

RESOURCE REVIEW

Resources for interdisciplinary studies (IDS) appear in a multitude of print publications, online forums, and the “fugitive” or “gray” literature of conference papers, reports, and curriculum materials. The quantity is not surprising, since interdisciplinary discussions have expanded as new fields and approaches emerged across all domains of research and education. This review is aimed at helping faculty, curriculum committees, and administrators find resources for course design and teaching, with emphasis on works that have appeared in the past 10 years. Part I defines a basic collection of materials; Part II deepens the search for more specialized resources; and Part III highlights important new print and

RESOURCES FOR INTERDISCIPLINARY STUDIES

BY JULIE THOMPSON KLEIN

Web-based material with an emphasis on the past five years.

PART I: TAKING THE FIRST STEP

The place to start is the Web site of the Association for Integrative Studies (AIS). Since its founding in 1979, AIS has promoted dialogue across all academic fields and subjects. The quarterly newsletter keeps members posted on new publications, programs, conferences, and special events such as an AIS national tele/Web conference. The Web

site has materials that may be downloaded, including sample course syllabi, a directory of doctoral programs, guidelines for accreditation in interdisciplinary general education, interdisciplinary writing assessment profiles, and detailed information on the core AIS list of recommended publications that appears in Resource Box I. The AIS journal, *Issues in Integrative Studies*, also publishes articles on a wide range of topics, including recent special numbers on euthanasia and on complexity.

Resource Box I

“CORE RESOURCES ON INTERDISCIPLINARY STUDIES”

WEB SITE

■ Association for Integrative Studies Web site, <http://www.units.muohio.edu/aisorg/>

PUBLICATIONS

- Augsburg, Tanya, *Becoming Interdisciplinary: An Introduction to Interdisciplinary Studies*, Dubuque, IA: Kendall/Hunt, 2005, 163 pp., \$41.95.
- Davis, James R., *Interdisciplinary Courses and Team Teaching: New Arrangements for Learning*, ACE Series on Higher Education, Phoenix, AZ: Oryx Press (now an imprint of Greenwood Press), 1995, 271 pp., \$43.95.
- Edwards, Alan F., Jr., *Interdisciplinary Undergraduate Programs: A Directory*, 2nd ed., Acton, MA: Copley Custom Textbooks (an imprint of ZanEdu Custom Publishing), 1996, 435 pp., \$24.95.
- Fiscella, Joan, and Stacey Kimmel, *Interdisciplinary Education: A Guide to Resources*, New York: The Col-

lege Board, 1999, 343 pp., \$29 (\$22 paperback).

■ Haynes, Carolyn, ed., *Innovations in Interdisciplinary Teaching*, American Council on Education, Series on Higher Education, Westport, CT: Oryx Press/Greenwood Press, 2002, 295 pp., \$39.95.

■ Klein, Julie T., *Crossing Boundaries: Knowledge, Disciplinarity, and Interdisciplinarity*, Charlottesville, VA: University of Virginia Press, 1996, 281 pp., \$59.50 (\$19.50 paperback).

■ Klein, Julie T., ed., *Interdisciplinary Education in K-12 and College: A Foundation for K-16 Dialogue*, New York: The College Board, 2002, 216 pp., \$22.95.

■ Klein, Julie T., *Interdisciplinarity: History, Theory, and Practice*, Detroit: Wayne State University Press, 1990, 331 pp., \$39.95 (\$21.95 paperback).

■ Klein, Julie T., *Mapping Interdisciplinary Studies*, Washington, DC: Association of American Colleges and Universities, Vol. 2 in “The Academy in Transition” series, 28 pp., 1999, \$15.

■ Klein, Julie T., and William G. Doty, eds., *Interdisciplinary Studies Today: New Directions for Teaching and Learning #58*, San Francisco: Jossey-Bass, 1994, 96 pp., \$27.

■ Klein, Julie T., and William H. Newell, “Advancing Interdisciplinary Studies,” *Handbook of the Undergraduate Curriculum: A Comprehensive Guide to Purposes, Structures, Practices, and Change* (edited by J. Gaff and J. Ratcliff), San Francisco: Jossey-Bass, 1977, pp. 393-415, \$66.08.

■ Newell, William H., ed., *Interdisciplinarity: Essays from the Literature*, New York: The College Board, 1998, 563 pp., \$29.95 (\$24.95 paperback).

■ Repko, Allen F., *Interdisciplinary Practice: A Student Guide to Research and Writing*, preliminary edition, Boston: Pearson Custom Publishing, 2005, 178 pp., \$60.

■ Seabury, Marcia B., ed., *Interdisciplinary General Education: Questioning Outside the Lines*, New York: The College Board, 1999, 366 pp., \$29.95 (\$22.95 paperback). ☺

Together, the Web site material and publications answer a number of frequently asked questions:

1) *What is interdisciplinarity?* Five works provide an overview and entry into the literature.

- William Newell's 1998 *Interdisciplinarity* reprints "classic" essays on the nature of IDS; philosophical analyses; administration; programs; and disciplinary contexts and practices in social sciences, humanities, natural science, and interdisciplinary fields. It also includes a guide to syllabus preparation and a synthesis of the reprinted essays organized around seven categories of questions about interdisciplinary study and integration.

- Julie Klein and William Newell's 1997 chapter on "Advancing Interdisciplinary Studies" in the *Handbook of the Undergraduate Curriculum* covers basic definitions, origins and motivations, new developments, forms and structures, institutional change, teaching and learning, and assessment and evaluation of interdisciplinary work.

- Julie Klein's 1999 monograph *Mapping Interdisciplinary Studies* is a discussion piece for campuses embarking on change. Part I surveys current trends in the disciplines, interdisciplinary fields, and general education. Part II presents strategies for integrating interdisciplinary curricula, faculty development, planning processes and pedagogies, assessment, institutional change, and support activities.

- Julie Klein's 1996 *Crossing Boundaries* develops a conceptual framework for studying IDS practices and presents case studies on the interdisciplinary genealogy of seven fields (literary, urban, environmental, border, area, cultural, and women's studies), as well as interdisciplinary research in science and technology. The 30-page bibliography also updates sources since the 1990 book, below.

- Julie Klein's 1990 *Interdisciplinarity* provides an encyclopedic overview of the history and definition of interdisciplinarity, its relationship to the disciplines, and practices in problem-focused research,

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health care, and higher education. The 94-page bibliography identifies the literature dating back to the late 1980s.

2) *Where can I find program and course models?* Two resources are useful at all stages of the curriculum life cycle, from finding models to locating peer institutions for self-study and external reviews.

- Alan Edwards's 1996 *Interdisciplinary Undergraduate Programs* in the most recent compilation of programs in the United States, covering a wide range of fields in a cross-section of institutions.

- James Davis's 1995 *Interdisciplinary Courses and Team Teaching* describes nearly 100 models in general education; professional and technical programs; integrative studies programs, capstone and integrative courses; and the fields of women's and gender, multicultural and ethnic, and international studies. Early chapters also define the nature, design, and implementation of team-taught courses, with guidelines and lessons for practice.

3) *Where can I find descriptions of educational practice?* Four books capture the wisdom of practice.

- Carolyn Haynes's 2002 *Innovations in Interdisciplinary Teaching* is an anthology of essays on curriculum design, team teaching, advising, and assessment, as well as the intersections of IDS with writing-intensive instruction, computer-assisted instruction, collaborative learning, learning communities, feminist and multicultural pedagogies, inquiry- and performance-based teaching and learning, study abroad, adult education, advising, and assessment.

- Julie Klein's 2002 *Interdisciplinary Education in K-12 and College* was the first collection of essays by experts across K-16. They report on current integrated and interdisciplinary curricula, course design, team teaching, use of technology, and administration and assessment of IDS programming.

- Marcia Seabury's 1999 *Interdisciplinary General Education* is an anthology based on the University of Hartford's All-University Curriculum. Participants describe their course development and pedagogy, present sample syllabi, and reflect on the dynamics of asking questions, crossing boundaries, framing issues, dealing with problems, and creating a supportive campus culture.

- Julie Klein and William Doty's 1994 *Interdisciplinary Studies Today* emanated from the first national task force on IDS,

part of the Association of Colleges Study in Depth project. Invited experts provide state-of-the-art chapters on finding resources, developing courses, administering programs, assessing learning, and networking with organizations.

4) *What other works belong in a basic library?* Two textbooks for students and an annotated guide to resources complete the AIS list.

- Tanya Augsberg's 2005 *Becoming Interdisciplinary* is the first undergraduate introductory text. It covers the nature of interdisciplinary studies, the writing of intellectual autobiography, experiential learning activities, and research and problem solving. The book also includes supplementary readings, and a forthcoming 2006 second edition will add more on the history of programs, personal narrative, the process of integration, and portfolios.

- Joan Fiscella and Stacey Kimmel's 1999 *Interdisciplinary Education* is the most comprehensive annotated bibliography covering both K-12 and college. The focus is 1990 through 1997, though earlier citations on emerging areas are included. More than 1,100 entries are grouped into categories of educational foundations; curriculum; faculty, teacher, and team development; pedagogy and student support; and administration of IDS programming.

- Allen Repko's 2005 *Interdisciplinary Practice* provides definitions of key terms, describing practical benefits of IDS and origins of IDS, and gives an overview of various disciplinary perspectives, concepts, theories, and methodologies needed for research. It also explains the centrality of synthesis and introduces students to the interdisciplinary process in detailed steps.

PART II: DEEPENING THE SEARCH

Resource Box I will yield resources for particular fields, subjects, and topics. However, networking with specialized professional groups and networks is also required. The most broad-based service is the Scholarly Societies Project of the University of Waterloo Library in Canada. Its searchable database has links to roughly 4,000 scholarly societies.

Two of the groups in Resource Box II combine interdisciplinarity and liberal education. With its strong commitment to improving the quality of undergraduate education, the Association of Ameri-

“DEEPENING THE SEARCH IN BROAD AREAS”

WEB SITE

- Association of American Colleges and Universities (AACU), www.aacu.org
- Association for General and Liberal Studies Programs (AGLSP), www.aglsp.org

- Educational Resources Information Center (ERIC), www.eric.ed.gov
- H-Net Humanities & Social Sciences OnLine, www.h-net.org
- Scholarly Societies Project, University of Waterloo Library, www.scholarly-societies.org
- Transdisciplinarity-Net (Td-Net), www.transdisciplinarity.ch/ ☞

can Colleges and Universities (AACU) includes interdisciplinary interests in its annual meetings and Institute on General Education. In addition, AACU's Civic Engagement project, the Diversity Web compendium of practices and resources, and initiatives in Integrative Learning co-sponsored by the Carnegie Foundation for the Advancement of Teaching incorporate interdisciplinary perspectives. The Association of Graduate Liberal Studies Programs (AGLSP) is a professional home for master's degree programs enrolling primarily adult learners from varied backgrounds. AGLSP's valuable *Curriculum Guides* are also adaptable for upper-level undergraduate contexts. They cover popular culture, multicultural education, science, and reflections on the “Good Society.” A separate volume presents syllabi from an AGLSP Faculty Development Institute.

The Educational Resources Information Center (ERIC) is the most abundant source of published and fugitive literature, including government reports, project and program descriptions, and curriculum guides. Sponsored by the Department of Education, ERIC provides a centralized Web site for searching a bibliographic database of more than 1.1 million citations dating back to 1966. In 2004, ERIC began providing users free online access to full texts of approximately 107,000 ERIC documents published in 2003 or earlier, and recent updates extend to 2004 and 2005. The variety of resources was evident in a recent search of ERIC over the past 10 years. The results included proceedings from meetings that linked IDS with adult learning, technical and scientific communication, technological education and national development, instructional technology, and physician-nurse collaboration aimed at improving patient safety. The same

search also netted papers and articles on faculty collaboration in multidisciplinary Web-based education, information technology curricula, learning communities, a major in international business, and interdisciplinary course offerings in community colleges, as well as essays on interdisciplinary education by participants in a Mid-Career Fellowship Program at Princeton University.

Two Web-based services in Resource Box II facilitate connections in other communities. H-NET is a self-described “international interdisciplinary organization” that provides teachers and scholars forums for the exchange of ideas and resources in the arts, humanities, and social sciences. Over 100 free edited listservs and Web sites coordinate communication in a wide variety of disciplinary and interdisciplinary fields as well as subject and topic areas. Transdisciplinarity-Net (Td-Net) is a multi-lingual information system devoted to transdisciplinary research in three major areas: integrative systematization of specialized knowledge, collaborations between academic research and the private sector for product development, and efforts to achieve democratic solutions to problems that society faces. Td-Net provides an introduction to transdisciplinarity, a forum for discussion and networking, and a bibliography that was initially organized around environmental and sustainability research but is now broadening to support searches in scientific areas, engineering, and the humanities.

Two interdisciplinary fields are also featured in the resource box under “Deepening the Search in Field-Specific Areas,” American studies and women's studies.

Founded in 1951, the American Studies Association (ASA) is one of the oldest interdisciplinary professional organizations. Its print and Web-based resources

include *The Guide to American Studies Resources* and *The ASA Guide for Reviewing American Studies Programs*. The link to the American Studies Crossroads Project leads to pedagogical, scholarly, and institutional information, as well as workbooks, videotapes, disks, and other materials that assist teachers and students in using technology and in promoting international collaboration. The link to H-AMSTDY leads to the H-NET American Studies listserv, featuring news and discussions of the field and its intersections with women's studies, ethnic studies, cultural studies, media studies, and related developments in English, history, and other disciplines. Interdisciplinarity has been a recurring thematic throughout the history of American studies. Two publications in Resource Box III provide pathways into past and current discussion: the ASA-affiliated *Encyclopedia of American Studies* and “Beyond Interdisciplinarity” in the March 2005 issue of the ASA newsletter. The ASA journal, *American Quarterly*, also features multi-disciplinary bibliographies of key subjects and topics.

Interdisciplinarity has been a recurring thematic in women's studies as well. Founded in 1977, the National Women's Studies Association (NWSA) is devoted to feminist teaching, research, scholarship, and community activism. The NWSA Web site keeps members posted on annual conferences, centers, caucuses, interest groups, and task forces. In addition to its news magazine and journal, NWSA has issued guides to practice and reports emanating from national task forces, including *Liberal Learning and the Women's Studies Major*, *The Courage to Question: Women's Studies and Student Learning*, and *Students at the Center: A Feminist Assessment*. Resource Box III also includes Eloise Buker's article on the character of the field in the *NWSA Journal* and NWSA's report for “The Disciplines Speak” project sponsored by the American Association of Higher Education. The report includes detailed “Guidelines for Evaluating Scholarship in Women's Studies.” Illustrating the importance of special journal issues, the Spring 2001 issue of *Feminist Studies* focused in significant part on interdisciplinarity, and the 2002 collection edited by Wiegman, et al. contains focused discussions too.

Even while networking with specialized groups, readers should remember to double check the “Beginning Core” listed in Re-

source Box I for pertinent publications. The Haynes collection *Innovations in Interdisciplinary Teaching* contains a chapter by Nancy M. Grace on the interdisciplinary character of women's studies, in which Grace presented a typology of seven major types of courses in an article that appeared in the AIS journal, *Issues in Integrative*

Resource Box III

"DEEPENING THE SEARCH IN FIELD-SPECIFIC AREAS"

WEB SITES

- American Studies Association (ASA), www.georgetown.edu/crossroads/asainfo.html
- National Women's Studies Association (NWSA), www.nwsa.org

PUBLICATIONS

- "Beyond Interdisciplinarity: The New Goals of American Studies Programs," *American Studies Association Newsletter*, Vol. 28, No.1, March 2005, pp. 1-17.
- Buker, Eloise, "Is Women's Studies a Disciplinary or an Interdisciplinary Field of Inquiry?" *NWSA Journal*, Vol. 15, No. 1, Spring 2003, pp. 73-93.
- "Defining Women's Studies Scholarship," *The Disciplines Speak II: More Statements on Rewarding the Scholarly, Professional, and Creative Work of Faculty* (edited by R. Diamond and B. Adams), Bolton, MA: Anker Publishing Company, 2000, book: 240 pp., \$15.
- Kurian, George T., Miles Orvell, Johnella E. Butler, and Jay Mechling, eds., *Encyclopedia of American Studies*, New York: Grolier Education, Scholastic Incorporated, 2001, four volumes, \$399.
- "Special Focus on Interdisciplinarity," *Feminist Studies*, Vol. 27, No. 2, 2001.
- Wiegman, Robyn, ed., *Women's Studies on Its Own: A Next Wave Reader in Institutional Change*, Durham: Duke UP, 2002, 502 pp., \$24.95. ∞

Studies. Readers seeking model programs and courses in specific fields will find them in the Davis and Edwards directories. Readers seeking bibliographies will find them in Fiscella and Kimmel's *Interdisciplinary Education* and in the chapter on "Finding Interdisciplinary Knowledge and Information" in Klein and Doty's *Interdisciplinary Studies Today*. Newell included notable reprints on environment, women, peace and security, and German studies, medicine, and multicultural education in his anthology, *Interdisciplinarity*. In *Crossing Boundaries*, Klein also synthesized the discourse and identified subliterations in specific domains: on problem-focused research, health care, and IDS in *Interdisciplinarity*; and on literary studies, problem-focused research, and urban, environmental, area, border, women's, and cultural studies.

PART III: FEELING THE PULSE OF THE NEW

The heightened visibility of interdisciplinarity is evident in the academic press. A search of the LexisNexis online news service over the past five years revealed a steady stream of developments. The century began with reports in 2000 of the widely emulated interdisciplinary general-education program at Portland State University under scrutiny at home and recommendations to strengthen interdisciplinary learning requirements at Texas Christian University. In 2001 *The Chronicle of Higher Education* heralded the birth of Internet studies. In 2004 Northwestern University announced a plan to create more interdisciplinary options, and Vanderbilt University's English department added new courses emphasizing different cultural influences on literature. The Howard Hughes Medical Institute also joined with the National Institute of Biomedical Imaging and Bioengineering of the National Institutes of Health in launching graduate training programs aimed at integrating the biomedical sciences, physical sciences, and engineering to solve complex biomedical problems. The year 2005 brought news of a global studies major at UCLA and a campaign at the College of New Caledonia in British Columbia to strengthen interdisciplinary awareness in training programs for healthcare professions.

The journal and report literature continues to grow as well. A search of ERIC using the descriptor "interdisciplinary" turned up articles in such varied contexts as learning

processes in natural resource management within developing countries, a nonlinear model of information-seeking behavior, an integrative approach to developmental mathematics and the health professions using problem-based learning, an undergraduate degree program in electronic commerce, a computer networking degree that bridges the gap between technology and business schools, business analysis for the accounting curriculum, a new paradigm in integrated math and science courses, a course introducing undergraduates to economics in an interdisciplinary setting, and possibilities for a new curriculum in information architecture. Resource Box IV highlights notable new articles, books, and reports plus a key Web site that have appeared over the past five years.

Recent new works document the expansion of interdisciplinarity across social sciences, humanities, science and technology, and education. Barbara Smith and John McCann's collection *Reinventing Ourselves* examines experiences and lessons from a cross-section of institutions featuring new approaches to teaching and learning, including free-standing interdisciplinary colleges and universities and alternative programs in traditional institutions.

Tami Carmichael's *Integrated Studies* is an account of the University of North Dakota's integrated general education program, with details on curriculum development, pedagogy, assignments, classroom activities, faculty development strategies, and assessment that will be useful to programs nationwide. In reporting on the social sciences, Neil Smelser surveys the idea of "discipline" and the present status of "disciplinarity" and "interdisciplinarity," then draws on his experience co-editing the *International Encyclopedia of the Social and Behavioral Sciences* to consider how intellectual activities are represented in the architecture of knowledge.

Special journal issues also continue to track current practices. Performance, for instance, was traditionally the subject of theater departments and, to a lesser degree, English, speech, and communications departments. Yet, contemporary inquiry into the performative aspects of the arts and social life has extended well beyond literary and theatrical formalism. The special focus on "Theatre and Interdisciplinarity" in a 2001 issue of *Theatre Research International* depicts this growing interest in ethnography, performance

“FEELING THE PULSE OF THE NEW”

WEB SITE

■ Project Zero Interdisciplinary Studies Project, Harvard University, www.pz.harvard.edu/interdisciplinary

PUBLICATIONS

■ Amey, Marilyn J., and Dennis F. Brown, *Breaking Out of the Box: Interdisciplinary Collaboration and Faculty Work*, Greenwich, CT: Information Age Publishing, 2004, 165 pp., \$65.95 (\$34.95 paperback).

■ *Arachne: An Interdisciplinary Journal of the Humanities*, Vol. 4, No. 2, 1997, pp. 1-156.

■ Bal, Mieke, *Travelling Concepts in Humanities*, Toronto: University of Toronto Press, 2002, 368 pp., \$68 (\$30.95 paperback).

■ *Bio 2010: Transforming Undergraduate Education for Future Research Biologists*, Washington, DC: National Academies Press, 2003, 208 pp., \$25.95 ordered online at <http://books.nap.edu/>

■ Carmichael, Tami S., *Integrated Studies: Reinventing Undergraduate Education*, Stillwater, OK: New Forums Press, 236 pp., \$19.95.

■ Derry, Sharon J., Christian D. Schunn, and Morton A. Gernsbacher, eds., *Interdisciplinary Collaboration: An Emerging Cognitive Science*, Mahwah, NJ: Erlbaum, 384 pp., 2005, \$99.

■ *Facilitating Interdisciplinary Research*, Washington, DC: National Academies Press, 332 pp., 2004,

(\$42 paperback, \$37.80 Web version, \$45.50 paperback and PDF ordered at <http://books.nap.edu>)

■ Kessel, Frank, Patricia L. Rosenfield, and Norman B. Anderson, eds., *Expanding the Boundaries of Health and Social Science: Case Studies in Interdisciplinary Innovation*, New York: Oxford Press, 2003.

■ Klein, Julie T., *Humanities, Culture, and Interdisciplinarity: The Changing American Academy*, Albany State University of New York Press, 272 pp., 2005, \$74.50 (\$24.95 paperback).

■ Lattuca, Lisa R., *Creating Interdisciplinarity: Interdisciplinary Research and Teaching among College and University Faculty*, Nashville: Vanderbilt University Press, 296 pp., 2001, \$49.95 (\$24.95 paperback).

■ Moran, Joe, *Interdisciplinarity*, London and New York: Routledge, 224 pp., 2002, \$89.95 (\$19.95 paperback, \$15.95 digital download).

■ Palmer, Carole L., *Work at the Boundaries of Science: Information and the Interdisciplinary Research Process*, Boston and London: Kluwer Academic Publications, 188 pp., 2001, \$85.

■ Palmer, Carole L., and Laura J. Neumann, “The Information Work of Interdisciplinary Humanities Scholars: Exploration and Translation,” *Library Quarterly*, Vol. 72, No. 1, 2002, pp. 85-117.

■ Pellmar, Terry, and Leon Eisenberg, eds., *Bridging Disciplines in the Brain, Behavioral, and Clinical Sciences*, Washington, DC: National Academies Press, 2000, 144 pp., \$28 ordered online at <http://books.nap.edu>

■ Pfirman, Stephanie L., James P. Collins, Susan. Lowes, and Anthony F. Michaels, “Collaborative Efforts: Promoting Interdisciplinary Scholars,” *The Chronicle of Higher Education*, Vol. 51, No. 23, Feb 11, 2005, B15.

■ Rosenfield, Patricia L., “The Potential of Transdisciplinary Research for Sustaining and Extending Linkages between the Health and Social Sciences,” *Social Science and Medicine*, Vol. 35, No. 11, 1992, pp. 1,343-1,357.

■ Salter, Liora, and Alison Hearn, *Outside the Lines: Issues in Interdisciplinary Research*, Montreal and Kingston: McGill Queens Press, 1966, 212 pp., \$80.

■ Smelser, Neil J., “Interdisciplinarity in Theory and Practice,” *The Dialogical Turn: New Roles for Sociology in the Postdisciplinary Age*, ed. C. Camic and H. Joas. Lanham, MD: Rowman & Littlefield, 2004, pp. 43-64.

■ Smith, Barbara L., and John McCann, eds., *Reinventing Ourselves: Interdisciplinary Education, Collaborative Learning, and Experimentation in Higher Education*, Bolton, MA: Anker, 516 pp., 2001, \$49.95.

■ Stokols, Daniel, et al., “Evaluating Transdisciplinary Science,” *Nicotine and Tobacco Research*, Vol. 5, 2003, pp.1-19.

■ “Theatre and Interdisciplinarity,” *Theatre Research International, Special Focus*, Vol. 26, No. 2, 2001, pp. 129-98.

■ Weingart, Peter, and Nico Stehr, eds., *Practicing Interdisciplinarity*, Toronto: University of Toronto Press, 352 pp., 2001, Canadian \$63 (Canadian \$27.95 paperback). ☺

studies, cultural studies, and literary theory. The special number of *Arachne* on “Interdisciplinarity and the Teaching of Canadian Studies” contains revised papers from a conference on that topic and related reports.

Humanities are the focus of three recent books. In *Travelling Concepts in Humanities*, Mieke Bal makes the case for cultural analysis as a central interdisciplinary practice for humanities and cultural studies, with attention to the methodological role of concepts. Joe Moran’s *Interdisciplinarity* is a broad-based investigation of the way that disciplines divide and shape

knowledge, how those divisions are transformed and transcended, and how new forms of knowledge are created. His overview spans literary and cultural studies, the theory movement, the relationship between texts and history, and recent connections between literary studies and the sciences. Klein’s *Humanities, Culture, and Interdisciplinarity* investigates the historical and contemporary relationship of the three concepts in the title, with case studies on the disciplines of literary studies, art history, and music, as well as the fields of American studies, African-American studies, and women’s studies.

Two works provide entry points into the growing subliterate in science and technology. Peter Weingart and Nico Stehr’s 2000 collection contains essays from an international conference on the discourse of interdisciplinarity, the changing topography of science, the role of funding bodies, and contexts of research practice in Australia, Europe, Canada, and the United States. The second, *Facilitating Interdisciplinary Research*, is a report from the National Academies of Science based on the work of a national task force. The topics include the forces propelling greater interdisciplinarity today, institutional poli-

cies and strategies, evaluation, and the role of funding organizations, journals, and professional societies. Although brief, *The Chronicle of Higher Education* piece by Stephanie Pfirman, James Collins, Susan Lowes, and Anthony Michaels is also noteworthy. The authors address continuing impediments to interdisciplinary work in hiring, review, and tenure, with recommendations for formalizing procedures, mentoring, establishing review criteria, protecting joint appointments, and supporting interdisciplinary efforts throughout the career life cycle. Two added reports from National Academies Press deserve mention as well, because both deal in significant part with interdisciplinarity in research and in education: the 2003 *BIO 2010* and the 2000 *Bridging Disciplines in the Brain, Behavioral, and Clinical Sciences*.

One of the least understood aspects of interdisciplinarity is assessment and evaluation. In addition to discussions noted in "The Beginning Core," new works are also shedding light on this crucial area. The Project Zero IDS Web site has downloadable papers and publications on a number of assessment activities in research and education, with emphasis on empirical understanding of the cognitive and social dimensions of interdisciplinary work. Daniel Stokols, et al. present results of a multi-methodological study of three Transdisciplinary Tobacco Use Research Centers (TTURCs). These results furnish the basis for a conceptual and programmatic framework for evaluating collaborative processes and research and public policy outcomes based on five general regions or clusters of outcome domains: scientific integration, collaboration, professional validation, communication, and health impacts. Of added note, Stokols, et al. build on a new connotation of "transdisciplinary science" that has emerged in broad areas such as cancer research, based on Patricia Rosenfield's citation in Resource Box IV as a form of "transcendent interdisciplinary research" that fosters systematic theoretical frameworks for defining and analyzing social, economic, political, environmental, and institutional factors in human health and well-being.

Interdisciplinary work practices is another area where new works are advancing understanding. Carole Palmer and Laura Neumann's article in *Library Quarterly*

presents the results of an interview-based study of the information work of 25 individuals affiliated with a humanities research center. They also draw on Palmer's 2001 *Work at the Boundaries of Science*, a study of how scientists in a major research institution discover and exchange information and knowledge. Interviews were also the basis for Lisa Lattuca's book *Creating Interdisciplinarity*. In analyzing results from 38 humanities and social science faculty, Lattuca focused on work process and contexts. Although published more than five years ago, *Outside the Lines* deserves

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mention as well. Liora Salter and Alison Hearn's collection of research stories is a pragmatic guide to issues and problems in interdisciplinary research. Contributors also examine definitions of disciplinarity and interdisciplinarity, myths of interdisciplinarity, postmodern critiques, patterns of grant allocation, emerging disciplines, and women's, Canadian, and environmental studies.

Three additional books focus on collaboration. Sharon Derry, Christian Schunn, and Morton Gernsbacher's collection contains an overview of the literature, case studies in a variety of contexts, and an entire section on cognitive science. Marilyn Amey and Dennis Brown's *Breaking Out*

of the Box presents a three-stage model of collaboration based on the four dimensions of discipline orientation, knowledge engagement, work orientation, and leadership orientation. They draw on a literature review, their experience in postsecondary institutions, and an in-depth study of a research team contracted to an inner-city community council. Kessel, Rosenfield, and Anderson's collection of case studies, *Expanding the Boundaries of Health and Social Science*, also explores the conditions and strategies that promote successful interdisciplinary collaboration, while sketching the wider context of current inter- and transdisciplinary research on health at the nexus of behavioral, social, and biological sciences.

The items featured in this Resource Review by no means constitute a complete account of new work. Moreover, even after checking the basics, networking with groups, and using relevant new works readers will want to stay on top on new developments. Two final references offer strategies for doing so:

- Klein, Julie T., and William Newell, "Strategies for Using Interdisciplinary Resources," *Issues in Integrative Studies*, Vol. 20, 2002, pp. 139-160.

- Kimmel, Stacey, "Interdisciplinary Information Searching: Moving Beyond Discipline-Based Resources," in J. Fiscella and S. Kimmel's *Interdisciplinary Education: A Guide to Resources*, New York: The College Board, 1999.

Klein and Newell enlarge the conventional notion of "resources" by defining six areas of materials and strategies: the primary literature, professional organizations and their related publications, specialized literatures, disciplinary and interdisciplinary networking, electronic databases, and professional development forums. Kimmel's essay is a "must-read" for searching electronic databases. She defines the challenges of interdisciplinary research, strategies conducive to researching interdisciplinary topics, and trends in services and tools. As Kimmel rightly predicts, recent interest in and attention to interdisciplinary research will spur further growth and improvements in tools and options for capturing the rich array of resources for interdisciplinary studies. □

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