A culture clash of sorts is underway at the new Getty Center in Brentwood. While the heart of the museum's ancient Greek and Roman collections consists of sculptures, urns and other antiquities, the Getty is embracing 21st century computer-networking technology to help cultivate appreciation for that art and culture. From a virtual reality tour of the long-defunct Forum of Trajan in Rome to a multimillion-dollar program to digitize visual arts collections throughout Los Angeles, the center is pioneering high-tech means of making art more accessible for the masses.

"This is a powerful tool that can help strengthen and preserve the arts," said Eleanor Fink, director of the Getty Information Institute. But others within the Getty are worried that the digital features being created today won't last nearly as long as the objects on display. Concern about the life span of storage media such as CD-ROM--and of the computers that read them--has some wondering whether future generations will be missing an important chunk of history from the end of this century.

"Memory is really the identity of people," said Miguel Angel Corzo, director of the Getty Conservation Institute. "Our collective memory of the last century--and perhaps of the future--is at stake here." For the present, Getty curators are using technology to preserve the past. Some projects are relatively straightforward, such as a plan to digitize the Getty's collection of 19th century photographs of ancient Greece, too fragile to display for long periods. About 200 of the original prints have been digitized so far, and they can be seen on the Web at

http://www.getty.edu/gri/greece/index.htm

The Getty has also earmarked about $5 million to help less affluent cultural institutions in Los Angeles County create electronic catalogs of their collections, said Jack Myers, a senior program officer at the center. They include the Long Beach Museum of Art, the Pacific Asia Museum in Pasadena, the Los Angeles County Museum of Art, the Center for the Study of Political Graphics in West Los Angeles, the Fowler Museum of Cultural History at UCLA, and the Henry E. Huntington Library and Art Gallery in Pasadena.

In Brentwood, the Getty Information Institute is taking advantage of the best of the Web by creating Los Angeles Culture Net (http://www.lacn.org). The site maps out the cultural institutions in the city and includes extensive links to their Web sites, along with a calendar of coming events.
The more innovative features of Los Angeles Culture Net include online exhibitions and community "Web-raisings"--help for people who want to build their own cultural sites. One project, called "Local Libraries, Local Knowledge," is aimed at preserving the cultural heritage of communities by mapping them online, complete with landmarks, stories and histories as told by the people who live there. Boyle Heights was the first neighborhood to be digitally preserved, and Hollywood, Venice and North Hills are next in line for the treatment, said Moira Kenney of the Getty Research Institute.

Inside the museum, technology is forcing its way in among 2,000-year-old artifacts. A new "video wall" shows visitors that cultural institutions like the Getty intend to participate in the networked world of the new millennium, said Marilyn Schmitt, program manager for special projects for the information institute.

"It's our history, and if it doesn't get digitized, there's a danger of it becoming marginalized," she said. "If everybody goes to the networks for all of their information, and cultural information isn't there in a form that's inviting and usable, will people stop paying attention to their history? If they do, that's a tremendous impoverishment of our culture."

To ensure that cultural information can be found amid the cacophony of the Web--that a search for sites relating to "marble" turns up stone sculptures and not cake recipes--Getty employees created an art and architecture thesaurus with 200,000 descriptive terms to help focus fact-finding expeditions in cyberspace.

A few dozen yards from the video wall, visitors can take a virtual reality tour of the Forum of Trajan, a Roman monument the size of 20 football fields built in the 2nd century AD to commemorate the subjugation of the northern province of Dacia. In modern-day Rome, the forum's ruins offer only hints about the ancient structure, two-thirds of which is still buried. But with the model, viewers can soar over the open courtyards and through the hallways populated with virtual Romans to get a sense of the forum's awesome scale.

"This is such a compelling way of storing and documenting information that traditionally would be viewed in two dimensions," said John Papadopoulos, associate curator of antiquities at the museum.

For example, visitors can see relief carvings of the mythical monsters known as griffins in the virtual reality model, then see a fragment of the actual carvings on the museum wall. "This is a really good way of bringing the ancient works of art into context," Papadopoulos said.

"I've been to Rome many times, and I've walked around the ruins of the Forum of Trajan, but I never really understood or appreciated it until I worked on this model and experienced it in a firsthand way," said Bill Jepson, director of the Urban Simulation Laboratory at the UCLA School of Art and Architecture, who created the Getty model.

During the year it took to build the virtual forum, scholars had to rethink their assumptions about the forum's structure, such as where the roof ended and where windows were installed, Papadopoulos said. Once built, the models also provide a way to experience the forum without damaging the ruins, he added.

But others at the Getty say the adoption of computer and networking technology could pose a threat to the museum's efforts to preserve cultural heritage. They are concerned that the unquestioning embrace of things high-tech could result in a future with no record of the present.

Last week, the Getty Information Institute and the Getty Conservation Institute invited an array of computer scientists, artists, cultural historians and futurists to discuss the dilemma in a two-day conference called "Time and Bits: Managing Digital Continuity," which was co-sponsored by the San Francisco-based Long Now Foundation. Participants--including virtual reality pioneer Jaron Lanier; Walt Disney Imagineering's Danny Hillis; digital musician and artist Brian Eno; and Brewster Kahle, who heads the Internet Archive project in San Francisco--agreed that unless engineers and archivists act soon, a chunk of history could be lost forever.

Part of the problem is that storage media, such as magnetic tapes, computer disks and CD-ROMs, may turn out to be far less durable over the long term than originally presumed. A recent report from the National Media Laboratory, a government- and industry-sponsored research group base in St. Paul, suggests that when stored at room temperature, magnetic tapes can be expected to last only 20 years, CD-ROMs for 50 years. If kept at 50 degrees Fahrenheit with controlled humidity, magnetic tapes can last 50 years, while the life expectancy of CD-ROMs jumps to 200 years, according to the report.

Those life spans seem especially short compared with high-quality acid-free paper, which lasts 500 years. (Even that has nothing on the hieroglyphics carved in Egyptian stone 2,200 years ago.) Plus, tapes and disks could be rendered unreadable sooner if the computers and other machines needed to play them are not retained or in working condition.

While data of all sorts are at risk, the impact on bits related to cultural heritage is particularly acute, said Margaret
MacLean, director of special initiatives at the Getty Conservation Institute.

"It's a double whammy," she said. "Instead of conserving the original documents, our scarce resources are spent on converting them to digital form."

Some culturally significant works never make it out of digital form, such as the sites that make up the World Wide Web. Even if they could all be captured and stored on paper, the hyperlinked nature of the Web makes it difficult to determine how much data must be saved to record the true nature of an individual site, said Howard Bresser, a professor in the information management and systems school at UC Berkeley, who attended the "Time and Bits" conference.

"Information is increasingly related to other pieces of information," he said. "What are the boundaries of information, and how much surrounding information can you save?"

Eno said he fears that until such questions are answered, archivists will save things such as tax returns instead of cultural objects because tax returns are more straightforward.

Still, taken as a whole, the information institute's Schmitt said she believes technology will do more to enhance than to harm the arts.

"There's just no question that this new media can be incorporated into the old," she said. "It won't replace the object by any means, but it can enrich the experience of the object."

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**How Long Will they Be Around?**

Computer scientists are concerned that digital data stored on various media won't last as long as archival materials on paper. The life expectancy of various media at 68 degrees Fahrenheit and 40% relative humidity:

All major brands:

- CD-R (recordable): 2 years
- CD-ROM (play only): 5 years
- Medium-term microfilm or newspaper*: 10 years
- High-quality paper**: 20 years
- Archival-quality (silver) microfilm or permanent paper***: 100 years

High-quality brands:

- Medium-term microfilm or newspaper*: 20 years
- CD-R (recordable): 30 years
- CD-ROM: 50 years
- High-quality paper**: 100 years
- Archival-quality (silver) microfilm: 200 years
- Permanent paper***: 500 years

* * *

*High acid, unbuffered

** Low acid, unbuffered
*** Low acid, buffered

Source: National Media Lab

Researched by Jennifer Oldham / Los Angeles Times

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