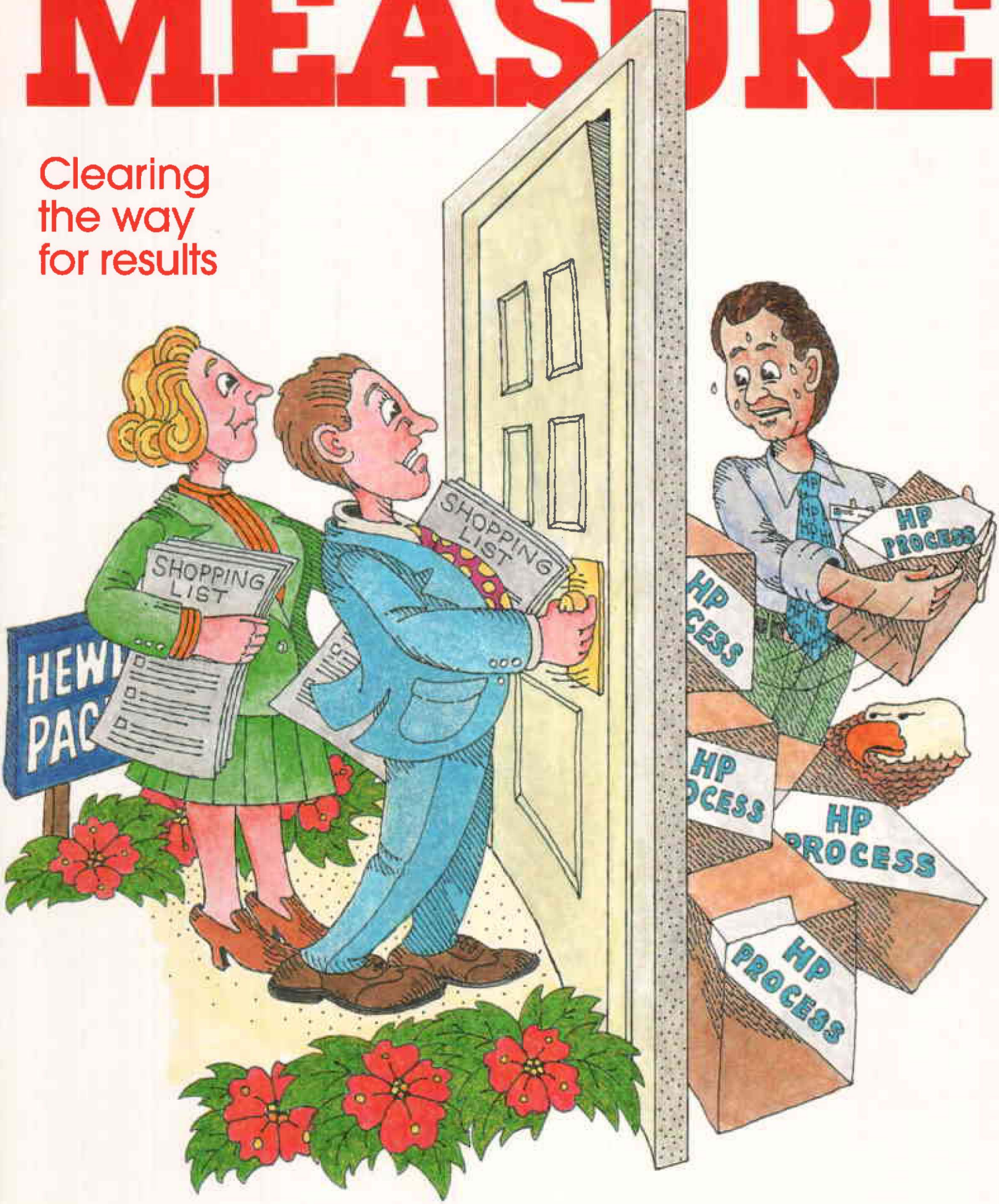
For the people of Hewlett-Packard

March-April 1993

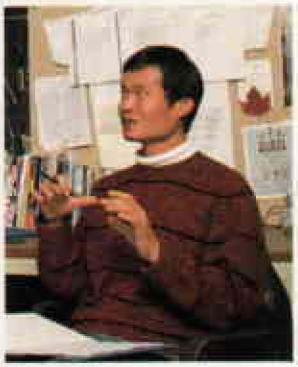
MEASURE

Clearing the way for results



THE INSIDE STORIES

Page 14



Page 22

Page 30

MEASURE

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Hewlett-Packard Company is an international manufacturer of measurement and computation products and systems recognized for excellence in quality and support. HP employs 93,100 people worldwide and had revenue of $16.4 billion in its 1992 fiscal year.

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Winner takes all

By Jay Coleman

It was a cold, blustery day in Pforzheim, Germany, last December when John Kenny visited Seitz—a long-time and loyal HP customer.

The Seitz general manager opened the meeting by writing three letters on a blackboard: E-N-D.

"This describes Hewlett-Packard for me," the Seitz G.M. said. "E is for excellent products. N is for nice people. And D is for difficult to do business with."

No one laughed. In fact, John, Computer Systems Organization order-fulfillment

Winner

program manager, and his HP team were stunned. Here was a valuable customer giving HP some valuable—and painful—feedback. And the customer was right.

It's the 1990s and the rules have changed. High-quality, reliable, competitive products are minimum requirements. Customer expectations increase every day. HP must deliver products to customers on time and defect-free every time. It's a challenge all companies face today. Companies that satisfy customers best will have clear advantages.

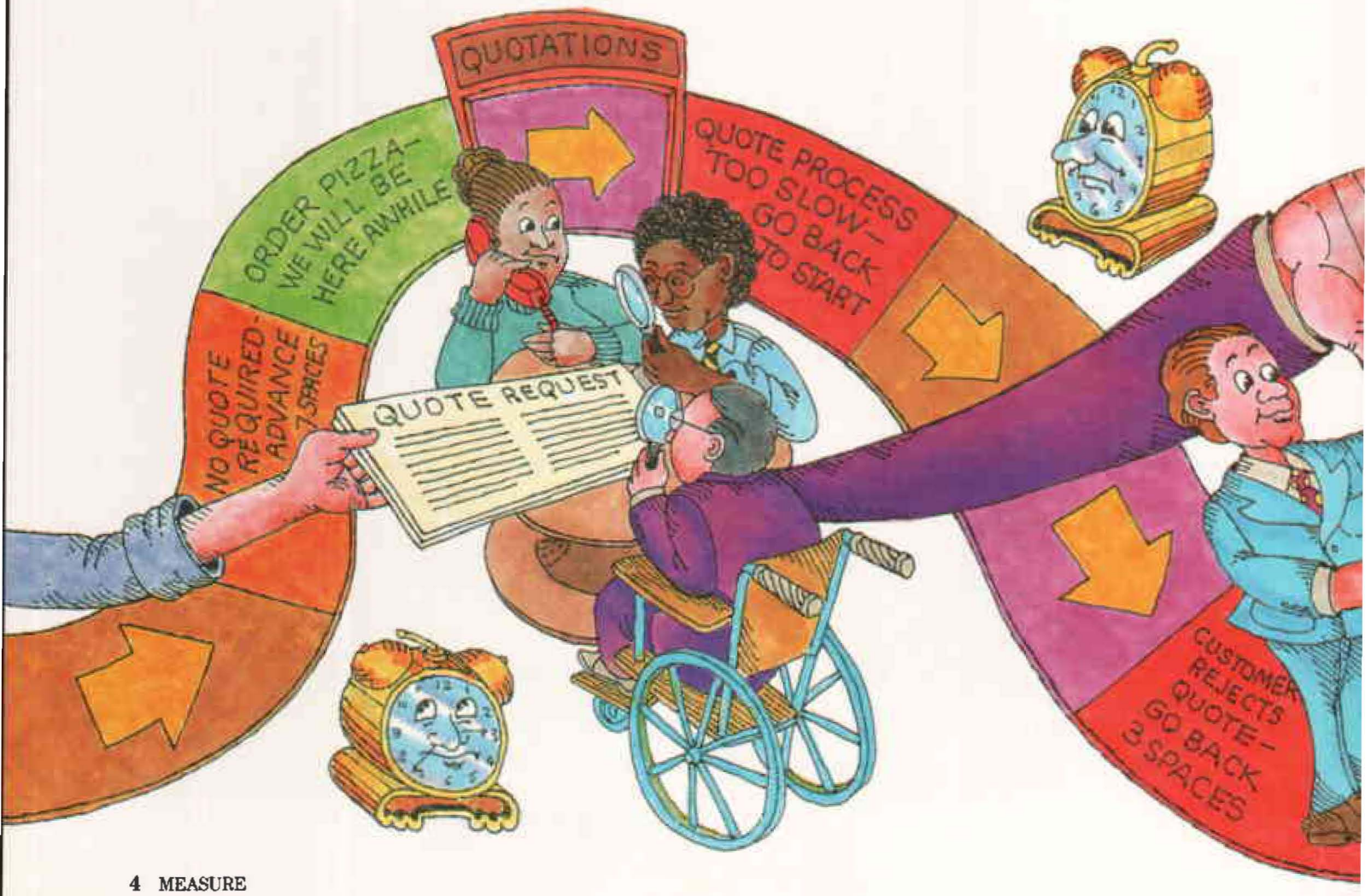
HP calls this process order fulfillment—that is, the whole chain of events that begins when a customer first talks with HP (directly or indirectly) about specific products and ends when the customer receives those products and pays the invoice.

There are dozens of things that can go wrong along the path to successful order fulfillment—and HP statistics show that they often do. Many problems are relatively minor—late deliveries, missing pieces, bad documentation, etc. But others are more serious and time-consuming to fix. All told, order-fulfillment "rework" costs HP several hundred million dollars per year.

That explains why order fulfillment is one of only two companywide Hoshin (breakthrough) goals for 1993. As HP President and CEO Lew Platt wrote in his January-February 1993 *MEASURE* letter, "...our competitors are using our failures in this area to position themselves as 'easier to do business with' than HP."

In simple terms, there are two paths that customers can travel to buy HP products:

(1) The simpler path is the one leading to the dealer channel. For example, a customer wants an HP LaserJet printer. She goes to her local computer store, finds the product on the shelf and leaves the store with the printer in hand. Another happy customer.



Yet, that road has its bumps. If the HP LaserJet printer isn't available—and won't be for four weeks—the experience can test the fidelity of even the most loyal HP customers. What's more, much of the fulfillment process happens between HP and the dealer—invisible to the customer—and that can be complicated, too.

(2) The second path—the focus of this story—is more challenging. This trip usually begins with a meeting between an HP sales rep and a customer. It typically involves the range of products sold by HP's direct sales force—from instruments and computer systems to medical and analytical gear.

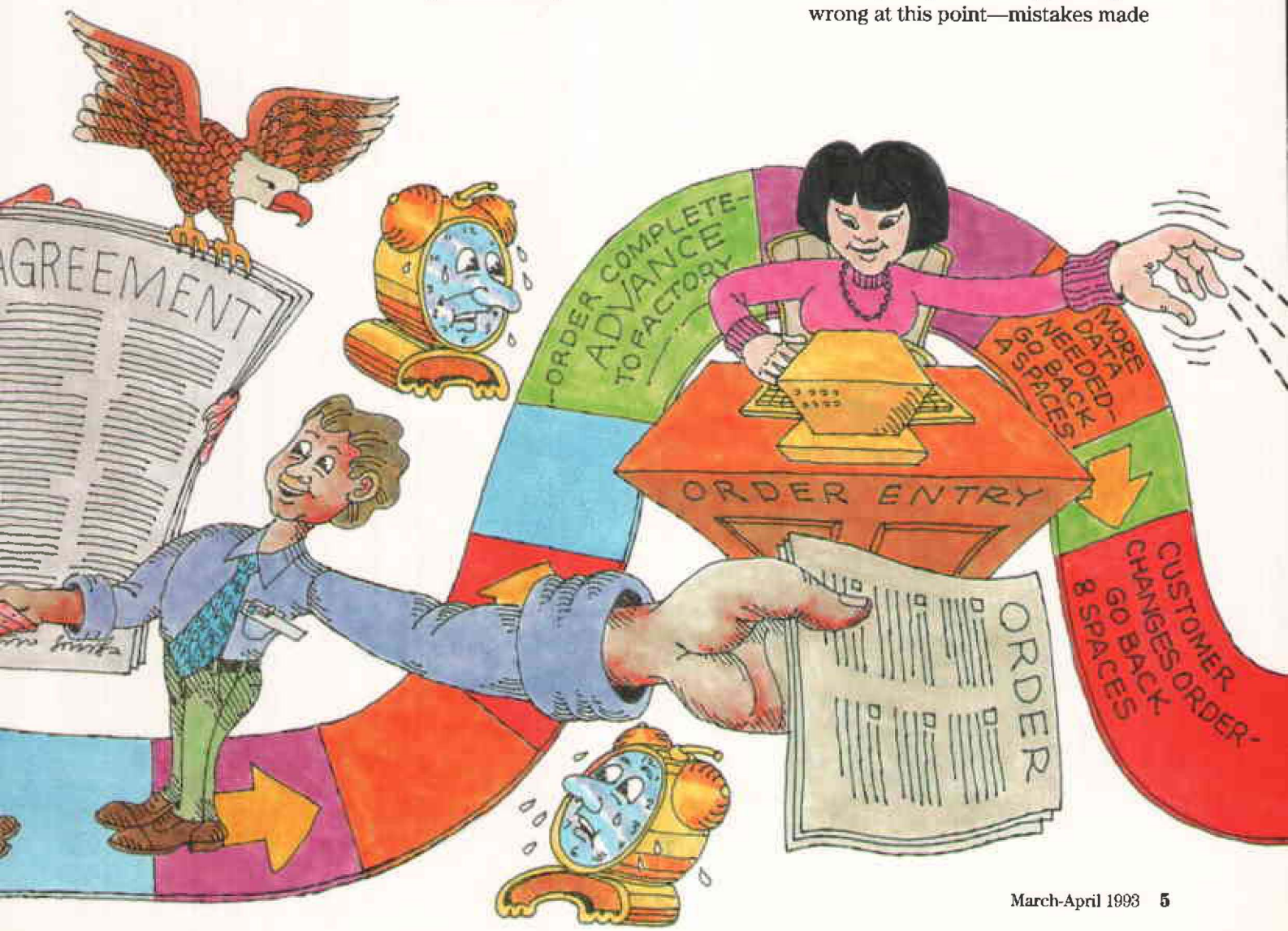
It's an intricate process. Sales reps have to deal with the thousands of HP products, features and support options available. And they have to be able to get customers to articulate exactly what they really need.

This first step takes place in an environment of mushrooming technology and a complex HP product-numbering system. While simpler orders can result in a price quote in a matter of 30 minutes, it may take several days to produce a quote for more complex systems configurations.

Later this year HP will begin using a new system called Conquest to speed the task of preparing complex system quotations and configurations.

If the customer doesn't like HP's quote—because of the price, the turnaround time or some other factor—the two parties begin negotiations. If HP can't fully satisfy the customer's expectations, HP may lose the sale. If the customer accepts the quote, he or she gives HP an order. Again, depending on the complexity of the order, it can take HP's internal order-entry process several days to record the transaction.

If anything should happen to go wrong at this point—mistakes made



Winner

in writing the order, errors in entering the order, customers who change their order after it's entered, etc.—the transaction has to be repeated.

HP's order-entry system then transmits the orders to the factory, or to a number of factories, depending again on the order's complexity. Ideally, the order should move smoothly down the road. But if the factory doesn't have enough custom computer chips due to a worldwide shortage; a conveyor belt breaks and halts production; a snowstorm shuts down the plant for two days—and these things do happen—the transaction can be delayed.

Once the factories ship their products, the shipments could run into transportation delays, especially if the shipments go out on a Friday, the end of the month or the end of the quarter when shipments are heaviest. And that roadblock doesn't even include things like weather delays, international customs snags, etc.

If all of these steps haven't happened on time, customers may lose their patience and escalate the issue within HP. Eventually they may cancel the order.

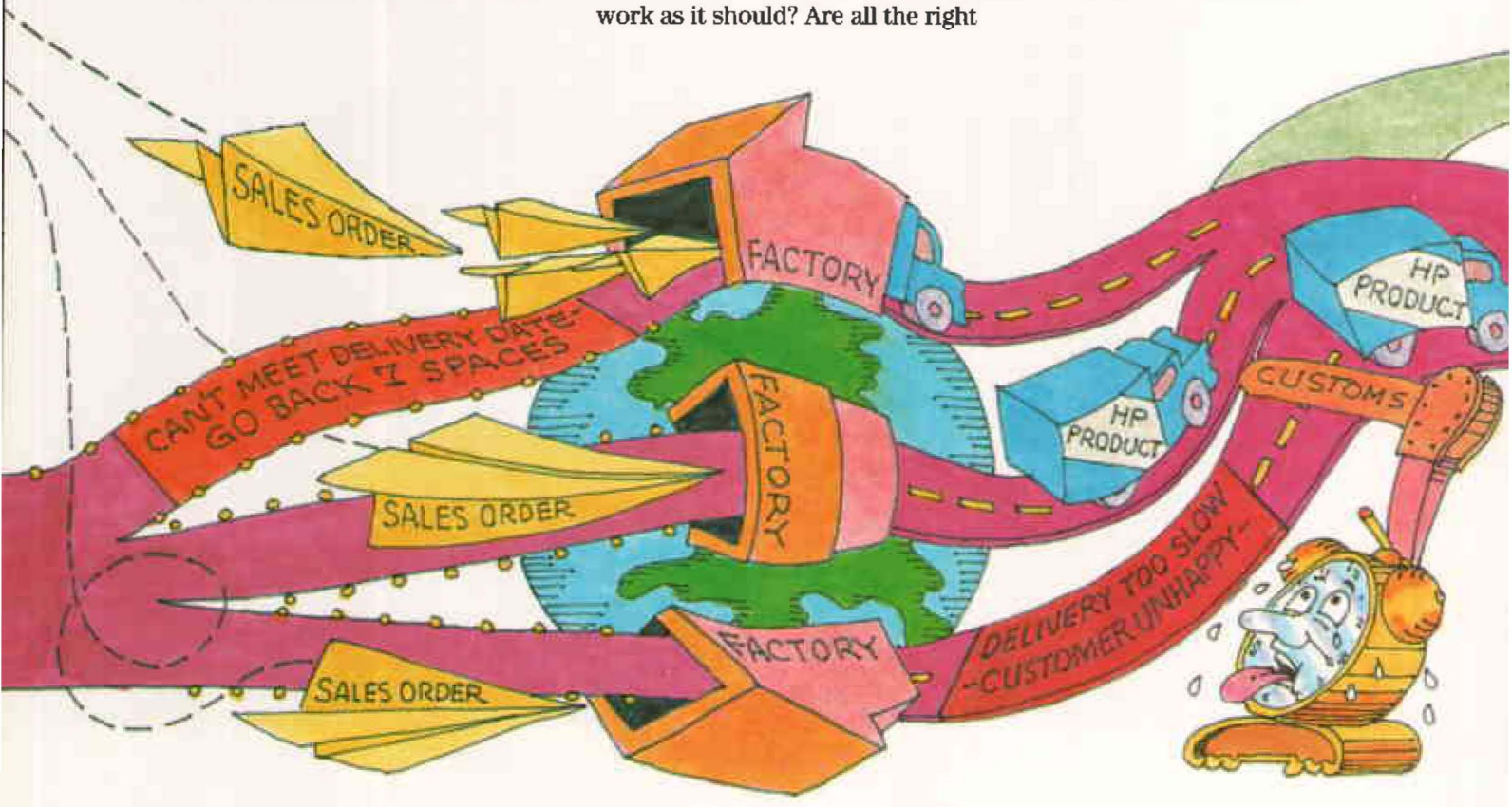
While some shipments go directly to customers, most arrive at a consolidation point. This often is a third-party logistics company that receives, packages and distributes the complete order the way the customer requested it. HP must ensure that the logistics company gets the right information every time. When the product ships, HP generates and sends an invoice to the customer.

Upon receiving their orders from HP, customers attempt to reconcile the order with the packing material to determine: Did the products arrive when HP said they would? Is the order complete? Does the equipment work as it should? Are all the right documents there? Was it packed correctly to avoid damage? Was the equipment installed properly?

If everything's in order, HP probably has a happy customer—perhaps for life. Any mistake may mean that the customer loses confidence in HP. Or—worst of all—customers decide that they might want to try someone else.

Of course, many of HP's competitors are facing similar—sometimes worse—problems in fulfilling customer orders. Who has the best products, technology and processes will determine who wins the order-fulfillment game.

Whatever happened to Seitz, the German company? It's still a loyal, multimillion-dollar customer, John Kenny says, who's encouraging HP to improve its processes. Those improvements could translate into a lot more business.



Obviously, despite problems with HP's order-fulfillment process, the company does a lot of things well. HP *did* record $16 billion in revenue in 1992. Great products, however, aren't so great if they're late, incomplete, have confusing documentation, etc.

To address HP's order-fulfillment problems, the company has taken a number of steps:

■ An order fulfillment steering committee—launched under the direction of HP's Management Council—is developing companywide tools to support the efforts of order-fulfillment managers within each major HP business organization.

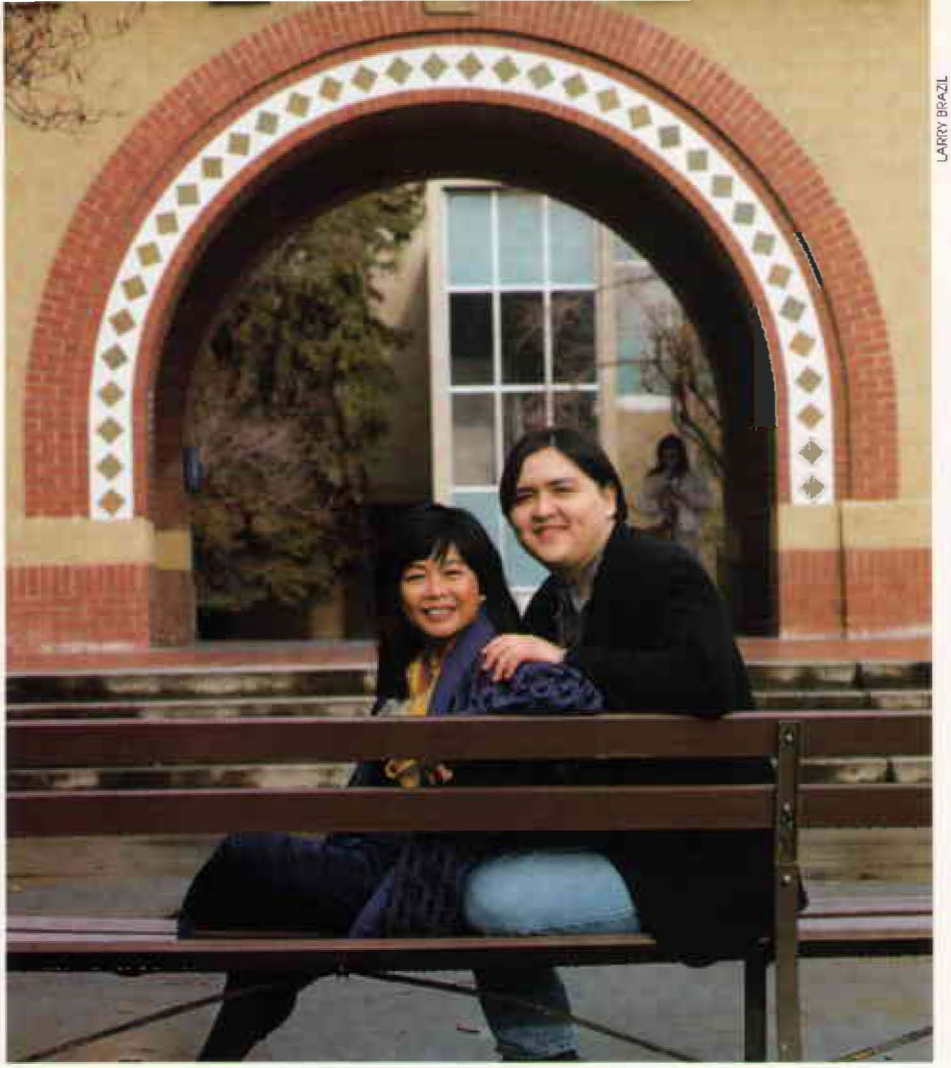
■ In 1992 HP created Eagle—a worldwide campaign to reach virtually defect-free delivery of orders to customers (May-June 1992 *MEASURE*).

■ A worldwide measurement system called QUODEM (QUality in Order and DElivery Management) tells HP how long it takes the company to complete the order cycle and how accurate the delivery is. The ambitious HP objective is to improve the order-fulfillment process tenfold by the end of fiscal year 1997.

According to Lew Platt, re-engineering several HP processes is a key to improving the company's order-fulfillment system: R&D needs to design simpler products with fewer options. Marketing must forecast customer demands more accurately and provide clear guidance when HP develops its products. Manufacturing needs to plan production schedules accurately, shorten production times and meet all commitments. Sales people have to interpret customer needs precisely and set appropriate delivery expectations. Sales administration must enter orders correctly. People in logistics need to promote cross-functional integration.

So what does this all mean to HP employees? Look at the illustration on these pages. All employees probably can see some part of their work that they can improve. In short, customer satisfaction is every HP employee's responsibility. **M**

ILLUSTRATION BY STEPHEN OSBORN



LARRY BRAZIL

HP scholarship recipient Gaëtan Truong and his mother, Yvonne, visit San Jose State University where he graduated last spring. He's now embarking on a journalism career.

HP scholarships are a home-grown effort by U.S. employees to encourage other employees' kids to continue their education.

Helping the future along

By Betty Gerard

For Gaëtan Martin Truong Vinh Gia, receiving an HP scholarship in 1987 was "a real boon—pointing me in the right direction."

His mother, Yvonne Truong, and five of her six sons had fled Saigon in 1975 and were one of the first Vietnamese refugee families to settle in Northern California. Their heritage included a great-great grandfather, Petrus Truong Vinh Ky, who was a revered literary figure in his country and a linguist who spoke 24 languages.

While 5-year-old Gaëtan Truong knew no English on arrival, he soon spoke his new language perfectly. He began a series of successes in school, including skipping fourth grade. But he says, "Getting adjusted here took years. It's never easy to be transported from one culture to another."

Since his mother worked at the Santa Clara Division, he was eligible to apply for an HP scholarship in 1987. The $1,500 stipend paid for his first year at San Jose State University, including books. But even more, he says, "Getting the scholarship convinced me I was on the right path."

Gaëtan is one of some 5,500 young people who have been recipients of HP scholarships—a tradition since 1952 (see page 9) that has grown steadily with little fanfare. Each spring a low-key fund-raising drive is held at all U.S. sites. HP employees respond with increasing generosity—probably reflecting their knowledge that the cost of a college education continues to rise.

Year after year, about 30 percent of all U.S. employees contribute. Not surprisingly, site coordinators are sometimes the grateful parents of past recipients.

HP people continue to fuel the home-grown scholarship program themselves. The number of $1,500 scholarships awarded each year is determined primarily by what employees give; the company adds another $35,000. Since HP pays for administrative overhead, every dollar contributed by employees—$621,862 in 1992—goes directly to students. That meant 495 scholarships could be

given in 1992. (The 1993 campaign was still under way at press time.)

Unlike most college scholarships available to high school seniors, financial need isn't the main determinant of eligibility for an HP scholarship. An applicant's need is one of the criteria taken into consideration by outside interview committees—but so are grades, school activities and volunteering in the community. Getting an HP scholarship is recognition for a well-rounded high-school career.

Bernice Mitchell, one of the community leaders who serves on the San Francisco Bay Area interview committee, has been talking with applicants for 15 years. She finds them "extraordinarily bright, enthusiastic and capable youngsters."

But each year there are more deserving applicants than available scholarship monies can cover. She says, "Each of us has our own criteria in making recommendations. If I had to choose just one quality, it would be some sign of promise—ability and the willingness to work."

Similar interview committees meet around the country. Their recommendations and ranking of applicants go to the fund's board of trustees for the final selection. In 1992, 70 percent of the 706 applicants received scholarships. And the number applying goes up each year.

Like Gaëtan, other recipients have overcome special hurdles. Patrick Dehkordi's family had to leave a war-torn Iran. After the death of his parents, he was adopted at age 13 by Jay Dehkordi of HP's Communications Components Division in San Jose, California. Getting an HP scholarship meant Patrick could help out with the expense of attending a university.

Colleen Cummins, whose father, Jim, is a Santa Clara Division employee, was an honor student at a high school for the deaf when she applied for a scholarship. Her parents, both deaf and college graduates themselves, encouraged her to excel.

In her scholarship application, Colleen wrote, "Deafness has taught me...to show people that deafness is not a disability unless you treat it as one, just a challenge to overcome." A star athlete in many sports, she also served as a counselor aide to younger deaf students to motivate them to do well in school. She is using her HP scholarship at the Rochester Institute of Technology in New York state.

There is no master log of those thousands of HP scholarship recipients over the decades: how many completed their degrees, and what they are doing now. A number have joined HP, often working in summer jobs first and later as employees, and *MEASURE* caught up with some of them. Each remembered warmly the morale boost and easing of financial strain that came with receiving an HP scholarship.

For Debbie Lindelof of the Rolling Meadows, Illinois, sales office, the HP scholarship paid for a whole semester's room and board at Northern Illinois University. "It did make a difference," she says.

In return, Debbie gives to the HP Scholarship Fund each year. She says, "Because I benefited, it's my responsibility to help the future along." M

It began with a heifer (no bull)

It all began in the early days when HP people gave the co-founders the Christmas gift of a heifer for their ranch. The little company in Palo Alto, California, had fewer than 150 employees at the time.

"One year they gave us a sleeping bag, and the next year a manure spreader filled with crumpled-up ads," recalls Bill Hewlett.

"But when they gave us the heifer, we felt it would be a more appropriate use of their time, energy and funds to start a scholarship program." Bill and Dave Packard set up "The Hewlett-Packard Employees' Scholarship Fund" in December 1951, and the first award was made the following spring.

First recipient of an HP scholarship—$500 at the time—was Ralph Baender, student-body president at nearby Sequoia High School. It wasn't until 1956 that some HP employees had children of their own who were high school seniors and thus eligible to apply. The one-year HP scholarships now are limited to the children and legal wards of HP's U.S. employees.

"Educational funds were not as important in the early days," Bill says. "But today, a good education is essential for getting ahead.

"It's satisfying to see how the program has grown and the high percentage of HP employees who contribute, even in a tough year," he says. "Awarding 495 scholarships to young people in 1992 is a record that should make everyone very proud."

He adds with a smile, "Sometimes you do something that turns out to be really good!"

REG FRANCKLYN

China Hewlett-Packard engineers Qin Zhou (left) and Qun Tu (right) work with Colorado Springs Division engineer Mike Fluegge on the transfer of the product line.

The Colorado Springs Division makes history by transferring a product line to China with the help of

The pioneers from Beijing

By Gregg Piburn

COLORADO SPRINGS, Colorado—"Pikes Peak or Bust" was written on the covered wagons of many 19th-century American pioneers seeking their fortunes in gold.

At the dawning of the 21st century, two Chinese pioneers find themselves at the base of the 14,000-foot mountain mining for a high-technology vein of gold.

Qun Tu and Qin Zhou arrived at HP's Colorado Springs Division (COL) in January to begin a three- to six-month stint learning the intricacies of the company's Advanced Cross Language System (AxLS) product line. Qun and Qin are engineers at China Hewlett-Packard (CHP) in Beijing.

Colorado territory became a state in 1876 and CHP, which opened in 1985 and employs about 400 people, hopes to start its own proprietary research and manufacturing operation soon. The efforts of Qun and Qin represent a major step in that direction.

For the first time, CHP will have full engineering responsibility for a product line. "I am very excited about this project," says Qun, a senior engineer. "I have worked for HP for 11 years and this is the first time I have been able to do real R&D on a real software product. This is a good opportunity for me and for CHP."

Two years ago, a couple of CHP engineers modified COL oscilloscopes to meet Chinese requirements. That was the start of the relationship between the two HP entities in R&D. (CHP started the project with COL in 1987.) In December 1991, CHP R&D program manager Xiaofei Ma traveled to Colorado Springs in search of more work for his engineers.

Tom Kraemer was one of the R&D managers Xiaofei visited. "I scheduled

a meeting with him," Tom says, "but only as a courtesy. We had a fascinating discussion and discovered our needs meshed."

COL had downsized and refocused its engineering efforts. Only one engineer was left on the product line. "Xiaofei said CHP had computer-science expertise and they wanted more ownership for a product, not just pieces of products here and there," Tom recalls.

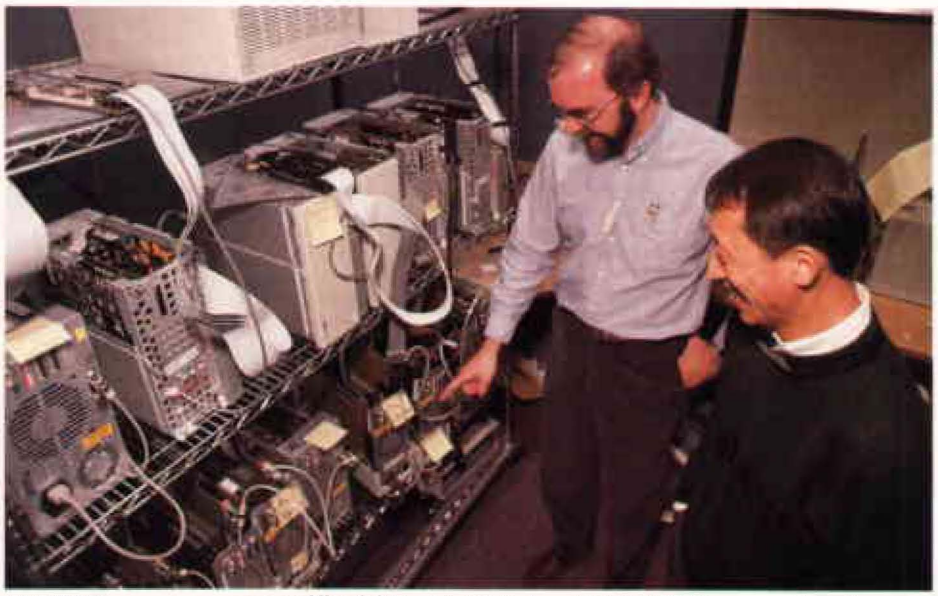
AxLS is the C programming language product line used by COL's HP 64700 emulation instruments to develop the software for embedded systems in everything from Nintendo games to Patriot missiles.

With better penetration into the Chinese market, Tom expects sales of the product line to more than double after the initial learning period. "And COL products that work with AxLS will benefit by having access to CHP engineering talent."

This product-line handoff wasn't consummated by a simple, friendly handshake between Xiaofei and Tom. It took about 13 months to go through all the corporate and governmental hoops to get Qun and Qin sitting at Colorado workbenches.

Xiaofei and Tom spent a couple of months developing a business model. In April 1992, Shouqin Ren, CHP's deputy general manager, came to Colorado Springs to discuss business arrangements.

Three months later Tom and Kip Stewart, the AxLS project manager, visited Beijing to finalize financial and technical plans. "We started to establish some credibility and rapport between the two labs," says Kip. "We began to understand they could do the job and they started to understand we were serious about the possibilities."



REG FRANCKLYN

CHP R&D program manager Xiaofei Ma (right) first met COL R&D Manager Tom Kraemer during a trip to Colorado Springs in 1991 to look for more work for his engineers.

Late last summer the CHP board of directors met at the COL site and endorsed the plan.

"My greatest hope," says Xiaofei, who spent six years at the University of Michigan earning master's and doctor's degrees in electrical engineering, "is that CHP will make more of a contribution to the company because of this project. Eventually, we want to have our own products developed and manufactured in China."

Kip emphasizes that customers are calling for the product. "Because of CHP, we won't have to tell them we're giving the product up," he says. "This is not a reject. It is a state-of-the-art, top-flight product line. It is important for HP that CHP is taking full ownership of that."

That ownership also could include marketing of the product line in the future, Xiaofei notes.

Some complex international accounting and legal issues had to be worked out before Qin and Qun could come to work on the project. In general, according to Tom, the U.S. government restricts companies from exporting advanced instruments while the Chinese government doesn't want to import low-tech products. The AxLS product line falls into an approved middle category. The political bottom line: "We need a stable relationship between the two governments," says Xiaofei.

But despite all the technology and regulations involved, the success of the project still boils down to the human element.

"The most important factor in this transfer is not related to technology," Xiaofei says. "Everyone involved will have to establish a personal network with people at the other site."

Just think of it as high-tech trail-blazing—something the folks in Colorado Springs and Beijing are getting better at every day. **M**

(Gregg Piburn is a Colorado-based free-lance writer and public speaker. —Editor)

Can HP still lead?

A former HP employee and Baldrige Award winner gives some tips on how to improve HP.

By Bruce Woolpert

I was really pleased to be asked to write an article for *MEASURE*. A number of my friends still work at HP and I still feel great loyalty to the HP team. In the spirit of continuous improvement and change, I would like to share my "big-picture" ideas about enhancing HP's working environment in preparation for the growing competition that your company will face.

In keeping with the tradition of not just raising issues or problems, but also offering suggestions, I'll try to do both in this article. Here's what I think HP needs to do to be ready for the highly competitive future:

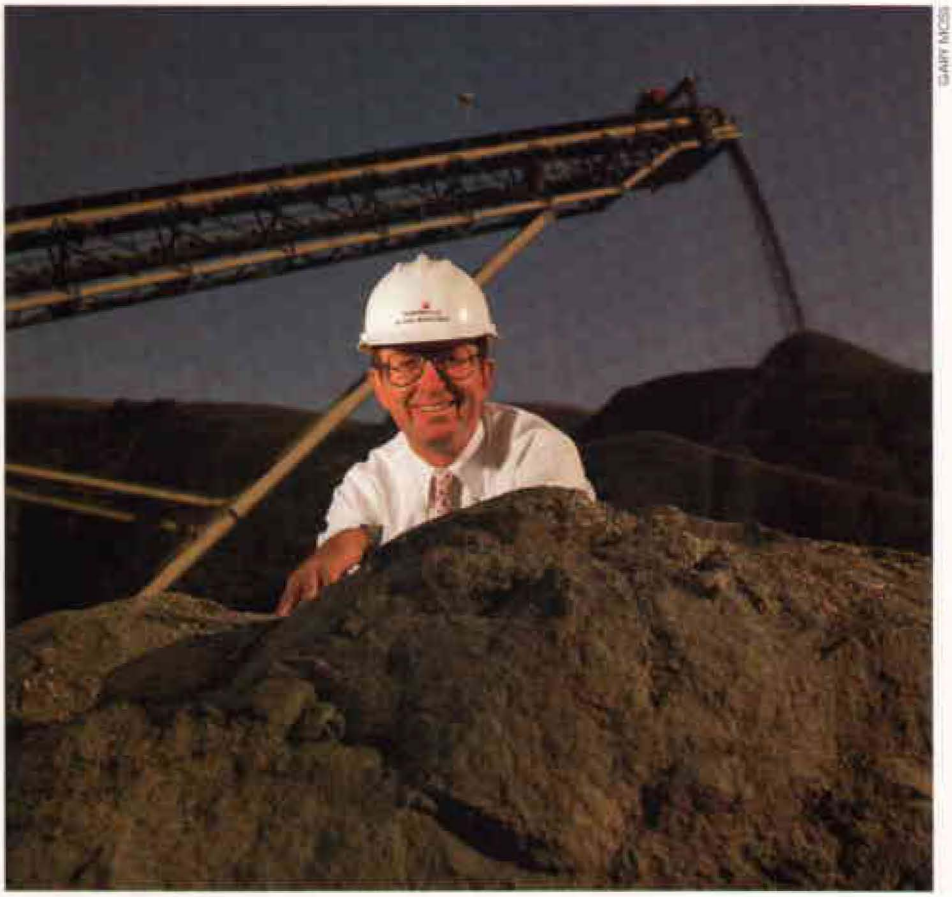
Regain "HP way" leadership. When I joined HP in 1976 after graduating from Stanford Business School, the HP way was a celebrated model for American business success. The HP way described what was expected of HP people and what people could expect from the company. These ideas are extremely powerful and surely are the single most important factor in HP's past growth and success.

Bill Hewlett and Dave Packard were ahead of their time in establishing a set of expectations which inspired business success. However, with the passage of time, the HP way has lost some of its "cutting-edge" leadership advantage. Some other businesses, challenged by HP's example in the early '70s, have caught up and are starting to overtake HP with organizational ideas more tuned to the highly competitive environment of the late 1990s.

To be ready for the future challenges and opportunities, the HP way needs to be updated with a very pronounced emphasis on people, skills training and knowledge development. The HP way also needs to direct attention to individual and team job responsibility for continuous improvement. Finally, the updated HP way needs to emphasize each person's responsibility for focused attention on internal and external customer satisfaction.

An organization chart turned upside down—putting the customer in the driver's seat. While customer satisfaction has always been important to HP, it seems that an increasing number of decisions are made for the company's benefit rather than to build customer loyalty. As HP's organization grew "thicker," with more management layers in the mid-1980s, HP people understandably turned more attention to making all those new management layers happy and devoted less time to customer needs.

Energies are not correctly directed! HP needs to get closer to the customer. For example, phone and mail customer surveys of all prospective product users could measure HP's real advantages over competitors. A formal customer suggestion/complaint follow-up system could track and identify product ideas/opportunities and problems from the customer to the factory. And a "money-back guarantee if not



GARY MOSS

Turn the organization chart upside down and put customers at the top, says Bruce Woolpert, who heads the customer-obsessed Granite Rock Company.

completely satisfied for any reason with a product and service" is the minimum for today's future-directed, customer-focused organizations.

When a business has intimate knowledge of customer needs and gives them highest priority, resources are directed to the things that truly matter. Overhead costs go down, advertising and promotion is better directed, and customer loyalty and market share go up.

Give more authority to individuals and teams. When I joined the company in '76, I had more independence (job-ownership responsibility and authority) to do my job than I did when I left in 1985. It seems to me that some of the new levels of management had little idea of where they should devote their energies, so they started to simply "control" things that were already getting done. Bureaucracy grew and the whole company became slower to implement change. Responsibility started to become diffused and confused, finger pointing increased and bad-news feedback was less welcome.

Top managers are needed for much different work than "controlling" the work of others. Encouraging and supporting rapid change and improvement, setting clear goals and objectives for others to implement, getting out of the way so others can try new things and "put their necks on the line," and recognizing people when they do an outstanding job or learn something from failure are important jobs that need to be done more consistently by HP managers.

Leadership results needed in every area—innovation not limited to R&D. HP has a strong history of success. But now, too many HP people think that *other* businesses fail, not theirs. HP needs a greater and healthier *fear* of losing to competitors. Let there be no doubt in your mind, HP competitors *want* every dollar of HP's business and are working even while you're reading this article to grab HP's business. Working harder and doing more for customers at lower cost isn't a job reserved for only a few people at HP; it *must* be everyone's job. All HP people must dedicate themselves to improving job performance and implementing better ways to get work done.

If you aren't improving *your* job performance by 15 to 30 percent per year, you aren't supporting your company's future. Here's why: the person who holds your job at a competing business has likely made this commitment, possibly in response to that company's "downsizing" or its drive to be more cost competitive. No area is exempt from the risk of being eclipsed by a competitor who wants to claim HP's business.

HP is today one of America's best-managed companies, making some of the world's best products. I'm writing this article on an HP Vectra personal computer and will print it on an HP LaserJet printer. Our business operates using HP 3000 family of computers, and HP terminals and printers.

I hope that this article will help stimulate a new round of thinking about HP's future and what can be done to strengthen its likelihood of future success. The backbone of every successful business is the desire for change and improvement. M

(Bruce Woolpert joined Hewlett-Packard's San Diego Division in 1976. In late 1985, when his parents decided to retire, he left HP to join his family's 93-year-old construction-materials business, Granite Rock Company, based in Watsonville, California. Today, the company is an important HP customer and a recent winner of the prestigious Malcolm Baldrige National Quality Award.—Editor)

From legend to legendary

Legend has it that while visiting Penang, HP co-founder Bill Hewlett was so impressed with a waitress' ability to use an HP scientific calculator that he agreed that that city was the right place to open a manufacturing site.

That was 1972, and two decades later HP's accomplishments in Malaysia have reached legendary proportions.

The manufacturing site began with 60 employees—35 of whom still work for HP—making high-quality optoelectronic and microwave components.

Today, more than 3,000 employees work in Penang. Another 120 make up HP Malaysia Sales in the capital city of Kuala Lumpur—some 400 kilometers (260 miles) away.

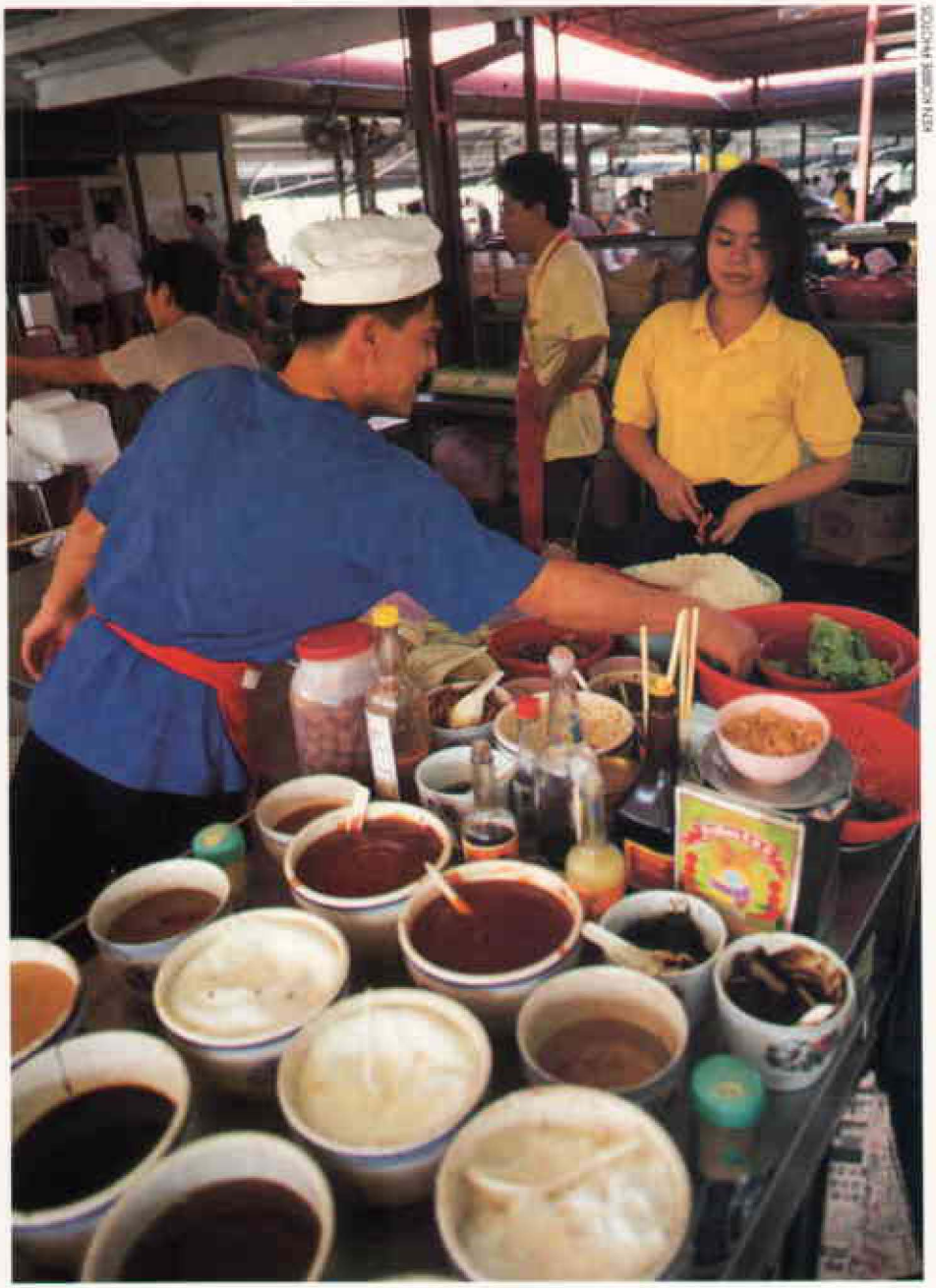
The country—a federation of 14 states lying close to the equator—has 18 million people of whom 58 percent are Malay, 31 percent Chinese and 11 percent Indian.

Malaysians are quality-obsessed. More than 60 percent of HP employees in Penang are members of 160 quality teams, and HP won the inaugural Best Management Quality Award from the Malaysian National Productivity Center in 1989.

They're also health-conscious. HP's sports complex in Penang attracts nearly every employee to its tennis, badminton and multipurpose courts, and football field.

The Kuala Lumpur office, opened in 1978, has become a thriving business for HP computer products, test-and-measurement equipment, computer systems, computer-aided manufacturing and support. **M**

(MEASURE *thanks Valerie Ban in Penang and Suzanne Ooi in Kuala Lumpur for their assistance with this photo feature.—Editor)*



KEITH HORNE PHOTOS

above

An array of tasty delicacies at the Hawker's Delight center near the HP Malaysia manufacturing facility in Penang, Malaysia, gives Amy Lee (right), Personnel admin support person, plenty of lunch-time options.

right

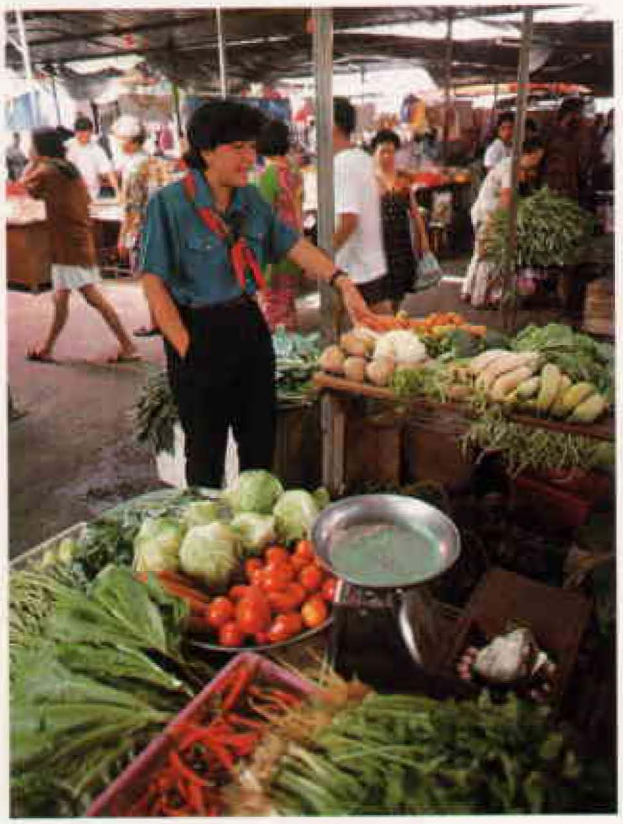
HP Malaysia Sales accounts manager Cheah Jin Boon (right) meets with Peter Lee, MIS manager for Guinness Anchor beer, in Kuala Lumpur in late December—about a month before the Chinese New Year when about one-third of Anchor's yearly output is sold and consumed.

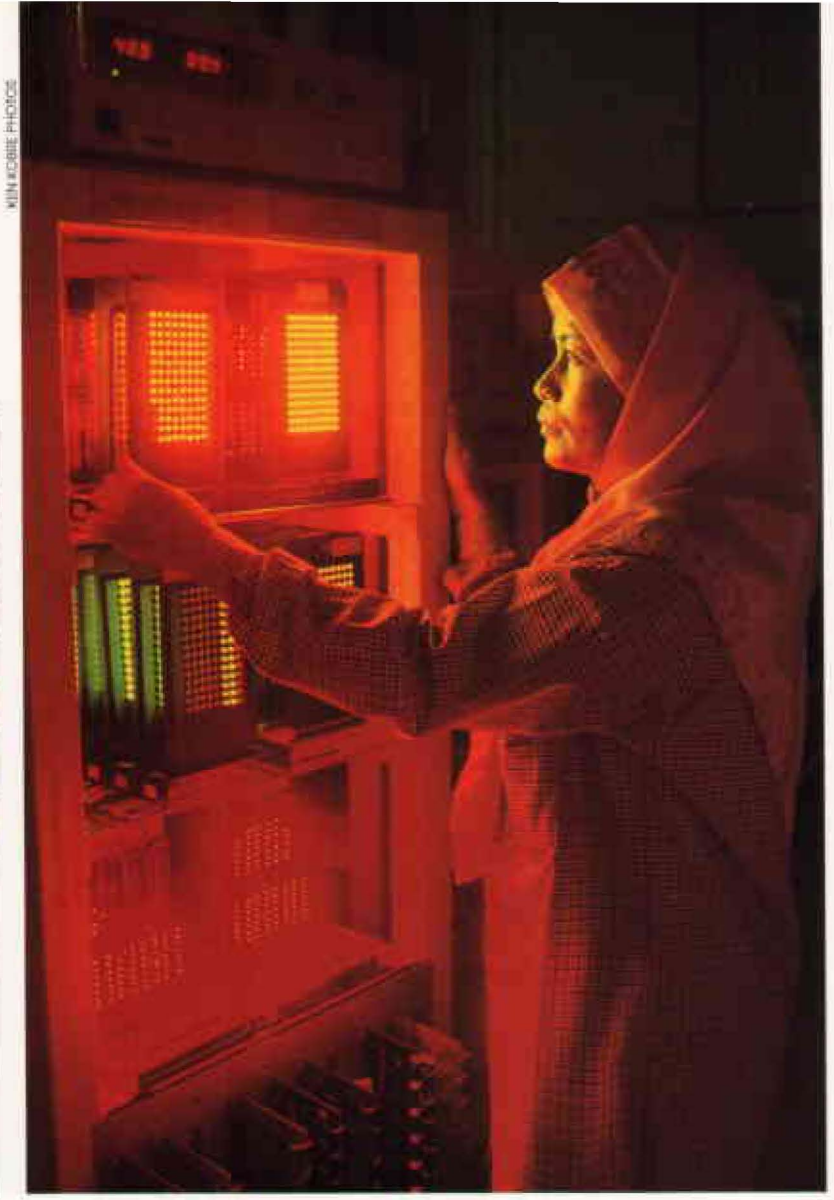

ANCHOR BEER
GUINNESS ANCHOR BERHAD

Malaysia

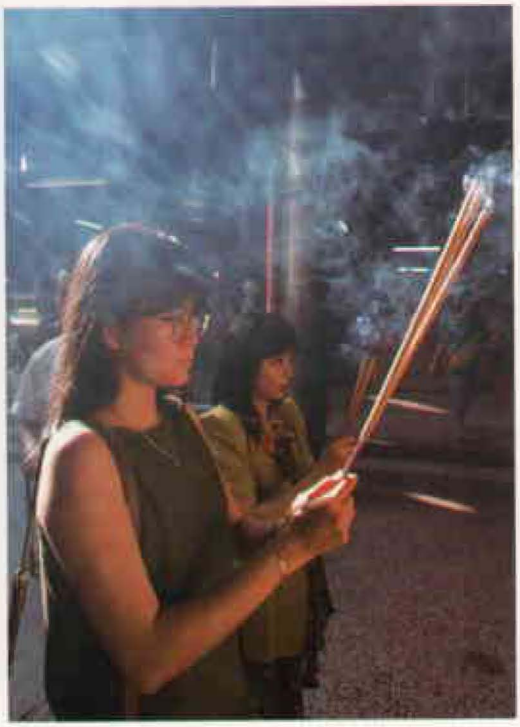
below

Teresa Goh, an HP production supervisor, reviews the fresh produce at the "wet market" on Cecil Street. You can buy a chicken and have it killed and plucked while you wait.





KEN KOBRE PHOTOS



above

Salmian Haroon, an inspector in the quality department in Penang, examines an LED burn-in station. She wears the traditional Moslem head covering called a "tudung."

far left

Yoke Theng Chow, a software application specialist, lights joss (incense) sticks—an offering to the dead or spirits—on the first day of the 12th month of the Chinese calendar.

left

Moslem men in Kuala Lumpur, including Dzulkifli Abdul Rahman, Finance and Administration manager/ Personnel manager, wash their feet at the National Mosque before entering. The men go there every Friday to pray.

above

What's for dinner? Shaik Omar Anuar, marketing development manager for HP's Computer Systems Organization in Kuala Lumpur, checks out the selection of fresh squid at a hawker stand on his way home from work.

right

Peter Dass Sandam, production operator, operates a molding machine used to make diodes at HP's plant in Penang.

right

HP Malaysia provides a prayer room and cubicles for Moslem women to store their robes and prayer rugs at the plant in Penang.

Malaysia

KEN KOBRE PHOTOS

right

Malaysia's diversity is a rich blend of colorful cultures—primarily Malay, Chinese and Indian. Irene Indirani, a secretary, inspects some of the choices of beautiful Indian sari cloth.

above

HP Malaysia engineers Ah Yoong Sim (left) and Eng Su Tay are fierce competitors in the game of badminton, Malaysia's national sport.

left

Caryn Chay (left) and Chin Siew Ching prepare for a customer presentation in the PC center in Kuala Lumpur.

I am no different; I am a human being

By Ahmet Özkan-von Au

BÖBLINGEN, Germany—My name is Ahmet Özkan-von Au and I am 24 years old. I came to Germany three years ago from the Turkish part of Cyprus, an island in the Eastern Mediterranean.

After intensively studying the German language for five months, I landed my first job with HP in Peripherals Distribution Europe, in Böblingen.

I have enjoyed life in my adopted country, even while xenophobia—a fear or hatred of strangers or foreigners—has risen. I'm not worried about the increasingly aggressive attitude toward foreigners. However, when I married a German, I chose my wife's surname to spare any possible prejudice, especially for our children.

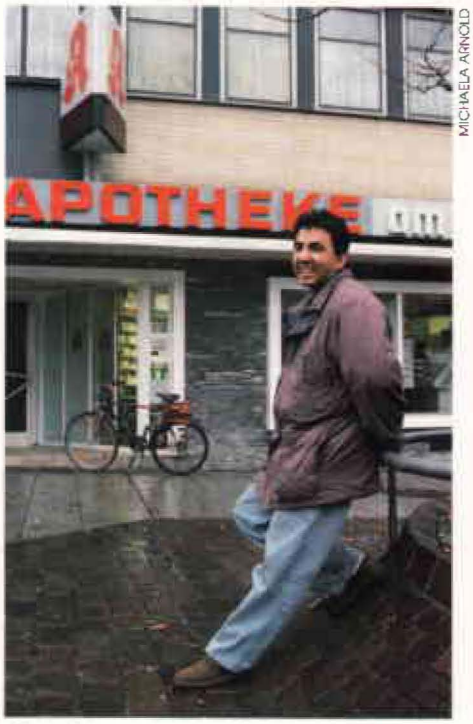
Attacks on foreigners have dominated the media in recent months. And it saddens me to watch those attacks on television. I cannot understand how such events can take place in a country as highly developed as Germany.

The upheavals in the former East Germany, combined with economic difficulties and rising unemployment, which already has reached 13.5 percent, all have helped provide the breeding ground for perverted nationalism. According to radicals, anything different or unfamiliar is a threat and should be rejected.

Public attention has focused on small groups of right-wing radicals who direct attacks at foreigners, thus giving a hideous impression of Germany. But this picture of Germany is a rather distorted one. Spreading strings of lights all over Germany, people have turned out in the millions to counter xenophobia and to express solidarity with their foreign neighbors.

I have never experienced any anti-foreign sentiment at HP. I am very happy here. My colleagues accept me the way I am—as a human being. M

(MEASURE *thanks Michaela Arnold, HP Germany internal communicator, and Mary Weed, manager of executive and internal communications for HP in Europe, for their assistance with this article.—Editor)*



MICHAELA ARNOLD

Ahmet, who pauses during a walk in downtown Sindelfingen—near Böblingen—says he's never experienced anti-foreign sentiment at HP.

For the record

Here are excerpts from a statement that HP Germany issued in December 1992. It was signed by Eberhard Knoblauch, managing director of HP Germany, and Ulrich Oechsle, chairman of the country's employee council:

"Hewlett-Packard's management, employee council and all employees condemn [xenophobia] emphatically. Xenophobia is degrading. It does not only contradict all common sense, but also the principles of living together in a human society.

"For decades, foreign citizens have helped to lead Germany's economy to success. They contributed their share to increase the diversity and wealth of the society in the Federal Republic. For years, teams in all functional areas of HP Germany have known that the success of the company is also based on their foreign co-workers. We appreciate their work and their cultural contributions.

"We rely on our employees treating each other as good colleagues, open minded and without prejudices regardless of their nationality. In turn, we also expect our foreign co-workers to support integration within the company. We take respect and tolerance among native and foreign colleagues as a matter of course. There is no room for xenophobia within HP."

How well do you know

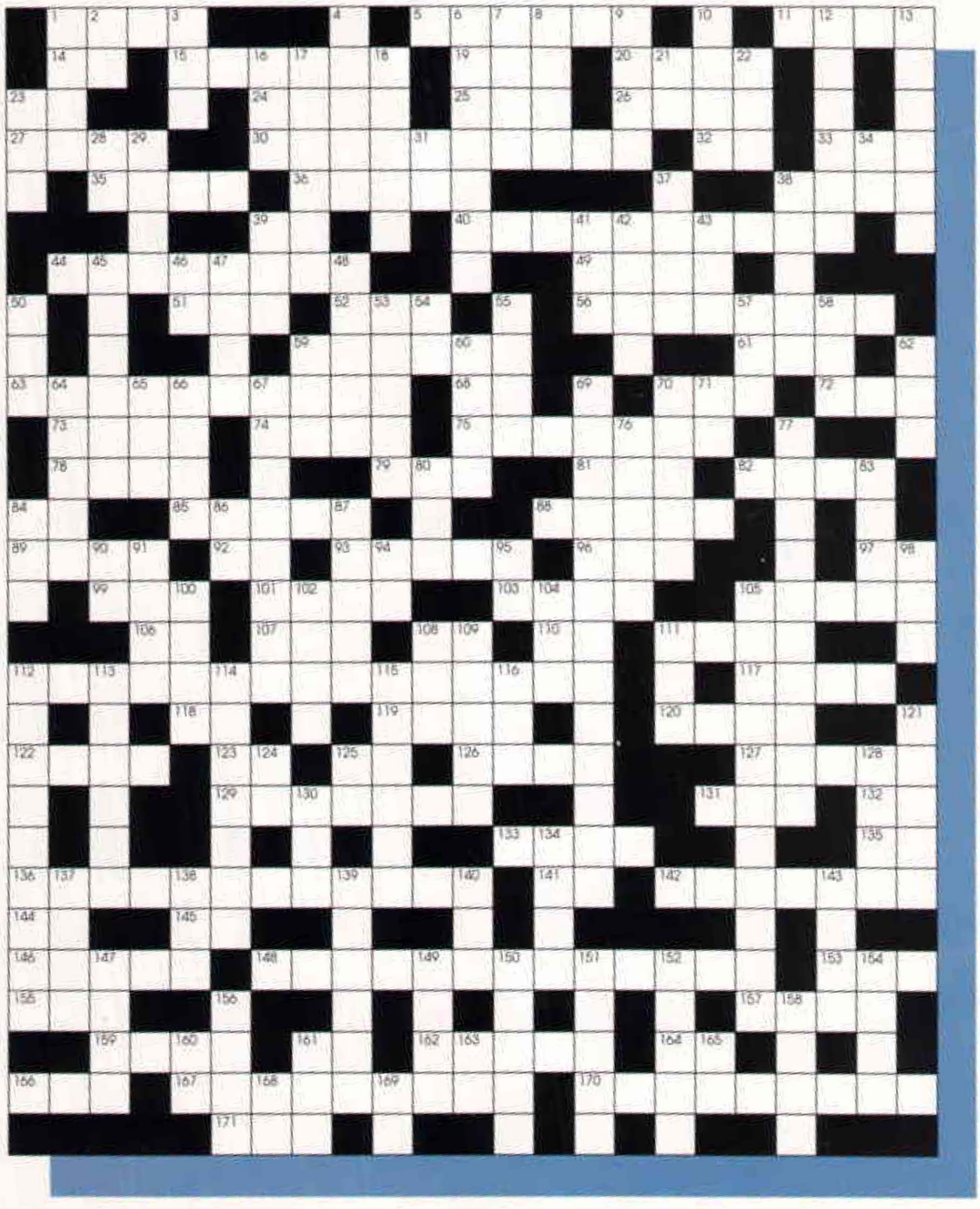
Across

1. Global service org.
5. Where it all began
11. ____, alt, delete
14. 12-step prog. (abbr.)
15. Kuala ____
19. Hammarskjold
20. Irish actor
23. Fisc. ____
24. Therefore
25. ____rama
26. Continent
27. Long poem
30. First non-U.S. manufacturing site
32. Dave's home 1969-71
33. Bit
35. *MEASURE* price
36. Kermit's family
38. Roman fiddler
39. Heart attack (abbr.)
40. 200A
44. Fourth president
49. Lab vessel
51. Charged atom
52. ____ Amin
56. Japanese partner
59. First lab director
61. Film speed
63. Product lists in France
68. Cust. eng.
70. U.S. pre-college test
72. Snooze
73. London district
74. Computing strategy
75. Letter writer '69
78. Rough rock
79. Theatre sign
81. Ostrich-like bird
82. Signal measurement
84. Neural-like net.
85. ____ boom
88. O compound
89. Coin-toss winner
92. Chinese Buddha
93. Work lifestyle
96. Suffix
97. Same as 68 across
99. Canon is one
101. Edge
103. Spheres
105. Corvallis mascots
106. Irish father
107. WAN's predecessor
108. __ be or not __ be
110. Einstein's nickname?
111. Oscillator control
112. 30-year-old
117. Product partners
118. Sys. eng.
119. British prep school
120. Bill & Dave
122. Gear teeth
123. Note
125. Preposition
126. Dist. org.
127. Computer I/Os
129. Terman disciple
131. Audio organ
132. Common HP degree
133. Lively
135. N. Cal. site
136. Before *MEASURE*
141. "___ Time Goes By"
142. Pride of Vancouver (pl)
144. Aud. vis.
145. __ once (now)
146. Royal '83 _____
148. HP 2116A
153. Kind, sort
155. Talking horses
157. Facts
159. Viking god
161. Same as 145 across
162. Tierra del _____
164. Greek letter
166. Elec. boards
167. Mr. 10X
170. *MEASURE* rewards
171. Oriental sauce

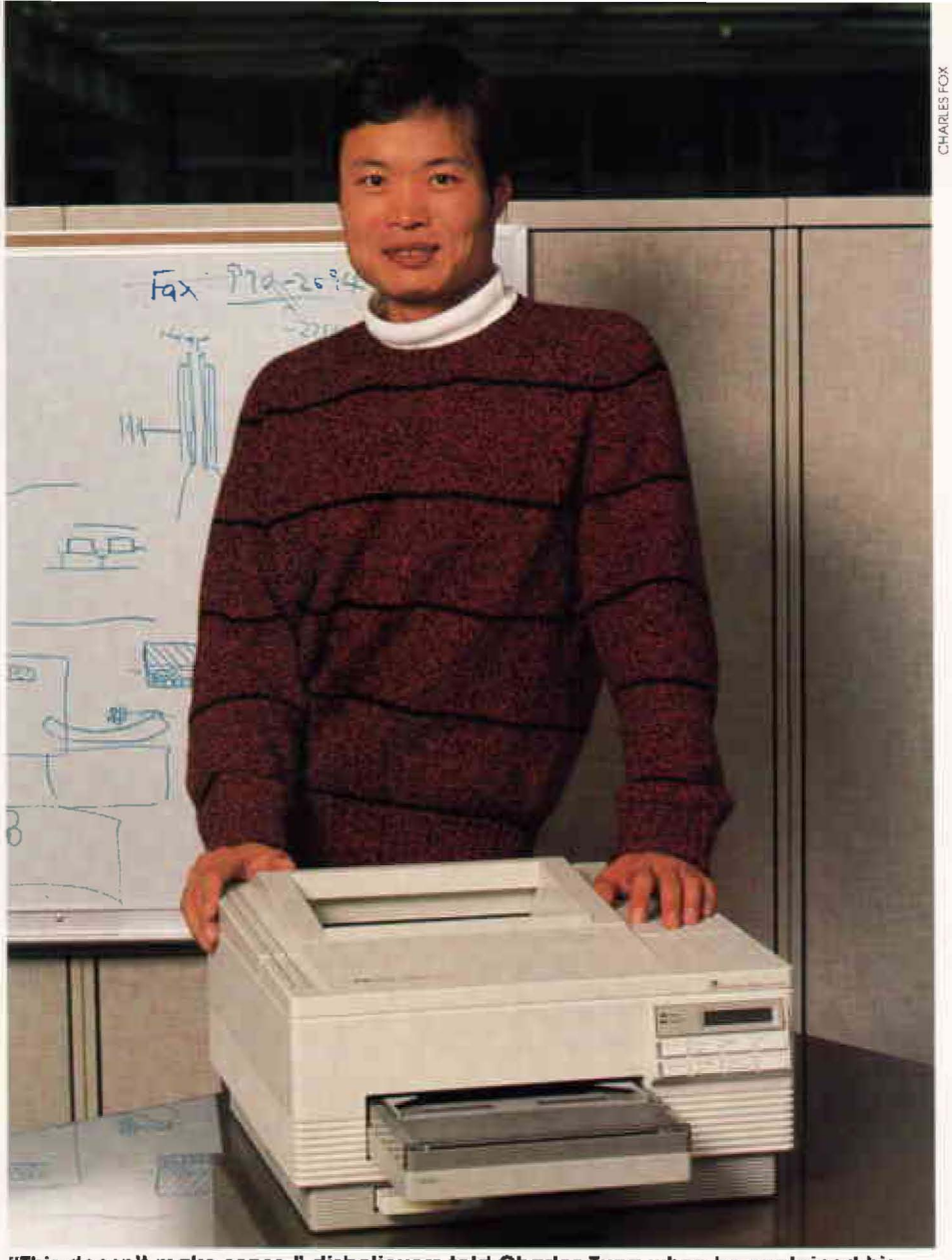
Down

1. ____ speed
2. HQ state
3. ____ fogy
4. Boring tool
6. 5 across street
7. Precipitation
8. Astonished
9. Style
10. What employees get
12. HP 9480
13. U.K. sales location
16. Melbourne airport
17. Corporate objective
18. Automaton
21. Int. sys.
22. Not a PC
23. How YHP gets paid
28. Int. freq.
29. Oarsmen
31. T-shirt sz.
34. Rpt. at end of fisc. yr.
37. Enemy fire
38. Roseville products code
39. Adam
41. ____ league
42. Roarer
43. __ __ __ ha (Hawaiian greeting)
45. Jay Coleman
46. 3.141592+
47. Company symbol
48. Space shuttle flotsam
50. Bar code
53. Stereo records
54. Drug delivery method
55. "Live ____ or Die"
57. Gangster's gun
58. LAN's successor
59. "Yes" in Lyon
60. Reflected sound
62. Idaho-based org.
64. Information code
65. Eureka!
66. Records
67. Site in view of Alps
69. Timely benefit
70. Requirement for scholar
71. Preposition
76. What an LED does
77. HP-35
80. Uncooked
83. Boise board member
84. Alphabet run
86. Preposition
87. '72 off-the-Wall trip
90. __ and behold
91. Bright ideas, '70
94. Afternoon
95. Rocky's greeting
98. Atlantic sales org.
100. Bonn device
102. _____ up (increase)
104. Japanese movie
105. Coin-toss loser
108. Make lace
109. Al Gore's concern
111. Father
112. High-frequency radio signal
113. 10th month of HP year
114. Element of HP way
115. HPSA headquarters (Swiss)
116. Girl's name
121. Interex members
124. Surg. theater
125. Info. tech.
128. ____ and Measurement
130. 29 down's tool
134. HP 95LX site
137. Eager
138. Day of wk.
139. Scarcity
140. Improvement process
143. Revise
147. Fast planes
149. Bean curd
150. Greek letter
151. *MEASURE* feature
152. Magnetic ____ (pl)
154. Endure
156. Links stars
158. Taiwan location
160. Drink and Simpson
161. At all
163. Not (prefix)
165. Info. Sys.
168. Santa's laugh
169. Bovine

your MEASURE history?



Puzzle answer in May-June MEASURE



CHARLES FOX

"This doesn't make sense," disbelievers told Charles Tung when he explained his idea of improving how images look on paper.

Charles Tung beat out the competition by developing a remarkable technology that launched HP's LaserJet printer series into the future.

One whale of an idea

By Melinda Sacks

It was a book about the music made by whales that originally inspired Charles Tung and led him to design what one manager called "a bright idea that revolutionized the world."

The Application Specific Integrated Circuit, named RET for resolution enhancement technology, allowed the HP LaserJet Series III printers to produce such high-quality resolution that competitors still haven't matched it.

Approaching his 34th birthday, Charles already has been honored in *EE Times'* special 20th anniversary issue. And RET, which became a standard feature on the HP LaserJet Series III printer, has won accolades in *PC World*, as well as the 1990 Technical Excellence award in the hardware category of *PC Magazine*.

"There was a lot of disbelief from my peers," Charles smiles. "They didn't believe that RET could double the resolution of almost any text image, even in the final development stages. They said, 'This doesn't make sense. It's like making something out of nothing.' But I believed it could work and I wanted to deliver it."

Since he came to the United States from Taiwan almost 10 years ago, Charles has depended on his ingenuity and determination to reach success. The first obstacle was learning to speak English, which he accomplished with the help of many American friends and lots of practice. Adjusting to the culture was easier.

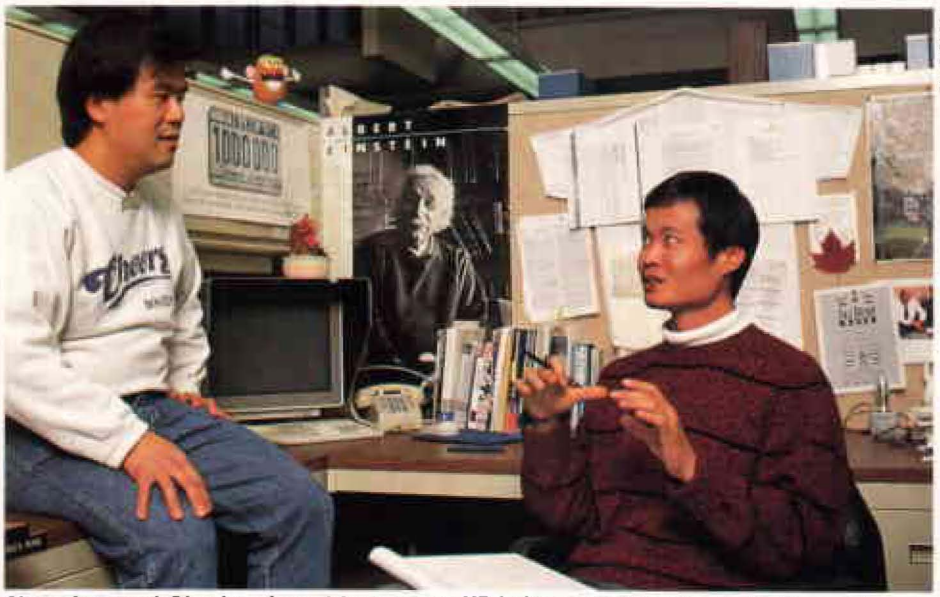
"I find that here is the place I like most," he says from his Palo Alto, California, office. "I feel that here there is more space and more opportunity."

Charles' family moved to the United States because his father, a retired agricultural expert with the United Nations, wanted to gain access to relatives in mainland China. The Tungs were not allowed to visit from Taiwan, but once they became United States citizens, they could go to mainland China directly. Since their immigration here in 1983, they have brought Charles' grandfather to live in the United States and have visited mainland China several times.

"It was a race...like trying to catch a train."

When the family arrived, Charles enrolled at San Jose State University in computer science, a change from the physics major he had been pursuing at a university in Taiwan. "If you want to accomplish something, it may take a lifetime and a whole team," Charles says about the field of physics. "Computer science is the most flexible and fascinating. Every time I have an idea I can get feedback in a few hours."

During school at San Jose State, Charles took a summer job with IBM, where he designed a tester that he says "worked pretty well." As a result, he was offered a job and worked for that company for a year. But when IBM began downsizing and relocating employees to Arizona, Charles decided to accept an offer from HP and move to Boise, Idaho.



CHARLES FOX

Steve Lee and Charles share ideas on an HP Labs project in Charles' office. "Every time I have an idea," Charles says, "I can get feedback in a few hours."

"I said 'what the heck, I'll try it,' " he recalls. "I had a free ticket. It was April and Boise is very beautiful in April." One visit was all it took to convince Charles to take the job. He joined the Printing Systems Group to work on developing document-description language. But the project was not going well and the product was failing by the time Charles attended a desktop-publishing conference sponsored by Apple Computer in 1986. It was at that conference that he saw the book "Whale Song," which gave him the idea that later led to his invention of resolution-enhancement technology.

"Whale Song" was the first book published by the desktop system, using a 300-dot-per-inch laser printer. The overlapped color photographs were breathtaking, Charles remembers, but the quality of the printed text left much to be desired. "It was very ragged," he says, "and I thought to myself, maybe I can do something about this."

Back in the office, Charles began experimenting with building a prototype to see if he could improve the print quality. He took a piece of paper and cut templates in it so that he could single out a piece of type, then clean it up using the computer to retrace the edge of the print.

Once he was able to clean up the italic print, he showed it to a few managers. "They got very excited," Charles says modestly. In fact, some of the first advocates of his development were HP directors Walter Hewlett and David Woodley Packard, who paid Boise a visit and took away prototypes of their own to play with.

"I wasn't very confident," Charles admits. "I wasn't sure the general user

CHARLES FOX

Charles, an avid runner, says that developing a new printing technology was a race. "I wanted to meet this window, so there was a lot of pressure and stress."

would notice the difference (in the quality of the print)." But the response from managers and colleagues was enthusiastic. HP managers encouraged Charles to finish his development, which was named "Equalizer ASIC." If he could do so quickly enough, it could be included in the Series III, soon to be released.

"It was a race," Charles says. "It was like trying to catch a train. I wanted to meet this window, so there was a lot of pressure and stress." HP needed a new product feature and Charles' resolution-enhancement technology was it.

"In my 20 years of experience, this is the premiere example of having a really bright idea that revolutionized the world," says Russ Mendenhall, Charles' former manager in Boise. "It provided a very dramatic improvement in print quality with current printing technology for an insignificant incremental cost."

It was Charles' ability to "look around and see the opportunity to put two and two together," Russ says, that led to the new technology's success. "Charles is very bright and creative. He has the ability to step outside his area of expertise to solve problems. He is basically a computer scientist, without training in electrical engineering, but his idea had to be implemented on hardware."

"I always think of myself as a tool maker. The laser printer is a tool..."

Although it's difficult to know how much a technical innovation like RET contributes to the bottom line, Russ says, "We know in our hearts that it has kept the Series III product line competitive for a long time."

Once RET was on the market at the end of the '80s, Charles moved from Boise, where he learned to ski and grew to love the outdoors, to more urban Palo Alto, to attend Stanford University for a master's degree in computer science, and to work part-time at HP Labs. Now that he has finished school, he is a full-time employee at HP Labs and has settled down and bought a house in Cupertino.

Times are a little calmer for Charles these days, so there are weekends for skiing, scuba diving and mountain biking, interests he has developed recently and pursues avidly. "I see my personality as almost polarized," he says. "Sometimes I like to be with my family (his parents live in Southern California) or just stay home and read. Other times I like to be adventurous and go traveling or camping."

But the leisure time is not likely to last. Charles, who describes himself as "curiosity driven," is currently working on a color laser printer that would reproduce special effects and top-quality photos and would shortcut "the need to go to Kodak every time you want a picture."

"I always think of myself as a tool maker," Charles says, when asked what he sees for the future. "The laser printer is a tool for people to inquire, to really see beyond their current stage. Looking ahead, I can't see what the picture will be. We just try to deliver the tools people need."

Although Charles Tung is himself an inspiration to his colleagues, he attributes his success to many factors. "I feel mostly lucky," he says. "The biggest reward is going out and seeing this is my baby. I feel like I would after a long journey: a song of joy and tired, but satisfied." **M**

(Melinda Sacks is a Palo Alto, California-based free-lance writer. —Editor)

YOUR TURN

Leading the way

I'd like to commend *MEASURE* on including the article on "New ways to work" in the January-February issue. With so many other "challenges" in our business environment today, it is reassuring that HP is trying to lead the way into the 1990s with quick, flexible, productive responses to employee and customer needs in work schedules.

As writer Betty Gerard mentioned in the article, we in the San Francisco Bay Area are faced with increasingly strict air requirements. It is amazing to me that in trying to develop a number of commute alternatives, telecommuting is so often overlooked. With today's e-mail and voice-mail systems, people really can be at least as productive as if they commuted to work, and not cause any environmental damage in the process.

KENT SESSIONS
San Francisco, California

A good example

I read with interest the recent HP Germany statement on extremism (see page 19). As a guest in Europe as the Test and Measurement Marketing Center manager from 1988–91, I had the pleasure to work with many members of the HP Germany team. Through personal travel, I met many German people outside the HP community as well. There is no question in my mind that the statement by Eberhard Knoblauch and Ulrich Oechsle reflects the beliefs and values of HP Germany and of all but an infinitesimal number of the German nation.

We need to follow Eberhard and Ulrich's example in dealing with all diversity issues in HP.

PAUL RUMFORD
Everett, Washington

A product-ive section

I really liked the new-products section in the January-February *MEASURE*. I would like to see it as a regular section. We can all take pride in the diversity of HP product offerings, as well as give recognition to the importance of new products for the future of HP.

STEVE LUMM
Palo Alto, California

From cover to cover

I want to compliment you on the overall nice layout of *MEASURE* magazine. I do believe this is the first time in my 18 years with HP that I have read the magazine from cover to cover. I found all the information very interesting.

I hope someday in the near future that the Microwave Instruments Division adopts 10-hour days. I personally would welcome that change.

LOLITA SILICANI
Rohnert Park, California

Unfair comparison

The back-cover story in the January-February *MEASURE* was interesting and heart-warming, but in my view, the comparison between Albania and Bangladesh was both unfortunate and inaccurate. Though it may not have been intended, it was demeaning to the true nature and condition in Bangladesh.

Recently, I had the privilege of hosting the managing director of HP's Test and Measurement distributor in that country—Mr. Pasha Ali, an urbane and U.S.-educated businessman—who renewed my familiarity with that part of the world where I once spent two years. I learned that despite periodic monsoon floods, the country has been achieving substantial growth and development along with political stability. Our increasing sales in Bangladesh seem to confirm that observation.

Though Bangladesh has its problems, as do all countries, it also has its share of charm and beauty. Every country has its good and bad features, but it is simply unfair to compare one with another.

SY CORENSON
Palo Alto, California

Please send mail

Do you have comments about something you've read in *MEASURE?* Send us your thoughts. If we publish your letter, you'll receive a free *MEASURE* T-shirt (one size fits most).

Address HP Desk letters to Jay Coleman; by company mail to Jay Coleman, Building 20/BR, Palo Alto. Via regular postal service the address is *MEASURE*, P.O. Box 10301, Palo Alto, CA 94304-1181 USA. The fax number is (415) 857-7290. Please limit your letter to about 150 words, sign your name and give your location. We reserve the right to edit letters.

LETTER FROM LEW PLATT

The HP way isn't dead, says HP's president and CEO, but it needs renewed emphasis to recapture the special feeling about HP.

(While Lew's letter was adapted from his presentation at the annual HP General Managers' meeting in January, it's an important one for all HP employees.—Editor)

DENNIS AHERN

President and CEO Lew Platt meets with employees at HP's Boise, Idaho, site in January. Lew's message: People will work more effectively when HP reaffirms the HP way.

There is a very troublesome trend in HP now, and that is the increasing number of people who think that the HP way is either dead or irrelevant.

I've had a large number of conversations and communications from HP people around the world who are questioning the HP way. They seem to take this transition in management from John Young to myself as an opportunity to re-express either their concern about the loss of the HP way or their feelings that it just doesn't matter anymore. And I've had an opportunity to actually sit down and have very long discussions with some of these people—very painful discussions in some cases.

There was a particular individual in San Diego who wrote me a note after my profit-sharing message and said, "I'm sick and tired of hearing this b.s. about the HP way. It's no longer relevant. I liked your profit-sharing message, but when you mentioned the HP way, it turned me off."

Well, I decided to give him a call. We talked on the phone for the better part of an hour. And I found an individual who was absolutely convinced that the HP way is something that left this company when Bill Hewlett and Dave Packard left, and that there is no relevance whatsoever in the HP way today.

I was really troubled by that. Well, I'm going to remind you of a few things that I hope will encourage you to think more about the HP way.

First, let's look at our employee survey results. You know, they are really not getting any better, and we've been talking a couple of years about how to turn around employee-survey results. I happen to think this is probably one of the most troublesome things in our company today because the view of HP as a good place to work has been a key differentiator in our ability to attract and maintain our talented work force.

I've thought a lot about why people are having difficulty with the HP way all of a sudden. And I see two possible reasons that there are so many questions about it:

First, I think a lot of our people are having trouble distinguishing between core HP values and practices. When I talk to people about the HP way, they often point to some practice that's changed. Coffee and doughnuts have gone away. "Gee, we do VSI (voluntary-severance incentives); we didn't used to do VSI in the old days. We ask people to move. We never had to do that in the past." These are the examples that people offer for why the HP way is no longer relevant.

I remind you of what the HP way is all about. This is the definition of the HP way that I like: It simply means that we believe in people, and we believe people want to do a good job. It's still the best definition I've ever

found of the HP way. It doesn't say anything about coffee and doughnuts. It doesn't say anything about never having a VSI. It talks to a core belief.

And I want to tell you that, as I visit other companies, I think HP is differentiated by this kind of thinking. I visit many companies where the top management of the company clearly doesn't share this belief with us. They think the employees are going to rip them off any time they give them a chance. You know the companies that I'm talking about as well as I do. Our thinking about employees is a differentiator. So, I think we need to reaffirm it.

I think managers need to think very hard about what we are doing to live the HP way...

Secondly, and even more importantly, I think managers need to think very hard about what we are doing to *live* the HP way, because people are going to look at whether we're living it and not just talking about it. It's the way we express it to others through our actions that is important.

I intend to hold my managers, that is, the people who work directly for me, accountable for embodying these values in their actions. And I'd like them to continue to hold group and division general managers accountable when they review their performance. And I'd like to be held accountable, too. So, I'd like to hear directly from you if I or any member of my management team is not living up to the HP values.

I think we still have a lot of room to grow in our coaching of you, the general managers. I'm going to make a big deal out of that with my management team. I promise to work on it and will be looking for some feedback from G.M.s. I think we must re-emphasize, renew and reaffirm the HP way today. It just plain makes sense. We've had a very high-level, general managers' task force invest lots of energy, and they've told us we should do it. I think our people are asking for it.

There's no new magic here. Just a time-tested formula that I think we sometimes forget about called the HP way. And it's acted out in a lot of small ways. Do managers remember to say "thanks" for a job well done? It's an incredibly powerful word. Do they really listen? Are they open to honest feedback? Are the challenges and criticisms that they communicate balanced by an appropriate amount of praise and encouragement?

I think you win the right to criticize by praising people when they've done a good job.

I think you win the right to criticize by praising people when they've done a good job. People look for balance. If you simply criticize, pretty soon people turn off. I have challenged general managers to think about the communication that leaves their desks—written communication, verbal communication, coffee talks they give. Is it balanced? I think somewhere between a third and a half of it should be positive. After all, this company is doing a pretty good job. We ought to be praising our people as well as challenging and criticizing them.

I think if we can take what's special about the HP way and strongly reinforce it, we can make this place even more special. And it's my belief that there's a huge reservoir of energy that's available to all of us if we can recapture the spirit that we used to have.

HP people are working very hard today. But I think we have a lot of people who are working hard and putting in long hours who would work more creatively, work more excitedly, work with a higher degree of energy if we could recapture that very special feeling about HP.

I'm confident that if we do a few relatively simple things, we can achieve excellent results *and* end up with a much more highly energized company where it's a lot more fun to work.

Musically speaking

Not speaking the language wasn't a problem for Donna Yeager and the other members of the five-piece band, "Easy Access," during their recent seven-city tour of Japan. "We could communicate through music," says Donna, the group's vocalist.

The tour was part of the Watoboshi Music Festival celebrating the tenth anniversary of the United Nations Year of the Disabled. All of the bands at the festival featured physically disabled musicians.

The United States and 14 Pacific Rim countries were represented.

Three of the Easy Access band members are HP employees in Mountain View, California. Donna and Hilbert Soares are response-center customer-support coordinators at Worldwide Customer Support Operations (WCSO), and Doug Alp's "day job" is field network engineer out of the Neely sales office. Other members include NASA engineer Bob McMahon and schoolteacher Betsy Riger.

HP's Doug Alp, Donna Yeager and Hilbert Soares pose with their interpreter before one of seven concerts in Japan.

According to Donna, playing to the Japanese crowds of up to 5,000 was "a truly amazing experience."

Tops in Personnel

In January, *Personnel Journal* magazine named HP the winner of its top award for human-resource management—the 1993 Optimas Award for General Excellence—and featured Pete Peterson, HP vice president of Personnel, on its cover.

The magazine gives annual awards for excellence in nine categories. The General Excellence award winner—Levi Strauss in 1992—must meet the standards established in at least six categories. *Personnel Journal* cited HP for its efforts in work-force diversity, and U.S. work and family benefits.

Category winners in 1993 included Bell Helicopter Textron, Steelcase, The Gillette Co., Apple Computer, Philadelphia Electric Co., A. Duda and Sons, Stride Rite, Ruiz Food Products and United Parcel Service of America.

CHARLES FOX

HP's Pat Pekary (right) talks with Karen Gettman from Prentice Hall and Michael Mellin from Random House about HP Press.

Author, author

Hewlett-Packard Press, which has published 12 books and sold more than 42,000 copies worldwide in the past three years, has two new publishing partners.

In January, HP signed exclusive contracts with PTR Prentice Hall and Random House Electronic Publishing to publish high-quality books on HP's technologies and products.

Pat Pekary, editorial director of HP Press, chairs an editorial board drawn from HP Labs, Corvallis Division, HP Germany, Network Printer Division, Personal Computer Software Division, Information Networks Division and Open Systems Software Division.

The publishers provide editorial consultation, copyediting, book design, production and worldwide distribution. They promote and sell HP's books worldwide to major technical conferences, retail bookstores, corporate and government accounts and the dealer channel.

Both publishers offer HP employees a 50 percent discount on HP Press books. Additional discounts are available on quantity orders for training and customer premiums.

Functional managers sponsor each book, and authors receive competitive book royalties.

For more information on HP Press, book-proposal guidelines, a list of published books or order information, send an HP Desk message to HP Press/HP0000/81.

BOTTOM LINE

Hewlett-Packard reported an 18 percent increase in net revenue and a 24 percent increase in orders in the first quarter of its 1993 fiscal year ended January 31. Net earnings were down 13 percent from a strong year-ago quarter. (The comparison is before the effect of last year's one-time after-tax charge due to adoption of a new accounting standard related to retiree medical benefits.)

Net revenue totaled $4.6 billion, compared with $3.9 billion in the first quarter of FY92. Orders for the quarter were a record $5.2 billion, compared with $4.2 billion in the year-ago quarter. Net earnings were $261 million or $1.03 per share on some 252 million shares outstanding, compared with $302 million or $1.19 per share in the year-ago quarter.

To date, 1,700 employees worldwide have accepted the Voluntary Severance Incentive (VSI) offered last fall, with numbers outside the United States incomplete. In the United States, 1,348 people took VSI.

CHART CHANGES

Within the Computer Systems Organization, two divisions have been dissolved and their programs transferred to other group entities:

- In the Systems Technology Group, the User Interface Technology Division no longer exists.
- The Pinewood Information Systems Division has been dissolved after its transfer from the Software Business Unit to the Systems & Servers Group.

HP and Oki Electric Company are terminating operation of their plant in Aguadilla, Puerto Rico, which manufactures printed-circuit boards.

NEW HATS

Marv Patterson to a newly created role as director, R&D Operations...**Ed Muns** to director, Corporate Engineering...**Bob Walker** to director, Corporate Information Systems.

Jerry Shea to G.M. of the Medical Products Group's Cardiology Business Unit in McMinnville, Oregon...**Chris Christopher** to G.M., Systems Technology Division.

High-tech art

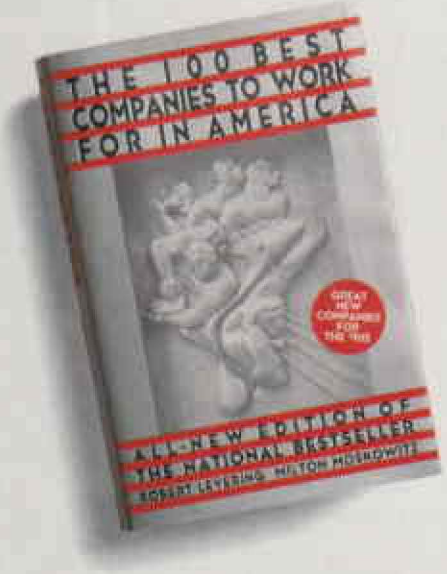
HP software design engineer Danielle Bercel, who works at the Palo Alto, California, site of the Network Test Division, studied music and fine arts in college and found her way to computers through an interest in electronic music. Now, Danielle has found another way to combine science and art by creating beautiful, colorful computer graphics images of shapes called "fractals."

In simple terms, a fractal is something that doesn't get simpler when you magnify it. Usually, the same design element repeats itself at all scales, called "self-similarity."

Danielle's fractal art has been published in a calendar and on greeting cards and shown at a number of exhibitions.

DANIELLE BERCEL

"A Woman Thinking About O'Keefe"—by Danielle Bercel.



HP is one of the best (*MEASURE*, too)

The 1993 version of "The 100 Best Companies to Work for in America" is on national bookshelves and HP is one of 55 U.S. companies to make both the original list in '84 and the current one.

Authors Milton Moskowitz and Robert Levering ranked companies on pay/benefits, opportunities, job security, pride in work and company, openness/fairness and camaraderie/friendship.

They listed HP's pay and benefits program as one of the country's 10 best, and named *MEASURE* as one of the nation's seven best employee publications.

HP co-founder Bill Hewlett (right) greets Dr. Song Jian (left) during the PRC executive's visit to HP in December. Alan Bickell and Lew Platt also participated in the day-long visit.

Opening the door to understanding

In December, HP executives explained company technology and directions to one of the highest-ranking Peoples Republic of China (PRC) officials ever to visit HP when Dr. Song Jian spent a day in Palo Alto, California.

Dr. Song holds the cabinet-level position of state councillor and chairman of the PRC State Science and Technology Commission. He visited HP along with officials from the PRC and the PRC consulate in San Francisco.

The day included an overview of HP Labs projects, a tour of an information-technology center and a briefing at the Scientific Instruments Division.

Co-founder Bill Hewlett welcomed the Chinese dignitaries, as did Lew Platt, HP president and CEO, and Alan Bickell, senior vice president and managing director of Geographic Operations.

GEOGRAPHIC OPERATIONS

All HP field operations in the Western Hemisphere are slated to become part of a new **Americas Operations** within Geographic Operations, expected to be in place by May 1.

Americas Operations will comprise the present North American Field Operations (NAFO) and the Latin America Region of Intercontinental Operations.

Intercon then will cease to exist; its Asia Pacific activities will emerge as one of HP's three major geographic organizations (along with the Americas and Europe).

George Cobbe to G.M. of NAFO and head of the successor Americas Operations, replacing **George Glenday,** who retires in April...**Dan Branda** to G.M. of HP Canada...**Andre Breukels** to personnel manager for Americas Operations.

Heinz Fischer succeeds Andre as personnel manager for Europe/Middle East/Africa Operations.

Dick Warmington to head a newly formed Corporate Marketing and International Services organization within Geographic Operations.

CHANGES IN EUROPE

Eberhard Knoblauch, managing director of the German Region, will retire from the company in April. Succeeding him will be **Menno Harms.**

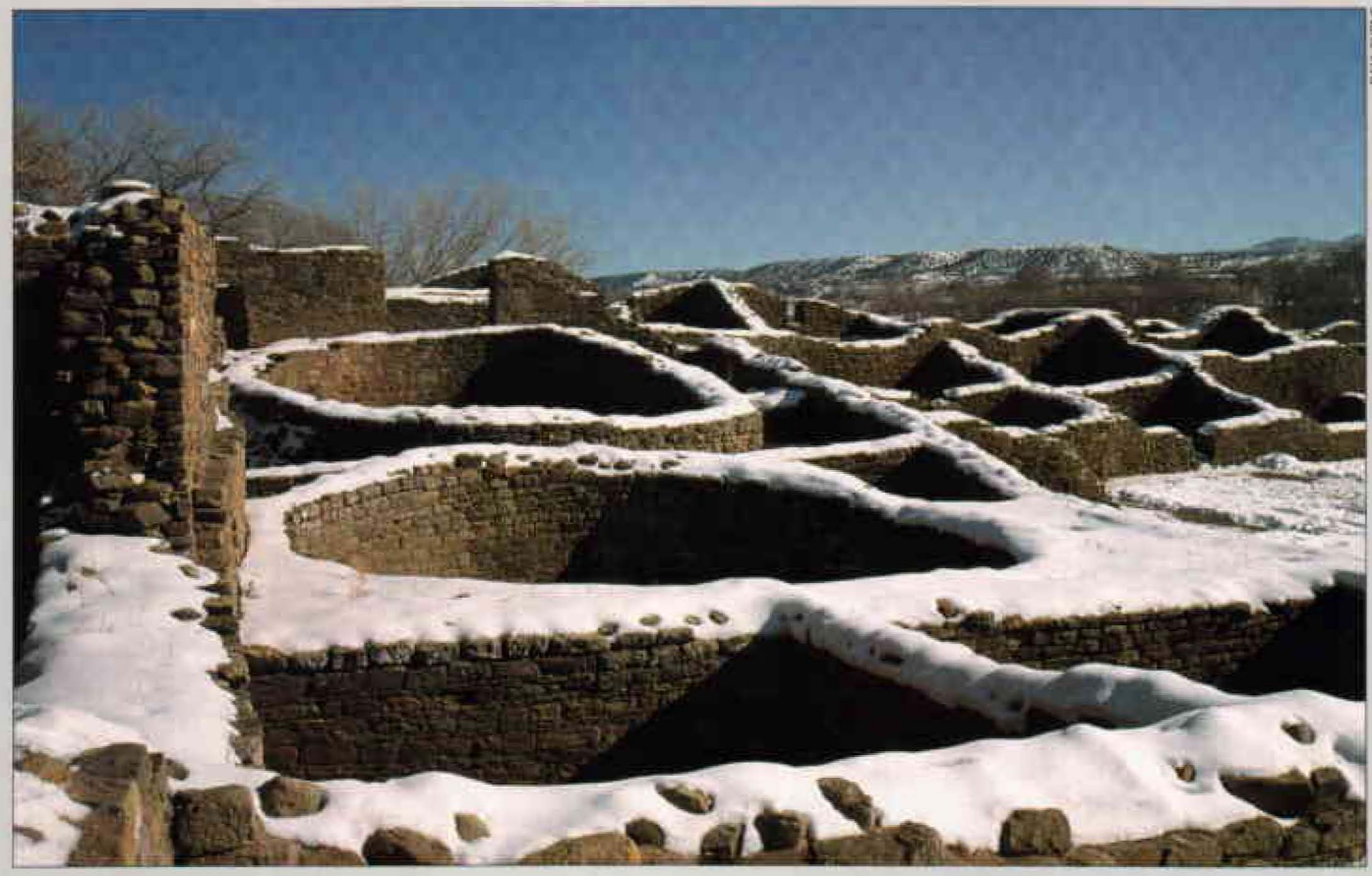
Laszlo Szegedi will replace Harms as G.M. of Medical Products Group-Europe.

CSO SALES/ MARKETING

Franz Nawratil, V.P. and manager of the Computer Systems Organization's Worldwide Sales and Marketing, returned to Europe in March to head CSO sales and marketing in Europe/Middle East/Africa Operations.

In a realignment of the function worldwide, Nawratil will not be replaced. He and his counterparts—**Manuel Diaz,** Americas, and **Rick Justice,** Asia Pacific—all report directly to **Wim Roelandts,** V.P. and G.M.-CSO.

PARTING SHOT



PAUL BURNS

Voices from the past

It's so quiet you can almost hear the voices of the Anasazi echoing off the adobe walls.

For Paul Burns, the winter trip to Aztec Ruins National Monument in New Mexico bordered on a journey into the remnants of a lost civilization.

"I visited there right after a snowfall," says Paul, a software development engineer for the Software Technology Division in Fort Collins, Colorado. "There was an eerie silence within the walls of the two round kivas, which were used for religious and other events."

Paul used Kodachrome 64 film and made the exposure by metering off objects unobscured by the snow. His camera was a Minolta Maxxum 7000 and he shot the image with a 35- to 70-millimeter lens.

MOVED LATELY? CHANGE OF ADDRESS SHOULD BE REPORTED TO YOUR PERSONNEL DEPARTMENT.

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