MEASURE

TEAMING UP FOR QUALITY

THE ZEROS □ THE RAMRODS □ QUALITY UNLIMITED □ IMPROVEMENT CENTER □ DO RIGHTS □ RANDOM SAMPLERS □ Q-TIPS □ LC QUAL TEAM □ MOSAIC □ AS WE SEE IT □ QUALITY EFFORT □ ARTESIAN SOURCE □ TROUBLE MARKERS □ CURRENT MINIS □ CIRCUIT BREAKE □ QUALITY SEEKERS □ WILD CATS □ PRIME TIME TOILERS □ P.C. SWINGERS □ MONDAY MORNERS □ TERMINAL CONNECTIONS □ QUAL TEAM INC. □ SECRETARIAL TEAM FOR ARRIVING AT REASONABLE SOLUTIONS (STARS) □ SECRETARIAL □ PARTS SHIPPING □ OP EXPOR IDEAS INK □ THE HAT-CHECKERS □ EMPLOYEES SOLVING PROBLEMS (ESP) □ BLOOPER TROOPERS □ CORE □ H.A.L.P. □ 15 FORCE H.O.O.D.S. □ JAKE'S INNOVATORS □ LB³ □ MERCURY S.W.A.P (ERS) □ QUQO □ QUALITY KEEPERS □ QUALITY QUESTERS □ QUAPS □ S.O □ W.G.A.S. □ WINDOWLESS WONDERS □ PC PRIDE □ SUPER GOALERS □ TROUBLE SHOOTERS □ PROBLEM PROBERS □ ORB □ RANT A RAVE □ QUALITY SEARCHERS □ COYOTES □ INTEGRATION SPECIALISTS □ SCANNER Q.T.'S □ WATTS LINE □ DESPAIR AND REPAIR □ FO FIXITS □ SOLUTION SQUAD □ GOOD NEWS BEARS □ FIRST ADDITION □ ILLABUN □ SOLVE AND RESOLVE □ QUALITY EXPRESS □ Q.C. 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UP FRONT

Comments on
the changing HP scene —
and the people behind it.

Harry Portwood, Corporate affirmative action manager, discusses agenda with Corporate Personnel's June Walker during conference.

HP's recently completed affirmative action conference provided **Measure** with a timely opportunity to preview the future course of our affirmative action activities.

The message heard throughout the conference was that affirmative action will remain a strong HP priority in the years ahead.

"The HP organization worldwide is committed to affirmative action," said John Young in opening the conference. "Affirmative action fits squarely within our corporate objectives and the way we like to approach our work. It is also a goal we pursue in the best interests of our organization."

Affirmative action is a goal HP pursues because it makes good sense. HP's affirmative action programs are part of worldwide efforts to develop HP's human resources. As the company grows around the world, it will need to recruit and develop greater numbers of talented people. Affirmative action programs are geared toward increasing the pool of qualified people available to HP, especially among those segments of the population that have been under-represented in technical fields.

The need for affirmative action exists throughout the world for HP regardless of the locations or existing political forces where HP entities exist. The focus of future AA programs remains very clear: an emphasis on enhancing the job skills of minorities, women and all people who have traditionally had limited career opportunities.

HP expects to increase the number of outreach programs aimed at encouraging persons of all backgrounds to enter technical fields, where opportunities for achievement abound. HP people will continue their involvement in high school counseling, minority college assistance, and summer intern programs—to mention only a few such activities. Special classes and seminars in affirmative action for managers and ongoing training programs will ensure an emphasis on development of all HP people.

An HP commitment to the goal of affirmative action does not mean that it automatically agrees with all the methods that government agencies have chosen in their efforts to achieve that goal. We have seen the affirmative action activities of these agencies focus so much on paperwork and statistical exercises that their energies—and HP's—have been diverted from the real task at hand. HP wants to focus on the problems that have prevented the full work-force participation of **all** segments of society. For that reason the company has been active in efforts to simplify overburdensome government regulations in the hopes of strengthening and clarifying the goals of affirmative action. It is simply too important a goal to get sidetracked into debates on statistics. The real issue is how best to create the greatest opportunities for the most people. As the conference made clear, HP's affirmative action programs will continue to address that issue vigorously. **M**

TEAMWORK TAKES OFF

The HP team spirit has taken on a new form — quality teams. More than 500 now bring an extra measure of energy and enthusiasm to the many ways HP people search for improved product quality and personal growth.

Nancy knows why she likes belonging to a quality team in Data Systems Division production: "It's given me the opportunity to voice my opinion and know I'm being heard."

Like other members of quality teams or quality circles throughout Hewlett-Packard, she meets each week in a small group led by her supervisor to look analytically at better ways to work together and to develop suggestions to management for improvements.

The phenomenon of quality teams has swept through the company since MEASURE looked at Japan's Quality Control Circles in the November 1979 issue.

In the U.S. alone, the number of quality teams has jumped from 15 in mid-1980 to more than 220 this June. The present companywide total is well over 500 and climbing too rapidly for an accurate count. (We've included the names of as many as we could gather on the front cover.) The company's first in-house conference of quality teams was held in Loveland, Colo., this June.

A number of elements have combined to create this explosion of interest:
○ In 1979 eleven HP manufacturing, product assurance and materials managers led by Vice President–Manufacturing Services Ray Deméré visited Japan to look over successful manufacturing techniques. One of the messages they brought back was that quality circles of production workers played an important role in the quality of Japanese workmanship.
○ HP's joint venture company in Japan, Yokogawa-Hewlett-Packard, has continued to expand its quality circle activity which began at the factory in 1973. YHP now has 214 circles, more than 60 percent of them in sales and customer service.
○ Pioneer efforts by four U.S. divisions—Manufacturing, Colorado Springs, Loveland Instrument, and Desktop Computer—and HP Malaysia in starting their own quality circle activity in late 1978 and early 1979 led directly to development of

a companywide training course introduced in 1980. HP uses its own term Quality Teams, drawing upon the concepts of quality control circles, quality of work life and the HP Way. (Some divisions prefer other terms for their activity.)
○ The NBC-TV documentary, "If Japan Can, Why Can't We?" on Japanese accomplishments in improving quality received wide interest. In March, W. Edwards Deming, one of the stars of that show, gave a two-day seminar for HP management on the importance of statistical control.
○ The latest count showed 43 HP entities in various stages of training or developing quality teams, with a number of others interested in getting started

Quality teams are thus no longer an exotic idea at HP but familiar to many divisions and sales offices. Old-timers with the company tend to see them as a modern version of the comfortable small-group decisions that were an everyday part of HP's earlier days, but others would disagree.

"HP's style of operation and emphasis on decision-making at the lowest level are certainly compatible with quality teams," said one observer, "but quality teams are far more defined. Participation is voluntary, with regular meetings and a formal decision-making process which includes the use of statistics."

The typical division has a steering committee, a coordinator, facilitators who guide the process for one or more teams but are not experts on the subject, and team leaders (usually the supervisor of the group). All are volunteers. Not surprisingly, a number of variations are apparent within HP:

Steering committees (some divisions have more than one) develop their own objectives and guidelines. The emphasis may be on people development or on improving productivity and product quality. Some divisions train heavily in group dynamics while others stress statistical procedures.

Facilitators may be full- or part-time, from another functional area or in the team members' own area, managers or non-managers. Several divisions don't use facilitators at all. Germany calls the role "moderator," and has a "champion" as coordinator and "advisors" who give basic training. A number of divisions have developed their own training materials to supplement the course

Maggie Johnson leads a training course for team leaders and facilitators in Palo Alto.

available from Corporate.

Starting up the group process is not without its frustrations. Several divisions have decided they made false starts on quality teams and have backed up to begin again with more structure and training.

Responsibility for quality teams at HP is now split among three functional areas—manufacturing, product assurance and personnel—and the activity may wind up reporting to any of them at a given division.

"There's no standard way it happens at HP," says David Ross, who administers the program of quality team training materials developed by Corporate Training and Management Development. Some 400 members of steering committees, facilitators and team leaders have been through the course since January and it has just been expanded from two to three days in length.

Corporate Quality under Paul Baird is concerned with promoting the understanding and use of statistical methodology which is standard in Japan but spotty in the U.S. Ross Redeker of that department is spearheading development of a training course on statistics which will be started this fall.
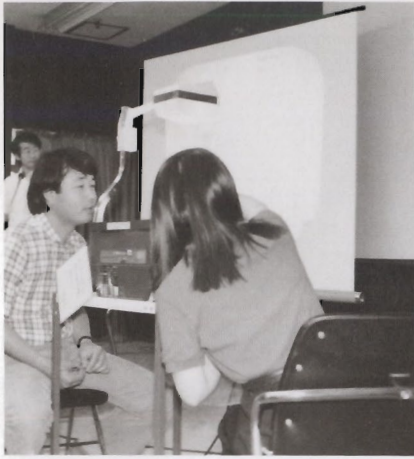
Using two screens, a YHP quality circle makes a presentation during Hachioji competition. Takashi Nakamura helps operate one of the projectors.

Between working sessions at HP's first international quality team conference in Loveland this June.

At the Santa Clara Division, Abe Bromberg (right) uses a blackjack exercise with cards to teach Steve Peffer and other quality team members about probability in problem-solving.

In the absence of a single Corporate manager with overall responsibility for quality teams, a voluntary "quality team on quality teams" under the name Bay Area QT provides loose coordination. It will sponsor the company's second international quality teams conference next year.

How good are the prospects for maintaining long-term momentum of quality teams at HP? Today's cheerleaders for the quality team concept reject any notion that it is a fad. They say quality teams have too many valuable results, measured both in dollar payback and people growth, to fade away. Given proper training and management support, they should grow to 1,000 in number next year in HP's hospitable environment.

Here is a closer look at some quality teams and individual HP people who have promoted them:

DSD: emphasis on personal growth

When Gaylan Larson, then manufacturing manager of the Data Systems Division, returned from the trip to Japan with the Deméré group in October 1979, he asked production manager Bill Mohr to work full time on starting up quality teams. HP managers touring Japanese industry had been impressed with the interlinked importance of automation, quality and inventory control and the widespread use of quality control circles.

If the latter concept works, it should not be limited to the manufacturing area, Bill reasoned. He arranged that representatives from all functional areas attend the International Association of Quality Circles conference in San Francisco in January 1980. The 10 attendees came back so convinced that they became the division's first steering committee.

The emphasis at DSD has been on personal and professional growth of everyone involved, including leaders and facilitators. It is known informally throughout the company as "The Bill Mohr approach."

By the time Bill left DSD this summer for a new assignment, DSD had 30 teams divided equally between production and non-production areas.

One of the DSD people whose enthusiasm matched Bill's own was Maggie Johnson, then a supervisor in manufacturing. The pilot quality team which she headed was the first one to make a presentation to division management.

Since then Maggie has put together her own program for prospective quality team members and been invited to appear at a number of manufacturing divisions. She's even appeared in an HP-produced videotape on quality teams.

Last month she joined Corporate Training to work full-time on quality team assignments.

Maggie tells her classes, "After my own training as a leader was over, I felt very panicky rather than enthusiastic and ready to go. Questions kept coming to mind: What if I can't lead? What if I lead in the wrong direction? Worst of all, what if there is no one to lead?" Her fears proved to be unfounded.

The eight-member team led by Maggie at DSD did a survey and recommended buying a new riveting machine.

"That first project was just like raising a new baby: we worried about everything," remembers Maggie. "We read through the manual for Presentations at HP to gain more confidence when we met with management.

"One of the fringe benefits of quality teams that I've seen is individual, personal growth. Employees who were very, very quiet people have been willing to make phone calls to support the group and to talk to engineers. They've all learned how to relate to each other, how to listen, and how to compromise. They've also learned how to collect data, write minutes and do public speaking—everyone on the team had a part in our first presentation.

"Amazing things happened in our group. I just can't believe the growth that people experience through quality teams."

LID: quality team for QT conference

Loveland Instrument Division has just finished hosting the company's first International Quality Teams Conference, held June 11 and 12, which attendees generally agreed was a dynamite event.

The conference itself was a real quality team effort, according to Linda Dellmar, one of the organizers. Planning began 18 months ago in the division's voltmeter product line, the original home of LID quality teams. (LID started the first two teams in the U.S. in 1978 and now has one of HP's most mature activities in the country.)

First a quality team was formed with the expanded problem of holding an international conference.

It started out hoping for a good representation of U.S. entities. A survey was sent to HP people active in quality teams to find out if they would be interested in a national conference and, if so, what their priorities would be. That data was compiled for the division steering committee headed by John Mohr, which not only approved the idea but joined the conference team.

Says Linda, "Everyone we asked to help on subcommittees—from entry-level people to the manufacuring manager—had a lot of enthusiasm and interest." Top-level speakers were obtained for general meetings and workshops, and 13 LID quality teams invited to demonstrate making a presentation to management.

"I was walking on air when we received a registration from Germany—our first acceptance from outside the U.S.," said Linda. The final registration was more than 300 people, including representation from Germany, France and Malaysia.

Arriving in Palo Alto for the first of their U.S. presentations are members of winning YHP quality control circles and (right) Katsumi Yoshimoto, customer assurance manager. From left, Intercon steering committee members Jane Chikuma and Bob Coutts, and YHP's Emiko Kamijo, Yasuno Sasaki and Katsutoshi Tokiwa. Not pictured is Tadao Furumaki.

A careful start in Toronto

At HP Canada's Toronto office, one of six quality teams in a pilot project has just made its first presentation to management on the problem of handling credits and rebills more quickly.

It represented a milestone to Commercial Services Manager John Cross who has been coordinating the activity.

The subsidiary had laid the groundwork carefully for the introduction of quality teams, first sending John and another manager to Palo Alto to attend the Corporate training course. Then came an explanation of the concept to the subsidiary's Operations Council, and setting up a steering committee. All departments received a 1½ hour explanation of the teams.

In April John and steering committee member Pauline Allen introduced the idea to 14 prospective leaders and facilitators. "We were trying to stack the deck in our favor to make quality teams a success," John admits. "We selected people for their strong personal skills, leadership and the ability to be sensitive to letting the process go smoothly without saying something—but strong enough to step in to say 'reset to zero' if necessary."

Two people turned them down immediately. The names of the others were put in a hat and the first facilitators and leaders chosen. (Three of the potential team leaders then excused themselves.) Those who elected to go ahead with quality teams went through the Corporate training course, given in Toronto by David Ross, and are now training their team members.

Some lessons were learned in the startup. Beginning in the summer is a poor idea because the facilitator and leader may be unable to get together to train the team due to vacations. And limiting a team to six people doesn't provide enough stability to keep going if job assignments change. But those small frustrations were forgotten when the first quality team presentation went off in fine style.

And yes, the team's recommendation that order processing have more local autonomy for authorizing credits was accepted by management for implementation, as is usually the case.

Software circles: a different task

What happens when everyone in a quality team is a software engineer?

At the Information Networks Division, which has two software teams, Product Assurance Manager Sally Dudley points out some of the differences in operation.

"In software, the major emphasis is on R&D rather than production, which has a process that is repetitive. The problems which software circles deal with don't fix something

In Toronto, Canada, Brenda Vaughan presents the order processing quality team's proposal for a better way to handle credits.

Meeting at 6 a.m. is Manufacturing Division quality team of graveyard and day shift people. Leader is Mike Carveiro (second from left).

down the line and make a permanent improvement.

"There's no history to go on because the software profession hasn't evolved standard techniques. And there is really no concensus on what is or isn't a good product."

Software teams tend therefore to focus on problems related to the work environment, terminology and training. One of the IND teams surveyed the whole lab to discover the major issues and found that noise is a concern for engineers who must concentrate in an open setting. Result: creation of a quiet room.

Another project was pulling together a half-day orientation course for brand new engineers upon arrival "since new people could feel as if they had disappeared." The handout for that course has now become a self-study manual.

Software circles in both IND and the neighboring Computer Systems Division have completed putting together centralized documentation libraries.

The Colorado Springs approach to training

When Paul Richardson, Stella Martin and Pete DeLisle put their heads together two years ago about developing quality teams at the Colorado Springs Division, the decision was to first train managers and supervisors to lead teams effectively.

Paul, manufacturing manager for oscilloscopes, was already interested in creating a more enjoyable work atmosphere where people would feel free to contribute their good ideas to supervisors. Stella, a section manager, contributed the results of her six months of independent research into Japanese quality control circles. And Pete, a former university instructor, had a strong backgound in teaching people to work in small groups.

The package they put together was aimed at upgrading managerial and supervisory skills in general, with specific training in group dynamics. Paul developed a leaders' manual, tying concepts of quality circles, quality of work life and participative management into the HP way.

Pete DeLisle has developed a 100-hour Leadership Effectiveness and Development Workshop for first-line supervisors that is given over a period of eight months. Two-thirds of the supervisors in the Oscilloscopes Operation have attended voluntarily. To get them thinking about effective leadership, Pete uses such techniques as the survival exercise which poses a hypothetical airplane crash to teach that collective decisions are better than individual decisions.

In related training, Dick Ouellette teaches a General Problem Solving Class to supervisors and their groups. He tailors his examples to a particular area's difficulties such as work flow or incoming parts.

Other workshops are given in analytical troubleshooting and statistical quality control.

Since Colorado Springs Division has emphasized training supervisors to understand thoroughly what they're doing when working with groups, it has approached the organization of its quality teams in a unique way. It does not use facilitators to help guide the process (although a "consultant," typically a manager, is available). A steering committee was formed only eight months ago and the more than 30 quality teams are at last reaching the stage of making formal presentations.

"It has taken us longer to get started," says Paul, "but we knew quality teams would blossom nicely in the end."

A split-shift team is twice as good

The Manufacturing Division's plastic molding area, which runs three shifts, has quality team involvement on every shift and in every group. Some of those teams have members from two shifts, including the combination graveyard and day shift quality team led by Mike Carveiro.

Mike, a graveyard supervisor, had been the leader since the team was the first to be organized at the division's 395 Page Mill Road site in 1979. He'd heard about quality teams underway in the division's printed circuit facility up the hill and "everything was positive."

Five of the 10 team members and facilitator Pete Klein are from the original group, with equal representation from each shift. The team includes machine operators and set-up people, a flame-sprayer and supervisors. Pete is a production section manager.

According to Mike, a split-shift team has several advantages. The time required for research can be spread across two shifts, for instance. Day shift members have easier access to groups such as engineering and production control which share the same hours, while it is easier to do experimentation (such as breaking down a machine to try something different) on off-shift.

A solution worked out by a team with members from two shifts provides a good core for plantwide implementation. One member is responsible for keeping the swing shift informed.

The team has leaned toward projects in the area of productivity, such as low production rates when drilling control panels. Data that was gathered to improve production output of a grit blaster will now be used again by Pete to justify the capital expense of replacing that machine.

Replacing members when shift or section movement takes place is no problem. Says Celso Mejia, one of the original members, "Practically all of the graveyard crew wants to be on the team."

Statistics make the difference

At HP Malaysia, which follows the Japanese pattern for quality control circles, training in statistics is considered critical for success.,

Quality Assurance supervisor Neoh Kah Thong, who coordinates 20 circles, noticed the contrast between East and West when he attended the international HP quality team conference in Loveland.

"In U.S. companies, the heavy emphasis is on group dynamics and communication to develop teamwork—probably a wise approach for the culture.

"However, there is also a need to pay attention to the teaching of statistics. Without statistical quality control, some so-called quality circles in the U.S. have little in common with Japanese QC circles.

"HP seems more aware of this pitfall than many other companies and there should be no danger of its neglecting statistics."

QCC leaders are first taught such basic quality control techniques as the Ishikawa cause-and-effect diagrams and Pareto diagrams, data collection, graphs and histograms to use in analyzing data and making presentations. Leaders then see that team members have the necessary statistical tools for their projects.

Neoh has given added instruction in scatter diagrams and control charts during monthly meetings of circle leaders. Lecturers from the University of Science, Malaysia, have also been brought in to conduct a training course in statistics.

Similarly, HP Singapore includes generous training in statistics in its well-developed QCC activity.

Some U.S. divisions now offer their own statistical training, usually directed first at engineers. Deb Shenk at the Loveland Instrument Division is one of several statisticians who have joined the company recently. Herb Zimmerman at the Desktop Computer Division has already given his own 16-hour course to 140 people—and plans eventually to train everyone.

"You can get people through the barrier of fear once they find they can actually use statistics," says Gerry Dyer of the Microwave Semiconductor Division. "By reducing 15 pages of data to one picture you can see the whole problem."

YHP sets the pace

The Traditional Japanese Ladies + 1, a quality circle in Yokogawa-Hewlett-Packard's Takaido sales headquarters in Tokyo, had a problem. How could they improve the handling of specially designed shipping formats provided by some customers?

Their analysis showed errors in coding, an incomplete manual, and lack of information on the part of secretaries—all things that were possible to correct once identified.

The result was reduction of coding errors from 24 percent to 6 percent, they reported to a conference of 80 quality circles established in YHP sales offices.

The spread of quality circles into the field last year virtually completes the penetration of the idea throughout YHP. The first circles began in production in 1973, then were copied by administrative areas. Now some 83 percent of YHP's employees participate in quality control circles, with Masahiro Yamada serving as the full-time coordinator.

YHP's quality circles have completed a total of 380 presentations to management over the years. The circles represent personal benefits to members that are real but not easy to calculate, and annual dollar

savings to YHP estimated at $1 million per 1,000 employees per year.

Competition among quality circles is encouraged, both within YHP and among Japanese companies. Presentations are judged on dollar savings, the effective use of statistical quality control tools, members' attendance, and the total effort which goes into completing a task. Winners receive tours and other prizes.

For the first time this September, a representative from each of four winning YHP quality circles received a trip to the United States. With the help of an interpreter, the visitors graciously gave a series of presentations to show U.S. quality team members how things are done at YHP.

QT champion: Fred Riley

Fred Riley, quality assurance manager for the Manufacturing Division, was one of HP's original promoters of quality teams. In 1979 he wrote his own training material to get the division underway. He continues to share his enthusiasm about team building with other HP people as a guest speaker.

This year he is serving as 1981–82 president of the International Association of Quality Circles.

Fred has strong convictions about the types of problems that are appropriate for quality teams to tackle, taking issue to some degree with quality experts.

Such superstars as W. Edwards Deming and J.M. Juran, both of whom have consulted with HP, insist that 80 percent of the quality problems in the workplace are management- or system-oriented. Quality teams are not a substitute for management commitment to quality, they say, and management must be kept on the hook for making critical improvements. By the same token, quality teams should address the remaining 20 percent of the problems that lie within their own control.

Says Fred: "I agree about management's responsibility for making significant improvements—but in my experience, quality teams can always come up with something that will help in the process." **M**

BACK FROM THE 'LAST FRONTIER'

David Warren (left) and Ivan Young emerge from a speleological exploration in — or under — Scotland. Photo courtesy Glasgow Herald.

A cautious crawl with fingertips and toes balanced on cobbles projecting above the rushing water reached a juncture after five meters. To the left a passage ascended steeply to daylight while to right it continued into total blackness...." Not Edgar Allan Poe but Ivan Young, R&D project manager at the Queensferry Telecom Division in Scotland, describing a cave he discovered for a publication he co-edits. Ivan holds that caving, or potholing, offers the "last frontier" combining physical fortitude and intellectual challenge which crosses scientific lines.

Consider entering an unlit, subterranean chamber where the creepies and crawlies you meet are unchanged since prehistoric days. The search for food is so intense fungus or worms almost reach for you, Or, pretend you are a cave diver in wet suit with torch and airhose div-

ing into black, unknown water. You are searching for a passage as large as your body so your exploration can continue, 100 feet on each oxygen tank. At this depth man supplies all his needs.

Ivan describes speleology as the total science of underground caves including geology, geomorphology (study of the characteristics, origin and development of land forms), architecture (the way the rock has been folded) and many other branches of science. Erosion affects the surface world, but the underground contains unaffected, almost fossilized examples, to totally fascinate the caver.

During six years of caving Ivan has worked with Edinburgh's Heriot-Watt University in analyzing formations, dating them by uranium thorium, and using oxygen-isotope analysis to determine above-ground temperature at that time.

Carnegie Trust is funding a collection of spiders, worms, fungi, shrimp, fish and all forms of life that have survived, veritably unchanged, since the Ice Age, in this protected environment. The British Cave Research Association also performs a number of scientific studies.

Ivan and David Warren (who also works in South Queensferry's R&D area), along with other caving club members, survey and measure caves to produce maps. They publish a series of cave guidebooks containing these maps, diagrams, and information on area caves.

"Calculators can relieve cave surveyors from much of the computational drudgery in survey plotting," writes Ivan. His choice, carried in a transparent bag is the HP-41C. **M**

YOUR TURN

Invites you to question
or comment on matters
of importance
to the readers
of Measure.

HP FOR SALE

Recently we came across a two-by-one-inch miniature 41C key ring. When we asked, we found out it was a promotional giveaway by the Corvallis Division.

Is there some way that interested employees could obtain information about the availability of current promotional items for purchase by employees? If not, our suggestion is to open a "goodies" store offering such items for sale to employees and have a monthly ad in **Measure**.

RAMONA CROCKER
CINDY CRYSTAL
Neely Sales Region
North Hollywood

Most promotional items are produced in quantities to serve their primary audience—potential HP customers. Measure isn't ready to open a company store with HP sales-promotion items yet—our hands are full trying to keep employees informed about the growing company.

We did, however, run across a special anniversary calendar for sale that should be of special interest to lots of HP employees. See the Closeup item on page 21 for details on how to order it.

If anyone wants to volunteer to finance, administer, stockpile, ship, bill and collect for a goodies store, we'll be glad to spread the word.

—Ed.

ROUNDNESS ROUND-UP

Your roundness article in the July-August issue was astonishingly timely. You said, "While HP may not be in the roundness business..." Well, believe it or not, at Civil Engineering Division we are. The ad promoting our new 3822A Coordinate Determination System appeared in *Quality Magazine* in July and August of this year.

To be honest, we aren't really in the roundness business. This system more likely would be used to measure the position of points and the straightness of lines. But it can also determine roundness by measuring the points on the outside of a sphere. And Boeing Aircraft is thinking of using this method to measure the roundness of jet engine openings.

Initially, we had a lot of difficulty trying to illustrate our coordinate measuring concept in a picture for our ad. We hit upon the giant round object idea (it's actually a black bowling ball) and used a bit of trick photography. The response to our ad has been excellent.

So when I saw your article about roundness, I read it with a lot of interest. It seems HP is doing a bit of everything these days.

DOUG JOHNSON
Civil Engineering Division
Loveland

"How do you know if it's really round?"

SEEING EYE-TO-EYE

It's puzzling that a company so dependent on the good eyesight of its employees doesn't include eye examinations and lens making in its group insurance policy. It seems this area should have been considered before dental coverage.

In a world of Gucci wastebaskets and Halston toilet brushes, the eyeglass frame niche is not without its gurus of status; therefore, their selection and purchase should be left to the discretion of the employee. The actual eye exam and lens grinding, however, are clearly medical practices and should therefore be covered like any other medical expense.

I'm sure this addition to our coverage would be met with enthusiasm and appreciated greatly by those who've been putting off that next visit to the optometrist.

NAME WITHHELD UPON REQUEST

We agree that it would be tremendous for employees if HP could offer an eyeglass program, a day-care center, a hearing-aid program, a sabbatical leave program and more. It would also be very expensive.

In designing HP's total benefits package, one of our primary goals is to protect people from serious losses—the unplanned hospitalization or the prolonged illness, for example. To a certain extent, items such as physical exams, hearing tests and eye examinations and prescription lenses can be planned and budgeted for.

The company also believes employees should share to some extent in the cost of certain programs, such as health care coverage, as a means of promoting sensible decisions and nonexcessive use. By not assuming the total cost of such programs, HP is able to offer other useful benefits.

The company does have a safety glasses program in place that promotes the idea of protecting eyesight in manufacturing areas.

ART YOUNG
Corporate Personnel
Palo Alto

WHY DO HP PEOPLE DO THINGS THE WAY THEY DO?

A firm belief in the trustworthiness of people, including the assumption that they want to do a good job, underlies the HP Way as well as the views of modern humanistic psychologists. Frederick (``Rick'') Gilbert, a Ph.D. psychologist and training specialist at HP Labs, places the Hewlett-Packard philosophy of people management in a new perspective. Then Dave Packard discusses how he and Bill Hewlett came by their business philosophy. Finally, two Boise managers answer the question ``What is it?'' by summarizing various aspects of the HP Way.

WHY DO HP PEOPLE DO THINGS THE WAY THEY DO?

Before joining HP, I taught psychology and worked with emotionally disturbed people at a community mental health center. My training gave me the chance to speculate about why people do the things they do. Over the years I found my interests changing from the speculative world of psychology to the results-oriented world of business.

To start my new career in business, I talked to people in many different companies, including Hewlett-Packard. Consistently, the HP people I met with were friendly, informal, confident and effective. I was amazed at how different the atmosphere of HP facilities was from that of other companies.

After I started working at HP and began to learn how the company works, my initial impressions began to make more sense. The atmosphere, with which I had been so impressed was related to the HP way of doing things. I realized the HP Way is based on a set of assumptions about human nature similar to what psychologists call a personality theory. Such theories attempt to explain and predict behavior. They also suggest a personality ``structure'' and some kind of driving force or motivation.

I began to compare Hewlett and Packard's ideas about human nature, as reflected in The HP way, with the major personality theories. Since psychologists often disagree on even the fundamentals of human nature, there is much variation among these theories.

For example, if you were to ask Sigmund Freud (the founder of psychoanalysis, 1856–1939) why people act the way they do, he might say: ``Most people have unresolved emotional conflicts from early child-

hood. As adults they do what they do to try and get relief from the inner pain of these conflicts." He might then continue, "Since this pain and the struggle to resolve these conflicts goes on in what I call the unconscious part of the mind, most people have no idea why they do what they do...even though they *think* they have free will."

Freud believed society's job is to control people's animal instincts. Without that control, he thought people would destroy each other. He did not have much faith in human nature.

For a completely different answer you could ask Harvard psychologist B. F. Skinner, the leading spokesman for a school of psychology called behaviorism, why people do what they do. He might answer, "People act as they have been taught to act by the rewards they have received from the world around them. Personality is formed by these rewards from the moment we are born. People's reactions are automatic. There is no free will."

Skinner believes human nature is neither good nor bad. What people become is simply the result of the rewards they get along the way.

If we asked two other psychologists, Abraham Maslow and Carl Rogers (two of the founders of humanistic psychology), why people act the way the do, we would get yet another completely different opinion. They might say something like: "People are driven by a desire to be the best they possibly can be. With the right kind of supportive environment, people will reach their own highest potential. Generally, they will make decisions that are right for them. What makes us different from lower animals is our free will."

Maslow and Rogers also believe that, to continue to grow, people must live with a certain amount of inner tension.

What does all this have to do with Hewlett-Packard and the HP way?

If you assume that management theories, like personality theories, are based on certain assumptions about human nature (for example, why people do what they do), you can look at HP's management style and see what personality theory it parallels. Since a number of recent books and articles have pinpointed HP's management style as being unique *and* successful, it may help to understand the underlying assumptions of this style.

Take a quick glance at the chart. It should reveal how Hewlett's and Packard's assumptions about hu-

man nature most closely parallel those of Maslow and Rogers.

Trust in human nature permeates HP's style. In his message in the July, 1977 issue of **Measure**, Bill Hewlett says, "The dignity and worth of the individual is a very important part of the HP way." And the fifth corporate objective ("our people") says, "Relationships within the company depend upon a spirit of cooperation among individuals and groups, and *an attitude of trust and understanding* on the part of managers toward their people."

Hewlett and Packard's viewpoint is similar to that of Maslow and Rogers in other ways. Bill says that the HP way grows out of the belief "that men and women want to do a good job, a creative job, and that if they are provided the proper environment they will do so." The assumption here is that people will strive to do the best they possibly can by meeting their own inner goals. The company must provide the supportive environment so these goals can be met. The source of motivation is both in the individual and in the environment. People gain their "motivational horsepower" from an inner desire to do the best they are capable of doing.

While Freud and Skinner see the goal of behavior as a state of low tension or relaxation, Maslow and Rogers as well as Hewlett and Packard see people as striving toward further self-development and growth. For this reason, HP stresses opportunities for training and education—the continuing development of the individual.

Hewlett-Packard's commitment to Management by Objectives (MBO) implies a basic belief that people are capable of making sound decisions about how to do their jobs. HP's performance-based pay system (raises given for merit rather than cost of living) places more emphasis on individual responsibility. These ideas are consistent with Maslow and Rogers' focus on free will.

One of the most fascinating ways to compare these theories is in terms of their underlying assumptions about the individual's relationship to authority.

Freud believed that human reaction to authority is related to unresolved feelings about parents. The psychiatrist is seen as a symbolic parent, understanding everything that is going on, and the patient is seen as totally naive. Between doctor and patient, there is a non-equal relationship.

Maslow and Rogers see the therapist and patient (usually called "client") more as equals. The therapist is expected to be direct and open with the client. Client and therapist treat each other as equals and as human beings rather than focusing on their differences. The parallel here to HP's management style is striking.

HP's openness, informality, de-emphasis on formal titles, and accessibility to management via the Open Door all contribute to a non-authoritarian atmosphere. Bill Hewlett says that there is a tradition of "...treating each individual with consideration and respect... Both Dave and I believe we all operate more effectively and comfortably in a truly informal and personal-name atmosphere."

Beliefs about people—such as the ones discussed here—have important implications about the kind of management style that may develop in an organization. If you believe people can't be trusted, are motivated primarily by external rewards, and need to be told what to do by an all-knowing authority figure, you will create a company along the lines of the military.

On the other hand, if you believe people are trustworthy, capable of making good decisions, motivated by inner satisfaction to do better, more creative work in a non-authoritarian atmosphere, then you are more likely to pattern your management style along the lines of HP.

Finally, consider the various historical periods during which these ideas about human nature became popular. Freud's theories gained widespread attention in the early 20th century at a time when Victorian morality imposed a rather high level of emotional restraint. The scientific, quantitative approach of the behaviorists became widely accepted during the 1920s and 1930s.

It was not until the early 1960s that Maslow, Rogers and many others established a third school of American psychology: humanistic psychology. The founders of this radically new approach felt that neither the psychologies of Freud or Skinner realistically addressed the essence of human experience.

While it took the humanistic psychologists until around 1960 to unify their ideas into a legitimate "school," Bill Hewlett and Dave Packard had been proving these ideas in practice since 1939. Their commitment to this approach in an industrial setting has helped make HP's management style the model for many others.

	Human nature	Motivation power	Motivation source	Motivation goal	Free will	Relationship to authority
Sigmund Freud (psychoanalysis) 1900–	Primitive	To satisfy instinct	Individual personality	Tension reduction	No	Vertical (non-equals)
B.F. Skinner (behaviorism) 1920–	Neutral	Environmental rewards	Environment	Tension reduction	No	Vertical (non-equals)
Dave Packard/ Bill Hewlett (HP way) 1939–	Trustworthy	To do good work	Person plus environment	Growth and development	Yes	Horizontal (equals)
Abraham Maslow/ Carl Rogers (humanistic psychology) 1960–	Trustworthy	To achieve potential	Person plus environment	Growth and development	Yes	Horizontal (equals)

'YOU DON'T RUN A BUSINESS ON THEORY'

Dave Packard, co-founder of HP and chairman of its Board of Directors, quickly dismisses any questions that suggest the company's business philosophy was based on theories of human behavior or altruism.

"We started doing certain things because we thought they were a good way to make a business work," he told Measure.

Before outlining those 'certain things,' Dave admitted to one factor that probably predisposed him to a particular style of management: teamwork. "In basketball and football I gained the idea that you have to work together to achieve a team goal—back up the other fellow, and not act like a bunch of individuals working independently."

The fact that the company was small for about its first 10 years was an advantage in achieving teamwork, according to Packard: "During World War II we got into a lot of crash programs with tight deadlines. We worked day and night. I used to go to work in the shop at any time to help get the work out (Bill Hewlett was in military service at the time). So we really did work closely together—and had a lot of fun at it.

"From these experiences I concluded that any highly structured organization, such as a union, where one guy is permitted to do one kind of work but not another, was absolutely the wrong way for us to go. It is not that I was or am against unions, as such. It's just that I think we can always do the job for our people and

the company better than they can."

Developing the ideas and practices that became specific to the HP way was the result of deliberate search and study. "Very early," says Dave, "as Bill and I started managing the company, we sought policies that would build a good team. To do this we decided to get out and learn as much as we could about management—how to produce good results through teamwork."

A number of ideas came from the example of General Radio Company, then the leading manufacturer in the instrument business which HP was just entering. "One afternoon," recalls Dave, "Fred Terman (Professor Terman of Stanford University) brought a visitor by our small shop on Page Mill Road. He was Melville Eastman, the founder and guiding light of General Radio. We spent hours talking about some of their programs. For example, they had one program whereby people participated in company profits. General Radio had grown without outside financing, and had been very successful in generating its own resources as the company went along. We felt that if they could do that so could we. Besides, there was not a lot of venture capital around in those days."

There also were some local firms and groups to call on for examples of good management practices. One San Francisco company had taken a very organized approach to improving productivity through teamwork and incentives. Newly formed WEMA (Western Electronics Manufacturers Association) offered a regular forum for members to discuss management ideas. Universi-

ties held seminars on business subjects.

It was at one such Stanford seminar that Dave Packard, then 32 years old, brought up the concept of corporate responsibility to employees as well as shareholders.

"That rather profound statement drew a lot of backtalk," Dave recalls. "We took no notice of that. We recognized that approach had been successful to some extent, and it made a lot of sense to us."

One factor looms high in the HP way's evolution. That's the Packard and Hewlett partnership itself. It was based on friendship and supported by a remarkable record of accord in business matters.

"Bill and I somehow seemed to end up with the same general feelings about things. We always came up with similar answers to problems," says Dave. "In fact, I can't remember that we ever had a disagreement about anything.

"For example, we both recognized that HP should not seek the big contract kind of business. We had seen the aerospace industry go through cycles of hiring and firing, and we decided that was no way to run our business. We had no particular idea about how big the company could grow. But we did talk about how big we might grow and remain the kind of company we wanted.

"At one time we thought that 500 people was about all we could handle. Yet, what really concerned us was putting the company on a sound basis—making some contributions in this interesting new field and having some fun doing it. It was a short-term view of things."

What about the long-term outlook for the philosophy and the working environment that HP now has?

"The real problem we face", says Dave, "will be maintaining the HP attitude at the first level of supervision. To most employees, the company is the people they deal with on a day-to-day basis and the others around them. It's not what we do at corporate or what is printed in **Measure** or anything like that. It's what's happening today to the individual all over the company.

"I think we're fortunate that the spirit around the company today is in pretty good shape. And there's no reason why we can't continue to do the basic things that make it work. All of the senior management people and all of the division and field teams are committed to it. But maintaining it at the other levels is always a challenge, especially when there are so many people new to supervisory responsibility.

"Giving people authority is not always the same as 'having' it. One time I designated a fellow to be supervisor in the shop. A few days later he asked me to come out and tell the people that he really was the boss. I said, 'Well, if I have to do that, then you're not the boss!'"

THE HP WAY: What is it?

Ever since someone invented the phrase "the HP way," a number of attempts have been made to describe and define the company's philosophy and style of management. Several years ago in Boise, Idaho, Dick Hackborn, then Disc Memory Division's general manager (now GM of the Computer Peripherals Group), felt a need to summarize these for meetings with new employees. Dick and DMD's personnel manager, Don Harris, sat down and composed the following:

BUSINESS PRACTICES

Pay As We Go—No Long-Term Borrowing

○ Helps us maintain a stable financial environment during depressed business periods.

○ Serves as an excellent self-regulating mechanism for HP managers.

Market Expansion And Leadership Based On New-Product Contributions

○ Engineering excellence determines market recognition of our new products.

○ Novel new-product ideas and implementations serve as the basis for expansion of existing markets or diversification into new markets.

Customer Satisfaction Second To None

○ We sell only what has been thoroughly designed, tested and specified.

○ Our products have lasting value—they are highly reliable (quality) and our customers discover additional benefits while using them.

○ Offer best after-sales service and support in the industry.

Honesty And Integrity In All Matters

○ Dishonest dealings with vendors or customers (such as bribes and kickbacks) not tolerated.

○ Open and honest communication with employees and stockholders alike. Conservative financial reporting.

PEOPLE PRACTICES

Belief In Our People

○ Confidence in, and respect for, HP people as opposed to dependence on extensive rules, procedures, etc.

○ Trust people to do their job right (individual freedom) without constant directives.

○ Opportunity for meaningful participation (job dignity).

○ Emphasis on working together and sharing rewards (teamwork and partnership).

○ Share responsibilities; help each other; learn from each other; chance to make mistakes.

○ Recognition based on contribution to results—sense of achievement and self-esteem.

○ Profit sharing; stock purchase plan; retirement program, etc., aimed at employees and company sharing in each other's success.

○ Company financial management emphasis on protecting employees' job security.

A Superior Working Environment

○ Informality—open, honest communications; no artificial distinctions between employees (first-name basis); management by wandering

around; and open-door communication policy.

○ Develop and promote from within—lifetime training, education, career counseling to give employees maximum opportunities to grow and develop with the company.

○ Decentralization—emphasis on keeping work groups as small as possible for maximum employee identification with our businesses and customers.

○ Management-By-Objectives (MBO)—provides a sound basis for measuring performance of employees as well as managers; is objective, not political.

MANAGEMENT STYLE

A fundamental strength of the company has been the effectiveness of communications upward and downward. Two key ingredients for making this happen are:

Management By Wandering Around

○ To have a well-managed operation, managers and supervisors must be aware of what happens in their areas—at several levels above and below their immediate level.

○ Since people are our most important resource, managers have direct responsibility for employee training, performance and general well being. To do this, managers must move around to find out how people feel about their jobs—what they think will make their work more productive and meaningful.

Open Door Policy

○ Managers and supervisors are expected to foster a work environment in which employees feel free and comfortable to seek individual counsel or express general concerns.

○ Therefore, if employees feel such steps are necessary, they have the right to discuss their concerns with higher-level managers. Any effort through intimidation or other means to prevent an employee from going 'up the line' is absolutely contrary to company policy—and will be dealt with accordingly.

○ Also, use of the Open Door policy must not in any way influence evaluations of employees or produce any other adverse consequences.

○ Employees also have responsibilities—particularly in keeping their discussions with upper-level managers to the point and focused on concerns of significance. **M**

When you're playing with blocks, it's easy to build nice, symmetrical houses and towns. But when you're "building" HP divisions and sites, it isn't all that simple to make each one come out about the same size.

Such variables as new products, sales and order growth frequently interrupt plans for tidy, orderly growth. So, suddenly there may be too many product lines at one location, or costs are out of line or a division needs more room to grow.

For these and many other reasons, HP management sometimes determines that a division or a product line must move to a new location. Often that means moving from the San Francisco Peninsula, an area in which there is finite open land and an increasingly scarce work force from which to hire.

Over the past 20 years, a great many divisions and product lines have been moved. Consider, for example:

○ One of the very first (if not *the* first) move was in 1964 when a troupe of 150 people started up what was to become the Colorado Springs Division. Those who did not go to Colorado were found jobs in other parts of the company.

○ Probably the very biggest relocation was when the former Advanced Products Division in Cupertino went to Corvallis, Ore. Jobs had to be found for about 600 people who did not move.

○ The Manufacturing Division's transformer shop in Palo Alto was decentralized in 1979. Result: 170 HP people had to be reassigned.

○ Delcon Division's transformation into the Colorado Telecommunications Division left another 190 people looking for new HP jobs.

○ The move of Computer Support Division's computer board repair function to Roseville meant transferring about 80 people to other Bay Area divisions.

○ There's also the Stanford Park Division which has split twice within a decade: first, to Santa Rosa in 1972 and then to Spokane in 1979. Each time some product lines went to the new division and each time some employees had to find jobs in other divisions.

○ Coming up: Some of Avondale Division's analytical line will go to Raleigh, North Carolina, and some of Loveland's instrument products are in the process of transferring to Lake Stevens, Wash.

Each move, while it has good reasons for occurring, also has some built-in problems. The most persistent: it's human nature to prefer the status quo.

Four months after she transferred from Delcon Division to the Scientific Instrument Division in Palo Alto, technician Kathy Arnold says she is "gradually coming out of an adjustment period. It (SID) is not Delcon, which had a 'one-big-happy-family' atmosphere. I suppose everyone goes through a similar adjustment."

So her transition would not be as traumatic, Kathy acknowledges that she intentionally focused on getting a job at SID, which is about the same size as Delcon was before the move. "I figured a small division would be more flexible," she explains.

Not all of Delcon's 190 people have found a job yet, and a few have gone through several job interviews and are somewhat discouraged.

John Shanahan, who's been heading up Delcon's relocation program, says you first start with the assurance that all employees will be placed. "That's more than a lot of other companies provide. Most just hand everyone pink slips."

But getting a strong commitment from first-line supervisors to put a priority on hiring such employees is not always easy, he laments.

"In some instances, there has been a real insensitivity by a supervisor who is interviewing one of our people," he says. "One of our engineers came back from an interview and said he had really been grilled—as if he were an outside applicant rather than an employee who'd been with HP for 10 years."

John's thoughts were echoed by LeRoy Nelson, a former manufacturing supervisor at Computer Support Division who last March took on the task of helping 80 CSD technicians and production employees find new jobs.

"Some supervisors are pretty selfish about their departments," he notes. "They will only hire the person they want, regardless of the 'extenuating' circumstances."

These supervisors, LeRoy feels, are "the difference between whether a transfer program will be easy or difficult to complete."

The people who are now finding jobs for non-relocating personnel recognize the need to build on past moves—copying programs that worked and making an effort not to repeat those that didn't.

Bob Olson, who now is manufacturing manager at Roseville, recalls with mixed emotions the 18 months he spent helping APD employees find new jobs. "It wasn't something I'd want to do very often," he says wryly.

But he felt HP did almost everything it could to make the move as painless as possible.

"In the beginning," he recollects, "business was good and we were able to place the first 300 with little difficulty."

But then some divisions put a freeze on hiring which made it difficult to transfer out employees.

"Another problem we had was that most of our people lived near San Jose, yet about half of them transferred to Palo Alto divisions. This meant a longer commute for a lot of employees."

Because of the sizable number of people to place, Bob met monthly with the group vice presidents who
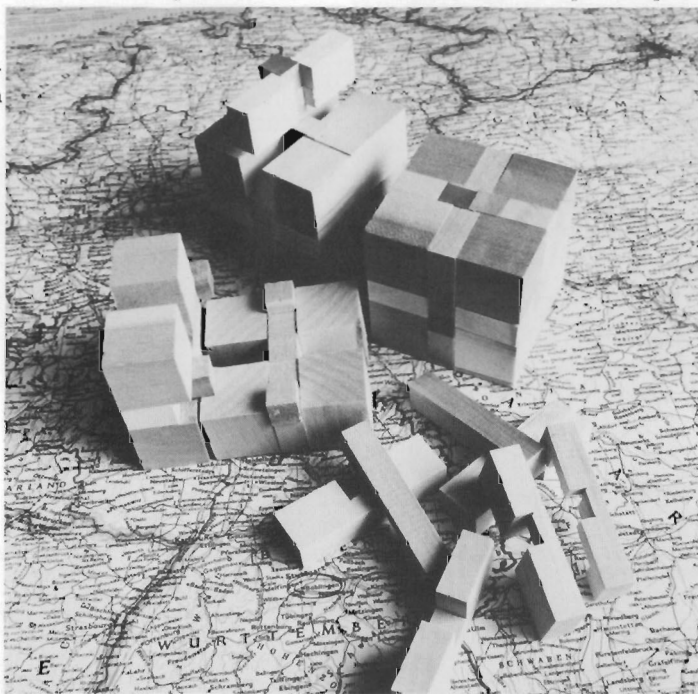
We're getting better at dealing with a tough problem of growth — relocating the people divisions leave behind...

PUTTING THE PIECES TOGETHER

helped find jobs for some employees who had not already done so.

He estimates that about 10 percent of the total were hard to place "even when we went to special lengths to find jobs for them."

Why? "Some had unreasonable expectations," he notes, "others had very specific job skills, and I guess we mismanaged a few, too."

Adds Yvonne Gau, now in Corporate Compensation and Benefits who assisted Bob on the APD relocation, "It's never going to work out perfectly because you are dealing with human beings.

. "Some long-time employees had not changed positions for many years, so they were faced with a very threatening situation. Emotions were tense, and they had real anxiety about what was going to happen to them."

All this was kept in mind when the Harbor Site transformer shop decentralized in 1979, and great pains were taken to minimize employee anxiety.

"Scratch-a-Rumor"

A first step was to set up a "Scratch-a-Rumor" publication to print all rumors and quash them with the truth.

Career counseling sessions were offered to anyone who felt the need, and classes were given on interviewing and resumé writing. Relocating employees got a chance to visit nearby divisions, and representatives from other locations came to the Harbor site to answer questions.

To keep morale up, monthly parties were held to which Harbor site employees who had already transferred were invited.

As a final, poignant touch, all Harbor site employees were invited to contribute to a "memory book" of the close-knit operation. Explains Harbor site section manager John Dupre, who put the book together, "We thought it would be good to leave something behind…some evidence that we worked together, that we were here, and how we felt about breaking up."

John is now in the process of printing copies of the memory book so that everyone who contributed to it will have a lasting memento.

When the Delcon move was announced, it seemed only natural that the relocation task force would follow along with what "worked" at the Harbor site. General Manager Al Steiner asked Personnel Supervisor Carol Nakamoto to head the task force; she, in turn, called on seven people from throughout the division to work on the committee.

From the vantage point of nearly completing the division relocation, Al can now observe, "What I think we all underestimated was the amount of personal commitment it would take on the part of both the people on the task force and our functional managers as well. On the one hand you've got to keep the division running, but you've got a whole carload of concerned people who need your attention as well.

"At the onset we committed ourselves to making an 'order of magnitude' improvement over all other moves."

A first priority, the task force decided, was communication.

"We asked all supervisors and one representative from each department to be on a communications committee," says John Shanahan. The group of 25 people met monthly to speed the process of both upward and downward communication.

The right thing to do

In restrospect John feels the committee idea met with mixed results. "It was the right thing to do but it didn't work as well as we had hoped. Some people seemed uneasy in their new role which was to feed back information to their co-workers. It did, however, foster a sense of trust, openness and consistency."

Other programs worked better. Delcon imitated the Harbor site's rumor newsletter, offered tours to other locations and set up binders of photos and information about Bay Area divisions. A class on interview techniques also was given.

Interestingly, about 50 Delcon people had previously been part of a forced move, including some who had experienced the APD displacement. To head off rumors and find out how best to handle the upcoming moves, Delcon picked the brains of that group.

The most time-consuming job was the 150 individual counseling sessions that task force members had with every employee who was facing a move.

"The company as a whole has learned a lot from past division moves," acknowledges John. "Now, supervisors and managers are more aware of the need to be responsible for their employees. Most say they want to stay until their people are placed."

Al Steiner points out that some division needs have to be secondary when a massive relocation begins. "We had three-month time frames for each employee to leave, but we recognized that we had to allow people to get out and get on with their lives whenever the opportunity presented itself. It's no picnic to have your life in limbo."

Starting over

Former Delcon employees seem to feel the task force did a good job in that respect. Says Kathy Arnold, "They really tried to help us out. I liked going on the tours to look over other divisions. And Doug Thompson (one of the task force members) was always there to talk to when I needed him."

Deb-e Calvetti, an eight-year HP employee who had previously transferred from Stanford Park Division to Delcon, says she loved the work she was doing there as a technician assistant.

Now at the Instrument Service Center where she is doing similar work, she recalls, "There were a lot of openings but I didn't really see anything interesting. I wasn't scheduled to leave until 1982, but then this job came up and they (the task force) talked me into taking it because they thought it was a good opportunity for me."

Deb-e says she still keeps in touch with her former co-workers both at other local divisions and those who transferred to Colorado.

"It's very hard to start over," she says wistfully, "but after awhile it usually works out OK."

Something unique to the Delcon move was the idea of sending a salary and development plan on all transferring employees to their new divisions and supervisors. Carol Nakamoto explains this was to prevent any delay in an employee getting a wage increase because the new supervisor is unaware of past promotions and increases. "It also minimized the negative effects of a new learning curve," she adds, "something we feel should not hurt the employee."

A funny thing has happened to some of the people who took a forced move. Although most were lateral transfers, some involved a career change, and only a few have since regretted their switch.

"We've heard from some people who say the relocation was the best thing that ever happened to them," reports Doug Thompson at Delcon. "Many say they are happier where they are now. That's good to hear."

Still others have yet to find a position and Doug says they do not want to be "force-fed" on another division. "They don't want to feel that a division 'has' to take them, but that they want to."

There are others, the task force says, who have taken the attitude that "the company decided to leave us—we didn't, so you find us a job."

Several job offers

"Sometimes you have to do a lot of handholding," says Barbara Navarro, another member of the Delcon committee. "We still have some people that haven't written their resumes, so we make every effort to help them along."

Bob Olson recalls from the Corvallis move that a few employees turned down several good job offers. "Finally we had to say, 'this is your last offer—we suggest you consider it seriously'."

The CSD repair board move to Roseville had a special feature that took the approval of the Operations Council: it was the first time that Bay Area employees could voluntarily transfer to another division.

"Normally," explains LeRoy Nelson, "HP has a strong commitment to hire from the local community, but we needed more technicians and production people than we could find in the surrounding area."

A chance to transfer

Unlike company-paid moves, the costs involved in a voluntary transfer must be paid by the employee. But for a few employees, this was a way to move to Roseville and be ensured of a job when they got there. Delcon also offered the same opportunity to practically any division employee.

So what has HP learned from all these years of relocations and transfers? Most people who have been involved in them say the process is improving. "I would think if HP works things out well in advance, we would never have to have a move as big as the APD one again," says Bob Olson.

John Shanahan says he will recommend that all "relocation task force" material be centralized with a resource person who could advise all divisions whenever such a move becomes necessary.

In fact, that's precisely what L.A. Fulgham is studying for the Computer Group. Specifically he's trying to determine which portions of the computer operations will go to Roseville over the next five years; and how to place those who don't move.

Skill retraining is an area that should be looked into by HP, according to Yvonne Gau. "Then, when you have a material handler or assembler who doesn't want to commute farther, you could offer retraining to become a secretary or whatever is needed in a nearby location."

The Delcon Task Force feels strongly that the normal transfer request and interview system should be altered during relocations. "Supervisors should not be seeking the 'best fit' but a reasonable match," proposes Carol Nakamoto. "Until we do that I just don't think we are treating our people right."

LeRoy Nelson also feels the job posting system needs more refinement so that when a transferring employee sees an opening on the job list, it won't be gone before he/she has a chance to apply.

"If everyone went through the process of finding another job just once, there would be more empathy for the ones who are out there looking," he concludes. **M**

SUPPLIES: a booming HP business

From the street, the buildings at 27 Industrial Avenue and 1330 Kifer Road look a lot like their industrial park neighbors. But inside these unassuming warehouses in Chelmsford, Mass. and Sunnyvale, Calif. are two fast-growing and highly profitable HP operations: Hospital Supplies and Computer Supplies.

In the three years since Computer Supplies was formed, sales of such products as magnetic tapes, printwheels and work station tables have grown about 50 percent each year. Growth in shipments of transducers, electrodes and cables from Hospital Supplies in Chelmsford has paralleled that of HP's Medical Group: about 20 percent annually.

Both supplies operations concentrate on making it easy for customers to get quality supplies to help their HP equipment operate properly. That's not always the case if customers use supplies from other sources.

Before the two operations got their charters, customers ordered their supplies only through HP sales offices. Shipments came either from HP's manufacturing divisions or the Corporate Parts Center in Mountain View, Calif.

"About three and a half years ago the Computer Group saw the need to focus on the supplies business," explains Will Carleton, general manager of the Sunnyvale operation. "Most of the items came from CPC, but some were stocked at the factories. So while a customer could get a ribbon for a Boise printer from CPC, disc packs were shipped directly from Boise. It was confusing and unfocused."

And at HP sales offices, a small order for supplies sometimes wasn't given as much sales office attention as a large computer or instrument sale. If, for example, an order for a $10,000 printer arrived *after* a $1,000 order for supplies, the printer order was often processed *before* the supplies.

Today that practice has changed. Customers can write or call Computer Supplies and Hospital Supplies directly. Toll-free telephone numbers put the customer in direct contact with an order processor in the supplies warehouse who uses an on-line computer terminal to quote prices and availability as the order is entered. More than half of HP's computer supplies business in the U.S. comes in over the phone. A similar phone program in Germany now accounts for 20 percent of the computer supplies orders there, and a phone order service has just begun in the United Kingdom.

Before on-line terminals were introduced, orders were handwritten and then keyed into the computer system. "Direct order entry has made things much more productive," says Jeff Carlisle, marketing manager in Chelmsford. "Under the old system, each person could handle only 10 orders a day. With direct entry, that figure is now about 45 orders a day."

The goal of both organizations is one-stop shopping. "We want to provide everything our customers might need to be comfortable with their HP equipment," explains Will. In recent years, Computer Supplies' product offerings have expanded to include furniture, software programs and even hardware for U.S. customers. The Autumn 1981 catalog features add-on terminals that are shipped off the shelf within 24 hours.

"If a customer already has 15 terminals hooked to his HP computer and wants to add a sixteenth in a hurry, he shouldn't have to call a sales office, talk to a sales person

and then wait six weeks or more for factory delivery on his sixteenth terminal," says Will. "We're trying to lighten the heavy load on our busy sales force by stocking some pieces of add-on hardware here. And by offering fast service we make it easier for our customers to buy HP terminal instead of someone else's."

A special telemarketing plan in Chelmsford is also extending the sales of HP's new PageWriter electrocardiograph to new customers. Hospitals can place orders for the new instrument over a special toll-free telephone line, with the same service and warranty as given all other customers.

As HP's product lines expand, so does the variety of "consumables" that need to be kept on the shelf for immediate shipment. The introduction of a new printer means Computer Supplies must start to stock both the new ribbon and an adequate supply of the old ribbon for customers who have the discontinued model.

Both Chelmsford and Sunnyvale try to keep about a six-week inventory on the shelves at all times. And although they carry the HP logo, about three-fourths of the products at Hospital Supplies and Computer Supplies are not made at HP facilities. The company contracts with outside vendors to manufacture supplies to HP specifications and to put HP's name on the outside. Thermal paper, electrodes, cables, ribbons and the like are then shipped to Chelmsford and Sunnyvale from various manufacturers around the world.

Parts Center Europe in Boeblingen, Germany, serves as a clearinghouse for European orders for both operations. Hospital Supplies Operation also uses CPC in Mountain View to distribute orders to customers in the western part of the United States.

Customers don't have to buy their supplies from Hewlett-Packard. There are plenty of other companies who sell paper, ribbons, printwheels and cables—often at very competitive prices. "An average hospital

spends from $40,000 to $150,000 each year on the kinds of supplies we sell, and there are only 7,000 hospitals in the U.S.," says Bob Hungate, general manager in Chelmsford. "A lot of supply houses would like a piece of that action, so they sell supplies for instruments from HP and other manufacturers. Sometimes these supply companies even go so far as to use HP part numbers on their products."

HP, in turn, uses some of the marketing techniques of its supplies competitors, such as catalog selling. The biannual Computer Users Catalog has almost tripled in size in the last year and a half.

And, if a customer doesn't currently have an open account with HP, Computer Supplies will still take the order and charge it to the customer's American Express, Visa or MasterCharge account.

It's all being done to keep HP's customers happy with HP as the "total solution company." **M**
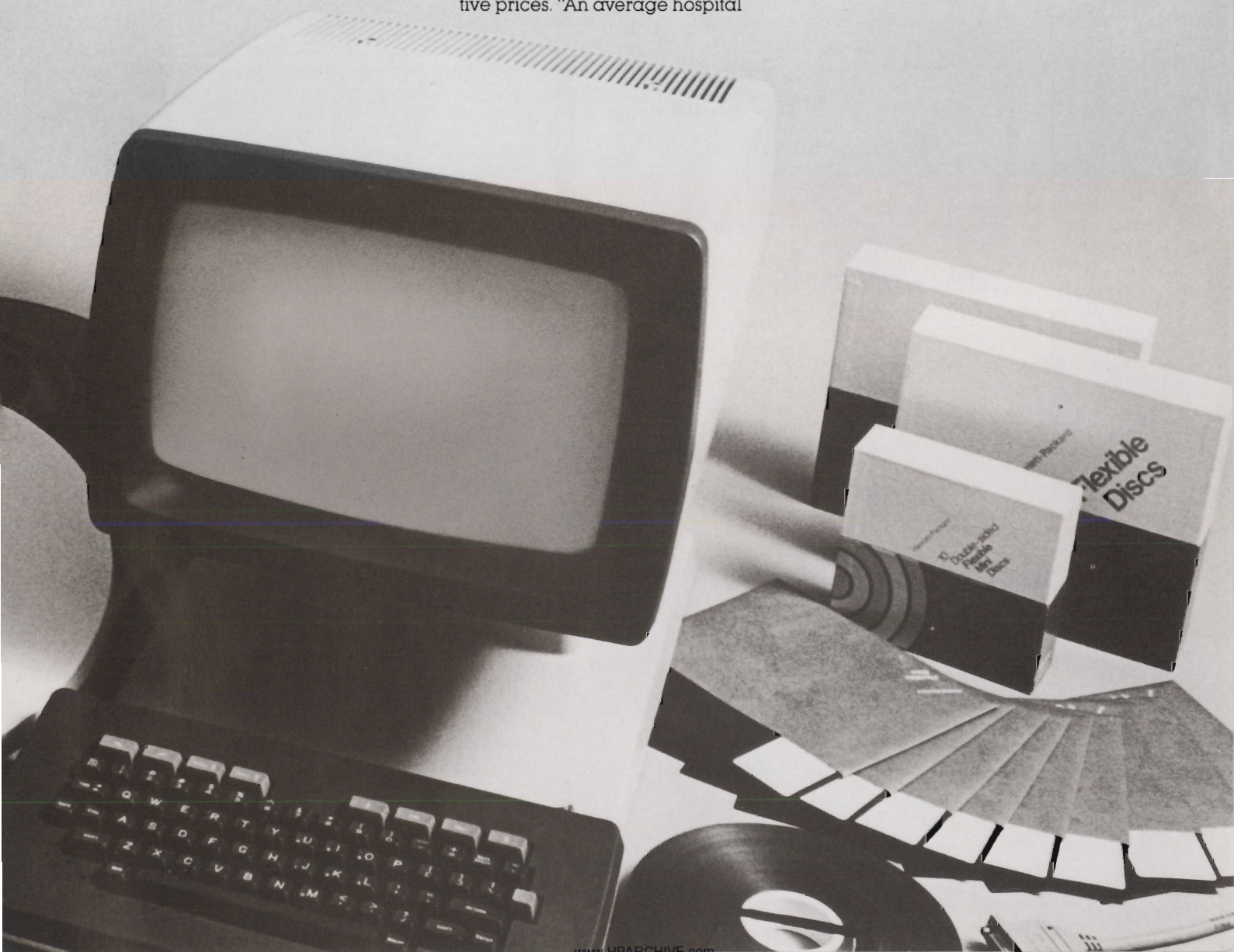
CLOSE UP

Zooms in on the
ever-changing world
of HP people,
products and places.

When the Canadian Government Promotions Board held an examination recently to hire purchasing personnel, one question was missed by all but one applicant.

The question: *"What does HP mean?"*

To the consternation of the examining officers, the near-universal answer was "Hewlett-Packard."

Only one young woman wrote: "HP means horsepower and is an essential feature in the procurement of machines."

The exam was given in Ottawa, Canada's capital city in which HP has a sales office. (The Canadian government is, incidentally, HP's largest customer in that country.)

It's the hardest thing I've ever done in my life."

That's how Richard Rose, who works at HP's Vancouver Division, describes his ascent last July 4 to the top of Mount Rainier, a staggering 14,410-foot peak in Washington.

Richard was one of the 11 special people who made the trek to show the world that people do not have to be limited by physical disabilities.

Climbing the treacherous mountain with seven sightless people, two who are deaf and one who has an artificial leg was a real struggle, Richard admits. Although he has epilepsy, it looked to outsiders as if he was the only one without a disability.

Richard says he was picked for the climb by the Epileptic Foundation of America "because even the word 'epilepsy' has such a stigma."

He ended up being both eyes and ears for other members of the expedition and now looks back on it as "the most wonderful experience in my life. If I can climb a 14,410-foot mountain, I can do anything I want to in my life."

Leapin' lizards! Special effects galore come to life in "Captains of Valor," a videotape used to introduce the new HP 125 small business computer to the sales force.

The heroes of the film fight swashbuckling pirates, a tribe of warring Indians and a monstrous lizard to deliver the computer to waiting customers.

The tape was produced in HP's television studio in Palo Alto.

It's been 10 years since the introduction of the HP-35, the first handheld, scientific calculator. To celebrate the anniversary, the Personal Computing Products Group commissioned artist Michael Cacy to illustrate a 1982 calendar. Full-color scenes of calculators and personal computers on board the space shuttle *Columbia*, crossing the Atlantic Ocean in a balloon, winning the America's Cup yachting classic and working in the pits at the Grand Prix race are some of the scenes which are featured.

HP employees can order these anniversary calendars directly from Corvallis for U.S. $5 each postpaid in the U.S., Alaska and Hawaii; or U.S. $8.50 postpaid elsewhere in the world. Delivery will start about November 1 and you should allow four to six weeks for delivery. All overseas orders will be sent by air mail. Your calendar will arrive in a special, flat mailing envelope to protect it in transit.

Order by sending your name, address and payment to: HP CALENDAR, Attn: Darlene Johnson, Hewlett-Packard Company, 1000 N.E. Circle Blvd., Corvallis, OR 97330, U.S.A. Orders from outside the U.S. must include a negotiable check or money order, in U.S. dollars, drawn on a U.S. bank.

And if your Christmas shopping list is long, you can get the calendars for $3.85 each (so long as you order at least 25 calendars).
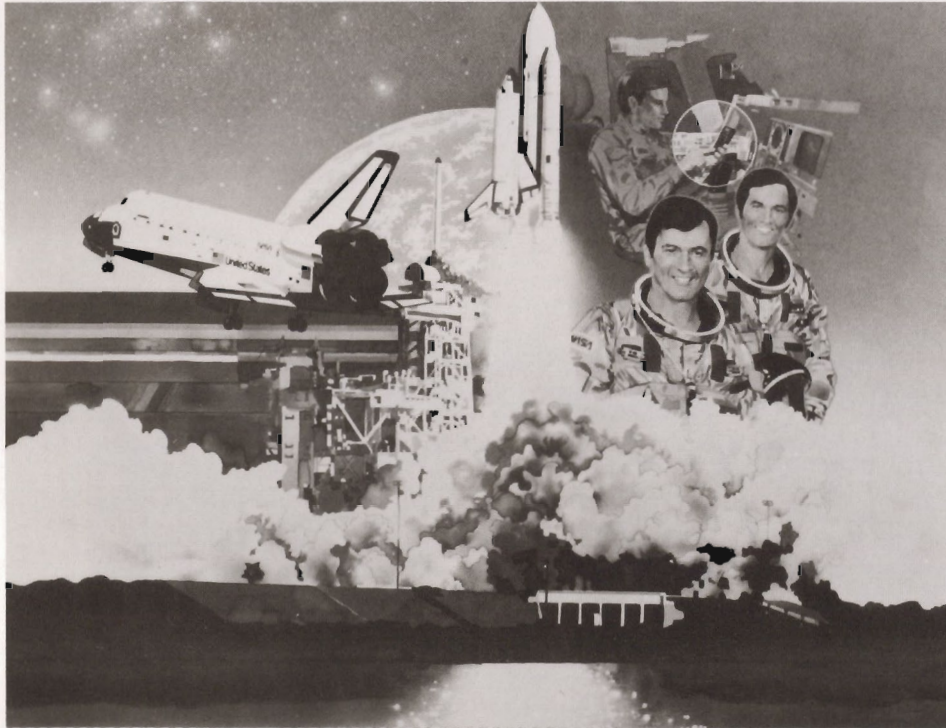
In the Chips

Parts of Silicon Valley soon may be as famous as Boardwalk, Park Place and Marvin Gardens if a new board game based on area businesses, universities and media is successful. The object of "In the Chips—Silicon Valley" is to "negotiate your way through the valley and make your wealth through proper management of your income in home purchases and business investments." Players must decide at the outset whether to get an education or go into business right away. Although the education route offers advantages later in the game, the business route offers high immediate salaries. The best company to work for on the board? Top starting salary belongs to, you guessed it, Hewlett-Packard.

NEWS CLIPS

HP-11C "slim-line" scientific calculator

HP's Peter Carmichael pauses in the London rain outside Buckingham Palace after receiving the award of Commander of the Order of the British Empire (C.B.E.) from Her Majesty, Queen Elizabeth II, on July 22. He is joint managing director for the United Kingdom and general manager of the Queensferry Telecom Division.

YHP FACILITY

A completion ceremony and a reception for customers marked the move on August 6 into a major new Yokogawa-Hewlett-Packard facility: the 100,000-square-foot Sagamihara Distribution and Service Center in the Kanagawa Prefecture outside Tokyo. The center, which is YHP's third owned facility, brings together bench repair, repair administration, and distribution activities formerly scattered in a number of locations. Center manager is Mac Imahori, formerly YHP corporate personnel and general affairs manager.

NEW DIRECTIONS

HP has obtained an option to purchase approximately 140 acres outside Lyon, France, as the site for a future plant, with no product line yet designated....HP has reached an agreement with the Fourth Ministry of Machine Building of the People's Republic of China to create a distributorship in Beijing responsible for sales and service of the company's equipment in the PRC. The distributorship will be a distinct entity within the Chinese Electronics Import/Export Corporation (CEIEC), the ministry's foreign trade organization, with CEIEC vice president Li Deguang as acting manager. It will open in November....TELNET, HP's private telephone network, became fully operational August 24. Seventy-one sites are connected by 1,763 lines to three Telnet nodes in Paramus, N.J. (32 sites), Fort Collins, Colo. (16 sites), and Palo Alto (23 sites). Adjustments to improve line quality and quantity will now begin to provide better service and improve communications.

NEW PRODUCTS

The Corvallis Division has introduced two models in a new family of compact "slim-line" advanced programmable calculators that will fit into a shirt pocket: the HP-11C scientific calculator and the HP-12C financial calculator. Both feature liquid-crystal display, continuous memory, dozens of powerful built-in functions and programmability, and will run on one set of disposable button-cell batteries for about a year. Suggested retail prices (U.S.) are $135 and $150, respectively....The new microprocessor-controlled 8970A Noise Figure Meter from the Stanford Park Division helps microwave engineers to make more accurate and repeatable electrical noise measurements of devices and systems. It can measure both its own noise figure as well as the gain of the device under test to display a corrected value in real time.

NEW ROLES

David Rose, formerly g.m. of the Boeblingen Desktop computer Division, has moved to a similar position at the Grenoble Division....George Bodway will become g.m. of a new Computer Integrated Circuits Division (CID) within the Technical Computer Group, effective Nov. 1. It will comprise three existing integrated circuits facilities: Cupertino Integrated Circuits Operation, Systems Technology Operation (which has been part of the Desktop Computer Division) and the Photomask Operation. All will remain in their present locations under their same management....Clive Ainsworth will move from Instrument Group manager for HP South Africa to the newly created position of g.m. of the Hong Kong sales subsidiary....Ken Coleman

heads a newly created Corporate Staffing department within Corporate Personnel which consolidates college relations and recruiting, internal and external recruiting of experienced people, relocations, and HP's involvement with the educational community at all levels. The latter activity will be managed by Jack Grout, who heads a new Corporate Education Relations department....Marco Negrete has been named manager of the Technical Computer Group's new CAD Laboratory (CADL) in Cupertino, Calif., that will incorporate the existing VLSI Design Aids Lab and a new Circuit Design Aids Lab to be established.

THIRD QUARTER FY81

Hewlett-Packard reported a 15 percent increase in sales and a 14 percent earnings for the third quarter of its fiscal year. Sales for the third quarter (ended July 31) totaled $936 million, up from $810 million for the same quarter of fiscal 1980; net earnings, $81 million, up from $70 million. Incoming orders for the quarter amounted to $910 million, a gain of 19 percent over $762 million booked during the same period the preceding year. **M**

During recent visit to Data Systems Division, President John Young, at lower left, was impressed with the quality of the "Trouble Shooters" quality team.

A MESSAGE FROM JOHN YOUNG

If you're a college football fan and were watching the University of Alabama vs. LSU nationally telecast game on September 5, you would have seen HP's first U.S. network television commercial. This particular ad features the HP-41C handheld calculator, but others coming this fall spotlight the new HP125A business computer, the 85A personal computer, HP's business graphics and medical patient monitoring systems. Since this is our debut on network television, and we've given the matter a lot of study, I'd like to outline our reasons for moving ahead at this time.

The first reason for using network TV to supplement the other means we use to inform customers of HP capabilities and products is the greatly broadened market base for many of our new products. The advent of powerful, low-cost computers and their associated peripherals appeals to a wide range of customers, prospects and related buying influences. Network TV is very cost effective when used selectively to augment the print advertising programs already in place.

Second, to reach this wide user/ prospect group with low-cost products requires that we establish and support new channels of distribution besides our traditional HP direct sales programs using our sales representatives and field engineers. We've had dealers, college bookstores and mail order houses for our calculators for many years. Newer organizations, such as computer stores and OEMs, are being added to expand our market penetration. We can help direct prospects to these places of business and encourage our distributors to give more support to HP products than other lines they also carry through strong promotional programs. Network television is a powerful tool, and it will be backed up with radio spots in key markets. Of course, we expect this effort to aid directly all of HP's other sales programs as well.

A final reason for our TV advertising is to help strengthen the HP brand image in this highly competitive end of the computational business. Many new companies from all parts of the globe are coming up with new product offerings. HP has a very strong position, especially in engineering and scientific areas, and we need to extend that recognition and preference to the broader market as well.

HP's image and recognition among the professionals and managers that may use or specify our products is quite good. This audience of interest is some 14 million households in the U.S. Among a representative sample of this audience, three-fourths recognize the HP name and more than one-half have used HP products. So we start this TV promotion from a substantial base.

We have publicized the viewing schedule for HP commercials for our initial 18 spots ending in December. They are all on ABC's Nightline program, college football and Monday night professional football. This schedule offered the broadest coverage of our target audience at the most favorable price. Obviously a lot of viewers are not immediate product prospects for us, but we expect to leave them with a positive impression of HP based on informative and tastefully done messages. With the expansion of electronics in the years ahead, many more will become buyers of the future.

Given the objectives I've outlined, we've put in place programs for measuring the impact these commercials have on our brand recognition and product preference. We'll also assess the buying intensity for our personal and small business computers.

In summary, our overall goal is to increase sales productivity while continuing to build long-term strength for the HP name. We feel we have an excellent new combined TV and print advertising program to build on the fine efforts of the past.

John

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

MEASURE

"Man is the measure of all things."
–Protagoras (circa 481-411 B.C.)

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