

# MEASURE

*For the people of Hewlett-Packard*

*May-June 1987*



The goal?  
Visibility for HP  
through sports

# THE INSIDE STORIES



page 8

## FEATURES

### Go ahead. . .make my day!

3

Even with more big guns in the competitive arena these days, HP aims to win through customer satisfaction.

### Sports

8

HP has come off the bench to become an all-star performer in diverse international sports-marketing efforts. Cover photo of last year's World Cup games by Paul Bereswill, *Sports Illustrated*.

### ExtraOrdinary People

12

Jon Musser knows pain and despair from living with cerebral palsy. But he's also been to Wildcat Beach.

### New board on board

15

Bill and Dave's sons Walter Hewlett and David Woodley Packard assume positions on the HP Board of Directors.

## DEPARTMENTS

### Your Turn

7

*Measure* readers write of topics of interest to all employees.

### Letter from John Young

19

This month, Executive Vice President-Systems Technology John Doyle explores the health of the Open-Door policy.

### ExtraMeasure

20

Do you know which HP product is the most expensive? Nick Iuppa wrote the book on management by guilt.

NEW  
BOARD  
ON  
BOARD

page 15

## MEASURE

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page 21

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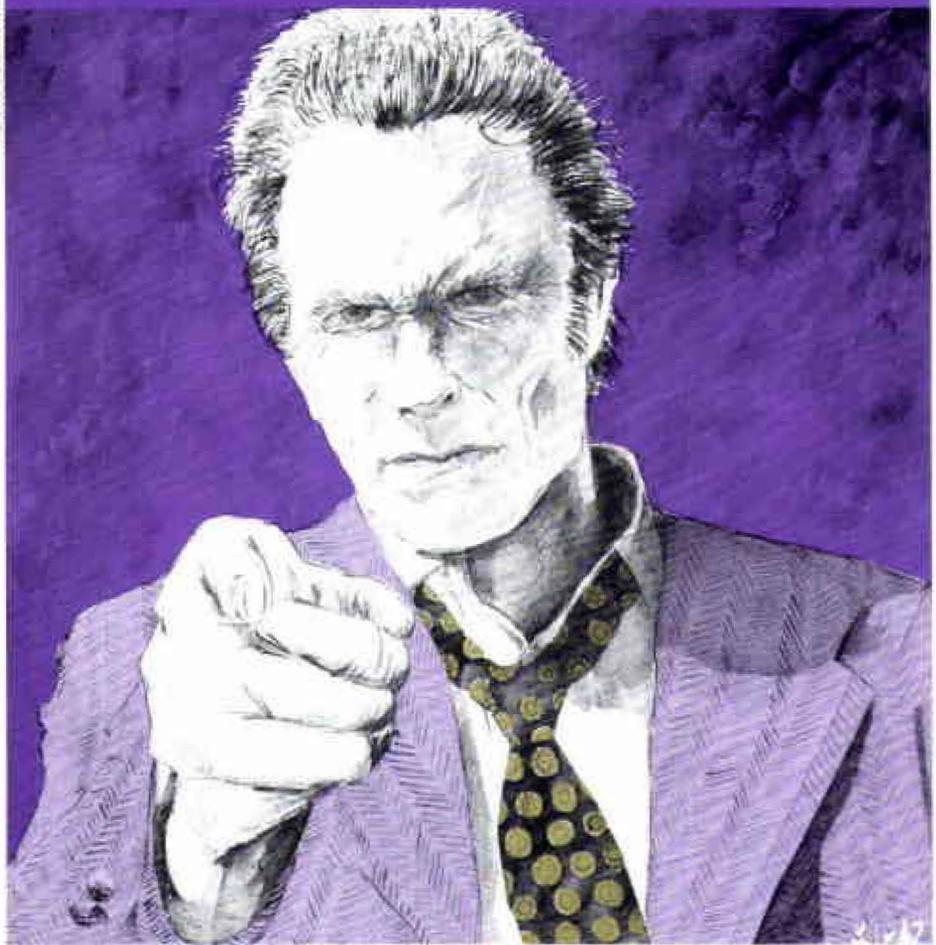
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Go ahead...  
**MAKE  
MY  
DAY!**

MICHAEL CASPARIANO



The competitive  
shootout starts at sunrise  
every day, in every HP  
plant and sales office.  
If we don't satisfy our  
customers—our  
competitors will.

What's all that noise, heat and commotion about, anyhow? The banners in the hallways? The new training programs? The TQC symbols? And the organizational changes?

Why are we doing so many different things these days? And doing so many things differently? Are we getting ready for a fight or something?

Yes. Something like that! It comes down to the fact that, while Hewlett-Packard has always been a strong competitor in serving its customers, conditions in the fight zone have shifted dramatically:

- There are more and more big guns in the arena.
- Customers expect the best of both worlds—quality and price advantages—in our products and services.
- And internally, our combat preparations have turned up many new and better ways to compete, to become a total-quality organization.

Our mission here is not to examine those forces in detail, nor to review our overall response. Instead, let's hear firsthand about some of the HP people and teams who—like you—are in the thick of the battle.

As you'd expect, some of them describe extraordinary actions—medal-winning stuff in the face of unusual



With Pikes Peak in the background, the CTD quality team conducts its sunrise meeting. Clockwise, from left: Cindy Scott, Pat Butler, Larry Hutchinson, Andy Ouder Kirk, Mike Young (who brought his toothbrush), Mike Bergen and Joe Sayers.

challenges and opportunities. Others reflect the ongoing kind of action that's basic to our overall strategy for winning by making our customers winners.

**COLORADO SPRINGS, Colorado:**

It's sunrise. As they do each working day at this hour, the management team of Colorado Telecom Division gathers for the specific purpose of reviewing all information coming in from customers. Most are comments spelled out on the backs of feedback cards that go out with each product. Problems get immediate response.

Here's one: "Couldn't find the power cord!" A phone call quickly steered the purchaser to a pouch concealing the cord.

Another customer, having commented about the poor print quality of an operating manual, said: "You're kidding! A new one is on the way? I can't believe you really called me. You actually read those cards?"

Yes. And keep them coming back, folks. By reading them, HP makes improvements to our processes based on customer input.

**BRIDGETON, Missouri:** That was no ordinary order for the St. Louis office! Less than 40 calendar days to deliver

and bill for a large office system built around the Series 52 computer out of HP's Guadalajara operation in Mexico. Multi-division—multi-national. Replacing an almost-new DEC system.

To HP's Southwestern Bell Telephone sales team in St. Louis it posed a real

test, because not all of the folks at the telephone company thought it could—or should—be done.

The HP team and the supplying divisions did nothing new to meet the test. They simply did it faster, all along the line. Skeptics satisfied. Points scored.

**36年度デミング賞受**



Japanese quality expert Dr. Kaoru Ishikawa compliments Jim Deane's TQC accomplishments at DMD.

**BOISE, Idaho:** First the bad news. Japanese customers were not happy with Disc Memory Division (DMD) products. That message was conveyed to Jim Deane, Gary Ferguson and Craig Menning during a visit to the Customer Complaint Center at Yokogawa-Hewlett-Packard (YHP) in 1985. Findings were that DMD did not fully understand Japanese customer needs and expectations, and needed to become more aggressive and disciplined in solving problems permanently.

The DMD trio listened. To YHP employees. To the philosophy and methodology of Total Quality Control (TQC). To YHP customers. To leaders in the Japanese quality movement.

Back in Boise, the learning was put to work. TQC was applied to all aspects of the product line. By 1986, reliability of one important product was raised by 170 percent, another by 110 percent. Up also were productivity and the

respect of customers.

So much so, in fact, that the 1986 Japanese Quality Conference invited Jim Deane, as the division's quality manager, to make a formal presentation on DMD's achievement in TQC. That was a "first" for any non-Japanese company. It was the best trip in Jim Deane's business life.

**MUNICH, Germany:** Ten transfers of one customer phone call! That must be some kind of record. It didn't happen here. But it might have, given the situation a year or so ago, especially in the case of first-time callers or when people are unexpectedly out of the office.

So, when some callers complained, Munich got the message. A TQC project team researched the problem and developed a response system that now requires no more than one transfer. Either the call goes to someone compe-



Stopping customer complaints at YHP are (from left) Yukihiro Nariki, Kazuo Kuchinomachi and Hideo Ohta.

tent to answer the caller or to a central sales coordinator, one who is highly qualified by experience to know where to find the answer or the expert.

The system has drawn very positive reactions. Complaints have gone almost to zero, and other German sales offices have used it as a model.

**TOKYO, Japan:** "Upset" is hardly the word! The customer, located in YHP's

Western Area, complained strongly that data on the magnetic disc of its HP 1000 system had been destroyed. And not for the first time. Please find and fix this problem forever!

The HP district's customer engineering team soon found the culprit: chemical corrosion of aluminum in the disc head. But what to do about that? Moving the products out of the corrosive environment would invite other problems and dissatisfaction. The team took their questions to the YHP Escalation Center whose mission is to analyze and solve difficult technical problems. They developed an action plan that called for continuous analysis and preventive maintenance by the customer.

It worked. The customer is happy. The sales relationship continues strong. And HP learned something that can be used to fix the problem before it happens to some other customer.

**BRISTOL, England:** Saturday night fever! The following letter, from ARC Concrete Ltd., says it all:

*"We would like to express our gratitude and appreciation for the work carried out by Mr. Glyn Parker and Mr. Philip Mumford whilst they were installing our HP3000/Series 44.*

*"Unfortunately, by Friday night they were unable to get the software (taken from our Series 42) to operate correctly. Philip returned on Saturday morning to change the link cable, but was still unable to get the software to work.*

*"Nevertheless, due to their efforts, both systems were up and running by 10 p.m. on Saturday, and my assistant and I were able to restore all files and to test our software packages on Sunday, therefore insuring that all users would have access to the system and carry on their normal work at 8:45 a.m. Monday."*

*Yours sincerely,*

*D.P. Gold—Operations Controller*

This customer was satisfied, but HP's challenge is to determine the root cause and fix the process once and for all so there won't be any more weekend work because of this problem.

**SINGAPORE:** There she was, nervous but smiling, shaking hands with Lee



## For whom the phone rings

Although invented more than 100 years ago, the telephone still is probably the mightiest medium of personal communication (outside of coffee breaks, of course). It's such a great way to get things said and done. Or to get out of doing anything by switching the caller and hanging up.

Customers complain about that, about being shuttled from person to person in the hope that someone can satisfy their requests. In fact, problems in phone courtesy may be HP's main source of complaints.

Polliteness is not the problem; taking responsibility is. That is, make sure a call is forwarded to the right source of information, and follow up to make sure the caller was satisfied. Also: return phone calls promptly; answer other phones when the owners are away; and keep any promise made to a caller.

In other words, take ownership of the problem until it is solved. If you don't, who will?

And if your calls have to be intercepted occasionally by an answering machine or service, make the experience as painless as possible for those trying to reach you. In your message, make it clear they've reached HP and you in particular—but don't apologize for a recorded reply. Ask for a brief message so you can be armed with good answers when you return the call. And if possible, leave the phone number of someone else who could help while you're out.



Singapore Prime Minister Lee Kuan Yew (left) and Mah Bow Tan (center), congratulate HP's Tan Chwee Choo.

Kuan Yew, prime minister of Singapore, Tan Chwee Choo, production operator in HP Singapore's calculator department, had just received the National Productivity Award for 1986, highest of its kind in that productivity conscious nation.

In 1984 Chwee Choo suggested a simple way to salvage power module assemblies. Savings: \$36,000 (U.S.). She also has made numerous other suggestions to improve productivity, quality and safety. These also have won awards, both company and national.

But 15-minute bursts of fame are not what motivates Chwee Choo. Her particular enjoyment comes from having her work suggestions—and the efforts of her Quality Control Circle—put to winning use.

**PALO ALTO, California:** As Sherlock Holmes discovered about Professor Moriarty, some problems seem to hang around forever. Their only solution is constant vigilance. That's certainly been the case with The Excess Stock System (TESS), the company's "bulletin board" and internal clearinghouse for surplus parts.

In fact, TESS got out of hand not too long ago. Divisions became increasingly reluctant to trust its data, particularly regarding the quality of offerings. An initial companywide audit, conducted by Corporate Manufacturing Information Systems, showed an error rate of 49 percent

in deviations from TESS guidelines and policies.

Given feedback on the audit, the divisions began cleaning up their entries. Some of the guidelines and policies were revised. In six months the error rate was down to 10 percent. Business picked up noticeably. Meanwhile, monthly audits and quarterly reports are needed to help keep TESS on track. Watch out, Moriarty!

**BRISBANE, California:** It's well known that the year-end holiday season can cause some stress, but this sales office got a special helping last year. It arrived on Friday, December 19, in the form of a group of related orders amounting to \$800,000. The equipment had to be delivered and invoiced in total before the New Year. At that point funding would vanish and the order cancelled.

All this at a time when most HP divisions were due to close for all but two-and-a-half days of the season.

But psychologists say that some stress is good for you—stimulating and all that. That appears to have been the case at Brisbane and for 30 employees at the four divisions involved. With creativity, perseverance and even a degree of patience, they turned this long-shot situation into a success story, delivering everything on time. Now, tell us about your holiday!

We could go on and on with stories like these. There's no end to them. The final word is that customer satisfaction is everybody's business—yours, too. But Clint and I and the sheriff here have got to be over at the train depot by high noon. Some kind of ruckus coming in. We'll be back. Have your stories ready.

—Gordon Brown

*(Gordon Brown is a Los Altos, California, freelance writer who wears a gold HP badge. Readers might remember the name from Gordon's years as Measure editor from 1968 to 1982.)*



## We're not kidding

"Customer satisfaction" has become a kind of buzz-word phrase, but HP has added huge amounts of effort and resources to give it substance.

Here, in addition to our many traditional forms of ensuring product and service quality, are some of the more prominent new programs:

- **Total Quality Control/Commitment (TQC):** Building quality improvements that can be measured into every process—products, services and administration—is becoming an HP way of life through concerted training and experience.

- **Customer Response Centers:** Users of HP products throughout the world can now call centralized response centers for expert help from teams of support specialists. They're ready to solve problems on HP systems and applications and to provide remote hardware diagnosis.

- **Customer Information Center:** This new U.S. Field Operations center provides quick answers to potential customers who call HP. Current customers can get updates on products through a telemarketing service.

- **Software Evaluation and Migration Centers:** Two centers have been established to convert or "migrate" existing software to programs that run on the new HP Precision Architecture machines. Tests are arranged early in the development process, at both HP and customer sites, and the results are fed back to labs and marketing.

- **Customer Escalation Centers:** When a customer has a major problem, the cavalry comes in. All necessary support resources are quickly pulled together from throughout HP. (In Europe, this activity is done at Country Response Centers.)

And coming soon: a Customer Feedback System that will systematically let entities know problems that need to be fixed—permanently!

# YOUR TURN

*Measure* readers share their views on matters of importance to employees.

## WW III: Inevitable?

I read your article about John Fitzpatrick with great interest, having previously seen and enjoyed the movie, *Top Gun*. John is a truly gifted and remarkable man, without a doubt. One of John's quotes, however, disturbs me greatly: "My West German colleagues know that they're just cannon-fodder in the next world war." I feel very frightened that our military personnel see World War III as a certainty.

Many people work very hard to make sure World War III won't happen. Perhaps if we put as much energy into solving the underlying problems that are the cause of war as we put into preparing ourselves for the "inevitable" war, we could turn our thinking (and perhaps the thinking of mankind) around. Another world war would destroy most, if not all, life on our planet. I pray John is wrong.

KATHY WEILER  
Palo Alto, California

## Setting the record straight on China

I would like to extend my sincere compliments to *Measure* for its fairness in publishing letters to the editor, but Robert Moudry's letter in the March-April issue contained inaccuracies and a lack of knowledge about HP's international business activities, especially in China.

If HP had chosen to be an "isolationist" company, apprehensive of the political and cultural differences in the many countries where we do almost half our business, many of us would be out of a job. International trade, technology transfer and manufacturing on a global basis are natural phenomena in this business. In fact, it might be the primary answer to our survival. If HP, being basically a non-political firm, decided to pick and choose which countries to do business in, based on a high standard of integrity, few would come up "squeaky clean," including the U.S.

No one is proposing support or extension of communism when we do busi-

ness in China. But the U.S. and most of the "free world" recognize the existence and importance of China and its more than one billion people. Assisting that country in industrial development is an almost universally acceptable practice in order to increase friendly relations and reduce the risk of conflict. People at HP should take pride in contributing to this process.

Transfer of technology to China both by law and by practice is very limited. And jobs are not being transferred. China business, like that in most countries outside the U.S., is incremental business. The minimum manufacturing now taking place in China is exclusively for the Chinese market. In fact, the high level of importation of HP products into China creates and supports many of our jobs elsewhere. Low labor cost is a very minor reason why companies like HP decide to manufacture offshore. That's only a benefit to labor-intensive industries. The real objective is to expand and avoid restrictions to markets.

SY CORENSON  
Intercontinental Operations  
Palo Alto, California

## No, HP is *not* losing it everywhere

I may not read everything carefully from cover to cover in *Measure*, but I do look forward to receiving it and feel it is well done and an effective means of communication for employees. I always enjoy the "Your Turn" section. This time, however, I must respond to the letter entitled, "Are we losing it everywhere?" I read this letter and felt I was hearing things from someone who thinks the company owes him something, and this kind of attitude really gets my goat.

Since 1970, I have seen much change at HP, a lot of it for the better. There have been really good times, and some not so good. We all join in the celebrating when things are going well, and we have also survived the rougher periods. I say, think about the latter and ask yourself what kind of spot would you be in if the HP way had never existed. Would you still have a job? Would you

be going to the bank with your profit-sharing check?

I took the statement, "HP is a faceless company that cares less about its people" personally, and resent it. From looking at the technology gains we have made and the businesses we are in, I don't think our people are being handcuffed. I cannot relate to caring about free donuts every morning and wonder why having a pound of dough in your stomach would mean so much to anyone. The picnics were great, but let's consider that management might have cut people instead of free get-togethers. To me, that is caring.

I'm not the kind of person who sees the world through rose-colored glasses, but I do feel that taking a positive look at solving our problems helps us to get on with the business of contributing to the benefit of ourselves and the company. After all, isn't that what we're being paid to do?

KAREN VIERRA  
Cupertino, California

## Please send mail

Do you have comments about something you've read in *Measure*?

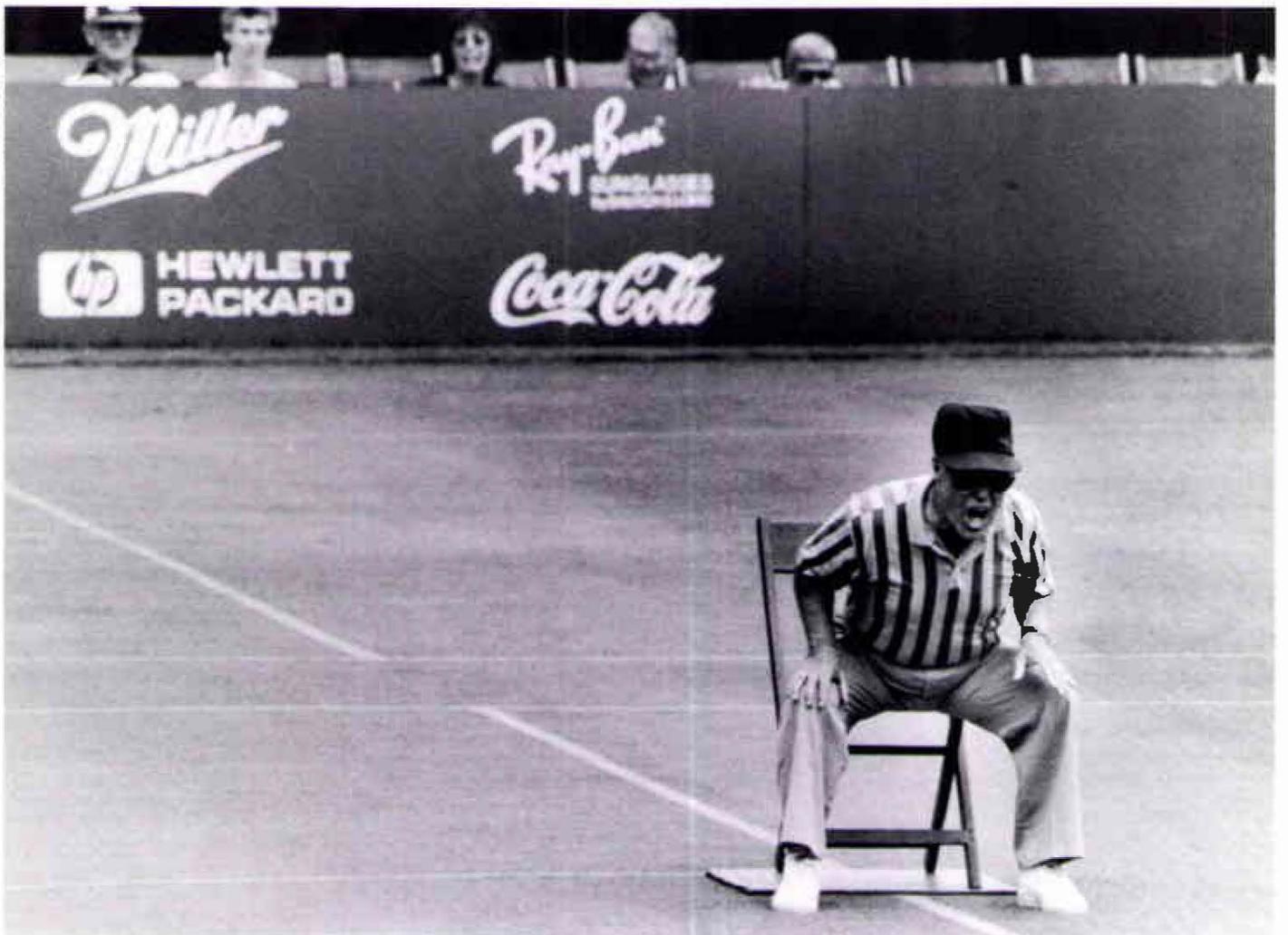
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# SPORTS

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HP wants its voice to be heard in the increasingly popular world of sports marketing. And through its international sports programs, the company is proving to be a multi-dimensional player.



Competitors in the 1986 Tour de France bicycle race round a bend near the Arc de Triomphe in Paris. HP France was there.

It may be one of HP's best-kept secrets, but for the past several years, the company has performed like a decathlon athlete with its diverse international sports-marketing efforts.

In many respects HP is a relative newcomer to the world of sports. But it has come off the bench in recent years to become an all-star performer in an impressive list of cream-of-the-crop events, including the Olympics, World Cup soccer, the America's Cup yacht race, the Tour de France bicycle race and assorted professional tennis tournaments.

Why all this interest in sports? For one, as many other companies are now realizing, sports events often provide valuable publicity opportunities that more conventional marketing or promotional programs don't.

Tennis, which represents HP's largest overall sports program, has an international appeal and major tournaments are held year-round in almost every country throughout the world. The general demographics of tennis

spectators and recreational hackers—professionals and managers—fit well with the type of audience HP is trying to reach through many of its advertising campaigns, including the current "What If" television commercials.

Recognizing this, HP in 1984 entered into agreements with the Association of Tennis Professionals (ATP) and the Women's International Tennis Association (WITA) to provide them with HP equipment and customized software to rank all professional tennis players. On the men's side alone, this means ranking more than 1,000 ATP players competing on the international circuit in both singles and doubles each week.

HP also has played a sponsoring role in a number of professional tennis tournaments held in the U.S. and Europe. HP's first tournament action came last year at the Lipton International Players Championship in Florida. As one of the world's most prestigious tennis events, the tournament boasted a combined purse of \$1.65 million, and it attracted the top

men and women players. It also provided some national and local visibility through customer events, center-court signs and free program advertising.

At the Rome International Tennis Championships this May, HP was to be the official computer partner of Tournament Director Antonio Monduzzi of the Italian Tennis Federation. This event is significant because it's the first time several HP entities—Italy, Germany, Palo Alto, Dallas and HPSA—have collaborated to provide complete computer service for an international tournament.

But it's not simply demographics that determine the potential attractiveness of sporting events from a marketing standpoint. Another major consideration is how HP equipment can actually be put to use in connection with different sports.

Most of HP's sponsorships are "in kind," meaning the company receives the same publicity rights as paying sponsors by supplying equipment, service and support instead of cash.



In Germany, HP will provide scoring and statistics for more than 20 events this year, including tennis, golf and gymnastics.

HP's Analytical Group, perhaps the company's only true sports-marketing veteran, has for many years provided drug-testing equipment and support to various international competitions, including almost all Summer and Winter Olympic Games since 1972. HP will continue that tradition next year by providing equipment and support to the Winter Olympics in Calgary, Canada, and the Summer Games in Seoul, South Korea. During the 1988 Winter Games alone, more than 500 athletes will be screened.

But HP's analytical equipment has been found at a number of other prominent international sports events, including the 1983 Pan Am Games in Caracas, Venezuela, the 1986 Asian Games in Seoul and the 1986 World Cup soccer championships in Mexico City.

"Our presence at these Olympic events has been key in helping HP to be well-positioned to capitalize on the current drug-screening frenzy in the U.S."

said Larry Cattran, marketing manager for Scientific Instruments Division.

Applications for HP gear have not, however, been limited to events held on land. Ten of the original 18 America's Cup entrants in this year's challenge—viewed by many as being as much a test of technology as nautical skill—used HP gear for any number of racing applications, including design and navigation.

Crew members on the eventual winner, San Diego-based *Stars & Stripes*, used HP-71B handheld computers and a plotter to navigate and analyze their craft's performance through the entire series of grueling races.

Auto racing is another sport that provides ideal application possibilities for HP equipment. At the 1985 Talladega 500 stock car race in Alabama, HP helped develop the first telemetry system ever used in actual competition for an entry known as the *Skoal Bandit*. Critical performance data was relayed throughout the race from the car to a

video monitor in the pit. CBS, which broadcast the race to a national television audience, received the same feed and showed it simultaneously to millions of viewers at home.

Though such systems later were banned during races, computers remain an integral element in car design and testing. Dan Gurney, a highly acclaimed driver who retired from competition in 1970 and now runs his own racing organization, uses HP computers to design new and faster race cars for events such as the Indianapolis 500.

"Our overall goal is pretty much along the lines that the HP hardware is built for—a closed-loop system," said Ron Hopkins, Gurney's chief design engineer. "You have the design, the testing and the analysis and it all feeds back in a loop. We'll get data from our wind tunnel and turn it into hardware, then test the real cars and feed it through again. It will really be a nice system."

Even in some of the more traditional

sports, like tennis, technological advances allow for increased use of HP's high-tech equipment.

After signing agreements with the ATP and WITA, HP went to work on a software package, called HP PROMAP, that manages the business tasks of any size professional tennis tournament. It is designed for use on HP's Vectra personal computer, and has helped organizers run a number of successful tournaments, including Lipton, the International Tennis Hall of Fame in Newport, Rhode Island, and the Virginia Slims Championships in New York. HP also has developed a sophisticated on-line press-information system for the ATP that provides detailed biographical data and statistics on more than 400 players.

In addition, HP computers will be used to automate the 1987 Olympics Festival in North Carolina.

The natural connection between HP equipment and sports events, and the resulting visibility it affords, have led a number of international HP entities to develop their own programs.

In France, the company has played a major role in the Tour de France bicycle race each year since 1984, and has been involved in tennis, golf and squash programs.

HP Germany, which this year will participate in more than 20 sports events, first became involved in sports activities in 1984 when asked to support the 1985 European Basketball Championship with a press and television information system.

The hardware and software used for basketball have served as the basis for similar scoring and statistical systems used in tennis, golf and gymnastics, all of which are televised to spectators at home.

"We are seeking ways to enhance our television interface so that graphics such as national flags or statistical charts are included with the broadcast, and we want to enlarge the overall systems so that event organizers have access to more timely and valuable information about their tournaments," said Falk Kurzendoerfer, who as a system engineer in Böblingen is responsible for sports-software development.

HP in the United Kingdom also initi-



**HP hopes international tennis events like the Sunjory Japan Open with Ivan Lendl, above, will put it on the receiving end of more customer inquiries and increased sales.**

ated its first sports-related program two years ago when it became the major sponsor of events staged by the Amateur Swimming Association and the English Schools Swimming Association. Though this sponsorship does not actually involve the use of HP equipment, through it HP has achieved relatively inexpensive national attention.

"The real value to the company is in the exposure we gain on national television and radio, which well exceeds the amount of money we paid into the sponsorship," said Roger Payne, UK Sales public relations manager.

While the U.S. often is viewed as being a sports-crazed country, a prevailing interest in athletic competition throughout other parts of the world translates more and more into marketing opportunities. And it's a sure bet that HP will be there to convert many of them into marketing victories.

—Gene Endicott

*(Gene Endicott, senior press relations representative, qualified to write this story for Measure due to his extensive research of the local sports pages looking for mention of HP. It's a dirty job, but somebody's got to do it.)*

# EXTRA

## ORDINARY PEOPLE



KATE BODIE

He's been on top of the world and in the depths of despair. HP's Jon Musser has been to Wildcat Beach.

*I have walked the streets of Jerusalem  
Visited Bethlehem and the Sea of Galilee  
I have walked through Nazareth and Capernaum  
Passed through Jericho  
I have crossed the Jordan River  
Ventured through the Armeqeddon Valley  
I have peered into Lebanon and Syria  
Seen Jordan and Saudi Arabia  
I have traveled into Egypt  
Crossed the Suez Canal on a ferry  
I have walked deep within the Great Pyramid of Giza  
Sailed on the Nile River  
I have seen the tomb of Jesus Christ  
Visited the site of the Last Supper*

*I have seen the Dome of the Rock  
Touched the Wailing Wall  
I have stood in the shadows of Stonehenge  
Witnessed the splendor of Schonbrunn and Versailles  
I have seen a perfectly preserved Roman Coliseum  
Walked beside the Acropolis  
I have walked through the ruined palace of Knossos  
Shared the Oracles of Delphi  
I have been through chateaux on the Loire River  
Castles in Portugal and Switzerland  
I have stood in the State House of New Hampshire*



*Visited the White House and Supreme  
Court Chambers  
I have seen the Senate Chambers fill  
with senators  
Seen the Library of Congress  
I have flown near the Great Arch in  
St. Louis  
Been atop the Washington Monument  
and Empire State Building  
I have seen the Statue of Liberty and  
Arch of Triumph  
Crossed the Golden Gate  
With me fully conscious and with  
insufficient anesthesia, a  
neurosurgeon once drilled a hole in  
my skull, inserted a hollow tube  
deep within my brain, and froze  
lesions in the thalamus of my brain*

*If only that were the deepest wound  
left me by a neurosurgeon  
I have witnessed riots at Berkeley  
Felt the pungent odor of tear gas sting  
my nose and throat  
Had my eyes filled with tears  
I have seen police by the busload  
in Paris  
Have ridden in a train full of soldiers  
in Portugal  
I have seen a man drenched in blood  
in Amsterdam  
Had my life threatened by a prostitute  
I have been brutally attacked in a  
mental hospital  
Been observed for a month by a Soviet  
psychiatrist*

*I have been injected with Thorazine  
and Stelazine  
Taken Lithium, Valium, Artane,  
Navane,  
Lidone, Molindone, Congentin and  
Haldol  
I have attempted suicide  
I have watched a good friend die  
I have ridden in the back seat of a  
police car  
My hands shackled in handcuffs  
I have ridden in a chauffeur-driven  
limousine  
I have been investigated by the Secret  
Service  
Been removed from a train in  
Romania  
I have been denied entrance to a bar*

# Extra ORDINARY PEOPLE

Experienced discrimination in a cafe  
in San Francisco

I have spent a night shivering in a  
Cambridge churchyard

Spent a night with Israeli troops  
guarding the Eastern frontier

I have spent a night in a room filled  
with Bulgarian peasants

Have hitchhiked across France

I have received a Turkish bath and  
massage in Istanbul

Drunk a beer at Oktoberfest in Munich

I have had tea with a woman who lost  
her family in a Nazi concentration  
camp

Beer with a man who lost his mind  
in one

I have taken coffee with a man who  
grew up in pre-Soviet Russia

Lunch with a man who was captured  
by the German army in World War II

I have had dinner with a man whose  
hands and legs were crippled before  
he was 25

Dined with a man who claimed to be a  
Major General

I have known, as a boy, a man killed  
in Vietnam

I know men who have survived

I have shared a seat with an elegant  
London fashion model

Roomed with working class South  
Africans

I have sat beside Jane Fonda

I have received correspondence from  
Marsha Mason and Katherine  
Hepburn

Received a letter signed by Ronald  
Reagan

I have shaken hands with a Nobel  
laureate

Dined with an Indian chief

I have seen flares light the skies over  
Northern Israel

Seen fire on the beaches of Tel Aviv

I have fed pigs at daybreak, mowed  
wheat stubble till dusk

I have cut weeds in fields of shoulder-  
high soy beans

Combined oats and shelled corn

I have sold greeting cards and  
Christmas holly

Mopped floors and painted toilet stalls

I have delivered the daily newspaper

Worked as a painter, van driver and  
warehouseman

I have waited tables and washed  
dishes

I have worked as an industrial  
engineer and computer programmer

I have broadcast news on the radio

I have developed programs for senior  
citizens

Supervised preschool-age children

I have studied applied mathematics at  
Washington University in St. Louis

Nuclear physics and revolution at  
Berkeley

I have studied Jungian psychology  
at Sonoma State College

I have studied acting at a fine  
American conservatory

I have studied painting with an  
old master

I have tutored BASIC to a man who  
lost both his legs

Taken a person with Down's syndrome  
to the symphony

I have advocated on behalf of a young  
man with cerebral palsy

I have worked my way off of disability  
and SSI

I have sold paintings I painted

Composed tunes on the piano

I have jammed with talented  
musicians

Played a solo on the baritone horn

I have received a standing ovation  
for a performance

Helped with a play in a professional  
theater

I have soloed in a small airplane

Played tennis on a championship  
team

I have published poetry I have written

Panned for gold in the California  
Mother Lode

I have lighted candles at the altar

Led DeMolay boys in prayer

I have spoken to five thousand people

Led an auditorium of Boy Scouts in  
the pledge to the flag

I have gambled all night in Las Vegas

Seen the sunrise while playing bridge

I have hunted for Indian arrowheads  
in Indiana

Ridden the rails to Kankakee

I have gone two weeks in high-country  
wilderness

Have swum in the Mediterranean Sea

I have hiked cross-country in the  
Sierra and Yosemite National forests

Hiked to the Matterhorn in the  
Swiss Alps

I have hiked forty miles in the  
Grand Tetons

Skied down the face at Heavenly  
Valley

I graduated Phi Beta Kappa from  
the University of California

I've been taken for mentally retarded

I've been told I've done things which  
were theoretically impossible

I've been labeled athetoid, dystonic  
and spastic.

Schizophrenic and manic depressive

I have twice conquered cerebral palsy

And know how lonely life can be

I have walked many a solitary mile at  
Point Reyes National Seashore

I have been to Wildcat Beach

—Jon Musser



(In his eight years with Hewlett-Packard, Jon has worked as a developmental engineer, a programmer and now is a van driver in the Worldwide Customer Support Operation at Mayfield Mall in Mountain View, California. He has a degree in history from the University of California-Berkeley, a degree in psychology from Sonoma State College and completed the computer training program at the Center for Independent Learning. Jon devotes much of his free time to writing poetry and prose and hopes soon to publish a collection of poetry. Since painting is also a hobby of his, he's considering illustrating the book himself.)

## NEW BOARD ON BOARD



Walter Hewlett (left) and David Woodley Packard bring to the company the second generation of Hewlett-Packard leadership as members of the Board of Directors.

When HP's Board of Directors welcomed three new members March 20, two of them already felt quite at home.

Two of HP's new directors—David Woodley Packard and Walter Barry Hewlett—remember being part of softball games and penny hunts as children at HP picnics more than 30 years ago. They remember being “turned loose” in the HP labs when their dads toted them along to work on weekends.

This second-generation Hewlett-Packard leadership is coming home in a way. Their stories are intricately woven into the past of the company.

The third new member, Donald E. Petersen (see photo, page 17), also welcomed to the board March 20, is certainly well qualified, even if his history with the company doesn't encompass his whole lifetime. Donald Petersen, 60, began his career at Ford Motor Company in 1949 and today is chairman of the board and chief executive officer. After helping to establish the product-planning department, he went on to play a substantial role in developing one of the company's most successful cars—the Mustang. He holds a bachelor's degree in mechanical engineering from the University of Washington and a master's degree in business administration from Stanford University.

The three joined the board after company co-founder Bill Hewlett and Yokogawa Electric Corporation President Shozo Yokogawa retired February 24. A

new position was then added, bringing the total number of directors to 17.

David Woodley Packard, 46, a Greek scholar with a Ph.D. in classics from Harvard, has many memories of growing up in and around HP.

The thing he remembers most is “going to the HP picnics year after year. I remember the penny hunts. They'd have a pile of sawdust full of pennies and nickels for the kids to scramble around in. Even after I was much too old to play, I continued to year after year.”

As he grew up around HP, David never felt compelled to become an engineer. He did, however, develop, at age 10, an interest in electronics.

In addition to his own lab bench in the Packards' basement, he spent weekend hours with his father and other engineers. “They'd just turn me loose in the lab. I probably exaggerate this in my memory, but I think I was pretty good at electronics at a very young age.”

David, the oldest of the four Packard children, went on to work for HP three summers during high-school. He spent one year on the assembly line, one on the test line and one in the stock room in the building at 395 Page Mill Road in Palo Alto (the old administrative building, now part of Stanford Park Division).

## NEW BOARD ON BOARD



Dave Packard, chairman of the board of Hewlett-Packard, and T.A. Wilson, chairman of the board of the Seattle-based Boeing Company, have a pre-board meeting chat.

PHOTO BY MICHAEL J. J.



Bill Hewlett, director emeritus, talks with HP board member Shirley Hutsledler.

He entered Stanford University with the idea of becoming an electrical engineer. After seeing he would have only one elective course to choose over the next four college years, he decided to switch to a less intense major—mathematics.

So how did a mathematics major end up studying Greek?

"It really wasn't such an irrational choice. My grandmother (Dave's mother) taught Greek. When I was a child, she would tell us stories of Greek mythology. I enrolled in an ancient Greek class in high school because I had such pleasant memories of my grandmother's great stories."

Destiny took its course and David went on to earn a bachelor's degree in classics from Stanford University, and later, a Ph.D. from Harvard in the same field.

He settled into the role of university professor for the next few years, moving from the University of California at Los Angeles—where he taught Greek—to Chapel Hill, where he lectured on classics at the University of North Carolina.

While at Chapel Hill, he thought it would be fun to have a computer in the department. So he purchased an HP 1000 computer, programmed the Greek alphabet into the terminal and developed a language lab, in which the computer asked questions and the

students had to answer in Greek.

As it turns out, he became an Original Equipment Manufacturer (OEM) for HP. He eventually sold 14 of these systems to top universities, including Princeton, Duke and the University of Pennsylvania, under the name of Ibycus Systems.

Three years ago, he decided to start again from scratch, and designed an entirely new personal computer for scholars. His company, which currently has only two employees, built the first 100 machines in his father's workshop in Los Altos Hills. Many of these Ibycus Scholarly Computers are now being used by scholars and students working with Greek, Latin and Hebrew.

One owner of an original Ibycus system is none other than another new member of the board, Walter Hewlett.

"I've gotten inspiration from David," says Walter. "I got the idea from him that I could use a computer to study Bach—and it's the Ibycus system that's made it possible for me to do what I'm doing today."

Walter Hewlett, 42, is the director of the Center for Computer-Assisted Research in the Humanities. He spends most of his time working on musicology projects, mixing music with technology.

He's developing hardware and software to support the processing of musi-

cal data, to develop databases of large musical repertoires and various text sources, and to identify areas of scholarship that might be aided significantly by the application of computer-aided technology.

Like David Packard, Walter's academic studies blended both the technical and non-technical.

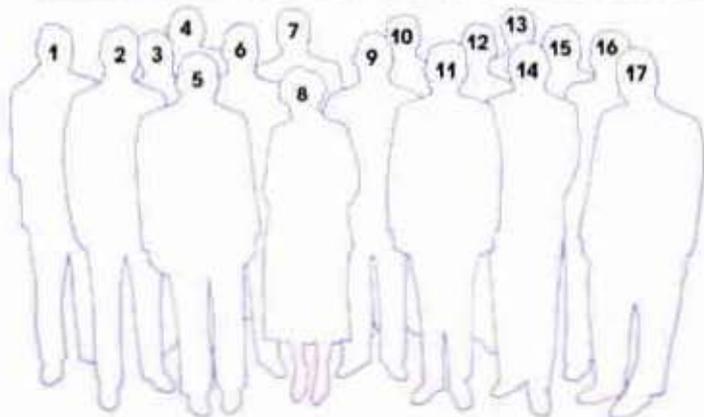
He holds a bachelor's degree in physics from Harvard University, master's degrees in engineering science and in operations research from Stanford University, and a doctor of musical arts degree from Stanford.

Walter's first career choice (after his doctorate in music) was to work as a university instructor. But there weren't a lot of positions available at universities around the country for performing organists.

It was later that he got the idea of becoming a music researcher. He has entered about 20 percent of Johann Sebastian Bach's music on a computer and uses the computer to find, sort and analyze the data. His goal is enter all of Bach's music in the system.

Walter believes the computer will be a powerful tool in the humanities, and that in the future scholars can cut down the amount of information they need to keep in their heads.

Another job option Walter, the second oldest of five children, had after college



- 1—Paul F. Miller; senior partner, Miller, Anderson and Sherrerd (an investment management firm)
- 2—George A. Keyworth II; chairman, The Keyworth Company (a business strategy consulting firm)
- 3—T.A. Wilson; chairman, The Boeing Company (an aerospace company)
- 4—David Packard; chairman, Hewlett-Packard Company
- 5—William R. Hewlett; director emeritus, Hewlett-Packard Company
- 6—John A. Young; president and chief executive officer, Hewlett-Packard Company
- 7—David Woodley Packard; president, Ibcycus Corporation
- 8—Shirley M. Hufstедler; partner, Hufstедler, Miller, Carlson & Beardsley (law firm)
- 9—Hicks B. Waldron; chairman and chief executive officer, Avon Products, Inc. (a beauty, fashion and health-care company)
- 10—John B. Fery; chairman of the board and chief executive officer, Boise Cascade Corporation (a paper and forest products manufacturer and distributor)
- 11—William E. Terry; executive vice president, Hewlett-Packard Company
- 12—Harold J. Haynes; retired chairman of the board and chief executive officer, Chevron Corporation (formerly Standard Oil Company of California)

- 13—Dean O. Morton; executive vice president and chief operating officer, Hewlett-Packard Company
- 14—James D. Hodgson; international business consultant
- 15—Antonie T. Knoppers, M.D.; business consultant and director of various companies
- 16—Walter B. Hewlett; director, The Center for Computer-Assisted Research in the Humanities
- 17—Robert J. Glaser, M.D.; director for medical science, Lucille P. Markey Charitable Trust



HP's third new director, Donald E. Petersen of the Ford Motor Company, was unavailable for the group photo above, but says he's pleased to join the board. "In my view, two factors contribute to HP's success: its people-oriented management style and its recognition of the need for a consumer focus. In both areas Hewlett-Packard stands out and is a model for other companies to follow."

was to join Hewlett-Packard's ranks. He had worked for HP during the summer of 1970 in Böblingen, Germany, and would have remained, had it not been for scholastic obligations at Stanford.

"I worked in electronic data processing and in production control where I felt the work I was doing was really helping people."

He'd always been asked, "Are you going to go to work for your father's company someday?" And, "Are you going to grow up to be like your father?"

"Of course I wanted to be like my father. I admired him. And I always thought that someday I might work for HP. One day my father told me, 'You can work for HP, but I want you to understand that if you do, you're going to be treated like everybody else. There's no special consideration.'"

Walter spent many of his younger days in and around HP. At least once a month, Bill brought him down to the plant.

Of all the memories, the summer picnics stand out. "The company picnics were held originally at Adobe Lodge in the hills above Palo Alto. There was always a softball game and a penny hunt.

"One of the great things to do was take big chunks of dry ice (used to keep the ice-cream cold), get a cup of hot coffee, drop the ice in and run all over the place with the thick smoke bubbling out like crazy. We were imitating the old steam trains that still passed by there."

He also remembers his father and "Uncle Dave" serving steaks to all HP employees.

Over the years, he's attended a lot of picnics and met quite a few employees. So wandering around and meeting new HP employees won't be foreign to him.

"Part of my job as a member of the board is to get to know people. There may be people in the organization now who are going to be candidates for the job as president or for many of the top jobs whenever the company reorganizes.

"Many of those people are my age or younger. If I'm here for, say, 28 years, I'm going to know them pretty well."

He feels that of all that he might contribute, the most important thing he'll be able to do is offer good advice. "I



**Dean Morton of the Board of Directors and Doug Chance at a board dinner at Corporate headquarters.**

might occasionally go around to someone in the personal computer area and ask, 'Have you thought about doing this?' or 'What if you decided to...?' I like talking to people—hearing what people are doing."

David Woodley Packard will be wandering around, too. He says he enjoys "getting down to the lowest technical level to figure things out for myself. It will be tough for me to avoid, for example, taking an interest in the products themselves.

"As Walter has said before, for the first couple of years, our job is to sit and listen. I've made myself a promise that I'm not going to pound the board-room table—for at least one year."

—Vernon Andrews

*Vernon Andrews, HP historian and visitor relations coordinator, provides tours of Bay Area facilities for new board members and a host of other distinguished visitors—including occasional royalty.*

## A smorgasbord of activities

The Hewlett-Packard Company Board of Directors is charged with seven major responsibilities. They are:

- Establish the basic objectives and broad policies of the corporation.
- Elect the corporate officers, advise them, approve their actions and audit their performance.
- Safeguard and approve changes in the corporate assets (issuance of securities, pledge of assets on loans, declaration of dividends, and conveyance of property).
- Approve important financial matters (such as budgets, capital appropriations, officers' pay, financial audits), and see that proper annual and interim reports are given to stockholders.
- Delegate special powers to others to sign contracts, open bank accounts, sign checks, issue stock, make loans, and such other activities as may require board approval.
- Maintain, revise and enforce the corporate charter and bylaws.
- Perpetuate a sound board through regular elections and the filling of interim vacancies.

Board members are elected annually to serve until the next annual meeting (most often, members serve far more than one year).

They're paid \$700 per meeting, with an additional \$24,000 per year going to directors from outside HP.

Committee chairs (again, only outside HP) receive an additional \$3,000 for the extra responsibility of heading one of six committees:

- Audit committee
- Executive compensation and stock option committee
- Nominating committee
- Executive committee
- Employee benefits committee
- Investments committee

The board meets six times a year, and the committees typically meet (if necessary) the day before the board meeting.

Occasionally, the board meets in some far-away place. A trip to the People's Republic of China in September 1983 was the most recent venture. This meeting was the first held in China after World War II by the board of directors of a U.S. corporation.

# LETTER FROM JOHN YOUNG

John Doyle, executive vice president of Systems Technology, explores the health of HP's Open-Door policy.

*The Open-Door policy has always been an important cornerstone of the HP way and how we work together. Perhaps we even take it for granted at times — until it doesn't work for us.*

*John Doyle sent me the following memo with some of his thoughts about how the Open-Door policy is working—or not working—in the company. I think his fresh insights will help us understand and use the system better, so I'm passing them along to you in place of my usual message.*

—John Young



John Doyle (left) fits in a quick coffee break with John Young, just a few hours before leaving on a two-week business trip in March to HP entities in Europe.

Early this year, I spoke to a group of HP employees and mentioned Nobel Laureate Ken Arrow's notion of the economic value of trust. In his book, *The Limits of Organization*, Ken states, "Trust and similar values, loyalty or truth-telling . . . have real, practical, economic value; they increase the efficiency of the system, enable you to produce more goods or more of whatever values you hold in high esteem."

"Trust," says Ken, "is an important lubricant of a social system . . . it saves a lot of trouble to have a fair degree of reliance on other people's word."

Ken's ideas about the economic value of trust struck a responsive chord in my HP audience that day, and I received quite a few memos, phone calls and visits triggered by the talk. It led me to consider that a look at beliefs about the Open-Door policy would be a good topic to revisit in *Measure*.

I'm convinced that if we more actively use our Open-Door policy to talk openly about our problems, we will add significantly to the atmosphere of trust we've worked hard to engender at HP.

One of HP's fundamental strengths is the effectiveness of our communication — upward, downward and between entities. Our managers are responsible for creating an environment in which employees feel free to express concerns. However, when it comes to the Open-Door policy, most people seem to think about it in just one way. In actual fact, there are at least two possible uses of an Open-Door visit. We most frequently see the one in which people raise personal issues that affect them adversely in their view, either poor treatment or

misjudgment on the part of management. People do not seem to be particularly averse to bringing up these problems, and we usually manage to find solutions fairly expeditiously.

The second use of the Open Door is much rarer. Recently, I have had visits from people at several levels who are happy at work, happy with their management and with the company, but believe that something is going on around them that is to the detriment of the corporation, our customers or shareholders, rather than to themselves. They tell me they have brought these issues to the attention of managers one or two levels above them, and have been either ignored or persuaded that their view is incorrect. Afterward, they usually retreat and just go on doing their job, suppressing their conscience with respect to the troubling matter. The end result is that senior management is kept in the dark about problems that may exist in the organization.

My recent visitors have given me a clue about why the Open Door is not used more aggressively when the problem goes beyond personal grievances. It has to do with how employees perceive their management.

There are perhaps three degrees of managerial leadership: First, there must be a vision where you describe things as they might be and hope that things are going to be as you envision them. Second, you have optimism, in which you believe things are going to be as you want them to be. And, third, you have persuasion, in which you convince others that things are as we want

them to be or will be that way shortly.

Now, it seems to me that when most people—whether managers themselves or not—look at those above them in the organization, they see those managers behaving in one of these three ways, and frequently in the persuasive mode. When you see three levels of management, one after the other, being persuasive about the way they want things to be and hoping that things will be that way, you may not perceive this as simply vision, optimism or persuasion. It might feel like a fourth, more repressive perception—more like coercion—especially if your direct view of the problems is inconsistent with the vision expressed.

I don't believe that managers consciously try to achieve this style. However, the net effect of several managers, each trying to be persuasive, can create the feeling of coercion.

In such cases, I think it's important for all employees to remember there is that second way to use the Open-Door policy. We must be aware of the responsibility we have toward the customers and shareholders of the company, and to our fellow employees to use the second kind of Open-Door visit—a visit of conscience—appropriately. Our awareness of this economic value of trust should keep the doors open throughout the company—and benefit all of us in the long run.

# MEASURE

## Extra



HP's help makes advanced math a snap for Texas Tech freshman Scott Tooke, who has cerebral palsy.

### It all adds up for Scott now

Though he lacks the fine motor skills to press the keys, a young man in Texas can now keep up with his accounting class using his HP-71. And he has Lea Bailey of the Corvallis Portable Computer Division to thank for it.

Scott Tooke, a freshman at Texas Tech University, has cerebral palsy and uses a light-activated electronic message board called a Light Talker to communicate. But for complicated math problems, what he really needed was an HP calculator. When an engineer at Texas Tech called HP for advice about using a calculator with Scott's Light Talker, Lea Bailey took the call and the challenge.

Lea borrowed a Light Talker from the manufac-

turer and began tinkering. "It was the most fun I've had all year," she says. She spent about eight to 10 hours to connect the two machines with an RS-232 interface, and to try out different possibilities. Nathan Zelle in the calculator lab and Lea's coworker Steve Tenney also helped tinker.

Now Scott can activate all the key functions of the HP-71 from his keyboard. The Light Talker display shows the problem, and the answer appears on the calculator display.

Lea says the program will work for other handicapped people in similar situations. She's documented the program in the hope that other people might be able to benefit from it and has told the Light Talker manufacturer about her success.

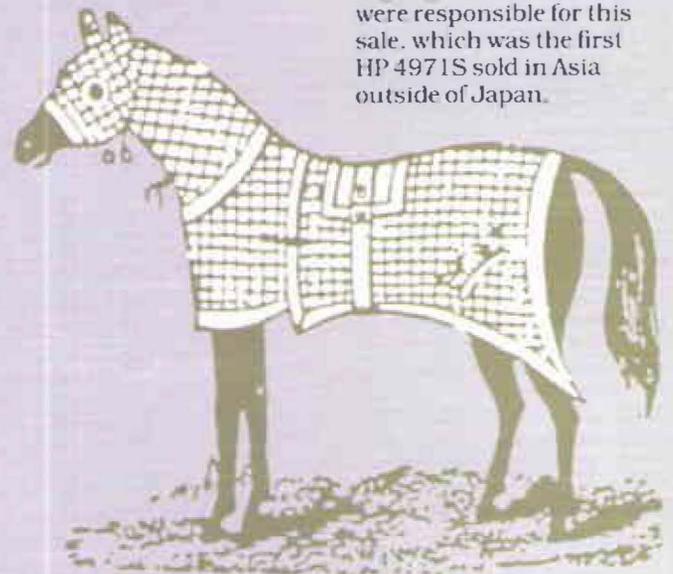
### It's Hewlett-Packard by a nose

Horse-racing is big business in Hong Kong. The Royal Hong Kong Jockey Club (RHKJC), the largest gaming organization there, operates two courses—one in Happy Valley on Hong Kong Island, and one in Sha Tin, New Territories. Instead of going to the track, residents go in droves to the nearest betting shop to place their wagers. More than \$15 million in bets was placed during the final race of the '85-'86 season.

All betting operations are handled by 107 networked mini- and supermini DEC computers. But HP gained an edge at the start of the

last season when the club decided to build a local-area network (LAN) at each race course based on DECnet (Ethernet) to manage the increasing information flow. An HP 4971S LAN protocol analyzer was ordered to track the traffic, diagnose and isolate possible faults and to evaluate the overall LAN performance. Colorado Telecommunication Division (CTD) product manager Dave Couch submitted a LAN configuration proposal to the RHKJC recommending at least two HP 4971S analyzers be installed at each location. They were to be installed by the start of the next season.

Kris Chan and Richard Yang, HP Hong Kong sales reps, and Belinda Yung-Rubke, product marketing engineer from CTD, were responsible for this sale, which was the first HP 4971S sold in Asia outside of Japan.



## BOTTOM LINE

Hewlett-Packard Company reported a 9 percent increase in net revenue and a 6 percent increase in net earnings for the first quarter of its 1987 fiscal year ended January 31, compared with the year-ago quarter.

Net revenue totaled \$1.740 billion, compared with \$1.597 billion for the same quarter in FY86. Net earnings totaled \$116 million, equal to 45 cents per share on approximately 256 million shares of common stock outstanding, compared with the corresponding \$109 million and 43 cents per share in the year-ago quarter. Incoming orders for the quarter were \$1.931 billion, up 13 percent from \$1.712 billion in the first quarter of FY86.

## CHART CHANGES

**Wolfgang Rucker** has been named general manager, Technical Systems Sector Europe.

A second business unit in the Business Systems sector has now restructured to transfer activities of one of its former divisions to the BU level. In the Commercial Systems Business Unit, the systems marketing and systems engineering activities of the former Computer Systems Division now report directly to **Doug Spreng** as BU GM.

Reporting relationship of the Salt Lake City Operation has changed from the Design Systems Busi-

ness Unit to the Technical Systems BU.

## NEW HATS

**Carolyn Ticknor** to GM, Roseville Networks Division . . . **Ekhart Braun** to GM, German sales region . . . **Sandy Chumbley** to operations manager, Systems Software Operation.

Named to the new senior management role of system program manager with broad coordinating responsibilities: **Jim McCabe**, low-end and high-end HP-UX systems; **Jerry Nelson**, mid-range system program for HP-UX systems and hardware implementation for MPE-XL systems; **Bill Toney**, Intel-based systems; and **Carl Snyder**, MPE system program with responsibility for the HP 3000 Series 930 and 950.

In the new role of Direct Distribution Manager—Europe, **Max Fallet** will develop and oversee country centers to move off-the-shelf products direct to customers.

## WORTH NOTING

**Don Hammond** and **Len Cutler** have been elected to the National Academy of Engineering, which honors distinguished contributions to engineering theory and practice. . . . The 1986 Hewlett-Packard Europhysics Prize of the European Physical Society has been awarded to Professor F. Mazel, inventor of neutron spin echo spectroscopy. . . . **Bud Eldon** and **Bill McCalla** have been named IEEE Fellows.



## A mushy story of a man's 11 best friends

Grenoble's Thierry Bloch, Computer Support Group Planning and Control service, has left a trail of victories behind him in European sled-dog racing.

Since 1978, Thierry has placed first in French races several times and has been selected for the French national team vying for the European championship. He came in fourth in both the 1985 and 1986 European events in the six-dog category.

A bad accident two years ago left Thierry with only one leg, but he says his 11 huskies with four legs each can provide him a steady 16 mph pace. He says he'll have to raise that average to 20 mph for worldwide competitions next year.

He plans to get his team in shape to race in North America next winter, including races at Saranac, New York; Laconia, New Hampshire; three races in Quebec, Canada; and the world championship race in Anchorage, Alaska. He'll lease 10 more dogs from a pro race kennel to enter the category for 14 to 16 dogs.



I don't know about you, but I'm going to sign up for some!

# Extra MEASURE



Glenn Metz (left) and Kris Andrews (right) join Lucy Bauer for a lunch-hour run.

## She's a winner in the long run

Her family laughed when 41-year-old Lucy Bauer taped a Honolulu Marathon brochure to the refrigerator door and told them she planned to run it. To them, it was unthinkable that a woman her age who had only recently taken up running would subject her body to the punishment of a 26-mile race.

Lucy, who is in accounts payable at the Spokane Division, approaches running with the single-mindedness of the obsessed.

She completed the Hono-

lulu Marathon (she figures the T-shirt cost her about \$2,000), and last year found herself in a teeming sea of humanity called the New York Marathon with 20,000 other fanatics. She finished 1,090th.

Her worst race experience was in Vancouver, Washington. "The officials said you had to be off the course in four hours. The police were behind me telling me I had so many minutes to get off the course and I told them I wouldn't." By the time she got to the finish line, it wasn't there anymore — they were taking down the banners and barricades. "My husband and kids were the only ones left. Twenty-six miles and no T-shirt! It was devastating."

She normally logs about 25 miles a week unless she's training for a marathon. Then it's 46 miles a week. She ran in Seattle's Emerald City Marathon in April, and is looking toward the Berlin Marathon. "It ends in a castle," she says with wide-eyed excitement.



## All Rhodes lead to England for HP Superkid

Hoang Nhu Tran, son of Signal Analysis Division employees Arthur and Kim Tran, is the first Vietnamese-American to receive a Rhodes Scholarship for two years of study at Oxford University in England. After his studies at Oxford, Hoang plans to return to the U.S. for medical school and a career as an Air Force flight surgeon.

As a senior cadet at the U.S. Air Force Academy in Colorado Springs, Colorado, Hoang was named as one of the 20 top 1986 college students in America. On a smaller level, he was featured as one of 20 "HP Superkids" in *Measure* in a 1983 story. The proud parents started with HP in Fort Collins and recently transferred to Santa Rosa, where Kim works in microelectronics and Anthony works in the machine shop.

## And it's worth every penny

Have you ever wondered which of HP's 10,000 products is the most expensive?

It's really no contest. The HP 9480 Analog LSI Test System, starting around \$650,000, is by far the most costly. The HP 9480 system is a YHP product supported by the Semiconductor Systems centers in Japan, Germany and the U.S. With a few additions to its configuration, HP's highest priced system can easily reach a \$1 million dollar price tag.

In its simplest configuration, the system consists of two measurement bays (one houses the controller),

a disc drive, test head and terminal. The system is used by integrated-circuit manufacturers and users to test and characterize mixed-signal devices.

The primary benefit is its ability to perform "single-insertion" testing. Integrated-circuit testing without the HP 9480 often requires several stages of testing (including functional, high-speed and AC/DC parametric tests) on different test stations.

With the HP 9480, customers can reduce their IC test time dramatically. And when you're talking about testing thousands of chips, time is big money.



## NEW PRODUCTS

The Technical Systems BU's new personal workstation, the HP 9000 Series 300 Model 330, replaces the Model 320—offering the same performance at a lower price. It has a new 32-bit I/O bus that provides 6Mbyte/second bandwidth to high-speed peripherals.



HP 9000 Model 330

The HP 1000 Model A400, a rugged mini-computer from the Data Systems Division for manufacturing control applications, had a sneak preview at the AutoFact show last November and is now available as a product.

New HP analytical products that made a debut at the industry's major U.S. show in March include a new customized system that combines Fourier transfer infrared and GC/MS from the Scientific Instruments Division, a high-performance amino acid analyzer from the Waldbronn Division, and new turbo-assays for improved performance of the HP Genchem microassay system.

Representing a new emerging technology for cardiac imaging, the new HP 21362A transesophageal transducer from the Andover Division is used internally during surgery.

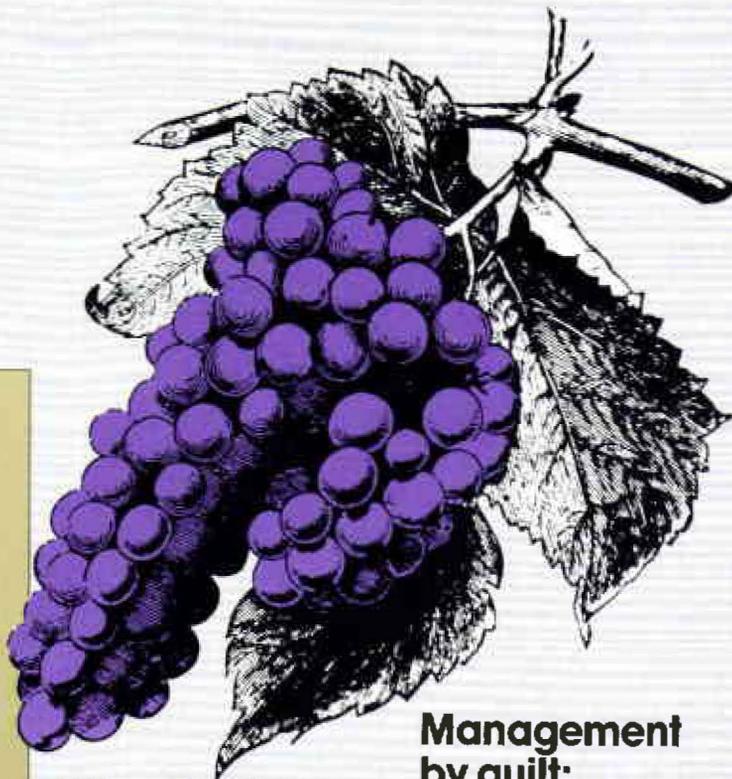
It is inserted through the throat and rests immediately behind the heart, giving a sharp closeup image on the screen. It's particularly useful for patients who are obese.

The Signal Analysis Division has brought out its first portable microwave spectrum analyzers (HP 8562A and 8562B). They meet military requirements for ruggedness and are suitable for the manufacture and maintenance of terrestrial and satellite microwave links and earth stations.

HP believes that a new family of high-speed hermetic optocouplers, the HCPL-54XX series from the Optical Communication Division, is the fastest hermetic logic gate coupler available today.

The Loveland Instrument Division's nine new plug-in switch modules increase the switching flexibility of the HP 3235A HP-IB switch/test unit introduced last year. . . . Two new testing tools from the Colorado Telecom Division help network managers control and troubleshoot SNA and X.25 networks. . . . Queensferry Telecom Division has announced a new digital-transmission test set (the HP 3789A/B) which is a major step forward in DS3 transmission-network testing.

From the Böblingen Instrument Division comes the HP 81520A optical head that extends the measurement range of the HP 8152A optical average power meter to include the short-wavelength range, and a new HP 81000AS optical power splitter.



## When the fruit of the vine turns deadly

Nothing takes the pleasure out of a glass of fine wine more quickly than the threat of its containing a noxious substance, such as methanol.

This scare swept through Italy late last year and the Public Health Office in Milan turned to an HP 5890A gas chromatograph, coupled with an HP 7673A auto sampler, to test approximately 6,000 samples. An automated system was essential and the HP equipment ran continuously for several days and nights during the crisis. Hundreds of analyses were run unattended. This office was just one of many analytical laboratories in Italy submerged in thousands of wine samples during the first days of the methanol scare.

In Italy, steps have now been taken to exercise firm and continuous controls over the quality of wine.

## Management by guilt: He wrote the book on it

"How can you do this to me after all I've done for you?"

That's how HP-TV's Nick Iuppa begins his book, *Management by Guilt . . . and other Uncensored Tactics* (published by Fawcett Crest).

Nick is quick to point out that he wrote the book before he began his job in interactive video training at HP, and it doesn't spoof HP's *Management by Wandering Around* philosophy.

*Management by Guilt* has been successful and was chosen as a *Fortune* Book Club selection.

*Management by guilt*, which Nick traces back to historical roots in the Garden of Eden, is but one of a host of management techniques humorously explained in the book. He also delves into management by confusion, seduction, baseball, insult, absolute honesty and revenge.



# PARTING SHOT

## A special kind of "hands on"

When Mike Navarro, materials manager for the Finance and Remarketing Division, had to spend three months in a spinal-cord injury ward last fall, he maintained his usual positive attitude. Result: He saw that an HP 150 Touchscreen PC would be useful for occupational therapy and arranged for his division to donate a system to the Santa Clara County Medical Center.

Like many of the patients in the ward, Mike had suffered an athletic injury—in his case, a broken neck in a biking accident while training for a triathlon. (He was escaping a car on the wrong side of the road.) The typical patient is a young man 18 to 25 years old, with injuries that may make it impossible to return to work in physically active jobs, such as a carpenter.

"Many are really discouraged at the change in their lives," Mike says. "I thought it would help to expose them to computers to learn to do something new and productive."

As a member of his division's donations committee for used equipment, Mike knew the proper channels to go through. An HP 150 with plotter, printer, disc drive and software is now part of the ward's teaching



John Lindsay (center), who is paralyzed from the neck down, learns how to play blackjack on the HP Touchscreen PC with the help of former fellow patient Mike Navarro and programmer Sue Steinheimer.

equipment, sharing a room with exercise equipment, mats and tilt tables. FRD systems administrator Sue Steinheimer contributed her own time to make the software work properly.

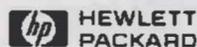
The computer has proved far more fascinating than the typewriter in helping patients develop hand skills

and balance, according to senior therapist Lynn Trostad. "For those with little or no use of their upper arms, the touchscreen and easy-to-use keyboard are nice features," Lynn says. "We find people are so interested they'll work an hour or two at a time." One patient, John

Lindsay, who has no movement in his arms uses mouthsticks to operate the computer.

As for Mike Navarro, now back to work full-time, his next goal is run a 10K on September 2, the first anniversary of his accident.

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



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