rhetoric and logic. Language was seen in terms of grammar, the study of meaning in written expression. Rhetoric was defined as a comprehension of verbal and written discourse. Logic refers to argumentative discourse for discovering truth. These elements seem integral to the way ITCP methodology is conceptualized. Similarly, the Quadrivium, like computer science, is about numbers. Included are arithmetic, the understanding of numbers; geometry, the quantification of space; music, the study of numbers in time; and astronomy, the laws of the planets and stars. Only astronomy is what all would agree is properly termed science today. Yet, in the medieval university, the study of astronomy was hardly the empirical science that is contemporary astronomy.

The transdisciplinary approach that the committee elevates further brings to mind today's liberal arts curriculum, which aims to give one a knowledge of the humanities (literature, language, philosophy, the fine arts and history), the physical and biological sciences and mathematics, and the social sciences. This kind of mix seemed to be the foundation for the undertakings represented in *Beyond Productivity* as well, a comprehensive survey that did not seem to see its role in terms of asking challenging questions. Rather, the product suggests the goal was to communicate issues familiar to those who work in the art, science and technology environment. Yet, and this is why I raise this point, in the United States there is an ongoing debate as to whether educators have dumbed down science within the humanistic framework. The lack of engagement with where science interfaces with ITCP brings this question to mind, and with it the related question of whether we have successfully educated humanists in the ideas and methods of the scientist.

For example, one interesting section outlined the difference between interdisciplinary and transdisciplinary thinking/activity. According to the view presented, interdisciplinary work is the more appropriate term when an expert in one discipline reaches out to integrate views from other fields. The transdisciplinary worker, conversely, does not dabble in related fields. Rather this practitioner will have developed expertise in all of the fields needed to accomplish a creative task. While a wonderful goal, particularly in light of the report's view that interactive projects are becoming more evident in the evolving

institutional environment, I still found that the report did not address why so many who work in art, science and technology confuse science and technology and indiscriminately conflate them when doing so.

In summary, the committee does recommend mechanisms that would enable and sustain productive cross-disciplinary collaborations but without addressing the difference between science and technology (or explaining why, if this is their view, the authors believe they are comparable). This oversight weakens the overall impact of this report. Elevating the transdisciplinary projects stresses all that creativity promises, but some of the implicit limitations seem to highlight the goals (and shortcomings) of a liberal arts education. The way in which the physical and biological sciences are abstractly present and never clarified raised many of the questions often expressed by critical commentators of interdisciplinary, cross-disciplinary and transdisciplinary work. As such, *Beyond Technology* will aid those eager to learn more about information technology in terms of art and design. Those who believe that the breadth of the field too often subsumes distinctions between science and technology might find that this report, too, fails to speak to distinctions. Aside from this caveat, those who are new to the field will definitely appreciate the care with which the authors summarize contemporary work. Those who work in this area will no doubt find that the survey is a good resource for thinking about the funding situation, conceptualizing policy issues and finding like-minded people.

## AMERICAN MODERNISM: GRAPHIC DESIGN, 1920 TO 1960

by R. Roger Remington with Lisa Bodenstedt. Yale Univ. Press, New Haven, CT, U.S.A., 2003. 192 pp., illus. Paper. ISBN: 0-300-09816-2.

Reviewed by Roy R. Behrens, Department of Art, University of Northern Iowa, Cedar Falls, IA 50614-0362, U.S.A. E-mail: <ballast@netins.net>.

To the extent that any country is a melting pot, its culture is indebted to the traditions that are brought in by its immigrants, whether European, Asian, African or whatever. But with luck those same traditions mix, through synergistic alchemy, into new and original

cultural forms, of which the most famous example is jazz. At times, related claims are made about a cluster of graphic designers who flourished in the U.S. in the years before and after World War II and whose styles are sufficiently different from other influences as to merit the special, distinguishing tag of American Modernism. A surprising number of these designers were born and raised in the Midwest (e.g., Merle Armitage, Lester Beall, Bradbury Thompson, Noel Martin and Charles Eames), while others grew up in the cities (Paul Rand, Saul Bass and Alvin Lustig). Without exception, they were wonderfully smart and resourceful; they were also eager for experimentation, so much so that they all embraced the European avant-garde (in particular De Stijl, Surrealism, the Bauhaus and Tschichold's New Typography), acquired firsthand in some cases by working side by side with recent emigrants, among them Ladislav Sutnar, Alexey Brodovitch, Herbert Bayer and Will Burtin. At the same time, they did not align complacently with that influence, but practiced what in retrospect is a seamless amalgam of European Modernism and American Regionalism, in the sense that its softened geometry is not unlike the art produced by Grant Wood, Thomas Hart Benton, Edward Hopper, Charles Sheeler and others who were active in the WPA-era.

The author of this beautiful book, design historian R. Roger Remington, is as well-informed about this subject as anyone and is widely known for his efforts as the founder of the Graphic Design Archives, a large collection of printed ephemera and other research materials in the Wallace Library at the
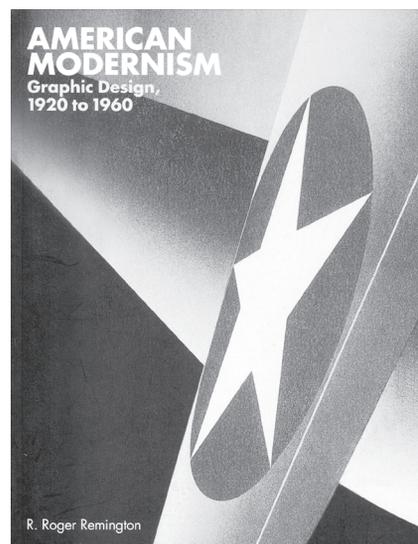
Rochester Institute of Technology. This volume, which is his fourth and largest study of various aspects of this segment of design history, begins in the 19th century and retraces the emergence of the European avant-garde. It slows down as it looks more reflectively at the major representatives of American Modernism, then resumes speed as it surveys the 40-year period near the end of the 20th century, when Modernism is replaced by the maze in which we currently find ourselves. In addition to Remington's wonderful text, the book is exquisitely designed (as it really has to be, to practice what its text promotes) by Brad Yendle and stunningly illustrated with 250 color illustrations of the finest, most unforgettable works from a historic period in which not just graphic design, but also cinema, literature, dance, popular music and other forms of expression were produced at a very high level.

(Reprinted by permission from *Ballast Quarterly Review,* Vol. 19, No. 2, Winter 2003–2004.)

INTRODUCTION TO IMAGING

by Howard Besser. Getty Publications, Los Angeles, CA, U.S.A., 2003. 89 pp., illus. Paper. ISBN: 0-89236-733-4.

Reviewed by George Shortess, 3505 Hecktown Road, Bethlehem, PA 18020, U.S.A. E-mail: <george.shortess@lehigh.edu>.

This book, in its second edition, was published by the Getty Foundation. It is a basic source to guide those involved with museums and other collections in the uses and pitfalls of digital imagery. For this purpose it is an invaluable guide and is highly recommended. The fact that it is in its second edition speaks to its acceptance and usefulness. The book covers digital imagery as an archival tool, as a way to increase collection accessibility, and as part of a management system.

In addition, I would recommend the book to anyone who is involved or plans to be involved with digital images, since all involvement requires some sort of storage process. While some of the material is specific to large museum collections, much of the material is relevant to users of digital imagery generally. The book gives a very good overview of digital imagery, with an excellent glossary in the back of the book. It minimizes jargon and presents the basics in clear and concise ways. The emphasis is at the strategic or

planning level. It explains what to look for in a program, rather than giving a detailed analysis of any specific program. This makes it much more useful, as programs are always changing and developing.

I was particularly impressed with the book's down-to-earth treatment of issues that often are hyped in a misleading fashion by the imaging industry. Topics such as image resolution, color, file formats, metadata, scanning, etc. are treated in a straightforward and clear manner. *Introduction to Imaging* does an excellent job of pointing out the pluses and minuses of the available choices. The authors emphasize the need for each user to clearly understand of the specific purposes that digital imagery will serve and why it is important in each individual case. Issues such as obsolete technology, data integrity, security and resource management are treated realistically. Its concluding advice reflects much of the rest of the book: "In reality, no one knows what the best preservation strategy or combination of strategies will be" (p. 62). It goes on to recommend an open approach and regular reviews as the best ways to maintain useful digital files. The book provides an excellent basis for carrying out that strategy.

AN ATLAS OF RARE CITY MAPS: COMPARATIVE URBAN DESIGN 1830–1842

by Melville C. Branch. Princeton Architectural Press, New York, NY, U.S.A., 1978. 103 pp., illus. Trade. ISBN: 1-568-98073-6.

Reviewed by Kasey Asberry, Human Origins, 955 Delano Street, San Francisco, CA 94112, U.S.A. E-mail: <kasberry@humanorigins.org>.

This collection of 40 maps was originally published in the mid 19th century by the Society for the Diffusion of Useful Knowledge in a series of 60. The Society had the then-revolutionary goal of making information about the world accessible to anyone who was curious (rather than just those who could afford it), as well as those who regardless of their economic means needed to have their curiosities piqued, those, as the book puts it,

> whose minds are listless or engrossed with other pursuits—debauched by pleasures, occupied with business, enervated by indolent habits—and who regard the effort of gaining knowledge

as a toil, the pain of which is inadequately recompensed by the acquisition.

In this vein the Society also published *The Household Almanac, The Penny Cyclopaedia, The Library for the Young, The Working-Man's Companion, The Gallery of Portraits, The Map of the Heavens, The Statistics of Great Britain* and various mathematical tables and treatises.

Maps provide snapshots of mid-19th-century Alexandria, Amsterdam, Calcutta, Constantinople, Copenhagen, Dublin, Edinburgh, Geneva, Madrid, Stockholm and Vienna, as well as eight cities in Italy, five in Germany, four in France, three apiece in England and the United States and two each in Belgium, Portugal and Russia.

Not so much a detriment as a point of curiosity is the missing third of the original series of 60 that was left out of this collection. It would have been interesting to see Mexico City and Havana, Edo and Manila, Johannesburg and Timbuktu, all thriving cities at this time, included. Even a reference that listed the maps originally published in the series but left out of this collection would have been instructive and more complete.

This series of publications hails from the same period that gave birth to deductive theories of geography and economics such as Von Thunen's theory of land use and Cristaller's modeling of central place theory in Germany. Did the publication of these maps inform this ideological movement? Probably not, since these models generalized from idealized places rather than drawing conclusions from observations of and comparisons based upon broad sources. Their publication is more akin to the adventurous spirit that roamed the world collecting orchids and artifacts of earlier cultures, solving mysteries and not coincidentally advancing empire. Sherlock Holmes probably found these maps invaluable.

For the contemporary urban planner these reproductions of the original high-quality engravings are a rich resource. Beyond being very fine examples of the craft of cartography, they serve as a time capsule or transport vehicle and expose a world view that identified these as the Great Cities of the time. This perspective is not one limited to the information required to trace a pedigree to "classic" roots or to substantiate the pride of colonialism, but rather it supports a notion of the common good promoted by personal