



- The new-era HP athletes (pages 2-7)
- Profile of an HP supervisor (pages 8-9)
- Languages: A big barrier? (pages 10-12)
- New phone system for headquarters (page 13)
- Third-quarter performance — Bill Hewlett (page 15)

Measure

For the men and women of Hewlett-Packard / SEPTEMBER 1977

Run for fun... ...for free ...for your life!

or — like thousands of other HP people —

□ It may be the greatest worldwide phenomenon since the Beatles. Almost anywhere you look are countless men, women and children huffing and puffing along avenues, through parks and around schoolyards. Off in the mountains and trails, steady streams of determined outdoors-people tramp and camp. On country roads and paths, packs of cyclists peddle toward long-distance destinies. On the rivers, rafts and canoes carry hordes of explorers to new adventures. Along the coasts, scores of divers' snorkels cut the waters above scenic reefs and wrecks.

In the U.S. alone, an estimated 67.5 million adults say they participate in some form of athletic activity — a huge increase over any previous figure. Other countries report similar trends. It all seems to suggest some great benign shift away from organized, urbanized living and over-exposed sport to more individual activities in natural settings — “back to nature,” yet.

Observers of recreational trends are truly amazed at this outpouring of energy. The bigtime news magazines have all given it cover treatment. They note that much of it is being done not in the usual mode of “winning” or conquering a piece of real estate, but rather for the simple pleasure and inner reward of athletic activity — the natural “high” of a good workout. Everybody wins.

In trying to determine the scope of participation by HP people in this movement, MEASURE received long lists of marathon runners from at least a dozen divisions and regional organizations. Lunchtime jogging clubs were described. There were messages regarding cycling clubs, cross-country ski groups, hiking organizations, mountain climbers, and scuba divers. There were reports of outstanding performances in running events that now attract thousands of people. And photos came in showing everything from massed marathon starts to a blistered foot. The total material could have filled several issues of the publication. Overall, the impression was of very widespread HP athletic activism in a broad range of endeavors. Almost literally, everybody seems to be doing their own athletic “thing” these days. The following are some interesting representatives:

COVER: This is what “the loneliness of the long-distance runner” has come to in recent years — more than 12,000 runners jogging along a San Francisco street during the so-called “Bay-to-Breakers” race. Scores of HP joggers and runners joined, as they have elsewhere in the worldwide boom in participatory athletics. (Photo by Dave Randolph, *San Francisco Chronicle*.)



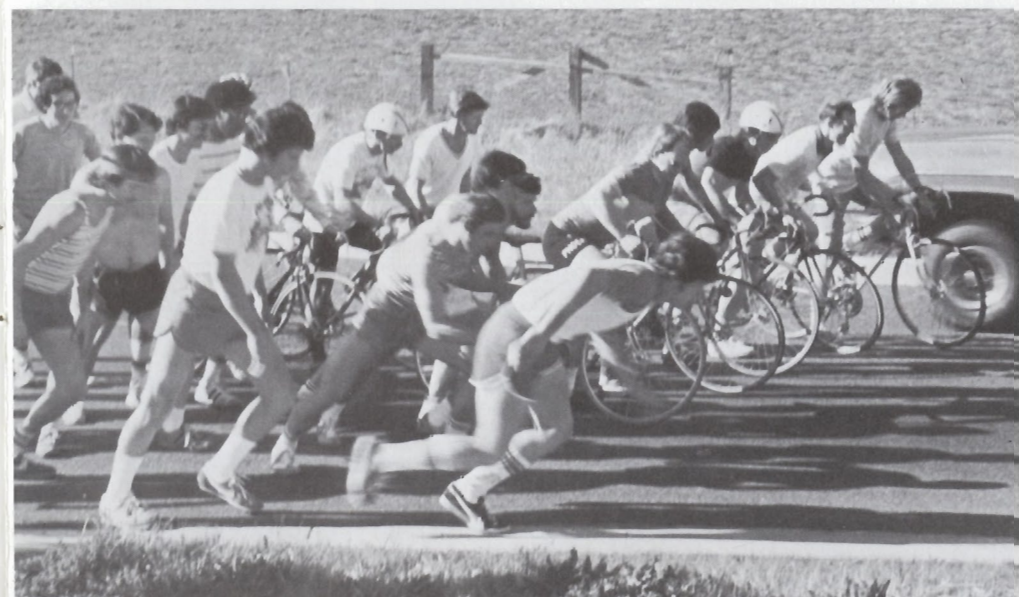
jog . . .

Who are these people who keep coming out of lockerrooms to fill the byways and trails with running feet? Kathy and Kelly Kendle, she of Intercon and he of Microwave Semiconductor Division, probably represent the trend as well as anyone. They began jogging a couple of years ago in support of a weight loss diet for Kelly. Neither had much athletic experience, so they took an exercise course at a local college as well as physiological stress tests as they progressed. In time Kelly shed 100 pounds, and Kathy says she has never felt in better health. They still don't run for its own sake, especially alone. So, husband and wife run together, usually around a local par-course that creates opportunities for varied exercise, scenery, and company. During San Francisco's huge "Bay-to-Breakers" race last May, Kathy found herself joined by a great many women of all ages — including, unexpectedly, an aunt she had not seen in years.

sprint . . .

At the start of the 1977 running of HP Santa Rosa's bicyclists-versus-runners uphill race, there was still some question about the outcome. One of the six bikers broke a pedal, stalling their start. Meanwhile, 27 runners, including four women, took off up Fountain Grove Hill, a good steep grind. At the end, cyclists prevailed, placing 1st, 2nd, 4th, 6th, 25th and 26th. Notably, however, former college miler Hersh Jenkins captured 3rd place and former Olympic Games rower Dick Lyon took 5th. The runners later formed a club, organized by Bill Owens, for purposes of time trials, group workouts and competi-

(continued)



new-era athletes

tive activities. A survey of members disclosed that most run because they enjoy it and like to feel physically fit, and run two to five miles three or four days a week. Similar clubs are in existence at other HP locations. However, most HP running and jogging activity seems to be on an individual basis.



backpack . . .

Members of the HP Sportsman's Club at Colorado Springs Division receive expert advice on backpacking from accountant Steve Balsiger. With the best of lightweight gear, fitness, attention to detail, and "keeping your cool," one can not only survive in widely varying wilderness conditions but live quite comfortably — even have gourmet meals.

explore . . .

Wilderness adventures can sometimes be more fun in retrospect than in reality. This June, San Diego Division accountant Wayne Walker and three companions found themselves attempting to climb the highest peak on Mexico's Baja Peninsula while suffering a severe water shortage. Their vehicle had stuck in a dried lake bed, many usual springs were dry, and the climbers had accidentally brought too little water along. After seven days of scanty rations, including two nights without any water, they made it back to a ranch where each gulped a full gallon. The summit of aptly named Devil's Peak (Pichacho del Diablo, 10,159 ft.) still awaits them.

dive . . .

Jim Peachey, a manufacturing manager at General Systems Division, saw a frogman movie in 1957. Ever since, he has been hooked on the buoyant sensation of moving freely through three-dimensional ocean space. In time Jim qualified as a diving instructor, served on the underwater rescue unit of the Phoenix Sheriff's Department, and performed commercial diving. All of this, however, was done chiefly to prepare himself for the ocean. Today he swims half a mile at lunchtime for the same purpose — half of that underwater. Jim's scuba enthusiasm is now shared by all members of his family who join him on frequent voyages and adventures beneath the sea's surface.



exercise . . .

Last month, Hewlett-Packard's Data Systems Division became one of a growing number of industrial firms to buy and build a Parcourse, the U.S. version of a Swiss-developed outdoor fitness facility. The project came about through a petition drawn up by Don Bowen, line supervisor in LSI packaging, and signed by more than 100 employees who "guaranteed" to use it at least once a week each. The facility, costing a little over \$2,000 for plans and materials and installed by volunteers on plant property, has nine exercise stations — around a 1.25-mile jogging course — about half the usual layout. The photo directly below shows Ken Miles, marketing services manager for Medical operations at HP GmbH, performing an exercise set (note sign) at a "Parcours" near Boeblingen, Germany. Alongside is a photo of two Cupertino joggers running the future Parcourse route.



pedal . . .

If you're going to subject your body to eight or ten hours of cycling in a day, there have to be some compensations. Dave Horine, product design project manager in General Systems Division, discerns many benefits. He discovered cycling in 1961 when a Stanford classmate talked him into riding down the coast from Palo Alto to Los Angeles — and back. "In those days," he says, "people on 10-speed machines out in the country were looked on as weird. Who would want to do that when you could get there so much faster in a car?" Well, Dave learned that on two thin wheels you can cover 100 or 200 miles a day while taking in sights that include trees, wildflowers and scenic wonders. He discovered the incredible view from atop 10,000-foot Haleakala on the island of Maui, followed by 24 miles of fast downhill riding on banked turns — a thrill hard to duplicate. For Dave, shown riding near the summit of California's Mt. Lassen road, the boom in cycling and outdoor activities has been a boon: "People have become a lot more respectful and friendly on the road. They can identify with us."

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new-era athletes



marathon . . .

"People are learning to play again, to feel the sheer enjoyment of running, and to appreciate its simplicity and friendliness." John Spurr, mechanical engineer in Scientific Instruments Division, lives by his own words. He usually runs 7 to 10 miles a day, 30 miles on Sundays, and a major world marathon at least once a year. Born in the United Kingdom and son of a notable designer of cars and speedboats, John first ran a marathon in 1967 on the Isle of Wight. He prepares seriously in order to run fast and to finish. His best time: 2 hours, 37 minutes placing 26th in U.S. Olympic trials. "It's a very independent and democratic sport. And very friendly. I've made lifelong friendships with runners everywhere."



climb . . .

Struggling up the rocky and often icy slopes of big mountains is old stuff to Art Porter, product manager for X-Y displays at Colorado Springs Division. He's been at it 15 years, and climbed all of the 53 Colorado peaks above 14,000 feet. But his enthusiasm is still sky high.

In fact, he had planned a climbing trip to the Pamir Mountains of Russia this summer, but had to give up due to lack of time. He says he climbs not for the sake of conquering a mountain or the challenge of "technical" climbing, but to enjoy the mountain places.

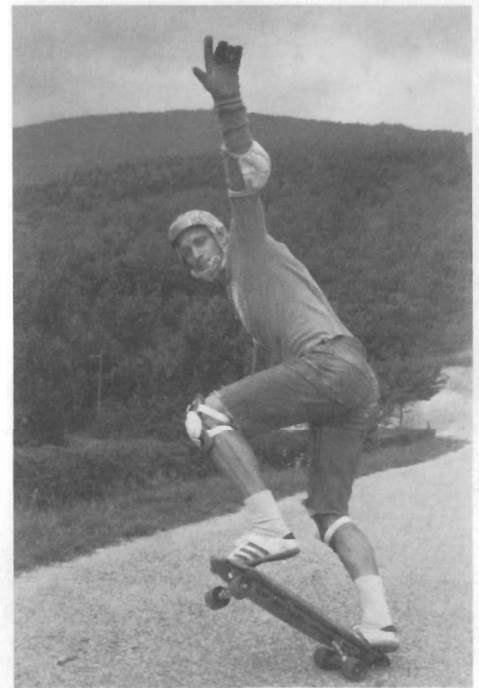
run . . .

Although the "new wave" of athletic activism is usually thought of as a youth movement, HP has plenty of examples of long and dedicated participation. Among the hundreds — possibly thousands — of HP runners and joggers, for example, are quite a few senior people. Included are two group managers, Dean Morton (Medical) and Emery Rogers (Analytical), Eberhard Knoblauch, Germany general manager (temporarily a non-runner following an auto accident), and Don Schulz, Loveland facility manager. Seen below jogging in his marathon T-shirt is Lou Mikkelsen of the Avondale Division R&D department. Lou has been jogging since 1961 when he won his first YMCA certificate for 100 miles that year. This year he expects to go more than 2,000 miles, averaging between five and ten miles daily during the week, then taking off for activities such as backpacking the Appalachian Trail on weekends and vacations.



race . . .

Mini-marathons — shortened versions of the classic 26-mile footrace — are big news these days around the world. Such races as San Francisco's Bay-to-Breakers attracts up to 12,000 entrants, while Atlanta's recent 4th of July Peachtree Road Race brought together some 6,600 starters. Even the world's toughest race, South Africa's Comrades Marathon, a 56-mile lung-buster over a tropical mountain range, had more than 2,000 starters — and an HP finisher, Viv van Zyl. At least four HP people competed in the Peachtree: Louise Jones (Sales Finance), Nat Carson (Service Admin) pictured below, and Rick Lane (Instrument FE) of the Atlanta office, and Eddie Wright (Instrument FE) from Richmond. Such huge races have a special quality: one HP participant said the sense of anticipation, the friendly atmosphere and the rising roar of cheering as the race started seemed to give everyone a big "lift" that overcame the difficulties of actually running in such numbers.



and even skateboard!

Why's a 35-year old EDP employee in Geneva whirling about on a new-fangled skateboard? He's practicing for the European Skateboard Championships, that's what. Albert Rott, an HPSA employee since 1966, came in 7th out of 126 entrants in this year's European downhill skateboard event in Zurich. Albert and his sons all skate, such as 12 miles down the highway from the nearby Jura mountains, sometimes joined by another highly versatile HPSA athlete, Serge Rosenberg. To promote safety and secure adequate skating rights, Albert founded the Geneva Skateboard Club last year. He reports the sport has spread over Europe "like wildfire" during the past two years. A former ski instructor, he compares skateboarding to skiing in movement and skills. "But I can practice skateboarding almost anywhere at any time of the year. And like skiing, age makes no difference." □

Bob Schaeffer:

Having a wonderful time

□ Bob Schaeffer is excited as he plans the production line for a new computer at General Systems Division. The ideas he is working with are quite new — maybe revolutionary to the way such products are assembled, using compact modular workstations. He also has ideas on a new way to organize the work flow, and he's very pleased with one idea his young assembly supervisor came up with for assembling and testing the computer on a wheeled platform which then becomes a shipping base.

It means, of course, that Bob — one of HP's most effective and highly regarded supervisors — is in good form. During his 24 years with the company, Bob has held a variety of production supervisor assignments at HP factories in California, Colorado, and Southeast Asia. He has always looked at each new project through fresh eyes, and passed along his own enthusiasm to those who work for him.

Bob's willingness to try new experiences goes back to some daredevil adventures as a youngster, including walking across a cable strung over San Francisco Bay in preparation for the Golden Gate Bridge.

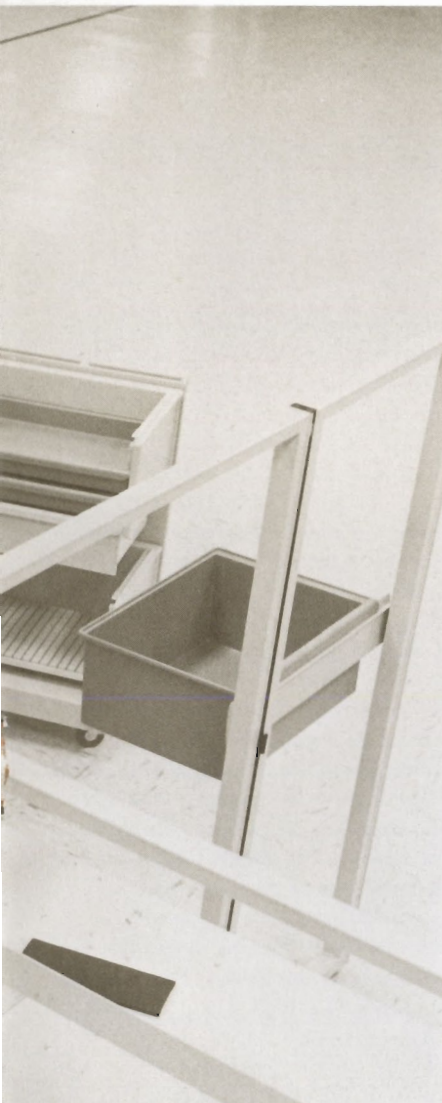
He showed equal agility in dealing with the U.S. Army during World War II. Bob likes to say that after four years in a high school control group taking Stanford-

Bob Schaeffer, at right, and assembly supervisor Tony Napolitan Jr. of General Systems Division look forward to introducing the use of this sleek modular workstation to Hewlett-Packard.



Binet achievement tests, he had little difficulty breezing through Army placement tests. As a result, he went through a series of special schools that made him an expert air mechanic and, eventually, a fighter pilot in the 14th Air Force under General Claire Chennault of Flying Tigers fame. (Always the optimist, Bob even had "a wonderful time" when his plane went down 150 miles from the base in North China and he was led back by a series of hospitable village mayors.)

As for Bob's noted ability to understand and work with people, that too just seems to have come naturally. It starts with the fact that he genuinely likes people, his associates say, and assumes they have come to HP to work their best.



It is important new people get off to a good start, Bob feels, so he assigns newcomers to someone who will introduce them to the company. He uses his common sense in bringing people along, realizing that some will like an established routine while others are happiest thinking up new ways to do the job. People should always know where they stand; if they get in trouble on the job, Bob wants to let them know in a way that they can accept.

It's an open approach to dealing with people as individuals that has helped Bob build one strong production team after another in his HP career.

Bob first helped start a division from the ground up at Colorado Springs in 1961, returning the next year with his family to the Bay Area where they had strong ties. After trouble-shooting assignments at HP's Santa Clara and Cupertino facilities, he noticed Clyde Coombs, then at Data Systems, trying experimentally to string a core memory at his desk. It led to Bob's setting up the first core memory production at DSD, then joining Clyde in Singapore in 1970 to begin similar operations there. When Clyde became manufacturing manager for the newly formed Advanced Products Division in late 1971, Bob was on hand to set up production.

Each assignment was a new challenge. In Singapore, for instance, Bob found himself doing a familiar job in an unfamiliar cultural environment. He worked with the Singapore government to set up a one-week introductory course about American factories for the young women applying for assembly jobs. As he interviewed to hire the first HP Singapore work force, Bob fell back on the few Mandarin phrases he remembered from North China since only two girls spoke English. It was important to find out quickly who could get along harmoniously together in choosing the first leads among employees with diverse Chinese, Malay and Indian backgrounds.

Starting up operations at APD in Cupertino also involved research. Assembly work on pocket calculators was more repetitive than assembling previous HP instruments, so Bill Hewlett asked Clyde and Bob to visit several Eastern plants to study motivation techniques.

Most of the ideas Bob actually used were his own. He asked questions of the people in his department. "How would you like to organize the work?" "What

do you like and dislike about the job?" Bob would go in on a Saturday to move benches around in order to find a better working arrangement. Some old rules that didn't apply to the new compact instruments went out the window — women could now wear open-toed shoes like wedgies and sandals, and transistor radios with ear plugs were permitted in certain areas.

People responded with high enthusiasm. A loud horn sounded frequently when production goals were met ahead of schedule. The "Flying Tiger" out of Bob's own past was adopted as the symbol of APD team spirit. Special tiger patches appeared on jackets and smocks, and tiger cartoon posters brightened the area.

Celine Steely, who worked for Bob at APD, says that he has a knack of knowing every single person on the floor. "He can see qualities in people that they can't recognize in themselves," she says.

Celine herself had returned to work at HP after time out with her family. No, she didn't want to be a lead again, she told Bob firmly when she joined his department at APD — no more people problems for her. Bob suspected otherwise and, sure enough, Celine took on more and more responsibility until her job evolved into being a supervisor.

Celine is now a supervisor at the Corvallis Division, the successor to APD. She and her fellow supervisor Jack Carlotto, another transfer from APD, agree that Bob trains in a subtle way.

"It's not something he actually says," Jack explains. "He's a boss you see all the time and he's right there when you need him, but he stands back to let you do things yourself."

Delcon supervisor Linda Waxler, who was first promoted to supervisor under Bob at APD, remembers Bob's saying "It isn't the end of the world if you make a mistake." Bob influences the whole group to work together, Linda adds, because he's also in there working hard to show people what he wants.

Now Bob Schaeffer is getting ready to try some trail-breaking methods in production for a new project at General Systems. A number of the people who have worked for him in the past are already asking if they can join his next team. As Bob Schaeffer might say, everyone is going to have a wonderful time. □

言語 ЯЗЫК LINGUA SPRACHE JAZYK LANGUE

LANGUAGE: How big a barrier?

□ According to a well-known international almanac, there are some 66 “major” human languages currently in use around the world. Thus, for a company that operates in more than 100 countries as HP does, language can be a big communications challenge — and perhaps a barrier.

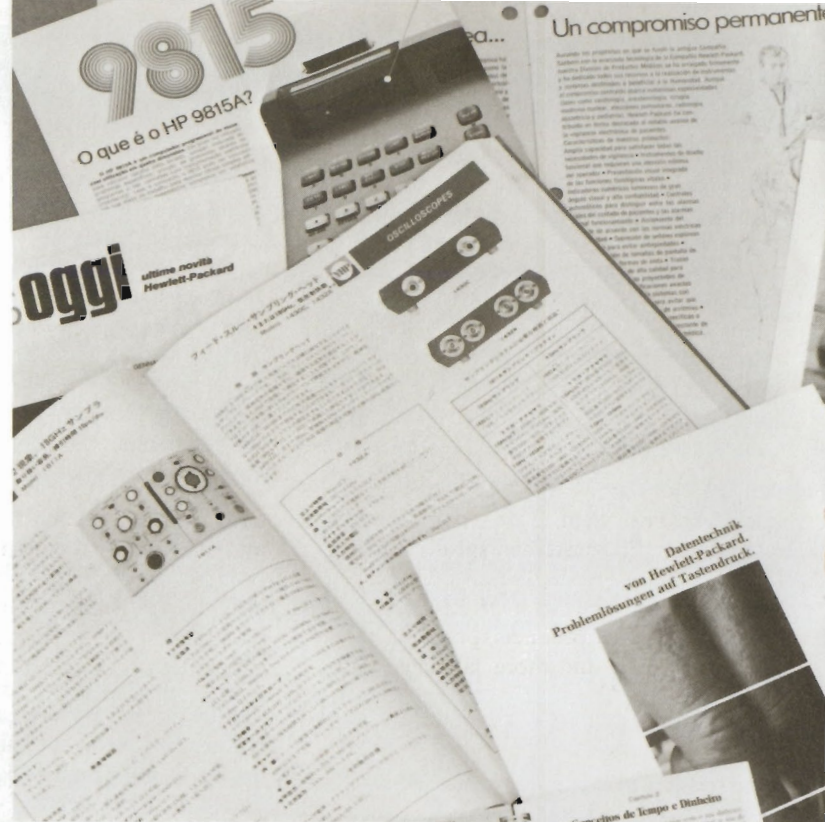
Communication between people of different cultures can fail because of the slightest nuance of a word or phrase. Robert Addis, who heads a translating firm in the San Francisco Bay Area, tells a story about a Spanish-language novel translated into English. The title, *La Cruz o la Espada*, literally means “The cross or the Sword,” which might indicate a struggle between good and evil. But it turned out to be a common expression referring to the two sides of a certain coin in the author’s country. A more accurate translation of the real meaning was, simply, “heads or tails.”

Such mistakes can be costly and embarrassing in business communication. A U.S. maker of auto batteries once slipped

on a literal translation in its Latin American advertising and described its product as “highly overrated.” Similarly, some HP sales brochures produced a few years ago would have inadvertently urged French customers to contact their “HP ingenieur de ventre.” They had to be reprinted after HP France informed the manufacturing division that — whether the mistake was in the translation or the typography — the ingenieur, or engineer, to contact was concerned with “vente” (sales) rather than “ventre” (the belly).

Even internally, the company’s day-to-day business communication can suffer when subtleties in the meanings of foreign words are not well understood. Sy Corenson, who deals with people of many different countries in his visitor-relations role for Intercon, told of receiving a comgram asking him not to treat a group of visitors “perfunctorily.” When he spoke to the sender some time later, he found that the meaning actually intended was not nearly so strong.

Just how much does this affect the company’s operations? In selling, for in-



stance, are language differences a barrier or merely an obstacle?

"It depends on the market," offered Roberto Albanesi, HP country manager in Italy. "In an instrument-oriented market, it's not usually a problem, because in the electronics field there's a high probability that the customer speaks English as a second language. But as HP expands in fields other than straight electronics — in computational products, particularly — I foresee more and more language difficulties."

The difficulties take many forms, but often involve the unavailability of printed material in the customer's own language. If it's sales literature, translation may be practical for a personal calculator but not for a highly specialized instrument. And the consequences of not having it in the right language at the right time are hard to measure. "How can we know how many sales we missed because we didn't communicate in the local language?" Roberto asked rhetorically.

Language considerations don't end when the sale is made, either. "Very often the operators are not well qualified in terms of language, and if they don't understand something in the manual they pick up the phone and ask us for help. So any difficulty in communicating with customers automatically means higher costs for us."

Data sheets to invoices

If Hewlett-Packard were making toothpaste, it might be a lot easier. But with over 3600 high-technology products, a great amount of oral and written communication is associated with selling, processing orders and training HP people and customers. Meeting worldwide demand for a product may mean that a piece of sales literature produced in English by a U.S. manufacturing division is translated into as many as six different languages. Operating manuals that run to hundreds of pages may require translation. And field engineers in some sales offices must be bilingual, trilingual or better.

Nowhere is the diversity of languages within the company more apparent than

it is at HP's two international headquarters organizations — HPSA in Geneva, Switzerland, and the Intercontinental Region, based in Palo Alto, California. In Geneva, English is the "lingua franca" between Swiss, German, Italian, Dutch, British, American and Swedish employees, and it's not uncommon for them to be fluent in a third or even fourth language. At Intercon headquarters, many HP people speak Spanish, Portuguese or Japanese in addition to English, and can be overheard switching effortlessly from one language to another at the ringing of a telephone.

Terry Mancilla, who manages Intercon's network of distributors in Latin America, points out that even the differences in dialects are significant. It may seem trivial when, say, an Argentinian uses his word for butter ("manteca") and a Colombian serves him lard instead. But when it involves thousands of words of documentation for a computer system, such small misunderstandings can become a communications gap of some magnitude. Translators must often make compromises in striving for a "universal" usage of the particular language.

HP's Mediterranean and Middle East sales operation, based in Athens, also serves an area that's much less homogeneous than many people imagine. "The Middle East is a vast area," explained Philip Pote, an HP field engineer for computer systems. "Each country has its own philosophy, its own social and governmental systems, and different colonial influences."

"There is a classical Arabic language, but the dialect for North Africa is completely different from the Saudi Arabian dialect — which is different, again, from Egypt and Lebanon. And their second languages are different. In North Africa it's French, and if you don't speak Arabic or French, it's very difficult to do business there. In Iraq, Saudi Arabia and Egypt, the second language is English."

Some sales brochures for pocket calculators have been produced in Arabic, but most product literature is provided in French and English. "In the computer area, we're very concerned with character

sets for terminals and printers. We can't get an agreement on any one standard. There's a standard for Iraq, and we have an Arabic terminal that was designed to the specifications of the Iraqi computer center in Baghdad. But we've tried to promote that particular character set and terminal in other countries and it's just not acceptable."

Legislating the language

In France, a law was enacted in December of 1975 to protect the country's consumers and preserve the richness of the French language. The law requires that French be used almost exclusively in advertising, sales literature, catalogs, invoices and nearly every other form of communication with customers. It allows the use of a foreign word only if there is no equivalent term in French.

A special government agency is assigned the job of dealing with gaps in the French vocabulary, including new technical terms that originate in other languages. If a word has a Latin root, as 98 percent of French words do, it's likely to be accepted into the language without change. If the word does not have the typical French phonetic and graphic structure, however, or meet several other criteria, a word is established by government decree — "le logiciel," for example, meaning "software." Assisting the government agency are task forces of technical experts (including HP people), and vocabularies are published for various fields of science and technology.

Companies found to be in violation of the French language law must pay fines. And there are other possible consequences. Customers may refuse to pay if their invoices are not entirely in French. An English-language catalog may be sent to a French customer only if he or she has specifically requested it.

Other countries also have laws requiring the conduct of business in the local language. "Whenever you sell to government agencies in certain countries, they require that the operation section of the manual be translated," said Terry Mancilla. "And for good reason, because it

(continued)

languages

may be that the engineers are bilingual but the technicians are not."

In Canada, which has two official languages, there are legal requirements for the use of both English and French in some areas. The regulations apply only to operations employing a certain number of people — and while HP's sales offices haven't reached that size, the company voluntarily complies with the spirit of the law in its Pointe Claire sales office in Montreal. Almost all new hires are bilingual, and they serve customers in both languages throughout the province of Quebec.

The fact that so much French-language material is produced by HP France is a plus for HP Canada, according to Malcolm Gissing, Canadian general manager. Stocks of literature are obtained from the French organization, and a great deal of documentation can now be supplied in French as well as English. Invoice forms are also in both languages, and quotations are printed out bilingually. "I see a real need for our English-speaking managers to learn French too," said Malcolm. "You can't tell if someone is doing a good job if you don't understand what the person is saying."

Perhaps even more of a challenge to business communication is the situation in Malaysia, a developing country which is making a clean break with its colonial past by officially switching from English to "Bahasa Malaysia," the Malay language. Christine Lim, manufacturing specs coordinator and purchasing controller for HP in Penang, told of having letters to government agencies returned because they were written in English. Further complicating the changeover are some new rules for spelling and grammar.

"Even some Malay people are having difficulty learning it," Christine added. "People often mix the old spelling and grammar with the new."

English continues to be the most common second language in the country, followed by Chinese, and there are schools operating in each of the three languages. Christine was educated in English-language schools, and is now attending classes at HP to learn Bahasa Malaysia.

Translating for profit

As corporate business has become more and more multi-national, good professional translators have found themselves in great demand. To be members of the profession (though unlicensed, they have their own professional societies, conventions and newsletters), translators should be "subject qualified" and translate only into their native tongue, says Robert Addis, whose Ad-Ex firm has done work for several HP divisions. A translator should be able to totally grasp the meaning and re-write the material in the other language — not just match words.

If possible, the translation should be done in the country it's intended for — the translator will not only be more familiar with the current idiomatic use of the language, but will have a better feel for how much translating is necessary. Addis told of an English-to-German translation that was done simultaneously by a professional in California and another in Germany. "The one that was done in the U.S. was actually too German. The one from Germany was half English, but it was better because the translator knew

which words would be acceptable in English."

Peppering the language with English words is much more common in Germany than in other major-language countries such as Spain and France, and Addis maintains that it actually has a certain "snob appeal" there. The same is true in Japan, according to Ron Soyama, advertising and promotion manager for Yokogawa-Hewlett-Packard. Ron is responsible for translating data sheets and other literature from HP factory organizations all over the world. And, interestingly, only in Japan is the entire HP catalog translated into the local language.

It may not be so much in the printed word as in face-to-face contacts that language differences tend to obscure HP communication. Sy Corenson has observed it in HP classrooms. Customers and distributors who send people to the U.S. for technical training must often choose between those with the best technical qualifications and those with the best command of English.

Sy also related an experience with a Latin American gentleman on a visit to an HP distributor organization. It was a social occasion, and the atmosphere was warm and cordial. The two men felt a certain rapport, and knew there was a great deal more they could learn from each other if they could express themselves in a common language.

"HP is a company that depends so much on open communication and personal relationships between people," Sy concluded. "That's where language differences can really be a barrier." □

Measurement and Computation News is distributed worldwide in five languages as an advertising insert in various industry magazines.

Editor Iona Smith of Corporate Marketing Communications sends the English-language text, photographs, and layout to marketing people in Germany, France, Italy and Japan, who do the translating. The layout includes plenty of "white space" to accommodate variations in the length of translated copy.



Corporate telephone system to retire...

□ The HP organization as well as many customers, suppliers and friends will soon be saying goodbye to Corporate's familiar switchboard telephone system. In its place will be a "Centrex" system with electronic switching, due to be operational in about six months. Computerized switching will improve the handling of calls to and from HP, and eventually lead to substantial savings of long-distance charges.

According to Don Collier, who is managing installation of the new Centrex, only facilities currently served by the PBX switchboard at 1501 Page Mill Road are affected. This includes buildings located at 1501, 1801, and 1819 Page Mill Road, 3155 and 3215 Porter Drive, and 3200 Hillview Avenue. In all, some 2270 phone lines serving all Corporate offices as well as Intercon and Stanford Park Divisions are involved.

Major features of the new Centrex system will allow:

- Direct inward dialing without operator assistance. Each phone will become, in effect, a private seven-digit number (using present extension numbers). However, unanswered outside calls will be electronically connected to an HP operator.
- Automatic routing of outbound calls to least expensive lines. No more waiting for WATS!
- Three-way phone conversations which can be easily arranged by users, and inbound or outbound calls can be transferred without operator assistance.
- Automatic identification of outbound calling to permit accurate expense



allocations and enable better traffic analysis.

Before Centrex becomes operational, new telephone directories and instructions will be distributed. Extensive information and training will be available to all phone users to help give the new Centrex the smoothest start possible. □

Third quarter results

PALO ALTO — Hewlett-Packard Company has reported a 23 percent increase in sales and a 65 percent increase in earnings for the third quarter of the company's fiscal year ended July 31.

Sales for the third quarter totaled \$341,051,000, compared with \$277,477,000 for the third quarter of fiscal 1976. Net earnings amounted to \$30,527,000, equal to \$1.07 per share on 28,367,673 shares of common stock outstanding. This compares with earnings of \$18,472,000, equal to 65 cents per share on 27,899,098 shares during last year's third quarter.

Bill Hewlett, HP president, said "The performance of every product group continued strong in the third quarter, and our incoming orders were the highest in the company's history. Orders amounted to \$365.2 million, up 25 percent from orders of \$291.1 million booked in the corresponding period of 1976. For the nine month period, orders totaled \$1.06 billion, up 26 percent from a year ago, when orders were \$841.8 million."

Total sales for the nine months amounted to \$980,931,000, a 24 percent increase over sales of \$792,880,000 for the corresponding period last year. Net earnings rose 55 percent to \$88,669,000, equal to \$3.13 per share. This compares with earnings of \$57,319,000, equal to \$2.05 per share during the first nine months of 1976.

These net earnings were achieved after the company had

set aside approximately \$3 million in the third quarter and \$6 million for the first half (previously reported) to supplement retirement benefits to a large number of its U.S. employees. The effect on net earnings for the third quarter and nine months was approximately 5 cents per share and 16 cents per share, respectively.

Hewlett said "Domestic markets were particularly strong in the third quarter, with orders from U.S. customers amounting to \$197.7 million, up 27 percent from last year's third quarter. International orders rose 23 percent to \$167.5 million."

For the nine months, domestic orders amounted to \$563.8 million, up 32 percent from \$428.1 million. International orders increased 20 percent to \$497.8 million.

Test for satellite system

SANTA CLARA — An advanced communications experiment, known as Project Prelude, will be conducted in the fourth quarter of 1977 by Satellite Business Systems (SBS) in cooperation with three leading business organizations and six equipment suppliers. Hewlett-Packard will provide computer systems network facilities.

The Project Prelude experiments will use the NASA Communications Technology Satellite (CTS) in stationary orbit at 22,000 miles altitude, to test emerging concepts for intracompany communications, including high-speed data trans-

missions, teleconferencing, and facsimile. Wideband transmission of high-speed digitized communications will be at the 12 and 14 Gigahertz bands.

During the experiments, the six participating manufacturers will install equipment at two widely separated locations of each of three different business organizations, Rockwell International Corporation, Texaco, Inc., and Montgomery Ward & Co., Inc. Wideband digital communications via satellite will be established between the locations.

Discussing Hewlett-Packard's part in the experiments, Dave Crockett, R&D manager for General Systems Division, said: "Distributed systems networking equipment for HP 3000 Series II business computers makes it almost as easy to use a network of these computers as to use one. We are pleased that this development coincides so neatly with the SBS experiments. Using the recently developed DS/3000 networking facilities, HP 3000 computers at each of the two locations will update one another's files, exchange whole files at high speed, use one another's peripherals, and execute one another's programs. HP appears to be alone in being able to perform all of these functions now, with off-the-shelf software. The shape of the future may emerge from this venture, not just the future form of digital communications, but the manner in which large organizations are managed."



From the president's desk

We have recently completed our third quarter of the 1977 fiscal year, and as most of you know it was once again a record quarter for incoming orders. The two previous quarters were also record setters for orders, so we have had a very good year to date in this regard.

Our shipment volume was about the same as that of the second quarter, but earnings did not quite track (they were down about five percent) and a word of explanation is in order.

Now it is true that we charged \$3 million to the third quarter to cover the anticipated increase in funding for retirement, past and future, but the shortfall was not caused by this deduction. The fact is that we charged an even larger amount against the second quarter for this same purpose. So, the discrepancy lies elsewhere.

In reviewing the numbers, it is apparent that there were three primary factors involved. Let me comment on each of these separately.

In the first place, we shipped a lot of products to our international sales subsidiaries, but not all these products were delivered to the ultimate customers before the end of the quarter. Thus, certain expenses were incurred, such as customs, freight, special taxes, etc., but the income to cover these expenses had not yet been received. It is the old pipeline problem again that keeps rising to plague us. While on the subject of shipments, it was encouraging to see that our effective cost of shipments as a percent of total income has not increased — we were just as efficient in the third quarter as we were in the second.

A second factor was that our expenses rose over those of the previous quarter. This was a planned increase in that we had anticipated adding a substantial number of people to the payroll in the third quarter. However, it had a some-

what greater impact on earnings than expected because shipments did not increase. Since expenditures will continue to grow somewhat, we will have to improve our shipment performance considerably if we hope to complete the fourth quarter with earnings comparable to those of the second quarter.

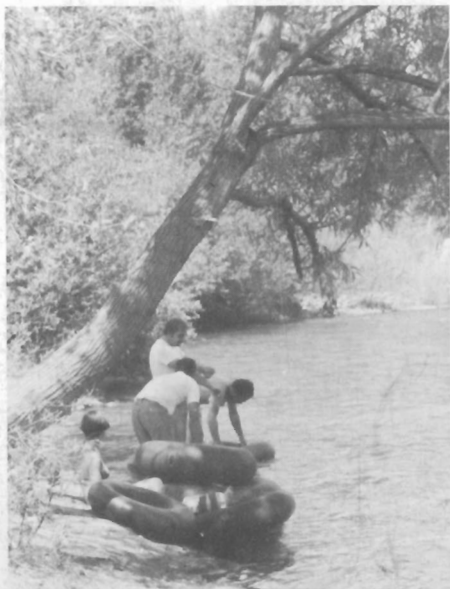
The third and final factor has to do with our projection of federal and foreign income taxes. We are required at the beginning of the year to use our best estimate of what the effective tax rate will be for the year. As we proceed through the year we are continually reviewing this estimate, and if at any point we feel it is in error, we must use a corrected value. If it appears that the effective rate will be slightly higher than originally planned (as was the case at the end of the third quarter) then we must enter a correction not only for the most recent quarter but for the preceding quarters as well. As a result of this adjustment, our net earnings for the third quarter were reduced about three cents per share.

I don't want these comments to appear as an excuse, for none is needed. The fact is that our earnings were very good indeed — they just suffer in comparison with a very, very good second quarter.

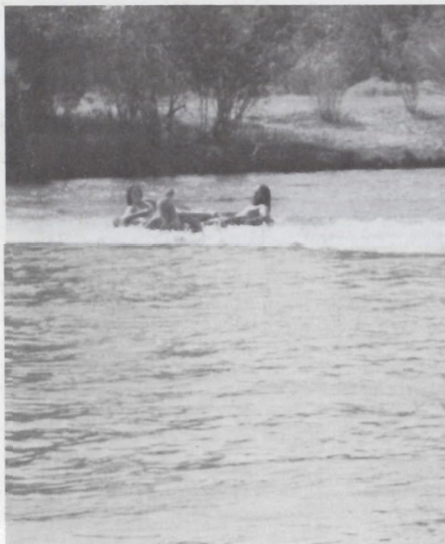
Turning to another matter for a moment, since many of you are HP shareowners I thought it might be appropriate to report briefly on the status of the administration of Mrs. Hewlett's estate by the executors of her will.

The bulk of the estate, after providing for specific bequests, will be put into a charitable foundation. However, the executors have determined, and the company has been so informed, that it will be necessary to sell approximately one million shares of HP stock from the estate, in the form of a registered, underwritten secondary offering, to meet estimated expenses and estate tax liabilities. The actual date of the offering has not been determined, but I can report that the offering will not occur until some time after final, audited figures are available for the company's 1977 fiscal year.

Bill Hewlett



Boise's inner-tube transit system



A noted educator, Robert Hutchins, once remarked that "When I feel a desire to exercise, I lie down until it goes away." That's hardly the spirit today, as witness the parade of athletic participation represented by the lead report in this issue. However, the citizens of Boise, Idaho, including scores of HP people, have discovered some nice compromises: drifting down the Boise River, right through the center of town, on inflated innertubes, and "surfing" the rapids by tethering their boards to a bridge. The surfers, of course, go only sideways, and up and down. Meanwhile, as described by Artie Stone, MEASURE correspondent at Boise Division, the rafters simply lie down on the tubes and let the world drift by.

Measure

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