one "sage on a stage" who greatly stimulated my mind and from whom I learned a lot, so I would prefer to argue that integrative learning is a highly valuable complement to more traditional pedagogies.

Arvidson: In "The Road from Interdisciplinary Studies to Complexity" (2011), you look back at how the idea of complexity came to be a centerpiece for your theory of IDS. In this article, you often refer to your earlier search for a theory or philosophy of IDS, and how they emerged from your search. But this disjunction (theory *or* philosophy) made me want to ask what a philosophy of IDS might look like and how it might be different from a theory of IDS? You recount in this 2011 article how you cycled

through some promising philosophers and philosophies as candidates for a foundation of IDS: Hegel, phenomenology, hermeneutics, and pragmatism (Dewey, Peirce, James). You observe that "Indeed, I later came to believe that interdisciplinary studies offer the process the pragmatists were seeking early in the twentieth century" (p. 6). Does this make pragmatism the default philosophy for IDS?

Newell: I never found a recognized philosophy that fully fits the interdisciplinary approach, i.e., that fulfills all the needs of interdisciplinarians, though American pragmatism comes closest. That may be because IDS is itself a hybrid, demanding synthesis and analysis, both/and as well as either/or thinking, and holistic as well as reductionist thinking. I think of IDS as a kind of East meets West thinking (though with a clear Western bias), and I haven't found a philosophy that eclectic. Absent an entire philosophy, the best I could come up with was a theory.

Arvidson: I'm all for more employment of philosophers! In your "Conclusion" of *Case Studies in Interdisciplinary Research* (2012), a book you edited with Allen Repko and Rick Szostak, you point out that when you taught interdisciplinary research to undergraduates, they conducted separate projects and consequently did not see themselves as part of a collective, ongoing interdisciplinary effort. What are some things we can do to get students to feel connected to disciplinarians they are drawing from, and to other undergraduate interdisciplinary researchers?

Newell: The two-semester senior project workshop I developed made students feel connected with each other – in fact it promoted a strong sense of community and spirit of collegiality. The sequence of assignments made them appreciate the commonalties in the challenges they all faced as interdisciplinary researchers, and seminar discussions of their progress reports on those assignments proved quite helpful even though the projects went off in as many directions as there were students in the workshop. Making them feel more connected with the disciplinary scholars on whom they drew was more challenging but also proved doable. The main curricular vehicle was the literature review (really a set of literature reviews, one for each topic or issue), which for many students was the most challenging assignment in the course. They began to see disciplinary authors as engaged in an on-going conversation, and by contrasting the contributions of authors from various disciplines they began to see the limitations as well as the strengths of each author. And when they finally got to the point where they realized they had a unique contribution to make to those conversations, they discovered to their delight that they felt like a peer, albeit a neophyte.

Arvidson: One fascinating issue you write about in that "Conclusion" is

the place of the humanities and fine arts in interdisciplinary studies.

> Full integration is seldom wished for in the fine and performing arts, and by extension in the humanities disciplines wishing to respect the deliberate ambiguity inherent in the art objects they critically examine. Rather, the art object/text sets up integration and (usually implicitly) offers prompts that suggest some starting points for viewers to engage in integration themselves. (Newell, 2012, p. 301)

How is this *integrative* interdisciplinarity? How does a phrase such as "interdisciplinary humanities" makes sense?

Newell: Coming from a background in undergraduate teaching, especially from directing senior project workshops, I thought in terms of solo interdisciplinarians who undertake the entire IDS process on their own. More exposure to team IDR forced me to expand my thinking about that process by envisioning individual scholars contributing to a group that is collectively engaged in the IDS process as a whole even though some of its members do not participate in the entire process. And more exposure to the interdisciplinary humanities and fine and performing arts led me to a further expansion of my thinking in which I came to understand that the interdisciplinarian in these fields collaborates with a readership, audience, or viewers to jointly engage in interdisciplinary integration (more accurately, a range of integrations). The interdisciplinary humanities gave me a more dynamic way of viewing interdisciplinary integration.

Arvidson: In "The State of the Field: Interdisciplinary Theory" (2013), you list your top ten best practices for conducting and teaching interdisciplinary studies (p. 30). They are:

- Assume every disciplinary perspective has at least a kernel of truth.
- Look for strengths in arguments you dislike and weaknesses in those you like.
- Seek commonalities, i.e., win-win situations, not compromises.
- Think inclusively (both/and) as well as dualistically (either/or).
- Strive for balance among disciplinary perspectives.
- Be responsive to all perspectives but dominated by none of them.
- Think of an interdisciplinary course as covering perspectives the way disciplinary courses cover subject matter.
- Be explicit in drawing insights from disciplines.
- Be explicit about interdisciplinary process.
- Serve as a model interdisciplinarian for students; you can be a guide or coach but not the expert.

Would you add any more to this list now? Would you modify existing ones?

Newell: Still looks good to me.

Arvidson: You end your "The State of the Field" article with considerations of transdisciplinarity and science of team science (2013, p. 36). What is the logical relationship between these two and IDS?

Newell: Transdisciplinary studies (of the td-net variety) is conceptually broader and could logically subsume IDS. But in practice transdisciplinarians pay relatively little attention to the conceptual, intellectual, and educational challenges that are the focus of IDS. And science of team science overlaps with IDS but excludes solo interdisciplinarians and marginalizes the humanities and fine and performing arts and even the social sciences. So each of these (and a number of other) kindred groups have strengths and weaknesses. I wouldn't give primacy to any one of them, though only IDS has a membership organization in AIS. So an alliance seems more appropriate than a hierarchy, especially as these groups are still largely incommensurate.

Arvidson: A couple of more personal questions to end, if that's all right?

Newell: I seem to have survived the professional ones, even though you led me into every minefield you could find, so why not?

Arvidson: No explosions yet! One would have to suppose that the larger academic community in the U.S. was not always an ally for what AIS was trying to do, and still might not be as accepting and supportive as it ought to be of interdisciplinary studies. Were there times when you felt like giving up on the whole enterprise? How did you keep going in the toughest times?

Newell: I was always an outsider growing up. I lived five miles outside town with no one my age within a mile, was smart when that wasn't cool (at least till senior year in high school when classmates suddenly realized that intelligence could lead to a better job), and was fascinated with the world of ideas. Even at Amherst I was an outsider, coming from Appalachia North (as the Kennedy administration labeled rural Vermont) and an academically weak high school with no AP and few college-prep courses and only a few graduates who went on to college, let alone to the top small private liberal arts college in the country, and with parents who were blue collar workers without a college education rather than members of the professional and managerial class. So I felt right at home being an outsider in my chosen approach to education. Giving up never occurred to me because I came to realize that IDS is an essential component of a college education. Instead I became a born-again interdisciplinarian.

Arvidson: What do most people not know about you as a scholar, as a teacher/mentor, as a person, and might be surprised to learn?

Newell: Try picturing me with a canoe on my shoulders, a #4 Duluth Pack

on my back and a #3 Duluth Pack on my front, trudging through swampy Yum Yum Portage swatting at mosquitoes (the state bird of Minnesota). Or backpacking 24 miles in one day on a solo tour of the southern half of Yosemite National Park. Or leading a seminar discussion with my son Jamie in diapers on my shoulders and his older sister Silvia playing quietly in a corner of the room (while critically monitoring the conversation). Or playing soprano and alto recorders in the music department's renaissance consort. Or arriving at AIS Board meetings with a case of wine from my wine cellar and two boxes of wine glasses.

Arvidson: Imagination is a big part of being a successful interdisciplinarian since it is needed for recognizing a topic as complex, taking on disciplinary perspectives, creating common ground, and constructing a more comprehensive understanding. So, finally – and playfully – who would play you in the film "The Bill Newell Story" and where on earth or fantasy earth, if you like, would it be set?

Newell: Paul Newman (and only in part because he is safely deceased). I'm thinking of his roles in Cool Hand Luke, Butch Cassidy and the Sundance Kid, and The Sting, but also his comment about being faithful to his wife (Why go out for hamburger when I can have steak at home?), his education at Kenyon College, and his Newman's Own brand that has proved an enduring legacy.

Biographical Notes: William H. Newell is Emeritus Professor of Interdisciplinary Studies at Miami University, where he taught interdisciplinary courses full time in the School of Interdisciplinary Studies (Western College Program) from 1975 until his retirement in 2012. He holds an AB in philosophy from Amherst College and a PhD in economics from the University of Pennsylvania. He was the founding president of AIS in 1979 and, starting in 1983, served first informally and later formally as executive director until 2016. He also edited the AIS newsletter from 1983 to 2013 and continues to serve as treasurer of the organization. He has consulted on interdisciplinary course development and teaching and conducted external reviews of interdisciplinary programs at well over a hundred colleges and universities. He has published numerous articles and chapters on interdisciplinary higher education. He can be contacted at newellwh@miamioh.edu.

P. Sven Arvidson is Associate Professor and Director of Interdisciplinary Liberal Studies at Seattle University, where he is also the founding coordinator of the Consortium of Interdisciplinary Scholars. He is Senior Faculty Fellow in the Center for Faculty Development. His interdisciplinary research centers on human nature, ethics, and pedagogy. His most recent books include *Teaching Nonmajors: Advice for Liberal Arts Professors* and *The Sphere of Attention: Context and Margin*. He received his MA and PhD in philosophy from Georgetown University, MA in psychology from Duquesne University, and BA in human development from St. Mary's

College of Maryland. He has been co-editor of *Issues in Interdisciplinary Studies* since 2017. He can be contacted at arvidson@seattleu.edu.

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