ORIENTAL INSTITUTE
COMPUTER LABORATORY

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Introduction

The Computer Laboratory was humming with activity throughout the year, which just means that things continued as always: new computer equipment arrived and had to be installed, old equipment broke down and needed to be repaired or discarded, faculty and staff needed help solving computer-related problems or advice on computer applications, and, of course, it all needed to be done yesterday. So what else is new?

Although I will discuss several important projects below, the most significant project that the Computer Laboratory was involved with this past year, and definitely the most time consuming, was the development of the Oriental Institute Virtual Museum, a new component of the Oriental Institute's World-Wide Web (WWW) site. For

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further information concerning the Virtual Museum and our WWW database in general, refer to the *Oriental Institute Electronic Resources* report (below).

The Nippur Expedition and Remote Sensing

During the past year a working relationship has been established between the Oriental Institute and the Center for Geographic Information Systems, in the Geography Department of St. Cloud State University, St. Cloud, Minnesota. Director Benjamin Richason and his staff have been working with the Oriental Institute's McGuire Gibson, Tony J. Wilkinson, and the Computer Laboratory to coordinate a joint research project investigating remote sensing techniques for archaeological site identification and analysis, as well as geomorphological analysis of a small region in southwestern Iran, near the ancient site of Susa, using satellite images and ground-penetrating radar data obtained by NASA from recent Space Shuttle flights over this region of the earth.

During this past year the Oriental Institute supplied bibliographic, map, and survey data to students at the Center for Geographic Information Systems, who then integrated this information with satellite image data of the area using the Center's Geographic Information Systems (GIS) computer software. Preliminary results of this first test were encouraging, and discussions concerning both the data analysis procedures and the computer software techniques employed will be held during the summer of 1996, in preparation for a more focused investigation on the region around the Mesopotamian site of Nippur scheduled for the 1996/97 school year.

Giza Plateau Mapping Project

Prior commitments limited Mark Lehner's time to consult with the Computer Laboratory during the past year regarding the continuing development of the Giza Plateau computer model. Discussions in the spring of 1996, however, indicate that a major effort to finish the surface modeling of all the major structures (pyramids, temples, and causeways) on the plateau, as well as refining the original plateau surface generated by the Computer Laboratory in 1992, will be undertaken during 1996/97.

Peggy Sanders continued to work on the Nile Valley computer model, producing several illustrations that Mark will include in forthcoming publications.

Tal-e Malyan Project

William Sumner, Oriental Institute Director, asked Peggy Sanders to redraw and/or touch-up a number of drawings and to arrange pottery and artifact plates that will illustrate a forthcoming publication on the University of Pennsylvania's excavations at Malyan during the 1970s.

Oriental Institute Museum Education Maps

During the summer of 1995 Carole Krucoff, Head of Museum Education and Public Programming, and William Pattison, Associate Professor Emeritus, Department of Education and the College of the University of Chicago, and a consultant to the Oriental Institute/Chicago Public Schools Partnership Project for the World History Curriculum (sponsored by the Polk Bros. Foundation), asked the Computer Laboratory to develop a series of regionally-based maps of the ancient Near East to illustrate the Museum Education Office's "Teacher's Kit." Developed as overhead projector transparencies, these maps illustrate the geographical regions of Mesopotamia and Egypt/Nubia through time

in accord with the textual materials contained in the Teacher's Kit, indicating the location of important cities and shifts in cultural/political boundaries through time.

The Computer Laboratory purchased the underlying map data, a set of global relief maps in CD-ROM format, from Digital Wisdom, Inc. A generous donation by Mr. Pattison helped to make this purchase possible. With these relief maps as a background, additional information for each map was gathered by Mr. Pattison and the Computer Laboratory from published sources according to the Museum Education Office's guidelines.

The Mesopotamian maps were presented to teachers from the twenty schools participating in the program during the spring of 1996, and they were deemed a great success overall. Suggestions for improvements were noted, modifications were then made to the Mesopotamian series, and then the Egyptian map series was started. The latter will be completed during the summer of 1996, and the entire Ancient Near Eastern Map series will become part of the Teacher's Kit and be ready for use by teachers in their classrooms during the 1996/97 school year.

Let me take this opportunity to thank Mr. William Pattison for his tireless efforts to oversee this entire process, seek out the necessary information, and provide valuable comments and criticism regarding the design and presentation of these educational maps. Their success is due in large part to his efforts.

Isthmia Project

The Computer Laboratory's collaboration with Professor Elizabeth Gebhard, Department of Classics, in developing the three-dimensional computer model of the archaeological site of Isthmia, Greece continued throughout this past year, with everyone concerned expressing satisfaction with the pace of the project and its results. Under the supervision of Peggy Sanders, and with the help of Deborah Darylak, a student in the Divinity School, survey data and architectural drawings from Professor Gebhard's recent excavations as well as previous publications are being used to construct a series of surface terrain models to illustrate the man-made changes to the landscape of the site from the eighth century B.C. to the second century A.D. At present, six of the ten discrete building phases of the site's development have been essentially completed, and work will continue next year on the remaining models.

Computer Model of the Djoser Complex

Additional modifications to the Computer Laboratory's three-dimensional computer model of the Djoser pyramid complex at Saqqara, Egypt were made this year in order to produce slides for lectures by Florence Friedman, Curator of Ancient Art at the Museum of Art, Rhode Island School of Design. The primary focus of Dr. Friedman's work is on the corresponding images of the "running" kings on false door reliefs in chambers under both the pyramid and the southern tomb.

The Getty Museum

Because of her artifact drawings for Oriental Institute publications, Peggy Sanders was contacted by the Getty Museum to provide hand-drawn pottery illustrations for their series entitled *Corpus Vasorum Antiquoram*, specifically for fascicles written by Mary Moore, Richard Near, and Richard De Puma. This work has required Peggy to travel to the Getty Museum in Malibu, California on several occasions during the year in order to have "hands-on" contact with the artifacts as she prepares each set of illustrations.

The Art Institute of Chicago

A referral from Emily Teeter, Museum Assistant Curator, led Peggy Sanders to produce an illustration for a forthcoming exhibit in the Kraft Education Center of the Art Institute of Chicago. They wanted a life-size (about five feet tall) drawing of the Royal Benin Altar Tusk, a nineteenth century elephant tusk carved with images of the Oba, or king, and other figures and emblems from the history, folklore, and religious beliefs of the Benin (Nigerian) culture.

Laboratory Equipment/Institute Resources

During the winter of 1995 six Oriental Institute IBM-compatible computers had their network connections switched from the AppleTalk network to direct connections to the building's ethernet network. Professors Civil, Gibson, Gragg, and Stolper, as well as Abbas Alizadeh and the Computer Laboratory's DOS/Windows computers now have much faster and more reliable access to the Internet as a result of this switch. The IBM-compatible computer in Museum Registration was not switched over at this time due to the renovation project in progress, but it will also be upgraded at some future date.

In July 1995, the Oriental Institute's WWW file server was moved from an Apple Macintosh Performa 636CD computer to the Computer Laboratory's Sun SPARCstation 1+ computer. This move was necessitated by increased user demands on the server during the later half of 1994/95 as the Oriental Institute's WWW database continued to be developed. Our WWW site has been very well received by the public, as documented in our weekly statistics of server use by both a steady increase in file accesses and the number of users connecting to our server.

This change in our WWW server hardware meant that the Apple Macintosh Performa 636CD computer could now be employed in the Computer Laboratory as an additional graphics computer available for use by faculty and research projects. Towards this end, its Random Access Memory (RAM) was increased to 20 Megabytes and additional software (Adobe Photoshop and Adobe Illustrator) was purchased.

I am proud to announce that the Oriental Institute's 1996/97 proposal to the Women's Board of the University of Chicago for computer equipment to upgrade our "electronic gateway" resources was approved for full funding in the spring of 1996. This gracious gift by the Women's Board will provide the Oriental Institute with a state-of-the-art World-Wide Web (WWW) file server, as well as additional computer resources to develop both our print publication efforts as well as the electronic dissemination of information regarding Oriental Institute research projects to both the scholarly community and the general public. I want to thank the Women's Board for their help in keeping the Oriental Institute in the forefront of ancient Near Eastern studies through the use of the latest computer technologies. Additionally, I want to thank William Sumner, Oriental Institute Director, Cynthia Echols, Assistant Director for Development, Emily Teeter, Museum Assistant Curator, and Charles Jones, Research Archivist, for their help in both preparing and presenting the Oriental Institute's proposal to the Women's Board. It was a team effort that succeeded because of teamwork.

The computer equipment that will be obtained as a result of the Women's Board gift will arrive and be assembled during the coming year, and I will report more fully on its impact in next year's *Annual Report*.

Again this year the LaSalle National Bank of Chicago has graciously donated computer equipment to the Oriental Institute. I would like to thank Mr. Thomas Heagy, Vice Chairman, LaSalle National Corporation of Chicago, for the bank's generous gift

of five Hewlett-Packard X-Terminals. Two of these computer display terminals are installed in the office of Professor Gene Gragg and Professor Matthew Stolper, in order to facilitate their work on the Royal Achaemenid Inscriptions Project (see separate report). One or two of the X-Terminals will be installed in the Research Archives as display terminals for accessing the Regenstein Library On-Line Catalog and our WWW site's ABZU index of ancient Near Eastern resources available on the Internet.

Mr. Robert Alexander, an Oriental Institute member, graciously donated two IBM-compatible computers to the Computer Laboratory this past year: a Toshiba T1100 Plus portable computer and a Leading Edge DC-2100 desktop computer system. Thanks to Mr. Alexander for this kind donation.

With the above two cases as examples, I want to encourage other members and/or friends to remember the Oriental Institute with similar types of equipment donations. With the wide variety of computer-assisted research being undertaken by Oriental Institute faculty and staff, our needs are great and equipment that could seem out-of-date or inadequate to your needs might be very beneficial to our research.

Lastly, I want to thank Lester Stermer, a docent volunteer who gave hours of his time every week to help the Computer Laboratory with data entry of published building plans into AutoCAD drawing files. Sitting in the basement Archaeology Laboratory, quite often all by himself, he has persevered in learning to use the AutoCAD program, no easy task in itself, and continues to "digitize" whatever building plans I place before him. Congratulations, Les, and many thanks for your help. Oh, by the way, there are only about two thousand more plans to go!