

# NEW TECHNOLOGIES IN THE SOCIAL SCIENCES AND HUMANITIES

*Jaishree Odin of the University of Hawaii reviews **Computing in the Social Sciences and Humanities**. Ed. Orville Vernon Burton. Urbana and Chicago: University of Illinois Press, 2002. Review in press at **On the Horizon**.*

In the twenty first century, computers are integrally involved in the construction as well as distribution of knowledge. Allowing the user to create, transform, as well as communicate knowledge, their increasing use is redefining academic research as well as publishing practices. Creation of distance independent communities of learning through the use of communication technologies is erasing geographical barriers to access. The web-based or stand-alone multi-media resources providing anytime anywhere access to a wealth of materials or the use of simulations as an aid to visualization, explanation, and illustration are impacting the curriculum and teaching/learning practices.

*Computing in the Social Sciences and Humanities*, edited by Orville Vernon Burton, is a timely work, which approaches the growing use of computers in the social sciences and humanities from multiple perspectives. The book with its accompanying CD-ROM is a collection of theoretical essays and practical applications in the current use of computers. The eclectic collection of over sixty-five contributions is comprised of essays, software programs as well as multi-media applications from scholars who are working in the field. Consequently some contributions are works in progress. Since the essays in the book are included in the CD-ROM, the purpose of the book seems to be to get the technically challenged academics interested in looking into the potential of computers in the social sciences and humanities. It also seems to be a subversive comment on the scope of the book as a medium, since the CD-ROM includes the essays in the book and much more.

Some of the pieces that stand out in the collection as far as research in social sciences is concerned are those that deal with the new data collection and analysis tools, which utilize the power of computers to collect and analyze data in multiple ways at a minimum cost as well as time. In "Representing Metadata with Intelligent Agents," the author presents a prototype of intelligent agents that can simplify working with data by serving as the intermediary between the data and the user which has potential to facilitate research dramatically. Wendy Plotkin's essay "Electronic Texts in the Historical Profession," explores the impact of the Internet on historical research, showing how the electronic primary texts can be subject to multiple types of searches based on words, concepts or phrases which thus can serve as a second index for research purposes for various humanities texts.

In traditional scientific or technical papers, graphs and charts are the primary means of conveying the complex data, but the computer makes it possible to use dynamic images, so that the data could be made more engaging and more widely accessible to people. In "Multi-media Approaches to Visualization of Ecosystem Dynamics", Brian Orland et al show how complex data relationships can be communicated through dynamic systems animated visualizations. Unfortunately none of the links to the animated visualizations work. But the idea of illustrating technical and scientific papers with animated visualizations is an interesting aspect of the ongoing impact of computers on the field of publishing. It presents

yet another way of moving away from the static print modes of presentation to dynamic electronic presentations.

Various contributions in the book and CD-ROM package discuss how the switch from the print to the electronic text is transforming the teaching practices in the social sciences and humanities. The Internet is central to all this, since it provides a virtual space where the vast multimedia archives of information can be accessed from anywhere at anytime. It also makes it possible to create synchronous or asynchronous distance independent communities of learning. The interactive websites or multi-media productions use the potential of hyperlinking to create highly diverse sites that can be explored in multiple ways by students.

The fluid quality of hypertext is achieved to its fullest in a hypermedia work where both text and image, and sometime audio, are interlinked to give rise to a hyperlinked text which appeal to different learning styles. The use of multimedia websites for content presentation is appropriate for the current generation of students who are always plugged to one technical gadget or other. Studies have shown that extensive exposure to television and videogames changes how the brain receives and processes information. They work best in an environment which is visually stimulating and where they can engage in multi-tasking. Sitting in a classroom, listening to the professor on the podium, is not very appealing to the new generation of students. It is in this context that interactive websites, simulations and instructional software can be effectively used to create a highly active classroom. The interactive websites which bring together variety of sources that cross disciplinary and geographical boundaries are usually collaboration among various institutions which ensures that the final product is a well balanced multi-media archive that can be effectively used in both bricks and clicks classrooms in all disciplines, and not just the social sciences and the humanities.

Several multimedia applications as well as interactive websites are showcased in the CD-ROM. *The Valley of the Shadow* project is a hypermedia work about two communities during the American Civil War and it includes a variety of sources ranging from newspapers, letters, diaries, photographs, maps, church records, population census, agricultural census, to military records from that period. Several kinds of discourses using different media are thus gathered together in this hypermedia work. The hyperlinked presentation of the materials allows students to explore the material according to their interest as they work on reconstructing the stories from that period. *RiverWeb: River Basin Knowledge Network* is a multidisciplinary collaborative venture between a university, a museum and a national agency. The object of the project is to create a multimedia chronicle of the history and culture around rivers. Alan Lomax' *Global Jukebox* is a program that allows the user to explore the performance arts in different cultures, focusing especially on the song and dance traditions of places from all over the world. All these resources can be effectively incorporated in the curriculum.

In "Netagogy' in History and Literature Departments", Diane Sieber shows how the Internet-based resources can be integrated into the traditional classroom to create active learning experiences for students. This has special relevance to teaching history, language and culture courses, since students can virtually access the primary materials, visit museums, read online newspapers, listen to the online radio in the target language and thus immerse themselves in the history and culture of the country or the region that they are studying in class. There is a shift thus away from classroom lecture and textbook to resources on the web that students actively use and explore. In "The Use of Simulations for

Teaching of History," Paul Marty and Chris Butler bring out the uses of simulation in promoting active learning and critical thinking.

*Computing in the Social Sciences and Humanities* is an informative work which gives a fairly balanced representation of how computers can be used effectively both in research and teaching. There is something for both beginners and advanced users of technology. The essays and applications show very clearly that the Internet and the new communication technologies are slowly transforming the traditional teaching/learning as well as research practices in the social sciences and humanities.