



COMPUTERIZED MUSEUM PRESENTATIONS

High-Tech Focus on Ancient Egypt

Museum display specialist uses computers and complex databases to enhance exhibits

By **Simson L. Garfinkel**

Staff writer of The Christian Science Monitor

BOSTON

IN an office crowded with videodisc players, precision audio recording equipment, and high-performance computer work stations, Rus Gant is trying to bring ancient Egypt into the 21st century.

Mr. Gant, a self-employed museum consultant, returned earlier this month from an archaeological survey of the tombs near the Great Pyramids in Egypt. Now he is building a computerized database of ancient Egypt's architectural, linguistic, and historical heritage.

His goal is to use technology to revolutionize the study of ancient history and make the wealth of information known about the Egyptians easily available to scholars and laypeople alike. He also wants to preserve the relics still in existence before they are wiped away forever.

The site of this summer's work was a group of 20 tombs belonging to nobles and minor royals who were buried about the same time the pyramids were being constructed, with additions added for several centuries thereafter.

"It was like a town, in a way," Gant says. The Museum of Fine Arts in Boston, which sponsored the expedition, has been excavating the area since the 1930s.

"We didn't find anything new," says Gant, whose enchantment with Egypt goes back more than two decades. Instead, the goal of this expedition was to make a final recording of artifacts already discovered.

"I can show you photographs that the Boston Museum did 60 years ago, and I can show you a photo that I took a few weeks ago, and you will see that entire heads of figures are gone," says Peter Manuelian, a curatorial assistant at the Boston MFA who was also on the expedition. (See illustration at left.)

The past 60 years have been particularly hard on the carvings, explains Gant. While there have been some overt acts of vandalism — people carving their names in walls, for example — far more insidious is the damage caused by the mere presence of people in this dead city. Changes in a room's temperature or humidity caused by a small group of people "is enough to cause the flaking of the limestone," Gant says. "In less than 10 years it will all be gone, and all that will be left is our photos and drawings."



ON-SITE STUDY: Rus Gant, a museum consultant, working with a survey team at tombs near the Great Pyramids, Egypt.

But excavating and photographing aren't enough: In Egyptology, as in other academic disciplines, work must be published — a task that is often far more time consuming than the actual excavating. A typical volume might contain 50 pages of detailed maps and technical drawings, and another 50 pages of commentary.

"The book is written in English with translated Egyptian and hieroglyphics," Gant says. "Many of the references and footnotes are in French and German," many of which themselves quote Greek and Latin sources. Using typewriters, pencils, scissors, and tape, such a volume can easily take five years to produce.

Enter the computer. Although popular word processing systems are no match for hieroglyphics, says Mr. Manuelian, most desktop publishing systems are up to the task because of their ability to cope with a number of different

typesets simultaneously.

Such systems, however, are not without their critics. "The hieroglyphics that I have seen printed I don't think are as good as one can draw by hand, and it takes a great deal of time to access each individual sign," says Catharine Roebig, an Egyptologist at the Metropolitan Museum of Art in New York.

Another problem, Manuelian says, is that he has had to spend a lot more time learning about publishing than his colleagues. "All that time that I'm putting into the printing world is coming out of my academic work."

But Gant's real hope is to supplement the printed volume with a computerized database and let scholars — as well as the interested public — access the wealth of Egyptian knowledge and even walk around the ancient city.

In a corner of Gant's Cambridge loft office is a prototype of

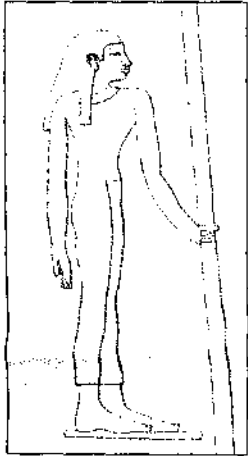
such a system, which he is developing for the Carnegie Museum of Natural History in Pittsburgh. Controlling the computer with a trackball like an arcade video game, Gant can display a map of Egypt, select an archaeological site, and pull up a floor plan of the excavated building. He can then branch off to a historical summary of the person buried there, a history of Egyptian royalty, or display color photographs of artifacts found at the location.

At Yale University, Mark Lehner is the director of a project that is surveying the Giza plateau with state-of-the-art infrared transits. Ten years ago, Mr. Lehner worked on a similar project mapping the Sphinx. "We can feed this into computers and we can produce a three-dimensional image of the Sphinx that we can turn (using a computer graphics system)."

Gant hopes to use Lehner's data as the core of a computerized model of Giza that a visitor to a museum could instruct a computer to "walk through." At first, most of the computerized display would look like a model made from "wire frames," or just the outlines, Gant says. By adding digitized photographs of reliefs and carvings still standing — and using educated guesses for the places where only rubble remains — it should be possible to have a computer render a picture of how the site looked in ancient times.

Next, Gant wants to add into the database the commentary now published in books — each paragraph electronically tagged to the wall or the relic that it re-

PETER DEK MANUELIAN



LOST ART: Above, computer drawing based on a photograph taken at Giza, Egypt, shows the condition of a picture of a young girl in May 1938; below, only a portion of the figure can be seen in August 1987.



TRUMPETER: Detail of figure blowing a bugle on a Luxor, Egypt, temple wall.

PERSPECTIVES

Drug Strategy in an 'Ethical Fairyland'

erences. For more information about a drawing on a wall, or to see photographs of artifacts that were unearthed, viewers would click a button. Everything known about the site could be integrated into such a system.

This would all sound like science fiction, except that Gant has already completed a similar project for excavations outside the tomb of the first emperor of China. The system he built two years ago was an electronic archive about Chinese art and political history, containing more than 10,000 photographs, all recallable under computerized control.

One of the biggest advantages of Gant's vision for Giza, says Ms. Roehrig in New York, is that it has the potential for bringing together a lot of academic information that is currently scattered in libraries around the world and in many "obscure journals."

"Having a place where you could press a button and get all of the references and access all of the line drawings or photographs would really make life a lot easier for a lot of people," she says. Even when books are published, they typically have press runs of only a few hundred or a thousand, she says.

But, Roehrig adds, the cost of the computer systems is still out-of-reach for many Egyptology departments, and many academics are reluctant to release the information that they have built their careers on. "When people have spent a huge amount of time doing research and they have an article that doesn't get printed for five years, it is often very hard to persuade people to give you any detailed information until it is actually out in print."

If these problems can be overcome, says the MEA's Manuelian, the potential payoff for both scholars and the public will be enormous. "I think that some of the things that Rus is working on are revolutionary ideas in multi-media kinds of presentation. These machines can make a lot of that information accessible very quickly."

Although the computers are not about to replace the display cases, Manuelian says, "I think that the two of them can open up room for a layperson to get much more feel for what Egypt is like if they haven't been there. More of a feel for what a temple might look like today in ruins, as well as what it might have looked like in ancient times."

THE day after President Bush delivered his prime-time address on drugs, I fell into conversation with a young high school teacher in a small New England town. He teaches ethics. Only he doesn't exactly call it ethics. When he arrived a few years ago, his superiors quietly took him aside and warned him that ethics is not something you're allowed to teach. After all, you might end up promoting values contrary to those held by some of the parents.

He got the message: While his classes explore questions of right and wrong, he doesn't feel free to tell the students which is which. He's been made to feel that to do so would be to impose his own values on them.

I was thinking about our conversation as I read the text of the president's speech on what he called "the gravest domestic threat facing our nation." Who's responsible for drug use? Bush put it plainly: "Everyone who uses drugs. Everyone who sells drugs. And everyone who looks the other way."

In those terms, the new drug strategy tackles precisely two-thirds of the problem. It comes down heavily on the sellers, through tougher law enforcement. It seeks to redeem users and would-be users, through rehabilitation and education. But on the third point — those who tolerate drug use — it maintains an eerie silence.

Why? Because the moment you sail into those waters, you have to talk about ethics — not the ethics of the street people and the traffickers, but the ethics of the society that tolerates them. Judging by what's tolerated, those ethics are pretty skewed. To address them, you first have to be willing to say, "That's wrong!" And that, as my friend discovered, is something we've collectively agreed not to do.

But the secret of the drug problem is that it isn't a drug problem. It's a values problem. It's about a failure of self-worth, respect for others, sense of purpose, and the meaningfulness of life. Those aren't airy philosophical concepts. For adolescents especially, they're crucial, gut-level concerns. You can't feel good about yourself without beginning to sort them out and separate the right from the wrong. Failing to sort them out, you turn to something else to make you feel good — like drugs.

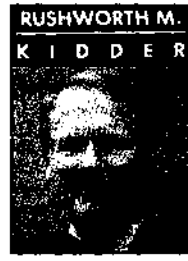
Can we help that sorting-out process if we refuse to say what's right or wrong? On that point, we're sadly confused. We foolishly imagine that if we get tough on drugs and say "That's wrong!" in a very loud voice, the teenagers will respond. But we ignore the fact that, to insure our credibility, we've got

to be willing to say "That's also wrong!" to a host of other "feel-good" fixes that plague the adult world — alcohol, tobacco, over-the-counter drugs, sexual license, gambling, greed, and violence. Failing to do that, we operate in a kind of ethical fairyland, pretending that the drug problem is separate from the rest.

It's not, and kids generally know it's not. They sense, often better than adults, that life is a seamless whole, not a bunch of discrete compartments. Why should they listen to someone who says, "That's wrong!" about one thing and ignores dozens of other areas which, in the child's eyes, may seem to produce even worse results? Why condemn the drug, in

other words, if you're unwilling to condemn the alcoholism that produced the wife-beating that paralleled the poverty that prompted the child abuse that made home so unbearable and the drug so attractive in the first place?

The "gravest domestic threat"? Not drugs, but the cave-in of values that makes drugs attractive. "Everyone who looks the other way"? All of us who duck — and thereby teach others to duck — the hard questions about what's right and what's wrong.



RUSHWORTH M. KIDDER

BOOKS

Sensitive, Sweeping Study of Asian Americans

By Merle Rubin

IN July 1982, Vincent Chin, a young Chinese-American, was beaten to death with a baseball bat by a pair of white autoworkers in Detroit, who called him a "Jap" and blamed him for their being out of work.

They were fined, put on probation, and, when last seen on a television news program, still smarting from the "injustice" of having been arrested and put in jail (overnight) in the first place. The only thing more appalling than these workers' racism is the attitude of the judge whose sentence excused their racism.

As Ronald Takaki's ambitious study shows, the history of Americans who came to the United States from Asia is an immensely rich, diverse, and complicated cluster of many different stories: of successive deployments of Chinese, Japanese, Koreans, and Filipinos who came to work on Hawaiian sugar cane plantations; of Chinese who laid the tracks of the transcontinental railway; of Japanese fruit farmers who already produced 70 percent of California's strawberries by 1910; of Korean professionals reduced to working as greengrocers; of Pun-

jab Indians working in the orchards of Washington and Oregon; and more recently, of Vietnamese boat people, Hmong tribesmen from the mountains of Laos, and traumatized survivors of Cambodia's killing fields.

It is a story about people "pushed" out by disastrous economic and political upheavals in their homelands and "pulled" in

STRANGERS FROM A DIFFERENT SHORE: A HISTORY OF ASIAN AMERICANS
by Ronald Takaki
Boston: Little, Brown & Co.
370 pp., \$24.95

by America's need for cheap labor, from 1849, the start of the California Gold Rush, to 1924, the year of the restrictive Immigration Act. And, as the reams of personal testimony assembled in these pages reveal, it is a story of people driven by the dream of a better life.

It is also, shamefully, a story of racism. For, unlike European immigrants, Asian Americans, even as they became acculturated in the second and third generations, remained racially identifiable. Classified as "non-whites" (Asian Indians, acknowledged as fellow

"Caucasians," were quickly set apart from "white Caucasians"). Asian immigrants found themselves in a position like that of blacks, and in some ways more anomalous.

While immigrants' children born in America were automatically citizens, the first generations of Asians were prevented from becoming citizens. Even being citizens did not save Japanese Americans from being interned during World War II, when two-thirds of those in camps were Americans by birth.

Currently the fastest growing immigrant group in the nation, as Takaki (a professor of Ethnic Studies at UC Berkeley) reminds us, Asian Americans are often praised nowadays as a "model minority": hard-working, enterprising people with strong family ties and a respect for education. Yet it's still the rule that the average white American seeing a black man presumes him to be an American (even if he happens to be a visiting African), yet, when encountering an Asian, presumes him to be foreign (even though he probably is not).

One of the chief aims of this sweeping, highly detailed history of "Strangers from a Different Shore" is to demonstrate how much Asian Americans are a part of our national landscape, so to

speak: to help us recognize these "strangers" as "familiaar."

Himself the grandson of Japanese immigrants who worked on Hawaii's sugar cane plantations, Takaki believes there's a danger that the image of Asians as a "model minority" can mask realities of discrimination, discomfort, and dislocation. These range from the "glass ceiling" faced by well-educated Asian-Americans hired as technicians but prevented from rising into the higher echelons of management all the way to the mysterious "sudden death syndrome" afflicting Hmong refugees lacerated by survivors' guilt and disoriented by extreme culture shock.

This book deftly combines traditional historical techniques with the methods of oral history — stories told by ordinary people from many backgrounds talking about their lives. The result is a portrait of great diversity and many unexpected sidelights, a history that not only records the different experiences of various national groups — and subgroups — but also gives us the voices of individuals, each with his or her own distinctive hopes, ideas, and aspirations.

Merle Rubin, who writes from Pasadena, Calif., specializes in reviewing literature for the Monitor.