



- Stock purchase plan (pages 2-4)
- War against paper (pages 5-7)
- 'Far out' vacations (pages 8-13)
- How does a company cope with growth? (page 15)

# Measure

For the men and women of Hewlett-Packard / JULY 1976





## *Stock-purchase plan:*

# 15,000

□ J. P. Morgan, the late, great Wall Street financier, knew how to put on a proper act whenever someone asked him to predict the trend of the securities market: "In my judgment," he would say, looking very thoughtful, "the stock market will fluctuate."

As usual, J. P. was right. Fluctuations are second nature to the stock market, mainly reflecting changes in the collective confidence level of buyers and sellers in response to economic and political events as well as to the individual performances of corporations.

Given that understanding, a company that values the well-being of its employees will surely approach the subject of an employee stock-purchase plan with due caution. It will want to feel confident that such a plan will indeed reward the employee investors on a long-term basis, as well as provide a stable source of financing for the company.

HP's approach was spelled out in the recent annual report: "Basically, Hewlett-Packard views its responsibility to shareholders as one offering consistency of performance, including steady growth in earnings and equity, year in and year out." The report then goes on to describe some of the important ways HP goes about achieving such consistency and growth.

But just how effective has that approach been over the years for the HP



# HP people say "Yes"...

employee investors?

Hewlett-Packard common stock first came into being in 1947 when the original partnership was transformed into a corporation. It's worth noting here that at no time has the company ever raised capital through a public offering of its stock. That being the case, how did HP shares reach the marketplace and public ownership?

In all cases the stock now held publicly had initially been owned privately by the partners and employees, or by participants in firms acquired by HP through the exchange of stock.

The first sale to the public occurred in 1957 when Dave Packard and Bill Hewlett privately sold 300,000 shares. At the time of the sale, the capital structure was made up of 5 million shares of authorized common stock, of which 3 million were then issued and outstanding. Also in 1957 the company distributed 60,000 new shares to employees as bonuses, as well as making available another 50,000 shares for employee purchase under stock options. Trading in the public sector thus began in the over-the-counter market at that time.

In 1959 the decision was made to make the stock more readily available to employees under the Hewlett-Packard Company Employee Stock Purchase Plan. The purpose, as stated in the prospectus, was "to foster continued cordial relations by allowing the maximum number of employ-

ees to participate in the ownership of the company under conditions financially attractive to the employees."

The plan permitted employees who became eligible after one full year of employment to put in up to six percent of base earnings for the purchase of stock. Against this the company undertook to contribute 25 percent of the purchase price. Stock was to be purchased at the end of each three months, the price being the lower of either the closing average for the full calendar quarter or the average closing price for the last five days of the quarter. In 1970 the plan was amended to permit up to a 10 percent subscription by payroll deduction. Otherwise, and with the further exception of a special overseas adaptation to be discussed later, the basic plan remains in effect today.

Much has happened to those original authorized Hewlett-Packard shares. In the course of two stock splits and further authorizations, they became today's 40,000,000 authorized shares of which 27,638,042 were issued and outstanding as of the close of Fiscal 1975. The first split occurred in 1960 on a three-for-one basis. This split plus the various early distributions created a substantial broadening in public holdings, and led in 1961 to listing on the New York Exchange and the Pacific Coast Exchange. The second split was made in 1970 on a two-for-one basis.

In other words, each original share has become six present-day shares. (The subject of splitting HP stock was discussed by Bill Hewlett in his letter in the May, 1976 issue of MEASURE.)

The most important dimension, of course, is the price or market value of those shares. Those first shares issued to employees under the plan on June 30, 1959 were priced at \$40 each. A person holding shares they had bought then, of course, would now have six shares for one original, each figured for tax purposes as having cost \$6.67. On the same basis, the full purchase price at the end of the most recent quarter, ending March 31, 1976, was U.S. \$108.08.

How do HP people look on the Stock Purchase Plan?

In 1973 a survey of employee attitudes regarding the benefits program in the U.S. established a very high rating for the plan — right up there just behind cash profit sharing. The survey also showed that people had a good understanding of the stock program.

It is in the participation figures, however, that HP people most clearly express their interest. For the final quarter of 1975 there were 14,071 HP people who received stock certificates under the regular plan in addition to another 500-plus people who participated under the special plan for certain overseas countries. In all, close to

(continued)



## stock- purchase plan

14,600 people were taking part in the plan. Allowing for first-year employees not yet eligible and for people in countries that prohibit or penalize investments in foreign stocks, it is clear that participation among eligible people was well above 50 percent. Tops among individual organizations was HP Labs with 87 percent of their total population enrolled in the plan.

The plan takes some interesting forms in meeting local requirements around the world.

The regular plan applies not only to U.S. employees but also to those in Australia, Austria, Belgium, Canada, Denmark, Germany, Italy, Mexico, Netherlands, Puerto Rico, Singapore-Malaysia, Switzerland, and Venezuela. In all of these, with a couple of exceptions, participants receive their stock certificates personally through the mail. In Italy and the Netherlands, however, laws require that certificates be deposited in a national bank.

Some other countries have even more restrictive requirements. As a way of making an important benefit available to as many employees as possible, the company in 1970 created the alternate "Foreign" plan. This is the plan now in effect in such countries as the United Kingdom, France, Sweden, Norway, and Finland. Under this plan, the quarterly contributions of participants are accumulated and held for two years each. Stock is allocated at the

end of each quarter, but the employee must wait until the end of the two year period before taking advantage of the allocation. This is done to keep open the possibility that the local laws may change, permitting direct purchase of the stock. Meanwhile, it is usually necessary to cash in at the end of the two-year period — that is, withdraw the payroll contribution plus accumulated interest plus the 25 percent company contribution. In this manner, employees in those particular countries thus receive the benefit of the same kind of company contribution as other participants, even though they may never become stock owners.

For the company, the Employee Stock Purchase Plan is an important adjunct of its capital financing program. Last year the plan generated some \$19 million in funds which, together with funds raised by employee stock options and the profits realized through sales, furnished HP with the cash to finance its current growth. The stock purchase plan is thus a major item in HP's objective of financing its operations and growth from within. In turn, this "pay-as-you-go" approach — avoiding burdensome long-term debt — is one of the reasons Wall Street traditionally has given HP stock such a high P/E (price-to-earnings) ratio. It's a rating of considerable value to the company and its shareholders. □

Michele Dubreuil of HPSA, Geneva, posts the changes in HP stock prices from day to day for the benefit of European employee-stockholders. The board draws a lot of attention.





# Crusade to slay the paper dragon

□ *Take heart, ye compilers and keepers of company documents! A small but dauntless bank of corporate crusaders is determined to help you stem the ever-mounting tide of paperwork. With a cry of "Records Retention," they seek to slay the space-eating file-drawer dragon. And with banners proclaiming "Micrographics," they march against the tyranny of the copious copier machine.*



To the Corporate Micrographics/Records Retention department, located in the basement of Building 8 in Palo Alto, that sorry pile of files pictured above is a clear sign of enemy country. It means that some HP department has failed to heed the dire warnings. Now it must struggle in single-handed combat against an overload of paper that most likely is largely out of date. However, assuming that some of those items are worth keeping — for legal, business or historical purposes—what happens when someone wants one? First, as all students of Murphy's law know, it will be wanted immediately. Chances are it'll not be found. But if found it will not be returned. But if returned it will be misfiled.

Okay, what's the solution?

One answer is microfilming. Walt Moy, manager of Micrographics/Records Retention department, says that the company decided some two years ago that there

was a need to establish some order in the records area. As an example, Advanced Products Division then was experiencing some severe problems in handling customer order files. Whenever a customer would call regarding an order or invoice, the order processing and accounting people would have to scramble through scores of drawers and boxes trying to find the single existing piece of paper. Microfilm solved this problem by putting a system of retrieval right at each user's fingertips, and with a complete two-year set of records kept right up to date. Suddenly, all was relatively calm and orderly — and much more efficient. A similar problem at the Corporate Parts Center was solved with similar results. Today the Center is the company's largest user of microfilm, recording and distributing each day's hundreds of orders on microfiche (a French term that refers to the envelope-sized plastic file that can hold hundreds of micro-

images). Microfilming also has become important to HP departments that produce or use engineering drawings. For them, the microfilmed record of a drawing neatly solves many problems of distribution and retrieval, as well as recovery in case of disaster.

Walt Moy confidently expects that HP's system and standard of microfilming will soon receive government approval, permitting the company to destroy the original hardcopy documents after they have been microfilmed. This will make possible a substantial reduction in the cost of handling and retaining documents.

Meanwhile, a major effort is underway to bring about a uniform system of records retention throughout the company. Its goal is to provide efficient storage, a standard indexing system, swift and inexpensive retrieval, and realistic disposal schedules.

At the same time, some documents  
*(continued)*



## paper dragon

and items are important beyond their business or legal purpose. To that end, the Micrographics/Records Retention team is in the process of establishing a company archives center. Now that so many of the original HP team are approaching or will soon be taking up retirement, this is an important undertaking for the future. Memory is no longer enough. All items of historical significance to the company — certain documents, photographs, films, tapes and memorabilia — will be thankfully received and carefully stored for the future.

Typical setup for users of microfilm is demonstrated by Sharon Shears, supervisor of APD's direct-sales lead department. Following a customer's call, Sharon quickly pulls the appropriate microfiche (seen in her left hand and representing about 30 different orders), which she will then display on the screen. Prior to microfilm, the search for a record could take a number of minutes — while the customer waited, often in vain.



While microfilming permits destruction of original documents (saving on filing and storage), sometimes it's necessary later to have a hardcopy of original size. This can be done with reader-printer machines which enlarge the microfilm image and provide a photocopy, as used here by Sharon Northrup of APD.



Adela Records of Corporate Micrographics positions an engineering drawing for filming by big overhead camera. User files of drawings are now kept at 31 HP locations, including Europe.





Microfilms of more than 21,000 engineering drawings are maintained by the Corporate Material Specifications Department. The file from which Cindy Brenneke has just pulled a so-called "aperture card" (IBM card with hole in which the film is inserted) would require seven or eight large filing cabinets for original-size drawings. But the chief advantage is ease of distribution and use to the many users around the company who need up-to-date information on all parts supplied by vendors.



Mike Yocum, a microfilm technician at Corporate Micrographics, sets up a pilot run on the sophisticated microfiche duplicator. The department runs three shifts in order to make the previous day's micro-filmed orders available to customer divisions the following morning.



Jane Lyburger of APD runs sheaves of orders through a microfilm camera at a rate of 1,000 per hour. Corporate Micrographics will then reproduce the day's run in quantity for distribution to APD's order and accounting departments. APD's volume of orders makes it worthwhile to operate its own camera, whereas most Bay Area divisions rely on Corporate Micrographics department, while other HP organizations turn to local sources.

Record centers are increasingly important to HP organizations for ease of retrieval as well as economy and safety in storage. The Corporate Records Center (seen here with manager Walt Moy, at left, micrographics supervisor Larry Walker at right, and records analyst Steve Ross in rear) provides guidelines and counseling as well as storage service.







*Your vacation:*

# How 'far out' is far enough?



□ The husband wants to go to the mountains, the wife yearns for the seashore — at least that's the way it has always happened with comic-strip characters like the Bumsteads. The cliché may have some relevance for those who just want a restful stay in a resort area — but HP people have shown that there's a lot more to choose from in planning a summer vacation. Whether you're looking for relaxation, sport, thrills, history or even self-awareness, the possibilities are endless.

A few years ago, MEASURE asked readers to choose an "ideal" vacation, and received answers ranging from high adventure to low-key laziness. For many, the ideal vacation was not some pie-in-the-sky dream but a vacation already taken — and not necessarily expensive or far from home.

This time our correspondents looked for the unusual or slightly offbeat vacation ideas, and found the same variety of settings and activities. They also found that some people feel the need to set specific goals in planning a vacation. For others, to take a vacation *without* any goals is a goal in itself.

In either case, it's important to get completely away from your job at least once a year. Psychologists say you should take a week or more in order to clear your mind and come back to work refreshed. A series of long weekends, mostly spent on the road getting from one place to another, is no real substitute.

The following vacation stories, while not exactly typical, aren't *too* out of the ordinary. On the other hand, whether you consider them far away or "far out" depends on where you are — and where your head's at.

Experienced sailors often spend vacations sailing somewhere. What makes Steve Rowe's recent adventure different is that his previous "experience" consisted of two hours fooling around in an eight-foot El Toro — which hardly qualified him to sail the Pacific. But that didn't stop Steve, who works in Corporate Marketing Services, from joining four friends for a voyage of 3,400 nautical miles in a fifty-foot yawl. And his friends didn't know much more about it than he did.

The easiest part of the trip was jetting to Tahiti, where they were to set sail for Hawaii. The boat had been docked in a yacht club in Papeete for four years, so the first order of business was to get it in shape with a little paint and elbow grease.

After a practice run to the nearby island of Moorea, the group decided they needed experienced help. That's when they met Philippe — a combination navigator, guide, translator, story teller and sailor extraordinaire. He agreed to join them, and whatever fears they may have had were quickly dispelled.

The voyage took them through the Tuamotu Archipelago and the Marquesas Islands. Steve's descriptions of their stopovers on tiny coral atolls begin to sound like something from Captain Cook's

(continued)



In a photo taken somewhere in the middle of the Pacific Ocean, Steve Rowe takes his turn at the helm of the Simoon — a fifty-foot yawl that he and friends sailed over 3,000 miles.



## vacations

The castle of the "real" Count Dracula is interesting for its architecture if nothing else, according to HP's David Guest. He and his wife came across the fortress while traveling in Rumania.



journal — their greeting by Polynesian swimmers, being able to pick fresh tropical fruit from the trees, being invited to a big feast. "It's hard to describe how gracious those people were to a ragged bunch of strangers."

There were some tense moments on the open sea. A broken main boom had to be replaced by jury-rigging a spinnaker pole to fit. Their engine also malfunctioned, and a dead radio left them totally isolated from the rest of the world.

If Steve wasn't turned on to sailing before, he certainly is now — although he doesn't have a boat of his own. He would be happy to crew on another long voyage. "Just ask me," he says.

Europeans find a variety of opportunities for interesting vacations (or "holidays") very close at hand. Within a few days travel time, the choice of climates, cultures, lifestyles and geography is almost endless. David Guest, R&D project leader at the HP facility in South Queensferry, Scotland, enjoys

economical summer camping holidays with his wife Alison. "The more dissimilar a place is from home," he says, "the greater fascination we are likely to find with it."

Finding a country interesting doesn't mean it's always agreeable, according to David. "Another man's weather, scenery, cuisine, social habits or politics may not be what you wish for yourself, but his circumstances must automatically command attention if they are different from your own." He finds that much of the reward comes later, after his travels have whetted his appetite for reading about the country's history, architecture, or current events.

David describes vacations he has spent in arctic Norway, in Istanbul where he marveled at the ancient Roman and Moslem architecture, in Leningrad where buildings begun by Peter the Great are carefully preserved, and in Hungary, where dining out usually means being entertained by a Gypsy band.

David's most recent "discovery" while roaming Europe was the castle associated with Count Dracula — in a region of Rumania that really is called Transylvania. The medieval ruler that

inspired Bram Stoker's novel was a bit strange, but actually had little in common with the book and movie version of Dracula. Even the castle is not the least bit spooky. "We found only an interesting and well-preserved fortress furnished in a variety of period styles," says David.

Six hundred miles off the equatorial coast of South America lies the Galapagos Archipelago. Considering the strange species of animal life found only in these volcanic islands, they would seem to be millions of miles from anywhere. It was there that Charles Darwin became convinced of the reality of evolution, and wrote his *Origin of Species*.

It was also there that Charlie Marshall of Stanford Park Division spent part of his vacation. And he considered himself lucky, because the Ecuadorian government and the Darwin Foundation, which have cooperated to prevent exploitation of the islands, allow only 10,000 people to visit each year.

According to Charlie, tourists must go as part of an approved party and follow prescribed routes. "But it's not confining," he adds. "You get to see all the different animals and birds, and they're not afraid of people. You can walk right up and pet them."





As a boy, Charlie Marshall read about the giant tortoises of the Galapagos Islands. He photographed this one recently on the vacation trip he has wanted to take ever since then. The unique animal species found there are carefully protected, and tourism is limited.

Camp Akenac, New Jersey Division's complete recreation area in the Pocono Mountains, is an inexpensive vacation and weekend retreat for many HP people in the eastern U.S.



There are giant turtles and tortoises, marine and land iguanas, hundreds of different birds and more than thirty species of fish that are not found anywhere else.

Charlie saw six of the eleven islands that are open to tourism, and found each one different. Some islands are foliated, some are barren, and the animal life varies from one to another. Each has its own ecological problems, too. Rat populations thrive in some places. They came in on ships, and now they live on turtle eggs. Goats have also propagated on some islands, threatening the foliage.

The Darwin Foundation has ongoing programs to combat these threats, according to Charlie. He reports visiting a hatchery on Santa Cruz Island where turtle eggs are hatched and the turtles raised in safety until they're old enough to fend for themselves. "A funny thing about this operation," Charlie laughs, "is that they have employees who do nothing but go around turning the turtles right side up when they get tipped over."

Charlie predicts there will soon be even greater restrictions on tourism because of the ecological damage that's still being done. He doesn't consider

himself a "nature fanatic," but he wants to go again and see the other five islands. "A third of the people on our tour had been there before and were coming back for another visit."

A vacation in the mountains doesn't have to be expensive — especially if you're close to one of the HP recreation areas like Camp Akenac in eastern Pennsylvania. The facility is used by HP people in New Jersey Division, the eastern sales offices, the medical divisions in Massachusetts, and the Avondale (Pennsylvania) Division. Even some sales personnel from Canada come down to spend their vacations there.

Camp Akenac, in the Pocono Mountains, is a former girls' summer camp. It has seven recently-refurbished cabins with indoor plumbing. There's a lake for boating and bass fishing, a playground, baseball field, tennis courts, and a recreation hall — all free to HP employees.

"It's impossible to be bored there," says Jim Dicso, who takes his family to Camp Akenac for a week every summer. "This year we're taking a week up there and a week at the seashore," he says, obviously trying hard to satisfy all five members of the family. "Akenac is more

for the kids. When we go to the ocean there are places to go out to dinner and do more adult things."

Cabins and camp sites have to be reserved well in advance, which requires some planning ahead — but you sure can't beat the price. The cabins have bathrooms but no kitchens, according to Jim. "That's the outdoor part. We use a barbecue grill and camp stove for cooking."

The Dicso family also spends many Sunday afternoons at the camp. "The kids love to go up there, and we find it a very relaxing place."

Sue Read, a keypunch operator in the Neely North Hollywood sales office, thinks a vacation should provide some excitement to get the adrenalin flowing. Her most recent adventure was a four-day raft trip on the Tuolumne — a "white-water" river near California's Yosemite National Park.

Her party, led by experienced guides, was trucked into a rugged, remote area early one morning. The thrills began

(continued)



## vacations

Southern Sales Region employees from the Richardson (Texas) office negotiate white-water rapids on the Rio Grande River. Charles Goin (front left of raft) says in spite of the problems they had, some members of the group want to go again.



almost as soon as they launched the rubber rafts. "The rapids are very close together at first," explains Sue. "Toward the end it becomes a lazy river."

In between are wild stretches of white water with nicknames like "Hell's Kitchen." In one place there are two spots with fifteen-foot drops, according to Sue. "You just scream and hold on for dear life!"

It's not surprising that there were some mishaps. One fellow got bounced out and nearly lost his struggle with the swift current. Another raft was trapped in some rocks and the men had to get into the water to free it.

"Once we made camp, it was very relaxing," Sue says, painting an idyllic picture of life around the campfire. "We even had ice cream and cake, made right there on the spot."

After such a trip, what does one do for an encore? For her next vacation, Sue is looking into the possibility of a prairie schooner trip in the Grand Tetons.

Not everyone who has gone river rafting has such fond memories of the experience. Four employees in the Richardson (Texas) sales office — Ted Butts, Ken Evans, Charles Goin and Bill Lovelace — decided to relax and impress their sons at the same time by floating down the Rio Grande.

The four novices, along with their sons ages eight to fourteen, launched their rafts with enthusiasm. But it was all downhill from there — except for the river, which was so low it seemed to be going *uphill*. Not only did they have to paddle almost constantly, but they had to do it in 105-degree heat for two and a half days.

The nights weren't much better. The supply of drinking water was low, for one thing. Wild pigs and donkeys rampaged through their campsites, and bats zoomed in and out like dive bombers. Not to mention such hardships as wet sleeping bags and punctured air mattresses. According to Charles, the children were duly impressed, all right. Their impression was that their fathers were four confused, exhausted middle-aged

men completely lacking in knowledge of survival techniques.

There were some thrills, however, when they reached the turbulent white-water rapids. Also danger. Danger of getting dumped into the river, crashing into large boulders or hitting the canyon walls. Charles says they did all of those things, and had to patch a number of holes in the rubber rafts.

Some areas had to be portaged, which, as he put it, "proved worthy of burning up hundreds of calories we really hadn't taken in recently."

The final indignity came when they were practically in the home stretch. Their destination — the Lajitas Trading Post where they had left one of their cars — was on a fork of the river. The opposite fork led to the perilous Santa Elena Canyon with its 2500-foot vertical walls. You guessed it! They took the wrong one, watching in frozen disbelief as the trading post passed from view.





Leah Klick didn't use a telephoto lens for her safari pictures — she really was this close to the big cats and other wild animals in Ngorngoro Crater.

Before flying back to Palo Alto, Jeanette Wirth poses with the skipper of the sailboat she stayed on in Cabo San Lucas, Mexico. Jeanette, Milt Camp and Mike Ewing combined the vacation with volunteer work for the Flying Doctors.



To get into the canyon would have meant another day and a half on the river. "We were able to maneuver close to shore where the water was waist deep," Charles explains, "and we jumped ship to drag and tug the raft upstream. The current was unbelievably strong. It took an hour and a half to pull it 300 yards to an opening where we could beach."

Needless to say, they were all glad the trip was over.

If it's not summer when you're ready for your summer vacation, you can always go someplace where it is. For a Californian who wants to take the month of November, that means a trip to the southern hemisphere. So Leah Klick, a secretary in the corporate offices, joined a tour group that went first to South America, then South Africa, Rhodesia (before the hostilities), Kenya, Tanzania and Ethiopia.

Highlights of the trip were a cruise on the Zambezi River, an aerial tour over Victoria Falls, and a one-week photographic safari across the Serengeti Plain and Ngorngoro Crater in a Land Rover.

"It was very bumpy and dirty in the Land Rover, but it was fascinating," Leah says, describing her close-up encounters with elephants, lions, leopards, giraffes,

warthogs and rhinos. "The cats are very nonchalant. It's amazing, but they're not disturbed at all by people."

Leah also tells of the Land Rover getting stuck in the mud when they were surrounded by thousands of potentially dangerous buffalo. "It could have been unpleasant," she says rather casually.

There are a few HP people who feel a vacation should provide not only fun and adventure but also an opportunity to be of service. Jeanette Wirth of Optoelectronics Division found a way to combine all those ingredients when she flew to Mexico recently with the Flying Doctors.

For Jeanette, it was the first such trip. For the pilots of the small plane — Milt Camp of Stanford Park Division and Mike Ewing of Manufacturing Division — it was just another of many weekends spent flying humanitarian missions to the remote village of Chinobampo, Mexico.

"My job was just crowd control," Jeanette explains. "I would lead people into the clinic, make them comfortable, go after things. You have to work hard down there — I was on my feet for eight

hours. And of course you never know what you'll be asked to do. Milt has even pulled teeth."

From there, the group flew on to Cabo San Lucas to spend several days with some friends who were arriving there by sailboat. "We had to sleep on the hard deck of the boat because the cabin was full," says Jeanette, complaining only half-heartedly. She also describes a near collision with a ferry boat during the night. "But we went snorkelling and spearfishing, went out at night and really had a good time."

Jeanette lost her purse in a cantina one evening ("after a few banana daiquiris"). Hoping to avoid the problem of crossing the border without her passport or identification, she nearly decided to join the party on the boat and sail to Hawaii. When she found her purse the next day, she was both relieved and disappointed.





# HP News

## Packard calls for business honesty

CHICAGO — The low regard in which business is held by the American public is the most serious problem confronting the free enterprise system today, said HP Chairman Dave Packard, addressing the Spring Conference on Consumer Electronics. "It is crucial to the very survival of our free enterprise system that business and industry regain the respect of the American people."

Packard said that many people in business tend to blame government officials, the educational system, the news media or some other group as being responsible for this condition. This is "looking at the symptoms of the disease, not the disease itself," he said.

"I believe American business faces this crisis today because American business managers have not lived up to their responsibility to our society," Dave went on. "Illegal payments have been made with the hope of getting business or special favors from officials in government both at home and abroad."

"We put off for too long our responsibilities in the area of equal employment. We have taken liberty with the truth in our advertising, and often depend on fine print in our warranties to avoid our responsibility to our customers."

Packard said shareholders, consumer interest organizations, legislators and the news media would not be attacking business if there were no basis for the attacks. "The businessmen of this country have no one to blame but themselves for this deplorable situation."

"It is not enough that business leadership is much more enlightened than it was 20 or even 10 years ago. We have not met the expectations of the people we serve, and until we do we will never be free from

ever increasing governmental regulation and pressure group activity coming at us from all sides.

"I am convinced that the only way we can hope to turn back this tide which threatens to destroy our great free enterprise system is for all business leaders, at all levels, to stop passing the blame to someone else and to accept the responsibility as theirs and theirs alone."

"We have to accept the fact that the integrity of each of our business firms is our most important asset. If every action we take is resting firmly on the pillars of honesty, fair play, justice and compassion, these troublesome problems will disappear."

## APD offers three new calculators

PALO ALTO — Three new programmable personal calculators have been introduced by Advanced Products Division.

Two of the new models have three times the program memory capacity of the pioneering HP-65, and at less cost. The other model is the first HP programmable scientific pocket calculator that retains stored information even when the calculator is turned off.

The HP-97 fully programmable calculator with quiet printer features 224 steps of program memory (each step can hold as many as three keystrokes) with all merged keycodes and a "smart" card reader. The 2.5-pound, battery-powered HP-97 is priced in the U.S. at \$750.

The HP-67 is the pocket-sized version of the HP-97. Both calculators perform identical computing functions and operations and have identical program and data storage register capacity. Programs recorded on either calculator may be used on the other. U.S. price of the 11-ounce HP-67 is \$450.

The HP-25C keystroke programmable pocket calculator, priced at \$200, features a "non-volatile" memory that retains stored information even while the calculator is turned off. The HP-25C is otherwise identical in performance to the HP-25.

Customer deliveries of the HP-25C and HP-67 will begin this month; and the HP-97 in August. The thirty percent employee discount applies on all models, with a lifetime limit of one per employee.

## 1976 Terman Award

PALO ALTO — Dr. Stephen W. Director, professor of electrical engineering at the University of Florida, Gainesville, will receive the 1976 Frederick Emmons Terman Award as an outstanding young educator in his field.

Dr. Terman, Provost Emeritus of Stanford University and a Director Emeritus of Hewlett-Packard, is a world-renowned engineer and educator. The Terman Award, sponsored by HP, was established in 1969 and is presented annually by the American Society of Engineering Education (ASEE).

Dr. Director has been on the faculty of the University of Florida since 1968. He is a widely-published contributor to the science of computer-aided circuit design, and his writings have had a significant impact on the development of electrical engineering education.

## Another HP Olympian — Spain's Jorge Fabregas

MONTREAL — In connection with a story about HP analytical equipment supporting the Montreal Olympics (*Keeping the Olympics Drug Free*, MEASURE, June '76), it was reported that there was only one HP employee competing in an Olympic event — archer Dave Anear of Melbourne, Australia.

In reaching that conclusion, MEASURE overlooked Jorge Fabregas, captain of the Spanish hockey team and a field engineer in HP's Barcelona sales office. His team holds the European championship and is considered one of the six top contenders for Olympic honors.

Coincidentally, Jorge is field engineer for analytical products and expects to have some involvement in the drug-testing program at Montreal, which will be conducted with HP instruments.



## From the president's desk

A very interesting subject to consider is "how does a company cope with growth?" There are really two parts to this question: What are the internal forces that result from growth? How do outside forces modify the environment in which growth takes place?

The first thing to recognize is that in a corporate structure such as HP, organizational growth is not a smooth, continuous function such as a balloon expanding as you blow air into it. Rather, growth occurs as a series of discrete steps. If one starts with a division, for example, employee count can increase up to a point where it has simply outgrown its existing facility. Hopefully, if there has been adequate planning, another facility will be available to handle the increased production. Ideally, the new facility should roughly double the existing size; double because at our traditional growth rate it will be fully occupied in four years. Of course this 2:1 ratio is not absolutely necessary, but on the other hand you don't want to be adding on every year.

We tend to bridge this drastic change in space by allowing some crowding just before the new plant comes on stream, and obviously under-utilize immediately after. These effects can, of course, be cushioned by judicious use of outside rental space. This we do.

Within the division there are also some organizational changes going on, but at some point it becomes desirable to start a new division, usually in some other area. We do this because we feel strongly that when a division gets too large the personal touch that is so important to the HP way gets lost. So a new division is formed.

However, this divisionalization is not free. There is the matter of finding a whole new team to run the new division. This means a general manager and his functional staff. It means new foremen, supervisors and line leaders. It means finding people who are not only qualified for the new positions but who are willing to move if necessary. All of this is costly in time and dollars, because the job of finding and training all the people is a major one. We are confident, however, that the results are worth the effort.

But now a second major problem arises. As the total number of divisions increases, so does the problem of supervising them. This inevitably leads to an additional layer of management, in this case the Group structure. At first our Group structure was skeletal in nature, very thinly staffed (it is not the intent to duplicate all the functions of the divisions). The division is still the key operating unit of this company. Nonetheless, there are many areas where the divisions of a Group must work in consort.

An example of this is certainly the case of marketing where there must be a joint marketing effort for, let us say, instruments. As our product line becomes more complex, however, there are additional areas that need a higher level of coordination. When you realize that we will be spending in excess of \$100 million this year on R&D, you can recognize that this is a very important expenditure program, and that we must be assured that our dollars are being spent to obtain the maximum results for the corporation.

A division manager should be capable of assigning a reasonable set of priorities to his own projects, but it is extremely difficult for him to assess the relative priority of each project in relation to other development programs carried on elsewhere in the Group. It is also difficult for him to determine how his products under development may interact with other products in other divisions.

These problems have been most acute in the Computer Systems Group where most of the equipment must in some way interact with almost every other piece of equipment in the system. It is not surprising, therefore, to find that work is being carried on at Group level to insure that there is an overall Group strategy for the entire product line. The Instruments Group is already at the point where there needs to be a higher level of review to make sure that our entire R&D program is moving

forward in a common direction, and that there is a minimum of duplication of effort between the various divisions of the Group.

As one moves further up in the organizational structure, it becomes evident that we need to strengthen our total corporate planning program. Ralph Lee and John Young are working very hard to insure that there is a maximum level of communication between the Groups for which they are responsible. The corporate planning staff, although small, has primary responsibility to make certain that we know where we are headed and what our future needs may be. This is achieved primarily through the medium of intermediate-range plans that are developed by the various operating units of the company.

The sharp rise in our international business also has generated many problems that call for corporate solutions. One example will suffice. We are now trading in something like 27 different major currencies, and the gross turnover of these currencies each month is somewhere around \$100 million. In each of these currencies there are potential problems for us as their relative values change. In addition, there is roughly a similar amount of gross dollar transactions domestically. The responsibility for this money management is one of Ed van Bronkhorst's prime responsibilities. He has a special unit, headed by Bill Crowley, that supervises these domestic and worldwide transactions.

Let me now say a word about some of the external factors that have shaped our growth and the necessary organizational structure to cope with it. Certainly one factor has been technology itself. The ever-increasing importance of integrated circuits has both allowed us to provide more to our customers in the way of performance per dollar, and put great pressure on us to make many of our own ICs. By last count, we now have IC facilities at ten of our plants and this is an increasing number. One special form of IC is the microprocessor, which has done much to revolutionize our products by allowing us to create "smart" instruments. But the use of smart instruments has put greater stress on the importance of these products being able to "talk" to each other. Both of these requirements — the indigenous IC lab and the importance of intercommunication — have added new layers of complication to technical supervision.

A second external force has been that of increased competition. This comes about in part because of size alone, and in part from entering the consumer product area. Both of these factors have forced us to sharpen up our pencils and do a much more sophisticated job of planning marketing strategy.

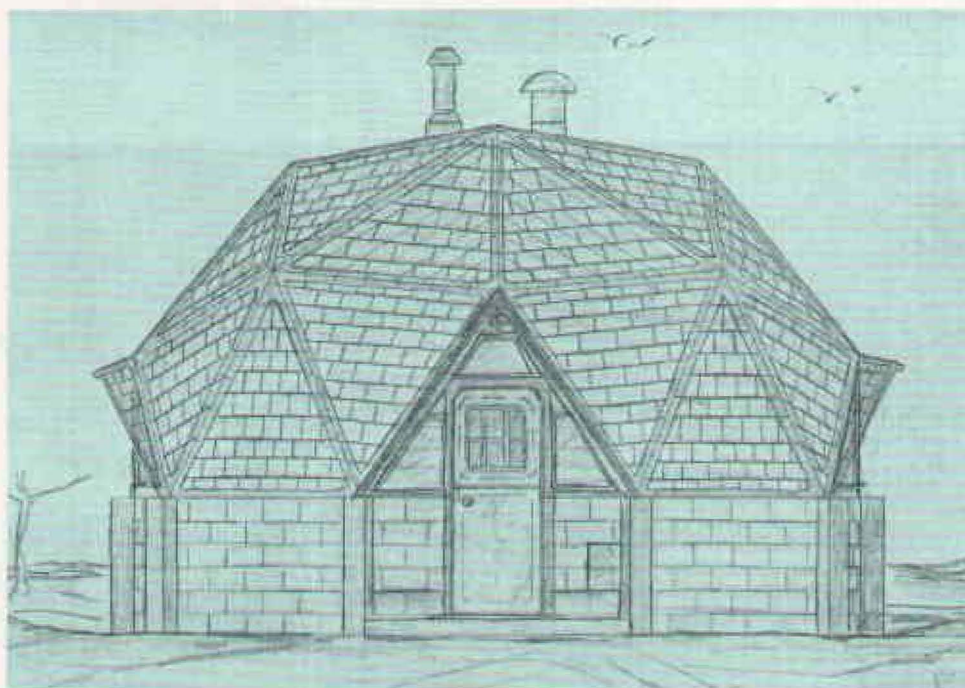
A third external force certainly has been the increase in government intervention in all aspects of business. I will not recite the alphabet soup of regulatory agencies that now tell us what we can and cannot do. Suffice it to say that we simply must spend a great deal more time and money in this area than we ever did in the past.

Now this all may be very interesting, but what am I trying to say? If you look back ten years you would find that in 1966 we did about \$200 million of business (compared to an estimated \$1,000 million for 1976). Our international business was about \$44 million or 22 percent of sales, and we had a reasonably uncomplicated management structure.

We have come a long way in ten years and much has changed. But much remains the same. I think we have done a pretty good job of managing this change without destroying the basic character of the company. I am convinced that we can expect every bit as much change in the ten years ahead as in the ten years past — but as I've indicated, change is not necessarily bad. I firmly believe that if we really keep our eye on the ball, on the things that really count, we can be every bit as good a company in 1986 as we were in 1976 or 1966. It will only happen, however, through the hard work and understanding of the problems by all HP people.

*Bill Hewlett*





## A school for Birdsprings

While looking for unusual vacation experiences for the story on page 8, we learned of some HP people who are planning to spend their leave time helping to build a school on a Navajo Indian reservation in Birdsprings, Arizona. Since then, we've also learned that Hewlett-Packard is making a corporate monetary contribution toward the cost of building materials.

The project is a labor of love begun by Tom Ryan, an instructor in the engi-

neering department at Foothill College, near HP's Bay Area plants. Tom once lived on a ranch in the Birdsprings area, and became close friends with many of his Navajo neighbors. Distressed by the fact that the Indian children were sent away to boarding schools, he has been planning for the past six years to bring a school to the children. The problems of poverty and unemployment, Tom believes, are overshadowed by the need to re-unite the families of Birdsprings in their

own community.

Tom's enthusiasm spread to his students at Foothill, including Wayne Traina of Components Group. Then other HP people got involved — some helping to raise money, others planning to help raise the building in the hot desert sun. John Wolfington of Components and Jim Cox of Stanford Park Division donated their model-making and metal-working skills. The building will be capped with a geodesic dome, and the two men fashioned the metal hubs to form the twenty corners. Bill Ford of Components has been penning letters to charitable foundations, soliciting contributions.

The building will be completely self-sufficient, with solar heat and a system for wind-generated electrical power. "There's no electricity in Birdsprings," Tom Ryan explained, "but even in the winter there's plenty of sunshine and the wind blows every day."

At this writing it looks as if there are sufficient funds to go ahead on schedule. In the fall, Tom Ryan will join the extended services faculty of Northland Pioneer College in Winslow, near Birdsprings, and will teach in the one-room schoolhouse he promised he would build.

### Measure

EDITOR  
Gordon Brown

ASSOCIATE EDITOR  
Dennis Cresswell

ART DIRECTOR  
Tom Martin

GRAPHICS ASSISTANT  
Teri Ocegueda

MEASURE Correspondents — JWD: Kevin Langford • HPD: Claudio Beveridge • AUSTRALASIA: Ross Simpson • AVONDALE: Matt Whitten • BDRS: Saline Hodan • COLORADO SPRINGS: Betsy Lader • BRAZIL: Genivaldo Jose Lacerda • CUPERTINO: Andy Beane • OREGON: Ed Ebert • EASTERN VALLEY: Bill O'Neil • GRENADIE: Pierre D'Anthony • COMPONENTS: Kish Delfino • HP BENLUX: Anandran, Cotey, Kordam, Bristles, Yvette Andre • HP CANADA: Brian Wright • HP FRANCE: Cissy Jacques-Buere • HP GERMANY: Fritz Schmitt • HAWAII: Free Gordon • HP ITALY: Tullio Pizzi • HP LTD.: South: Carenza/Myr, Peter Christofari, Wynneat, David Reed • HP SCANDINAVIA: Sigvald • HP SINGAPORE: Don Lee • HP SA: Joseph Boulton • INTERCON: Dr. Chomson • LOVELAND: Paul Peterson • MALAYSIA: Neta Malik • MANUFACTURING: Dale Gully • MEMPHIS: Chuck Kikel • MIDWEST SALES: Helen Marie Rorsch • NEELY SALES: Roseanne Patric • NEW JERSEY: Bob Magelov • SAN DIEGO: Dan Roper • SANTA CLARA: Mike Cole • SANTA ROSA: Jack Gicli • SOUTHERN INSTRUMENTS: Kevin Eliazca • SOUTH AFRICA: Thelma Swan • SOUTHERN SALES: Atlanta: Nancy Baird Texas: Ed, Helen Hodan • STANFORD PARK: Jeanne Engelhardt • WALTHAM: Jack Dale • VMD: Moako Nanda

HEWLETT-PACKARD COMPANY  
1501 Page Mill Road  
Palo Alto, California 94304



1501 Page Mill Road, Palo Alto, California 94304