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Multimedia Scholarship for the 21st Century

IN NEARLY EVERY ASPECT of modern life, we are connected to some form of technology-based media via the Internet, e-mail, cell phones, and television, or in the car with GPS systems, satellite music, radio, and so on. Multimedia in its various forms is the primary vernacular for today's society. Stephanie Barish, former director of the Institute for Multimedia Literacy at the Annenberg Center at the University of Southern California, and Elizabeth Daley, executive director of the Annenberg Center and dean of the School of Cinema-Television at the University of Southern California, speculate about what it will mean when multimedia is harnessed for the benefit of academic inquiry. Their aim is to tap the potential of multimedia to transform, expand, and bridge academic research, pedagogy, and publication. They identify the primary obstacles preventing the full realization of multimedia's potential for academic scholarship and describe their efforts to address and overcome them.

The Challenge

The underlying premise of our work is that literacy now extends well beyond the written word. To be literate today, one must understand how strategically chosen and juxtaposed combinations of media enable the construction and dissemination of meaning in ways that bypass or enrich traditional text and the spoken word. Indeed, one must not only be able to read such media, but also to author it. At this stage, most faculty members are poorly positioned to take full advantage of the rich media available to enhance their work.

To date, much of the support for university faculty to use media is directed toward technical services and basic pedagogical applications. Most colleges and universities have centers for technology in the classroom, which generally provide instruction in and access to software programs, software support, and ideas for enhancing pedagogy through, for example, Web boards or PowerPoint presentations. The use of audiovisual materials in the classroom is encouraged but the implications of their use, as well as the formal components and theoretical basis of multimedia, are not addressed. Instead, technologies and their applications are presented primarily as tools in isolation from specific disciplines. In this context, multimedia is taught separately from the kinds of intellectual content appropriate to genuine scholarship.

Such practical training for faculty is no doubt important in enhancing teaching and presentations; nevertheless, the time has come to focus on the ways in which multimedia enables true scholarship—research, analysis, and publication—within specific disciplines. The best multimedia pedagogical models and practices are realized in the classroom when they are organically and intrinsically connected to the research interests of faculty members and the disciplines they teach.

Multimedia Scholarship

More than five years ago, we began working with faculty members from a variety of disciplines at the University of Southern California (USC) to integrate multimedia into their standard discipline-based courses. We started by simply attempting to familiarize faculty members with the basics of multimedia literacy and asking them to revise their syllabi and student assignments to include it. We soon came to realize, though, that the most important step toward developing multimedia scholarship is to work with faculty to help them conceive scholarly work that will be intellectually stronger because of the use of multimedia—that is, work that not only employs but *requires* multimedia. The problem is that most professors do not have knowledge of multimedia that in any way prepares them for such an approach.

Yet, because form and content are inexorably connected in multimedia (in a way not necessarily true of print) one must first and foremost understand what different forms of media do and do not do. Otherwise, media elements tend to become merely decorative or illustrative, as opposed to integral to the argument being advanced or the

text being explicated. However, although we have all been taught to construct and deconstruct text since elementary school, none of us has been taught the principles of media on such a level. It is not surprising then that few attempts at multimedia creation exceed the standard PowerPoint presentation that merely uses the screen to display text and illustrations.

Fortunately, a number of USC faculty members have been willing to devote considerable effort to discovering principles of multimedia that force them to think differently about their own work. Many scholars have used visual materials in the development of their theories and arguments but then have been unable to publish their work in a way that fully reveals their process and the underlying research. Limiting scholars to the printed page undermines their ability to fully share the knowledge they have gained. Two examples illustrate this dilemma.

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Sixteenth-century historian Peter Mancall, upon completing his book after 10 years of research, realized that while he may have been able to write a book on the most effective promoter of the colonization of North America in Elizabethan England, Richard Hakluyt, he could never actually demonstrate what was going on in the man's mind. Since experiencing this revelation, Mancall is now working to do so by creating a sequential video document called *8 1/2 Minutes with Richard Hakluyt*.

Randy Sherman, chair of surgery at the Los Angeles County USC Medical Center and chief of the Division of Plastic and Reconstructive Surgery at the USC Keck School of Medicine, recently published an article in the *New England Journal of Medicine* discussing the current status of post-traumatic reconstruction of the lower extremity. As with most medical periodicals today, the *Journal's* traditional format allowed for only three pages of text and one drawing. Inspired by our work at the Institute for Multimedia Literacy, Bob Stein, a fellow at the Annenberg Center and designer of TK3, a multimedia software application, worked with Sherman to reconceive the article for electronic publication. This approach employed links to clinical images, radiographs, illustrative designs, and patient interviews. Hyperlinks to other papers, texts, bibliographies, and more in-depth studies were just a mouse click away. By approaching the question in this expanded format, the



underlying data become immediately available to the reader, making it possible to transmit an entirely new dimension of understanding of the subject matter at the moment of interaction.

A number of the faculty members with whom we have worked are engaged in developing, at the very least, a scholarly multimedia companion to their traditional publications. For these scholars, certain elements of their work simply do not fit into the format and preconceptions of books in their fields. Our interest now is in enabling them to consider appropriate uses of multimedia at the very beginning, as they conceive their research projects.

Throughout the course of our work, several important advantages of multimedia scholarship have become evident:

- Visual and audio elements can be used to build complex arguments that could not be constructed with text alone. Such arguments appeal to the aesthetic and the emotional, offering the potential for a wide range of sensory experiences and thus a deeper comprehension of the material. Multimedia facilitates the examination of nonverbal and nonlinear modes of thought, enriching analyses.

- Material can be layered and the receiver can participate in acts of construction and manipulation. Issues can be examined from multiple perspectives simultaneously, or nearly so.

- Data can be observed in action rather than simply reported. Video and audio often demand that the person doing the data collection and documentation be face-to-face with the actual situations or subjects. A project cannot be abstract at the level of mere data analysis.

- Multimedia allows the author to shift elements and recombine them to create new meanings.

- Multimedia enables the author to detect, determine, and test meanings and trends embedded in complex or voluminous data by developing visual representations such as maps, charts, and graphs of that data.

- Multimedia invites experimentation with modes of interactivity and online communication, not only to present scholarship but also to engage the audience as participants in scholarship.

- Multimedia encourages the author to think about ways to present scholarship that avoid the disciplinary jargon likely to be alien to interdisciplinary audiences.

Despite these advantages, multimedia scholarship remains far from the widely accepted mainstream in academia.

Scholarly Multimedia Publication: Vectors

Several barriers to the widespread usage of multimedia in scholarship exist; traditional publication models and rules for scholarly evidence are among the most serious. While it has always been acceptable in academic publication to illustrate text with images, diagrams, or charts, visual elements continue to play a secondary or supportive role. Moving images, sounds, and interactivity are not even an option in conventional publishing. Given these limitations and the lack of examples of scholarly work created with multimedia, a good many faculty simply do not consider using multimedia—even in cases in which their work is about digital media or is inherently dependent on media.

While ensuring the academic rigor of multimedia scholarship, we need to begin modifying our traditional requirements to grant non-print-based scholarship the same status as that which we accord print. In some ways we face the proverbial chicken-and-egg problem. While researchers in many fields may be ready to acknowledge that they could vastly extend the scope of their scholarship through multimedia, nearly all fields lack refereed journals that would allow publication in multimedia formats that could be taken into consideration for promotion and tenure decisions.

Realizing that most faculty have no place to publish such work, the Institute for Multimedia Literacy has developed a refereed journal, *Vectors*, that will not only offer a place for electronic publication of multimedia scholarship, but also will examine the underlying principles that will be most important to such scholarship. Edited by Professor Tara McPherson, who chairs the Division of Critical Studies at the USC School of Cinema-Television, *Vectors* launched its first issue this spring and is available at www.annenberg.edu/vectors.


We founded *Vectors* because we were convinced that academia must actively confront, participate in, and embrace contemporary media culture; investigate new modes of expression and new ways of constructing meaning; and create new points of contact between the arts, humanities, and sciences. *Vectors* is designed to engage readers across traditional disciplinary boundaries and beyond the borders of higher education. *Vectors* will encourage live dialogues, active archives, and innovative forms of interactivity framed by a continual questioning of the role of emerging media in a developing digital era. *Vectors* is positioned at the intersection of culture, creativity, and technology and is committed to an examination of

changing modes of expression and knowledge formation in the 21st century.

We are convinced that as long as only text in a bound volume counts as true scholarly publication, sound, image, time, and interactivity will be effectively ruled out as scholarly tools—a strange choice in a society that uses these media attributes as its primary methods of communication. At other crucial points in history, academia has been forced by the realities of technology, economy, and efficacy to alter its time-honored conventions. Today, as forms of communication rapidly transform and expand, academia will need to once again be willing to transform if it is to retain its relevance and dominance as society's primary engine of knowledge creation and the arbiter of literacy. We hope that *Vectors* will provide an example of the kind of academic publication that is possible with rich multimedia.

Conclusion

As the possibilities inherent in multimedia scholarship continue to grow and gain recognition, the chasm between the multimedia literate and those who have not been exposed to multimedia's possibilities is widening, creating a critical "digital divide." The challenge for universities is less a function of providing hardware, software, and technical skills than one of facilitating and encouraging understanding of this new environment. A thorough comprehension of multimedia scholarship and the integration of pedagogy, research, and publication are necessary on both an individual and institutional level; to be sure, a



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digital divide is opening not just between scholars, but between institutions as well. As faculty and students begin to pressure their institutions to support multimedia work, major systemic challenges will emerge.

The primary objective of all our work in higher education at the Institute for Multimedia Literacy is to further academic scholarship. The paradigm has no doubt changed. The question is, will academicians be willing to do the hard work needed to embrace and take full advantage of this new world of digital media in scholar-

ship, research, publication, and teaching?

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