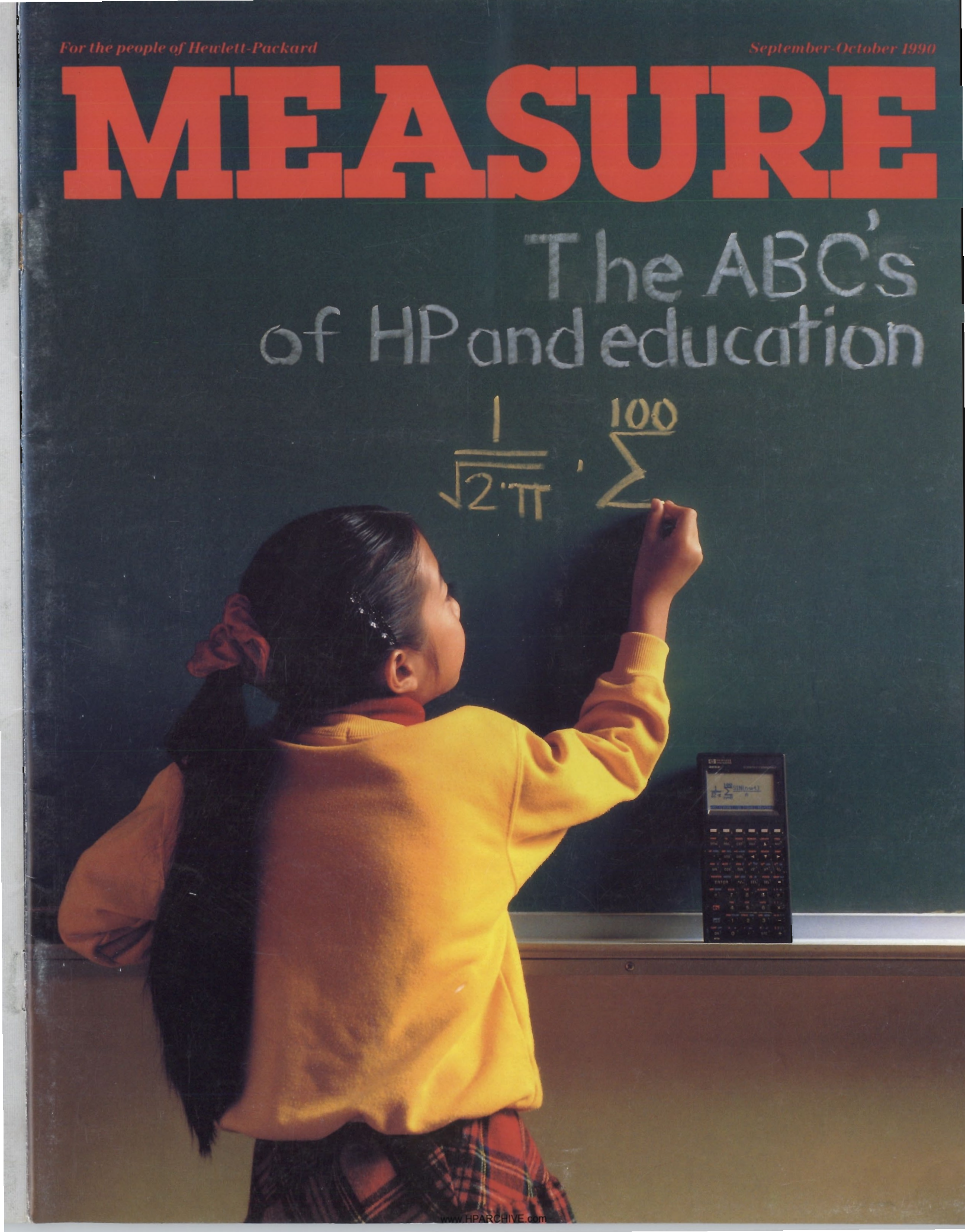
For the people of Hewlett-Packard *September-October 1990*

MEASURE

The ABC's of HP and education



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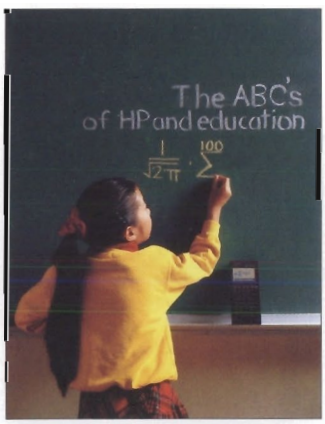

On the cover: Popular for classroom use are HP's scientific models of handheld calculators HP 48SX (shown here) and HP 28S, which can perform symbolic algebra and calculus functions. By ordering 30, teachers can get a device to project a calculator's display on an overhead screen. Photo by Tom Lea

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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. The company's products and services are used in industry, business, engineering, science, medicine and education in approximately 100 countries. HP employs more than 92,000 people worldwide and had revenue of $11.9 billion in its 1989 fiscal year.

RENEE LYNN

Three Bay Area HP divisions jointly received "BEST of the B.E.S.T." for inspiring Fremont High students in business, math and science. Harry Bettencourt, principal at the Sunnyvale, California, school, discusses the partnership program with HP's Bess Stephens.

The ABCs of HP and education

It's almost impossible to think about Hewlett-Packard without thinking about education.

Indeed, it was Stanford University engineering dean Dr. Fred Terman who urged Bill Hewlett and Dave Packard not only to go into business together, but to locate it near the university.

"I (came) to the conclusion that there were important advantages in locating high-technology industries near a university ... that we could benefit each other in a variety of ways," he wrote. "In this, the Hewlett-Packard Company was my model."

Since those first days, HP and education have been inseparable in dozens of ways: scholarships for employees' children; millions of dollars in equipment and cash donations to schools; volunteer efforts in classrooms and on school boards; summer internships for university students; cooperative HP-university research projects; and a variety of other HP-supported programs.

In the past year, HP has increased its emphasis on education with two new key jobs: Bess Stephens was hired as K-12 (kindergarten through high school) education manager, and Bob Ritchie was named director of university affairs.

The next eight pages feature some of HP's newest and most innovative educational efforts. There's the employee who spent half of his time as a loaned executive to a local school board; the model K-12 program in Fort Collins, Colorado; HP's comprehensive university-affairs program; and examples of educational involvement throughout the HP world.

These are only a few of the thousands of examples of HP's commitment to education. It began with Bill and Dave a half-century ago, and it endures today.

An inside look at education

By Gregg Piburn

I once rode (sort of) a bull in a rodeo. I learned more about the vagaries of bull riding in those three seconds than if I had read three volumes about it.

For the last two years, I have ridden the ups and downs of the Loveland, Colorado, public schools, spending half my work life on K-12 matters.

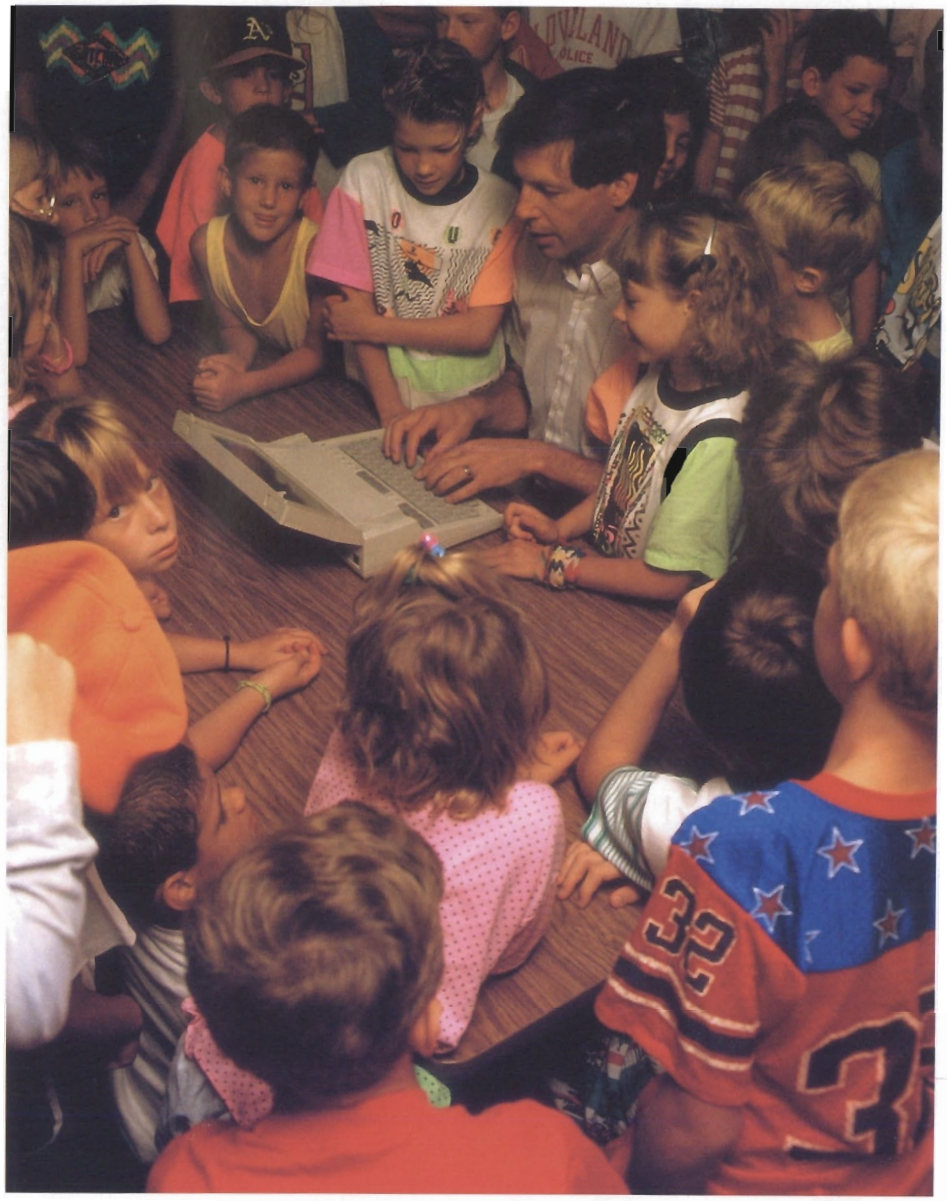
I have been surrounded by 40 second-graders fighting to see what their stories look like on my HP portable computer. I have seen angry parents verbally abuse an administrator for busing decisions. I have watched 54 peers and citizens at a workshop applaud an astounded teacher for her 32 years of service. I have watched tears form in the eyes of a mother-turned-campaign-chairperson on the dreadful night of a bond-issue defeat.

Taking an active role in school/business partnerships, bond-issue campaigns, classroom discussions, teacher workshops and administrative decisions, my picture of schools is now sharper. Walking in another's moccasins really is effective.

But why these particular moccasins? Although the Thompson School District is above average based on standardized test results, educators admitted they needed to better understand the world of work to ensure relevant instruction.

> ***...local businesses and schools were "two great ships passing in the night."***

At the same time, local support of schools seemed to be dwindling—editorial-page letters in the *Loveland Reporter-Herald* revealed mistrust of administration, and in 1987, for the first time, Loveland voters denied a mill-levy increase.



MICK WEBSTER

Grade-school students engulf HP Loveland's Gregg Piburn to see their stories on an HP computer. Gregg spent the past two years working half time for the local school district.

"We are good educators," Superintendent Jack Hale told me two years ago, "but we need to improve our communication and public-relations skills." Unfortunately, a public-information position was sliced during budget cuts.

A major part of my job as HP Loveland's public-relations manager is community relations. In that role, I interviewed local citizens two years ago to find out Loveland's key issues. Not surprisingly, maintaining quality education was on everyone's mind.

One of my "customer interviews" was with "Wild" Bill Murphy, a high-school counselor whose two main characteristics are blind optimism and a sense of humor. In a rare serious moment, Bill noted that local businesses and schools were "two great ships passing in the night." Pondering his words, I decided to mix metaphors and "take the bull by the horns."

I proposed to HP management that I spend half my time on that other ship—education. They approved the half-time loaned-executive position, and I set out to help bridge the gap between those distinct factions and to help district communications.

One of the results was the creation of a school/business partnership program called Bridges, which matches

local business people with teachers for a school year. The first year we had 12 partnerships (representing 12 businesses and five schools). In 1990-91, we have 24 partnerships lined up.

We sought only creative and motivated people to design the program and be partners. Bridges teachers learn about business issues while their partners learn more about education through activities with students, especially those who are "at risk" of educational or social failure.

A major component of Bridges is both partners are viewed as equally competent professionals. Business partners know they are not the know-all rescuers of education. Statements such as, "Hrumph, if you simply follow the HP (or Kodak or US WEST) way, we can get you out of this educational mess," don't build bridges.

> ***We sought only creative and motivated people to design the program and be partners.***

Partners also are encouraged to be creative and have fun.

Not everything has been fun during my educational stint. I was the campaign communications manager in two bond elections in 1989. Voters defeated the issue in February, but passed it eight months later.

What made the campaigns most challenging was a politically astute anti-tax group that liked taking pot-shots at big business, among others. Breaking from tradition, HP Loveland publicly supported both bond issues, believing passage was necessary to ensure safe and adequate buildings.

HP learned it is important to be judicious and honest in explaining the positions it takes. Campaign literature and presentations inside HP should be neutral, while employees are encouraged to vote as they see fit.

Here are a few more lessons I've learned from my school experiences:

■ Teachers are the key group to work with. Don't forget, as so often happens, to involve them from the start in community and educational projects. Stress that you need them for their creativity and competency.

■ Realize administrators have good reason to be a tad gun-shy. Virtually every decision they make will enrage at least 40 percent of the population. A decision on software application doesn't fire up the internal juices nearly as much as how or if you bus my kid to school.

■ HP can and should be a leader in improving local education. But the company should work shoulder to shoulder with educators and other interested people. HP doesn't have all the answers and resources to ensure educational excellence.

■ Almost everyone wants to help schools. Find niches for them.

■ Educators are not the problem. Many factors have made the U.S. a "nation at risk" because of inadequately prepared dropouts and graduates. When I eat lunch occasionally at school with my daughters and their classmates, I invariably have one or two girls I've never met cling to me and call me "daddy" before I leave. Divorce or drugs or contemplation of suicide can make algebra seem puzzling or pointless, or both.

I'm glad people more intelligent than I am are looking at education's big picture—struggling with issues of restructuring, curriculum and technology. As for me, I am drawn to the chalk dust, the second-graders' elan, the laughter and the tears of everyday schooling in my own town. ■

(Gregg Piburn, public-relations manager for HP's Loveland, Colorado, site, last wrote for Measure *about the Finance and Remarketing Division in the November-December 1988 issue.—Editor)*

A helping hand

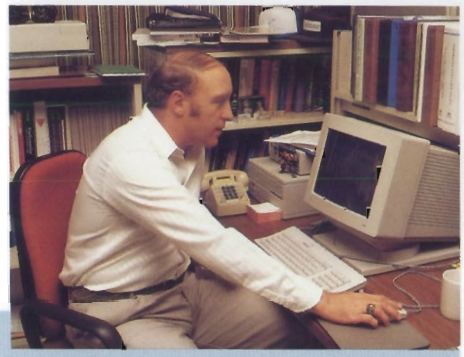
The state of Colorado is rich in its support of education and HP's Greeley site leads the way in vocational-technical training.

In May, the National Council on Vocational Education gave Greeley its Exemplary Business or Labor Involvement Award.

The HP site helps fund and equip a computer lab at the local community college. Engineer John Redman heads a Greeley project which provides equipment for a video program which teaches science concepts to students as young as fourth-graders.

HP engineers also train science teachers on computers as part of a Saturday High Tech Syllabus program which carries college credit.

"Hewlett-Packard is an exemplary business that has demonstrated the true spirit of cooperation with education," the vocational council says of Greeley programs.



MICK WEBSTER

John Redman engineers Greeley's education program.

Building a model program

By John Monahan

When the HP Fort Collins, Colorado, site received the National Creative Educational Partnership Award in February, it confirmed Bess Stephens' observation that the Fort Collins K-12 program is a model for the company.

Bess, HP's K-12 education relations manager, visited Fort Collins in 1989 after the site was named the Governor's School Volunteer of the Year for businesses.

Here are a few of the program's highlights that impressed her:

The voluntary Visiting Scientist program started in 1983 when a handful of employees—most of them parents—saw a need for enhanced science and math courses in the local schools.

Now more than 50 Visiting Scientists from HP work directly with teachers and students at all levels in nearly all 31 schools in the Fort Collins area.

"It's a chance to do technical work outside the job," says Russ Herrell,

> ***"...we show the schools that HP cares about math and science."***

head of the Visiting Scientist steering committee. "We're role models for students as well as our own kids, and we show the schools that HP cares about math and science."

In November 1988, HP Fort Collins successfully led a group of local corporations in publicly backing a mill-levy increase for the Fort Collins schools and opposing a statewide tax amendment that would have limited K-12 and higher-education funding. It was the first time any Colorado HP entity had become involved in local political decisions and it sharpened HP Fort Collins' commitment to K-12 education.

TIM O'HARA

HP Fort Collins' John Monahan (left) and General Manager Art Darbie (right) field questions during Wil Huett's (rear) morning radio talk show on station KCOL.

The philosophy behind this effort, as set by site General Manager Art Darbie, was "avoid the white-knight syndrome." For this reason, virtually all of HP Fort Collins' efforts in the areas of school restructuring or finances are accomplished in cooperation with other community businesses and organizations, rather than HP's acting as a paladin.

Perhaps the best example of community cooperation is Partnership-Fort Collins. Partnership, which I head, consists of 40 community members, many of whom are local "movers and shakers." Partnership's expressed goal is to effect needed change in the local system, which means the group focuses on several important areas: strategic planning; finances; social issues; community awareness; life and career skills; and teacher-administrator training and conflict resolution.

A statewide business partnership organization formed at the behest of the governor is adopting the HP Fort Collins model.

You can't talk about K-12 support in Fort Collins without including GM Art Darbie. He does not delegate participation, but gets involved in everything from radio talk shows to in-person presentations to lecturing classes.

Then there's Daryl Knoblock, who's been a local school-board member for three years. Daryl acknowledges that the time demands of his board position conflict with the requirements of his HP job. Despite career sacrifices, Daryl says that the rewards of having an impact on a large organization like the school district are worth it.

Next there's Larry Rowland, a peripatetic computer wizard who's in constant demand by teachers for classroom demonstrations; Linda Beardsley, who volunteers her time to the Science Saturday program for minority kids; Tom Loser, who assists

HP VISITING SCIENTIST PROGRAM

with ISTAM, a nascent statewide program for integrating science, math and technology teaching; Will Arduino, who works with a program for contributing used HP supplies; and Jim Brokish, who helps with the Discovery Center children's science museum.

The HP Fort Collins effort relies on several simple principles:

- Direct participation at the top;
- Involving as many people as possible and allowing them to use and develop their special skills;
- Broad community partnerships;
- And innovation when needed and risk when required.

Philanthropy dollars fuel many of the programs.

As Bess Stephens says, "Having visited 95 percent of the Western HP sites, I consider Fort Collins to have a model K-12 support program. The national recognition Fort Collins received further confirms this."

At times, K-12 support seems like an impossible mission. And it would be impossible, if it weren't absolutely necessary. ■

(John Monahan is the public-relations manager for HP's Fort Collins, Colorado, site. His last Measure *article was an ExtraOrdinary Person story on Binh Rybacki in the May-June 1986 issue.—Editor)*

Education wave sweeps Colorado

It seems that the entire state of Colorado is riding the educational wave and HP is at the helm.

In January, for example, the Business Roundtable named HP as the lead company to work with Governor Roy Romer in providing business support for K-12 educational activities statewide.

The program grew out of the historic 1989 President's Education Summit—only the third time in history when a president has convened the nation's governors.

U.S. President George Bush declared to state governors that "the time has come, for the first time in U.S. history, to establish clear, national performance goals that will make us internationally competitive" by the year 2000.

HP President and CEO John Young and other CEOs, including Stephen Wolf of United Airlines, will work with other businesses in Colorado to help translate the national education goals into a state action plan. President Bush's goals for the year 2000 include:

- All U.S. children will start school ready to learn.
- At least 90 percent of students will graduate from high school.
- U.S. students will be first in the world in science and mathematics achievement.
- Every adult American will be literate and possess the knowledge and skills necessary to compete in a global economy.

While the statewide Business Roundtable program is new, activities under way at HP's locations in Colorado include these in Colorado Springs:

- A summer enrichment program gives 12- to 14-year-olds extracurricular experience in science. HP loaned computers, instruments and other materials, and employees served as mentors for students.
- An executive K-12 committee serves as an advisory board to the site's three general managers. The committee addresses critical issues facing industry and education, and tries to increase parent and educator understanding of industry careers in math and science.
- A student-targeted class on how to use the HP 32S calculator. HP anticipated that about 20 of the 98 invited students who had been awarded calculators as academic prizes would attend the evening training class. However, more than 160 students, parents and administrators packed the room.
- A monthly math and science teachers' seminar hosted by HP where teachers can learn about new products and technologies. ■

Help for kids around the world

Taking a broad view

When the Education Commission of the States (ECS) held its national meeting in Seattle, Washington, in July, HP was a co-sponsor for the first time. Made up of high-level school and state officials, ECS is an increasingly important forum for developing public policy on education—a direction HP supports.

A number of HP's general managers are forging industry-education ties. Scott McClendon has taken the lead in San Diego, California. Doug Carnahan chairs the Idaho Education Project to reform schools throughout that state. Duane Hartley was part of the first Business Education Exchange Day in Sonoma County, California, when executives from both sectors set a 10-year goal of improving local education.

JORGE SAITA

Hearing-impaired teenagers learn computer skills in a pilot program at the Buenos Aires office of HP Argentina, which works with the Deaf Association of Argentina.

Hand in hand

Whether it's called Adopt-a-School or partnering, there's a vibrant feeling in the alliance formed between an HP site and one or more local schools. Mark Anderson, Neely branch business manager in Pleasanton, California, was the sparkplug in 1986 for today's active program of industry support for local schools.

Competition is intense as finalists buzz their answers in HP Singapore's 10th annual Technology Quiz for junior-college students (grades 11 and 12).

In Washington, the Lake Stevens Instrument Division was a founding patron of LINK six years ago. Six Snohomish County school districts each have one or more business partners. The growing number of programs include a resource-skills bank to handle requests for speakers—ranging from someone fluent in American Sign Language to a tax expert. This year LSID awarded a $500 science scholarship to a student.

HP's three sites in Sunnyvale, California, won a "Best of the B.E.S.T." (Business, Education and Students Together) award for their joint partnership with a local high school. Among the HP programs: academic/service excellence awards, a joint advisory board, and providing excess equipment. The Cupertino site nearby provides administrative training to its local high-school district staff.

HP Ottawa in Canada has signed a formal partnership agreement with a local secondary school. It includes three-month jobs for students at HP and coaching for job interviews.

The Bristol, England, site recently formed an Information Technology program for 10 local high schools—and made a five-year commitment to it. Each gets HP hardware backed up by regular consulting, training and support from Bristol employees.

Off to a good start

The abbreviations vary, but the intent is the same for a whole host of U.S. programs aimed at getting able young women and minorities to take the right courses early to prepare for scientific careers. Adults from campus and industry, including HP, work together to encourage kids. HP people give hours of time to MESA in the West; DAPCEP in Detroit, Michigan; ESRA Inc. in Western Massachusetts; SMILE in rural Oregon (with many American Indians) and SECME in the South.

In the U.K., Julian Tutty, region human resources manager, is a director of Women in Technology, which encourages young women to enter the information technology field. The Manchester, England, office invites 13-year-old girls to spend time in customer engineering before choosing school courses. The South Queensferry, Scotland, site holds engineering workshops to interest young women in the field.

SUSAN BORDEN

SMILE Club members from eight middle schools met at Oregon State University to share projects. OSU sponsors the program to interest minority students in science.

Kids at risk

Cecilia Gonzalez, an engineer at the Software Replication/Distribution Operation (SRDO) in Mountain View, California, represents HP on Project

THE PENINSULA TIMES TRIBUNE/ROBERT ANDRES

A kindergartener in Los Altos, California, learns about relative weights under an HP mini-grant. K-12 teachers receive up to $1,500 to use for enriched math and science instruction.

Cause. Local leaders work with the high-school district board to get at the root causes for school dropouts. When "at-risk" kids come to SRDO to "shadow" an employee at work, they meet people in a variety of jobs. They always ask, "What's the pay? What education do you need?"

A few miles away in San Jose, Myra Kelley is starting her third year as HP's full-time liaison to the East Side Academies, which provide 200 "at-risk" high-schoolers with an integrated curriculum of math, science, electronics and English. Many HP people serve as mentors in the program.

As part of their support for two local orphanages, HP Taiwan employees recently took 94 orphans to visit the intriguing Information Science & Technology Exhibition Center in Taipei. HP Singapore and its employees have "adopted" five disadvantaged children and donated cash and supplies (such as desks, shoes and bedding) to charities serving young students.

Chemistry close up

What's a chemical? What's a solution? What's toxic waste?

To help 7th- and 8th-graders understand the basic principles of a world made up of chemicals, the Lawrence Hall of Science at the University of California at Berkeley has put together teaching modules that provide hands-on learning about chemistry.

HP is one of the supporters of CEPUP (Chemical Education for Public Understanding Program) and Glenn Affleck of the Scientific Instruments Division (SID) is a longtime board member. Many schools throughout the western U.S. now use CEPUP materials, and Waltham, Massachusetts, has joined in.

Teaching teachers

For a week in July, 14 high-school teachers became students at HP sites in Palo Alto, California, to learn about business planning and technology research. "We wanted to expose teachers to the problem-solving skills needed for technical work," said Chuck Untulis of HP Labs, an organizer of the pilot program. Other sponsors were Circuit Technology R&D, SID and Corporate Manufacturing.

When 75 top Canadian educators at all levels attended a weeklong seminar on high-tech in the classroom, they did their final presentations on an HP Vectra PC system. HP Canada has been a sponsor of "The National Institute" for the last two summers.

Included in HP's $2 million in grants this year for K-12 purposes were more than $47,000 in Woodrow Wilson Fellowships for the national High School Teacher Math Institute. (An additional $1 million for K-12 education will be given in 1991.)

The parents' role

For six years HP's San Diego site has used the career-counseling program Choices so successfully in local schools that HP entities in Australia and Southern Colorado have followed suit. It's aimed at young people in the 10th grade, when academic momentum is sometimes lost.

Now the San Diego site is the first client for Parenting for Education, an intensive eight-hour seminar from the US WEST Education Foundation, creator of Choices. It helps parents nourish a child's personal and academic development.

Fanning the flame

When the Southern Sales Region began sponsoring science fairs in 1989, those who presented the HP awards to student winners were amazed at the quality of the projects. Said Bob McCoy of the Huntsville, Alabama, office, who went to his state's science and engineering fair, "I'm confident our future is in good hands."

Boise, Idaho, engineers like Phil Luque make up science problems for an annual K–6 competition. Young teams work against time—perhaps to build a machine which shoots a ping-pong ball through a hoop. Since 1983 Boise R&D engineers have also conducted science experiments in local grade schools, using 25 basic demo kits they've assembled. ■

Strengthening ties with universities

By Jay Coleman

An HP sales rep confidently walks into a university dean's office for a sales meeting.

"We really appreciate that grant from HP," the dean says.

"What grant?" the rep thinks to himself. "Nobody told me about a grant."

"But why has HP dropped our university from its recruiting list?" the dean asks.

Again surprised, the rep responds, "Let me look into that for you."

Although it's fictional, the above scenario was possible until recently when HP named Bob Ritchie its first director of worldwide university affairs. (In 1988, Georges Vallet was named to head HP's European educational program.)

> ***"Annual hiring from universities has been HP's lifeblood for years."***

Bob was a mathematics and computer-science professor, and vice provost at the University of Washington. He holds bachelor's, master's and doctoral degrees in mathematics and is a former vice president of university affairs for Xerox Corporation. He was director of the Computer Systems Center in HP Labs before accepting his new job in March.

Bob's first task is to link and strengthen HP's existing yet separate worldwide university-relations efforts—the six "pillars" which are the foundation of HP's university relations:

Cambridge University, with Britain's largest engineering department, chose HP as its computing supplier because it was impressed with HP's use of computer-aided design.

■ **Research and development.** HP maintains strategic relationships with numerous universities worldwide for future technology transfer.

"A number of technological advances have come out of universities, including the development of UNIX* and X Windows," Bob says. "Our ties to these strategic universities give us access to the latest technology, and we can share some of our latest developments with them."

■ **Recruiting.** "Annual hiring from universities has been HP's lifeblood for years," Bob says, "and we are more committed to university recruiting than many of our competitors. That's difficult, however, when the company enters a period of cost and hiring controls, as we have now."

■ **Marketing.** HP sold more than $500 million of equipment to all educational institutions in fiscal year 1989, and about two-thirds of that total came from universities.

It's a good program for the schools, notes Phil Farley, HP's manager of education marketing, because HP offers aggressive discounts and free hardware and software support.

HP's European and Intercontinental operations have been most successful in selling workstations in targeted academic computing areas while the U.S. has had its greatest success in selling administrative solutions, Phil says. The U.S. sales force is pursuing opportunities to be more competitive in targeted academic areas.

"By creating brand preference for HP products in the minds of educational leaders, it's easier for us to expand into the general market and to attract the best minds for HP," Phil says.

■ **Training.** Bob's efforts on behalf of HP employees for continuing education will support those of Neil Johnston, director of Corporate Education.

"There's a renewed emphasis on expanding the skills of HP employees," Bob says. "Part of my job is to help

HP needs an increased awareness in the university community that it's a good company with good products.

Alfred Moyé (in charge of technical education for Corporate Engineering) and others identify new employee training expertise to supplement our internal trainers and educators."

Grants traditionally have been an excellent way of demonstrating HP's corporate objective for citizenship. They also can influence the company's relationship with universities for sales, recruiting, and research and development, Bob says.

The company is improving its communication between the grants and marketing groups, too, adds marketing education's Phil Farley. The field sales force reviewed all university grants before they were made last year, thus avoiding potential sales conflicts.

A rewarding award

HP recognizes an outstanding young electrical-engineering (EE) educator each year by presenting the Frederick Emmons Terman Award, named for the Stanford University professor who inspired Bill Hewlett and Dave Packard to start their own company.

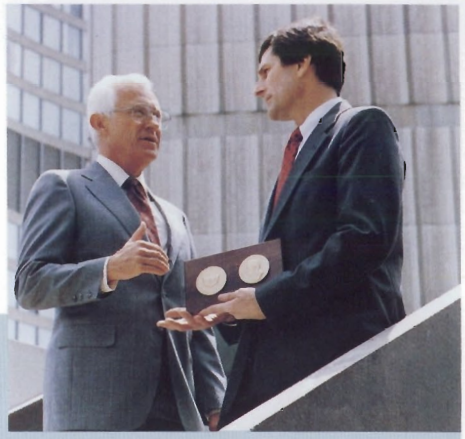
The Terman Award includes $4,000 and an engraved gold medal. The recipient must be 41 or younger and the principal author of an EE textbook published before his or her 36th birthday.

Dr. Jerry D. Gibson, a professor at Texas A&M University, received the 22nd Terman Award in June during the American Society for Engineering Education meeting held in Toronto, Canada.

He was honored for his textbook, *Introduction to Nonparametric Detection with Applications*, and for his contributions to the theory and practice of adaptive-prediction and speech-waveform coding.

"Jerry is an outstanding educator who really knows how to motivate his students," said J.W. Howze, professor and head of the Texas A&M EE department. "That, combined with his achievements in writing and research, makes this award made-to-order for him."

"I'm very proud to be associated with past award recipients, whom I know and respect," Jerry said. "Dr. Terman's writings and philosophies have had an influence on my work, and I'm honored to receive an award in his name."



CHRIS BELL

Bob Ritchie (left), HP's director of university affairs, congratulates 1990 Terman Award winner Dr. Jerry Gibson.

■ **Grants.** According to The Taft Group, a Washington, D.C.-based publisher of fund-raising materials for nonprofit organizations, HP's $65.3 million in educational support in 1989 was the highest amount for all U.S. corporations. More than 125 colleges and universities received HP funds during 1989.

■ **Public affairs.** As HP improves in each of the above areas, the company will have a stronger "mind share," Bob says. HP needs an increased awareness in the university community that it's a good company with good products, he says.

"We operate in an increasingly complex worldwide business environment where consortia, partnerships and standards are vital," Bob explains. "Universities have a great influence on which standards will be followed. We want opinion leaders in universities to think 'Not only is HP a great company, many of the company's business and technology positions are in our best interests.'

"By linking and strengthening all six pillars," Bob says, "HP will have the strongest university program ever." ■

**UNIX is a registered trademark of AT&T in the USA and other countries.*

STACY GEIKEN

Bill Hewlett and Dave Packard (front center) paid tribute to sales reps (from left) Sy Sterling (from today's Midwest Sales Region), Milt Lichtenstein (Eastern), Harold Harris (Midwest), Bo Byers (Southern), Ron Merritt (Neely), Tiny Yewell (Eastern), Frank Waterfall (Midwest), Norm Neely (Neely), Bob Boniface (Neely) and Pete LaHana (Neely).

"...and then there was the time..."

By Michelle McGlocklin

There were plenty of stories, laughs and memories recently when 10 of HP's original sales reps gathered for a long-awaited reunion.

A bit of nostalgia and more than 20 years of shared history brought together 10 of HP's original sales representatives for a "reps' reunion" in May. Bob Boniface, a retired HP executive vice president and a past sales rep himself, orchestrated the Silicon Valley-area get-together.

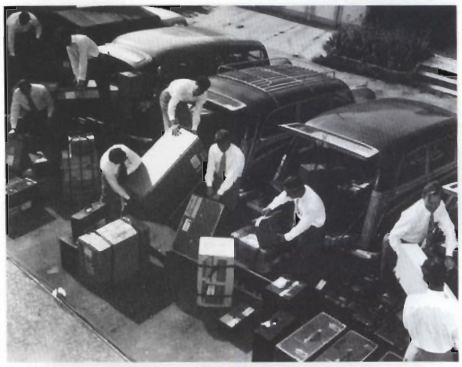
"The reunion was an opportunity for Bill (Hewlett) and Dave (Packard) to renew old friendships and pay homage to the people who were instrumental in getting them started," Bob said.

In HP's early years, the company hired independent rep organizations to sell its products. By 1962, the company had grown so large and complex that it needed its own dedicated sales force. Rather than develop a whole new sales organization, Bill and Dave invited their rep firms to become a part of HP. The acquired firms were consolidated into the four U.S. regions that exist today as the Eastern, Midwest, Southern and Neely (Western) sales regions.

"Bob Boniface had a wonderful idea in getting together the reps of yesteryear," Bill said. "The reps were a very important factor in building the character of HP. They had the great advantage that they took the side of the customer and made the company toe the line."

Reunion attendees included Norm Neely, HP's first independent sales rep and founder of the region which bears his name. Norm first met Bill and Dave through a mutual friend in 1939. At that time, HP sold the 200A audio oscillator—HP's first product—through advertising in technical trade publications. The electronics industry, or "the radio business" as it was called, had just begun to take off, and Norm saw a need for quality equipment at an affordable price (under $100). HP's audio oscillator sold for about $75, so Norm agreed to represent the young company.

Bill and Dave sealed their verbal agreement with Norm on a handshake. This was the only thing binding the two companies until HP acquired Neely Enterprises 22 years later. Norm recollects that at the end of his first meeting with the founders, Dave said to him, "I don't know why you'd want



HP ARCHIVES

HP sales reps in 1952 load their station wagons for an instrument road show.

STACY GEIKEN

Stanford Park's John Minck (third from left) takes HP's first sales reps on a tour. HP had 7,000 employees in the reps' day, and they found today's 92,000 figure "astounding."

to represent us, but if you go along with us, we'll try to make it up to you sometime."

The two-day reps' reunion included tours of HP's various Bay Area sites. Many of the reps were "astounded" by the size of HP today, Bob said. "They left HP when it had a net revenue of $130 million and a little more than 7,000 employees. Imagine their shock to come back to a $12 billion company with 92,000 employees worldwide."

Bill Terry, executive vice president, Measurement Systems, gave an overview of HP today, including how HP manages its worldwide employee base. "The reps really got a kick out of the organization chart," Bob said. "When they were around, there weren't as many layers; the channels of communication went directly from the vice presidents to Bill and Dave."

The reps also saw demonstrations of HP's electronic instruments and toured the Neely sales office in Mountain View. "It was a pleasure to see all of the sharp, aggressive young people," commented Tiny Yewell, founder of Yewell Associates Inc., which became part of HP's Eastern Sales Region. "These are the kind of people that make HP the company it is."

"It was great to see the old timers again," Tiny said. HP sales reps of his day were "a different breed of salesmen," Tiny said, because most of them had engineering degrees. They referred to their major competitors' sales reps (General Electric) as "the people with the great big catalogs" because most of their technical knowledge came from reading the product descriptions to their customers.

> ***"...a company was lucky if it had a new product to show every year."***

When Tiny became an independent rep for HP, the company had fewer than 10 products. As the company grew, it introduced new products once a year at the Institute of Electrical and Electronics Engineers show in New York. Bob remembers that the product life cycle then was so long that "a company was lucky if it had a new product to show every year." Today HP introduces approximately 400 new products a year.

The highlight of the reps' reunion was a dinner in their honor, attended by Bill, Dave, members of the executive committee and senior HP people who worked directly with the reps. Bill and Dave expressed appreciation for the reps, who were instrumental in the company's early years.

"The reps' reunion was an enjoyable opportunity to be with a number of old friends," Dave said. He added that the reps had a major influence in establishing management policies that exist today. "...the success of our company has always been and always will be determined by how effectively we can contribute to the success of our customers." ■

(Michelle McGlocklin, a San Jose State University student, was a 1990 summer intern in HP's Corporate Public Relations department.—Editor)

PRESSE SPORTS/SPORTS ILLUSTRATED

Marino LeJaretta (left) and Greg LeMond go tire-to-tire in the 1990 Tour de France.

It goes in cycles

HP technology and support helps the world's finest men and women cyclists roll to success.

American Greg LeMond may have won the prestigious Tour de France cycling race for the second straight year, but he has a long way to go to top the six-time "champion"—HP.

For the sixth consecutive year, HP France was the official sponsor and supplier of information services, medical instruments and analytical equipment for the three-week race. HP's involvement is part of the company's overall sports-marketing effort.

Nearly 200 cyclists competed in the 2,100-mile (3,470-kilometer) race through France and a corner of Switzerland. An estimated 15 million spectators saw the racers first-hand.

HP's vital role in the event included an innovative satellite hookup which provided minute-by-minute race standings to the media. Another service HP provided was a constantly updated journal of the Tour which people could view on France's national videotext server on the Minitel system.

Several HP 9000 Model 360 workstations formed the heart of the communications network housed in two buses which preceded the racers.

HP's medical equipment was used to test participants for possible heart problems prior to the Tour, and an HP electrocardiograph and defibrillator were on the traveling ambulance.

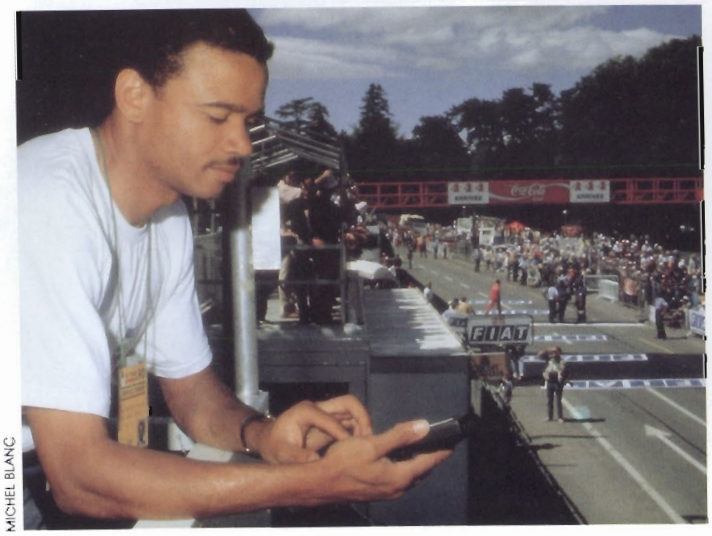
Race directors—the managers who coach the cyclists—used HP 48SX calculators to determine each day's results and team points standings.

More than 1,200 HP customers, partners and employees joined the jubilant spectators along the course. Dealers and customers were part of a special HP VIP section when the Tour passed through Geneva—home of HP's European headquarters. "Bravo HP—You are the first," said *La Tribune de Genève.* ■

PRESSE SPORTS/SPORTS ILLUSTRATED

right

Spectators pour into the streets when the world's fastest cyclists race through dozens of towns in the French countryside.



MICHEL BLANC

above

HP France's Michel Serge checks out race information on an HP 48SX calculator. Michel designed a program which gives race directors fast electrical access to racers' classification and other relevant information. Michel collected the calculators from the 22 race directors each night, loaded updated information and returned them the next day.

MICHEL BLANC

above

Two technology buses housed the communications network for the Tour de France, for which HP has been the electronic data-processing partner the past six years. Michel Papelard, media events manager for HP France who has worked on several tennis, golf and sailing events, says, "...there is nothing more complicated than the Tour de France."

HP keeps Idaho race on track

While the Tour de France attracted the world's best male cyclists, the top women battled it out in Idaho—and HP efforts helped keep that event on track, too.

The 1990 Ore-Ida Women's Challenge Centennial Tour of Idaho was the world's longest—663 miles (1,063 kilometers)—and richest—U.S. $60,000—cycling race for women. In 17 days, 68 riders racing in teams of four climbed 22,318 feet (6,957 meters) throughout the picturesque state.

HP donated the equivalent of $10,000 in equipment and volunteer time for the race, which is sponsored by Boise-based Ore-Ida Foods, Inc. HP's Boise site loaned two HP Vectra personal computers and two HP LaserJet printers to handle race administration. And while dozens of site employees provided race support, two people were key links in the chain that kept the race rolling:

■ Engineer Martin Ackerman, who wrote a software package and who updated all daily race results on the computer, quickly became known as "Captain Keyboard."

Martin's program tabulated cumulative scores of individuals and teams. "Being a part of the race lets me use my technical expertise to help promote one of Idaho's leading events," Martin said.

■ As stage director, Dave Gerhart, HP Boise marketing staff member, worked with state and local police along the race course to provide a police escort for the caravan of cyclists, judges, media, support and medical teams.

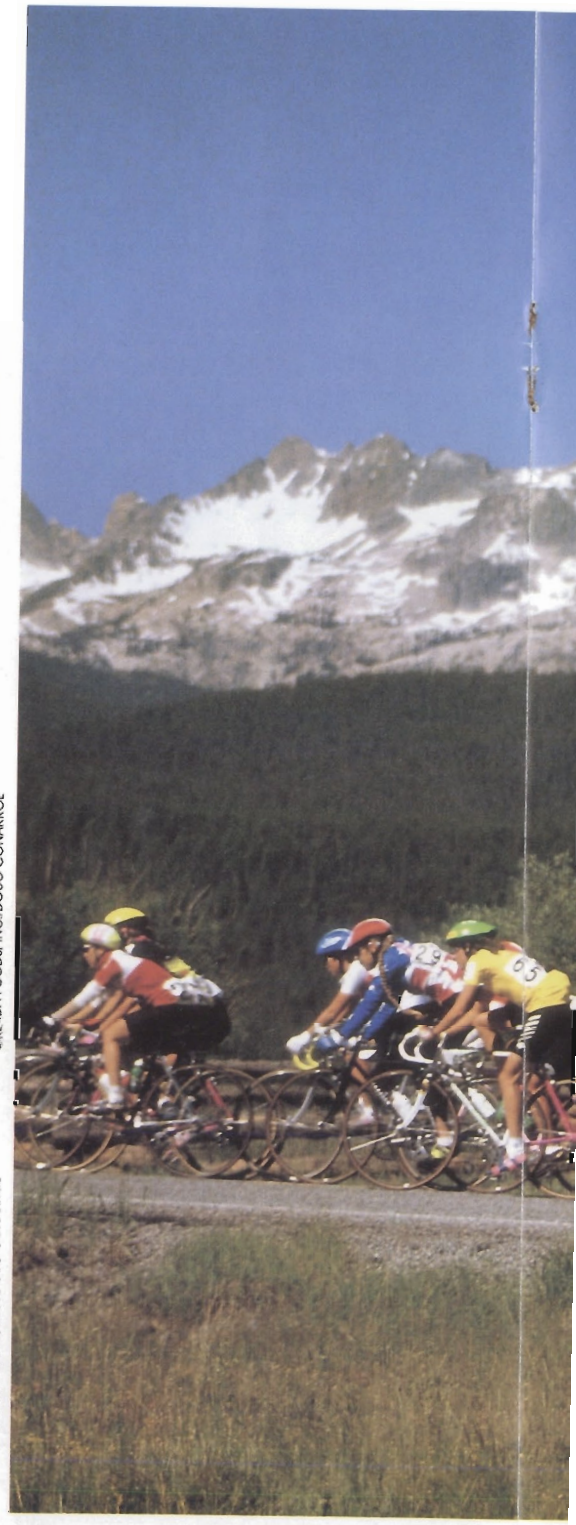
Dave also supervised the sign-in phase before each stage of the race and drove one of the press cars, "right in the thick of the action," he said. ■

ORE-IDA FOODS, INC./DOUG CONARROE

ORE-IDA FOODS, INC./DOUG CONARROE

above (top)

Race stage director Dave Gerhart of HP Boise chats with New Zealand racer Kay Jones at the sign-in table for the 1990 Ore-Ida Women's Challenge Centennial Tour of Idaho.



left

A mechanic traveling with one of the 17 racing teams makes final adjustments on a bike in preparation for the 17-day event.

ORE-IDA FOODS, INC./JOHN PRATT

above

Idaho's Sawtooth Mountains provide a striking background during the Stanley-to-Sun Valley portion of the centennial race.

ORE-IDA FOODS, INC./DOUG CONARROE

ORE-IDA FOODS, INC./DOUG CONARROE

above left

The 68-woman pack stays in tight formation as the racers streak through downtown Boise.

above right

HP's Martin Ackerman, alias "Captain Keyboard," updates daily race results on an HP portable computer.

left

Phyllis Hines from Atlanta, Georgia, wins the 80-mile, Arco-to-Pocatello leg of the 1990 Ore-Ida Women's Challenge.

YOUR TURN

Measure readers share their views on matters of importance with employees.

A real eye-opener

The article on Biosphere II in the July-August issue of *Measure* is really an eye-opener. Before I could never imagine how our diversified products could complement each other in the real world. I guess this application illustrated the point clearly.

As Norberto Alvarez-Romo, Biosphere II's director of cybernetics, put it, "HP was the ideal company for us because it has such a wide range of instrumentation and computing capabilities." And we do!

And to use our technology in such an important environmental project... who knows; HP's machines may have saved the world from destruction.

LINCOLN CHOW
Toronto, Canada

I think if our newspapers would print more articles like yours on Biosphere II (July-August 1990) and the one on the "Ice Island" and put them on the front page of the paper, maybe it would help to increase the desire of our young people to get involved.

There are things like this going on all over the world and we never know about them unless we get some kind of a special publication like *Measure*.

ED BARNETT
(husband of Murell Barnett)
Lake Stevens, Washington

I'm on my phone or away from my desk...

I found your article on voice mail in the July/August issue of *Measure* very interesting. I agree that voice mail, when used properly, can increase HP's productivity. I am, however, very concerned about the concept of voice mail.

Tom Peters in his book, "In Search of Excellence," states that "the excellent companies are a vast network of informal, open communications." Within HP, MBWA is described in similar terms. Voice mail is a closed, one-way communication tool. There is simply no substitute to speaking with a real person.

Might I suggest an additional rule be added to voice-mail etiquette? During normal working hours, voice mail should *not* be used. Departmental back-ups can be arranged for during meetings, vacations, etc. My fear is that our customers (both internal and external) will find us unresponsive. Worse yet, I feel voice mail is sometimes used to screen calls. This is unacceptable.

HP is successful because we talk to each other. Let's not allow a technical innovation to eliminate informal, open communication.

HENRI KOMRIJ
Amstelveen, The Netherlands

E-mail alternative

I am an ardent reader of *Measure* and read from cover to cover.

The reason I am writing is to address my suggestion with regards to the YOUR TURN column. Could we send our messages to the magazine via HP Desk instead of writing through the mail? I find this to be a simpler means of addressing issues at large. Perhaps we will hear from all over the world, including Singapore.

Thanks for the excellent magazine. I am looking forward to the next issue of *Measure*!

NASEER MOHD
Singapore

Measure *always invites responses from readers in the "Please send mail" box at the end of the YOUR TURN section. Responses by HP Desk are the easiest and fastest way to write, if you're on that system. It's also a good way to save paper and to avoid the cost of postage. Send HP Desk messages to Jay Coleman. — Editor*

Please send mail

Do you have comments about something you've read in *Measure*? Send us your thoughts. If your letter is published, you'll receive a free *Measure* T-shirt (large or X-large).

Address HP Desk letters to Jay Coleman; by company mail to *Measure* editor, Corporate Public Relations, Building 20BR, Palo Alto. Via regular postal service the address is *Measure*, P.O. Box 10301, Palo Alto, CA 94303-0890 USA. Try to limit your letter to 150 words. We reserve the right to edit letters. Please sign your name and give your location.

Repetitive motions, such as typing on a computer keyboard and twisting a screwdriver, are the leading cause of occupational illness in the U.S.

A pain in the...

By Donna Jones

Repetitive strain injuries accounted for almost half of all workplace illnesses and injuries in the U.S. last year, and HP is quickly learning more about its causes.

What do medieval monks, meat packers and musicians have in common? They represent groups that throughout history have suffered from repetitive strain injury (RSI).

You can't read a newspaper or watch a news show without hearing about it. Stories on RSI have appeared in *USA Today* newspaper, *People* magazine and the "MacNeil/Lehrer News Hour."

Repetitive strain injury is the leading cause of occupational illness, says the U.S. Bureau of Labor Statistics. In 1988, 115,400 cases of RSI were reported nationwide—48 percent of all workplace illnesses.

So, what is RSI, what's HP doing about it and what can employees do to prevent it?

RSI affects the muscles, tendons or nerves and is caused by repetitive exertions of the body over time.

A whole slew of leisure and other activities can lead to RSI, including windsurfing, tennis, needlework and lifting children.

Some occupational activities—such as wielding a meat cleaver, playing a musical instrument or even copying medieval texts by hand—historically have been linked to a high incidence of wrist injury. But some office and factory jobs also require repetitive motion and could, without proper care, contribute to RSI.

If you type at a rate of 40 words per minute on a video-display terminal (VDT), you're performing about 12,000 keystrokes per hour. If the equipment isn't used properly and precautions

aren't taken, it could lead to RSI.

Force, posture and repetition are the main occupational factors that contribute to RSI. Carpal-tunnel syndrome, tendinitis and tenosynovitis are all forms of RSI.

Carpal-tunnel syndrome, a common RSI, involves damage to the nerve that runs through a narrow channel in your wrist—known as the carpal tunnel. The nerve shares the tunnel with eight tendons which, when aggravated, can swell and put pressure on the nerve.

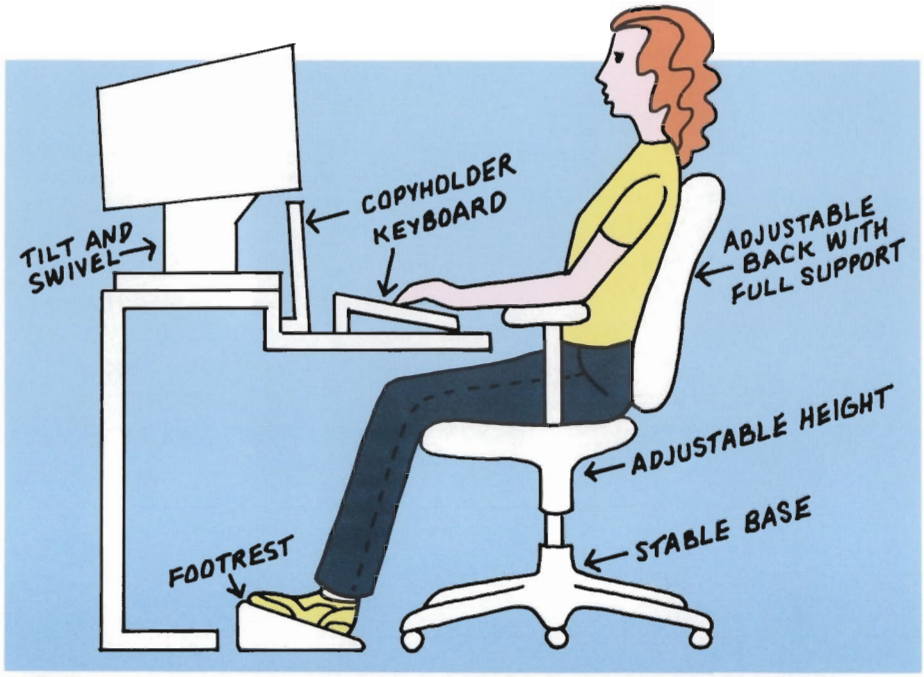
Tendinitis and tenosynovitis are inflammations of the tendon and tendon sheath, respectively.

"RSI was not invented in the 1980s or '90s, but showed up about the time that humans developed hands," says Marv Patterson, Corporate Engineering director. "We only learned to label these recently, resulting in a new awareness of a situation that's probably been here all along."

> ***"RSI was not invented in the 1980s or '90s, but showed up about the time humans developed hands."***

As VDTs and personal computers replaced typewriters, more people began to suffer wrist pain. While pounding away at a typewriter, people must interrupt their keyboard work to insert paper, return the carriage, change ribbon and correct errors. The emergence of VDTs minimized these tasks, meaning people could type for longer periods of time without these interruptions.

"You can have the best-designed equipment in the world, but if it's used incorrectly there are going to be problems," says Wanda Smith, Corporate Human Factors Engineering (HFE) manager.



Following these guidelines should provide a safer work area. Ergonomic experts believe a properly designed work area minimizes the risk of repetitive strain injuries.

Human-factors engineering, or ergonomics, is the study of the capabilities and limitations of people as they relate to products and their environments. In addition to the group in Corporate Engineering, several other human-factors groups exist within HP in the U.S. and in Pinewood, England; Grenoble, France; and Singapore.

"Our primary function is to provide technical advice to product-design teams on how to design products that encourage people to use them properly," Wanda says.

"We have to make sure HP knows the best practices available and gets them installed in our product-development activities as quickly as any of our competitors," Marv adds.

"While we have thousands of internal computer users, there are millions of HP customers, and by focusing on developing products that help avoid RSI, we will help both our customers and employees."

Legislation and ergonomics guidelines are cropping up everywhere. There now exists a European Community ergonomic-requirement directive for the Europe 1992 plan.

The U.S. Occupational Safety and Health Administration (OSHA) soon will release general industry guidelines that will focus on management commitment to reduce ergonomic-related injuries.

Two bills currently in the California legislature address ergonomic issues.

The Hayden and Bates bill would require that all computer VDT and peripheral equipment used in any workplace conform with all applicable

A pain

Preventing RSI

Force, posture and repetition are all factors that contribute to repetitive strain injury (RSI). These recommendations help reduce RSI problems in the office and manufacturing environments:

RSI and VDTs

- Adjust your VDT workstation properly. In general, you should adjust your workstation and chair so that your forearms are parallel to and at the level of your keyboard.
- Rest your feet firmly on the ground or use a footrest to keep knees bent 80–120 degrees.
- Adjust the monitor so the top of the screen is at or below eye level.
- Align your ears, shoulders and hips for an upright posture.
- Keep your fingers and body relaxed.
- Avoid bending your wrists more than 15 degrees up, down, left or right.
- Avoid holding tensed muscles in a fixed position for long periods of time.
- Try not to rest your wrist or elbows on the edge of the table. (This puts pressure on unprotected areas.)
- Alternate work tasks, if possible, to reduce repetitive motions.
- Occasionally stretch the muscles in your hands, arms, neck and back.

RSI and Manufacturing

- Minimize reaching above shoulder height or behind you.
- Use tools designed for a power grip (where hands wrap around the handle) instead of a pinch or squeeze grip.
- Reduce wrist stress by selecting tools designed to eliminate awkward wrist positions.
- Adjust the work surface to the proper height that is comfortable.
- Minimize the amount of manual force required to do a job.
- Consider automating repetitive tasks whenever possible.

The key to RSI prevention is to be aware of your body, and to keep in mind the risk factors listed above.

TOM UPTON

As part of an RSI study at HP, data from the EMG represents activity from the muscle groups in the hand and arm.

design and ergonomic standards adopted by the American National Standards Institute. If passed, this bill would apply to equipment manufactured after 1990.

Also, the Margolin bill would require the State Department of Health Services to establish an occupational ergonomics program.

HP is active with the International Standards Organization, which recently expanded its standards to apply to personal computers and to engineering workstations, scientific instruments, medical products, printers and plotters. Additionally, HP contributed to the California OSHA study to determine the problems associated with RSI and made recommendations.

Internally, HFE is working on two RSI studies. There's an ergonomics task force headed by Cliff Bast, strategic planning manager for Corporate Environmental, Health and Safety (EHS).

Physicians as well as occupational and physical therapists contributed to HP's Santa Clara Valley Medical Center

study. While the study is not complete, HP hopes to develop exercise recommendations, input-device guidelines and a videotape that demonstrates preventative exercises and how to set up a work space.

Many software systems are moving away from keyboards and to alternate-input devices, such as a mouse, puck, graphics tablet pen and touchscreen. The mouse, incidentally, is the second-most commonly used input device to the keyboard. HP is conducting what's believed to be the industry's first alternate-input study using electromyograph (EMG) technology. Results are expected in the next few months.

"I expect to see trends rather than a complete solution," says Kathy Uyeda, human-factors engineer.

This study already has made a breakthrough on RSI research. Kathy, who's spearheading the study, found that EMG technology can measure the ergonomic effects of product designs.

> ***"We also can measure our competitors' products and see how HP stacks up to them."***

"To say we have a quantitative way of evaluating how stressful these devices may be is a proactive way of looking at product design," Kathy says. "We also can measure our competitors' products and see how HP stacks up to them."

The cross-functional ergonomics task force is studying HP's manufacturing and office environments. The task force will present its findings to the EHS steering committee this fall for action.

TOM UPTON

At Corporate Human Factors Engineering's lab in Palo Alto, Kathy Uyeda (left) uses electromyography (EMG) to study the ergonomics of HP product designs.

"Ergonomics is really everybody's responsibility," Wanda says. "Product designers, employers and employees all must be aware of the issues and use the information that's available.

"Information from the office should be taken home because a lot of the activities people do off the job can cause or contribute to RSI," Wanda says.

"Because the problems have multiple causes, fixing them will require multiple solutions," Kathy adds.

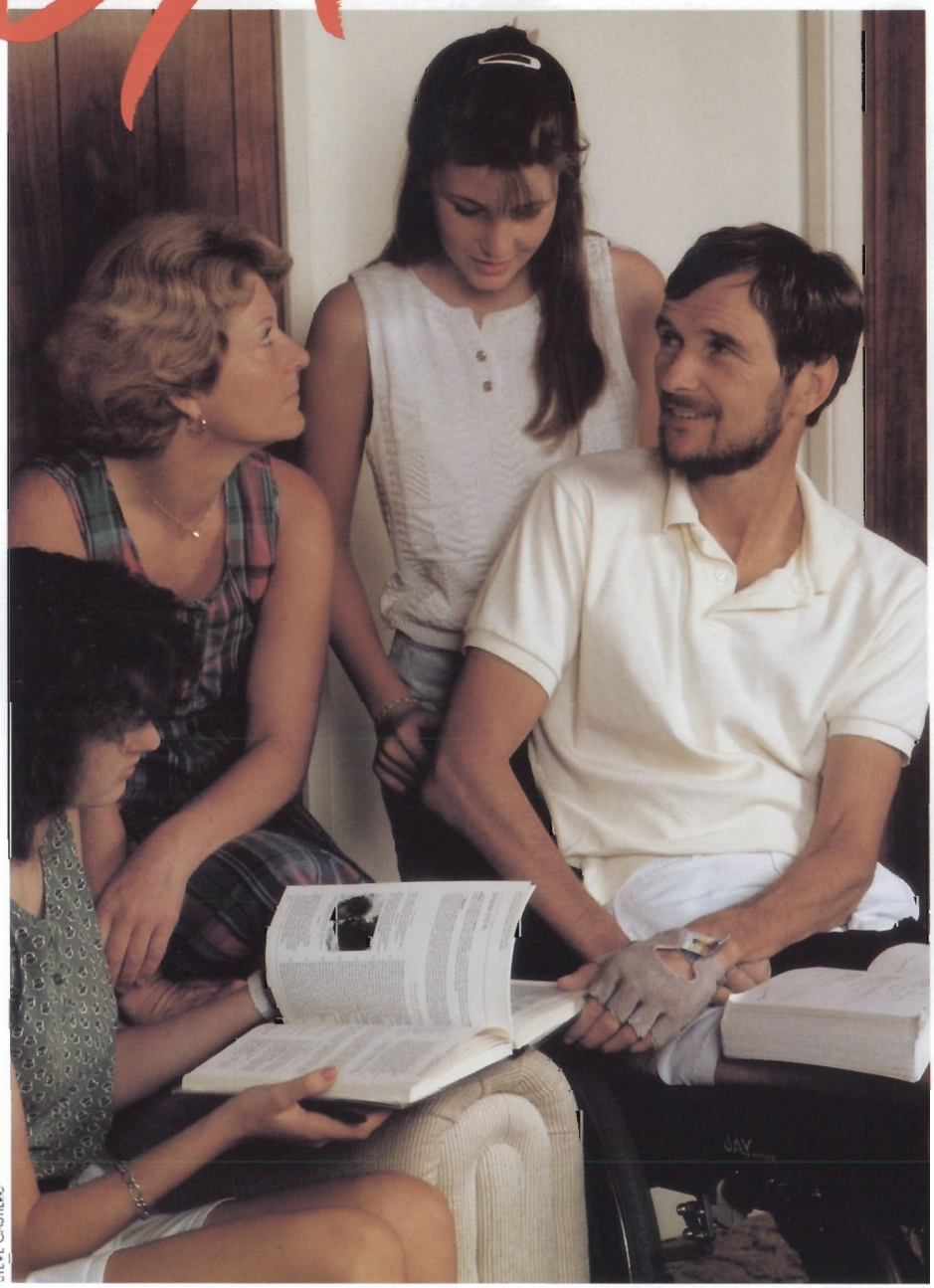
Wanda suggests that people do the following daily:

- Make sure you have the right information and know-how to make proper work-area adjustments. Site health nurses have this information and can suggest exercises and adjustments.
- From time to time do some stretching exercises such as rotating your hand in the opposite direction from its most common use.

"RSI is an extremely difficult area to sort out," Marv says. "We're just learning about the phenomena and are not yet at the point where we can say what the answers are—but we are doing something about it." ■

Extra ORDINARY PEOPLE

By Shirley Gilbert



STEVE CASTILLO

Jean-Francois Porret (right), a quadriplegic since a 1989 paragliding accident, gains strength from his wife, Christiane, and daughters Laurence and Carine.

Jean-François Porret, Frenchman and HP Grenoble employee, is in love with mountains.

He loves everything about them: their heart-stopping silences; the great, sweeping beauty of their lonely expanses; the magnificent views from the highest peaks.

But mainly he loves the personal challenge that mountains present for him—the chance they give you to go beyond what you've ever dreamed you could do.

And he knows mountains very well: as a skier in Grenoble; as a Sunday-afternoon hiker; as a serious mountain climber of peaks in the Alps and the Himalayas.

Now Jean-François reckons he's engaged in the most challenging climb of his life. He's struggling to become independent after an accident that left him a quadriplegic (without the use of his arms and legs). He's struggling, says the Frenchman with a shy smile, to discover his new body, his new self.

But first he had to let go of his old body—the physical, active, outdoorsman's body.

And he remembers the painful moment when that happened.

He was in Seton Hospital, just south of San Francisco, California, recovering from a disastrous paragliding accident and subsequent operation.

Jean-François was watching a TV movie—the one in which James Bond pounds down a Swiss mountainside at 100 miles an hour.

"That night," says Jean-François, his grey eyes far away, "I started seeing myself just as I would do before my accident…I became the skier, I became James Bond racing down the mountain. And it was really too much. I realized I would never do that again."

That's when he broke down. The nurses came and talked to him; all

through the long, painful night he discussed his fears about this new life. He remembers thinking the following day: "I can't continue to live this way. I must move on."

From that time, he has worked hard to forget the old mountain-climbing, skiing, paragliding, kayaking, windsurfing Jean-François. And he's concentrated on the reborn Jean-François in a new body.

He doesn't mind discussing his old life and the accident that changed his direction so dramatically.

The accident occurred soon after he came to work on the Cupertino site in California from the Grenoble site in March 1989. He was on a two-year assignment as quality and productivity software manager for the Computer Systems Group (CSG).

Jean-François is struggling to become independent after his accident.

STEVE CASTILLO

Jean-François meets with team members (from left) Annette Peak, Brian Sakai and Tom Beilman from the Computer Systems Group before returning to Grenoble, France.

Jean-François joined HP in 1973 as a product engineer. He admits to being attracted to HP in Grenoble because of its closeness to the mountains—Mont Blanc is at the doorstep of the site.

After several assignments in R&D, he switched to quality and became product-assurance manager.

Says Alain Cauder, Jean-François' former boss in the Grenoble Networks Division (now GM of the Open Systems Software Division in Cupertino) about his fellow-Frenchman's impact on HP quality: "Jean-François has contributed a lot. But in a low-key fashion. Now everyone talks about Quality Function Deployment." QFD helps a marketing organization get closer to customer needs. He adapted the idea from a Japanese quality program and applied it to the marketing function in the Grenoble Networks Division.

"Jean-François pioneered QFD three years ago," Alain adds. "He's not the kind of person to push his name onto something. He's just happy if the quality improves and that's it."

This reputation won Jean-François the offer to manage CSG's quality software program and the fulfillment of a dream: to live and work in the U.S.

The Frenchman came to California in late February to start his new assignment. His family—wife Christiane and daughters Laurence (16) and Carine (13)—joined him in mid-March.

On Saturday, two weeks later, they took a break from their unpacking to accompany dad to the cliffs south of San Francisco, so the avid sportsman could do some paragliding.

(To paraglide, one uses a square, fabric, ram-air parachute that can fly. The apparatus is launched off a cliff or hill.)

Jean-François started to inflate his parachute, when his brakelines got tangled in some nearby weeds. A strong wind suddenly swept him into the side of a nearby house.

The tremendous impact broke his neck. "It was so terrifying ... so fast," says Jean-François.

His memories are vivid today:

The ambulance. The ride to Seton in a special immobilizing air mattress. The tests. The pain. The frighteningly low blood pressure. The terrible knowledge—told to him soon after the accident—that a piece of his seventh cervical vertebrae had severed his spinal column and that he would n't walk again.

The operation to insert two plates in his spine. His friend and co-worker

Extra ORDINARY PEOPLE

Alain Cauder at his side to help his family understand what the doctors were saying and work through the U.S. medical system. The unswerving, ever-present support of his wife and daughters. And his transfer to the Santa Clara Rehabilitation Center, close to HP's Cupertino site, all served as a dizzying and confusing transition period from his old life to a new one.

The new Jean-François is in a wheelchair. He's paralyzed from the neck down but has use of his wrists. Although his hands have not come back as he hoped, he manages a computer very well with the aid of splints.

After a five-month recuperation, he returned to work part-time, driving to the Cupertino site in a specially outfitted van.

Coming back to work was important to Jean-François. It meant a normal life. "You really only have two choices," he says. "You can stay home—paint or read or whatever—and the system encourages you to do that. Or you can climb back into life, be part of what you know and love again. For me there was only one choice."

> ***"I have 40 more years to discover what this new body will do."***

The frustrating part of Jean-François' new life is his need for help from others. "Not being independent," he adds, "is tough. At the moment, I can't picture myself getting on a plane in San Francisco and going to Chicago on a business trip all on my own. But that's what I'm working toward in my life. I'd like to have that kind of independence."

Jean-François is back in France. After a vacation, he'll work part-time as a productivity manager in the Grenoble Manufacturing Operation. "I'm doing all kinds of things I would never have done. New sports. A new way of working. I have 40 more years to discover what this new body will do.

"To me my life now is like a climb. You can't look at the whole mountain face all at once when you climb. It's too much. You can't take it all in. You can only think of the next step. And the next. Suddenly, you are at the top.

"I'm not there yet," he adds, "but I'm climbing one step at a time."

And once you're at the top, says Jean-François, the whole glorious, shining world is spread before you. ■

(Shirley Gilbert, communications manager at HP's Cupertino, California, site, last contributed to Measure *with an ExtraOrdinary People feature on Earl Norwood of HP Labs.)*

Hours of rigorous rowcycling at a track helped strengthen Jean-François' body. "You can stay home," he says, "... (or) be part of what you know and love again."

Encouraging words

Yvonne Duplantier still shakes her head in wonder when she recalls the outpouring of concern after Jean-François Porret's accident. Yvonne, admin assistant in Cupertino, worked for him at the time.

She sent regular updates on his condition to his 35-person department and a growing list of concerned HP employees on several continents. CSG VP Wim Roelandts, for example, visited Jean-François frequently during his hospital stay. "He literally got hundreds of cards and letters. I was delighted there were so many concerned people out there," Yvonne says.

"Everyone kept telling me," says Jean-François, " 'You will be back.' It was so thoughtful, so beautiful of them to think of me."

LETTER FROM JOHN YOUNG

President John Young writes about HP's heightened interest in education.

RENEE LYNN

Executive Assistant Cindy Williams and HP President John Young take a short break from an itinerary-planning session outside John's office at corporate headquarters.

I'm glad to see *Measure* focus on education ... and do so in such a way as to avoid the pitfalls described by the great 19th century educator Horace Mann. He once quipped that the surest way to disperse any mob was to announce a lecture on education. Mann's correct: Never has there been a subject that affects so many people, yet which engenders so little enthusiasm.

Happily, I think things are changing, and HP's heightened interest in education is a good example. As *Measure* recounts, HP people everywhere are getting involved. I'm very glad to see this happening.

The company's also stepping up its efforts. We've created two functions within Corporate Government Affairs—one for university affairs and the other for elementary and secondary relations. These new roles should enable us to inventory our activities, evaluate their effectiveness, share best practices and formulate a more systematic approach.

I've been following the education issue for a number of years now and have grown increasingly concerned. I think Xerox Corporation Chairman David T. Kearns is an eloquent spokesman. Recently, he described the economic significance of education:

"Education is everyone's business. Because it is the way wealth is created in the modern world. It (wealth) is the product of *applied human intelligence*."

"Applied human intelligence"—that sounds like what we do at HP, doesn't it? We're in the business of commercializing technology ... of understanding customer needs, formulating an idea to meet them, manufacturing a product with excellence, and marketing and distributing it to a broad variety of customers. Most of these activities are mental, not physical. HP runs on brain power. So we depend heavily on the quality of education.

> ***HP runs on brain power. So we depend heavily on the quality of education.***

Much has been said about the shortcomings of the United States' educational system. Conversations with HP people around the world convince me that the U.S. isn't the only place where

there's cause for concern. But certainly, my own native land has been the scene of the greatest problems and the loudest public outcry. So if the issues I list below appear to have kind of a "stateside" bias, please forgive me. Here are some of the problems that need to be addressed:

- Many universities, especially those in the U.S., are suffering from significant declines in government funding for research and facilities, as well as faculty shortages.

- There are no explicit goals for educational achievement. Nor is there any clear accountability for reaching them.

There's not enough emphasis on providing a broad base of technical literacy.

- There's not enough emphasis on providing a broad base of technical literacy. However, several nations in the Asia-Pacific region are emphasizing technical education. I wish other countries would emulate this strategy.

- Consumers of public education have little choice in programs. Local school districts have "monopoly" power that hinders their responsiveness to customers.

- Local decision-making is inhibited by cumbersome and costly administrative structures.

- Especially in the U.S., teacher salaries and status aren't as attractive as other career options. There's no way of recognizing and rewarding top performers. Ongoing career development is haphazard at best.

- There's been little innovation in ways of delivering education. By and large, we're still using one teacher to a classroom of students. It's an assembly-line approach, with little accommodation for differences in interests and skills. (They do "batch" processing, to use a computing analogy.)

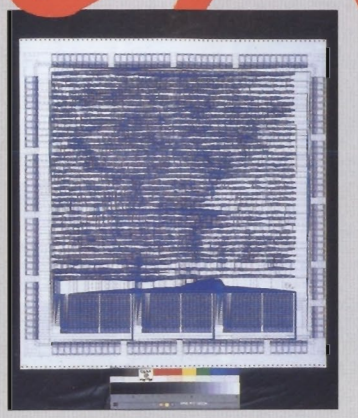
The above represents a healthy set of challenges. I think companies such as HP can help meet them in two basic ways. As a first step, we can provide the people, expertise and products to enrich our neighborhood schools. By getting involved, we can make a contribution and learn more about what needs to be done. We then need to move beyond treating the symptoms to address the fundamental problems.

With the concerted efforts of HP employees and with the collective credibility of the company, we can make a difference.

To take a chapter from TQC, we need to improve the educational process, not just find and fix isolated defects. That may mean wielding our political clout as taxpayers and voters to influence public policy at the local, state and national levels. Or it may mean working with local school districts to understand and implement continuous process improvements. In the future, you may expect to see the company be more active in this arena.

With the concerted efforts of HP employees and with the collective credibility of the company, we can make a difference. And we must. Excellence in education is critical for HP's continued success. I welcome the renewed interest we're seeing today.

Extra MEASURE



Art of the computer age

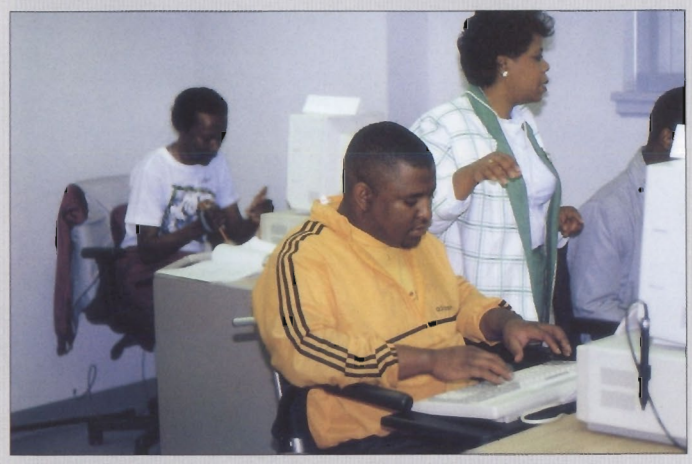
Tiny integrated circuits, about one-third of an inch (.973 cm) square, are too diminutive for The Museum of Modern Art in New York City to mount in an exhibit by themselves.

But the computer-generated drawings of ICs used by engineers to verify circuit design are many times larger—and "powerful and provocative images in their own right," the museum points out.

Both drawings and actual chips are shown in "Information Art: Diagramming Microcircuits" on display through October 30 at the prestigious museum. A national tour will follow.

Included in the show is a CPU chip from an HP 1000 A-series computer done in 1987. It was designed in California by an R&D team from the former Data Systems Division working with the Circuit Technology Group's design center. They used HP's own computers and software, of course, for the project.

Designs from AT&T Bell Labs, DEC, IBM, Intel and Texas Instruments, among others, are in the exhibition.



BRENDA BEATTY

Jacque Hatcher-Thomas (standing) leads a rehab class.

Pilot project to improve skills

HP employees in the Baltimore, Maryland, and Washington, D.C., area have launched a pilot project to train and employ people with spinal-cord injuries.

Working with the National Rehabilitation Hospital (NRH) in Washington, D.C., the HP sales people provide office-automation training facilities and instructors so people with severe physical disabilities can get the skills necessary to enter the job market. The Social Security Administration funds the project.

Joy Brown, HP area support administration manager from Rockville, Maryland, heads the program, with support from Mark Milford, area general manager, and Sean Hickey, area business manager.

COURTESY OF AUSTRALIAN ANTARCTIC DIVISION

An HP 9000 computer keeps Australia's icebreaker on track.

HP mini keeps ship on TRAC

When Australia's first locally built icebreaker sets out to sea, an HP 9000 minicomputer handles the ship's sophisticated data-logging system.

The 3,500-ton Aurora Australis also serves as a research and supply ship in Australia's Antarctic program.

The HP 9000 Model 360 system is part of a $4 million scientific instrumentation hardware and software package called TRAC V. The system links data logging and the ship's supplies information, as well as navigation controls.

Recently the Aurora Australis conducted studies on the location and abundance of krill—shrimp-like animals that are food for whales, fish and birds, and a potential food source for humans.

Extra MEASURE

PAT ECHELSON

JA kids at Stanford Park gross about $40,000 each summer.

Some serious summer business

For 21 kids from several Silicon Valley high schools, this summer provided a hands-on experience.

For the fourth summer, the Stanford Park Division hosted a unique summer version of Junior Achievement. It was a chance to sample a structured business environment while getting mentor support.

For 10 weeks, students do entry-level assembly and soldering each morning—handling overflow from Microwave Technology Division activities on site and other nearby HP entities. Three times a week they break for an hour to get career advice.

The students keep books on their output to determine the profit they'll share after weekly wages have been deducted. It can mean a bonus of $300 or more apiece—and a good answer to the question, "What did you do this summer?"

High marks

Running in the high altitude of Boulder, Colorado, HP's largely Coloradan team in this year's Corporate Cup competition felt right at home. HP came in seventh, a strong showing against some of the largest U.S. companies (General Electric was first, followed by AT&T). HP team captain was John Rohrbaugh.

The thin air may have slowed down some competitors in the 1990 USCAA National Track Championships, but not the HP runners who set a national record in the Decade Mile.

ED LOCK

Sue Colley (shown here in the women's 800-meter team race) helped set a national record.

Representing different age groups, Sally Spillman, Sue Colley (from the Roseville, California site), Rob Bong and Freddy Keil put together a time of 3:51.3 that set a high standard.

INTERCON RESTRUCTURE

For better focus on emerging trading blocs, Intercontinental Operations will evolve to a new structure in January 1991 while retaining its existing regions:

- A new Asia Pacific organization will encompass the Japan, Far East and Australasia regions to better leverage their activities. It will be headed by Vice President **Alan Bickell** in addition to his role as Intercon director. **Rick Justice** will manage a new Asia Pacific Field Operation.
- A new Americas organization under **Walt Sousa,** based in Palo Alto, will support expansion of the growing Canada and Latin America regions.

NEW HATS

Chuck Acken to general manager, Queensferry Telecommunications Division.

In HP Labs, **John Moll** has been named Distinguished Contributor, Technical Staff.

CHART CHANGES

A new Open Systems Software Division has been formed for R&D related to the HP-UX operating system. It reports to both the Computer Products Sector and Networking Systems Sector (NSS). GM is **Alain Couder.**

Within NSS Marketing, the former Industrial Applications Center is now part of a new Manufacturing Industries Marketing Center.

Surface mount, through-hole PC assembly and fab activities at the Andover and Waltham, Massachusetts, sites of the Medical Products Group (MPG) have been consolidated into a new Massachusetts Medical Manufacturing Operation.

GETTING TOGETHER

In August, HP Canada acquired Idacom Electronics Ltd. of Edmonton, Alberta, which makes computer-based protocol-testers. It becomes the Idacom Telecommunications Division within the Communications Test Business Unit of the Microwave and Communications Group.

HP has transferred its Tempest operations and technology to Hughes Aircraft, which will now modify a number of HP computer products to meet U.S. military standards to prevent unauthorized tapping.

Three cheers for HP

A team of production workers at the Greeley (Colorado) Storage Division recently told the customer he was wrong—and the customer has never been happier.

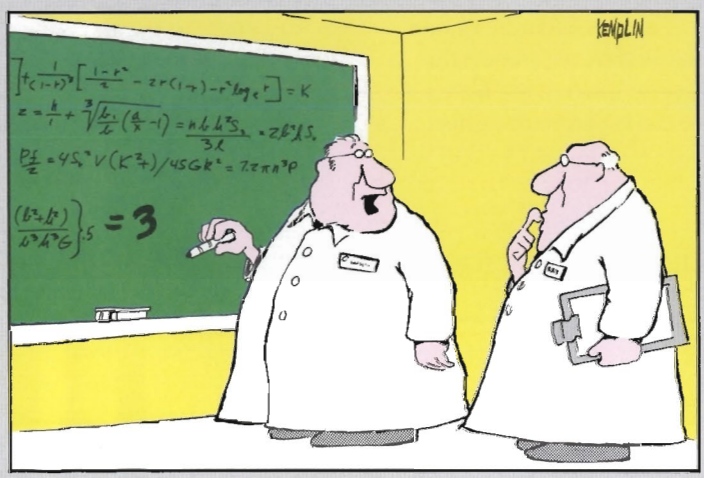
The group was making half-inch tape drives for a major original-equipment manufacturer (OEM) when HP workers noticed a mistake. Assembly instructions called for a label about how to release a tape to be placed at a specific spot on the tape drive. But employees believed the placement was wrong and would be confusing to tape-drive buyers.

"The production workers insisted that we check with the customer to see if the placement was a mistake," says Jim Heckel, production section manager. "Sure enough, the customer came back and said our people were right."

"Three cheers for HP," the customer said in a voice-mail message to Greeley. "Now that's the way to do things, rather than rolling over and playing dead just because someone feels it's not their job. Good work!"

The Greeley division ships thousands of tape drives each month, so catching the mistake was significant, Jim notes.

"I'm proud that our people challenged the system and took ownership of the situation," he adds. "We're in a very competitive business and initiative like this pays off for HP and our customers."



Of course, this is only a rough guess.

T&M FIELD CHANGE

The worldwide Test and Measurement (T&M) field-sales organization will shift from the Marketing and International Sector to report to **Larry Potter,** T&M marketing manager for the Measurement Systems Sector, effective November 1.

The T&M segment of the Applications Engineering Organization and field marketing also will report to Potter.

NEW PRODUCTS

The **HP 3000 Series 920** and **Server 920** are the Commercial Systems Division's entry point into the PA-RISC product line. They can support up to 20 users at the same time.

The **HP Apollo 9000 Series 400** is the first merged HP/Apollo product line. It was jointly developed by the Apollo Systems Division and the Graphics Technology Division. Among the five workstations is a deskside model which implements the EISA bus.

From the McMinnville Division: two models in a new family of advanced cardiographs. The **HP PageWriter XLi** has a flip-up display to preview the electrocardiogram before printing; it also performs computerized ECG analysis. The patient module is so durable, HP includes a lifetime warranty.

HP PageWriter XLi

RTAP/Plus from the Calgary Product Development Center is a software toolkit for building networked industrial-monitoring and control applications.

Model D400 of the Böblingen Instrument Division's **HP 82000** family of integrated-circuit evaluation systems has a maximum vector rate of 400 MHz, thought to be the fastest available.

Queensferry Telecom Division's **HP 71600** series of modular 1 Gbit/s and 3 Gbit/s error-performance analyzers and pattern generators are used for high-speed digital test. A user can configure them for the bit rate actually needed.

PARTING SHOT

How about these pipes?

When Bill Taylor takes his seat at the Stanford Theater in Palo Alto, California, he has 358 choices at his fingertips in a space about the size of a desk.

The desk is the restored 1926 organ console from Grauman's Chinese Theater in Hollywood and the choices are the 183 keys and 175 tabs that control the sounds of the different instruments.

"Sometimes when I'm playing, everything just clicks—the timing and the rhythm's right—and that's a great feeling," Bill says.

Along with other 7-year-old kids who were mastering how to throw a baseball, Bill, a software development engineer for HP's Commercial Systems Division in Cupertino, California, was also learning how to scale an octave.

About once a week Bill takes the helm of the organ and plays between film classics such as "An American in Paris" and "The Wizard of Oz."

TOM UPTON

Bill Taylor plays the triple-tier Wurlitzer at one of 10 U.S. theaters that plays organ music.

The Stanford Theater, originally built in 1925, was completely renovated in 1989 through grant funding received from the David and Lucile Packard Foundation. The theater, spearheaded by David Woodley Packard, son of HP co-founder David Packard and member of HP's board of directors, draws quite a crowd for its classic double features.

The day Bill introduced himself to David was the day he introduced himself to the theater's "Mighty Wurlitzer" and audience. Within hours of talking to David he found himself elevated from the orchestra pit to the full view of those in the crowded theater—never missing a beat. ■

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

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