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THE INTERTWINED HISTORY OF INTERDISCIPLINARY UNDERGRADUATE EDUCATION AND THE ASSOCIATION FOR INTEGRATIVE STUDIES: An Insider's View

by

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Abstract: This article separately chronicles the history of the Association for Integrative Studies and the history of interdisciplinary undergraduate education in the United States from the 1960s through the first decade of the new millennium. The chronicles are separated into decades and told from the author's viewpoint as a continuous participant in those events.

Introduction

It is difficult enough to write in a hybrid form, since the audience of each parent form has different expectations and different professional standards. But what you are about to read is a three-headed monster: part institutional history, part intellectual history, and part personal narrative. Institutional histories are, in turn, both narrative and repository of information. I was

commissioned to write a combined history of AIS and IDS because the editors believe the two are inextricably interconnected. The implicit issue that drives the two histories is this, are the editors correct? I urge you to read with that question foremost in your mind, especially since I defer my answer until the conclusion. The decision to compound the challenge by integrating my personal narrative into those histories was my own, so it merits more explanation. (a) My main motivation was to write about what I know best, my own personal experience, which happened to intersect almost continuously with both sets of events. (b) I believe intellectual histories come to life only when readers can encounter the thoughts of individuals involved. (c) My professional life serves as a narrative thread through each history and as a source of links between them. (d) Writing about my personal experience gave me an excuse to tell some good yarns. (e) Given my visibility in the interdisciplinary studies profession, my personal narrative may be of interest to some in its own right (though I'm not going to push that rationale very hard).

Since one of the purposes of this article is to preserve facts for posterity, some sections are filled with names, places, and dates. These details not only make for a more complete history, they often prove to be of significance later in the narrative. And they often form the basis for an illustrative and hopefully entertaining story.

The overall structure of the narrative goes back and forth between the history of undergraduate interdisciplinary education and the history of the Association for Integrative Studies, one decade at a time. Fasten your safety belts.

Interdisciplinary Undergraduate Education in the 1960s

While trying to finish work on my dissertation in economics at the University of Pennsylvania in the spring of 1969, I was hired to teach two sections of principles of microeconomics and one section of a two-semester team-taught interdisciplinary social science course at Temple University. I had never taken an interdisciplinary course before, much less taught one, but I had been excited about interdisciplinary education ever since I read the plans for Hampshire College[1] in William Patterson's *The Making of a College* (Patterson, 1966).

If the late 1960s was a time of open-ended societal possibilities, epitomized for me by the experimental college movement, it was also full of such turbulence that I feared American society—possibly the entire Western world—might be torn apart by social, political, cultural, racial, and generational clashes. The giddiness of reinventing America as a Great Society in the wake of Kennedy's New Frontier was sobered by race riots in the summer of 1968 and by radical protests against the war in Vietnam. A vigorous young presidential hopeful and a charismatic civil rights leader were slaughtered by assassins. Cities like Paris and Mexico City had seen violence and social chaos fully as unsettling as I had witnessed in Philadelphia, and Russian tanks had just crushed Czechoslovakia's bid for freedom in the Prague Spring. I told myself there had to be better ways of promoting societal change, ways that reformed society instead of demolishing it or unleashing a conservative backlash.

I was surprised as well as delighted at being offered a chance to team-teach an interdisciplinary course at a regular university. Interdisciplinary courses were offered only in experimental colleges like Hampshire, I assumed, or at non-traditional institutions such as Bennington College (which I knew by reputation from growing up in southern Vermont). Since the course was to draw upon all the social sciences, I was thankful to be the junior teaching partner with the anthropologist Judith Goode instead of being asked to design the course myself. I had never taken a course, undergraduate or graduate, in anthropology, political science, or sociology (all of which were to be included in the course)[2] so I needed an introduction to those disciplines myself. It never occurred to me, though, to question my appropriateness for teaching such an interdisciplinary course; after all, everything about teaching was brand new to me. I had given a grand total of one undergraduate lecture at Penn and graded one set of exams by way of training for a career in teaching.

Our two-semester interdisciplinary social science course focused on urban problems already familiar to our largely native-Philadelphian students, problems such as transportation, housing, and infrastructure (water, sewer). We introduced the students to the various social sciences in the first semester and applied them to urban public policy on those issues in the second semester.

We believed students needed a firm introductory-level grasp of the relevant basic concepts and theories of each discipline; however, we discovered that many of them also needed help with basic academic skills such as reading and writing. We put at least as much time into individual tutoring on academic skills as we did into class lectures on the various social science disciplines. Our treatment of disciplines was serial and rather conventional: We presented the concepts and theories of each discipline separately (with an occasional nod to similarities and differences in research methods); we

did not probe the disciplinary assumptions underlying them; and we made no attempt to integrate their insights**.** Our concerns were faithfulness to each discipline and relevance to urban problems. Even so, my new-found expertise in neo-classical economic theory was repeatedly and unsettlingly challenged by theories of other social sciences (though I was too preoccupied with immersing myself in the other disciplines to give those challenges much thought at the time).

Second semester we brought in a number of guest lecturers, a mix of academic experts on particular urban problems, policy makers from city or regional government, and practitioners who attempted to implement those policies. The experts analyzed each problem from the perspective of their particular social science discipline, while the policy makers and practitioners lamented past efforts to solve urban problems by following the advice of experts. They reported that the recommendations of disciplinary experts led to failed policies because they did not take into account aspects of the problem studied by other disciplines. They also pointed out how urban problems are interrelated, making it difficult to solve any one without taking others into consideration.

The approach that Judith and I took to interdisciplinary education represented one end of the spectrum, and we knew it. Perhaps because of our backgrounds in the social sciences, but partly I suspect because of how we responded to the glaring and tumultuous societal problems of the day, we focused on solving large real-world problems (though only by contrasting proposed disciplinary solutions) and consciously rejected the view often associated with nontraditional institutions of interdisciplinary as undisciplined. We were not seeking freedom from disciplines, only from their constraints. Indeed, we focused on mastering disciplinary concepts and theories, not on critiquing them much less challenging the legitimacy of disciplines themselves. And we valued the acquisition of skills over self-expression and expected students to become informed before they formed an opinion.

My own attraction to interdisciplinary education involved much more than the prospect of drawing on diverse disciplines and applying them to real-world problems. I was at least as concerned with political ideologies that presented themselves as the one right way of thinking. It seemed to me that student radicals rabidly opposing the war, capitalism, and American society in general were just as problematic as conservatives from Main Line Philadelphia society who mindlessly repeated jingoist phrases like "America, love it or leave it." Whichever group I was in at the moment (and in my personal life I bounced back and forth between them), I felt the urge to

play devil's advocate. Each had a point of view that could not be dismissed out of hand, but neither provided a sufficient basis for a credible analysis of the societal issues under debate. Moreover, I was keenly aware that the individual social science disciplines we taught to students had built-in predispositions for particular political ideologies: Economics felt conservative, sociology appeared liberal to radical, and political science seemed split into ideological factions, each with its own set of concepts and theories. We did not discuss these political overtones with students, but I became increasingly dismayed by systems of belief that claimed to corner the market on Truth, whether they were promulgated by disciplines, political parties, organized religions, or cultures. Indeed, I was disappointed that most people I knew even felt the need to embrace such ideologies, and I suspected their motivation was more social than intellectual.

Interdisciplinary Undergraduate Education in the 1970s

A. The Paracollege at St. Olaf College

I was in a tenure-track position at Temple but wanted to work at a more prestigious institution, preferably one with greater opportunities for experimental education, so I went back on the job market the following spring (1970). Even so, I limited my search to economics departments at mainstream institutions instead of applying to experimental colleges like Antioch. (I had visited Antioch as part of a college tour my junior year in high school, but it seemed to me more focused on radical politics than a first-rate liberal arts education.) I found the ideal combination at St. Olaf College in Northfield, Minnesota, where I was hired to teach one-third time in the economics department and two-thirds time in the newly-established Paracollege.

Though I did not realize it at the time, I now see the Paracollege as part of the second cohort of experimental colleges and cluster colleges (Gaff, 1970) that formed the majority of the 1960s interdisciplinary studies programs in the United States. Several experimental colleges had been established nearly half a century earlier, a surprising number of which (including Antioch, Bard, Bennington, Goddard, and Sarah Lawrence colleges) are still with us today (Coleman, 2001). Most of these experiments reflected the vision of a single educational theorist or charismatic leader such as John Dewey, Robert Maynard Hutchins, or Alexander Meiklejohn. In the 1960s, literally hundreds of similar experiments in higher education (Grant & Riesman, 1979) sprang up, flourished, and in many cases then died out just as quickly (Trow, 1984/85). Many of them were cluster colleges and almost all of them

were faculty-driven. Culturally the decade of the 1960s extended into 1970 and 1971, and institutionally several new nationally prominent experimental colleges—such as The Evergreen State College, Hampshire College, and the University of Wisconsin at Green Bay (Rosenzweig Kliewer, 2001)—and a few cluster colleges began at that time. The Paracollege was one of those cluster colleges.

Like all cluster colleges, the Paracollege was an experimental program inside a larger, traditional institution. Specifically, it was a four-year, residential program offering courses (some of which were more or less interdisciplinary) across the humanities, social sciences, and natural sciences. It was modeled on the Ox-bridge system (referring to the British universities of Oxford and Cambridge), in which students advanced towards their baccalaureate degree by passing batteries of academically rigorous examinations and then writing a thesis; the faculty members were called tutors. The first set of exams (so-called general exams), typically taken at the end of the second year, met the general education distribution requirements of St. Olaf College. With the aid of a faculty advisor, students designed individualized majors, and the second set of exams met the College requirements for majors. The program culminated in a senior project that could be interdisciplinary.[3]

We offered interdisciplinary freshman seminars focused on developing reading and writing skills, an introductory course each to the humanities, social sciences, and natural sciences, and the occasional topical seminar. The introduction to the social sciences course evolved considerably over the next few years: from lectures on theory and methodology followed by short courses in individual disciplines (not unlike the disciplinary modules Judith Goode and I had taught fall semester in our interdisciplinary social science course), then discussions on a choice of interdisciplinary themes, and finally individual research (1970); to a sequence of societal problems in urban America viewed comparatively from several disciplines, followed by short courses in individual disciplines (1971); to a Social Science as a Discipline course on theory and underlying assumptions, methodology, and philosophy with due attention to differences within and between disciplines (1972). Mostly, though, we met in tutorials with our advisees (sometimes as a group but often one-on-one). After all, education in the Paracollege was individualized, with students choosing which disciplines to study within the humanities, social sciences, and natural sciences, and what topics or issues they would immerse themselves in; and they were graded on their performance on exams tailored to their interests, not on performance in courses.

Consequently, I was seldom able to find enough students interested in the same topic to offer a seminar on it.

After my first year as a tutor, Paul Fjelstad (a founder of the Paracollege) and I became concerned that students working towards their general exams were focused on familiarizing themselves with disciplines without regard for how to integrate their insights. With the endorsement of our colleagues, we designed an integrative exam that was added to the battery of general exams. One year, students taking the integrative exam had the option of reading an article from *Scientific American* on the use of the bristly cone pine in radiocarbon dating and then writing an essay identifying the ways it drew on and contributed to the humanities, social sciences, and natural sciences.

Since most Paracollege students focused on topics, issues, or fields of study, not on individual disciplines (though they could demonstrate competence in quite a few of them), they moved with ease among the disciplines. But during my first two years, with the exception of the integrative exam, interdisciplinarity was never singled out by either students or tutors but instead was treated as part of an interconnected package of innovations. Those innovations included individualized student-centered learning, residential learning, and experiential or field-based learning (often including study abroad). They were loosely associated as well with social and political activism (mostly left of center), unabashed intellectuality, critical thinking in every realm of students' lives, rejection of traditional roles, and blurring of lines of authority (including between students and teachers), and often with recreational use of drugs. In these regards, the Paracollege had much in common with other experimental colleges and cluster colleges. Where it may have differed from some was in its academic standards, which were as rigorous as they were flexible. As one colleague observed, "If a student contends he can get his general education while canoeing in the North Woods, he's free to do so; but then he has to come back and pass the general exams."

In January of my third year (1973), a fellow tutor David Lightner returned from the National Symposium on Experimental Higher Education, hosted by Johnston College at the University of Redlands, full of enthusiasm for interdisciplinary education. He circulated a paper by Joseph W. Meeker from Kresge College at UC-Santa Cruz extolling interdisciplinary education (Meeker, 1973), and argued that the Paracollege was uniquely situated to pioneer interdisciplinary education. He proposed that we redesign our freshman seminars to make them explicitly interdisciplinary across the humanities, social sciences, and natural sciences (instead of more narrowly focused on a topic in the area in which that tutor was trained), and that all

our upper-division seminars should be interdisciplinary. Even though some new tutors drawn from within the College were skeptical—interdisciplinary education takes too much time—his proposal was preliminarily endorsed at a faculty retreat a month later. As a way of testing the waters, a new first-year course, Liberal Arts I: On Being Human, or What is a Human Being? was piloted that fall by faculty from all three areas, but its stated objectives were breadth, interrelations, comparison/contrast, and familiarity with the perspectives of the various disciplines, not the integration of their insights. The structure of the course, in which a different topic was discussed each week, reveals that the question in the course title was treated as a thematic thread, not the substantive focus of the course.

The faculty and administration of the Paracollege were quite conscious of the fact that we were part of a national movement. My first year, David Wee, a tutor from English and a co-founder of the program, served as our representative at an earlier experimental college national conference at Johnston College. My second year, I was one of several faculty and student representatives who drove to Lincoln, Nebraska, for a similar conference hosted by Centennial College of the University of Nebraska. My overall impression of the students from other experimental colleges was that they tended to be enthusiastic, often bright and inquisitive, but somewhat flaky. Everyone there, though, was passionate about experimental higher education and intensely eager to learn as much as possible about kindred institutions.[4] Other than a pamphlet or two, however, the Paracollege relied almost exclusively on word of mouth for information about other experimental colleges. Luckily, we were able to supplement our information on experimental higher education with a visit by Jerry Gaff, who had firsthand knowledge of a wide range of programs. There seemed to be no information available on interdisciplinary studies, however, much less on interdisciplinary integration, so our approach to it was entirely ad hoc.

The information on other cluster colleges provided a national context for our endless deliberations on the design and operation of our program. My years in the Paracollege were the first four full years of its operation (since the preceding year was cut short by a student strike), so we needed to do much more than design and teach courses. We needed to create an institution. Weekly faculty meetings were long and decisions were intensely debated, since even the smallest details of structure and policy seemed fraught with important implications for the nature of the program, if not for the future of American higher education. I did not realize it at the time, but in retrospect it seems clear that we (like our peers at the other experimental colleges and cluster colleges) were attempting to construct a utopian educational community. Interdisciplinary education in first-generation interdisciplinary programs (see Augsburg et al., 2009) was embraced as an axiomatic element of the experimental college movement, but it was rarely examined closely or critically. (See Newell et al., 2003.)

B. The Western College Program at Miami University

The Paracollege was a wonderful place to learn about experimental higher education and gain some experience in interdisciplinary teaching. However, St. Olaf College was not the best fit for me. It was unabashedly Norwegian and Lutheran; I was neither. It turned out that the administration of the College agreed with that assessment. When we underwent an institutional review in my fourth year, a deal was reputedly struck that the Paracollege could become a continuing part of St. Olaf College if the young untenured faculty members it had brought in, who were seen by the old guard as out of touch with the rest of the College, were not retained. In short, I was fired.

No matter. It was time for me to move on with my life. Again, I applied for jobs in economics departments at high quality liberal arts-oriented colleges and small universities, but it was hard to see myself returning exclusively to the discipline of economics and abandoning experimental education. And again, I got lucky. Bill McKinstry, chair of the economics department at Miami University, interviewed me for an economics position on their Luxembourg campus but offered to submit my name as well for a position in an interdisciplinary program that was about to get underway on the main campus. I ended up with back-to-back interviews in Oxford, Ohio, for the two positions in the spring of 1974 and accepted an offer by Dean Myron J. Lunine to become a charter faculty member at what was initially called Western College of Miami University (which for simplicity's sake is referred to here by its current name, the Western College Program).

Of the six full-time faculty members who met for five weeks with the Dean and Assistant Dean (both from Hampshire College) in the summer of 1974 to design the curriculum for the 154 incoming first-year students, I was the only one with prior experimental college experience. As a result, the Dean had us read at great length in the literature on experimental colleges to give us a sense of what we were taking on, to avoid reinventing wheels and learn from the past, and to provide some context for our deliberations. (Even then, we read nothing on interdisciplinary studies.) I had read none of those books, articles, or newspaper clippings on experimental colleges before, but

the composite picture they afforded us was quite familiar. The discussions that followed were much like those I participated in at the Paracollege and were likewise infused with utopian fervor. In retrospect, though, I realize that those readings were almost all about experimental colleges that had folded. The experimental college movement was waning but still alive when I started teaching at the Paracollege, but only a few years later, when we were starting the Western College Program, it had largely died out. The difference was palpable. As we developed the Paracollege, we rode the crest of the experimental college wave, but as my new colleagues and I set out to develop the Western College Program, we knew from our recent job market search that we were engaged in a countercyclical enterprise, and it felt like a last-ditch effort. Consequently, the utopian character of our experiment took on even more significance and urgency, adding to the intensity of the institution-building experience. Our feeling of embattlement had considerable negative effect on our relationship with the rest of the University (Newell, 2009).

The structure of the two programs was quite different. Even though the Western College Program was also to be a four-year, residential, liberal arts program fulfilling the general education requirements of the University through courses in the humanities, social sciences, and natural sciences, it was solidly grounded in an American, not a British, model of higher education. Students would accumulate course credits instead of passing batteries of examinations. Instead of individualized education at the lower division, students would take the same core courses in humanities, social sciences, and natural sciences (the first year) and cross-core courses thereafter. Following our mandate from Miami University, students would receive a letter grade for each course—none of those written qualitative evaluations from experimental colleges like New College (Florida) or The Evergreen State College. The full-time faculty was divided into three cores, initially two to a core (supplemented by administrators and staff) though we added to the faculty as we added to the student body. To my delight, we decided the core courses would be interdisciplinary and team-taught, with separate sections taught by individual instructors.

The task that summer of designing the three interdisciplinary first-year core courses in natural systems, social systems, and creativity and culture was frenetic. We had five weeks before classes started, and over half that time had been used up reading and discussing the experimental college literature. The approach to interdisciplinarity varied among the three cores. The biologist and physicist favored a sequence of modules in which one of them gave the weekly lecture for all sections combined—How could a biologist

responsibly lecture in physics or vice versa? They would thus lecture only in their field of expertise. The social scientists took a more thematic or topical approach (e.g., education in contemporary American society), in which they took turns offering the weekly lecture (examining the topic from the perspective of a different discipline) and "captaining" the course (preparing a "discussion leader's guide" of questions to raise in separate sections on the common readings for colleagues less versed in the discipline featured that week). The humanists opted for a looser, more free-flowing structure.

The first lecture offered in the Western College Program exemplified our approach to the humanities. The Dean (Mike Lunine) gave a talk on "India as Man" with the Assistant Dean (Allen Davis) running the slide projector. The room darkened, and Mike spoke eloquently and movingly about the themes implicit in the first slide, then asked Allen for the next slide. The students, new to College and uncertain of what to expect in an experimental college program, were baffled by the fact they were unable to see an image on the screen. As the lecture plowed ahead, they began to whisper with those around them: Is there a problem with the projector? Doesn't he know there's nothing on the screen? Is this guy nuts? As the lecture continued in this vein for the full 50 minutes, they realized slowly, one by one, that they were being asked to use their imaginations instead of having images provided for them, and eventually it dawned on them that they would have to take an active part from now on in the creative process, indeed in their entire education in the Western College Program.

For the formative years of the Western College Program, I taught first-year interdisciplinary social science courses exclusively and after a couple years an occasional junior seminar based on social science research using county probate records (Newell, 1980). The first-year core courses in the social sciences coalesced, stabilized, and became finely honed in the second half of the 1970s. The first two years we offered a year-long course on education, which we viewed through the various disciplines as an institution of socialization, a source of self-development and social change, a means of training workers for jobs and citizens for democracy, an instrument for shaping consumer habits and political opinions, and a system for legitimizing the distribution of power, all viewed not only through disciplinary theories but also historically and experientially, with emphasis on experimental education. The second year we rationalized the structure a bit by focusing the first half on the impact of individuals on society, and the second half on society's impact on individuals. Even though the course had a unifying theme of education, students still experienced it as sprawling and unfocused

since many different issues were raised, and after three quarters they were more than ready to move on to a different theme. Those problems were addressed in subsequent versions of the course. And though the readings came from six disciplines, in our discussions we referred to the perspective of an author not of a discipline, with the result that students often had little sense of which concepts came from which disciplines. That practice seemed to reflect faculty reluctance to reify disciplines and persisted in our social science and humanities courses.

In winter quarter of the first year, we offered the first of several integrative units. For a week and a half, all three core courses focused on Benjamin Franklin, as scientist, politician and public policy maker, and author of his famous autobiography. Spring quarter the following year everyone focused on Charles Darwin—his contributions to evolutionary theory and geology, social Darwinism, and his impacts on literature and philosophy. The integrative unit that second year got first- and second-year students talking about the same issues; it provided a break from the usual class structure; and it energized the faculty. Student reactions were more mixed, with some expressing weariness at nothing but Darwin, Darwin, Darwin. In retrospect, I suspect the problem was that we had no idea how to help students integrate what they were learning about Darwin or Franklin from different perspectives so they ended the unit with a jumble of unrelated insights instead of bringing either man into 3-D focus.

In the second year, when we began designing courses for juniors as well as first- and second-year students, we began to think in terms of the sequence of offerings in the social systems core as a whole, about the curriculum not just individual courses. Inspired by John Dewey's directive to start where students are and slowly draw them out into larger contexts, we decided in the third year of the program to sequence our courses from micro to macro—from the individual in society (fall, first year), to groups in society (spring, first year), to the impact of societies as a whole on individuals (second year), first the evolution of societies over time (fall) and then the interaction of societies (spring). That organizational principle was followed, more or less, thereafter.

The fall first-year course retained the Individual in Society title throughout the rest of the 1970s and focused on the various ways (addressed by different social sciences) in which individual choices are constrained by society, raising questions about consumer sovereignty, political freedom, and free will. Different staff rotated into the course from year to year, adding depth in their discipline and new ideas about freedom within/through constraints

(the basic strategy for integrating the course). The second-semester first-year course dealt in one way or another with the maintenance of inequality through social institutions, though the ostensible topic evolved and slowly narrowed from The Rich, Well-born, and Powerful to Inequality and Social Change to Social Fission & Fusion: Black & White in America.

A key tenet of our educational philosophy was that the education that takes place in the residence hall and the dining hall is just as important as what happens in the classroom. Experimental college programs generally embraced this educational principle, but few systematically structured their program around it. All of our students took the same set of core courses (though different sections), lived together in the same residence hall, and ate together in the same dining room. As a result, discussions that started in the classroom could, and very often did, carry over into other venues, and vice versa. We often assigned group projects that brought students together outside class. The residence hall directors (who each had a master's degree) each taught one section of a core course and participated in the weekly core faculty meetings on the next week's discussions, and the offices of the full-time faculty members and all the classrooms were located in the residence hall. Thus, the lines between academic and residential life were blurred and the staff responsible for each were well aware of what was happening in the other realm. Indeed, we referred to the residence hall program as the "fourth core." The impact of the fourth core on the interdisciplinary education of our students is discussed later in Interdisciplinary Education in the 1990s.

We were not alone in making it up as we went along designing and teaching interdisciplinary courses. Those few interdisciplinary teachers that were left at other institutions after the collapse of the free-wheeling '60s were equally adrift. There was no literature of which we were aware on interdisciplinary studies, no agreed-upon understanding of interdisciplinarity, no set of best practices, and no prominent role models. Consequently, it was unclear not only how to achieve a quality interdisciplinary education, but even what we should be trying to achieve. Were we to ignore the disciplines, compete with them, or build on them? Even those of us who felt we should be drawing on disciplines had no idea what it meant to integrate their insights (if that was even what we should be integrating), much less how to achieve that integration ourselves or teach it to students. Nor did we have any idea what pedagogies complemented an interdisciplinary curriculum, other than the need for more discussion and less lecturing. There was not even a clearly articulated sense of why we were engaging in interdisciplinary studies, let alone a sense of how it could possibly advance our careers.

The Association for Integrative Studies in the 1970s

In late fall of 1977, a review committee unanimously recommended that the Western College Program (WCP) become a permanent part of Miami University, a decision with long-term implications for the faculty as well as the program. Since WCP faculty members were not eligible for tenure until the Program was "tenured," I had focused exclusively up to that point on planning, implementing, evaluating, and revising the curriculum. Now, for the first time I could look ahead and ponder what to do with my career.

My starting point was the frequent criticism of over-specialization in modern industrial societies. Social commentators asserted that our reliance on narrowly-trained experts to solve the complex problems our societies confront yields only partial solutions, many of which produce negative externalities that exacerbate the rest of the problem and create new problems. I accepted this analysis while disagreeing with their solution: Train more generalists. The need, I thought, was for holistic, not general, thinking. We need specialists in interdisciplinary problem areas to complement the specialists in disciplines. And we need citizens trained in interdisciplinary as well as disciplinary thinking, citizens who can understand both where the disciplinary experts are coming from and how their proposed solutions fit into the larger problems confronting society—in short, citizens who can discuss and vote intelligently on the issues of the day.

That analysis led me to believe that the liberal arts or general education component of American higher education needs to be transformed. Interdisciplinary study must take its rightful co-equal place alongside the disciplines in American colleges and universities so students might see their essential complementarity.

In order to make this transformation possible, however, interdisciplinary studies had to be professionalized. There was no interdisciplinary studies profession; rather, there were little pockets of interdisciplinarians, each fighting a separate rear-guard battle against the local philistines, each unaware of the others' existence. Some of these interdisciplinary courses or programs were first-rate, others were intellectually shoddy, and there was so little consensus on what is meant by interdisciplinary studies that it was very hard to demonstrate which was which. There was no identifiable professional literature, no canon, no standards of excellence either of individual works of interdisciplinary scholarship or of individual interdisciplinary courses or programs. There was, in short, no interdisciplinary studies profession which interdisciplinarians might think of as their intellectual and professional home, in which they might form their professional identity. Most teachers in interdisciplinary studies programs had to be recruited from the disciplines because there were no PhD programs in interdisciplinary studies, hence no circular flow from undergraduate interdisciplinary programs to graduate interdisciplinary programs. All this had to change, it seemed to me, before we could hope to transform American higher education. Though I did not openly say so, I hoped that this transformation in education would in turn transform the way society addresses societal problems.

To figure out how to achieve that vision, I employed a technique proposed by Kenneth Boulding (Boulding, 1956) for use in the field of future studies (one of the many interdisciplinary fields he helped establish). One starts by examining the gap between the world the way it is and the world one envisions, and listing all the changes required. One then asks what the first step and the next to the last step need to be to bridge the gap. Then one repeats the process, slowly narrowing the gap until it's small enough to see how to order the remaining changes. I engaged in that mental exercise over the next few weeks, concluding that (a) every requisite change was feasible in principle, (b) I had some ideas about how to achieve every one of those changes, and (c) it would take several lifetimes to accomplish all those changes. That was fine with me. I wanted to make sure the career goal I chose was not only feasible but also sufficiently ambitious that I could not possibly find myself at age 60 with nothing left to work for in my career.

The first step in the process I envisioned was to form a national association of interdisciplinarians that could serve as a professional home. Out of that association could emerge annual conferences, a professional journal, a definition of interdisciplinary studies, best practice techniques for interdisciplinary teaching, accreditation standards for interdisciplinary programs, interdisciplinary theory, and so on. In short, a national association was the first step towards creating the profession of interdisciplinary studies, which would be a major milestone on the road towards infusing interdisciplinary studies into higher education and ultimately into public policy making.

It seemed to me that the way to start a professional association was to hold a national conference. I decided the conference should be limited to the area of knowledge in which I had some competence—interdisciplinary social science—and it should focus on teaching since everyone I had met who was interested in interdisciplinary studies was passionate about teaching. Hence, I decided to bill it as a conference on the Teaching of Interdisciplinary Social Science.

The two key requisites for organizing a conference, I decided, were a

keynoter and funding. The choice of the former seemed obvious: Kenneth Boulding was the foremost interdisciplinary social scientist and thus would be the biggest draw. For the latter, I consulted a directory of foundations for ones focused on education, Ohio, or both, I came up with a list of 35 prospects. Following the bridge axiom of "play to win," I wrote a letter to Boulding (whom I had never met) inviting him to serve as the conference keynoter and implying that I had the funding to pay for his travel and honorarium, and wrote a one-page pre-proposal for funding which implied that I had secured Boulding as the keynoter and mailed it to the 35 foundations. Boulding graciously accepted my invitation. Meanwhile, the head of the Cleveland-based AHS family foundation (who read my letter while basking in the sun on Vero Beach) wrote a check to me for $1,000. His check and Boulding's acceptance letter became leverage to secure roughly twice that amount in additional funding from the Provost, the Dean of Arts and Sciences, the VP Development, and the Western College Program. They all saw the proposed conference as a way to build on Miami University's new strength in undergraduate interdisciplinary education (i.e., the Western College Program) and enhance its national reputation.

I conferred with Tom Murray, my colleague in the Social Systems core (now president of The Hastings Center), about how to attract the top faculty in interdisciplinary social science to the conference, making sure that all major interdisciplinary programs were represented. Since funding for the conference was quite limited, the conference would have to be small (50 participants) and thus selective. While each of us was aware of a few interdisciplinary programs scattered across the country, we suspected there were many more; and we needed a way to identify the best candidates from those programs. We settled on an iterative process. I wrote a letter announcing the conference to all the interdisciplinary programs Tom and I knew about and provided them with the list of interdisciplinary programs we had identified so far. I asked them if they would be interested in sending one or two representatives to the conference, and if they knew of any other programs that should be contacted as well. Most replies expressed enthusiasm about the conference—remember, the experimental college movement was dormant, and most interdisciplinary programs felt acutely isolated if not beleaguered—and most suggested a few other programs to contact. We repeated the process until no additional programs were suggested.

Tom and I agreed that the next step was to invite the social science faculty at these interdisciplinary programs to apply for the privilege of paying their own way to the conference. We asked them to write a one-page letter of

interest and include a vita. We received just over 100 applications, and we could take only 46 total (since we had arranged for four representatives from our own program to attend). So we asked our colleagues to rate the faculty applications on their interdisciplinary experience, sophistication of thought, and articulateness of expression.

In the letter of acceptance, we asked the conference participants to identify the topics they most wanted to discuss. (See the AIS Website for the conference participants and their institutional affiliations.) Based on their responses, we organized them into task forces and asked them to send us in advance of the conference a brief position paper on the issue of their task force, which we could circulate to the other members. (See Appendix A for the task force topics.) By the time conference participants arrived in Oxford, Ohio, on April 19, 1979, they felt as though they already knew the other members of their task force. (For the extent to which their thinking was already aligned, see my proposed synthesis in Appendix B.)

The conference got underway that evening with a keynote/public address by Kenneth Boulding on "The Unity of Human Knowledge." Boulding likened disciplinarity to home and interdisciplinarity to travel, observing that both are useful and that they are potentially complementary. He also cautioned that interdisciplinary studies runs the risk of being undisciplined through inappropriate borrowing. Conference participants made numerous references to Boulding's arguments in the discussions that followed. Indeed, his keynote seems to have left a lasting intellectual imprint on discussions and participants alike.

The atmosphere at the conference was unlike anything I have seen before or since. After years of fighting in seeming isolation against the disciplinary traditionalists who then exercised near-total hegemony over American higher education, the participants were evidently starved for interaction with kindred souls from other institutions. Scheduled sessions ended at 5:00 p.m. each day, but they sent me out for alcoholic beverages each evening so that remarkably intense yet warmly collegial discussions could continue unabated until after midnight (or so I was told—I went home well before then to get some sleep). Task force discussions alternated with plenary sessions to discuss draft reports by task forces,[5] with the occasional session on a specialized topic such as publishing scholarship on interdisciplinary studies. To this day, some conference participants refer to it as the best conference they ever attended, in part, I suspect, because they had so much input into its agenda and so much intellectual spadework was completed beforehand.

On Sunday morning, April 22, 1979, the 35 conference participants who did not have to leave early met to discuss the formation of a national profes-

sional association. That we would do so was by then a foregone conclusion. The two remaining key issues related to how wide a net to cast and how to characterize the focus of the organization. A few participants, myself included, argued for restricting its scope to the social sciences, but a large majority argued that the boundaries between areas of knowledge were as arbitrary as the boundaries between disciplines, so it should encompass all disciplines. More closely contested was whether it should be the Association for Integrative or Interdisciplinary Studies. The argument that the term "interdisciplinary studies" was debased by its association with shoddy thinking and indoctrination whereas "integrative studies" highlighted the key distinguishing characteristic of high-quality interdisciplinary work won out over the argument that it was folly to coin a new term when you are trying to publicize a new organization. The final decisions related to the mundane details of electing officers and setting dues were settled quickly. Several participants suggested me as the founding president, and I said I was willing to devote five years to getting the Association for Integrative Studies underway. (It turned out to be considerably longer.) Arnold Binder of UC-Irvine pointed out that the biggest challenge new organizations face is getting people to devote the requisite time. I was elected unanimously, and the other offices were then quickly filled as well: Jerry Petr, VP-Publications; Barbara Hursh, VP-Programs; and Dana Stevens, Secretary-Treasurer. Someone suggested dues should be $10, and participants dug into their wallets and handed their dues to Dana as they left the room to catch their rides to the airport.

The conference did more than found the Association for Integrative Studies. Its intellectual impact can be discerned in subsequent discussions at AIS conferences for years thereafter and on the policies and practices of the Association. The practices of ignoring the prestige of institutions and focusing on the quality of an individual's ideas, and of engaging in collaborative dialogue among equals, without one-upmanship or grandstanding, became hallmarks of AIS conferences. Similarly, considerations of interdisciplinary experience, sophistication of thought and quality of expression, as well as leadership potential and willingness to devote time and energy governed the selection of the first officers and became the criteria subsequently used (to this day) in nominating members for the Board of Directors. It had a human impact as well. The first five AIS presidents (Bill Newell, Barbara Hursh, Forrest Armstrong, Tom Murray, and Tom Benson) and six in all (Nelson Bingham) were drawn from the ranks of its participants, as were five early vice presidents (Leslie Duly, Paul Haas, Jerry Petr, Paul Von Blum, and Frederick Weaver) and six in all (Guy Beckwith).

I focused my year as founding president on institution building. We became incorporated in the State of Ohio (with headquarters at Miami University's Western College Program), which required that we draft and approve a constitution (including a mission statement prepared by Nancy Nicholson). A sporadic but meaty newsletter was edited by Dana Stevens, which provided frequent job listings, a national survey of textbook needs (conducted by Forrest Armstrong), a list of publishers receptive to interdisciplinary scholarship, and a bibliography of journals on IDS teaching (compiled by Fred Weaver). Membership grew from the 35 charter members to over 100. Towards the end of my one-year term, we secured tax-exempt 501(c)3 status from the IRS. My plan was to step back from formal leadership roles at the end of my presidency to help establish a regular succession of officers (and to avoid the appearance that AIS was Bill Newell's organization). That well-meaning decision nearly proved fatal to the Association a couple years later.

Interdisciplinary Undergraduate Education in the 1980s

Now that all four years of the Western College Program curriculum were designed and Miami University had approved the program itself, I was ready to try my hand at sophomore core courses. Barb Whitten and Bill Green, a physicist and a chemist respectively, decided that their sophomore natural systems core course on U.S. Energy Policy needed much more input from the social sciences, so Bill Green and I teamed up to teach it in the spring of 1980. We structured the course so the first half dealt with energy (and thus drew primarily from the natural sciences) while the second half dealt with policy (and drew primarily from the social sciences). We integrated the first half of the course by tracing each energy source from cradle to grave, and by then comparing each energy source with the preceding one(s). In the second half, we examined energy policy from the perspectives of economics and political science, and then asked students to integrate the insights into energy and policy by proposing their own energy policy in a final paper. That paper had to make explicit and justify the tradeoffs they advocated, between power and pollution as well as among different forms of pollution, and it had to identify which course readings lay behind each step in their line of argument.

In that course, we took a stand on many of the issues facing interdisciplinarians at that time. We focused on a single real-world issue, U.S. energy policy. We drew insights explicitly from disciplines on that issue. We taught each nugget of theory with the same rigor as in an introductory course on

that discipline. We focused attention on integrating the insights from those theories and provided a course structure to support integration and an assignment to focus it, but we left the task of integration to our students and we were unable to provide models of integration or to offer any advice to students on how to integrate. In terms of pedagogy, we followed the strategy established in preceding courses in the natural and social sciences, namely that lectures provide intellectual context and distill information, while discussions focus on critical understanding and then application of information and theories presented in readings and lectures. We treated discussion sessions as exercises in collaborative learning, though we occasionally supplemented them with group assignments. In keeping with the ethos of the program, we also relied heavily on the living-learning structure of what would be called today a learning community to reinforce academic learning through out-of-class discussions.

After teaching the energy course together, Bill Green and I proposed to Oxford University Press that we write a textbook on that topic, and they accepted our proposal. Since we planned to make the book explicitly interdisciplinary, we decided to enlist the assistance of our colleagues in defining interdisciplinary studies (being unaware of any professional literature on it and placing more trust in the experience of our colleagues anyway). We asked our faculty colleagues to each explain in one page their definition of interdisciplinary studies, which they circulated and then discussed in a faculty meeting. From 12 full-time faculty members, we obtained 14 different definitions. Through the subsequent discussion of those definitions it became clear to me that the faculty would never agree on a definition, but they had provided us with a wealth of ideas from which to construct our own definition. We divided the summer of 1980 into weeks and scheduled which chapter we would write each week. Since we had lecture notes and discussion questions for each week and we had mastered the readings for the course, the task seemed feasible. The first week we were to devote to the introductory chapter on interdisciplinary studies. As it turned out, we barely finished that first chapter in November and, since we had written none of the substantive chapters, we decided to turn it into an article and submit it for separate publication. We never wrote the book, but our article was published by the journal *Improving College & University Teaching* the following year (Newell & Green, 1982, Winter). The Association of American Colleges (now AAC&U) placed our article on a short list of resources in interdisciplinary studies, with the result that it influenced the field of interdisciplinary studies more than most articles I have published since.

A couple years later, I started offering second-year interdisciplinary social science courses on U.S. policy in Latin America and the Caribbean. Drawing on history, economics, sociology, political science, and Latin American studies, first Gordon Charles and then Jenny Lincoln and I made use of current events such as the war in Nicaragua and the Iran-Contra scandal to examine issues of hegemony, democracy, and economic development. These courses were more loosely organized than the energy policy course, but they highlighted disciplinary perspectives and brought out their biases (though we focused more on their implicit political values than on their epistemological and ontological assumptions). One memorable year, I had the president of Miami's Young Republicans and the president of the Young Democrats[6] (both students in our program) in the same section. Class discussions were highly charged, but by the end of the year both presidents had come to see the partial validity of the other's position while still rejecting it.

When I started consulting on interdisciplinary curriculum development and pedagogy in 1985, my presentations were influenced by my interdisciplinary teaching experience as well as by the more philosophical discussions of interdisciplinarity in AIS. I found that a small coterie of faculty[7] at each institution I visited was as eager to learn about interdisciplinarity as they were utterly uninformed about the nature or practice of interdisciplinary studies. Typically they had never read anything on interdisciplinary studies, and most had never taken an interdisciplinary course. A very few had once taught what they took to be an interdisciplinary course, but those courses seldom bore much resemblance to what AIS was talking about or what my colleagues and I taught in the Western College Program. Much of my efforts went to persuading faculty to rethink their most basic ideas about interdisciplinary studies. If I could get them thinking in productive ways about IDS by the end of a consultancy, I left feeling good that they were now ready to start.

Luckily, there were prominent national voices advocating interdisciplinary studies at that time that made the effort to learn seem worthwhile. The National Collegiate Honors Society linked academic excellence and interdisciplinary studies; indeed, leaders of that organization were known to assert that honors and interdisciplinary studies are synonymous. Women's studies advocates assumed (without much critical thought) that their field was inherently interdisciplinary, and since they were producing fundamental critiques of the nature of knowledge and the structure of the academy (not to mention critiques of gender and patriarchy), interdisciplinary studies came to be linked with critical thought. Environmental studies researchers and teachers similarly thought of themselves as interdisciplinary, so interdisci-

plinary studies came to be linked with the rethinking of real-world problems. And for a quarter century experimental colleges and cluster colleges had linked interdisciplinary studies with innovative higher education. These voices combined to shift interdisciplinary studies out of the radical fringe (to which it was relegated in the 1960s) into the liberal mainstream.

The Association for Integrative Studies in the 1980s

The first order of business for Barbara Hursh, the second AIS president, was to organize the next annual conference. (See the AIS Website for a complete list of AIS conferences and for the members of all AIS Boards of Directors). Since AIS was operating on a financial shoestring and the AIS Steering Committee (as the Board of Directors was then called) had no prior experience running a national conference, we decided to hold our conference under the aegis of the American Association for Higher Education in March of 1980. Some AIS members would normally attend the AAHE annual conference anyway, reducing their travel costs, and we might be able to attract some participants from the main conference, perhaps recruiting new members. The latter prediction at least appeared to have some limited validity; only half the 27 presenters and less than half of the 36 pre-registrants were AIS founders. We attracted half a dozen presenters from the humanities (mostly from literature but also art and religion) who started the process of expanding a de facto association for interdisciplinary social science into a broader association for all interdisciplinarians. Two presenters new to AIS (Ingrun LaFleur and Richard Hettlinger[8]) would go on to serve as vice presidents and a third (Jean Hahn) became president-elect. Nonetheless, the prevailing experience was a feeling of being swamped by the huge AAHE conference and a longing for the intimacy of a smaller conference of our own, one that extended and further developed our sense of camaraderie. In addition to deciding to go it alone for next year's conference, the Board settled on a geographical three-year rotation of conferences—East, Midwest, and West—and chose William James College in Grand Rapids, Michigan, as the site for 1981 since the newly-elected AIS president Forrest Armstrong would become Dean there in the fall.

We certainly got our wish for an intimate conference in April 1981. There were only 20 presenters at Grand Rapids, though total attendance was substantially larger thanks to faculty members from the host institution. However, two of the new presenters, Ray Miller[9] and Beth Casey, went on to become AIS presidents and stayed active long after they left the Board. Ray

presented his now-famous "Varieties of Interdisciplinary Approaches in the Social Sciences" (written a few years earlier, subsequently published in the first volume of *Issues in Integrative Studies*, and later extolled by Julie Klein). Tom Benson presented his "The Case Against Interdisciplinary Studies" which became the centerpiece for the second volume of *Issues*. To come up with an AIS logo, the Board approved a student design competition Forrest suggested. Later in the year, they selected the winner—A, I, and S as interlocking jigsaw puzzle pieces—that we used for a quarter century. Following the geographical rotation, the Board settled on The Evergreen State College as the site for the next conference. Of most significance to me at the time, the Board addressed the ongoing need for a text and faculty development workshops in interdisciplinary teaching by approving my proposed national tour.

The idea behind my national tour of 20 interdisciplinary studies programs in the fall of 1981 was to identify the variety of approaches to interdisciplinary teaching in notable interdisciplinary studies programs around the country. Specifically, in what ways can course content be organized to reflect interdisciplinary methodology, how can that methodology be communicated to students, and what are the educational outcomes of each approach? The set of questions I asked key administrators and faculty members at each institution is still relevant today: (1) What kinds of questions have proved most fruitful as topics for IDS courses? (2) What procedures have you developed to identify the component parts of these questions that are best addressed by separate disciplines? (3) How do you provide students with theories and methods of disciplines without requiring several disciplinary courses as prerequisites? (4) Have you developed lists of assumptions embedded in each discipline or school of thought? (5) How do you teach students to reconcile conflicting assumptions? (6) How do you teach students to synthesize? (7) Does your choice of interdisciplinary activities in the classroom rely on any particular theory or assumptions about human learning? My tour was taken on behalf of AIS but made possible by a faculty improvement leave and funding from my Dean, Provost, and VP Development. It was organized into three regional trips. On the West Coast, I visited The Evergreen State College, Sonoma State, CSU-Hayward, UC-Santa Cruz, Stanford, and San Francisco State (where Ray set me up with 10 IDS programs). In the Midwest, the stops were at Bowling Green, Earlham, Grand Valley, Green Bay, Kenyon, Northeastern Illinois, St. Joseph, and Valparaiso. The East Coast swing included Hampshire, Hobart-William Smith, Old Westbury, Ramapo, Stockton, and Stony Brook. While the goal

of the tour was to learn about interdisciplinary teaching from those institutions and identify teaching experts who could contribute chapters to an AIS-sponsored book (and perhaps teach in an AIS-sponsored summer institute) on interdisciplinary teaching, it ended up being more about networking and publicizing AIS (drawing key administrators and teachers into the organization) and provoking those programs to take a new look at interdisciplinary teaching in ways pioneered at AIS.

While I was touring the country, AIS was falling apart. The President-elect set up a committee at Evergreen that decided the AIS conference they were to host should include no formal papers. Apprehensive about the impact of budget cuts on attendance, they then surveyed participants at previous conferences and found that very few people could afford to attend. Unaware that faculty at other institutions needed to present a paper to qualify for travel funds, they decided not to hold the conference, but they waited to inform the President until it was too late to find another venue. As Dean of William James College, the President was preoccupied anyway with its merger with other colleges into Grand Valley State Colleges. Moreover, the newsletter editor stopped producing newsletters while she finished her dissertation. The result was a year in which members received no newsletter and had no conference to attend, and no one on the Board had sufficient stake in the Association to rectify the situation. Membership that had been over 100 dropped to around 60. Luckily, Ray Miller was able to bring out the inaugural volume of *Issues in Integrative Studies* later that year, or the Association might have folded. So much for my insistence on stepping back to assure a regular succession of officers!

The following year, Tom Murray assumed the presidency and immediately took action. He asked me to stop work on the AIS-sponsored book on interdisciplinary teaching and take on instead the responsibilities of newsletter editor and secretary-treasurer, publishing four newsletters a year on a regular basis (as I have done ever since) so members would have ongoing contact with AIS between annual conferences. (The idea for an interdisciplinary pedagogy book lay dormant for almost 20 years until Deborah DeZure and then Carolyn Haynes revived it.) He then set about organizing the 1983 conference and attracted 41 presenters.

Well into the Ramapo conference, 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.

There was a vigorous debate at the Ramapo conference whether or not to change the name of the organization to Association for Interdisciplinary Studies. Ray Miller and Tom Benson were asked to set out the pro and con positions accompanying a special ballot mailed to all members that summer. The name change actually received a majority of votes but not the two-thirds required by the constitution, so Ray's arguments in "Stick with Integrative Studies" carried the day: (1) The name identifies what we stand for. (2) The term "interdisciplinary" has lost any clarity of meaning it once had. (3) Changing the name might lose potential members who embrace integrative approaches but are turned off by shoddy work labeled interdisciplinary. (4) Our embrace of interdisciplinary studies can be publicized through our statement of purpose. (5) The esoteric name is more likely to attract serious students of interdisciplinary/integrative studies.

At the Ramapo conference, the Board decided to hold two conferences the following year—a Midwest conference I would host at Miami University in February, followed by a West Coast joint conference with the Association for General and Liberal Studies that Ray Miller would host in San Francisco in October. We would make up for missing the conference the previous year, collaborate with a kindred organization, and move the date for future conferences from the spring (when travel budgets were often used up) to the fall. Membership was at an all-time low (around 60), but AIS had survived; indeed, it was about to flower.

The first 1984 conference attracted 50 participants to Oxford, Ohio, along with another 50 local faculty and students (in equal numbers) for the largest conference so far. The organizational centerpiece of the conference was the

formation of three networks at the suggestion of Julie Klein and Ray Miller: a Philosophy Network coordinated by Anne Brooks; a Pedagogy Network coordinated by Michael Field; and a Politics Network coordinated by David Armstrong. Julie Klein served as overall coordinator of networks. The networks evolved and transformed over the next decade—Politics was absorbed by Pedagogy later that year, and they were replaced in 1991 with an Arts network—with first Philosophy and then Arts serving as the primary venue. Networks were at the center of the most vigorous extended discussions at conferences, sometimes lasting several years, and they were the source of several major AIS initiatives. By May, the Philosophy Network had produced an initial bibliography on interdisciplinarity, and by October it had proposed and debated several competing definitions of interdisciplinary studies. These networks marked the beginning of ongoing conversations among AIS members between annual conferences.

In the summer of 1984 Julie Klein and Ray Miller represented AIS at the third Interstudy conference of the International Association for Interdisciplinary Research. I had begun including information on other conferences of interest to interdisciplinarians in the newsletter when I took over as editor a year and a half earlier (a practice I have continued to this day), and the Board had approved a joint conference with AGLS, but this was the first official outreach of AIS to other professional associations. Julie went on to play a variety of leadership roles in Interstudy. And just prior to our October conference, Julie attended the OECD conference on "Inter-Disciplinarity Revisited" in Linköping, Sweden, at which she exhibited a newly constructed AIS display and described our work along with presenting a paper on "Inter-Disciplinarity Revisited." That was the first of many such international conferences, congresses, symposia, seminars, academies, centers, panels, research teams, task forces, and advisory boards on interdisciplinary studies in which she actively participated.

The conference in San Francisco at the end of October attracted 39 AIS presenters and led to considerable intermingling of members from AGLS and AIS, helping to increase membership by year's end to over 120. Even though the two organizations were roughly comparable in size, AGLS was still larger and better established so their conference format prevailed: many concurrent sessions that were thus lightly-attended, featuring papers read without much discussion. Again, sentiment after the joint conference swung towards meeting alone, though AIS experimented twice more with joint conferences over the next 25 years (with the Society for Values in Higher Education in 2000 and again with AGLS in 2005).

From the outset, the Board of Directors sought to provide AIS-sponsored faculty development in interdisciplinary curriculum development and teaching. Three strategies had been considered: help faculty train themselves (through a book on interdisciplinary teaching), bring selected faculty from other institutions to us (via a summer institute for interdisciplinary faculty), and travel to other institutions in order to communicate directly with more of their faculty (by consulting or serving as an external evaluator). The momentum towards the first two was greatly reduced when Tom Murray asked me to stop work on them to become newsletter editor and secretary-treasurer, but by the spring of 1985 Tom Benson, Julie Klein, and I had all been asked by other colleges and universities to serve as consultants. The Board decided to identify us as AIS-affiliated consultants in the May issue of the newsletter, since "AIS-sponsored" might incur legal liability.

The conference at Eastern Kentucky University in October of 1985 was twice the size of any previous conference, with 67 presenters and nearly 120 in attendance (though membership remained constant at around 125). The Philosophy Network offered two sessions. One summarized and critiqued previously proposed definitions of interdisciplinary studies. The other was a new venture seeking to identify standards of excellence through close examination of exemplary works of interdisciplinary scholarship; this initiative was continued at the 1986 conference as well. The Pedagogy/ Politics Network sponsored a workshop on interdisciplinary teaching by Michael Field, Russ Lee, and Chi Wang, and a session on institutional impediments to interdisciplinary studies. One indication of the growing stature of AIS was that four presidents from area universities agreed to serve on a panel on interdisciplinary liberal education at the conference.

Following up on a major report by Nelson Bingham in February of 1986, I undertook a membership drive in March. The timing was perfect since Beth Casey had recently revised our brochure and I had exchanged mailing labels with 15 kindred organizations. I mailed 5,700 brochures with cover letters tailored to the membership of each organization, and sent additional ones to past AIS members. The results were impressive: Membership increased that year from 125 to about 300, where it leveled off for the rest of the decade, averaged 400 for the 1990s, and returned to just under 300 for the 2000s (though conference attendance roughly doubled in the new millennium to over 200). With those higher membership levels came financial viability.

With the assistance of my Dean Curt Ellison I had been researching a directory of interdisciplinary undergraduate programs in the United States during the previous year. At its October 1985 meeting the Board of Directors

agreed that AIS should publish it, and Miami University then agreed to front the money to print 750 hardbound copies. In the summer of 1986 I pretty much lived in my office, writing one-page descriptions of the 235 self-consciously interdisciplinary programs selected for inclusion. In September I revised 230 of the descriptions based on feedback from the programs. Kenneth Boulding, ever supportive of AIS initiatives, wrote the preface. The book served as a partial inventory of the profession, since I estimated that it covered only half the available programs, but it established the national scope of interdisciplinarity and its democratic nature (in that elite institutions were in a small minority). It also documented how interdisciplinary studies had moved from the radical fringe in the 1960s to the liberal mainstream in the mid-1980s. "While there are a few freestanding interdisciplinary institutions left from the early 1970s (or earlier generations) and a fair number of cluster colleges surviving from the late 1960s and early 1970s," I wrote in the Introduction, "interdisciplinary studies today is dominated by general education reform, and two-thirds of those programs are institution-wide, not alternative programs" (p. vi). The directory also served to bring AIS to the attention of faculty and administrators in the programs it listed. And by establishing AIS as a publisher, it improved our image in the eyes of other professional associations.

Shortly after the 1987 conference at Penn State, Anne Brooks convened an all-day task force in Cincinnati to pull together and integrate the definitional work of the Philosophy Network with the objective of drafting a consensus "verbal picture" of interdisciplinary studies. The committee consisted of four humanists (Anne Brooks, Beth Casey, Elaine Kleiner, Un-Chol Shin) and one social scientist (me). Our goal was to use that verbal picture to set up a formal AIS position on the definition of interdisciplinary studies stated in sufficient detail that it might be of use to evaluators of interdisciplinary programs and courses. Perhaps because the Philosophy Network had debated these issues for so many years that we were ready to achieve closure and move on, we eventually agreed on a three-paragraph description, a list of categories of poor interdisciplinary work, a list of anticipated outcomes of good interdisciplinary study, and a draft AIS Statement on Interdisciplinary Education. That one-page statement recognized a variety of legitimate strategies for organizing interdisciplinary courses while encouraging what we saw as five essential characteristics: focus on a single issue/problem/question/theme; make explicit use of disciplines/schools of thought; examine the perspective or worldview underlying each discipline/school of thought and its underlying assumptions; ask students to integrate the insights of disciplines/

schools of thought into a more holistic perspective on the topic; and familiarize students with holistic perspectives such as structuralism, Marxism, ecology, and systems theory. The description, categories, and outcomes were then distributed to all members of the Philosophy Network, tweaked, and published as revised in the December 1988 newsletter. The statement was labeled "An Operational/Outcomes Approach," attributed to me, and published as well in that newsletter alongside "An Historical/Conceptual Approach" by Julie Klein and "A Theoretical Approach" by Un-Chol Shin. For many years I distributed the draft statement whenever I served as a consultant or an external evaluator, and readers may note that it bears more than a passing resemblance to the national consensus definition of interdisciplinary studies that Julie Klein and I identified a decade later (Klein & Newell, 1997).

Wayne State University Press requested in 1988 that AIS provide a subvention to help cover printing costs of *Interdisciplinarity: History, Theory, and Practice*, the first of what turned out to be several books on interdisciplinary studies by Julie Klein. The Board agreed, and her 1990 book became the first of many sponsored by AIS.

Prior to the Sonoma State conference in October 1989, we offered a two-day workshop (our first) on interdisciplinary general education and program development. We charged $100 to cover costs of room, meals, and breaks, and advertised in *The Chronicle of Higher Education* and the *AIS Newsletter*. The staff was an even mix of Board and non-Board members: Muriel Blaisdell (natural science), Anne Brooks (humanities), Beth Casey (administration), Steve Gottlieb (cooperative learning), Lu Mattson (seminaring), Bill Newell (social science and workshop coordinator), and Karl Schilling (evaluation/assessment). We ended up with 16 participants, one of whom (Cheryl Jacobsen) eventually became AIS President.

Most AIS outreach efforts, however, were carried out by individual Board members. By the end of the 1980s, Julie Klein and I, with contributions from Tom Benson, Beth Casey, and Bill Mahar (not a Board member), had served as consultants at 30 colleges and universities (several more than once). Ray Miller, Julie, and I served as external evaluators of interdisciplinary programs at 15 additional institutions. Julie and I, and to some extent Beth and Ray, had served as AIS representatives to half a dozen other professional associations in the United States, sometimes in prominent leadership roles. Julie Klein, however, was our sole foreign ambassador to a wide range of professional conferences, organizations, centers, and institutes in France, Germany, Nepal, and Sweden. My favorite letter from her described her workshops on democracy for the members of the national legislators of Ne-

pal while angry mobs screamed and threw rocks outside the building. Most of our efforts were less dramatic, but their cumulative effect was to disseminate ideas on the nature and practice of interdisciplinary studies generated within the Association for Integrative Studies to faculty, administrators, and researchers throughout the United States and even abroad.

Interdisciplinary Undergraduate Education in the 1990s

In 1991 and 1992 I offered a junior seminar alternatively titled Integrating Affect and Reason and The Rational Self-interest Model Expanded that brought my research on techniques of integration and AIS discussions on interdisciplinarity into the curriculum. In the syllabus I explained that, unlike older radical critiques of neo-classical economics, recent liberal critiques were attempting to expand the rational self-interest model. Instead of attacking its assumption that human behavior is grounded in the rational self-interested pursuit of wealth, they argue that people are rational *and* emotional, self-centered *and* altruistic, and motivated by wealth *and* by social status and power. For the first time, I offered a version of our first-semester first-year course on the individual in society in the Honors Program. Chris Wolfe and I designed a new second-year course on social movements and strategies for change focused on the amelioration rather than the radical transformation of social problems through interdisciplinary thinking. And Xiuwu Liu and I designed a new second-year course on utopias in American society that explored the idealist roots of American society while encouraging students for the first time to engage in service learning. In 1992-93 we added a service-learning component to the social movements course as well.

In mid-decade the Western College Program underwent its first (and rather modest) curricular reform. A one-credit course first-semester of the second year, that Charles Nies (our Assistant Dean) and I piloted, explicitly introduced interdisciplinarity to our students for the first time in the curriculum, so they had a theoretical base on which to construct their self-designed concentrations. A second-semester second-year integrative course combining the humanities, social sciences, and natural sciences replaced separate interdisciplinary courses in each area. The credit hours thus freed up were shifted into upper-division advanced seminars. And my colleagues mandated me to completely redesign the senior project workshop, in which I now provided more in-depth training in interdisciplinarity. In 1996-97 I started training first-year students in how to provide peer feedback to strengthen the academic aspect of community in our Program.

These curricular innovations were consonant with the generational change already underway in interdisciplinary programs since the early 1980s. As interdisciplinary undergraduate education completed its shift from the radical fringe to the liberal mainstream, faculty worried less about disciplinary hegemony and more about combining disciplinary insights into complex societal problems, less about transforming education than improving it, and less about radicalizing students than empowering them. About the only way the Western College Program was out of step with the second generation of interdisciplinary programs was that we offered an alternative form of general education, not an institution-wide program.

The shift in interdisciplinary thinking advocated by AIS had been reinforced in the 1980s by professional associations in interdisciplinary fields, but in the 1990s that reinforcement came even more strongly from national umbrella organizations such as the American Association for Higher Education and the Association of American Colleges and Universities. Even so, interdisciplinary studies for these organizations was merely part of a package of curricular innovations including collaborative learning, learning communities, multicultural learning, problem-based learning and service-learning. They were reaching a lot of institutions, though: When Alan Edwards compiled the second edition of *Interdisciplinary Undergraduate Programs: A Directory* in 1996, he included 410 programs—nearly twice as many as in the 1986 edition.

The thinking in undergraduate education about interdisciplinary studies was coalescing around ideas about interdisciplinarity advocated by AIS, especially around the centrality of integration or synthesis. Indeed, the faculty members with whom I consulted in the 1990s had a stronger grasp of interdisciplinarity when I *arrived* on campus than did those faculty members with whom I consulted in the 1980s when I *left* campus. By 1998, Julie Klein and I had identified an emerging-consensus definition of interdisciplinary studies that was fully consonant with the definition proposed in the 1987 report of the task force of the Philosophy Network.

Near the end of the decade Julie Klein (1998), citing Gaff and Ratcliff in their Preface to *The Handbook of the Undergraduate Curriculum*, observed that "We are in the midst of a historical reversal of [the dominant trend in higher education towards growth of specialization], and interdisciplinarity is at the heart of it" (p. 4). She reported that the associated discourse employed images of "coherence and connection, collaboration and community, clustering and linking, interrelation and integration" to point to "diversity and complexity" within the "network," "web," or "system" of the academy (p. 5). She pointed to integrative general education core curricula developed in the

1980s and 1990s as one of the three primary structural mechanisms through which these new dominant concerns were addressed (the other two being interdisciplinary fields and disciplinary majors). She characterized the main trends in interdisciplinary general education as "designing integrated core curricula, providing breadth of knowledge, clustering and linking courses, building learning communities, incorporating diversity and global perspectives, including knowledge from new interdisciplinary fields, infusing integrative skills, and introducing new pedagogies" (p. 6). Her description aptly characterized the second generation of interdisciplinary studies programs.

The larger significance for interdisciplinary studies of the Western College Program's student-life-as-classroom approach became apparent to me only in the spring of 1994. Stan Bailis had opted to devote his sabbatical from San Francisco State to team-teaching with me in Oxford, Ohio, and we had finished our sophomore social systems course on Diversity and the Culture-Character Relation in America one class period early. Since our students had just finished the two-year sequence of interdisciplinary general education core courses, where interdisciplinarity was exemplified but almost never explicitly discussed, we decided to devote the last discussion in each section to interdisciplinary studies. In my first section, as agreed, I asked the students how they define interdisciplinary studies. To my dismay, the first student started talking about life in the residence hall. I quickly explained that my question referred to the core courses. The next student assured me she understood, but her comments soon veered right back to roommate problems, vandalism in the bathrooms, and the like. I felt as though I had just stepped into a Salvador Dali painting. By the end of the afternoon (and after similar discussions in other sections), I began to realize that our students had not only internalized interdisciplinarity but also generalized it. Instead of drawing insights into an issue exclusively from academic disciplines, they had learned to draw from differing perspectives wherever they found them—from different students, cultures, genders, races, political ideologies, religions, social classes, whatever. And they had learned to integrate those often-conflicting insights into pragmatic solutions to real-world problems. I developed what I learned from my students that day into the concept of integrative learning, which I then presented at a 1997 Conference on Interdisciplinary Education hosted by the Evergreen State College. At the conference, I led an overflowing workshop on the use of a generalized understanding of interdisciplinarity to integrate and maximize the impacts of a variety of pedagogies such as collaborative learning, living-learning, service learning, multicultural education, problem-based learning, study

abroad, and learning communities. At the end I received the only standing ovation of my career. I published those ideas in "The Promise of Integrative Learning" (Newell, 1999) aimed at staff in student affairs, and in "Powerful Pedagogies" (Newell, 2001) aimed at faculty in experimental colleges.

The Association for Integrative Studies in the 1990s

In 1990, Julie Klein was awarded the final prize in the Van Eesteren-Fluck & Van Lohuizen Foundation (The Netherlands') international essay competition for new research models, for her essay "Applying Interdisciplinary Models to Design, Planning, and Policy Making." Leaving aside the intellectual tour de force reflected in the fact that urban planning was a field new to her, what made the award significant for our profession was that she took basic ideas about interdisciplinary studies developed within AIS, applied them to one of a host of interdisciplinary fields, and came out with insights that were award winning at the international level. What Julie did in a field new to her could be done by mere mortals in fields in which they already had expertise. Here was affirmation that what we had been discussing in AIS for the previous decade had real-world payoff. It was perhaps not a coincidence that two years later the AIS Board issued a formal statement on "The Real-world Value of Interdisciplinary Higher Education," published in the *AIS Newsletter 14*(2) in May 1992.

Kenneth Boulding returned to give another keynote address for the 1990 conference at St. Anselm College in Manchester, New Hampshire, where we awarded him the first Kenneth E. Boulding Award for lifetime service to the interdisciplinary studies profession. Subsequent Boulding Awards were made at the 1993 conference at Wayne State to Ernest Boyer and Jerry Gaff, the keynoter; to Julie Klein and William Newell in 2003 at the third Wayne State conference; and most recently to Ray Miller in 2008 when he gave a keynote address at the Springfield, Illinois, conference.

As part of a three-year Study in Depth project (i.e., the role of majors in a liberal arts education) of the Association of American Colleges (now AAC&U), the Society for Values in Higher Education was asked to set up a task force to examine Study in Depth in interdisciplinary studies. Connie Ramirez, an active AIS member (and future AIS president) appointed to the SVHE task force, felt that AIS had been overlooked by AAC and arranged to have Julie Klein added to the task force. Its chair, William Doty, invited input from the Philosophy Network and several AIS leaders and generally embraced AIS as a collaborator in preparing the report; indeed, AIS went

on to take the lead in publishing and disseminating the report along with accompanying articles by Julie Klein, Bill Newell, Beth Casey, and Nelson Bingham in the 1990 volume of *Issues in Integrative Studies* (co-edited by William Doty and Julie Klein). Four years later, Doty and Klein co-edited *Interdisciplinary Studies Today* in the Jossey-Bass New Directions for Teaching and Learning series that consisted of revisions of those articles (in my case, a new article) along with an article by Michael Field et al. on assessment. Since the Jossey-Bass series was well regarded and widely read, that book did much to make mainstream innovators in higher education aware of the work of AIS on interdisciplinary studies.

I realized in the early 1980s when I wrote my first article on interdisciplinary studies (Newell & Green, 1982) that the biggest intellectual challenge facing interdisciplinarians was to transform our understanding of interdisciplinary integration from an inexplicable, idiosyncratic, creative act into a process that could be taught and tested. Until we found how to demystify integration, while pointing to it as the sine qua non of interdisciplinarity, critics would be justified in viewing interdisciplinary studies as undisciplined and non-rigorous. My first serious attempt to demystify interdisciplinary integration came in March of 1991, when AIS was asked by the organizers of the American Association for Higher Education conference to put together a panel on "The Interdisciplinary Curriculum: A Forum for Difficult Dialogues." Beth Casey, Michael Field, Connie Ramirez, and I presented papers. (Over 100 people attended, several of whom became AIS members.) My paper was on techniques of interdisciplinary integration, and I presented a revised version of it at the St. Paul AIS conference in October. I persuaded the Philosophy Network to focus the following year on identifying precise strategies or processes of integration employed in exemplary interdisciplinary texts, but the Network had about run its course (just as an energetic Arts Network was springing into existence). The next two years, I gave papers on integration at the AIS conference in Pomona and then, at the invitation of Amitai Etzioni, at a conference of the Society for the Advancement of Socio-Economics, but I could not persuade anyone else inside or outside AIS to work on this issue. It was only at the end of the decade, after immersing myself in the literature on complex systems theory, that I returned to interdisciplinary integration in a paper setting out a highly preliminary theory of interdisciplinary studies at the Joint Western College Program (Miami University) and Center for Interdisciplinary Studies (Virginia Tech) Conference on Interdisciplinary Studies held in Oxford, Ohio, in February of 1999, which I then modified in a presentation to the faculty of the Auckland

University of Technology. I again modified the theory in light of feedback and presented jointly with Jack Meek a revised but still preliminary theory of interdisciplinary studies at the Public Administration Theory Conference the following month. In October, I presented a further revised but still rough version at the AIS conference at North Central College in October of 1999.

In 1991, after AIS came to the attention of the Association of American Colleges (now AAC&U) through our contributions to their Study in Depth project, AIS was designated an AAC affiliate. Following up on an earlier recommendation by Kenneth Boulding, AIS President Slobodan Petrovich undertook a lengthy process the following year to get AIS recognized as an affiliate of the American Association for the Advancement of Science. The value of becoming a formal affiliate of a large prominent organization, other than looking impressive in a brochure, depended entirely on the extent of informal contacts with leaders of the organization. We became well networked with AAC&U and went on to collaborate with them on a number of successful projects; in contrast, we never developed a working relationship with any of the leadership of AAAS (perhaps because we have had very few members, and no Board members other than Slo, who were natural scientists), so nothing ever came out of our affiliation with them.

The first of those collaborations with AAC got underway the following year when Joseph Johnston, Director of Programs, contacted us about working collaboratively on an NEH-NSF-FIPSE grant to fund an Asheville Institute on Interdisciplinary General Education. Beth Casey, Julie Klein, Slobodan Petrovich and I worked with Joe Johnston and Jane Spaulding from AAC to write the grant proposal, which was funded. The four of us along with Peg Downes and a non-AIS member on the faculty at UNC-Asheville taught exemplary interdisciplinary courses in the summer of 1994 at the Institute and consulted with teams from participating colleges and universities designing or redesigning their interdisciplinary general education curriculum. Acknowledgment of AIS was scant that summer at the Institute from the AAC&U staff, and only slightly more public the following summer when some of us were again on the staff of the Institute. Still, during those two summers several dozen colleges and universities were exposed to ideas from AIS about how to conceive of interdisciplinary studies and how to design and teach courses accordingly.

Julie Klein and I were approached by Jerry Gaff (who was on the AAC staff at the Asheville Institutes) about writing a chapter on interdisciplinary studies for the *Handbook of the Undergraduate Curriculum* that he was preparing to edit with James Ratcliff. The previous handbook, which was

nearly 20 years old, contained only scattered references to interdisciplinary studies, but Gaff felt that IDS now deserved more prominence. Our 1997 chapter on "Advancing Interdisciplinary Studies" set out the now-famous emerging consensus definition of interdisciplinary studies, which, thanks to large sales of the book, was widely disseminated. Indeed, there may have been an element of self-fulfilling prophecy involved, since the authoritative stature of the book also accorded legitimacy to the definition.

Particularly satisfying in terms of publicizing AIS itself was the conference Julie Klein organized in March of 1998 during her year as Senior Fellow at the Association of American Colleges and Universities. This time, AAC&U publicly recognized AIS as the co-sponsor of the Academic Renewal Network Conference on Interdisciplinary Studies: New Intellectual and Institutional Frameworks. Many of the sessions featured AIS speakers—I gave three presentations—and we led discussion groups and consulted with individuals and a few institutional teams.

In 1992 I was awarded a three-year grant of over $200,000 from the Fund for the Improvement of Post-Secondary Education for an Institute in Integrative Studies to prepare teams of faculty members to design and teach interdisciplinary liberal education courses. Teams from other colleges and universities spent a week visiting Miami University's Western College Program (which FIPSE identified as a national model for interdisciplinary education), designed an interdisciplinary course back at their home institution, and then returned to Miami in the summer for a three-week seminar. The Board had been trying to secure funding for a summer faculty development institute ever since AIS was founded, and I had tried to find funding from a variety of sources for the previous three years (and dramatically revised the structure of the proposed institute in light of the feedback I received, especially from Dick Johnson at the Exxon Educational Foundation).[10] During the three years covered by the grant, 75 participants from 35 institutions participated in the Institute; most were from the United States but there were participants from Canada, Hungary, and Nepal as well. (See Appendix C for a complete list of participants.) A scaled-back version of the Institute, a self-supporting two-week summer workshop, continued for two years after the funding from FIPSE ran out. Participants contributed numerous articles to the *AIS Newsletter* and *Issues in Integrative Studies*, gave presentations at AIS conferences, served on AIS committees and task forces, and drafted the "Guide to Interdisciplinary Syllabus Preparation" (formally adopted by AIS). The reader prepared for the Institute formed the base for the AIS-sponsored *Interdisciplinarity: Essays from the Literature* published by The College Board in 1998.

In 1994 Julie Klein guest edited a European Perspectives volume of *Issues in Integrative Studies*. It was obviously an outgrowth of her networking throughout Western Europe, but more importantly it was part of her longstanding commitment to drawing the attention of AIS members to other perspectives on interdisciplinary studies. In the 1990s alone those efforts included alerting me to numerous conferences of other interdisciplinary organizations and to funding programs by federal agencies that I then publicized in the *AIS Newsletter*, alerting me to publications sponsored by other interdisciplinary organizations which I then had reviewed in the newsletter, arranging for Dean Ludwig Huber to write an article in the *AIS Newsletter* on Bielefeld's Oberstufenkolleg, writing a report for the *AIS Newsletter* on the 1st World Congress on Transdisciplinarity (which she attended), arranging for an article for the *AIS Newsletter* on interdisciplinary studies in Brazil by Ivani Catarina Arantes Fazenda, reviewing *Social Cartography: Mapping Ways of Seeing Social and Educational Change* for the *AIS Newsletter*, and organizing a K-16 roundtable at the 1998 AIS conference featuring prominent K-12 experts on interdisciplinary studies. 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 commonalty 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.

In 1996, AIS sponsored the publication by Copley Publishing Group of the second edition of *Interdisciplinary Undergraduate Programs: A Directory.* This edition was written by Alan F. Edwards, Jr., a doctoral student in education at the College of William and Mary (who has recently been designated Secretary of Education for the Commonwealth of Virginia), and well over 500 copies have been sold. The first edition, published a decade

earlier, had long been sold out and was obsolete in any event. Progress on a second edition revived interest in a companion directory of interdisciplinary graduate programs. Stan Bailis chaired a committee of Julie Klein, Sheila Lafountain, Jack Meek, and Pat Hovis that sought to conceptualize interdisciplinary graduate education in a way that reflected the latest AIS thinking about interdisciplinarity. Their report on "Graduate Level Interdisciplinary Study" was published that December in the *AIS Newsletter*. In contrast to long-standing efforts by AIS on behalf of undergraduate education, the goals of our graduate student initiatives were to avoid the graying of AIS, to connect to major national initiatives such as the AAC&U's Preparing Future Faculty, and to bring graduate students into AIS (since we saw them as the future of the profession). Near the end of the previous decade we offered an award for a few years for the best paper in interdisciplinary studies by a graduate student. (C. Lynne Havens, a graduate student at the University of Michigan, received the first $200 award in 1987 for a paper she presented at the Arlington conference on "Antecedents to Interdisciplinary Research in Higher Education." Lori Kendall received the second award in 1989 for her "Human Sexuality Studies at SFSU.") In 1990, we instituted a policy that continues to this day of reduced conference fees for graduate students.

In May 1996, Julie Klein, Beth Casey, and I were invited by Joanne Daniels to constitute the higher education half of an Advisory Committee on Interdisciplinary Studies for the recently-formed National Center for Cross-Disciplinary Teaching and Learning in the Office of Academic Affairs of The College Board.[11] (Julie had recommended a year earlier that Dorothy Downey of the OAA contact me about interdisciplinary activities at the undergraduate level—since their normal focus was on K-12 education—and I had sent them a copy of *Interdisciplinary Undergraduate Programs: A Directory*.) We proposed to Joanne that The College Board publish a series of AIS-sponsored books: *Interdisciplinarity: Essays from the Literature* (edited by William Newell and published in 1998); *Interdisciplinary General Education: Questioning Outside the Lines* (edited by Marcia Seabury and published in 1999); *Interdisciplinary Education: Guide to Resources* (edited by Joan Fiscella and Stacey Kimmel and also published in 1999); and *Interdisciplinary Education in K-12 and College: A Foundation for K-16 Dialogue* (edited by Julie Klein and published in 2002). This series brought the AIS literature on interdisciplinary studies to a new and much larger audience. The series came to an end when the Center was terminated.

Again in the 1990s, individual leaders did much to disseminate the intellectual work of AIS. While I did much of the consulting and external evaluating that decade (at a total of 34 institutions), Beth Casey, Julie Klein, Pauline Gagnon, and Ray Miller combined to serve over 25 other institutions. Julie and I each presented at least half a dozen public addresses at other colleges and universities as well. Julie, Beth, and I repeatedly served as AIS ambassadors to other domestic professional associations, often in positions of leadership, though Joan Fiscella, Carolyn Haynes, Cheryl Jacobsen, and Ray Miller and others linked to kindred organizations as well. Again, Julie Klein undertook the overwhelming majority of the international networking, traveling to Eastern as well as Western Europe, Australia and New Zealand, Nepal, Brazil, and (at least half a dozen times) Canada.

Interdisciplinary Undergraduate Education in the 2000s

For the last decade, I have taught the senior workshop almost exclusively. After a few years, I realized we were discussing issues about interdisciplinary research and writing that were not even mentioned, much less satisfactorily addressed, in the professional literature. Since I intended to retire at the end of the decade, I felt that I needed to somehow get into print the off-the-cuff advice I was giving seniors in the workshop; otherwise, that knowledge would retire with me. In 2004 I audiotaped all three sections of the senior workshop both semesters and spent the summer producing a Research Manual for Interdisciplinary Senior Projects based on those tapes. Since then I have revised and expanded the manual every year, so that it is now 60 pages long single-spaced. I published an article (Newell, 2007) drawn from the most theoretically significant portions and plan to post the manual on the AIS Website when I retire at the end of the academic year.

This decade, I believe we have seen the beginning of a third generation of interdisciplinary studies programs, accompanying a new status for interdisciplinary studies. After shifting from the radical fringe in the 1960s to the liberal mainstream in the 1980s and 1990s, interdisciplinary studies has shifted again to become the new "in" thing. Having interdisciplinary studies take on the status of a fad has produced new challenges but also new opportunities for those of us who are serious about interdisciplinarity. For well-established first-generation, and even some second-generation, interdisciplinary studies programs, the challenge has been to distinguish their approach to interdisciplinarity, and the education they produce as a result, from those whose claim to interdisciplinarity is unsullied by exposure to the professional literature or by critical reflection on the nature and practice of interdisciplinary studies. A number of long-standing interdisciplinary stud-

ies programs, including my own, have not been up to the challenge and are no longer standing.

On the other hand, I found myself consulting and externally evaluating new programs this decade that are thriving. These programs are characterized by the pragmatic application of what Julie Klein refers to as "instrumental interdisciplinarity" to complex real-world problems, and their students are focused on getting jobs in the new global economy, which they believe requires decision-making about complex problems. When the National Academies of Science, Engineering and Medicine (2005) advocate interdisciplinary studies and when NSF and NIH shift their funding priorities toward interdisciplinary studies, third generation interdisciplinary programs pay attention. Their faculties are open to intentionality and explicitness about process, grounded in the latest professional literature; a number of them have latched onto Allen Repko's 2008 *Interdisciplinary Research: Process and Theory* and made it the centerpiece of their curriculum. And they are attracting students, often hundreds of them. Some are for-profit and others are springing up abroad. To these institutions and their students, experimental colleges are a thing of the past, and liberal education has a sharply pragmatic edge; indeed, education is a business (whether nonprofit or for-profit), and education for education's sake is a luxury none can afford. They perceive that interdisciplinary studies gives students a competitive edge.

The Association for Integrative Studies in the 2000s

When AAC&U announced that it was undertaking a Project on Accreditation and Assessment as part of their Greater Expectations Initiative, I noted that they had asked six disciplinary associations to form task forces to recommend accreditation and assessment standards for liberal education in their discipline. I contacted the director of the project, John Nichols, and asked him if he would find it useful to have AIS form a seventh task force on interdisciplinary studies (knowing from my national tour that he had directed the interdisciplinary core curriculum at St. Joseph College). He readily accepted our offer. Joan Fiscella chaired our task force, which consisted of Cheryl Jacobsen, Julie Klein, and Marcia Seabury with Michael Field serving as liaison from the AIS assessment task force. The challenge the task force faced in arriving at consensus was that they could agree on many principles that should guide interdisciplinary general education but not on a single best way to meet each principle. Their eventual solution was to identify the key issues involved in implementing each principle in the form of

questions, signaling that there may be many acceptable ways of addressing each issue. The Board officially endorsed their report in February of 2000 and submitted "Interdisciplinary Studies in General Education Guidelines" to AAC&U. Under Don Stowe, the AIS assessment task force made significant progress over the next two years in clarifying our understanding of interdisciplinary assessment, so he drafted a new expanded section on assessment for the Guidelines, which was approved by the Board in October of 2002. The Guidelines were initially published in the *AIS Newsletter* and then made available at subsequent AIS conferences; eventually they were posted on the AIS Website. A number of colleges and universities have reported that they used the Guidelines quite effectively in undertaking internal reviews of their interdisciplinary general education program.

It was not until 2000 that I finally presented my current theory of interdisciplinary studies at the Portland AIS conference, a paper that served as the centerpiece for the 2001 volume of *Issues in Integrative Studies*. Several AIS leaders who had received my paper in advance presented responses at that session, most of which were highly critical; and that volume of *Issues* featured responses from Stan Bailis, Julie Klein, J. Linn Mackey, Richard Carp, and Jack Meek, along with my reply. While some remained skeptical, others were eager to participate in the development and application of the first theory of interdisciplinary studies. Several papers each year at AIS conferences made use of (or, occasionally, critiqued) the theory. Rick Szostak, also criticized by J. Linn Mackey, was the first to respond in print with his own version of the theory in the 2002 volume. Chris Wolfe and Carolyn Haynes used the theory as a theoretical starting point for their article on interdisciplinary assessment in the 2003 volume. In the 2004 volume of *Issues*, Jeremy Smith and I offered as the first application of that theory a study of Web design as interdisciplinary activity (based on his senior project in the Western College Program). In it we argued that a website can usefully be understood as a complex system, so its design requires an interdisciplinary approach. An important implication of this argument is that interdisciplinary studies in applied fields such as business may lead to the *creation* of a complex system, not to its *understanding* (as is typical in academic work). In that same volume, Marc Spooner, a doctoral candidate at the University of Ottawa, applied the theory to the use of creative thinking tools in interdisciplinary studies. In the 2006 volume of *Issues*, I addressed the critique (most closely associated with J. Linn Mackey) that my theory asks too much of even experienced interdisciplinary scholars. My strategy was to show the success of seniors in the Western College Program in following the steps

identified in the theory in their senior projects. Allen Repko's 2008 *Interdisciplinary Research: Process and Theory* set out a slightly different version of the interdisciplinary process steps proposed by my theory, and his book in turn has been widely adopted in interdisciplinary programs. In the 2007 volume of *Issues* Allen's article on "Integrating Interdisciplinarity" closely examines a key step in interdisciplinary theory—creating common ground, while Mathews and Jones' article on systems theory and learning outcomes in this volume makes explicit use of my theory and Allen's variant of it. Allen, Rick Szostak, and I are now co-editing a volume in which scholars test his steps in a wide array of fields drawing on the humanities, social sciences, or natural sciences. This outpouring of research reflects, I suspect, the scholarly importance of theory, though there are now enough successful applications of variants of the theory to demonstrate its fruitfulness as well.

The Board had identified several AIS-affiliated consultants as far back as 1985, but in 2001 the decision was made to provide training for those who wanted to be listed on the AIS Website. That year Beth Casey and I offered the first of several consultant training sessions at AIS conferences, and we began taking prospective consultants with us on our consulting trips. The combination of consulting workshops and on-the-job experience provided a sound basis for evaluating prospective consultants and a mechanism for passing consulting knowledge on to the next generation of consultants.

In 2001 the Board initiated an interdisciplinary syllabus project proposed by Marcia Seabury. Her idea was to identify and post on the AIS Website exemplary syllabi for a range of interdisciplinary courses that might serve as models of good practice for new interdisciplinarians or for more experienced faculty wishing to strengthen the interdisciplinarity of their course. AIS members were encouraged to submit syllabi for review by a committee that was chaired at first by Marcia (and most recently by Pauline Gagnon). Those whose syllabi were accepted got the satisfaction (and professional recognition) of helping faculty at other institutions design more fully interdisciplinary courses; those whose syllabi were not accepted got useful peer feedback on their course. Since its inception, the project has expanded to include not only syllabi but also assignments, class plans, worksheets, writing rubrics, exams, tables of contents of course readers, and even lecture notes.

After we searched unsuccessfully for half a dozen years for someone to compile a directory of interdisciplinary doctoral programs that Georgetown University Press had agreed to publish, Rick Szostak made use of the search capabilities of the Web to compile an online directory of interdisciplinary doctoral programs in the United States that we posted on the AIS Website in 2002. Instead of writing one-page descriptions of programs as we had done in both print editions of the directory of undergraduate interdisciplinary programs, he simply provided links to their websites. Since then we have checked the links annually and added new programs as they are brought to our attention, so the directory stays current (unlike print directories). In 2008 Jordan Hill, a master's student at Naropa University, compiled a partial directory of interdisciplinary master's programs in the United States that I persuaded him to post on the AIS Website. His directory included only 200 fully interdisciplinary programs, but it provided one-page descriptions of each program as well as links to their websites; it also provided a means for programs to update their listing and for overlooked programs to request that they be added. Rick guided him in preparing the extensive introductory pages.

Beyond their value as reference works, these directories facilitated our efforts to expand the reach of AIS into graduate education. Building on earlier efforts to attract graduate students to AIS, in 2001 we started offering travel grants to graduate students presenting papers at AIS conferences, and as many as a dozen were awarded each year. In 2008, after several Board members and Julie Klein had provided extensive feedback on drafts, Allen Repko published his *Interdisciplinary Research: Process and Theory* (SAGE), which was written for graduate as well as advanced undergraduate students. His book was useful in our efforts to persuade graduate faculty as well as their students that AIS had something to offer them. That same year I had served as a consultant for a new interdisciplinary doctoral program at Virginia Tech, the ASPECT program, after having been one of the external evaluators of their proposal for the State Council of Higher Education of Virginia the previous year. In 2009 Wolfgang Natter, the director of the program, secured a commitment from his institution to host the 2012 AIS conference with emphasis on interdisciplinary graduate education.

The book on interdisciplinary pedagogy, which prompted my national tour in 1981 only to be put aside in 1983 when I refocused my efforts on AIS itself, finally became a reality two decades later with the 2002 publication of Carolyn Haynes' *Innovations in Interdisciplinary Teaching*. While she did reach outside AIS for chapters on learning communities, multicultural education, performance, and advising, a majority of the chapters were written by AIS members: Stan Bailis, Bob Bender, Jim Davis, Michael Field, Faith Gabelnick, Nancy Grace, Carolyn Haynes, George Klein, Roz Schindler, Marcia Seabury, Don Stowe, and Jay Wentworth.

AIS leaders had long yearned for a way to scientifically document the

educational value of interdisciplinary studies, but the few good articles on interdisciplinary assessment focused on the paucity of appropriate assessment instruments or on the conceptualization of interdisciplinary assessment. Around 2000, the Board hired my colleague Chris Wolfe to design an assessment instrument, and Carolyn Haynes later joined him. (Chris had made a number of contributions to AIS already, setting up the INTERDIS LISTSERV in 1992 and the first AIS Website in 1995; he also became an AIS-affiliated consultant in 2003.) Chris and Carolyn presented their "Interdisciplinary Writing Assessment Profiles" at the 2003 AIS conference in Detroit. Their strategy was to assess interdisciplinary thinking by developing a scoring rubric for expository, research-based writing such as senior projects. The instrument they designed measured four dimensions of interdisciplinary writing: drawing on disciplinary sources; critical argumentation; multidisciplinary perspectives; and interdisciplinary integration. They tested the reliability and validity of the instrument on a random sample of 20 senior projects, 10 from the Western College Program and 10 from the Miami University Honors Program.[12] Their instrument was immediately posted on the AIS Website, and they published an article on it in the 2003 volume of *Issues in Integrative Studies*.

In 2005 AIS continued its long-standing collaboration with AAC&U, this time on a Network for Academic Renewal Conference on Integrative Learning. Cheryl Jacobsen and Carolyn Haynes represented AIS the previous year on the planning task force; Carolyn gave one of the keynote addresses; Cheryl Jacobsen, Fran Navakas, Rick Szostak, and I offered a pre-conference workshop on interdisciplinary studies; and Chris Drewel, Carolyn Haynes, Karen Moranski, Michael Murawski, David Sill, Rick Szostak, Ian Watson, Judy Whipps, and I all led conference sessions (Carolyn and I more than one). Carol Geary Schneider went out of her way in her opening remarks to acknowledge the contributions of AIS to the conference. For the next Integrative Learning Conference in 2009, AAC&U officially identifies AIS in publicity for the conference as its Academic Partner. Pauline Gagnon represents AIS on the planning committee; Carolyn Haynes offers a pre-conference workshop; Pauline Gagnon and Allen Repko lead a session on interdisciplinary curriculum; Tanya Augsburg co-leads a session on e-portfolios; Allen Repko, and I lead a session on "Integrating Insights Drawn from Different Perspectives"; and Fran Navakas and Cheryl Jacobsen lead a session on the "Connective Tissue of Integration."

One of the long-standing challenges to teachers of interdisciplinary courses was that there were no textbooks on interdisciplinarity itself. Suddenly in 2005 there were two available. Tanya Augsburg's *Becoming Interdisciplinary: An Introduction to Interdisciplinary Studies* was aimed at first-year students, while Allen Repko's *The Interdisciplinary Process: A Student Guide to Research and Writing* was aimed at advanced undergraduates and graduate students. I mentored both of them through the writing process and was delighted that they chose to see their work as complementary; indeed, they jointly led an AIS conference session on interdisciplinary textbooks. Allen immediately set to work on a major revision that became his *Interdisciplinary Research: Process and Theory* published three years later. Both authors made extensive and explicit use of the AIS-sponsored professional literature.

Don Stowe proposed that AIS take advantage of facilities at his institution (the University of South Carolina) and set up a teleconference that showcased the work of AIS. The result was a two-hour teleconference on "Interdisciplinary Studies Today: Where Are We?" that was telecast and webcast in November of 2005 to 31 subscribing institutions. Julie Klein, Carolyn Haynes, and I constituted the panel that made serial presentations on the definitions and outcomes of interdisciplinary studies, interdisciplinary courses and pedagogy, and standards and resources for interdisciplinary efforts. To the considerable amusement of my fellow panelists, I discovered that with no live audience and without access to the monitor showing my slides, I felt like a neophyte public speaker. Still, we reached a very large audience that day, and then sold a DVD of the telecast that reached a number of other institutions as well. When sales of the DVD died down, we posted the entire teleconference on the AIS Website.

Julie Klein and I had long been interested in broadening the scope of AIS to make it more international. Small numbers of faculty members from other countries (usually from Western Europe, Canada, or Australia and New Zealand) had been attending AIS conferences for over a decade, and Julie had been an indefatigable traveler all over the globe, but we had no mechanism for establishing an institutionalized presence for AIS in other countries. In 2006 Machiel Keestra from the University of Amsterdam attended the Atlanta conference and was so inspired by AIS that he started attending our conferences regularly and wanted to establish an AIS-related professional association in the EU. In 2008 Lorraine Marshall from Murdoch University finished the AIS conference in Springfield, Illinois, full of plans for disseminating AIS insights into interdisciplinarity throughout Australia. The Board decided the time had come to explore our options abroad by appointing Machiel and Lorraine as International Liaisons to the AIS Board of Directors. At this writing, it is too soon to tell what will result from this initiative.

In the second half of the decade, the profession was shaken by a series of closures of prominent, long-standing interdisciplinary studies programs. Four in particular hit close to home—the Interdisciplinary Social Science Program at San Francisco State, where Stan Bailis and Ray Miller taught; the Interdisciplinary Studies Program at Wayne State University, where Stuart Henry, Julie Klein, and Roz Schindler taught; the Western College Program at Miami University, where Carolyn Haynes, Chris Wolfe, and I taught (before Carolyn became Director of the University Honors and Scholars Program); and the Interdisciplinary Studies Program at Appalachian State, where Richard Carp, J. Linn Mackey, and Jay Wentworth taught. Common to the four closings was the claim by the Provost that, because interdisciplinary studies now occurred throughout the institution, there was no longer a need for a separate interdisciplinary studies program. The Board felt that the causes of these closings deserved close scrutiny so interdisciplinarians at other institutions would know how to respond appropriately. Stuart Henry and Tanya Augsburg volunteered to edit a book, resulting in the 2009 publication of *The Politics of Interdisciplinary Studies: Essays on Transformations in American Undergraduate Programs.*

Since 2000, the demand increased for AIS-affiliated consultants. I alone consulted for 30 different institutions, as much as the rest of the AIS leadership combined, but otherwise the consulting load was pretty evenly distributed among Beth Casey, Carolyn Haynes, Julie Klein (who was highly selective in accepting offers so she could write books), Jay Wentworth, and Chris Wolfe. External evaluations (totaling about 25) were more evenly distributed among Pauline Gagnon, Carolyn Haynes, Stuart Henry, Julie Klein, Dan Larner, Ray Miller, Don Stowe, and me. Julie, Carolyn, and I each gave several public addresses at other institutions as well. As for networking with at least 20 other U.S. professional associations, Carolyn Haynes, Cheryl Jacobsen, and Julie Klein shared the bulk of the responsibility (including major leadership roles), though Beth Casey, Ray Miller, and I contributed as well. Internationally, it will be no surprise that Julie Klein carried out almost all the networking in a dozen different countries, though I helped out in two.

Conclusion (or, What Did AIS Accomplish?)

I claim in my title that the histories of the Association for Integrative Studies and of interdisciplinary undergraduate education are intertwined. Are they? There is no question that AIS provided a rapidly expanding set

of services and resources to its members over its first 30 years, and that it provided a welcome professional home and a sense of professional identity to many interdisciplinarians. Those accomplishments alone would be sufficient to justify its existence. But what, if anything, did it contribute to the evolution of undergraduate interdisciplinary studies in the United States?

Before I started work on this article, I would have answered that there's no way to know, though it certainly felt as though we had an important if perhaps circuitous national effect. Having now leafed page by page through several file cabinets' worth of files, reread thousands of documents in light of what happened subsequently, collated their information, and laid it out alongside the developments in interdisciplinary undergraduate education, I now believe it would be hard to deny that AIS had a major effect on educational trends (though precisely how much of an effect remains unknowable).

One could blithely point out that AIS was in operation at the same time as interdisciplinary studies was evolving, and it focused on interdisciplinary studies, but that argument would commit the classic post-hoc-ergo-propter-hoc fallacy. Nonetheless, close examination of when AIS made *specific* advances in understanding interdisciplinarity and when those ideas achieved national currency reveals a pattern that it would be difficult to attribute to chance.

Moreover, the mechanisms of transmission from AIS were numerous and strong. AIS leaders frequently presented their latest understanding of interdisciplinary studies before a long list of prominent national organizations, and they often played leadership roles in those organizations that predisposed other members to take them seriously. AIS leaders consulted, served as external evaluators, or gave major public addresses at a wide range of institutions, often returning for follow-up visits. (I alone served as consultant or external evaluator over a hundred times, and Julie Klein was much more networked than I was). AIS leaders published widely as well in prominent publications, in addition to serving as referees for journals, publishers, and granting agencies. Who knows the additional impact of regular AIS members, including those who read the newsletter and journal but never attended a conference, or of individual faculty members who attended a workshop offered by someone from AIS? After consulting for only a decade or so, I started running into faculty members and administrators who once attended a workshop I gave and then moved to a different institution where they had been instrumental in instituting interdisciplinary courses or programs.

Nor can one credibly argue that the direction of the trends in national thinking about interdisciplinarity was inevitable. I spent too much time in

the 1980s, not always successfully, trying to persuade skeptical faculties at institutions where I consulted or served as an external evaluator that the ideas about interdisciplinarity developed in AIS were preferable (because, for example, they hold the promise of more desirable educational outcomes), to believe that there was anything inevitable about the national trends in interdisciplinary studies. Not only that, those ideas were hotly contested within AIS, and it was unclear for years which ones would prevail.

One might reasonably claim that a backlash against narrow disciplinarity was inevitable, but especially in the United States that reaction to disciplinary excess might well be expected to take the form of more individual freedom, perhaps even a libertarian turn, or a relativist egalitarian form. Instead, interdisciplinary studies went in neither direction; rather than rejecting disciplines or embracing relativism, it opted for drawing from disciplines while transcending them through integration. When I recently examined six prominent definitions of interdisciplinary studies (Newell, 2007, December), including three from non-AIS related sources—the National Academies of Science, Engineering, and Medicine, Harvard University's Project Zero, and the Teagle Foundation/Social Science Research Council—I found that they shared the following elements: IDS has a specific substantive focus that exceeds the scope of a single perspective and is broad or complex; IDS as a whole is characterized by an identifiable process/mode that involves drawing explicitly from the disciplines, which provide insights into the specific substantive focus, and by integration; the object of integration is instrumental and its goal is pragmatic—to solve a problem, resolve an issue, answer a question, explain a phenomenon, or create a new product.

I have argued elsewhere (Newell, 2007, January; Newell, 2003) that the holism-grounded-in-reductionism-and-dualism of interdisciplinary studies runs against the intellectual grain of Western civilization (indeed, it challenges Western understandings of rationality and empiricism), yet it is fundamentally different from the direct apperception of wholes that is characteristic of Eastern thought. When the understanding of interdisciplinary studies that has come to be accepted in the United States is viewed in this light, the more appropriate question becomes, from where and how did such an unprecedented way of thinking emerge? It is hard to come up with another source than the Association for Integrative Studies.

Biographical Note: William H. Newell is Executive Director of the Association for Integrative Studies and a veteran of 40 years of interdisciplinary undergraduate teaching.

Notes

[1] Hampshire College was founded in 1970, but President Patterson's book set out his vision for the college in 1966, the year after I graduated from Amherst College, which is located in the same small town of Amherst, Massachusetts.

[2] To give an indication of how educationally conservative Amherst College was when I attended it, in my junior year I asked my advisor Hugh Hawkins why we didn't have courses in anthropology and sociology, and he replied that the faculty felt those disciplines had not yet proven themselves. In fairness, he also pointed out that small colleges—there were 200 in my class—have to be selective in their offerings.

[3] For further discussion of the curriculum of the Paracollege (and its parallels to and differences from that of the Western College Program that follows), see Newell (1983).

[4] By the third year, though, our Senior Tutor Bill Narum returned from the conference at which David Lightner was smitten with interdisciplinary studies to report that "all experimental colleges throughout the country report declining interest on the part of new students. It raises the question whether they were responses to a need of the late 60's or a serious alternative to traditional ways of doing higher education" (Narum, 1973).

[5] For summaries of task force discussions, see *AIS Newsletter 1*(1), September 1979, 3-6. One task force report was subsequently expanded and published, becoming one of the classics in the literature on interdisciplinary education (Hursh, Haas & Moore, 1983, January/February). That article is an excellent representative of the thinking about interdisciplinary higher education that predominated by the end of the conference.

[6] Steve Ricchetti went on to be Clinton's liaison to Congress, his Deputy Chief of Staff, and then Deputy Assistant to the President for Legislative Affairs. Since then, he has enjoyed a notoriously lucrative career as a political consultant.

[7] In contrast to early first-generation interdisciplinary programs, the efforts at interdisciplinary curricular development I encountered in my consultancies in the 1980s (and beyond) emanated from the grassroots of the institution; they came from the bottom up through informal aggregations of faculty members, not from the top down, driven by charismatic leaders. Typically, some of those faculty members were in interdisciplinary fields while others (what Rogers, 1962, called early adopters) were attracted to innovation.

[8] In an odd crossing of generations, Richard Hettlinger had interviewed me when I applied for admission to Kenyon College and still remembered me 20 years later.

[9] I was looking forward to meeting Ray after Mike Lunine, my Dean who moved to San Francisco State, wrote me enthusiastically about him. We took advantage of the first break between sessions and wandered out to the parking

lot for what turned out to be an intense and lengthy conversation, and have been friends since.

[10] One by-product of my earlier unsuccessful efforts as a mere secretary-treasurer and newsletter editor to secure funding from a major granting agency was that the Board upgraded my title to Executive Director in 1991. When I reapplied to FIPSE with my new title, the grant was approved.

[11] The impetus for establishing the Center was an October 1994 plenary session of the six subject-matter Academic Advisory Committees for The College Board, at which committee members pointed out that standards vary among subject matters, making it difficult to discuss national standards in general. Once the Center was established, however, its attention expanded to include interdisciplinary studies.

[12] As expected, the interdisciplinary students performed significantly better than the honors students (who had disciplinary majors) on the multidisciplinary perspectives and interdisciplinary integration dimensions. It was particularly satisfying for those of us teaching in interdisciplinary programs to learn, however, that the performance of the interdisciplinary studies majors (who were not honors students) on the first two dimensions was not significantly lower than the performance of the honors students.

References

AIS Task Force on the Description of Interdisciplinary Studies. (1988, December). Integrative studies: An attempt at description, *AIS Newsletter*, *10*(4), 4-5.

Augsburg, T., et al. (2009). Conclusion. In T. Augsburg & S. Henry, Eds., *The politics of interdisciplinary studies: Essays on transformations in American undergraduate programs* (pp. 227-255). Jefferson, NC: McFarland.

Boulding, K.E. (1956). *The image: Knowledge in life and society*. Ann Arbor: University of Michigan Press.

Coleman, S. (2001). Dangerous outposts: Progressive experiments in higher education in the 1920s and 1930s. In B. Smith & J. McCann, Eds., *Reinventing ourselves: Interdisciplinary education, collaborative learning, and experimentation in higher education* (pp. 6-18). Bolton, MA: Anker Publishing.

Committee on Facilitating Interdisciplinary Research and Committee on Science, Engineering, and Policy. (2005). *Facilitating interdisciplinary research*. Washington, DC: National Academies Press.

Gaff, J. & Associates. (1970). *The cluster college*. San Francisco: Jossey-Bass.

Grant, G. & Riesman, D. (1979). *The perpetual dream: Reform and experimentation in American education*. Chicago: University of Chicago Press.

Hursh, B., Haas, P. & Moore M. (1983, January/February). An interdisciplinary model to implement general education, *Journal of Higher Education, 54*(1), 42-49.

Klein, J.T. (1998). The discourse of interdisciplinarity, *Liberal Education, 84*(3), 4-11.

Klein, J.T. (1999). *Mapping interdisciplinary studies*. The Academy in Transition series. Washington, DC: AAC&U.

Klein, J.T. & Newell, W.H. (1997). Advancing interdisciplinary studies. In J. Gaff & J. Ratcliff, Eds., *Handbook of the Undergraduate Curriculum* (pp. 393-415). San Francisco: Jossey-Bass).

Meeker, J. (1973, Spring). Academic fields and other polluted environments, *Journal of Environmental Education, 4*(3).

Narum, W. (1973, February 2). Report of the senior fellow on conference at Johnston College. Unpublished manuscript.

Newell, W.H. (1980). The wealth of testators and its distribution: Butler County, Ohio, 1803-1865. In R. Smith, Ed., *Modeling the distribution and intergenerational transmission of wealth* (pp. 95-138). Chicago: University of Chicago Press.

Newell, W.H. (1984). Interdisciplinary curriculum development in the 1970's: The Paracollege at St. Olaf and the Western College Program at Miami University. In R. Jones & B. Smith, Eds., *Against the current: Reform and experimentation in higher education* (pp. 127-147). Cambridge, MA: Schenkman Press.

Newell, W.H. (1986). *Interdisciplinary undergraduate programs: A directory*. Oxford, OH: Association for Integrative Studies.

Newell, W.H. (1992, Summer). Academic disciplines and undergraduate interdisciplinary education: Lessons from the School of Interdisciplinary Studies at Miami University, *European Journal of Education, 27*(3), 211-221.

Newell, W.H. (1999, May/June). The promise of integrative learning, *About Campus 4*(2), 17-23.

Newell, W.H. (2001), Powerful pedagogies. In B.L. Smith & J. McCann, Eds., *Reinventing ourselves: Interdisciplinary education, collaborative learning and experimentation in higher education* (pp.196-211). Bolton, MA: Anker Press.

Newell, W.H. (2003). Complexity and interdisciplinarity. In Knowledge management, organizational intelligence and learning, and complexity, *Encyclopedia of Life Support Systems*. Available online at http://www.eolss.net. Oxford, UK: EOLSS Publishers.

Newell, W.H. (2006). Interdisciplinary integration by undergraduates, *Issues in Integrative Studies, 23*, 89-111.

Newell, W.H. (2007, January). The role of interdisciplinary studies in the liberal arts, *LiberalArtsOnline*.

Newell, W.H. (2007, December). Six arguments for agreeing on a definition of interdisciplinary studies. *AIS Newsletter*, *29*(4), 1-4.

Newell, W.H. (2007). Distinctive challenges of library-based interdisciplinary research and writing: A guide. *Issues in Integrative Studies*, *25*. 84-110.

Newell, W.H. (2009). The political life cycle of an interdisciplinary cluster college: The Western College Program at Miami University. In T. Augsburg & S. Henry, Eds., *The politics of interdisciplinary studies: Essays on transformations in American undergraduate programs* (pp. 29-50). Jefferson, NC: McFarland.

Newell, W.H. et al. (2003). Apollo meets Dionysius: Interdisciplinarity in long-standing interdisciplinary programs. *Issues in Integrative Studies, 21*, 9-42.
Newell, W.H. & Green, W. (1982, Winter). Defining and teaching interdisciplinary studies, *Improving College and University Teaching, 30*(1), 23-30.
Patterson, W. (1966). *The making of a college: Plans for a new departure in higher education*. Cambridge, MA: The MIT Press.
Repko, A.F. (2005). *Interdisciplinary practice: A student guide to research and writing*. Boston: Pearson Custom Publishing.
Repko, A.F. (2008). *Interdisciplinary research: Process and theory*. Thousand Oaks, CA: SAGE.
Rogers, E.M. (1962). *Diffusion of innovations*. New York: Free Press.
Rosenzweig Kliewer, J. (2001). The innovative colleges and universities of the 1960s and 1970s: Lessons from six alternative institutions. In R. Jones & B. Smith, Eds., *Against the current: Reform and experimentation in higher education* (pp. 19-49). Cambridge, MA: Schenkman Press.
Trow, M. (1984/85). Interdisciplinary studies as a counterculture: Problems of birth, growth, and survival. *Issues in Integrative Studies, 3*, 1-16.

Appendix A

Task Forces at the National Conference on "The Teaching of Interdisciplinary Social Science"

1. What are the relevant merits of teaching interdisciplinary social science through topics (urban problems), themes (individual in society), historical perspective (Western Civilization), comparative perspective (the family: East and West), or as a supra-discipline (introduction to social science)? Alternatively, are there different legitimate species of the genus interdisciplinary social science?

2. What traits, skills, or competencies are best developed through interdisciplinary courses? Alternatively, what are the rudiments of social scientific thinking?

3. What effects do or should interdisciplinary courses have on the values (or the career choices) of our students?

4. What are the special problems imposed and opportunities presented by having faculty trained in the disciplines but teaching in interdisciplinary courses, e.g., are there effective means of providing faculty with interdisciplinary training while they teach? How can we encourage interdisciplinary research?

5. How can interdisciplinary programs achieve legitimacy, and their faculty recognition and advancement, in discipline-oriented academic institutions?

Appendix B

A Synthetic Position Paper for All Task Forces

by Bill Newell (April 19, 1979)

As I read through the thirty-odd position papers I received by Tuesday of this week, I was struck by several recurrent themes and a number of unstated concerns which seem to fit together well into a coherent perspective on the state of interdisciplinary social science in American higher education. It will quickly become apparent as you read through this paper, however, that while many of the key arguments are shamelessly pirated from the position papers of others, the overall perspective is peculiarly my own. The advantage of this perspective, however idiosyncratic, is that it implies a focus for the discussion of each task force. If the task forces find it useful to focus on the issues raised by this perspective, then the task force reports should lead to a fruitful exchange of ideas in the plenary sessions, and we can improve our chances of producing some tangible results by the end of the conference. Certainly there is some advantage in providing each task force with some sense of how its discussion fits into the overall concerns of the conference. You will also note that this position paper is contentious as well as synthetic. My goal is to provoke discussion as well as focus it.

The starting point for this overall perspective is a felt need among interdisciplinarians for legitimacy within the academy. This quest for legitimacy takes its sense of urgency from the professional insecurity which is created by institutional retrenchment in the face of declining enrollments and budget cuts, but it also seems to reflect the desire of interdisciplinarians for professional status through academic respectability, and finally there is a hint that we seek respectability in our own eyes—ultimately we seek self-esteem through a sense of professional identity. While the three levels of legitimacy (let us call them political, social, and individual) lead to somewhat different arguments, all three take as their point of departure a search for what is unique in interdisciplinary studies.

There seems to be striking agreement among the position papers on the distinctive feature of the interdisciplinary approach, namely the explicit and synthetic manipulation of the paradigms of several disciplines. Each discipline, several authors claim, has its own characteristic perspective (leaving aside any conflicting schools of thought within the discipline) through which it views the world, and the assumptions, values, and other parameters of that perspective are seldom examined and less often questioned, especially at the undergraduate level. Interdisciplinarians are in the business of bringing the assumptions of competing perspectives to the conscious level, explicitly contrasting these perspectives, and then forging a synthesis or holistic perspective. In the absence of a unified theory of the social sciences, we appropriately emphasize our process (or approach) more than our product. This interdisciplinary approach is claimed to instill desired traits in students and aid in the solution of practical problems. It is on these grounds, and these alone, that we stake our claim for distinctiveness.

At this point in the analysis, there was some tendency for the arguments to diverge, depending on the level of legitimacy of most concern to the author. Papers written primarily out of concern for individual legitimacy tended to argue that the interdisciplinary approach is superior to a disciplinary approach, while those more concerned with social or political legitimacy were more likely to argue that the interdisciplinary approach complements the disciplines. I would like to advance the argument that claims of superiority are not only politically inexpedient but misguided—the source of individual legitimacy lies elsewhere.

Were we to take seriously the claims of disciplinary narrow mindedness, inflexibility, and inapplicability to practical policy issues, we would be led to attack the legitimacy of the disciplines. But we would surely fail in our attack, because American higher education is stably organized on a bureaucratic model where departments are the fundamental unit and disciplines are firmly entrenched in departments. One reason that interdisciplinary studies is under attack by disciplinarians (leaving aside questions of legitimacy) is that they perceive that we are a threat to them—we call into question their raison d’etre at a time when everyone in academia feels professional insecurity. Our chances of success are much greater if we try to fit into the existing structure of higher education rather than trying to overthrow it, if we would see ourselves as complementing the disciplines. The implication is that we should strive to become an interdisciplinary department among disciplinary departments.

I see two principles of organization for such an interdisciplinary department, either along the lines of our approach (such as a broad Department of Interdisciplinary Studies or a narrower Department of Interdisciplinary Social Science) or along the lines of what we study (e.g.,

urban studies, women's studies). One problem with organizing by area or topic is that we may find ourselves legitimate but expendable: You can conceive of a university without an urban studies department, while you probably cannot conceive of it without a history department. The trick to survival is to be perceived as basic or fundamental and distinctive in our approach.

The other problem with organizing an interdisciplinary studies department around a topic or area is that the distinctive training of the students and the distinctive specialty of the faculty is misidentified. Interdisciplinary studies is method-specific not subject-specific. Interdisciplinary tools taught in an urban studies program are largely transferable to Black studies or women's studies.

Even worse would be a Program in Urban Studies, for example, without any departmental base at all. Programs, majors, or concentrations funded out of discretionary funds, soft (grant) money, or worse, out of departmental largess, are most vulnerable of all. The route to permanence lies in a line item in the budget, and that comes with departmental status.

Beyond the articulation of the unique and basic contribution of interdisciplinary studies, the admission of complementarity with disciplines, and the acquisition of departmental status, political and social legitimacy can only be achieved through the development of professional identity as interdisciplinary social scientists (which we saw earlier is a necessary condition for individual legitimacy as well). A sense of professional identity would also help us attract and retain strong faculty.

Professional identity requires institutional support. Symbolically, the most important single support structure would be a national organization for interdisciplinary social scientists. Our identity as interdisciplinary teachers would be enhanced by a professional journal, probably one aimed at all interdisciplinarians and not just social scientists because the problems we face and the methods we use are probably much the same. Our identity as interdisciplinary researchers can be enhanced both locally and nationally. At the college or university level, interdisciplinary research is much more likely to be spawned by upper division courses than by introductory or general education courses. As valuable as our approach may be to freshmen we need to develop and teach sophisticated upper-level courses as well that deal with researchable topics, or we face second-class citizenship and loss of high-quality faculty. Opportunities for interdisciplinary research should be supplemented by a professional journal specializing in interdisciplinary methodology, i.e., in that which distinguishes us as professional scholars.

The above analysis suggests the following focuses for task force discussions:

Task Force 1 (course organization)

- How well do the alternative course organizations get at what is distinctive about the interdisciplinary approach?
- Does effectiveness or appropriateness of alternative course organizations vary from lower division to upper division courses?
- Is it feasible to work towards a unified theory of the social sciences?

Task Force 2 (traits and competencies)

- What distinctive traits and competencies are developed through interdisciplinary courses that are not developed as well through disciplinary courses?

Task Force 3 (values)

- What distinctive values are promoted by interdisciplinary courses as opposed to disciplinary courses?

Task Force 4 (disciplinary training)

- Just how important is disciplinary training for interdisciplinarians given what is distinctive about the interdisciplinary approach?
- What changes must faculty make to shift from a disciplinary to an interdisciplinary approach, and how can we facilitate that shift?
- How can we institutionalize support for interdisciplinary research? for faculty training in interdisciplinary methodology?

Task Force 5 (legitimacy)

- Is there any merit to the argument advanced in this position paper?

Appendix C

Participants in the Institute in Integrative Studies

1992-93: (14 participants from 7 institutions)

- Bemidji State University (MN): Carol Milowski, English; Pat Rosenbrock, Women's Studies & Services
- Incarnate Word College (TX): Charley Halper, Education
- Indiana State University (IN): Don Richards, Economics; Ed Warner, Humanities
- Miami University (OH): Darcy Donahue, Spanish & Portuguese; Matthew Farris, Western College Program (student); Robert Friedenberg, Communication; Jim Kelly, Philosophy; Constance Pierce, English
- Tribuvan University (Kathmandu, NEPAL): Shreedar Lohani, English
- University of the Pacific (CA): Gwenneth Browne, Philosophy; Newman Peery, Jr., Business and Public Administration
- University of Southwestern Louisiana (LA); Sheryl St. Germain, English

1993-94: (37 participants from 15 institutions)

- Adams State College (CO): Krista Moore, Sociology
- Agnes Scott College (GA): Rafael Ocasio, Spanish
- Christopher Newport University (VA): Douglas Gordon, English; Mario Mazzarella, History and Office of the President; Lea Pellett, Sociology; Scott Pollard, English
- City University (WA): Carol Kelling, core faculty; Ronn Pelley, core faculty; Steve Stargradter, core faculty
- Clark Atlanta University (GA): Keith Baird, African and Afro-American Studies
- College of Wooster (OH): Nancy Grace, English
- Guilford College (NC): Elizabeth Keiser, English; Marlene McCauley, Geology; Michael Strickland, English
- Hanover College (IN): Ted Eden, English; David Nchia, Communication
- Macomb Community College (MI): Leslie Beecher, English; Brian Hamilton, Mechanical Technology; Fred Jex, Accounting
- Pittsburg State University (KS): Sandra Ranney, Art
- Southeast Missouri State University (MO); Betty Fulton, Economics; Mitchel Gerber, Political Science; Albert Hayward, Philosophy; Rickard Sebby, Psychology

- Southern Illinois University at Edwardsville (IL); Doug Eder, Biology and Undergraduate Assessment & Program Review; Tom Paxson, Philosophy; David Sill, Fine Arts and Communications
- Southwest Texas State University (TX); Rebecca Bell-Metereau, English; Chris Frost, Psychology
- University of LaVerne (CA): David Flaten, Theatre Arts; Jack Meek, Public Administration
- Western Michigan University (MI); Susan Caulfield, Criminal Justice and Sociology; Sylvia Culp, Philosophy; Bob Hafner, Science Studies; Fritz MacDonald, Social Work; Joe Reish, The Lee Honors College; Zoann Snyder-Joy, Criminal Justice and Sociology

1994-95: (24 participants from 13 institutions)

- Bowling Green State University (OH): Ellen Berry, Director, Women's Studies Program
- Elon College (NC): Jean Schwind, English
- Johnson C. Smith University (NC): Peter T. Radcliff, French; Thomas Priest, Sociology
- Josef Attila University (Szeged, HUNGARY): Maria Zentai, Academic Vice Chancellor
- Metropolitan State College of Denver (CO): Karen Krupar, Speech; Annette McElhiney, English; Alan Ranwez, Director, Honors Program; Roberta Smilnak, Earth and Atmospheric Sciences; Patricia Stranahan, Biology; Lyn Wickelgren, Psychology
- Plymouth State College (NH): Kate Donahue, Anthropology; Wavell Fogelman, Chemistry; Mary-Lou Hinman, English
- Southern Illinois University at Carbondale (IL): Jonathan Newman, Zoology; Tony Williams, English and Film Studies
- Southern Illinois University at Edwardsville (IL): James McClure, Chemistry; Audrey Tallant, Music
- United States Air Force Academy (CO): Hans J. Mueh, Chemistry; Ronald D. Reed, Biology
- University of Calgary (Alberta, CANADA): Beverly Rasporich, Associate Dean Academic Programmes
- University of Missouri Kansas City (MO): Patricia Hovis, Director of Graduate Student Affairs
- Walsh University (OH): David Baxter, English
- Whittier College (CA): Maurine Behrens, Associate Director, Whittier Scholars Program