Measure

For the men and women of Hewlett-Packard/NOVEMBER 1978

Whatever happened to the class of '77?

Most of the better students were wooed and won by the major companies that recruit on U.S. campuses each year. What's become of those who came to HP? Have their jobs been up to their expectations? And have they lived up to HP's?

☐ In order to keep pace with its own growth, HP has learned to think like a corporate giant in many ways, while at the same time striving to preserve its small-company feeling. Campus recruiting provides one of the best illustrations of the contrast.

In terms of numbers, it's a big-company effort aimed at bringing in a lot of college grads—nearly a thousand from this year's class, according to the targets. In terms of people, however, recruiting is more in the HP tradition of treating them as individuals, and trying to find where each one can achieve job satisfaction and make the greatest contribution.

On the one hand, in typical big-company fashion, HP recruiting is a coordinated corporate effort. Typical of the HP style, however, the divisions play a major role and there are no full-time recruiters. The recruiting teams are made up of engineers and managers who work in division labs, in manufacturing, sales or finance—and when they talk to students on the

campuses about HP careers, they generally speak from first-hand experience.

And what will they say to the class of '79? Chances are it'll be much the same message HP recruiters have been imparting to college seniors for years: that there'll be plenty of opportunity for them if they join HP, but they'll be responsible for their own careers—not locked into a career "path." That HP's management-by-objectives policy means they'll be given a lot of responsibility for their own decision-making on the job as well. That there's open and informal communication, an open-door policy, profit-sharing, flexible hours and many other things that make up what HP people call "the HP way."

But is their message convincing? And is HP all it's cracked up to be? The best way to find out is to talk to members of the class of '77 who have now been on the job for a full year. Following are the comments of just a few members of that class.

Tim Kelly

Tim Kelly was graduated from Stanford University in 1977 with a bachelor's degree in mechanical engineering, and he now works as a product designer for nearby Stanford Park Division in Palo Alto. Like many other recruits, he had put in a summer at HP. "I wrote to 25 companies in Colorado Springs, my hometown, for a summer job, and HP was the only one that wrote back and offered me a job," he says.

The following school year, Tim interviewed for permanent jobs in Cupertino as well as Palo Alto, and he found the different divisions of HP to be almost like separate companies. But he "thoroughly enjoyed" the interviews, including the technical grilling. "I would talk to about six people during the day and three of them would ask me technical questions—and my batting average wasn't a hundred percent by any means. But it was like a game and I really enjoyed it."

Tim originally intended to go on for a master's degree while working, but for the time being, he's decided not to divide his time and energy between HP and the classroom. For one thing, he's learning more on the job than he ever thought possible. "I saw the opportunity, as a product designer, to use methods like stress analysis and heat transfer—things you learn in school and wonder if you'll ever use," he explains. "HP has always been top-notch electronically, but they're beginning to realize the value of mechanical engineers, and to me it represents a frontier. I'm defining my job continually, and setting new sights, and it's only limited by myself. It's amazing the resources that are available here and what you can do if you're challenged enough."

Chris Paisley was interviewed on the UCLA campus in 1977 by Dick Knudtsen, then an accounting systems manager at Corporate. Chris had a degree in economics from UC's Santa Barbara campus, and was receiving his MBA that year. "Although I'd been heading in the direction of public accounting," he explains, "I thought I'd look at a wide range of companies when I got into the interviewing process. I settled on HP because I decided that if I wanted to go into private industry someday, a company with the excellent reputation of HP was the kind I'd like to be with eventually—so why not now?"

Chris was hired by General Systems Division as a financial planning and reporting analyst, and is now a cost accounting supervisor. "I've really enjoyed it," he says of his first year at HP. "GSD is growing very fast, so there are a lot of new opportunities. The manager of our accounting department is very good about letting me do a variety of jobs, so I've been involved in targeting, budgeting, physical inventory —a lot of different things."

Chris is now working on developing a new inventory tracking program which will help the division more readily identify what's in its inventory and where it is at any given time. "It's been a super year," he reflects. "I have only good things to say about HP."

**Chris Paisley**

class of '77

Susan Cardwell earned her mechanical engineering degree from Swarthmore College, with some additional course work at MIT. She's now an enthusiastic member of the product team for the new 9874 digitizer at Desktop Computer Division in Fort Collins, Colorado—carrying an unusually heavy load and performing well, according to her supervisor.

Susan had on-campus interviews with two companies having plants in Colorado, where she and her husband wanted to live. She was unimpressed with HP, however, until she actually visited the plant. "It was a very typical campus interview," she recalls. "I've had a lot of campus interviews and HP didn't really stand out as far as I was concerned."

The in-plant interview was something else again. "It was great fun," she says. "I was very impressed in that HP was the only company that really looked into my background at all—the only one that asked me any technical questions."

Andrew Garcia

Susan Cardwell
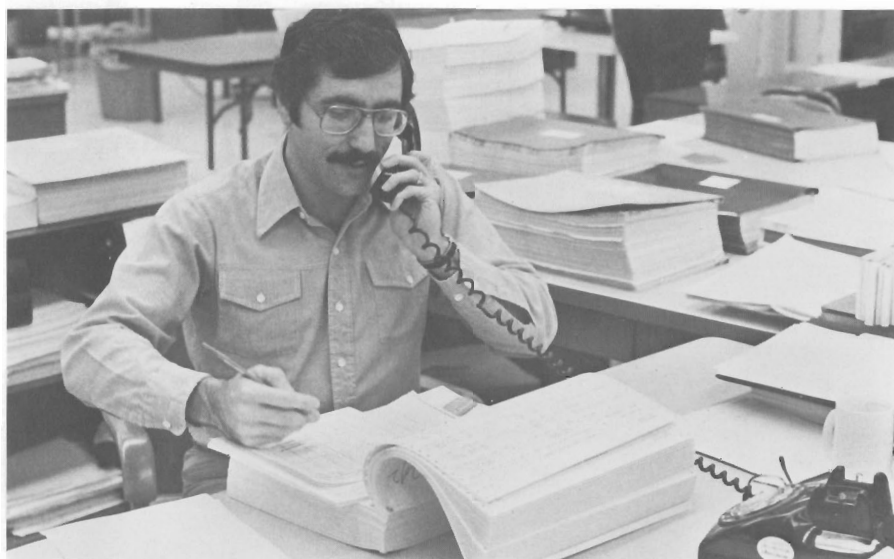
The HP people she met that day were excited about their work, and that was the real clincher. "At other companies they handed me an organization chart and showed me where my little square would be, and that didn't happen here. But what impressed me was that HP people were willing to tell me about the projects they were working on, about the problems they were having—and even let me in on some of the solutions they had found."

As a production engineer on a brand new product, Susan was handed a lot of challenges immediately—solving mechanical fit problems, working with adhesives she had never worked with before, changing the design of a plastic mold. She likens the difference between R&D engineering and production engineering to the difference between gardening and farming. "It's very exciting to work on a product and get one that works and does what you want it to do. But you're not finished then, because the goal is to produce it easily, simply and quickly. So part of my work involves making a tool, perhaps, that will allow someone to do something more easily."

And what of the future? "Well, the immediate future will continue to be production engineering and after that I'll be rotated to the lab....I imagine that eventually I could become a project manager if I'm good enough. I like working with people a great deal. I've enjoyed my work in production for that very reason, because I like to change a troubled face into a relieved one."

Andrew Garcia of Avondale (Pennsylvania) Division is one of several MBAs hired from the '77 class at Harvard's graduate school of business. "At Harvard you're exposed to many of the largest companies with business in the billions," says Andrew. "Numbers become unimportant—you look for growth from a certain point in time, growth that is broad-based."

Before graduate school Andrew had worked for an insurance firm and a hospital. He was looking for a career in control in a manufacturing company, and was interviewed on campus by Jerry Carlson. Only later did he learn that Jerry is HP's corporate controller. "I guess you could say that was part of the low-key approach that impressed me about HP," says Andrew today.

At that time he was open to any location—but he happens to be from Philadelphia, so the job opening in Avondale was attractive. "I liked the quality of the environment in the area as well as the requirements of the particular job that was offered," he says.

Andrew has performed a number of important accounting functions in his first year at HP, and has taken on some special projects such as documenting and flow-charting all the accounting jobs in the division. Much of his time has been spent implementing the corporate factory management system to serve Avondale. "It's been a challenge," he admits, "but I'm impressed with the resources Corporate has devoted to the project. The job has been easier because of the caliber of people I've worked with on it."

Gary Holland, development engineer at Boise (Idaho) Division, has done his bachelor's and master's degree work in electrical engineering at Washington State University. His first contact with HP—"other than buying a calculator," he says—was with a recruiter visiting the campus.

That interview resulted in a summer in Boise, which Gary spent working on a microprocessor-controlled tool for welding balls on tines. "I did the beginning work on that and I didn't have time to finish it before the summer was up because it was quite a lengthy project," he recalls.

"When I interviewed with some companies they seemed to be trying to impress me with how great their company was," Gary says. "One company was bragging about how they do so much for their employees and their benefit package is so big. When I talked to HP they just said 'here's the type of work we do, and by the way we've got a few benefits.' When I started looking over the benefit package it was something HP could just as well have bragged about.

"Since coming to work here permanently I've started quite a spectrum of projects," he continues. "Everything from radio frequency oscillators and modulators to digital-control type logic." His most recent project involved devel-

opment of the microprocessor control for a new printer.

"When I've worked on a particular module of the final product I feel like I've really contributed to the whole machine. It's not unusual, if another engineer is tied up and a technician has a question on one of his circuits, for example, for me to just look at his schematic and point out where the problem could be. We work together closely enough on a project that we get to know different aspects of it well enough to do this. So I'm not just developing a small part on a machine but helping to really develop an entire product."

Carol Blanchar

Gary Holland

Carol Blanchar attended Colorado State University and earned BS and MS degrees in accounting. She was recruited for HP's Loveland Instrument Division even before receiving her master's in December of '77. "John Lemley and I talked about HP when he spoke on campus, and then I was invited to see the division," she recalls. "I liked John's enthusiasm about the things he wanted to accomplish and the direction he was taking."

Carol was hired initially to do cost accounting for the printed circuit fabrication area, a job she described as being "really fun." She actually divided her time between the shop and the finance department, with desks in both places and "a chance to sometimes answer shop questions about accounting right on the spot."

Carol has seen tremendous growth in her division's accounting activities during her first year, and she's now a senior cost accountant handling special projects and a number of other departments in addition to the PC shop. She has also travelled to Palo Alto, Boise, San Diego and other HP locations on special projects, and says she has a much better feel for the company than she had a year ago. "I think it's been a unique first-year experience," she reflects. "I have unusually close relationships with a wide variety of people. Compared with my CSU classmates, I've had a much greater breadth of experience in a year. And there are lots of different career paths I could follow now. It's been a very broadening time for me, not a narrowing one."

5

class of '77

The current recruiting season was launched with a full day of briefings and workshops for recruiting team leaders, held in Palo Alto on September 21. Margo Hammel of Corporate Professional Employment explained how student work-experience programs can help in recruiting permanent professionals.

The recruiting teams: raising the ante

More than 400 recruiting-team members will fan out to 160 U.S. colleges and universities this year—compared with 197 recruiters who visited only 72 campuses just four years ago. Competition for the most talented people is keen; the number of graduates in technical disciplines has remained essentially static, while the demand is growing at about 11 percent per year.

But visiting more campuses and interviewing more prospects may not be enough to get an edge on the competition —establishing a good reputation on campus is just as important. So recruiters are using more of what are termed "cultivation" techniques—anything from a pre-recruiting visit or an informal wine-and-cheese party to equipment donations and perhaps on-going communication with the school's science and engineering faculties.

There are also more students being brought aboard a year or two before graduation through co-op, summer intern, and other work-experience programs—giving them a chance to evaluate HP, and vice versa. A high percentage become permanent HP employees after graduation—75 to 80 percent, in fact, of those who work at HP more than one summer. "These people can really be our allies on the campus, too," says Jack Grout, head of Corporate Professional Employment.

"They usually speak highly of HP even if they don't come back to us," adds Margo Hammel, who's working on the coordination and expansion of student work-experience programs for the company. She is, herself, a fairly recent recruit from Purdue University—class of '75— which is one of the campuses where she has also been speaking to women's groups about technical careers, and doing other cultivation work.

All of this is aimed toward one objective: to convince the top students in the class of '79 that they have a better future with HP than with IBM, Texas Instruments or any of hundreds of other companies trying to lure them in. □

Leading a workshop session of team leaders are Brian Unter of Stanford Park Division (standing), who recruits at Wisconsin colleges, and Arlen Dethlefsen of Santa Rosa Division (seated), who heads the effort at California State Polytechnic.

Formal and informal briefings marked the three-day visit of 20 European journalists to HP's operations in Palo Alto and Cupertino. Here, Paul Ely, VP and general manager of Computer Systems Group (left), makes a point for Marcello Marongiu of Italy's *L'Elettronica,* Sergio Mello Grand of Italy's *L'informatica,* and Ronald Fagerfjall of Sweden's *Affarsvarlden.*

European journalists look us over

☐ Only time will tell the full significance of the visit by twenty top European business and science journalists to HP's home base in California last month. The journalists, representing television as well as prestigeous business publications in seven major countries, were given a complete and detailed overview of the company by corporate, group and division executives in the course of a three-day press visit.

There were no special announcements, unveilings, or news releases issued during the visit. But, as Dave Kirby, HP's director of Public Relations put it, there were considerable expectations on both sides of an enhanced relationship and understanding in the future. And for HP, if not for the visitors, the event was a first of its kind.

The journalists were, of course, highly interested in the business outlook for the company, its organization, technical developments and market expectations. A wealth of information was made available to them on these subjects. What they also took with them, as several mentioned informally later, was the strong impression of an organization operating with an unusual degree of commitment to people and teamwork at every level. And doing so with notable success.

Their questions ranged far and wide in this area. The following are just a few examples:

Q. *Where will the company's growth come from?*

A. All groups expect to participate in future growth, though some will grow faster than others.

Q. *How do employees share in the success of the company?*

A. Many as shareowners, and all (where legal) through profit sharing.

Q. *Can the company philosophy and style survive the growth expected over the next five years?*

A. We'll work very hard at maintaining the HP way, and at preserving the small company atmosphere—especially by keeping the divisions at a reasonable size with no more than four layers of management top to bottom. And at management being accessible.

Q. *What has been HP's record for employment stability?*

A. HP has an unusual record for stability, with a turnover far less than for industry as a whole.

And so on. In the course of the visit an informal dialogue developed which was perhaps of greater benefit in the long run than the formal discussions. When readers of the British, Dutch, French, German, Italian, Swedish and Swiss business and scientific press read about HP in the future, it will be from some well-informed sources.☐

7

Personnel's role:

The "people people" look ahead...

☐ **When HP personnel managers from 16 countries gathered at Silverado on October 1 to 4 to take stock of where they are today and where they are going in the growth years ahead, they discovered that although the details may be different, the role they are playing is remarkably the same worldwide.**

While keynote speaker Dave Packard took time to trace for them the early-day beginnings of the company's basic personnel policy and practices, his mind was on the challenge of today and tomorrow:

"Your responsibility is to work with line managers to see that we maintain a set of personnel policies that are consistent with our company philosophy, at the same time that you look for good new ideas to adopt.

"When we were small enough that Bill Hewlett and I knew everyone in the company, personnel was seen as the responsibility of every manager—we didn't have a personnel department in those days. Now that the company is so large that professional personnel people are essential, you must see to it that managers continue to be responsible for their people, to pay attention to them, and to have this as a first priority.

"If we continue to grow at the rate of 20 percent or so a year, the company could double in five years. To maintain our technical excellence, it's essential that we bring in top-notch people and see to it that we continue to emphasize training and development for them and for all our people.

"To put it another way, we're going

to have to do everything in the next five years that we've done in the last forty."

The activist role of personnel in the field was also stressed by Al Oliverio, vice president-Marketing, who pointed out the built-in communication problems that are created by having offices scattered over many locations, with sales people constantly on the go and reporting to different product group management.

"Personnel should be a catalyst in making things happen, making sure we get the right people on board at the right time," Oliverio said.

He was realistic about some of the inevitable shakedown problems associated with getting larger. "As we add more people and open new offices, we may find ourselves with a green team while we're getting underway. People could be unsure what their jobs are, and pretty soon we'd find our major customers asking what's happened to our service. Bringing along people who will develop into responsible administrative managers to back up technical sales people is important.

"When we consider the challenges facing the company, we look at the number of dollars needed to finance our capital budgets and operating budgets; we look at our resources. But undoubtedly the greatest challenge is in the area of hiring and training people, and keeping them happy and productive within HP."

One awesome number kept repeating in the opening presentations by Corporate Personnel managers: an estimated 65,000 people must be hired by Hewlett-Packard during the next five years if the company is to double as anticipated. (Since HP
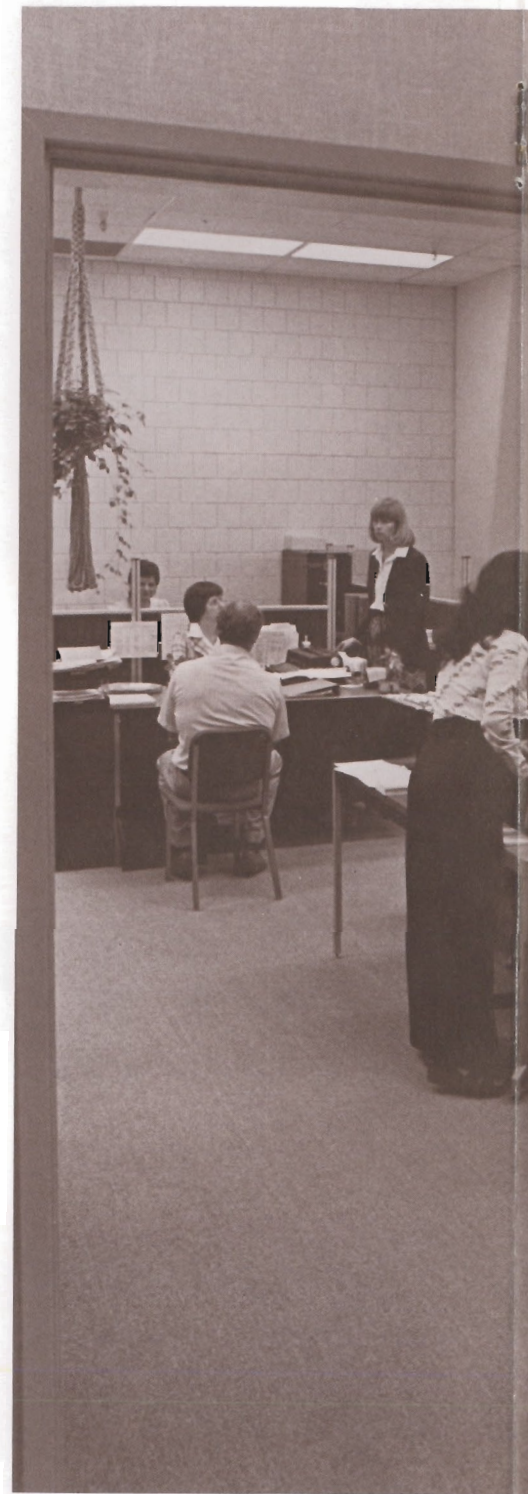
now has 40,000 people, that number takes into account the number of people who leave the company for various reasons during that period.) Here are some of the implications:

• *Preserving the HP way*—that indefinable something which people must see and experience really to understand— will continue to be the responsibility of all present employees, especially supervisors. Today about one-fourth of all the people in the company were hired during the past year. In five years, the company may have another 40,000 to 50,000 people with less than two years' service with HP. Personnel must be very involved in helping to keep the HP way alive.

• *Recruiting will be heavy.* To maintain its technical lead, HP must continue to bring in top-notch engineers and other professionals at an even more rapid rate for the next five years. Half will be recruited from the campuses and half from industry.

"We're at a crossroads in professional hiring," Corporate Professional Employment manager Jack Grout told the group. "We've done it the same way for about 15 years and it has served us well; our competition brings many more resources to bear for about the same success in hiring. But we must make some fundamental changes in order to really compete and continue to be successful. HP's needs in this area are increasing at least 11 percent compounded per year, but we don't see an increased number of graduates coming out of colleges and universities. As recruiting steps up, formal training of our recruiters and more coordination are urgently needed."

• *Training and development will be essential.* Bringing in new people in such large numbers will place a great strain on present employees to spend time as trainers, both on the job or in HP classrooms. Some supervisors will be comparatively new to the company and may need special orientation. "Excellent people can only perform excellently in an environment of excellent management," declared Bill Nilsson, manager of Corporate Training and Management Development. Courses developed by his department will be increasingly scheduled by divisions and regions.

• *People are expensive.* John Doyle, vice president of Personnel, reminded personnel managers that it costs Hewlett-Packard approximately $33,800 in total assets to put one new employee to work— a figure which has been steadily rising.

Said Doyle, "The 677 million dollars which the company currently spends on salaries and benefits is nearly half (49.3 percent) of the total revenues. Given these facts, management is cautious about hiring because of our determination to avoid layoffs if business deteriorates. We'll all be hearing a lot about productivity in the coming years, especially as we keep up

(continued)

Gwen Grove, South Africa, and Tom Pierson, Intercon

Colin Wilson, Geneva

Personnel's role

Joao Jose da Costa, Brazil

Wolf Michel, Germany;
Pete Peterson, Fort Collins;
Jim Colwell, Loveland

K. G. Tan, Singapore, and
Maria Malik, Malaysia

Dave Curry, Santa Rosa, and
Geoff Windsor, Australia

this growth rate. Personnel management practices have an enormous amount to do with employee productivity."

HP's international personnel people, present at the conference in larger numbers than in previous years, found that they shared basic HP concepts with their U.S. colleagues. At the same time, it was apparent that they operated in a wide variety of differing cultural and legal climates.

As one U.S. division personnel manager mused, "Overseas, personnel managers operate partly as 'corporate' personnel. They recommend their own wage curves and benefits packages to fit their particular country's situation. They're deeply involved in major policy decisions on how HP will operate in that country."

The degree of complexity in the day-to-day job also varies greatly among the overseas managers. At France's Grenoble Division, Pierre Danthony has implemented a sophisticated human relations program. In a small sales company, on the other hand, a single person copes with all necessary administrative and other personnel matters. And while a number of country personnel managers spoke urgently of the need to automate their records, Singapore's K.G. Tan already uses a 3000 Series II for payroll, employee records, salary administration and personnel evaluation purposes.

Colin Wilson, compensation and benefits manager for Europe, pointed out in his presentation to the group that several countries in that region already have the voluntary or mandatory income controls now under serious discussion in the United States. HPSA and Intercon have been asked to look at benefits on a total-package basis for each country in cooperation with Corporate Compensation and Benefits. Added Intercon's Tom Pierson, "We have 18 separate pay structures and benefit programs in the region. Few programs can be implemented worldwide or even regionwide."

On the third evening of the conference after long days of workshops, personnel manager George Lewis of the Computer Service Division was strumming his guitar for a group sing. Somehow a spontaneous round of performances from each country began, led by a solo from Olga Dona-Dio of Mexico. One by one, groups of personnel people from France, Germany, the Scandinavian countries, Latin America and other parts of the world were urged to sing, as George valiantly plinked an accompaniment. Not everyone understood all the words but everyone shared the feeling of togetherness as a worldwide team. □

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HP target: Detroit...

☐ If ever an industry had a need to be concerned about productivity it is the U.S. auto makers—better known as "Detroit." In spite of soaring demand for its products—or perhaps because of it—everywhere it now turns it encounters critics and competitors as well as government regulations, recalls, and courtroom challenges.

"Around here," said one auto executive, "to save just fifty cents on every car we make we're prepared to shed a lot of blood. And for a dollar we might even sacrifice Mother!"

Well, last month Hewlett-Packard may have helped save the day for Mother. The company held a special two-day conference in Detroit for more than 1,000 of the industry's key technical, engineering and functional management people. Combining almost all product areas of HP other than Medical, the conference described how HP's applied electronic technologies can be used to improve productivity in design, manufacturing, quality assurance and business operations.

The Conference for Automotive and Related Industries, as it was named, was a new approach for HP. It was the first multi-discipline conference presented to a specific industrial/regional market or economic sector. The Detroit Conference was based on a decision made a year ago to try a coordinated "rifle-shot" approach to a regionally concentrated market. Conceptualized and coordinated by Corporate Marketing Communications, the conference offered 20 seminar topics with related operational exhibits developed by groups including Instrument, Computer Systems, Calculators, Analytical and Components.

In addition, Al Oliverio, V-P Marketing, hosted some 60 key automotive managers at a luncheon during which John Young, HP's president, outlined our expanding computer line and customer support capabilities. ☐

Teamed up to demonstrate new HP 300 computer at Detroit show are HP's president John Young (left) and field engineer Tom Healey (seated). Their visitors, Emmett Moynihan of GM's Chevrolet Division and Steve Newlon of Horiba Automation, were among the more than 1,000 automotive industry representatives to attend the HP show.

Lunchtime learning

☐ When the inventor of the wheel and the inventor of the axle got together a million years ago to swap technologies, they may also have invented the business luncheon. Certainly, people who do business together have long recognized the usefulness of an informal exchange over the midday meal.

In very recent years, many Hewlett-Packard managers, including members of the Executive Committee, have added a new dimension to the noontime institution. They call it the "communications lunch."

In general, a communications lunch is simply one of a number of opportunities that an HP manager can take to reinforce the flow of company information upward and downward. Coffee breaks, regular or

Fairly typical uses of the communication lunch are shown here, both involving people of Data Terminals Division. On the one hand, at left, President John Young holds a luncheon for 12 representatives of the division where broad company-wide subjects and questions were discussed back and forth. The view below shows Jim Arthur, DTD general manager, at one of a series of scheduled lunches where division matters become the central topic. Identifiable in the photo with John Young are, from left: Blane Eisenberg (R&D), Bernie Delgado (Personnel), Sue Russell (R&D), and Reese Browning (Accounting).

special meetings, "management by walking around," public-address announcements, and editorial reports in division publications or bulletin boards are among the media that HP managers employ.

But a lunch seems to have some advantages of its own. For one, there's enough time available to dig into a subject or to hear a special speaker. And the groups are usually made up of about a dozen people, coming either from a single department or chosen on a random or representative basis from a number of departments. So there should be plenty of opportunity for the individual to ask questions, express concerns, and get to know the other participants better in a relaxed setting.

The uses of communications lunch-

eons vary from manager to manager. One GM tries to get around to everyone in his division at least once a year—meaning that he devotes something like two lunchtimes a week to communications. Another sees a monthly lunch as sufficient because he is more interested in a sampling of viewpoints; he already has other means of meeting everyone. For their part, the members of the Executive Committee frequently use their travels to schedule communications lunches.

What does that buy—besides a nice lunch?

At one recent lunch for some Data Terminals people, HP President John Young pointed out that the meetings seldom if ever produce dramatic disclosures. Still, he added, several of his recent let-

ters in MEASURE were written in response to questions often raised at luncheons, particularly questions that dealt with complex topics such as salary administration and merit pay.

Other managers report similar results. While challenging viewpoints do arise and are welcome, the most productive role of a lunch meeting is the uncovering of general questions and concerns.

Communications people might look at it another way: The acts of communicating and listening are messages in themselves. In the long run they may be the most important messages of all. □

The HP mouse that roars...
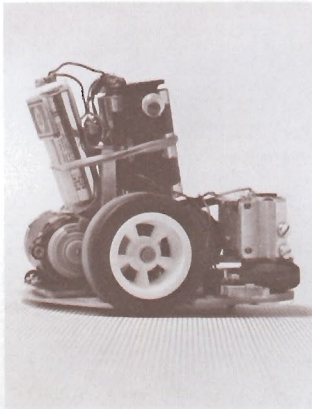
☐ "And moving along the rail very fast is Hewlett-Packard's micromouse, Harvey Wallbanger. And Harvey wins going away!"

Three Santa Clara Division engineers hope to hear that kind of horse-race commentary at the National Computer Conference in New York next June. They earned the right to be there at the IEEE Micromouse finals when Harvey, their robotic rodent, won Wescon trials in Los Angeles this August in record time. He zipped through the IEEE maze in 41 seconds, about twice as fast as any other of the micromice.

Ken MacLeod, Gary Gordon and Gary Sasaki are somewhat surprised, yet excited, at Harvey's performance. Their greatest interest is the adventure of it all. In fact, should they win the $1,000 first prize, it will go to a community cause selected by division manager John Blokker.

What made their entry most notable is the fact that Harvey relies on technology that was state-of-the-art perhaps 50 or 60 years ago. On his right side is a mechanism that automatically keeps him moving along the wall on his right; on the left and up front are mechanical systems that steer him off of walls to his left or ahead, and around bends left or right.

In contrast, most other entrants experimented with microprocessors, computer memory devices and optical sensors to move them through the maze.

To be fair, the HP team concentrated on a high mousepower-to-weight ratio and maneuverability, all for the sake of speed. Therefore, while Harvey is an excellent candidate for the top speed test, he is very unlikely to win the other test which calls for improving performance through the ability to learn the maze in the course of three runs. Lacking an electronic brain. all he knows is how to go like gangbusters every time.

If the show goes as expected next June, the race of the micromice will attract thousands of the computer conference visitors. Television crews will be on hand to report this new ultra high-technology sport to the world.

When they take your picture, Harvey, remember to say "cheese." ☐

Observing their micromouse negotiate a turn are, from left, Gary Gordon, Ken MacLeod, and Gary Sasaki.
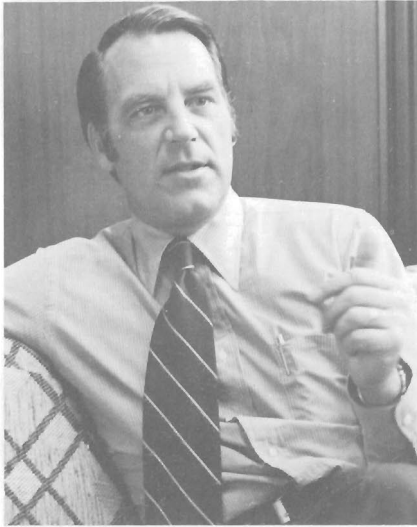
From the president's desk

Last month I had the opportunity of participating in a meeting of HP's division product assurance managers along with specialists from the corporate staff. Collectively this group provides the operating organization with information, analysis, and counsel on how safely and reliably our products are performing: from the product design stage through production and field repairs.

Meetings such as this are highly useful to the participants—learning from each other is in the best HP tradition. At the same time, I was able to learn about the significant progress we have made in product assurance, particularly over the last 2-3 years. For example, new product engineers now have greatly improved tools at their disposal for component evaluation, and design guides on how to minimize the heat build-up inside cabinets that greatly accelerates failures. They also have mathematical models to evaluate product reliability while the development process is underway.

In new product qualification, stress testing is widely used to highlight design margins, workmanship errors and weak components. Some forms of this testing are carried into production as well. Detailed analysis of failed parts lets us pinpoint vendor process and testing problems before they seriously disrupt our production flow.

Designing and delivering highly reliable products gets more difficult each year as technology advances. It's a numbers game: with decreasing semiconductor prices, we put more and more components inside even lower cost products to achieve added functions. Since failures relate to the number of components, a more reliable design is necessary just to stay even in the eyes of our customers.

The achievements of the Instrument Group over the past two years show what can be done with a concentrated effort. Despite increased product complexity, the failure rate of the Group's products during this period declined by over 20 percent. It's attention to details in all areas from design through shipping and the application of the new tools we have available to us that have made the difference.

The main point of the product assurance meeting was to share the many new ideas on good practices in design and manufacturing, and identify opportunities where some additional effort can produce better results. The corporate staff coordinates these activities, but a great many people across the company are involved in meeting these problems.

HP's management by objective approach puts great reliance on individual performance. It's essential that each person in the design, manufacturing and repair functions has the skills to accomplish the job, and has appropriate tools and techniques in hand to assure the job is done properly. In addition, if there is to be improvement and control, results must be *measured* to determine if we are achieving our goals.

HP has established a leading position in electronic measuring instruments over its 40-year history by assuring that customers do receive continuing satisfaction from our products. These same considerations apply in newer market areas with perhaps even greater emphasis. Medical, for example, has life support applications in hospitals, and computer failures can badly disrupt—or even shut down—a business establishment.

Customers in all our markets are increasingly quality conscious and evaluate a product purchase based on the total cost of ownership over its useful life. HP's full commitment to products with lasting values continues to be an important element in creating successful growth for the future.

John Young

The late afternoon balloon...

No sooner had MEASURE told the story of the HP-67 aboard the historic Double Eagle II than these photos drifted in from HP France. Getting through the press crush in Paris around Maxie Anderson and the other crew members was something of an historic adventure in itself for Jacques Marquizeau, who handles press relations for HP France. It took Jacques four days after the excitement of the balloon landing in Normandy (left) to get an interview with Maxie at the American Ambassador's residence in Paris. Below (left to right) are Jacques, Maxie, and Rene Jacquet, who is in charge of the consumer calculator distributor network in France.