MEASURE

HP takes steps to preserve art and cultural history
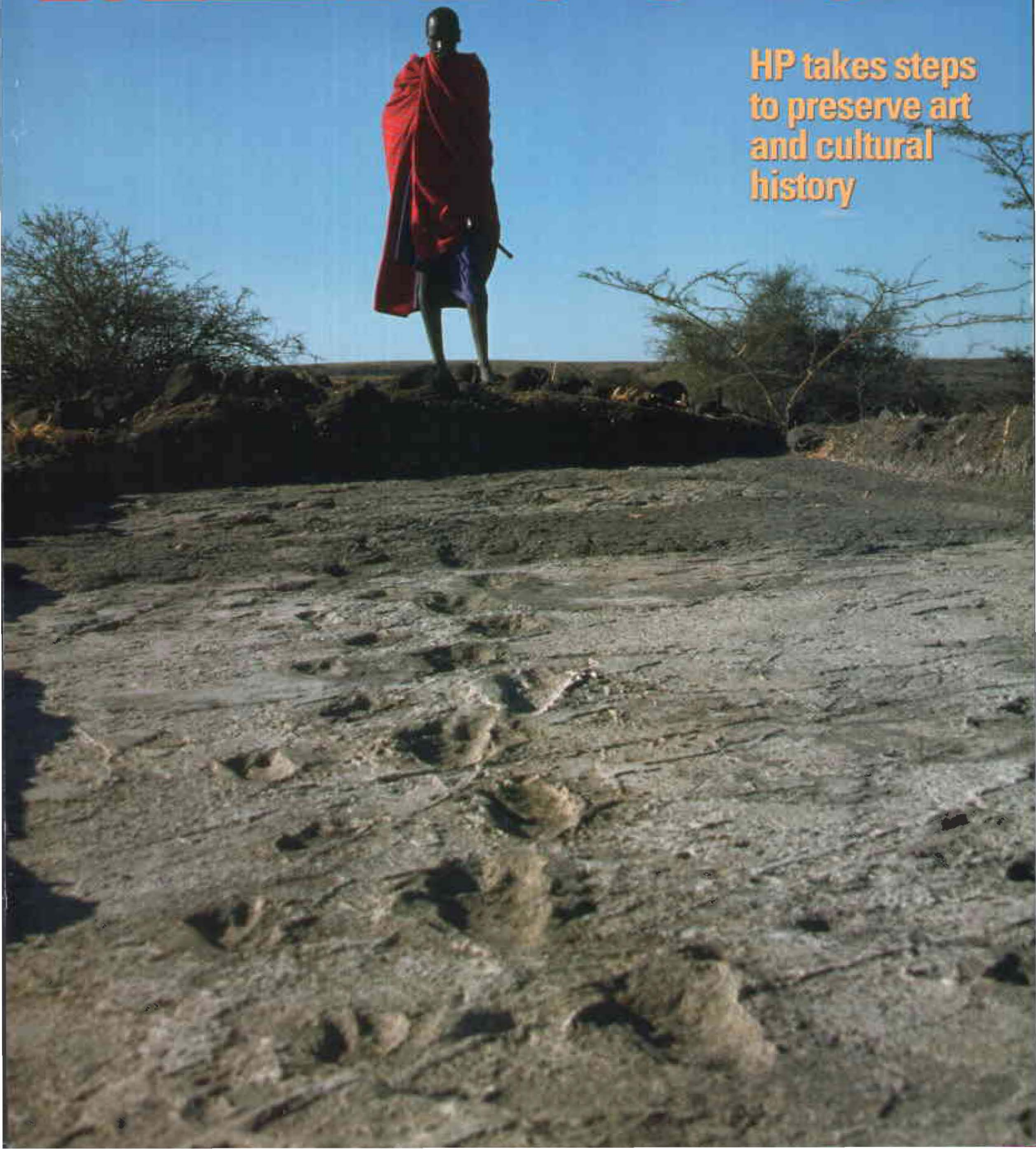
I was driving to work the other day, thinking about the state of HP—so-so 1998 results, another tough year in '99 and the possibility of major changes ahead—when the radio report caught my attention:

"A San Francisco man was found trapped under his car this morning. He was rushed to a nearby hospital, where he's listed in stable condition. Authorities are still trying to determine exactly what happened."

This is *déjà vu* all over again, I thought. It was exactly seven years ago that I ran over myself with my car.

It was 5:30 a.m. on a cold winter morning. I had backed the aging, big, blue Buick out of the garage, applied the emergency brake, got out of the car to shut the garage door, then got back in the car. When I tried to release the brake, the handle and cord connected to the brake-release mechanism on the floorboard ended up in my hand.

The only way to release the brake was to open the driver's side door, step out, get down on one knee, thread the cord back through the V-shaped slot on the floor-board and pull the metal piece until the brake disengaged. It's a maneuver that only a few circus contortionists can perform.

After three attempts, it worked. That's when the car started rolling down the driveway. Yes, the car was in gear—and the gear was reverse. The 1-ton Buick knocked me backward onto the ground and dragged me several feet.

In those few seconds, my brain replayed 40-some years of life on Earth. Then, I had the wherewithal to lie down flat, just before the big blue Buick's door attempted to decapitate its owner.

I propped myself up on one elbow and looked behind me just in time to see the car continue its roll. Down the driveway. Across the street. Up on the sidewalk. Through my neighbor's fence.

The neighborhood was eerily quiet as I picked myself up, limped across the street, got in the car and drove ever-so-slowly back into the driveway. I shifted the car into park and shut the engine off.

I did *not* step on the emergency brake this time.

Kate, my wife, stirred slightly in bed. "What's wrong?" she asked. "Oh, nothing," I said. "Go back to sleep." I changed clothes, dropping the ripped, bloodied suit to the floor and went to work.

Kate called later at the office. "What happened? Are you all right?"

"I'm fine," I said, relating the story.

"You could've been killed!" she cried.

"That's not the worst part," I said. "Can you imagine the headline? *Dumb guy runs over himself with own car.*"

The fence cost $400, but good fences make good neighbors. The suit was old anyway. The cuts and bruises healed within weeks.

And I learned a valuable lesson that I use virtually every day: As bad as things seem, they could be worse.

—Jay Coleman

On the cover: The Getty Conservation Institute (GCI) and the government of Tanzania hired Masai tribesmen, such as the man shown here, to guard the Laetoli Trackway, the site of 3.6-million-year-old hominid footprints. Scientists at GCI used HP large-format printers to produce a contour map that shows this hominid walked like a modern human, concentrating most of its weight on its heels. Read more about HP's part in other conservation efforts on pages 4 through 8.

Cover photo courtesy of the J. Paul Getty Trust. (For more information about the Laetoli footprints, see *Scientific American* magazine, September 1998.)

FEATURES

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DEPARTMENTS

MEASURE

For the sake of art

HP assists the Getty Conservation Institute to preserve art and cultural heritage sites worldwide

By Thomas Ulrich

Images courtesy of the J. Paul Getty Trust

LOS ANGELES, California—"We live in a world of ever-changing technology on the one hand, and eternal values on the other," says Miguel Angel Corzo, former director of the Getty Conservation Institute.

Archaeologists, conservators, engineers and scientists from the Institute rely on the latest technology, including analytical instruments and printers made by HP, to preserve fine art and cultural heritage sites that are hundreds, even thousands, of years old.

The Conservation Institute, along with the Getty Museum and other programs of the J. Paul Getty Trust, occupies a coastal hilltop reminiscent of the Acropolis when Athens was a gleaming city on a hill. And like the Greek city-state, these programs, under the direction of the J. Paul Getty Trust, have become humanity's patron of the arts. The $4.5 billion trust sponsors the work of the Museum, the grant program and several institutes whose charters support education, scholarship and conservation around the world.

The J. Paul Getty Center, a 110-acre art and cultural campus set in the Santa Monica Mountains, houses institutes for conservation, research, education, art history and information.

América Tropical, an 18-by-79-foot mural that graces the rooftop wall of Italian Hall, created such a stir when Mexican artist David Alfaro Siqueiros unveiled it on October 9, 1932, that the patrons whitewashed the mural and did not renew his visa.

Conservators from the Institute recognize that the Siqueiros mural, an allegorical image of an Indian crucified at the foot of a pre-Columbian temple, transcends the political climate in which it was created. They removed the whitewash from *América Tropical*, revealing the faded but recognizable image of an Indian, an American eagle and two *mestizo* riflemen for the first time in 65 years.

"The ethics of conservation require that we document art before we conserve it," says Mitchell Hearns Bishop, research associate for the Conservation Institute.

Researchers from the Institute use a large-format camera to capture one-meter sections of *América Tropical*. They join these panels

Right—Conservator Agustín Espinosa performs the second cleaning step in a process that includes removing white paint from the mural, cleaning its surface and reattaching cement plaster to the brick facing.

Far upper right—The restoration plan calls for reinforcing the brick wall that supports the mural and building a protective shelter.

Far middle right—Injecting grout in voids between the mural and wall inhibits further separation of the mural surface.
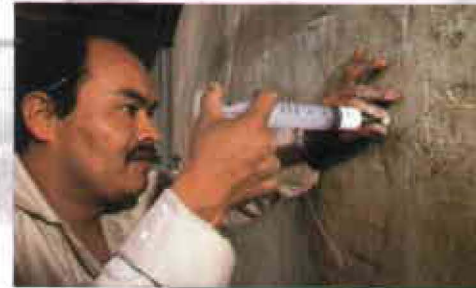
Right—Metal plates at the base of the mural wall seismically reinforce the structure.

Far right—Volunteers meticulously clean and preserve the original wall plaster. *América Tropical* graces the rooftop wall of Italian Hall—located on downtown Los Angeles' historic Olvera Street. The mural shows the signs of exposure to sun, rain, smog, earthquakes and even a political whitewashing.

Right—Eric Lange captured this seamless digital composite of 156 images to show the current state of the mural, which can't be seen entirely from one spot.

Below—Agustín Espinosa created this 1989 rendering to show the *América Tropical* mural, by David Siqueiros, with its original 1932 look. Siqueiros may have used auto paints.

The entrance to Mogao Grottoes (shown here) leads to nearly 500 Buddhist shrines.
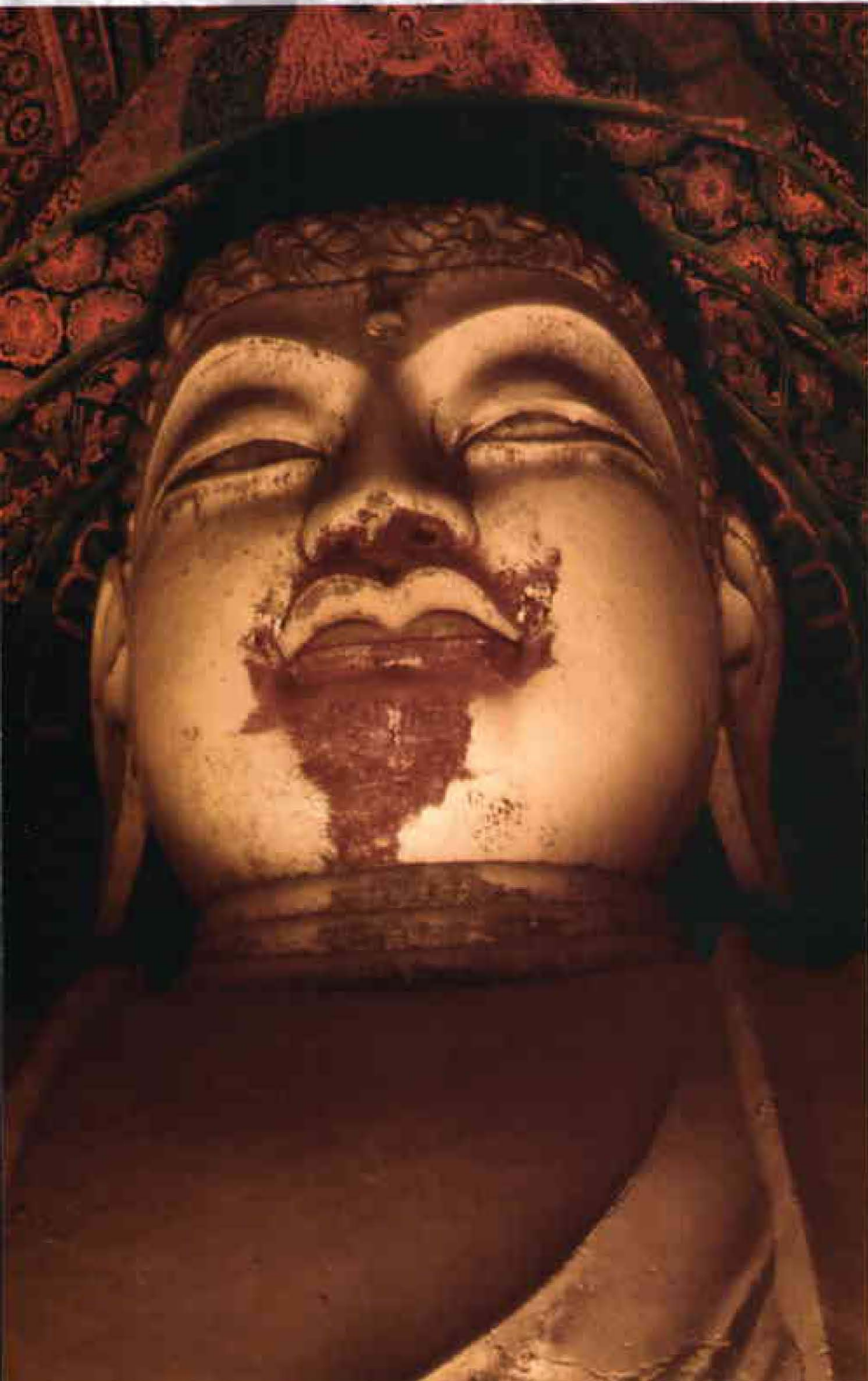
Local artists created this statue of the great Buddha during the Tang dynasty (A.D. 618–906). Two thousand clay figures are found within the Mogao Grottoes.

Each shrine is painted with scenes of the teachings and lives of Siddhartha Gautama, the sixth-century B.C. Indian prince who is known as Buddha or enlightened being.

electronically to create a complete color image of the mural.

Conservators refer to a digital or printed map, which they generate using an HP DesignJet 755 CM large-format printer, when conserving the mural.

Their plan calls for reinforcing the brick wall that supports the mural and building a shelter to protect it from the elements. They will apply a protective coating to the Siqueiros mural, but they will not repaint or restore it.

Fra Bartolommeo's *The Rest on the Flight to Egypt with John the Baptist* (circa 1509) hangs among the many masterpieces that adorn the walls of the J. Paul Getty Museum. Visitors to the Museum need no historical knowledge to appreciate the beauty of this painting. Anyone can enjoy the Baptist's playful gesture, the Christ-child's expressive glance and Bartolommeo's skillful rendering of the Holy Family fleeing Bethlehem. Five hundred years of accumulated varnish, grime

The Rest on the Flight to Egypt with John the Baptist is a Florentine painting (circa 1509) by Fra Bartolommeo, 1472–1517.

and dust have dimmed the brilliance of this Renaissance masterpiece.

Over the centuries, restorers applied varnish to the painting to protect and brighten its surface. Each application of resin deteriorated over time, turning it darker.

The restoration plan calls for conservators to examine Bartolommeo's masterpiece using a variety of 20th century tools. Then, following exact procedures, they apply the gentlest, most effective solvent to the varnish and swab the resin away.

The conservator scrapes a surgeon's scalpel along a hairline crack to remove

a speck of varnish and paint from the canvas.

His oath resembles the physician's: First, do no harm.

"I try to bring a damaged work of art to as close to its original condition as possible," says Andrea Rothe, a conservator at the Getty Museum. "It is critical that everything I do is reversible. I must allow the creative and emotional aspects of the work to speak to an audience without suffocating them with my own interpretation."

From a 50-microgram sample, Michael Schilling, a chemist at the Conservation Institute, determines the chemical composition of the varnish and underlying paint. "The solvent that the conservator uses to strip the varnish from the painting must not dissolve the material that binds the pigment," he explains.

Michael injects the prepared sample into an HP 6890 gas chromatograph (GC) that combines with an HP 5972 mass spectrometer (MS) and an HP Vectra XM/4 PC to analyze the unknowns. The gas chromatograph processes the sample, separating compounds of the varnish and the paint, based on their physical and chemical properties. The mass spectrometer bombards the separated compounds with an electron beam, causing them to fracture into unique patterns. The HP Vectra PC then matches each pattern to one of thousands of patterns for known organic compounds stored in computer memory.

Michael reviews the chromatogram to determine which organic material —protein, oil, wax, resin or plant gum—binds the pigment and which resin makes up the varnish. He reports the results to the conservator.

The HP GC/MS identifies organic materials contained in the paint and

The Getty Conservation Institute and the State Bureau of Cultural Relics are preserving Mogao Grottoes—an ancient Buddhist site along the Silk Road in northern China. Buddhist monks cut hundreds of rock temples into the sandstone face near Dunhuang City from A.D. 366 to about 1300.

Getty

How scientists use HP's gas chromatograph/ mass spectrometer to conserve art

1. Getty's Michael Schilling dissolves a paint fleck the size of the period that ends this sentence. He injects the sample into the gas chromatograph.

2. The heated compounds race around a 50-meter, 0.1-mm-diameter coiled, tubular column. Molecules least retained by the column surge ahead of others before exiting.

3. The mass spectrometer fractures the molecules and sorts the components based on their mass/charge ratios.

4. An HP PC compares the data signatures to those of known organic compounds.

5. Michael reviews the data to identify the organic materials that bind the pigment and make up the varnish on the original painting.

Gas Chromatograph

Mass Spectrometer

CONCEPTUAL IMAGE: MADWORKS

BARRY R. MATHIS

the varnish so that the conservator can select a solvent, enzyme, emulsion or gel to remove the protective coating without damaging the paint.

The conservator moistens a natural sponge with distilled water and gently wipes the painting. With a natural-bristle brush, he applies the cleaning solution. The gel is applied and remains on the painting for nearly three minutes. Then the gel—together with the varnish—is wiped away.

"It's hard to imagine a Renaissance painting without the Renaissance," Miguel Angel Corzo says. "*The Rest on the Flight to Egypt with John the Baptist* is a beautiful painting, but beauty is not its only value. It reflects a revival of classical heritage, recognition of the greater pleasures of life—the epoch in which it was created.

"Looking at a painting or cultural artifact without considering its context devalues the work of art," he says.

Whether you interpret a cultural heritage site as an archaeologist, study its friezes as an art historian, pray in its sacred places as a shaman or visit the ancient ruin as a tourist, you benefit from experiencing art where artists created it.

"Yes! There is beauty in a painting. Yes! There is beauty in architecture. Yes! There is beauty in an archaeological artifact. But what about the cultures that created them?" Miguel Angel asks.

"Why should all the *kouroi* (statues of athletic young men) be in the National Museum in Athens? Archaeologists excavated them from several sites throughout Greece," he says. "It would be a far richer experience if a visitor went to the Acropolis and saw some of them there."

Neville Agnew, group director of the Conservation Institute, adds: "Cultural heritage sites may have scientific,

aesthetic, religious and economic values. Appreciation of these values offers a deeper understanding of a work of art."

Most of the 440 places chosen by the United Nations Educational Scientific and Cultural Organization (UNESCO) as World Heritage Sites, including the rock art paintings of Baja California, Mexico, the Mayan site of Copán in Honduras and the Forbidden City of Beijing, are threatened by the forces of nature and modern society.

"Unchecked development, pollution, mass tourism, warfare and the forces of nature are destroying in one generation an artistic legacy that took humanity centuries to create," Neville says.

Archaeologists, conservators, engineers and scientists from the Getty Conservation Institute explored ways to preserve humid archaeological sites in Belize. They discovered techniques to prevent salt crystals from destroying the wall paintings in the Tomb of Queen Nefertari in Egypt. They pioneered ways to preserve wall paintings and archaeological sites along China's Silk Road. They worked alongside government and tribal leaders to preserve the 3.6-million-year-old footprints of humankind's earliest ancestors in Tanzania and developed coatings to protect the 14th century mosaic on the façade of St. Vitus Cathedral in Prague.

"It is our duty as stewards of cultural heritage to make sure that we pass on to future generations what we inherited," Neville concludes. **M**

(Thomas Ulrich writes for HP's Automotive Solutions Division in Sunnyvale, California.—Editor)

MARC LONGWOOD PHOTOS

Going...

going...

going...

About 3 million pounds of old HP hardware flow through a recycling center in Roseville, California, each month, giving the equipment

A new lease on life

almost gone.

Old HP equipment goes through a multiphase process in Roseville, California, including four- and two-inch shredders, a vibrating screen that separates small pieces from bigger ones and a series of magnets to recover steel and stainless steel. (From left) Renée St. Denis, HP end-of-life process manager, Micro Metallics Plant Manager Mike Mattos and HP Vendor Manager Sharon Webb inspect some of the final product.

ROSEVILLE, California—An article in the November–December 1998 *MEASURE* ("Can companies 'do the right thing' and still make money?") discussed HP efforts on sustainable development—achieving a healthy community by jointly addressing economic, environmental and social issues. But just how serious are HP's efforts when it comes to hardware recycling?

Deadly serious, says Renée St. Denis, who has the ominous title of end-of-life process manager for HP. Renée also works for HP's Corporate Product Stewardship team at Global Support Logistics in Roseville, California.

"We take in about 2 1/2 million to 3 million pounds of obsolete HP equipment each month at the Product

Recycling Solutions (PRS) organization in Roseville," Renée says. "Most of the equipment comes from HP entities, dealer and distributor return centers and from the field. PRS's operations are funded by the HP businesses that use its services."

It takes 20 HP employees and 200 from Micro Metallics—a subsidiary of Noranda, Inc., which processes the hardware for HP—to operate the facility, adds Joe Kraynik, PRS manager. First, workers strip the equipment of components, chips and precious metals from circuit boards. Then the hardware goes through a series of shredders and granulators to break it down into recyclable materials, which can be used to make all types of new equipment.

About 55 percent of HP's hardware recycling passes through Roseville. Additional facilities in Grenoble, France, and Böblingen, Germany, handle most of the rest. Every HP entity is engaged in hardware recycling to some extent, Renée says.

Actually, HP has been involved with hardware recycling for 10 years. The current operation evolved from Global Support Logistics' need to reclaim used, but usable, parts to support older HP equipment. The operation has been so successful that Noranda has begun marketing this

capability to other companies, including HP competitors.

"Volume is the key to making the operation a more viable business," Renée says. "Our efforts in this operation are an important way we demonstrate to customers our commitment to managing our equipment in an environmentally sound way for all of its life."

To learn more about HP's hardware recycling efforts, check out the Web site, managed by HP's Global Support Logistics group, at **http://rosmowww.rose.hp.com**. **M**

"If you dare to dream..."

HP employee Ron Gonzales makes history by becoming the first Latino mayor of San Jose in 148 years.

SAN JOSE, California—Dan, a middle-aged Latino man, was one of the first people to arrive at the victory party.

"I've been walking door-to-door every weekend for the past several weeks, working on the campaign," he said. "I've given up a lot of shoe leather for Ron Gonzales."

If anyone was beaming more proudly than Dan on Tuesday, November 3, 1998, it was Ron, the HP education program manager. He had just made history by being elected the first Latino mayor of San Jose since California became a state 148 years ago.

"I'm honored and proud to be your mayor and to lead San Jose into the 21st century," Ron told the crowd of 300 supporters. "If you dare to dream, you can be anything you want to be."

Ron, a lifelong Bay Area resident, was born in San Francisco and grew up in a middle-class neighborhood in Santa Clara County. The two biggest influences on his young life were his father, Robert, a truck driver, who died four years ago, and his mother, Dolores, a homemaker and seasonal cannery worker.

"My father was not a rich or highly educated man, but he was extremely well read and had an idealism of democracy," Ron says. "If he had been born one generation later, he might have become mayor himself."

After earning a degree in community studies from the University of California at Santa Cruz, Ron worked for the Sunnyvale school district and the city of Santa Clara before joining HP in 1979 as a human resources (HR) representative. That's the same year he was elected mayor of Sunnyvale, a job he held while remaining an HP employee.

Accepting the nomination for San Jose mayor, Ron Gonzales enjoys the moment with his mother, Dolores (left), outgoing mayor Susan Hammer (right) and his wife, Alvina (far right).
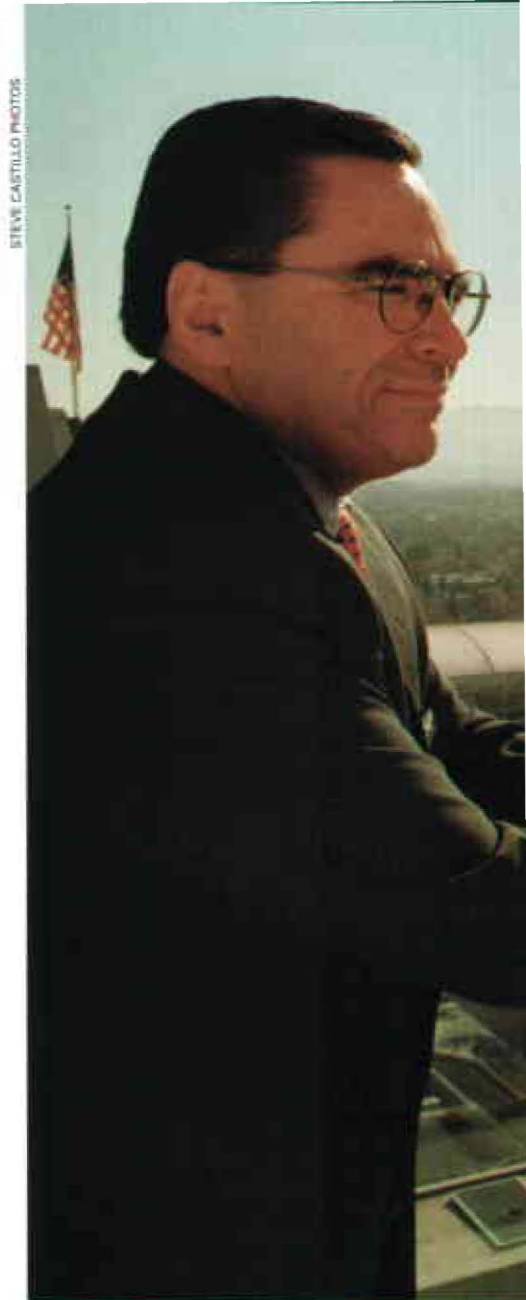
He transferred to HP's Vertical Marketing section of the HP 3000 Business Systems group as a market program manager in 1986. Ron left HP in 1989 to begin a term on the Santa Clara County Board of Supervisors. He rejoined the company in 1997 to spearhead a number of educational programs, including the Diversity in Education Initiative, which seeks to improve math and science education and increase the number of women and underrepresented minorities in technical careers.

"Home for me is HP," Ron says. "HP's values, elements of the HP Way and the importance of working across

Ron Gonzales overlooks his Silicon Valley hub city of San Jose, California, with the gleaming roof of the Convention Center, the Tech Museum with its domed IMAX theater and the Center for the Performing Arts near the far right.

organizational lines are things I've carried with me into my government life. Government can learn a lot from HP."

Ron's proudest achievement at HP is instituting the Diversity in Education Initiative, which annually awards 40 college scholarships to financially needy female and minority students. On June 2, 1998—primary election day for mayor of San Jose—Ron was working at HP when the phone rang.

"It already was an emotional day for me when I got a call from a young student from El Paso, Texas," Ron remembers. "The young man was crying and said, 'Mr. Gonzales, without this scholarship, I wouldn't be able to go to college.' There's no greater feeling than to know that you've had a positive influence on a person's life."

Ron left HP at the end of December to begin his new life as mayor of San Jose, the Bay Area's largest city, the third-largest city in California and the eleventh-largest city in the United States. It's the highest elective office any HP employee has held. The formidable challenges facing the area range from elevating educational standards, attacking the transportation mess and creating affordable housing.

"These are issues that affect current and future HP employees, too," Ron says.

Among Ron's staunchest supporters have been his mother, his wife, Alvina ("The salt of the earth," he says) and his adult daughters, Miranda, Rachel and Alejandra. They all celebrated with him until 2 a.m. that night—and morning—in November. The next morning began with three hours of TV interviews before Ron started his day at HP.

"People said, 'I can't believe you're at work today,' " a tired, yet elated, Ron said that Wednesday morning, "but I said, 'I still have work to do at HP.' " M

—*Jay Coleman*

Now here's a company with liquidity

The 112-year-old Coca-Cola Company—with its quench-the-world's-thirst strategy—still considers itself in its infancy.

By Jay Coleman

Best of the Best

In its third installment of the Best of the Best companies, MEASURE examines Coca-Cola—the No. 3 U.S. company in market value, surpassed only by General Electric and Microsoft. One of the most powerful product brands in the world, Coke knows a great deal about customer satisfaction, improving business processes and creating new businesses.—Editor

Let's play a word-association game.

When I say, "soft drink," you say, "_____."

If you're like most people in the world, your immediate response is "Coca-Cola."

This kind of brand equity would be a gold mine for most companies. And yet, the Coca-Cola Company—which sells 1 billion servings of its product each day—sees the "is-the-glass-half-empty-or-half-full?" quandary through carmel-colored glasses. Coke is focused on the other 47 billion beverages that people drink daily.

It's because of this quench-the-world's-thirst philosophy that Coca-Cola, despite its celebrated 112-year history, considers itself in its infancy.

"Just name another business with a more popular, affordable product, with a stronger foothold in more countries, yet with the opportunity to serve almost all of the world's nearly 6 billion consumers morning, noon and night," CEO M. Douglas Ivester wrote in Coke's 1997 annual report.

Coke has come a long way since May 8, 1886, when pharmacist Dr. John Pemberton whipped up a tasty syrup in his backyard in Atlanta, Georgia. He took the concoction down the street to Jacob's Pharmacy for sampling. Customers called the product "excellent," and the drink was added to the menu at 5 cents a glass. Carbonated water came later, although no one knows exactly when.

Today, Coca-Cola is the global soft-drink industry leader with 30,000 employees, more than 160 brands and 1997 revenue of $18.9 billion. Coke's bottling, sales and subsidiaries operate in nearly 200 countries worldwide. And about 70 percent of the company's volume and 80 percent of its profit come from outside the United States.

Like HP, Coke enjoyed spectacular growth in the mid-1990s. Coke's return on investment was a staggering 46 percent in 1995, 43 percent in '96 and 28 percent in '97. Sales tapered off in the last two quarters of 1998, however, due in large part, to the Asian economic crisis.

Rather than panicking, the folks at Coke consider this a temporary lull in business. "We're in this for the long haul," they say, "and we intend to stay focused."

"We have a great business proposition," CEO Ivester says. "People get thirsty every day and we provide a simple moment of refreshment virtually everywhere and at an affordable price."

To be sure, Coke isn't about to give up on Asia. Consider that:

• In China, the world's largest market, Coke's volume soared 30 percent in 1997. But the average resident of China drinks just six Coke products a year (compared with 376 for Americans).

• India's 960 million residents consume only three Coke products a year.

• Indonesia's 203 million citizens drink 10 Coke products a year.

Growth potential? You bet.

Coke may sell a billion soft drinks a day, but until people pause for a Coke break instead of a coffee break; until Coke machines are as prolific as water fountains; and until the phrase "all the tea in China" is replaced by "all the Coke in China," the soft-drink giant won't rest.

"I was in Africa last spring, and whether you're talking about a village in Zimbabwe or a shop in downtown Nairobi, Coke is omnipresent," says John Sicher, editor and publisher of the industry magazine *Beverage Digest*.

"In tough times, people have to think twice about buying a $700 laser printer," John says, "but very few people have to think twice about spending 40 or 50 cents for a soft drink. Coke continues to build per-capita consumption at a rapid rate. Now they're concentrating on taking 'share-of-stomach' away from tap water."

In the United States, Coke competes neck-and-neck with Pepsi—the "P company," Coke calls it—but worldwide, Coke's brand strength and distribution system are without equal, John adds.

Recently, a report in *The Wall Street Journal* speculated that Coke's next target is the $4 billion-a-year bottled-water industry. Coke may introduce a bottled-water product at some point, a company spokesman told *MEASURE*, but that it never would supplant carbonated soft drinks.

And why should it? Coca-Cola is No. 2 on *Fortune* magazine's list of most-admired U.S. companies for 1998 (HP is No. 6), it has 50 percent of the global soft-drink market and,

> *"In tough times, people have to think twice about buying a $700 laser printer, but very few people have to think twice about spending 40 or 50 cents for a soft drink."*

Liquidity

Coca-Cola's brand history in North America

Year	Brand
1886	Coca-Cola
1960	Fanta
1961	Sprite
1962	Tab
1966	Fresca
1972	Mr. Pibb
1973	Sugar-free Sprite
1979	Mello Yello
	Ramblin' Root Beer
1982	Diet Coke
1983	Caffeine-free Coca-Cola
	Caffeine-free Diet Coke
	Caffeine-free Tab
	Sugar-free Sprite— renamed Diet Sprite
1984	Diet Fanta
1985	Cherry Coke
	Coca-Cola with a new taste
	Coca-Cola Classic
1986	Diet Cherry Coke
	Diet Mello Yello
1990	Caffeine-free Coca-Cola Classic
	POWERaDE
1992	"New" Coke— renamed Coke II
	Nestea
1994	Fruitopia
1995	Barq's
1997	Surge

according to Lennie Ruben, a marketing consultant for Cadbury Schweppes, Coke is the No. 1 icon in the world. (Coincidentally, in December 1998, Coke paid about $1.85 billion to buy Cadbury Schweppes' beverage brands in more than 120 countries. The transactions don't apply to the United States, France and South Africa.)

It's not just the Coke brand that has high visibility. Among the company's other 160 or so brands are Minute Maid, the world's leading marketer of juices and juice drinks; Fanta, the No. 3 brand in the world behind Coke and Diet Coke; Sprite, which grew 13 percent in brand recognition in 1997; Barq's, which became America's top root beer in '97; POWERaDE, a sports drink available in flavors such as Green Squall and Electric Chill; and Fruitopia, an increasingly popular fruit drink that's been on the market for five years.

You also can find a plethora of beverages outside the United States such as Kuli, a "bold-tasting" fruit drink for kids 4 to 8 years old in Nordic countries; Smart, the first soft drink developed specifically for the Chinese market; Calo, a new soft drink that "helps build healthy bones" in Japan; and Tai, a carbonated drink flavored with indigenous Guarana, a berry known to provide energy, in Brazil.

If the task of leading Coke through Asia's turbulent economic times weren't enough, CEO Ivester has the additional burden of replacing a legend. Roberto Goizueta, the popular, Cuban-born CEO who increased Coke's book value from $4.3 billion to $147 billion during his 16-year tenure, died in October 1997.

The CEO's message to employees: Reduce expenses, but don't cancel the Christmas party; that would send the wrong message.

What is the right message? What direction will Coca-Cola head? Ivester's answer, like Coke's 112-year-old formula for success, is simple: "No left turns, no right turns." **M**

I'll drink to that (Coca-Cola at a glance)

Founded: 1886
Employees: 30,000
Headquarters: Atlanta, Georgia
New York Stock Exchange Symbol: KO
1997 revenue: $18.9 billion
Brands: 160
Country operations: nearly 200
Number of Coke products consumed each day: 1 billion
Average number of Coke products consumed per person in United States each year: 376
Position on 1998 *Fortune* most-admired U.S. companies' list: 2

Coca-Cola fun facts

• If all the Coca-Cola vending machines in the United States were stacked one on top of another, the pile would be more than 450 miles high.

• Twice weekly, a ship about the size of the Queen Elizabeth II sails from San Juan, Puerto Rico, for the United States mainland. It carries enough concentrate for 350 million servings of Coca-Cola.

• Japan has the greatest number of soft drink vending machines—somewhere in the 2 million range.

• Coca-Cola trucks travel more than 1 million miles a day to supply consumers with soft drinks.

• If the Coca-Cola company constructed a sign like the ones McDonald's uses to count its millions of customers, by 1983 it would have read "over 1 trillion served."

• The tallest Coca-Cola bottling plants are in Hong Kong. The plant in Quarry Bay is 17 stories, and the plant in Shatin is even taller, with 25 stories.

• The greater Mexico City area bottler produces the greatest volume of any Coca-Cola bottler on the globe.

• To effectively reach the entire Yugoslavian market, Coca-Cola has to be marketed in five languages—Slovenian, Croatian, Serbian, Albanian and Macedonian, and two scripts—Latin and Cyrillic.

• Vending machines in Japan automatically serve either hot or cold drinks, depending on the time of year.

• Diet Coca-Cola is known as Coca-Cola light in most markets outside the United States and Canada. This brand is the world's most popular diet soft drink.

• In Brazil, the local bottler makes three-day trips up the Amazon River to deliver Coca-Cola to remote locations.

• The longest Coca-Cola distribution route is in Australia. To reach the isolated areas of Karratha and Port Headland, a driver travels 1,093 miles from Perth, West Australia. Then he travels 1,093 miles back.

COCA-COLA PHOTO

Coke will weather the current economic downturn and continue its pursuit of the other 47 billion beverages that people drink every day, says CEO M. Douglas Ivester.
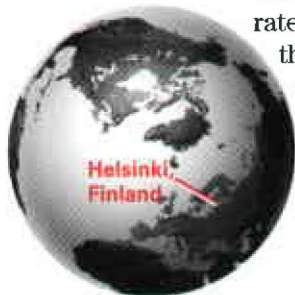
A sizzling success story

HP turns to Finland—where cell phones and the Internet are a large part of everyday life—to test its electronic business strategy.

By Vesa Kaartinen

ESPOO, Finland—For a country known more for its frigid temperatures and ice, Finland has become absolutely hot when it comes to technology. In fact, when it comes to using cellular phones and the Internet, the Finns are No. 1 in the world.

HP Finland followed this trend in fiscal year 1997, becoming the country's biggest IT vendor—surpassing companies such as IBM.

Now, HP has decided to use Finland as a testing ground for its electronic business strategy.

If you lived in Finland, you'd probably get a cellular phone for your birthday—unless you already had one. In a country of great distances and wilderness between cities, it's easy to understand why it feels good to have a phone with you at all times.

At some service stations, you can use a cellular phone to order a car wash simply by dialing the number of the requested wash type on your cell phone. Each wash has its own number on the car wash wall. You pay for the service in your next phone bill. Your cellular phone also shows you the latest news or stock-exchange rates. On the more innovative side, the Finns have tested using a cellular phone to play songs on a jukebox and to buy Coca-Cola from a vending machine.

Helsinki,
Finland

Mixing business and pleasure: During an ice-hockey game at the Hartwall Arena in Helsinki, Markku Leiro (left), director of Radiolinja, a telecommunications company, and Paul Paukku, general manager of HP Finland, envision the future while relaxing in HP's box.

Move over, Big Blue

• Finland is the first Western country where HP has overtaken IBM in revenue. In the past few years, HP has been very successful in the aggressively competitive IT arena. HP Finland's orders were U.S. $415 million in fiscal year 1998. This is an increase of 28 percent in U.S. dollars and an incredible 40 percent increase in local currency, compared with the previous fiscal year.

• The figures include the Baltic countries of Estonia, Latvia and Lithuania, which come under the responsibility of HP Finland.

• HP Finland employs approximately 350 people.

In the mobile-phone race, Finland has a small lead over its neighbor, Sweden. In the use of the Internet, Finland has an overwhelming lead over second-place Iceland. Even though Finland has only 5 million

Helsinki, Finland's capital city, is a bustling metropolis of more than 900,000 people. HP's office is in Espoo, a Helsinki suburb.

inhabitants, it has the seventh-largest number of computers with Internet access in the world—counted in absolute numbers, not per capita.

Finnish innovation and enthusiasm for new technology also are visible in the HP office in Espoo, a Helsinki suburb. Every employee carries a cell phone. The same telephone number applies at work, home and during travels in Finland and abroad. With good telecommunication networks, working with a portable computer or home computer is just as easy as working at the office.

"Here, working means open-mindedness, entrepreneurship and a desire to serve your customers

better and better all the time," says Paul Paukku, general manager of HP Finland.

"Our people think independently and see their own opportunities. They also are willing to take risks.

"Good professional skills are the basis for all this. The basic level of education of the people who come to work for us is very high by any standards. At HP, they receive continuous training and acquire work experience in Finland, as well as in other countries," Paul says.

HP's good reputation among students makes it easy to recruit people. For years, HP has been voted one of the favorite employers by students

graduating from technical universities and schools of economics. According to recent surveys, HP is the most popular IT employer and most admired IT vendor in Finland.

"It is not surprising that HP Finland has the No. 1 position in the Finnish IT market," says Alex Sozonoff, HP vice president of Customer Advocacy and a member of the HP Finland board of directors since 1988.

"One of HP Finland's trademarks is very intense relationship-building with our customers through very tight teamwork and communications," Alex adds. "It is a small market where all of the top decision-makers know each other. Once you have established a
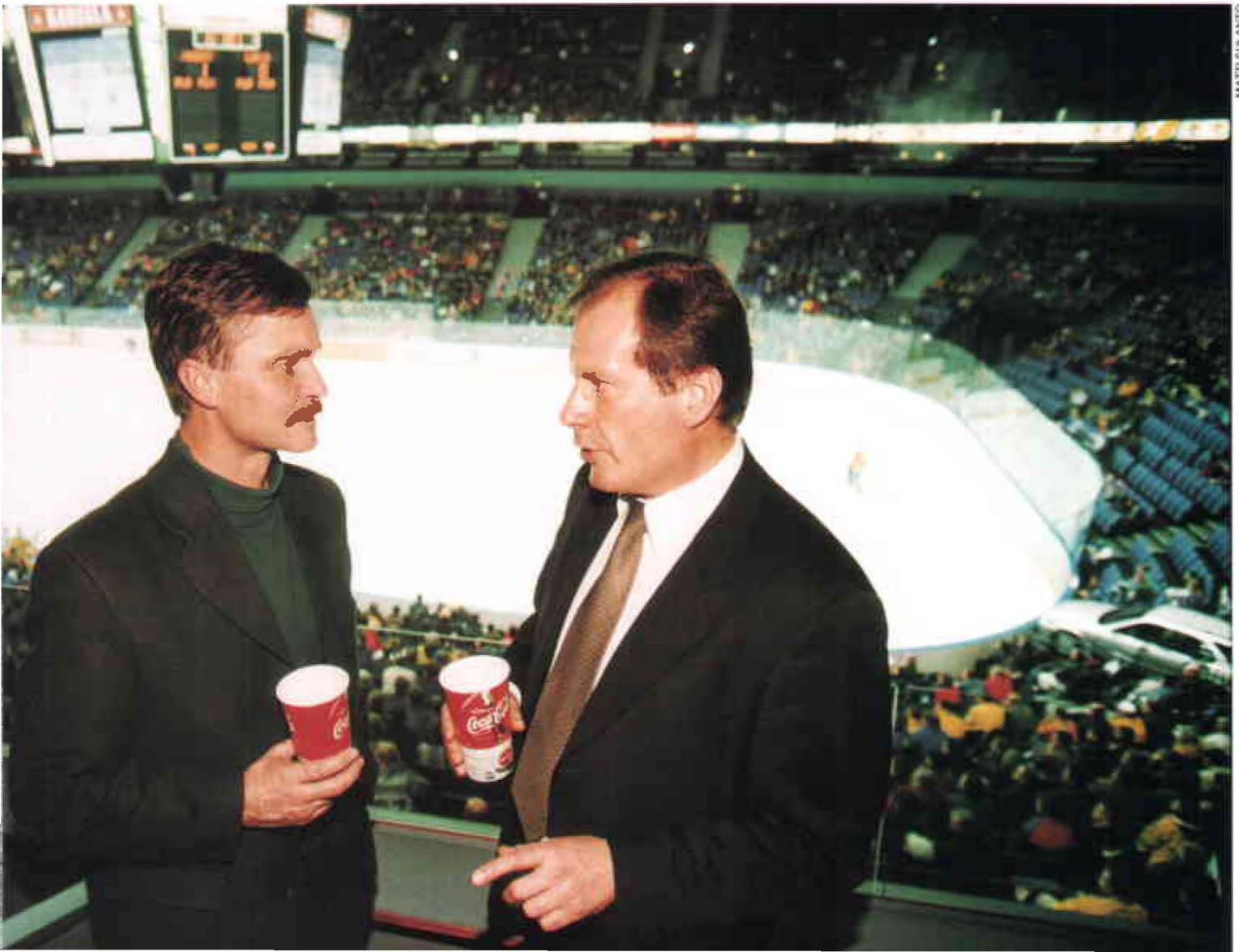
strong, satisfied customer base, the word spreads. And, believe me, it has spread how professional our people are in Finland."

A well-functioning infrastructure and technical leadership make Finland a challenging test site on a worldwide basis. That's why HP is making Finland the testing ground for its electronic business strategy.

"We have put together modular, standard solutions for our electronic business customers, meaning that 70 to 90 percent of our solutions package consists of standard elements," says Kari Terho, HP Finland marketing manager for electronic business solutions. "Only 10 to 30 percent need tailoring."

"In practice, this means that when customers buy something, they know exactly what they will get, when they will get it and what it will cost—similar to buying a financial-administration system, for example," Kari adds. "Previously, this has been rather vague in electronic-commerce solutions."

To implement the World Wide Web-based electronic business, HP already has nine local partners in Finland—more than anywhere in the world except the United States. **M**

(Vesa Kaartinen is a free-lance writer based in Helsinki, Finland. —Editor)

One heart at a time

Situated in Oulu, a city close to the Arctic Circle, Polar Electro and its heartrate monitors are good examples of IT on a human level. Polar Electro's motto is to make people know themselves and listen to their hearts. When exercising, its new intelligent heartrate monitors advise you to stop when your current condition is too weak, due to a lack of sleep or other conditions.

Polar heartrate monitors were the only ones on the market in 1985. They were targeted to champion athletes, and their selling message stressed how athletes could maximize their performance. During the 1990s, the monitors have become tools for all exercise enthusiasts.

"Now, at the change of the millennium, during the age of good health, heartrate monitors have begun to attract the interest of health-conscious people world-

wide," says Raimo Siurua, Polar Electro marketing director. "Today, we serve thousands of customers—one heart at a time."

Polar is the leading manufacturer in its field and the market leader worldwide. According to Raimo, it is absolutely necessary to use the latest IT in manufacturing and marketing.

Through the years, Polar has purchased HP servers, workstations and measuring devices, including the MFG/PRO Enterprise Resource Planning system.

Finland: the homeland of Santa Claus and Nokia

- Approximately 5 million inhabitants
- 50.1 mobile phones per 100 inhabitants*
- 8.8 Internet connections per 100 inhabitants*
- Home of Nokia, the world's largest cellular phone manufacturer
- Home of the Linux operating system and the F-Secure Anti-Virus data security products

* August 1998

Faster than a bullet train

Sharp Corporation's headquarters in Osaka, Japan, uses HP servers to link its 3,000 salespeople throughout the country.

HP servers bring speed and flexibility to Sharp Corporation's 3,000-person sales and marketing team in Japan.

By Peggy Waldman

Photos by Takeshi Yuzawa

OSAKA, Japan—In 1994, when Sharp Corporation began looking for alternatives to mainframe computing, suitors came flocking to the company's Osaka, Japan, headquarters. Sharp's Domestic Sales and Marketing Group—one of the corporation's two largest divisions and the first to consider a distributed client/server system—was a plum account, and manufacturers vied to provide the necessary equipment.

But Sharp—a high-technology giant that offers one of the world's broadest and most advanced lines of consumer electronics, business products and electronic components—was looking for more than just a hardware vendor. The corporation faced major decisions concerning a mission-critical system and needed guidance.

"Our mainframe had serious limitations," says Masashi Kubo, Sharp's general manager of sales system planning for domestic sales and marketing. His group faced a huge backlog of user requests. In worst cases, jobs took an hour to process, and the system could handle only 30 users at any time. A standard query system that required continual modi-

fication slowed the process down even more, says Katsuyuki Konishi, manager of sales system planning.

Sharp's salespeople faced severe competition and a rapidly changing market. They relied on the mainframe to analyze sales trends to track product cycles and user behavior. "Product cycles were getting shorter, competition more intense and the number of sales channels was increasing," Kubo-san says. "As a result, sales representatives needed weekly, rather than quarterly, data analysis."

Tracking sales trends by product and location enables the sales force to respond quickly to a depression in sales. Reps also need accurate sales-planning data to determine how many fax machines, microwave ovens or televisions they must sell to meet monthly sales goals.

"What matters most to us is speed and ease of use," Kubo-san says. "Users also require flexibility for non-standard data analysis." While he had heard that client/server architecture would improve system performance and cut

Sharp

costs, Kubo-san had no experience in that area.

"We were like kindergarten children; we didn't know anything about client/server computing," Konishi-san says. "Hewlett-Packard's service engineer was a great help in getting us started."

Although Tandem and DEC were strong contenders, what distinguished HP, in addition to service, were the company's track record in client/server architecture and extensive partnerships with leading software vendors, which Konishi-san believed would ensure broad compatibility.

"HP set the industry standard for client/server," Kubo-san adds. "In our research, we saw more references to HP than any other company."

In 1994, Sharp installed its first HP 9000 model H70 UNIX system server. Since then, the number of sales-planning information-system users has grown dramatically. "As response time improved and operations became simpler, more reps got interested in using the system," Kubo-san says.

That led Sharp to undertake a series of upgrades, including adding five HP Model 20 disk arrays for data warehousing and an HP 9000 T600 Enterprise Server last year. HP's T-class UNIX system servers—which also drive ATM machines, run factories for hosiery manufacturers like Sara Lee and organize Pepsi-Cola sales data—are among the most popular mainframe alternatives worldwide.

Today, Sharp's sales-planning information system has 3,000 authorized users in 120 regional sales offices throughout Japan, including about 1,000 who use the system frequently. Response time has improved dramatically, to less than a minute in some cases. The system also recovers more rapidly from malfunctions, and output

The HP-Sharp connection

OSAKA, Japan—Hewlett-Packard's ties to the electronic giant Sharp Corporation go back to the 1970s, when Sharp began using HP test and measurement equipment for manufacturing quality control. While the factory-based partnership between the two companies thrived, Sharp historically was not a big HP computer customer in Japan.

While Sharp had used HP computers since the late 1980s, the volume of business was small, according to Haruyuki Sanada, manager of HP's Sharp Global Account Team for manufacturing industries. But in 1994, things started to change.

Sanada-san and Yasuaki Sato, a team member in HP's Osaka sales office, heard that Sharp was considering introducing a distributed client/server network into what had been an exclusively mainframe environment. "We developed a game plan to get in on the ground floor," Sato-san says.

HP focused on building a long-term customer relationship rather than going after short-term revenue. "First, we established contact with top management to learn about company issues," Sanada-san says. "Then, we worked with managers in the field to develop information technology solutions to their business problems."

Results have been impressive. HP's computer sales to Sharp more than tripled from a 1994 base of roughly $4 million to some $15 million in 1997. In addition to UNIX system HP servers, Sharp uses UNIX system HP workstations, HP NetServer systems, the services of HP Consulting, and a small volume of HP PCs, despite Sharp's production of a competing product. Outside Japan, HP printers are Sharp's standard issue.

data is better formatted, making market trends easier to spot, Konishi-san says.

"Users initially mistrusted the system because it responded so fast," Kubo-san says. "By introducing HP servers, we've increased the number of system users and achieved better performance at less than half the cost of upgrading our mainframe."

Reduced waiting time has improved sales force productivity and won HP many Sharp fans. Today, major Sharp departments use client/server systems, and many rely on HP equipment. "Our group was the trailblazer," Kubo-san says. "When other divisions saw we succeeded, they followed."

Looking ahead, Kubo-san says Sharp is considering broadening its distributed network to share sales-related data among subsidiaries and eventually with clients. The company also is thinking about an Internet link to provide information to shops that sell Sharp products.

He adds that client/server architecture has more than lived up to Sharp's expectations, and HP stands head and shoulders above its competitors in the quality of service provided. "Other companies never visit our sites or participate as partners to grow our business," Kubo-san says. "HP really stands on the user's side and gets involved. With HP, we always get the help we need." **M**

(Peggy Waldman is a free-lance writer based in Oakland, California. —Editor)

The HP systems responded so fast that users initially didn't trust them, says Masashi Kubo, Sharp G.M. of the domestic sales and marketing group in the sales system planning department.

Sharp at a glance

Since its founding in 1912, Sharp Corporation has been noted for readiness to explore promising new fields, beginning with the invention of the Ever-Sharp mechanical pencil from which the company takes its name.

Sharp's striking list of technological accomplishments includes the introduction of the world's first electronic calculators and liquid-crystal displays—without which today's information-oriented society would be inconceivable—as well as Japan's first commercial radio and television sets.

• the Sharp Dyne—the first AC vacuum-tube radio—in 1929;

• mass-produced television sets in 1953;

• mass-produced microwave ovens in 1962;

• a 1.6 mm-thin electronic calculator and an electronic-language translator in 1979;

• a 14-inch TFT color liquid-crystal display in 1988, heralding a new LCD age;

• the world's lightest (as of October 1993) personal plain paper copier;

• the world's largest (as of 1995) 28-inch direct-viewing TFT liquid-crystal display.

Headquartered in Osaka, Japan, Sharp has 65,200 employees worldwide, including 32,900 in Japan and 32,300 in 30 other countries. For the year ending March 31, 1998, Sharp's worldwide net sales were $13.7 billion. With 1997 U.S. sales of $3.1 billion, Sharp's U.S. sales subsidiary, Sharp Electronics, is one of the leading U.S. consumer-electronics companies.

The corporation's overseas structure includes:

• 23 sales subsidiaries in 21 countries;
• six R&D bases;
• 28 manufacturing bases in 15 countries;
• nine representative offices; and
• two finance companies.

Naoki Moriya (left), Sharp assistant manager of the domestic sales and marketing group, talks with HP's Yasuaki Sato, Sharp global account team, in Sharp's IT systems room.

ASK Dr. Cyberspace

Howdy-ho, partners! I just spent some time at the Cyberspace Corral—one of those camps where cyber slickers like me can saddle up and lasso cattle all day long. Hanging out on the open frontier made me think about how things have changed since the West was won. Or have they?

Come to think of it, the Net is a lot like the California gold rush in the mid-1800s: wagon trains of people lured to the new frontier with promises of opportunity and, with a little luck, a fortune.

They say history has a funny way of repeatin' itself. Seems like thousands publish on the Internet every day with big expectations. Once there, many realize life on the Net isn't the boomtown they expected.

Web sites started sproutin' up on HP's intranet more than five years ago, so building a site is no new hat around these parts. Even so, I've run into a fair share of trouble. I've come face-to-face with cookie-totin' scouts, been ambushed by pesky animated varmints and been left high and dry by

search guides—without ever leaving the firewall!

But what really puts a bull-sized burr under my saddle are all those Web sites that aren't exactly "value-added." And it seems like more of these sites appear on HP's intranet every-day. Jeez Louise, come to think of it, who doesn't have a Web site nowadays?

So, before you stake your claim in cyberspace, ask yourself, "Do I really need a Web site?" After all, Web sites aren't free: Somebody has to pay for storage space, hosting fees, software, training and maintenance.

Sit back, take off your boots and check out some of my favorite online resources

• **http://hpweb.fc.hp.com/Publish/ITRM/ipp/web_frameset.htm**—Need the low-down on what's OK to publish on HP's Web and what's not? It's here.

• **http://www.webpagesthatsuck.com/**—Vincent Flanders teaches good Web site design by examining the bad and the ugly.

• **http://www.useit.com/alertbox/**—Renegade columnist Jakob Neilsen presents useful perspectives on Web usability issues.

• **http://hpnow.corp.hp.com/ase/drc/index.htm**—Back at the ranch (my clinic), I've put together a list of books that I've found helpful.

THOMAS J. BROWN

After talking with some of my compadres over in E:BIS, I came up with a few guidelines to help you decide if you really need a Web site. So, before grabbing the Web by the horns, take a little time to answer a few questions.

• What is the purpose of the site? Does it support a broader business purpose? Ideally, a Web site supports a communication strategy. Work with your manager to see if the site's objectives are aligned with your business. Write down the Web site's objectives and refer to them often.

• Who makes up the audience? Why is a Web site a good way to reach them?

• Do you have content available now? The quality of the content should take priority over the desire to publish quickly. If your material is "under construction," don't publish it.

• Do you have the resources to manage regular updating? Effective Web sites change often. Maintenance could become a significant part of your budget.

For more handy tips on creating effective Web sites, check out the HP Communications site at **http://cc.corp.hp.com/consult/web/webtips.htm**.

In the meantime, if you've found any great resources that you would like to share with other HP folks, send them to me at doctorc@corp.hp.com and I'll post them in my clinic at **http://hpnow.corp.hp.com/use/drc/index.htm**.

Until next time, happy trails. **M**

Here are a few things that really chap my hide

• Fool's Gold—gratuitous graphics like spinning globes and waving flags. They sure look pretty, but they distract from your content.

• Ponyless Express—This is when a Web site has a feedback button, but the site owner never intends to act on or respond to your message.

• Dead Man's Drop—Ever gone to a Web page only to discover you've reached a dead end? Every Web page should have navigation telling users where they are and where they can go.

HP.Now survey roundup

As I promised last time, here's a quick summary of HP.Now's Summer '98 Survey results:

• Hee-haw! Eighty-five percent of you said you were satisfied with the site. HP.Now got especially strong marks for ease of use, timely information, the ability to quickly find information and the search engine.

• Content-wise, survey respondents said they liked company news, Major Messages, profit-sharing information, speeches, company and business facts and financial information.

• Four out of five of you want more details about HP businesses, more news about competitors and more information from top managers about the company's direction.

So what's next? Kevin O'Connor, HP.Now's honcho, says the site will provide more business-specific news and information and more HP-wide strategic content. The site also will continue to evaluate new technologies and will look for ways to improve access to HP.Now's content.

For more details, see **http://hpnow.corp.hp.com/feedback/survey/recap.htm**.

LETTER FROM LEW PLATT

HP's chairman, president and CEO discusses the important work of the Computer Systems Policy Project.

The world is a small place today.

You can fly halfway around the globe in a matter of hours, exchange electronic messages among several continents in seconds and carry on a business conversation instantly with a colleague on the other side of the Earth.

Not long ago, geography, ideology and even walls separated one country from another. Today, there are few boundaries. Technology—the Internet in particular—is forging one, unified world. How well you operate in that world determines your future.

For 10 years, HP has been an active member of the Computer Systems Policy Project (CSPP). In fact, former HP CEO John Young was a founding member. This is a group of CEOs from the 13 leading U.S.-based computer hardware companies: IBM, Intel, Apple, Dell, Compaq, Silicon Graphics, Unisys, Sun, NCR, Data General, Bay Networks, Stratus and HP.

Our purpose is to discuss important trade and technology issues facing the United States and, ultimately, the world. A few of the projects we've addressed are export controls, including encryption and supercomputers, R&D funding and a U.S. high-speed communications program.

While CSPP is U.S.-based, our focus unquestionably is global. For

In December, Lew outlined some of the Computer Systems Policy Project initiatives during a speech at the Cities of the Future conference.

example, a cus-
tomer in Russia
wants to buy an
HP computer, but
can't because the
U.S. government
doesn't sanction
the exportation
and sale of that sophisticated model.
Or U.S. law prevents us from loading
a particular software-encryption tool
on a UNIX system server. These are
the products we must have to meet
customer needs around the world.

Although we spend a good deal of
time trying to influence U.S. govern-
ment policy, we devote even more
hours to educating policy makers
about our industry's technology.

Think about it. HP sales outside the
United States represent nearly half of
our annual revenue.

Four years ago, it took 311 HP-
managed border crossings to produce
a single HP PC. A trade dispute stop-
ping even one of these crossings
could adversely affect shipments
of an entire production line.

How well HP performs in the
years ahead hinges on our ability to
manufacture, sell and service prod-
ucts worldwide.

So the accomplishments of the
CSPP, which I chair through August
1999, represent accomplishments
for HP employees and shareholders.
Your job in Boise, Beijing, Böblingen
or Buenos Aires may depend on
CSPP's success.

Recently, CSPP produced a Global
Electronic Commerce Readiness
Guide. The guide is a self-help tool
for businesses, states, countries—
and communities—to assess how

Is your community ready for e-business?

Is your community prepared to
conduct business electronically?
Find out by reading the CSPP
Guide to Global Electronic
Commerce Readiness. To get a
copy, send an e-mail message to
Cheryl Newkirk in HP Corporate
Government Affairs.

To learn more about the
Computer Systems Policy
Project, check out the CSPP
Web site at **http://www.cspp.org**.

prepared they are
to conduct busi-
ness electronically
around the world.

Communities
can rank them-
selves from Stage
1 (basic level of
readiness) to Stage 4 (advanced) in 22
categories related to tools and tech-
nology, community use and plans for
community growth.

For example, under the category
of libraries, a Stage 1 community has
no terminals with Internet connec-
tions available for unassisted public
use free of charge, and local public
libraries don't have electronic cata-
loging. Stage 4 local public libraries
support a community strategy for
widespread, high-quality public access
to online information and commerce.
Stage 4 public libraries also use tech-
nology and the Internet systematically
to expand information resources
available to users and to operate
more efficiently.

A second fundamental purpose of
the guide is to stimulate interest in
increasing bandwidth—the capacity
of communication networks. Before
long, computer networks will carry
terabit-per-second communications.
That means you could send more than
100,000 textbooks—or 16 million
phone calls—per second over a single
line. Much work must be done to get
this capacity in place.

We've seen incredible interest in
the Global Electronic Commerce
Readiness Guide in the few months
that the document has been available.
Among those most interested are
Gray Davis, the new governor of

California; Dato Seri Dr. Mahathir bin
Mohamad, the prime minister of
Malaysia; Ong Teng Cheong, the
president of Singapore; and Gerhard
Schroder, the chancellor of Germany.

The CSPP has made great strides
during the past decade. We've educated
U.S. lawmakers about technology
issues; helped influence legislation
that benefits computer manufacturers,
as well as customers; and spread our
message to an international audience
of government leaders. Our goal is to
ensure that there is a level playing
field for all—businesses and society
as a whole—and we advance a step
further every day.

We at HP have a Corporate Objec-
tive to make a contribution in the
communities in which we operate.
Today, our "community" is the world.
As the world benefits from the spread
of technology, so shall we.

Culture? No, it's a matter of values

A former HP executive takes issue with consultants and "the adoption of the latest management fad."

By John Doyle

(Editor's note: John Doyle, HP's executive vice president for business development, who retired from the company in 1991, wrote the following as a letter to the editor. Rather than edit John's text down to Your Turn length, MEASURE decided to print it in its entirety as an Other Voices column in response to Al Vicere's column in the November-December 1998 MEASURE. Both raise some interesting points.

For additional feedback on Professor Vicere's column, see page 28.)

To be successful, HP need only follow the Corporate Objectives, not consultants' latest management fad, says retired Executive Vice President John Doyle, a longtime pilot.

I am not a great believer in the power and usefulness of letters to the editor, but several items in the November–December 1998 *MEASURE* impel me to at least express my thoughts.

One was Ted Shimkowski's letter, with which I concur, suggesting that GE CEO Jack Welch is not necessarily the *ne plus ultra* of business management.

For further reading, I recommend *Jack Welch, General Electric, and the Pursuit of Profit* by Thomas F. O'Boyle. The book probably goes overboard on the negative, but is a refreshing change from the normal hagiolatry ["the worship of saints" —Editor].

Other items occurred in the article by Al Vicere—one more in the apparently endless line of consultants who seek to reshape HP as they advocate the adoption of the latest management fad, this time called Running CrossBoundary Businesses as Prophets and Barbarians, the main purpose of which, I suspect, is to pad their resumés and pocketbooks.

These people always start by finding that some things have changed—in this case, the HP Way is not identified with and HP is very short of implementers. Then, instead of correcting these problems, in the unlikely event that they have been accurately diagnosed, they decide that what we need more of is the patent medicine so absurdly named above that they just happen to peddle.

Let's take the first assertion: There is less and less identification with the HP Way. The "core ideology" of HP is not the HP Way, which has numerous descriptions and embodiments, but the statement of Corporate Objectives, which has only one.

When I was at HP, I taught the objectives many dozens of times to hundreds, perhaps thousands, of people. I used a simple chart to help people find the objectives useful and applicable in every job and in every business. However, in asking around today, I note that few people have the objectives readily available—and fewer still have ever taught them—so it is hardly surprising that there is less identification with them.

Now Professor Vicere suggests that size and lack of leadership have caused this, but HP had nearly 100,000 people a decade ago and has been in many businesses for at least 30 years.

> *The "core ideology" of HP is not the HP Way, which has numerous descriptions and embodiments, but the statement of Corporate Objectives, which has only one.*

If his diagnosis of the problem is correct, the answer is simple: Teach, understand and follow the objectives.

This also will help solve the second problem, assuming there is one. The one crucial demand of the objectives is doing things. Making a contribution, working together, sharing success, paying for our growth, uncompromising integrity—all these take doing.

If the objectives don't say so expressly, it is simply because it was obvious to our founders. But they do say it: "Profit is the responsibility of all." In the present world of outsourcing almost everything, one job that cannot be outsourced is leadership. The objectives are as operationally valuable today as they were when Dave Packard first wrote them in 1957. They are more than objectives in the narrow sense; they are really the constitution of this corporation and need to be understood and practiced as such. They are a great stimulus and guide for leadership.

Some final, loosely related comments:

• If you plan on hiring a consultant for anything but narrow, specific, concrete expertise in a particular area, read *Dangerous Company* by O'Shea and Madigan first. As a matter of fact, read it anyway.

• Professor Vicere quotes Jack Welch, saying, "Control your own destiny or someone else will." Take his advice and note that if you work for Jack Welch, *he* will control your destiny. Professor Vicere also manages to write an article mentioning

products once, and only mentioning customers to "build brand." Don't build brand, make real contributions that your customers recognize, love and recommend.

• Finally, he makes a comment I really agree with: Success can be deceptive. Many things not fully understood lead to success, including luck, and doing the same things in the same way will not be successful over the years. Nothing fails like success. Values, however, tend to be quite stable, and our constitution, while modified at least six times over the years since 1957, still gives great guidance on how to succeed in a continually renewable way. **M**

(You can review HP's Corporate Objectives at **http://hpnow.hp.com/use/corpobj/index.htm.***—Editor)*

MEASURE

Eating your young

I agree wholeheartedly with Dr. Vicere's comments (November–December 1998, Other Voices). I think our culture and decentralized organization are both our greatest strengths and weaknesses (see a related article on pages 26–27).

I've been with HP in Canada for about 15 years, and with HP in the United States for about four years, and one thing that frightens me is the number of people who feel that HP owes them a job. HP does not owe any of us anything. It is up to us to figure out where each of us can add value, and then go do it. I have seen far too many people who are content to coast along (and it's easy to do with 124,600 people), hide and not try anything new in their career or job.

To paraphrase the constant change in the computer industry, "You either eat your young, or someone will eat them for you."

DEAN KAGAWA
Tampa, Florida

Does "pay as you go" make sense?

Al Vicere's article opens discussion on another potential "culture block"—the "pay-as-you-go" philosophy.

I wonder how many ideas (and how much potential for grabbing leadership in emerging markets) have fallen by the wayside over the years as a result of this philosophy.

Even if this is not a formal part of our culture, I still hear it quoted as an inherent strength of HP. The real question is, "At what stage does a strength become an inhibitor?" This
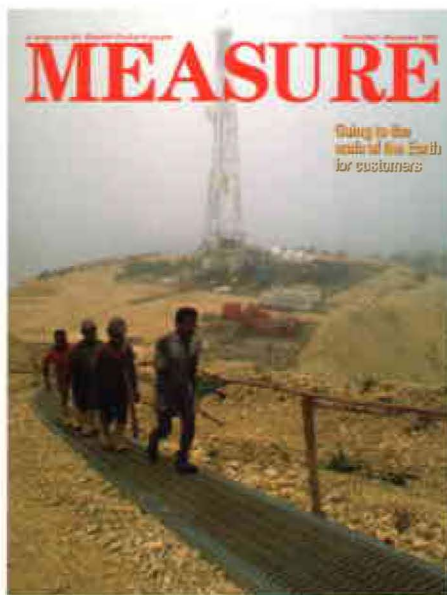
is particularly true in view of the speed of change in a lot of our businesses today.

It was refreshing to see Duane Zitzner talk about return on assets (and implied return on capital) as the key measure of his business. I feel this would not have been understood as recently as five years ago.

GEOFF PETTER
Geneva, Switzerland

A company like the rest?

I read Dr. Vicere's article with great interest. In speaking to other long-term HP employees, we all agree that our culture has changed. The HP Way is more a concept than a practice today. Dave Packard believed that if we give employees the knowledge and the tools, and then hold them accountable, they would make the right decisions for the customer and HP. Call that the HP Way or call it empowerment. We have lost it.

I believe one of the biggest contributors to a non-empowered workforce is our management staff, especially new managers. We give them the job, provide no real training and then load them down with infrastructure responsibilities such as hiring, environmental health and safety and IT. They end up managing (or juggling) all of these things, rather than leading. We need leaders to create an empowered workforce.

DONNA ALDRICH
Englewood, Colorado

The best one yet

The November–December *MEASURE* is the best one I've read since joining HP in 1997. I particularly enjoyed the colorful article on Southwest Airlines. The HP.Now Web site overview also was useful.

There is just so much information to take in at HP, and this is an excellent source for doing so.

PAULA WILLIAMS
Bristol, United Kingdom

Clearing the error

The November–December *MEASURE* was a very good issue, however I noticed an error in Lew's letter. He says that HP is the "only technology company with a AA+ rating by the bond-rating company Moody's Investors Service." Actually, the AA+ rating is from Standard & Poor's. Moody's rates HP as Aa2.

Still, the spirit of Lew's statement is correct: HP is the only double-A-rated technology company—an amazing show of financial strength in a highly volatile industry.

ROBERT ANDERSON
Palo Alto, California
An editing error produced the mistake in Lew's letter.—Editor

By Muoi Tran

The sound of miracles

BAD TEINACH, Germany—When HP donated 10 HP Vectra PCs to the children of Karl Georg Haldenwang School in the Black Forest region, there was a special request to send 10 pairs of loudspeakers.

The loudspeakers are essential to the speech and communications development of the 170 autistic children who attend the school.

"It's like opening new worlds—for both the kids and teachers," says Klaus Straub, headmaster of the school. Because of the fear of social interaction, one of the major symptoms of autism, "The children feel safe with the computers, which give them the shelter they need to learn and explore," he explains.

The donation of computers and accessories—valued at U.S. $18,294—also tremendously improves the learning programs and allows teachers to make adjustments to meet each individual child's needs.

Spreadin' the news

NEW YORK, New York—When HP wanted to get the word out on our largest introduction ever of hardcopy products for the digital workplace, the vision of a vamped-up Madison Square Garden instantly came to mind.

A dedicated team from HP's Paramus, New Jersey, sales office transformed the vision into reality. They proved that the venue was the perfect site to launch the October extravaganza—a national tour featuring more than 20 new HP products in six U.S. cities.

HP employees organized and presented the entire event and worked behind the scenes with third-party vendors to create a spectacular show.

Carolyn Ticknor, HP vice president and G.M. of the LaserJet Solutions Group, and Frank Shargo of Envision rehearse Carolyn's electronic presentation for the new product rollout.

The missing link

Ever stop in mid-report needing crucial statistics? Desperately search for an up-to-date database? Wish you had the latest Web authoring tools?

Although most of these business, engineering and general-reference resources are fee-based, they've been made accessible to all HP employees in one convenient place: the HP Libraries Web site at http://lib.hpl.hp.com/hp/.

Be sure to bookmark this page because "each link is carefully selected based on reliability, accuracy, timeliness, usefulness and comprehensiveness," say librarians of the HP Library Network, a consortium of HP libraries in sites all around the world.

Village people

Are you ready for a shopping trip without having to leave the comfort of your home or office? Check out the ultimate online offering of HP PCs, printers and supplies at the HP Shopping Village—http://www.shopping.hp.com/. In December 1998 alone, more than 300,000 shoppers purchased HP favorites—including new and refurbished HP Pavilion PCs, DeskJet printers and PC photography products—directly from the site.

In the News

Retiring

Joel Birnbaum, senior V.P. and HP Labs director, February 2, after an 18-year career at HP.

Manuel Diaz, V.P. of Customer Advocacy, February 1, after 16 years with HP.

Suresh Rajpal, HP India G.M., January 15, after 29 years.

People

Succeeding Diaz as V.P., Customer Advocacy will be **Alex Sozonoff**.

The HP Executive Committee has appointed five additional V.P.s: **Doug Chapin, Dave Crist, Siaou-Sze Lien, Arun Oberoi** and **Constantin Salameh**.

Tom Ashburn has been named G.M. of the Customer Service & Support Group.

Anita Manwani is now G.M. of the Net-Metrix Division.

The new G.M. of the Greeley Hardcopy Division is **Mary Peery**.

Olivier Trancart has been named G.M. of the Financial Services Business Unit.

Alan Button is now an appointed V.P. and G.M. of Service and Support Sales, Americas.

Plaudits

HP has again made the top 10 in *Fortune* magazine's list of the "100 Best Companies to Work for in America." The company was ranked 10th, the same place it held in last year's inaugural ranking.

Products

In the fourth quarter, the **LaserJet Solutions Group** held its most ambitious new-product rollout, introducing 20 offerings in the areas of printing, copying, mopying, capturing and sending (see related story on page 29).

For more information, search for key words in Newsgrams—on HP.Now at http://hpnow.hp.com/news/nghome.htm.

HP's golden champion

KUALA LUMPUR, Malaysia—Cara Honeychurch's warmth and positive attitude captivated the tough crowd. But the spectators were completely flabbergasted by her tenpin-bowling talent—

Generating tomorrow today

VANCOUVER, Washington —It started with one good idea. Then another. Then another after that. And it continued until more than 200 new-product posters filled the display area for the HP Product Generation Poster Fair, sponsored by Vancouver Division R&D.

Hundreds of research-and-development teams from various HP sites convened in November to meet partners and share product-generation ideas and best practices. Following a keynote address by Joel Birnbaum, senior V.P., R&D, and director of HP Laboratories, contributors and visitors at the show-and-tell-style event spent the day observing displays and posters, meeting their colleagues and discussing current projects.

Check out poster titles and contributor information at http://hpweb.vcd. hp.com/posterfair.

which resulted in three gold medals—at the XVI Commonwealth Games.

During two weeks of intense competition in September, Cara—an HP quality services consultant in Blackburn, Australia—bowled a perfect 300 game and won gold medals in women's singles, women's doubles and mixed doubles.

This was the first time that tenpin bowling was included in the Games. "It may be the last as at present it is not on the schedule of events for 2002 in Manchester, England," Cara says. "So, to come away with three gold medals under these circumstances was very satisfying."

URLs inside HP

This issue's intranet Web addresses:

http://hpweb.fc.hp.com/ Publish/ITRM/ipp/ web_frameset.htm

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http://hpnow.corp.hp.com/ feedback/survey/recap.htm

http://cc.corp.hp.com/ consult/web/webtips.htm

http://lib.hpl.hp.com/hp/

http://hpnow.hp.com/ news/newshome.htm

http://hpnow.corp. hp.com/use/corpobj/ index.htm

http://hpweb.vcd.hp. com/posterfair

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http://www.coca-cola.com

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http://www.useit.com/ alertbox/

http://www.cspp.org

http://www.shopping. hp.com/

http://www.sharp.co.jp/

http://www.getty.edu/

WILLIAM TATE MORALES

Siberian siesta

PUEBLA, Mexico—While his subject snoozed soundly, HP's William Tate Morales was wide awake and watchful.

With camera in hand, he pounced at this rare chance to snap a shot of a slumbering Siberian tiger—the largest member of the cat family in the world.

William, an avid photographer for the past 23 years, spotted the catnapping feline during a safari adventure with his mother, sister and aunts. "Besides tigers, I had an excellent opportunity to get shots of other exotic animals, such as lions, elephants, zebras, gazelles, hippopotamuses and toucans," he says.

But for this unusual excursion, William didn't have to travel too far from the HP Mexico headquarters in Mexico City, where he works as manager of channel alliances in the Enterprise Computing Solutions Organization.

Located about 70 miles (approximately 113 kilometers) from the Mexican

capital, the "Africam" Safari Zoo uniquely features free-roaming animals—more than 3,000 from 250 species.

"To tour the zoo, you drive your car through it, which takes about an hour and a half," William says. "But you have to keep the windows closed in some sections—to prevent attacks." **M**

For U.S. address changes, use Change of Address form in Personnel on the Web at **http://persweb.corp.hp.com**.