

## Introduction: European Perspectives

by Julie Thompson Klein, Editor  
Wayne State University

**VOICES PAST AND PRESENT**, European and American, join in presenting this invited collection of European perspectives on interdisciplinarity. The issue also provides an occasion for reflecting on European contributions to the literature and their availability in the United States. It appears nearly three decades after pressures for educational reform, new social and technological demands, and the knowledge explosion brought interdisciplinarity to wider attention. These pressures were evident worldwide, but the rallying cries at the barricades of student protest in Paris of May 1968 became emblems of change. “Soyons realistes,” activists proclaimed, “demandons l’impossible.” “L’impossible” included new institutional structures, pedagogical strategies, and research practices that are now familiar parts of the academic landscape.

This momentum also stimulated a foundational event in the history of interdisciplinary scholarship. Over the course of 1969 and 1970, the Center for Educational Research and Innovation, a division of the Organization for Economic Cooperation and Development (OECD), conducted a research project on interdisciplinarity. Their activities included the first international survey, yielding reports from Europe and North America, Japan, and Turkey. It also led to the first international seminar, held in Nice, France, in September of 1970. In 1972 results of the survey, institutional reports, and subsequent reflections by leading scholars appeared in the book *INTERDISCIPLINARITY: Problems of Teaching and Research in Universities* (Paris: OECD). For nearly two decades this book remained the seminal work in the field, establishing a widely shared terminology and conceptual framework that Apostel and Vanlandschoot recall in this issue. Although it is now out of print, the book was often the major entry on the subject in U.S. academic libraries. Where not available, it may be borrowed through interlibrary loan. Participants in the 1970 meeting were highly self-conscious of marking a beginning. Strictly speaking, it was not the beginning. In the Western hemisphere, integrated approaches to knowledge and the curriculum date from the beginnings of philosophy and, in their modern institutionalized form, the first half of the twentieth century. Identification of the concept with reforms of the 1960s and 1970s persists, however, because it was a watershed era. New knowledge fields emerged alongside new courses, programs, cluster colleges, and entire new institutions. In announcing a second international meeting in 1984, the OECD treated interdisciplinarity as a concept that developed in the late 1960s, Ingemar Lind, local host of the gathering at Linköping, Sweden, declared, “Interdisciplinarity was born of a sudden demand for the universities to renew themselves.”

The second meeting reflected a more hardened, empirical realism about economic survival and prior searches for unified knowledge. The institutional reports focused on the Ph.D. Tema program of Linköping University and updated accounts from the United States, Japan, Australia, the United Kingdom (U.K) and Denmark. The results of the seminar are collected in *Interdisciplinarity Revisited: Re-Assessing the Concept in the Light of Institutional Experience* (OBCD, Swedish National Board of Universities and Colleges, and Linköping University, 1985). The book was more widely read and influential in Europe than in the United States. It is difficult to obtain here, though copies can be located from interlibrary loan. A detailed account is available in the review that *Issues* editor Stanley Bailis wrote of the book for the *AIS Newsletter* (8, No. 1. 1986).

Two of the authors in this issue, Leo Apostel and Tony Becher, provide links to the earlier part of this history.

Leo Apostel was a member of the editorial committee that compiled the 1972 OECD book and one of the planners of a proposed Center for Interdisciplinary Synthesis at the University of Ghent, described in the book. AIS members who attended the annual meeting at Sonoma State University in 1989 will remember hearing about the work of the new Centrum Leo Apostel, founded at the Free University of Brussels in 1987, from his younger colleague Jaak Vanlandschoot. Vanlandschoot also brought along a videotaped interview with Apostel. Those of us who cut our interdisciplinary teeth on the 1972 OECD book were mesmerized by the interview. As Jaak and I sat on the lawn of the Sonoma State campus afterwards, the idea for this issue was born. We are all indebted to him for pulling together the essay that appears here, “Interdisciplinarity: The Construction of Worldviews and the Dissemination of Scientific Results.” The essay integrates a version of the presentation at Sonoma State with the actual text of the interview, a later report, and excerpts from an essay in self-criticism that Leo wrote. Since its writing, the report of the project on “The Bridge between Languages and Mathematics” that is mentioned has been completed and is available at the Free University of Brussels.

Tony Becher’s presence represents another part of the European history. Becher was, and still is, a member of the faculty at the University of Sussex, a history he recalls in “Esperantists in a Tower of Babel.” During the 1970s, Becher was also involved with the Group for Research and Innovation in Higher Education. Affiliated with the Nuffield Foundation, the Group studied interdisciplinary practices, with emphasis on case studies in the United Kingdom (UK). In the 1980s, Tony turned to studying disciplinary. This work culminated in two publications that will be of particular interest to AIS members. In 1989, his

book *Academic Tribes and Territories: Intellectual Inquiry and the Cultures of Disciplines* appeared (Milton Keynes, Open University Press). In 1990, he and Ludwig Huber co-edited a special issue of the *European Journal of Education* on the topic of "Disciplinary Cultures" (25:3). Tony's contribution, "The Counter-Culture of Specialization," is an insightful discussion that he draws on here. "Esperantists" is an adapted version of the work he did for the book *Academic Community: Discourse or Discord?* (Jessica Kingsley, 1994). The editor of that book, Ron Barnett, kindly granted permission for this adaptation. The questions of institutional strategies and constraints on interdisciplinary inquiry that Tony addresses here are as pressing now as they were in the 1985 book from the Linköping meeting.

Those interested in the work of the research Group will find accounts in a number of formats that are not in most U.S. libraries but can be obtained through interlibrary loan. The booklet *Interdisciplinarity: A Report by the Group for Research and Innovation in Higher Education*, published by the Nuffield Foundation in July 1975, contains results of meetings that occurred in 1974 and 1975. It is a good index of thinking about the concept at the time. A collection of *Case Studies in Interdisciplinarity*, published by the University of York, also appeared in 1975: v. I covers Environmental Sciences and Engineering; v.2, Science, Technology, and Society; v.3, Integrated Social Sciences; v.4, National and International Studies; and v. 5, Humanities and Cognitive Studies. The proceedings of a symposium on interdisciplinary courses in Europe, held at City University in London, are readily available in the United States. They appear under the title *Interdisciplinarity*, as an ERIC microfiche ED 165 512. ERIC is the acronym for Educational Resources Information Center, a nationwide family of information clearinghouses sponsored by the U.S. Department of Education. ERIC microfiche collections are maintained by many college and university libraries, and hard copies of fiche may be ordered from the ERIC office in Washington, D.C.

The German connections in this issue represent two different generations of scholars. AIS members will remember Wilhelm Vosskamp from the 1986 *Issues in Integrative Studies* (No. 4). Vosskamp, who is currently at the University of Cologne, had just left his post as acting Director of the University of Bielefeld's Center for Interdisciplinary Research when we first met. He kindly granted the rights to an English translation of a piece that appeared originally in *Der Mensch*, part of a ten-volume series *Kindlers Enzyklopädie*. That piece, "From Specialization to the Dialogue between the Disciplines," introduced the American audience to his historical and epistemological work as well as conceptualizations emerging from projects of the Center. Wilhelm has continued to play a leading role in interdisciplinarity in Europe, including his participation in the November 1983 UNESCO-sponsored symposium of the European Center for Higher Education in Bucharest, Romania. The results of that symposium, edited by Thor Einar Hanisch and Wolfgang Vollman, were published under the meeting title, *Interdisciplinarity in Higher Education*. A cross-section of conceptualizations and institutional case studies, it is available in the United States as an ERIC microfiche, ED 249 864.

Both Wilhelm's current contribution and that of Ursula Hübenal emanate from a subsequent meeting in Berlin in 1990. Wilhelm was on a year's leave at the Wissenschafts Kolleg, a research center comparable to the Institute for Advanced Study in Princeton. I had traveled to Europe for the official opening of the Worldviews project in Antwerp and a symposium of the Centrum Leo Apostel at the Free University of Brussels. When we met, Wilhelm offered rights to an English translation of a new piece, appearing here as "Crossing of Boundaries: Interdisciplinarity as an Opportunity for Universities in the 1990s?" In addition to historical and philosophical reflections, the essay calls attention to the importance of communication in interdisciplinary work. Notably, the translation has already appeared, by special advance permission of AIS, in a special report being used by the Sweden Ministry of Education and Science. Wilhelm made an equally valuable contribution in the form of news about a new dissertation on interdisciplinarity at the University of Cologne by Ursula Hübenal. She graciously agreed to write a condensed version for the American audience. "Interdisciplinary Thought," like Smirnov's reprinted essay in the READINGS section, is concerned with types of interdisciplinary activity and the conditions for integration. The entire dissertation is available, in German, as *Interdisziplinäres Denken: Versuch einer Bestandsaufnahme und Systematisierung* (Stuttgart: Franz Steiner Verlag, 1991).

Jürgen Schülert and Andrea Frank are colleagues with Ludwig Huber in the Oberstufen-Kolleg, a tertiary college of the University of Bielefeld. A number of AIS members became aware of their work when Huber edited a special issue of the *European Journal of Education* on "Interdisciplinary Studies" (27:3, 1992). He forged new links across the Atlantic when he invited AIS members William Newell, Michael Field, and Russell Lee to join scholars from Switzerland, the UK, and Germany in examining interdisciplinarity from the standpoint of the 1990s and their own experience. In recent years, this international exchange has expanded as Andrea Frank and Ludwig Huber visited AIS members and programs in the United States. It was indeed on Frank's visit that she agreed to coauthor with Schülert a new piece for this issue. "Interdisciplinary Studies as Change of Perspective" is based on recent research results and may be read in combination with their contribution to the special issue of the *European Journal*. We have also been visited in recent years by Alfred Breitschmid of the University of Berne, one of the other contributors to the *European Journal's* special issue on "Interdisciplinary Studies," as well as Barry Gustafson of the University of Auckland's new interdisciplinary Tamaki campus in New Zealand.

This issue also affords an opportunity to acquaint the American audience with Dirk van Dusseldorp and Seerp Wigboldus of Wageningen Agricultural University in the Netherlands. I became aware of their work when Wigboldus contacted me after completing a master's thesis on interdisciplinarity in the context of rural development research. At the time, he was also

working for van Dusseldorp on describing an interdisciplinary fanning systems analysis project located in Indonesia. Drawing on a number of additional projects, van Dusseldorp himself had just written a chapter for a new reader on policy-oriented research. The two of them generously agreed to write a condensed version of that chapter in English, appearing here as "Interdisciplinary Research for Integrated Rural Development in Developing Countries: The Role of Social Sciences." Special thanks go to Chris Collins of Farm River Publications. The original artwork on the van Dusseldorp-Wigboldus manuscript was not available, so she laboriously reconstructed it. For permission to reprint previously published figures, we thank the Center for Agricultural Publishing and Documentation's Publishing Department of Landbouwwuniversiteit Wageningen and the International Institute for Land Reclamation and Improvement in Wageningen, The Netherlands.

The two final contributions underscore the vital function of the READINGS section. This section is designed to expand awareness of the literature in the form of reprints, bibliographic descriptions, and critical commentaries. S.N. Smirnov is a Russian scholar whose work came to my attention through the courtesy of Jiří Nekvapil of Charles University in Prague. After the autumn revolution in Czechoslovakia, Nekvapil and other East European scholars began to explore new opportunities for research in broader international networks. Nekvapil himself turned to the study of communication and interdisciplinary linguistics. The most instructive volume of East European approaches to interdisciplinarity available in English, he advised, was *Integration of Science and the Systems Approach*. The book is a collection of papers that summarize research into topical scientific problems concerned with integration and synthesis in human cognition in relation to general systems theory. Jiří not only recommended the book, he sent a copy. With the permission of the Czechoslovak Academy of Sciences, we are able to reprint the Smirnov piece as it appeared in its original English-language version, "The Main Forms of Interdisciplinary Development in Modern Science."

The Schindler piece demonstrates the crucial role that member support plays in the work of professional organizations, especially young organizations in new fields. Roslyn Abt Schindler agreed to read in the original German and report on two major books that are often cited in the European literature. Through the years, she has also made a less visible but equally valuable contribution in the form of countless translations of correspondence and material related to the German manuscripts. Local institutional support is another vital part of the infrastructure of scholarship—in this case Wayne State University. In addition to Thomas Moeller's assistance in preparing preliminary computer art, the issue benefits from the typing of manuscripts by Gwen Cotton and Crystal Lomax. Save conventions of American spelling and punctuation, all essays appear in their original form or versions authorized by the authors, I am especially grateful to the translators, Maria Galfrey-Measel, Denise Doyle, and Roslyn Abt Schindler. Denise Doyle deserves special thanks for coming to the rescue at the last minute, when the translator working on the Hübenthal manuscript failed to complete the task. I would be remiss in not thanking, as well, the two colleagues who helped arrange for translators: Donald Haase, current Chair, and Marvin Schindler, former Chair and Professor Emeritus, of the Department of German and Slavic Studies.

This issue appears as renewed calls for coherence and connectedness are being heard across the professions and university subjects in Europe, including new graduate programs in the environment, ecology, energy, health, European unification, Third World and development policies, information technology, media studies, and intercultural communication. The 1992 special issue of the *European Journal of Education*, again, provides an overview of these trends and current thinking about the concept. In early November of 1994, a new project was launched on an international scale. The Group of Transdisciplinary Studies at UNESCO, the International University of Lisbon, and the Centre International de Recherches et Etudes Transdisciplinaires cosponsored the 1st World Congress of Transdisciplinarity in Setúbal, Portugal. The project is aimed at a search for unity of knowledge and culture shaped by the new worldview of complexity emerging in science. Publication of results from that meeting, predominantly in French with several essays in English, will be announced in the *AIS Newsletter*. The *Newsletter* will also print the formal Charter of the project approved at the 1st World Congress.

Obstacles, impediments, and disincentives are as evident in Europe as in the United States. Yet, coupled with these new initiatives, the historical and theoretical reflections, institutional practices, fieldwork and research projects in this volume are signs of the vitality of interdisciplinary ideas. We look forward to a continuing productive relationship with our colleagues in Europe and thank the authors, most especially, for making these international connections possible.

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**Biographical Note:** Julie Thompson Klein is Professor of Humanities in the Interdisciplinary Studies Program at Wayne State University. Her books include *Interdisciplinarity: History, Theory, and Practice* (Wayne State University Press, 1990) and *Crossing Boundaries: Knowledge, Disciplinarity, and Interdisciplinarity* (University Press of Virginia, forthcoming). Along with William Doty, she coedited *Interdisciplinary Studies Today* (Jossey Bass, 1994), v. #58 in the New Directions in Teaching and Learning series. With William Newell, she coauthored the chapter on "Interdisciplinary Studies" for the new *Handbook on the Undergraduate Curriculum* (Jossey Bass, 1996). Klein has also been Visiting Foreign Professor of English in Japan, a Fulbright Lecturer in American Literature and ESL in Nepal, an Academic Specialist in Democracy in Nepal, and, in New Zealand, the University of Auckland Foundation Visitor in the Division of Arts.