MEASURE

THE INSIDE STORIES

page 8

page 12

page 19

TOM UPTON

Worlds apart: The HP way in South Africa

Archie Rogers and 13 other HP people start and end each workday the same way: They board a minibus that travels a 45-mile (70-kilometer) route to take them to and from HP's sales headquarters near Johannesburg. The bus they ride is provided by HP because public transportation between Sandton, the site of HP's office, and Riverlea Extension 2, where Archie lives, is unreliable and dangerous.

Archie's choice of residence, as with all South Africans, is limited by the government's Group Areas Act. Under the law, each racial group may live only in specified areas. Archie, who is classified as "coloured"

HPRSA

(of "mixed race"), may live only in a "coloured" area. Similarly, "European," "Asian" and "black" neighborhoods are limited to those race groups.

Archie's situation illustrates the dual worlds in which HP's non-white employees in the Republic of South Africa live. At work they follow the HP way. Outside the company, they live under apartheid—a system of "separateness" enforced by the government.

> *"In HP you can do what you want. But after 5 p.m., you have to deal with the normal way of life. Why under this roof and not outside?"*

"Working in the HP environment does a lot for one's approach to the outside world," says Archie, a service contracts coordinator. "In HP you can do what you want. But after 5 p.m., you have to deal with the normal way of life. You have to ask, 'Why under this roof and not outside?'"

Increasingly, this question is being asked not only by black South Africans but also by white business leaders.

"As we train people of color and move them into more responsible jobs, how do we open up the social structure so they can enjoy the conventional rewards?" asks Gavin Relly, chairman of Anglo American Corp., South Africa's largest company. "If you want a viable capitalistic system, you can't make rules that restrict people's full enjoyment of the system."

Today, the whole of South African society, including the ruling political party, is questioning the ideology of apartheid. Many are calling for further government reform, which began in a meaningful way in 1980 with the rights of blacks to form trade unions and an end to restrictions on the jobs blacks could hold.

Today, HP is one of more than 250 U.S. companies that have operations in the Republic of South Africa. HPRSA sells and services the full line of HP products to South African and multinational major account customers. In 1984, rev-

A street scene in Johannesburg reflects the vitality and diversity of the area. More than 1.5 million blacks live adjacent to the city in the Soweto township.

JIMMY LIMBERIS

enue totaled $51 million, about 1 percent of the company's total revenue.

HP products are important for the growing telecommunications industry and for the mining industry where computers and instruments are increasingly needed to improve productivity. Multinationals such as Mobil and Volkswagen are major customers for HP commercial computer systems. Test and analytical equipment is sold to hospitals and laboratories.

HP and other American companies have come under fire from American political activists and student groups, U.S. and international media and others for having operations in South Africa. Many feel that the company's presence in the country lends support to the government and its policies there. In a March *New York Times* editorial, columnist Anthony Lewis wrote, "American companies do a relatively small part of their business in South Africa. But their presence is an immensely important symbol to South Africans. It gives them a sense of legitimacy." Lewis argues that it is time for U.S. companies to leave South Africa.

The importance of Western support to Afrikaner nationalists is acknowledged by Alan Paton, whose book,

Cry, the Beloved Country, eloquently portrays the pain and devastation of apartheid.

Paton, however, draws a different conclusion than does Lewis. Paton argues against disinvestment—the withdrawal of U.S. business from South Africa.

"I have a word to say to Americans who think they can hasten the 'day of liberation' by damaging the South African economy by disinvestment. It will do material harm to many black people. One often hears black South Africans cry: 'We don't mind suffering. We are used to it.' But this cry usually comes from those articulate blacks who will suffer least. I will have nothing to do with disinvestment."

Bishop Desmond Tutu of South Africa, winner of the 1984 Nobel Peace Prize, has urged continued pressure on the government for change. "Despite whatever anybody says, I have not yet campaigned for disinvestment," he said in January. "I have called up to now for political, diplomatic but above all economic pressure as our last chance to avert a blood bath."

Tutu said that investment in the country by non-South African companies through 1986 should be tied to
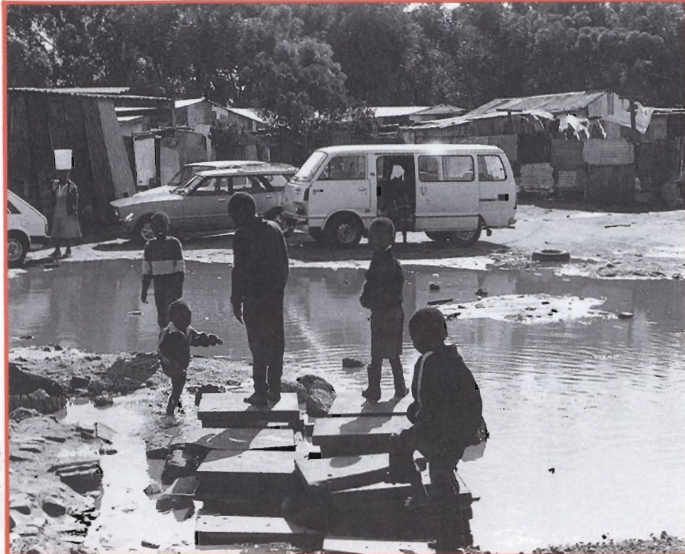
BARBARA KOMMER

HP people in Cape Town are focusing their community support on Crossroads, a squatters' community of 50,000 blacks.

JIMMY LIMBERIS

HP's Daring Bhadais, shown at home with his wife Loretta, a nurse, promotes black business through an HP task force.

The roots of apartheid

The first white settlers in Southern Africa were Dutch merchants who established the Cape of Good Hope as a trading post for ships going to the Far East. Because the British also recognized the Cape's strategic importance, the territory changed hands several times before the British won sovereignty in 1814.

Dutch settlers—bridling under English colonialism and seeking to establish their own government—migrated into what was perceived to be the vacant interior of southern Africa. However, the lands the Dutch ranchers and farmers (Boers) were settling were at the same time being occupied by black African cattle herders fleeing tribal conflict and overpopulation.

By the 1850s, the Dutch settlers, who called themselves "Afrikaners," forged two republics where farming was the main industy. Their relationship with the black tribes in these areas was alternately cordial and war-

like, because the culturally dissimilar groups coveted the same economic resource: land. With the technological advantage of firearms, the Afrikaners were able to subdue competing tribes.

The British, meanwhile, had hemmed in the Afrikaner republics by occupying the entire coastal region to protect sea lanes important to their empire. When diamonds and gold were discovered in Afrikaner territory in the late 1800s, the British saw the potential for massive markets. The Afrikaners loathed the intrusion of the British, but eventually were defeated by them during the Anglo-Boer War.

Once again a reluctant part of the empire, the Afrikaners, determined to regain control over what they believed was rightfully theirs, became intensely nationalistic. Their priority was to establish an identity and maintain it through an Afrikaner state.

Caught between the English and the numerically superior black groups, the Afrikaners created the policy of apartheid or "separate development." In 1948 when the Afrikaner political party took power, the apart-

heid philosophy became official.

Apartheid calls for racial groups in South Africa to develop equally but separately. Economic realities, however, make this goal impossible.

Further, apartheid ideology has never had a mandate from a majority of South African citizens. The doctrine artificially and unrealistically pigeonholes broad categories of South African society into "Asians," "coloureds," "whites" and "blacks." Ironically, apartheid led to the same sort of bitterness and discrimination its creators experienced at the hands of the British.

Today the nation is politically and socially split by apartheid, even as the government slowly moves away from the errors of the past. South Africans are realizing the urgent need for concensus, especially since economic survival depends on an open and integrated society.

—*Simon Middleton*

Simon, HPRSA's Sullivan coordinator, is a history honours graduate of the University of Cape Town.

HPRSA
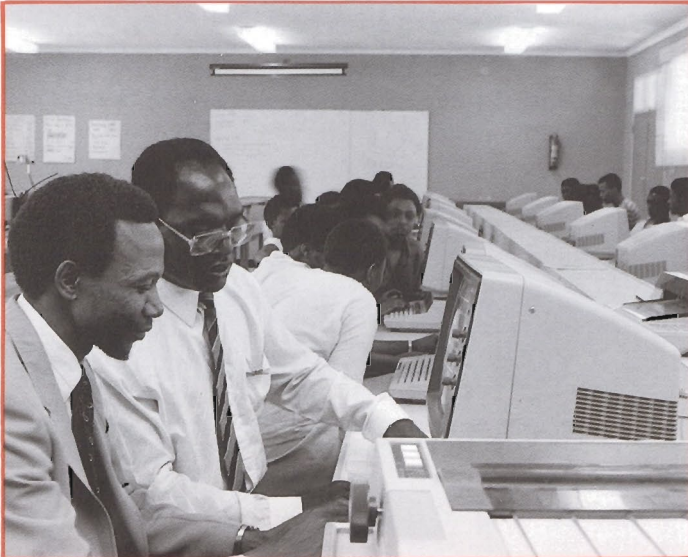
When HP equipped a black teachers' college with computers, HP engineer Jack Mohale (right) guided curriculum development.

Diana Sacke, Maihmood Khan and Zack Hassen serve on HP's management development task force chaired by Nolan Lambert.

improved working and living conditions of black workers. "If these are not implemented within the time limit," he said, "then the pressure must be punitive; that is, economic sanctions should be imposed."

Economic sanctions are now being debated in the U.S. Congress. One bill calls for selected economic sanctions in two years if the South African government does not make significant progress in reforming its racial policies. The legislation would allow U.S. firms to continue to operate in South Africa if they adhere to employment guidelines similar to the Sullivan Principles.

The principles, developed in 1976 by the Reverend Leon Sullivan, a Philadelphia minister, are supported by HP and more than 150 other U.S. firms doing business in South Africa. The principles are designed to assure equitable pay, benefits and working conditions for all employees; to enhance the upward mobility of non-white employees; and to improve the quality of life for non-whites outside the workplace.

HP signed the principles in 1977 and is in full accord with their objectives, including a December 1984 amplification calling on signatory companies to work actively toward the elimination of apartheid laws in South Africa.

"The amplification is consistent with our past actions," says Marius Furst, HPRSA country manager. "We have met with government officials to make our views known on several occasions. We will continue to do this and to look for other forums as well."

Marius believes that one such forum is the American Chamber of Commerce in South Africa, to whose board he recently was named. Marius is active on the chamber's government relations committee.

On March 7, 1985, the chamber submitted a series of recommendations to the South African government designed to speed up political and social reform in the country.

The member American companies called for a government based on the consent of the governed and urged that blacks be given a voice in the South African Parliament.

The government appears to be responding to increased pressure. It is changing its laws to allow urban blacks to own land and to allow blacks to operate businesses in formerly "white only" areas—both demands made by the chamber and others.

For most HP people in South Africa,

the Sullivan Principles are an extension of the company's citizenship objective—improving the environment in which HP people live and do business.

Six internal task forces develop programs and make recommendations to management on areas of concern outlined in the principles: black training, management development, housing, community education, health care and black business development. More than 60 of the country's 300 HP employees are actively involved.

"The task forces meet during working hours and have a fairly free hand in deciding where our donation budget will go," says Irma Lightfoot, senior personnel representative. "These are committed, interested people who want to see constructive change."

Irma encourages employees to become active through the task forces. Following a "Working at HP" workshop in Cape Town last February, a group of employees there began exploring how they might implement the citizenship objective. Nicolas Kyriazopoulos, an analytical service engineer, says there is a lot of interest at the Cape Town office, which has only about 30 employees.

"Irma got us excited. Many people

were curious before but perhaps didn't know how to go ahead," Nicolas says. He and others on the HP Sullivan Task Force are now assisting at a medical clinic in nearby Crossroads, a huge squatters' camp of some 50,000 blacks.

In Johannesburg, the HP Business Development Task Force encourages and supports small businesses owned and operated by black, coloured and Asian South Africans.

Says accounts payable coordinator Daring Bhadais, "There is no doubt that unemployment could be minimized if blacks become employers on an increasing scale, but there are three problems that first must be overcome: lack of capital and management skills, laws that stand in the way of black business development, and marketing problems. These are the areas our task force is trying to address."

> ### "I have called up to now for political, diplomatic but above all economic pressure as our last chance to avert a blood bath."

Iris Roscoe, Medical, Analytical and Instruments secretary who is "coloured" under the government's classification system, is a Cape Town task force member. "I was amazed at the far-reaching effects of the programs HP has put in place in my country," she says. "If a company is responsible, it should remain here."

Archie Rogers agrees. "Today, there is still limited involvement by many companies. Greater involvement can promote a better way of living."

A member of the Education Task Force, Archie believes that the company and its people "have a duty to help change the education system" to provide opportunities to blacks. "Take HP out, when we have done so much?" he asks. "Disinvestment can only do a lot of harm for South Africa and for all black people here." **M**

—Barbara Kommer

Barbara, HP manager of investor communications, recently visited South Africa.
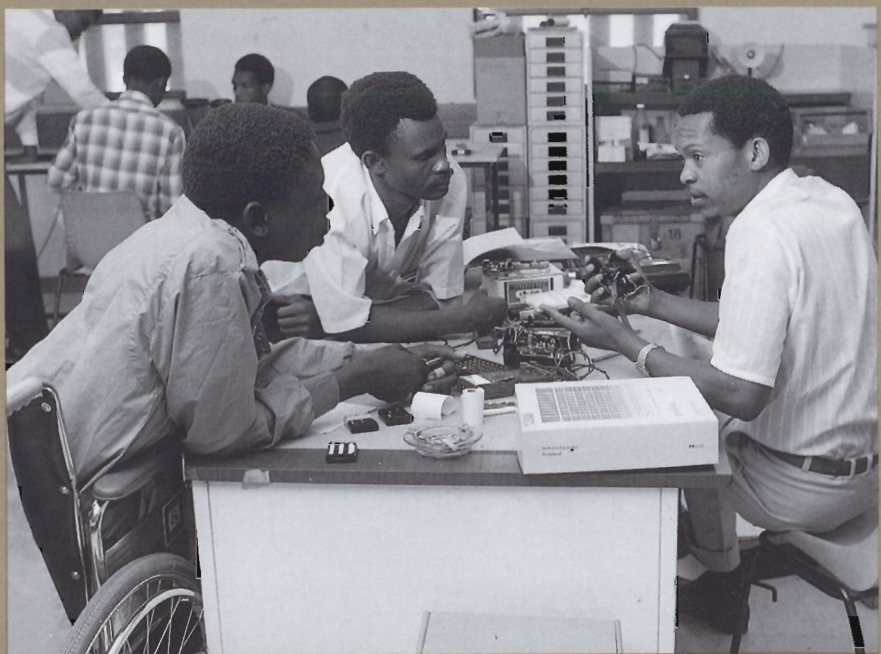
Patrick Phasha (right) is HP's technical liaison with members of the Self-Help Association of Paraplegics in Soweto who repair HP calculators.

Forget them not

The stray police officer's bullet that crippled active sportsman and family man Friday Mandla Manvuso in 1974 may be the best thing that ever happened to the paraplegics of Soweto.

But then, blessings are hard to come by in the largest black township in South Africa. Many of the one-and-a-half million residents who dwell just outside Johannesburg live with crushing poverty, overcrowded housing and inadequate social services.

Life is especially desperate for handicapped people, sometimes called "the forgotten people of Soweto." The government's welfare policy is to provide each paraplegic with a wheelchair and disability pension of about R45 (45 rand, or about $23 U.S. currency) a month.

Friday's tragic accident was scarcely newsworthy. The major cause of paraplegia in the township is not traffic accidents—as in the neighboring white community—but assault. However, he did receive substantial compensation from his lawsuit against the city of Johannesburg while he was still recuperating in the hospital.

Deeply affected by the plight of his fellow disabled patients— most of them only 18 to 30 years old—Friday decided to use his bitter windfall to help raise their lot. In 1981, Friday and seven colleagues started the Self-Help Association of Paraplegics (SHAP).

After a survey of more than 100 disabled persons in Soweto, the SHAP team targeted unemployment as public enemy number one. Friday explains the association's simple credo: "Paraplegics who have a chance to earn a regular income are in a much stronger position to help themselves."

In the last four years SHAP has successfully expanded and now includes a minibus adapted for paraplegic drivers, offices, a kitchen and dining room, a watch-repair cooperative and a factory that has room for up to 80 workers.

Hewlett-Packard is among the mostly local companies supporting and providing work for the ambitious SHAP members, some of whom are repairing HP calculators. HP employees Nicci Brill and Patrick Phasa have worked as trainers and technical liaisons on the project and have found the disabled participants both efficient and enthusiastic.

In SHAP's first four months of operation, the struggling staff members could only afford to pay themselves with an afternoon meal. Now the association is making a small profit, though it occasionally seeks public and commercial philanthropy for major capital expenditures.

—Carlos Greth

Extra/ ORDINARY PEOPLE

LORRAINE RORKE
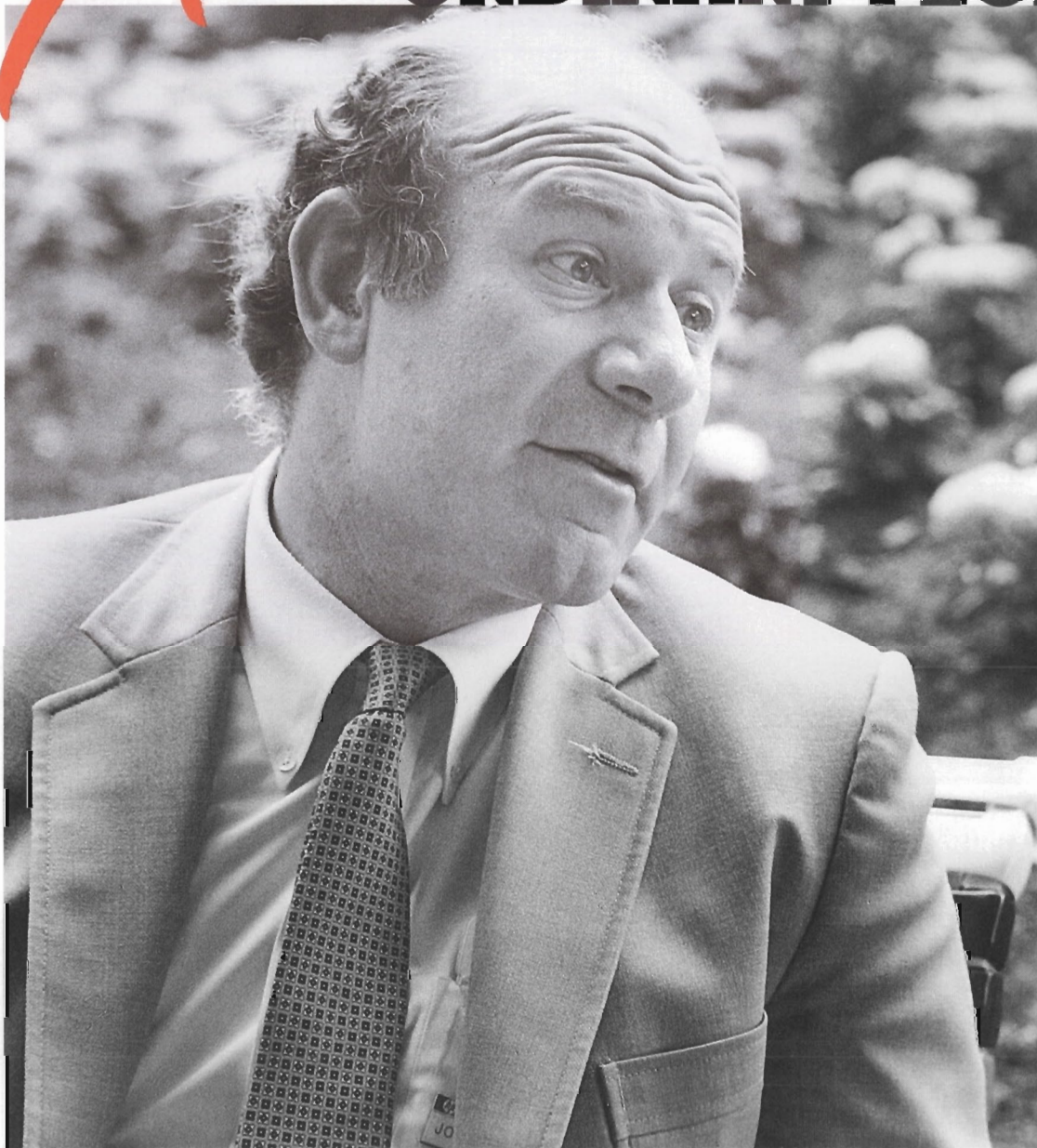
L ook closely at the state seal of New York and you'll see the slogan "Excelsior," which means "higher" or "ever upward." Vice president and HP Labs director Joel Birnbaum would like to adapt that motto from his home state as the rallying cry for Hewlett-Packard's central research and development organization.

"We must reach for the extraordinary," Joel says. "If we channel our

creative energies, we'll be able to get really important things done."

Joel has set lofty, demanding standards for both HP Labs and himself.

"The mission of technology is to improve the society which it serves. We have all the components here that we need to affect society in revolutionary ways. We're limited only by our imagination and our will to stay focused."

On a more pragmatic note, and with a twinkle in his eye, Joel adds, "It's possible for us to aspire to noble goals and still make a lot of money along the way."

Joel spent his formative years in New York City. At age 12, the Birnbaums moved an hour's drive away to suburban Roslyn on Long Island.

As early as high school, Joel discovered he had a flair for physics, literature—and sports. He went to Cornell University in Ithaca, New York, on a baseball scholarship.

"Actually, I found baseball a little slow," Joel says. "I played pitcher because most of the time he's the only one on the field who's moving."

As an all-around athlete (tennis and basketball, too), avid student of English literature and fraternity president, he showed he didn't fit neatly into a "Joel-College" mold when he decided to major in the cabalistic field of nuclear physics.

Upon graduation, Joel went to Yale University to continue his studies. "I was fortunate to be at Yale when computers were first being used in experimental physics," he says.

"Computers opened up a new world for me. I got so interested that during the summers I worked as a systems programmer for IBM."

As he continued his work toward a doctorate, Joel began to realize that he was better at making computers do his bidding than he was at analyzing equations. "I had become more of a computer specialist solving problems in physics than a physicist using computers as tools."

He embarked on a 15-year professional relationship with IBM in a joint project among Yale University, the U.S. Atomic Energy Commission and IBM's Thomas J. Watson Research Lab in Yorktown Heights, New York, to develop nuclear data-acquisition instruments.

A wide variety of systems and software projects followed.

In his last five years at IBM, Joel served as director of computer sciences, managing research in almost every branch of computer science.

Having worked in high administrative posts for both companies, Joel is uniquely qualified to speak on how IBM and HP are alike—and unlike.

"Limit the comparison to the research arms of the two companies," he says, "and the differences are not so great as one might expect.

"HP Labs moves more quickly and has had greater success transferring prototypes to the company's manufacturing divisions than has IBM.

"On the other hand, most of the projects at HP Labs aim for short- and medium-term payoffs. We're more of an applied research center than is the IBM facility. But that's changing as we add more fundamental studies to balance our applied research focus."

A general comparison of the two companies reveals greater contrasts, according to Joel.

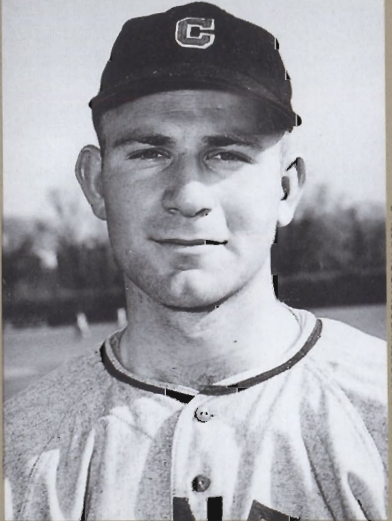"The bureaucracy here can be frustrating, but it's not nearly as tough going as at IBM. The work gets done in different ways. IBM has a more formal, adversarial system. HP works more by collaboration."

Joel notes that top management at HP tends to come from technical backgrounds. At IBM the powers that be rise mostly from marketing and business ranks. "As a result, IBM typically researches markets more thoroughly," Joel says. "That means they often take a very long time to get products to market. We move faster, but we're not always as well informed about customer needs."

But it's his impression that the two companies are headed in the same managerial direction. "Since I've come to HP, I've watched IBM become more decentralized while HP divisions have become less independent because of our need for collaboration in the systems business."

When Joel and his wife Eileen moved to Palo Alto, they scouted the surrounding neighborhoods for a house. The couple settled in countrified but exclusive Los Altos Hills.

Unfortunately, Joel hasn't had much leisure to enjoy the country view. "It's

Joel Samuel BIRNBAUM
Varsity pitcher
Cornell University team, "Big Red"

CORNELL UNIVERSITY SPORTS INFORMATION OFFICE

Height: 6'0" **Weight:** 180 lbs.
Batted: RIGHT **Threw:** RIGHT

Born: December 20, 1937, New York, NY

Career Highlights

★ Scores baseball scholarship to Cornell University, Ithaca, New York

★ Wins Ph.D. in nuclear physics, Yale University, New Haven, Connecticut (1965)

★ Makes director of computer sciences, IBM's Thomas J. Watson Research Laboratory, Yorktown Heights, New York (1975-1980)

★ Gains directorship, HP Lab's Computer Research Center, Palo Alto, California (1980-84)

★ Succeeds John Doyle as vice president and director HP Labs (July 1984)

Hobbies: Serious amateur photographer for 25 years (has own darkroom); classical music; hiking

ORDINARY PEOPLE

Frank Carrubba, director of **HP Labs'** Design and Measurement Center, and Joel Birnbaum discuss the effort to domesticate the computer.

been a fairly intense four years, with not a lot of leisure time. Part of it is that I'm still learning to control my schedule; part is because I like my work."

Due to the musical interests of Eileen—a former international opera star—the Birnbaums attend the symphony, ballet and opera in San Francisco every chance they get. They also enjoy travel—keeping up with the far-flung enterprises of their five children provides plenty of opportunity for that.

Though Joel's urbane tastes and whirlwind schedule leave little time for domestic tasks, he is very interested in domestication—of computers, that is.

In recent years one of Joel's favorite themes has been "the domesticated computer," or taming computer technology so it is accessible to the general public and adds enough value to society to become pervasive in everyday life.

"We've evolved to the point where we should be working on making computers friendly, intelligent apprentices," Joel asserts. "Computers must become more adaptable to individual habits and styles. Eventually you shouldn't be able to tell whom you're communicating with: a computer or your colleague down the hall."

Joel credits John Doyle, executive vice president, Information Systems and Networks, and HP Labs' Egon Loebner for refining the domestication model of the evolution of pervasive technology: technology more noticeable by its absence than its presence. The theory is a cornerstone of a popular talk Joel has presented around the country.

It usually takes four steps, he says, for a technology to become pervasive.

☐ In the beginning, the machine is little more than a lab curiosity.
☐ Next, it is used primarily as a tool by a narrow class of experts.
☐ In the third stage, the technology is well known and manufacturable, but is used directly by only a relatively small portion of the population. A large number of companies seek an early competitive edge and innovation is rampant.
☐ Finally, the technology becomes part of the fabric of life. In this stage, affected businesses consolidate and prices stabilize. The technology evolves to hide its own complexity (automatic tuning on TV sets and automatic transmission on cars, for example).

"For example, the 1,100 or so American car companies of the third stage have now become four giant corporations," Joel says, "and prices of compa-

rable (and similar) models are exceedingly competitive."

"Personal-computer technology is now in stage three," Joel says. "The several hundred personal-computer companies vying today for a share of this rapidly expanding market will shrink to some number about 100 times smaller in the years ahead."

He feels HP will be one of the survivors of the shakeout. "I believe in the quality of HP people," Joel says, "and in their drive to innovate.

"Another factor that will contribute to HP's continued success is our unique position as both an instruments and computer company. "Nobody else has quite this powerful mix," Joel says.

Under Joel's leadership, HP Labs will play a significant role in the company's overall strategy for success in a tough environment.

In the long term, Joel sees HP Labs having a better balance of basic and applied research. "I want us to get more involved in fundamental scientific research, which is not an iconoclastic idea. Many people in upper management share that notion. Right now we have very few of the 10- to 15-year projects that yield rewards way down the road. It's my experience that these often produce shorter-term spinoffs as well," he says.

HP Labs must, in Joel's view, strike a fair balance between satisfying the daily needs of HP divisions and striving for significant long-term scientific accomplishments.

"It's hard to dance to the music of two masters: applied and pure science. Every engineer's dream is to build a product based on pure science. But you can usually only do one or the other in a single project.

"To be effective, scientists must have a good idea of where they are in history. Significant scientific accomplishments comprise evolutionary 'spikes' that change the course of technology. The advanced computer products using RISC technology (see box) will become one of those spikes.

"We mustn't lose the long view in our appropriate involvement with day-to-day improvements," Joel says. "We aim for high rewards, which also mean high risks." **M**

—*Carlos Greth*

Throwing some light on Spectrum

Reduced-instruction-set-computer (RISC) technology offers greatly improved speed in terms of instruction execution without paying the high cost usually associated with fast machine cycles.

The Spectrum program represents HP's first efforts to incorporate the RISC approach, along with other technological innovations, into a complete line of computers. Below, Joel Birnbaum discusses the program's development and its signficance for the future of the company.

The objective of the Spectrum program was to develop a basic design that could unify the major HP computer families in a way that would produce leadership in cost, performance and function. At the same time, we wanted to provide a smooth upgrade path for programs now running on customers' machines.

In retrospect, probably the greatest accomplishment of the HP Labs team under Bill Worley (now manager of the Information Software Operation in the Information Technology Group) was to hold fast to those objectives and to maintain the self-discipline needed to keep the design lean and focused.

That's not to say that any single idea dominated the Spectrum program. Bill and his people synthesized the latest developments in VLSI (very large-scale integration) circuit technology, compilers and operating systems, always tempered by precise measurements of computer performance.

Many of the innovations that emerged from the Spectrum program seem to fly in the face of conventional wisdom. Our analysis showed that what computers actually do is very different from the assumptions we've acted upon for years. For example, most computers spend most of their time repetitiously executing a small number of simple instructions.

We decided that the best way to improve the productivity of software developers was by creating machines in which almost all systems programming could be done in high-level, human-like languages. Accordingly, we created an instruction set optimized for the programmer who writes compilers and not the programmer who uses machine-like assembly language. The set implements directly in hardware (with no microcode) the most frequently used instructions.

The most interesting characteristic of the new architecture is that the same code can be used in a wide range of technologies. This guarantees our customers a great range of configurations and offers graceful, modular upgrades as well.

Spectrum will play an important part in uniting the instrument and computer product lines of our company because the new architecture is designed to be an effective element in process-control and measurement systems. It also attaches to our networks in convenient ways.

That union represents our best chance for unique contributions to the markets we serve. I believe the program will provide a stable foundation for product innovations for many years to come.

—*Joel Birnbaum*
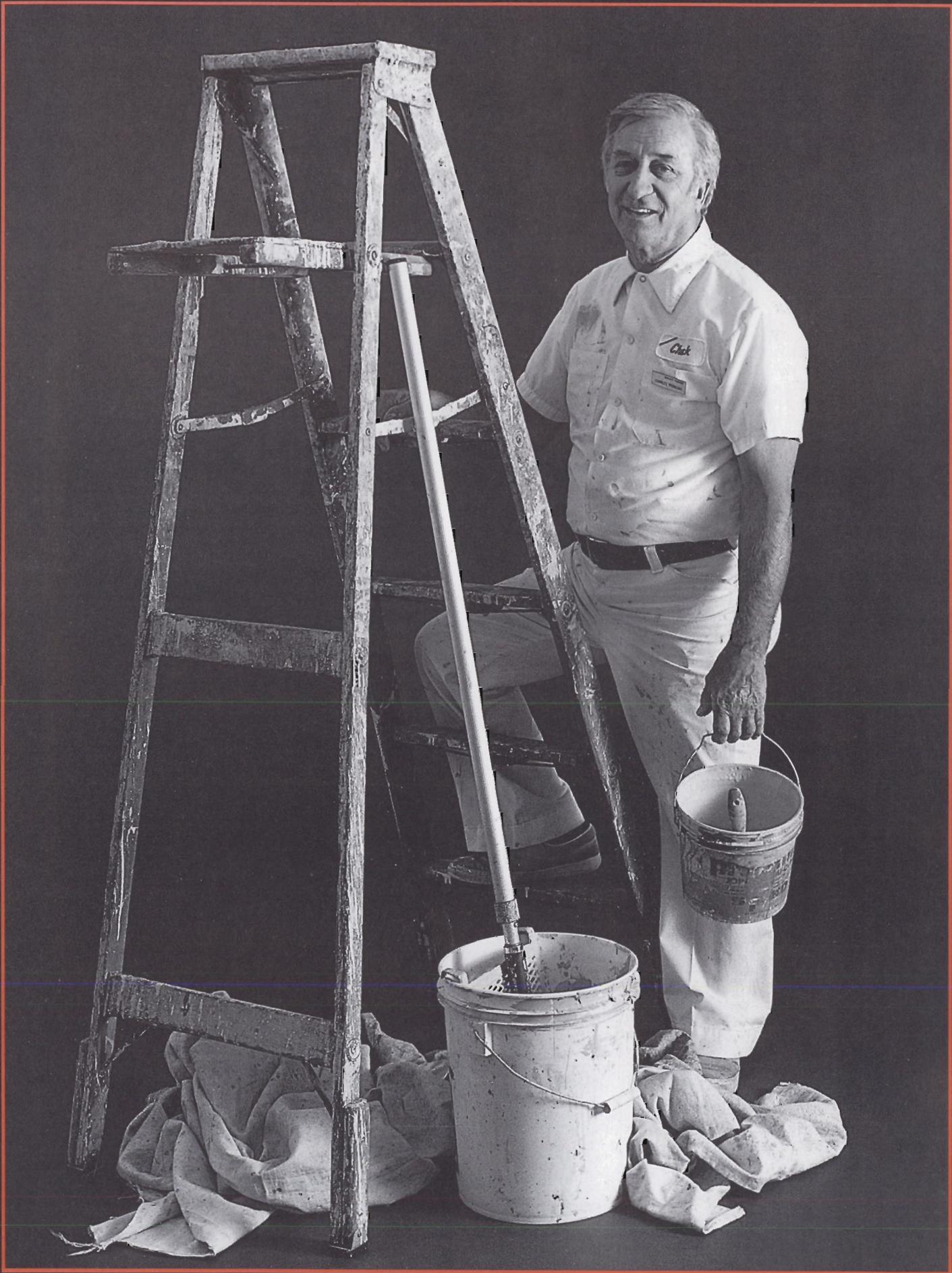
Chuck Prunchak, painter

PHOTOS BY TIM HOLT

The trappings of work

What people wear to work reveals a lot about them. Clothes reflect social or financial status, age, position—even mood. And the accessories are even more telling: the monkey wrench stuck in the waistband, the holstered HP-41CX slung low on the hip, the $2,000 gold wristwatch or the plastic pocket protector that holds umpteen pens and pencils and perhaps a toothbrush.

Some outfits serve a purpose above and beyond personal taste, fashion and the requirements of modesty. Clothes are often worn for utility's sake, as in facilities maintenance and the integrated circuit labs. Uniforms—official or otherwise—can help create a team spirit and a feeling of equality.

Hewlett-Packard is noted around the world for the friendly and familiar atmosphere, an attitude that naturally affects our manner of dress. In general, the mode is fairly relaxed, especially when compared to corporations of similar size.

Would that we all had the freedom to wear whatever we want when we want. The corporate attorney and sales rep can hardly afford to indulge personal taste, say a fondness for Hawaiian shirts, when presenting their cases before a critical audience.

And we all expect a degree of dignity in our leaders. How much confidence would you have in a manager who showed up at a major product announcement dressed like British singer Boy George? (By the same token, how many teen-agers would pay to see someone dressed in a pin-striped suit singing about the "oppression of the masses"?)

In a sense, you are what you wear. Take a look at these pictures. See if they don't say more to you than just "John Smith, brown suit."

—Mark Jordan
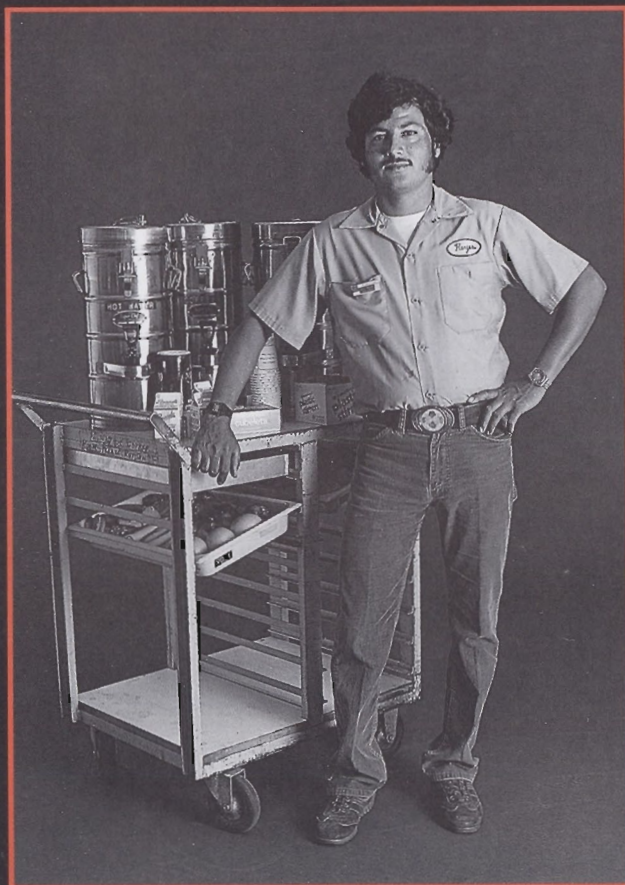
Francisco Reyes, refreshment server
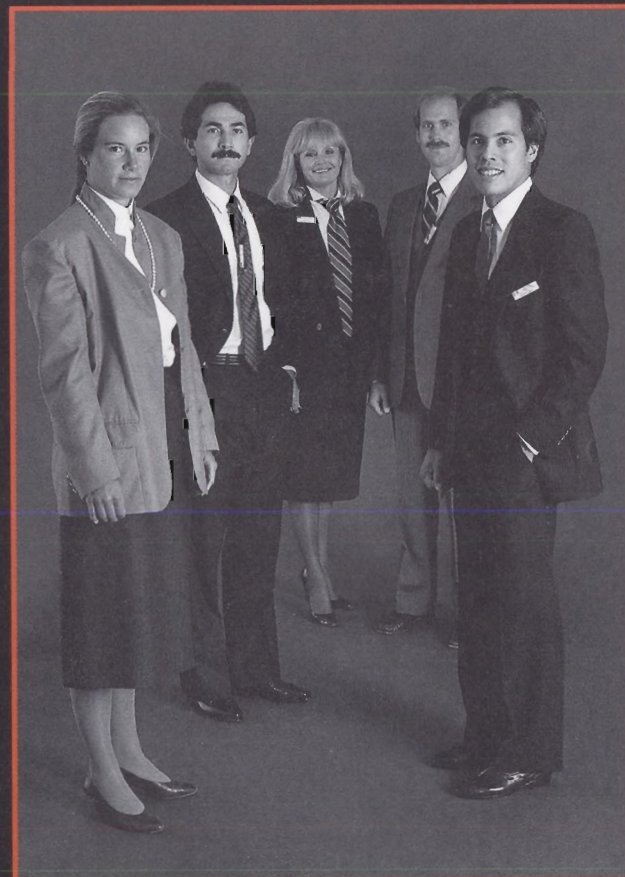
From left: Sarah Meeker Jensen, architect; Humberto Ramirez, accounting analyst; LaJune Bush, government affairs rep; Doug Kundrat, attorney; and Mark Lee, marketing manager
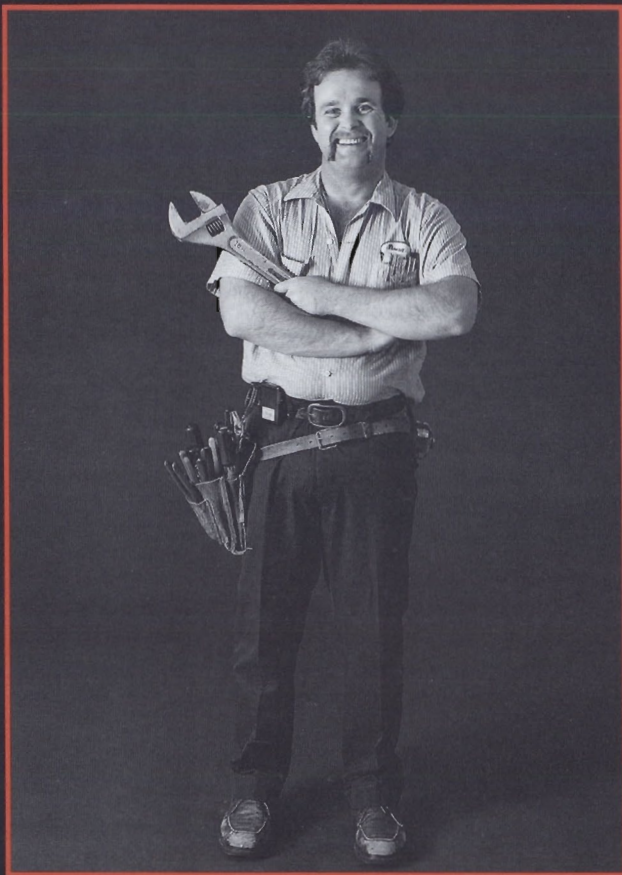
Doug Macdonald, maintenance man

Gina Losco, film director
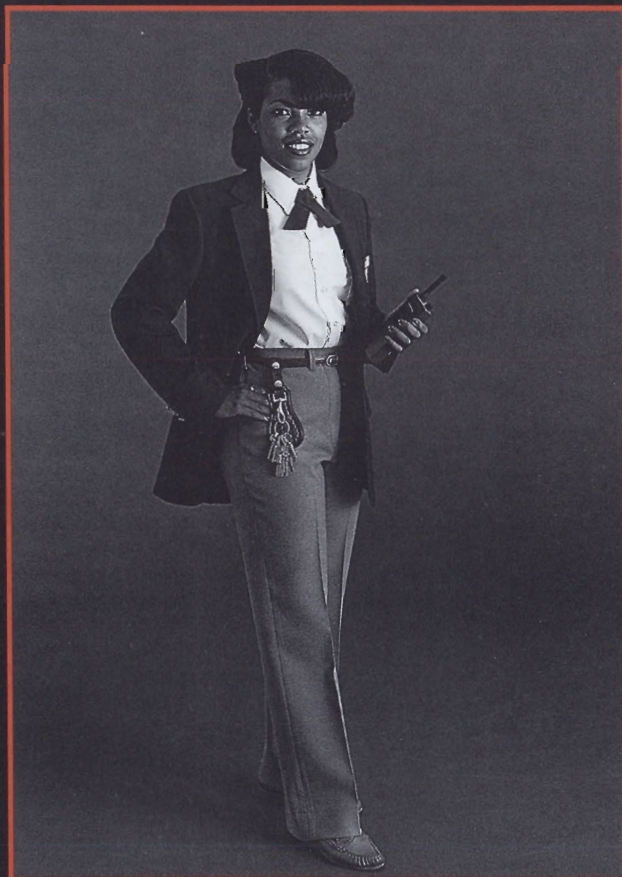
Ruth Wheat, security sergeant

Désirée LaGrone, graphic designer
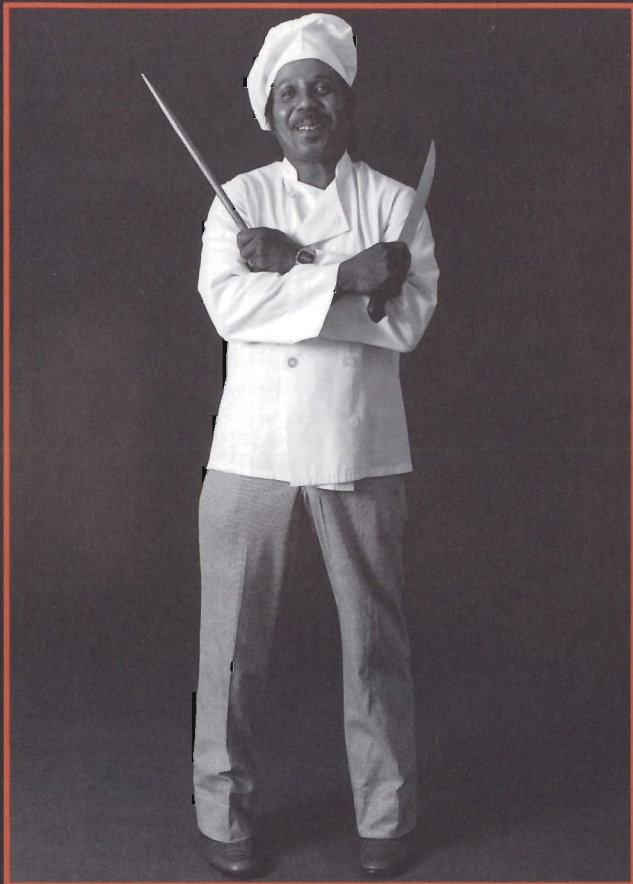
Clyde Kimble, chef
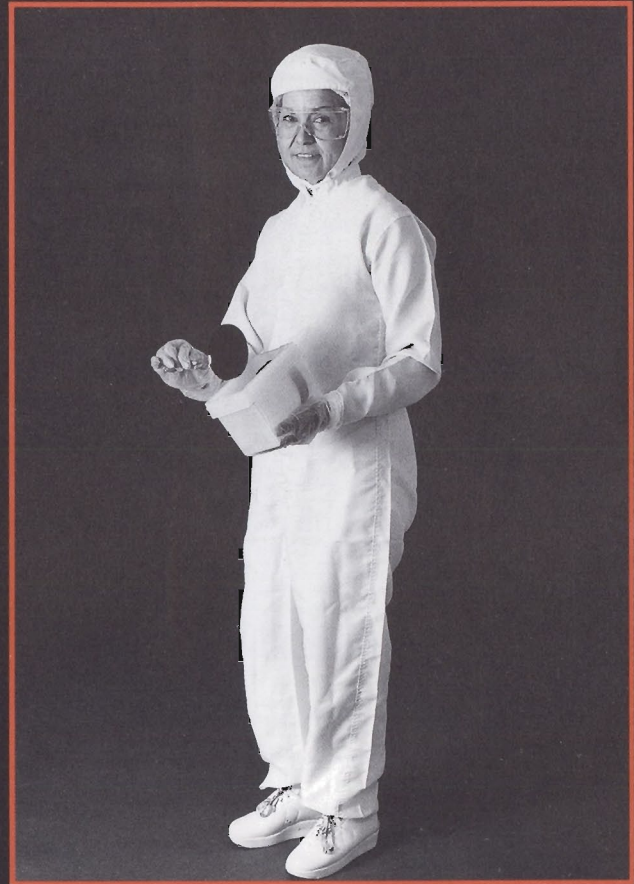
Avelina Dalrymple, engineering process technician
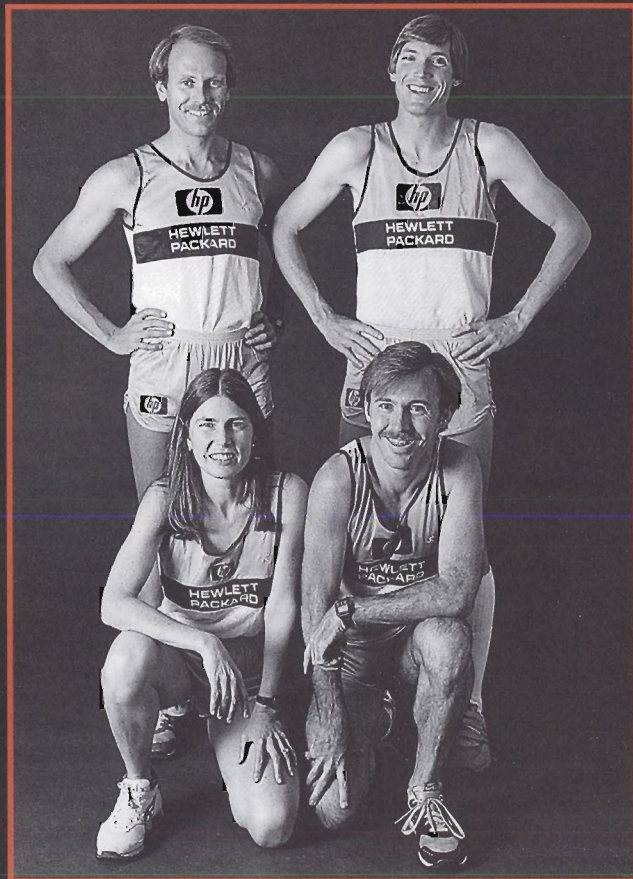
Standing: Rick Batty, marketing engineer, and Paul French, integrated circuits designer; Front: Jean Danver, project manager, and Dale Richard, accountant

Melissa Dyrdahl, marketing publications editor

PHOTOS BY TIM HOLT

YOURTURN

Measure readers comment on matters of importance to HP employees.

SHARON HALL

Who wears the pants?

The March-April issue of *Measure* serves its readership well in acknowledging the emerging role of women managers at Hewlett-Packard. But has more been left unsaid than said?

While we are taking the time to count the female heads appearing in management circles, perhaps we should take a little more time to examine the qualities in managers that we at HP find desirable. Do new women managers have these qualities? How many male managers have them?

People are now evaluating the roles that men and women play in our society. Are women managers bringing the best "female" qualities to their jobs? Or are they merely the managers in the one-legged pants?

This is not intended as a reflection on the women mentioned in the *Measure* article. I support the continued progress of women in management as I hope for the progress of the entire company.

But this letter is intended as a call for reflection. We can't afford to be complacent. Let's all push to achieve more. In the words of former U.S. President Jimmy Carter, "Why not the best?"

TERESA O'NEILL
Palo Alto

As you suggested, your philosophical questions about desirable HP management qualities go beyond the scope of our article on women managers in particular. The larger subject you propose for reflection could well make an interesting future Measure *article.*

We asked Sandy Mobley of Corporate Training how women fit into companywide courses for grooming HP managers. Women attend classes with men, she explains, rather than being enrolled in sessions that are for women only.

"Women lack nothing in terms of skills that men don't lack also," she says. "Men and women can learn a great deal from each other's work experiences, share strengths and develop new perspectives on their jobs and skills.

"If women are separated as a special class, you actually undermine what you hope to accomplish," says Sandy.

For a division-level approach, see the following letter.—Ed.

The article, "How women manage at HP," was interesting and well written, but we hope that your readers won't infer that all the problems of women working in a male-dominated field have been solved. Women are indeed moving into HP management, as evidenced by San Diego Division's controller Gloria Kingzett. However, our division management recognizes that the employment of large numbers of women in engineering companies is a relatively new phenomenon requiring some adjustment by participants. This societal change offers challenges which HP can meet with innovative contributions, just as it meets the challenges of changing technology.

In an effort to make the most of this opportunity, for both the women involved and for the division, SDD has formed a Women's Career Concern Task Force (WCCTF). The task force is studying current and long-term women's issues, to assist and support them during their careers at HP. The group will report its findings to division manager Scott McClendon and his functional staff, who are committed to acting on the task force's recommendations. We welcome comments and information from other divisions that are also addressing this situation.

BETH NIDZIEKO
Chair, WCCTF
San Diego

From old to new

Here's a message from the "Old World." I'm a mechanical engineer in the R&D lab of the Waldbronn Division in West Germany. We have about 300 employees and produce HP's liquid chromatographs, contributing roughly 1 percent to the entire HP business.

Since HP in Germany represents only 5 percent of all employees, I'm interested in what's going on in the rest of the company, especially over there in the "New World." For me, *Measure* is important for reports, but also for opinions and comments which help me get a better look into the mentality and the daily life and problems of HP people everywhere.

I'd like to add one input to your readership survey: Please don't forget the foreign HP folks!

WERNER SCHNEIDER
Waldbronn, West Germany

Thanks for your comments. We're planning a Measure *readership survey in Europe in the near future so we can better address the needs and concerns of colleagues in both worlds.—Ed.*

Going our way

More than two years after being hired at HP, I have an unanswered question about the famous, even illustrious HP way. Is it dead, dying or very alive?

Shortly after I started working in the Aix branch office, I heard some employees with many years of devoted service talking nostalgically about the "way." When I asked them about it, they answered using verbs in the past tense.

What does the HP way consist of? Did it just disappear in France?

I hope I shall be able to catch the HP spirit myself and spread it everywhere once I know what it is exactly!

JEAN GILLES TERS
Aix-en-Provence
France

I'm happy to report that the HP way is very much alive. According to Open Line survey results, 89 percent of the employee attitude survey participants in the U.S. say they understand the HP way and 95 percent understand that all employees are responsible for keeping the HP way alive.

There is some indication, however, that actions at the local level may not meet employees' expectations as well as some employees might like. For example, 67 percent of the people surveyed say that the HP way is working as it was intended to in their division or region; this is down 5 percent from our 1979 survey.

I haven't seen results from Open Line in France yet, but I feel confident that the HP way is in good health there, too.

The most difficult part of your letter is answering the question "What does the HP way consist of?" Bill Hewlett's definition is one of the best: "I feel that in general terms it (the HP way) is the policies and actions that flow from the belief that men and women want to do a good and creative job, and that if

they are provided with the proper environment they will do so. But that's only part of it. Closely coupled with this is the tradition of treating each individual with consideration and respect, and recognizing personal achievements."

I certainly don't think the HP way is a relic of our past, but I do believe it's up to all of us at HP to make sure our philosophies and practices live on.

FRANK WILLIAMS
Manager, personnel communications
and marketing
Palo Alto

Get the picture?

The above photo run in the March-April issue of Measure *(p. 19) was incorrectly credited. The real photographer was promising public relations-journalism student and swing-shift worker Maryann Albert of the Loveland Instrument Division. We regret the error. —Ed.*

Write on!

What public issues affect HP people and their jobs? Do you disagree with something you've read in *Measure?*

Send us your thoughts. We want to share your opinions and comments with more than 84,000 other Hewlett-Packard employees.

If your letter is selected for publication, you'll receive a *Measure* T-shirt. (Be sure to send us a return mailing address and indicate your T-shirt size—unisex small, medium, large or extra-large.)

Address letters via company mail to Editor, *Measure*, Public Relations Department, Building 20BR, Palo Alto. Via regular postal service, the address is *Measure*, Hewlett-Packard Company 20BR, PO Box 10301, Palo Alto, CA 94303-0890. Please limit your letter to 200 words, sign your name and give your location. Names will be withheld on request.

LETTER FROM JOHN YOUNG

Hot topics: HP's commitment
in South Africa
and cost control

I'd like to comment on two separate subjects that have been in the news recently—the company's position on U.S. business activities in South Africa and HP's mid-year results. Neither topic is an easy one, but the manner in which we address them says much about the staying power and credibility of the HP organization.

In response to letters from you, this issue of *Measure* visits the troubled country of South Africa and examines the questions it poses about HP's activities there. I'd like to address this fundamental question: How can business serve as a positive influence in a difficult political and social situation?

As a corporation, we have publicly stated our abhorrence of apartheid. Yet in a recent memo to our people in South Africa, I stated that we have no intention of withdrawing from that nation. While perhaps attractive to some people as a symbolic gesture, withdrawal would in reality lessen the pressure to change apartheid there. This is the firm conviction of HP people, Dave Packard included, who have visited that country and talked to leaders of its different factions.

The HP visitors' conversations with HP people in South Africa led them to conclude that the business community and a growing economy are bringing the greatest pressure for change. The greater the economic power held by non-white South Africans, the more successful they will be in making their political voices heard. By working with people of all races in that country, HP is serving as an agent of change.

Our condemnation of apartheid doesn't lead us to withdraw. Instead, we've intensified our commitment to help meet the problem and act as role models. We're not ready to walk away from HP people and customers in South Africa. We have a contribution to make, some commitments to keep and an ongoing need to show how people of diverse backgrounds and races can forge a unified and productive team. We're not just selling products; we're building the HP way.

Let me move on now to mid-year results. On May 16, I announced our lowest profit-sharing percentage since the mid-1970s. It was a disappointing

HP's president helps open Stanford University's new Center for Integrated Systems (see "Helping Hand" on page 23).

result for us all, yet the profit-sharing distribution provides the occasion to focus as an HP team on the factors that influence our performance.

Our profit-sharing figure reflects many of the business issues I've been communicating to you in my previous *Measure* messages this year—the slowing growth of the U.S. economy, the difficulties posed by the strong dollar, and the increased cost competition we face in some product lines.

For the first half of the fiscal year, U.S. orders increased only 1 percent over the same period in 1984. For the same quarter, orders actually declined 6 percent over 1984 levels. While we did a reasonable job of getting shipments out the door—up 15 percent over the first half of 1984—our product costs rose an even greater 21 percent. Expenses in the second quarter grew 14 percent compared to a shipment increase of only 10 percent, so there's an upward kick there as well.

Since we also see the beginnings of a slowing growth rate in international orders, I'll explain how we intend to respond. In a recent memo aptly titled "Performance Management," Dean Morton, our chief operating officer, spells out to general managers the controls we will use to get operating costs and expenses more in line with current revenue expectations:

□ All new hiring—permanent and temporary—now requires executive committee member approval.
□ Overtime should be granted only when absolutely necessary, and divisions that need the extra help are encouraged to use surplus labor from other entities.
□ We're instituting a companywide voluntary time-off policy in which employees, with supervisor's approval, may take from four hours to six months unpaid time off with benefits and a guaranteed job when they return.
□ We're asking managers to seriously review their planned expenses and to delay or avoid whatever doesn't have a direct impact on sales or key product developments.
□ Employee transfers, meetings, travel and entertainment will be limited.

In June we also announced a plan to close most of our U.S. manufacturing operations on July 1, 2 and 3 to tie in with the two-day Independence Day company holiday. Employees are asked to use paid vacation (or unpaid time off with benefits) for those three days.

In addition to controlling expenses, we're pursuing those extra efforts that add to the revenue side of the ledger. That means generating new orders, developing new products that can command adequate profit margins, bringing those products to the market smoothly and being responsive to field sales support. These goals should have top priority in your every activity.

This isn't an easy time for HP, but we have many strengths and a wealth of human talent that will stand us in good stead. This isn't the first period of slow business we've experienced, and our emphasis on excellence in business fundamentals will help us build a strong base from which we can challenge the future.

John

EXTRASURE

A laser-fare approach

The best way to learn how to paint a wall is to do it. The second best way is to watch someone else paint it.

That's the simple premise behind a new technology called interactive video that is surfacing at various HP locations as a sales and training tool.

"Interactive video combines the thrills of video games with the immediacy of television," says HP-TV producer Nick Iuppa.

Nick and others (like Ron Liddell in worldwide customer engineering training, Bob Coulter in the Application Support Division and Shirley Borella in Medical Products Group) are all proponents of the technology because of its proven effectiveness in training.

"HP spends a fortune on training, so we're anxious to do anything to improve productivity," says Ron. While normal lecture and lab retention rates run about 50 percent, Ron estimates computer-based video training retention is in the 70 percent range.

A video disc looks a lot like a long-playing record but is shimmery silver and unbreakable. Each side has 54,000 grooves; each groove holds one image.

A video disc player with a laser beam "reads" the grooves and calls up exactly the right image.

"It's an extremely visual way of explaining such complex things as the Personal Card File software program," says Nick. "You can learn a process like indexing step-by-step."

Last May Bob Coulter helped organize HP's first interactive video meeting. "What we realized is that many people at HP want to add interactive video to their training plans.

"I think we're moving in the direction of a company-wide standard."

Ron is poised to begin distributing programs on video discs to the field CEs for training "as soon as we get videoplayers."

Nick's demo disc includes a simulated game show and a section on how to use the PORTABLE computer. The disc is being used to show customers how the Touchscreen personal computer works with video discs.

Nick Iuppa

JOANNE ENGELHARDT

The calculating doctor

Most 10-year-old calculators have led pretty sheltered lives, tucked away in musty desk drawers. Not me.

I'm an HP-21 calculator and my adventures started when I was won in a promotional lottery by one Jonathan Wight, a student at Duke University (Durham, North Carolina). After helping him graduate with honors, I followed him to Oregon and Tennessee where we worked toward Jonathan's Ph.D. degree in economics.

Relatively few scientific calculators get to travel to Brazil for doctoral field work. Everywhere Jonathan went—sun-baked cane fields, dusty roads, lush jungles and sweltering cities—I was there. Once I was even kidnapped, but loyal Jonathan took a calculated risk and posted a $15 reward for my return. The ransom paid, my owner and I were happily reunited. Undaunted, we've made two return trips to Brazil since our first visit.

Today I'm proud to be Jonathan's assistant in his role as an economics professor at the University of Richmond (Virginia). There's no telling what exotic lands the two of us will explore next. I'm in his hands.

The icing on the skates

When ice skaters from around the world met in Nottingham, England, in May for the Wilkie International Ice Dance Championships, they could count on HP being there, too. For the fifth time HP provided computerized scoring of the event for the sponsor, the British National Skating Association.

As couples from Poland, Italy, Canada, Sweden, Austria, France, Great Britain and the United States waltzed around the rink on skates, judges from each country fed their scores into HP 3018A computer terminals. The audience saw the results on a computerized scoreboard.

Installing the computer system before the competition was a two-day job for HP's Mark Evans, Steve Walsh, Alan Jeffries and Peter Fenton. They're as proud of their technical accomplishment as are Kathrin and Christoff Beck from Austria, the new ice dance champions.

GLENN COLLYER

A lesson well learned

We all admire people who can do many things at once, like tightrope walkers who juggle. When most of us try a balancing act, we end up doing a number of things not very well.

HP customer engineers often find themselves in the same boat, studying job-related courses at their desks between phone calls and customer visits.

To help create a better learning environment, training personnel have come up with "central learning centers" (CLCs), conveniently located facilities that provide a quiet place to learn, courses on laser video discs, equipment for self-paced hardware training and, in the near future, computer-based instruction.

CLCs consist of study carrels, a library and a tear-down area like the one shown here where instructors or "mentors" can give hands-on help to students practicing hardware repair.

"The centers represent an investment in quality training," says Larry Billups, training manager at the Cupertino Training Center. "It provides the customer engineer with cost-effective training using the latest techniques."

Last year, more than 2,800 customer engineers graduated from courses in CLCs located in Rockville, Maryland; Cupertino, California; and Grenoble, France.

Dan Lochmann, training quality engineer in Cupertino, says that CLCs won't replace instructor-based training. "We're not out to automate training. Computers are good at teaching trouble-shooting and problem solving skills, but they can't verify the physical skills needed in repair."

HATS OFF

The Signal Analysis Division is the winner of the first U.S. Senate productivity award in California, presented by Senator Alan Cranston. It is given for effective productivity improvement activity....The Boise Division is the 1985 recipient of the National Council for Vocational Education's annual award for contributions to the field....HP received a Supplier Quality Award from Texas Instruments' Equipment Group for delivering 100 percent defect-free material in 1984.

Tom Hornak of HP Labs has been elected a Fellow of the Institute of Electrical and Electronics Engineers, IEEE's highest distinction, for contributions to circuits and techniques for fiber-optic communications.

NEW HATS

Art Dauer has been named Corporate director of personnel, with additional responsibility for the corporate security function worldwide.... Lloyd Taylor is now Corporate Information Systems director, a newly created position to provide strategic and functional leadership and direction for all of HP's internal information systems activity. Don Schmickrath becomes manager of an expanded Marketing Operations organization.

BOTTOM LINE

Hewlett-Packard Company reported a 12 percent decrease in net earnings on a 10 percent increase in net revenue for the second quarter of the 1985 fiscal year that ended April 30.

Net earnings totaled $129 million, equal to 51 cents per share on approximately 256 million shares of common stock outstanding (compared with net earnings of $147 million or 57 cents per share during the second quarter of 1984). Revenue totaled $1.677 billion, compared with $1.519 billion for the same quarter in FY84. Incoming orders for the quarter were $1.630 billion, an increase of 1 percent over orders of $1.609 billion in the year-ago quarter.

For the first half, revenue amounted to $3.208 billion, a 15 percent increase over the first half of 1984. Net earnings were $245 million or 96 cents per share, virtually flat compared with $246 million or 96 cents per share in the first half of FY84. (The 1984 amounts do not reflect a one-time benefit of $118 million or 46 cents per share that resulted from a tax-law change.) First-half orders totaled $3.322 billion, up 8 percent from a year ago, with domestic orders up 1 percent to $1.791 and international orders up 16 percent to $1.531 billion.

HP's Axel Preusch and *Die Zeit's* business editor Michael Jungblut.

A philosophical German jubilee

The topic HP's operation in Germany chose for its annual management meeting in Jungholz this year, "The changing value system and the HP way," suited the historic occasion: the 25th anniversary of HP in Germany.

A mountain village as picturesque as it is tiny, Jungholz is an Austrian enclave in the West German state of Bavaria. HP managers have held meetings there for many years. It was the first time, however, that the German management team reserved three days to discuss the very heart of HP: its philosophy.

The speakers included Dr. Ursula Engelen-Kefer, vice-president of the Federal Labor Development Institution; Dr. Erwin Ringel, Viennese professor of psychoanalysis; and Michael Jungblut, business editor of *Die Zeit* magazine.

Most speakers and guests, unfamiliar with HP's objectives, showed surprise and enthusiasm as they learned about the theory and reality of the HP way.

Michael Jungblut characterized the HP way as a working philosophy. He said it meets the demands of "the post-postwar generation, which views work as an integral part of life, fulfilling far more than the need to make money."

Later, in an article for his weekly magazine, Michael singled out the flexible time off policy (FTO) as a prime example of the HP way.

Besides attracting good press coverage, the annual meeting encouraged managers to devote even more attention to practicing the HP way in the future.

—*Michael Krug*
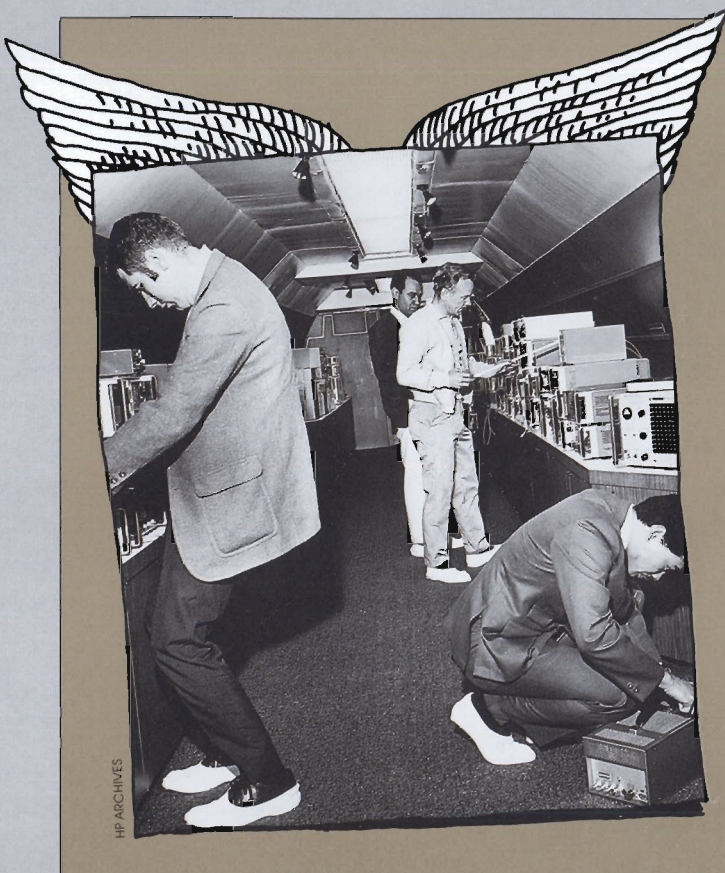
PASTTENSE

Just after dawn on January 24, 1969, a DC-6B converted into a traveling showcase of HP products lifted off the runway of the Oakland (California) International Airport.

For the first time HP was taking to the air to show off a selection of its wares.

During the next 110 days the aircraft touched down at 46 cities in 23 countries throughout the Pacific Basin, Africa and Latin America. At each stop, scientists, engineers and doctors were invited aboard to see more than 100 of the company's electronic, medical, analytical and computing instruments at work.

HP equipment shows had already traveled by land and sea. Buses outfitted with instruments were frequent callers at customer sites, and a ship with a product display had toured Latin American ports in 1966. But the idea of an airborne exhibit caught the public fancy, and a total of 15,000 visitors turned out along the way.

The plane carried two portable generators to power the exhibit. Teams of six factory engineers came aboard at each stop to answer technical questions. Most used commercial flights to catch up with the fast-moving HP air lab.

The whole complicated trip went off with few hitches—except for a one-day delay leaving the Tehran, Iran, airport and a missed stop in Ecuador due to weather.

Ray Conley, Pirate Investigator

Used to be, the standard-issue pirate stood out in a crowd. It's hard to hide when you wear a hook, eyepatch, saber and peg-leg.

Nowadays the differences are more subtle. All it takes to become a pirate are a bowl-shaped dish, a special antenna and a TV-signal converter. So-called "video pirates" around the U.S. are intercepting—or stealing, depending on how you look at it—microwave pay-TV signals from U.S. broadcasters like Home Box Office (HBO). And they're coveting their neighbors' waves in ever-increasing numbers: Last year there were an estimated 10,000 pirates in Sacramento, California; 18,000 in the San Francisco Bay Area; and 20,000 in Minneapolis, Minnesota.

Raymond Conley, a former intelligence analyst for the U.S. National Security Agency, is making it hard on these pay-TV privateers. Hired by an HBO distributor in the San Francisco Bay Area, Ray sent 100 amateur photographers to comb neighborhoods and take pictures of suspicious-looking antennas. In all, 18,000 homes were photographed.

According to a *Wall St. Journal* article, however, Ray's secret weapon was "a Hewlett-Packard spectrum analyzer, a $50,000 electronic sensor." The electronic sleuths aimed the device at the roofs of suspect homeowners to obtain readings of the frequencies being transmitted by the antennas as they converted the incoming transmission. Ray says that these signals and a brief calculation proved whether the antennas were tuned to a pay television frequency.

HELPING HAND

HP is one of 20 companies that each gave $750,000 toward Stanford University's new Center for Integrated Systems (CIS), which will conduct integrated research in semiconductor and systems technology. Zvonko Fazarinc of HP Labs is HP's first resident scientist on the CIS staff....Community (two-year) colleges in U.S. cities where HP has a facility are now eligible for equipment grants from the company.

NEW PRODUCTS

Two new low-priced terminals from the Roseville Terminals Division: the HP 2393A graphics terminal (U.S. $2,095) works with the HP 3000, HP 1000 and HP 9000 and is compatible with the HP 2623A graphics terminal. Offering great flexibility, it supports a variety of different input and output devices. The HP 2394 high-performance data-entry terminal (U.S. $1,795) offers more memory than its predecessor. By storing forms in local memory, it provides rapid accessing and cuts down on traffic to the HP 3000.

The Portable Plus is a new version of the Portable Computer Division's note-book-sized computer. It has a larger 25-line by 80-character screen and can share data with a variety of computers through an optional built-in 1,200-baud modem. Users have a choice of popular PC software in the form of 3½-inch discs for an optional, battery-powered disc drive or plug-in ROM cartridges (U.S. $2,295).

Something new has been added to the Santa Clara Division's pulsed RF family of counters. Accurate frequency measurements can now be made automatically over the range of 36 to 50 GHz with the HP 5356D harmonic-mixer/driver head and the new HO4 converter head for the HP 5355A automatic frequency converter. The division has also introduced the third in its family of high-performance microwave frequency counters, the HP 5352A. It makes automated measurements up to 40 GHZ.

YHP Instrument Division's new HP 4194A impedance and gain-phase analyzer is an intelligent instrument that reduces device evaluation and development time for component manufacturers. Two measurements can be shown simultaneously on its color display. ...The HP 9430 general-purpose memory-test system from the Böblingen Instrument Division is HP's first dedicated system for semiconductor memory testing. Modular software makes it possible to run tests and write programs at the same time.

The Optical Communication Division's new family of low-priced, miniature fiber-optic components are molded of high-strength plastic and can be auto-inserted.

PARTING SHOT

Logging on

When it comes to tossing 19-foot, 135-pound cabers, Tom Jackson is one of the best there is. For the uninitiated, a "caber" is simply a log, usually pine or Douglas fir, chucked by beefy types in kilts at events called Scottish Highland Games.

The athlete points the caber straight up in the air, runs with it and then tosses it end over end. The goal is to make sure the caber somersaults completely and then lands on its side in a straight line pointing away from the "tosser."

"Imagine throwing a telephone pole around," Tom says, "and you get the general idea."

The Santa Clara Division electronic technician won last year's national title for the caber throw at the annual meet in Santa Rosa, California. And few would dispute that Tom, also a determined part-time Olympic weight lifter, has a better than average shot at this year's caber toss medal. In May, he distinguished himself in the Scottish Games
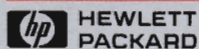

BOB COMBS

state championship in Costa Mesa, California.

He is Scottish on his father's side; Russian on his mother's. "That's a good combination for this sport," asserts Tom, who also excels at other events like the 28-pound weight throw, in which he set a record at last year's national meet.

"I went to watch the games years ago in Monterey with a friend, and it looked like the perfect sport," Tom says with a bonny grin. "I also noticed that it seemed to attract a lot of women."

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