Measure
For the men and women of Hewlett Packard DECEMBER 1975
The mesas of Arizona, those lofty tablelands left high and dry by a million years of erosion, seem peculiarly appropriate as the homeland of the Hopitu-Shinima, "the good people." Better known as the Hopi Indians, they are a proud and peaceful people much given to the customs, traditions and gods of a past that has been traced back almost 1,700 years.

Over the centuries, against the ventures and oppressions of Conquistadores, missionaries, treasure seekers, squatters, settlers, warring neighbors, U.S. Army, and the Department of the Interior, the Hopi have sought sanctuary in the high defensible plateau of northern Arizona. Only once were they known to have gone on the offensive, which was to drive off militant churchmen who aroused the anger of the Hopi gods by demanding submission.

The good judgment evident in such handling of matters comes with a natural sense of symmetry and style. These are seen in both living arrangements and cultural endeavors. Modern architects, for example, see much to admire in the multi-story apartment dwellings that were a Hopi tradition at least 800 years before Christopher Columbus set sail in search of the "Indies." Consider also the interesting family custom whereby the wife owns the house and furnishings while the husband holds title to the animals, crops, tools and vehicles.

Consider also their social and political structure: a democracy governed by tribal and religious leaders as members of the Council of Elders or Tribal Council.

In the main they are farmers, cultivating for their own use corn, beans and fruit, and raising sheep, cattle, poultry and horses. For income they have relied traditionally on their handicrafts—jewelry and sculpture, paintings and dolls. Today, however, they have a new source of revenue—assembling and finishing HP components.

This arrangement had its beginning in the summer of 1969 at theLoveland Division, about 500 miles to the north. There, the downtown components manufacturing plant found itself in an overloaded situation due to the demand for coils for the 9100 calculator then being introduced. Ken Landes, a design engineer at the plant, began to consider ways and means of relieving the work overload.

Recalls Ken: "Dr. James Howard, a friend of mine who is an anthropologist at the University of Oklahoma, had talked to me about the Indians of the plains country and the Southwest. I had also seen an advertisement by the Bureau of Indian Affairs suggesting that industries look to the Indian reservations as sources of manpower. It occurred to me that we just might try that."

As a result of talking it over by phone with various experts in the Bureau, Ken found himself driving around the
Legends describe four worlds from which the Hopi emerged.

In itself, the Fourth World is "the world complete,"
a mixture of opposites
such as hot and cold, beauty
and harshness—
in other words a very real place,
liveable but without frills.
Such indeed is the
environment of the Hopi.

Grand Canyon country calling on tribal leaders and getting a feeling for their needs and skills.

"Several days out," he said, "I drove north into Hopi country. One activity that really impressed me was their doll project. It involved lots of hand skills and patience—just what are needed in the kind of component work we had to offer. So a commitment was made, and a building set up with lights and benches. Then at Christmas time a group of Hopi came north to Loveland for training."

It was a good start, but one that lost some momentum with the recession of 1970 plus a changeover in calculator models that brought on a production lull. Meanwhile, Lovelanders such as John Mahorney, John Lark, and Carroll Pyle became interested in the project, and by next year had revived it with a variety of work drawn from various
the Hopi

departments. In particular, Carroll drove to the mesa of New Oraibi, site of the project, to assure the Tribal Council of the company’s interest and intent, and for first-hand observation.

"The income is important to them," he said, "and the employment will help keep people here. In return we get excellent workmanship at a very fair price — mainly because the Hopi industry doesn’t have the overhead ratio that established industries have to charge."

"Physically, it’s not an environment that most of us could enjoy — or even take for long. The rains come all at once in September, washing and flooding the land. Then come the snows, with cold winds that seem to blow all winter. By spring the land is dry, and they will see hardly a drop of moisture all summer. It takes a stoic people to endure that."

The Hopi showed their stoicism last winter during a second training visit to Loveland. While Lovelander’s complained about the coldest storm in memory, the visitors seemed almost unaware of any discomfort.

But they showed something more during their stay — the ability to apply the hand skills learned patiently during long winter days to the tasks of industry. As a result, a new contract was developed which provided for an expanded activity in a former school building at New Oraibi.

Thomas Namoki, manager of the project on behalf of the Hopi Action Committee which functions to encourage economic activity, commented on the contract: "When we get into full production it should enable us to employ about 20 people. Such small industries will offer the young people of the tribe an opportunity to stay here or to return after they have been away to school."

Namoki pointed out that the only other industrial employer was the clothing factory at Winslow, Arizona, a 150-mile roundtrip for the 40 Hopi who work there.

According to John Mahorney, the HP arrangement is obviously a good one for both the company and the Hopi: "We hope to do business with them for a long time to come."
A selection of HP coil windings produced by the Hopi Action Committee operation is shown in the composition above. Many people have seen a distinct resemblance between such work and the traditional crafts of the Southwest Indians, including the Hopi. The COVER photograph shows an HP 9100 coil placed against a field of Hopi designs in sand. The waveform-like design is actually a signature of the Hopi Water Clan. A further parallel to electronic circuit design is suggested by the assemblage of Hopi signatures and glyphs below.
Painting the eye of the Daruma

YHP president Shozo Yokogawa at left, and his wife Mariko, right, presented "happi" coats to Dave and Lucille Packard as well as other visiting directors in honor of YHP's 10th anniversary.
Some old legends of the Orient and some new lore of HP were blended pleasantly together in Hachioji, Japan, recently. The occasion was the tenth anniversary of YHP, the very successful joint venture of Yokogawa Electric Works and Hewlett-Packard. On hand were directors of both firms and their wives to meet and greet YHP employees. Later, the HP directors held a regular board meeting, but in the meantime they learned one possible explanation for the extraordinary economic success of Japan.

The businessmen of Japan, it seems, put much store in what is called a Daruma doll as a figure of good luck. The good luck comes from the fact that the Daruma may be knocked down many times but will always right itself. In fact, it's the quality of persistence, of try and try again, that brings on the good luck.

Daruma is actually the name of the founder of the Zen religion in China about 1450 years ago. It is said that he sat cross legged and with arms folded for nine years contemplating universal truths. While gaining his soul he lost the use of his limbs, which effect is symbolized in the round shape of the Daruma doll. To obtain the good luck, it is customary to paint in the right eye, as HP President Bill Hewlett and YEW President Toshinori Matsui are seen doing in the accompanying photograph. Then, at a later time when the wish or luck is achieved, the left eye is painted.

Indeed, “good luck”—if you want to call it that—was much in evidence at the 10th anniversary celebration. The directors were shown how YHP had built sales to the point where Japan is HP’s second largest international market, how half that figure represented production from the Hachioji factory, and that more than half of the factory output was the result of its own engineering developments. They were also told that the average annual growth rate for the past five years was in excess of 25 percent. Employment now is over 800 people, wages are now approaching U.S. levels, and profits are in fine shape, too.

Since there’s no reason to believe that that kind of prosperity is over, the Daruma will just have to exercise his well-known patience in waiting for the second eye.
The many new faces of 1973 — a review:

January
- Started year with 21,000 people.
- Field Emission Corporation (Femcor) of McMinnville, Oregon, entered acquisition agreement that added high-voltage x-ray tubes and systems to HP product line.
- Model HP-80 hand-held business calculator introduced.
- First "downtown" HP offices opened in San Francisco, Chicago and New York to help handle calculator sales.
- Bruce Wholey named to new position as vice president-Manufacturing.
- Hupe & Busch of Karlsruhe, Germany, acquired by HP, adding new line of liquid chromatograph products.
- More than $7 million from 1972 corporate profits paid into Employee Profit Sharing Retirement Plan Fund.

February
- HP reported first-quarter sales of $127 million — up 30 percent, and earnings of $8.7 million — up 25 percent over 1972 period.
- Vice President Ed Porter elected to Board of Directors.
- Construction contract announced by MED for 170,000-square-foot addition at Waltham, Mass., doubling plant capacity there.
- Paul Ely, GM at Microwave Division, appointed GM at Data Systems Division, Cupertino.

March
- After extensive testing in European plants and at MED, flexible work hours were extended to HP plants in U.S.
- Dean Morton, GM of Medical Electronics, appointed vice president.
- Architectural plan unveiled for campus-like facilities on 190-acre Santa Rosa Fountain Grove plant site.
- IEEE awarded special Founders Medals to Dave Packard and Bill Hewlett during New York show.
- H. I. Romnes, chairman of the executive committee of AT&T, elected as HP director.

April
- The name "Microwave Division" officially came to an end, replaced by "Stanford Park Division" (GM Rod Carlson) in Palo Alto and "Santa Rosa Division" (GM Doug Chance).
- Two-phase construction program announced for Santa Clara plant. Program to add two buildings with total of 270,000 square feet.
- Reactions to flexible work hours highly favorable. Many other companies show interest.
- Corporate Industrial Design introduced new corporate cabinet module system.

May
- New "take-your-pick" health insurance plan plus dental benefits introduced at U.S. organizations.
- Colorado Springs Division announced plan to double space by constructing 260,000 square-foot addition.
- Acquisition of Field Emission Corporation (Femcor) finalized.
- Second quarter financial results showed sales up 40 percent, earnings up 70 percent to 54 cents per share, over 1972 figures.
- HP-45, an advanced version of the original hand-held calculator, and a desktop model with printout — the HP-46 — were introduced.

June
- Site work began at Penang, Malaysia, on new plant for assembly of core memories.
- Data Systems announced agreement to purchase 150-acre plant site near Boise, Idaho.
- Profit sharing checks representing more than $6.5 million were distributed to some 18,000 HP people.
- Gasoline shortages result in company decision to purchase only smaller cars.
- Data Systems people begin to occupy new two-story Cupertino building.

July
- Annual meeting of HP general managers near Monterey, California, emphasized need to foster more awareness of "the HP way" among the many new employees.
- HP-sponsored "Terman Award" for 1973 went to Dr. Sanjit Mitra, professor of electrical engineering at the University of California at Davis.
Agreement signed with Tally Corp. for the purchase of and manufacturing rights to certain line printers.

HP directors declared semi-annual dividend of 10¢ per share. Data Systems shipped its 6,000th mini computer.

Analysis of first-half figures showed that HP’s government business declined to 16 percent of total, offset by strong growth in other areas—"a healthy trend" said Dave Packard.

August

Third-quarter earnings reflected continuing difficulties in obtaining many purchased parts and components, resulting in rising inventory and a slowdown in shipments.

Neely/Western Sales Region announced a new northern headquarters office to be built in Santa Clara.

Data Systems developed a new security code to protect confidentiality of programs in HP computer systems.

Astronauts aboard Skylab II used an HP-35 to make a variety of calculations.

September

Board of directors held meeting at Hachioji plant to commemorate 10th anniversary of YHP.

HP Aviation inaugurated air shuttle service between San Jose and Loveland as well as San Jose-Santa Rosa.

Ten-year program to "go metric" in HP’s U.S. manufacturing operations announced.

Barney Oliver, vice president of Research and Development, elected to board of directors.

Loveland Instrument Division introduced hand-held multimeter, the 970A probe, to strong customer approval.

The HP-81, desktop version of the hand-held business calculator, was placed on market.

Importance of digital trends in systems and instruments evident in HP exhibit at WESCON show in San Francisco.

October

New plant at Penang, Malaysia, dedicated by visiting HP directors.

Operations started by Data Systems at Boise, Idaho, with development and manufacturing activities for new line printer.

Santa Clara Division received largest-ever order of $2.8 million from U.S. Navy for new small version of cesium frequency oscillator.

Data Systems expanded into new 165,000 square foot building. Features include world’s most modern LSI facility.

Eberhardt Rechtin, formerly assistant secretary of defense for telecommunications, joined HP as manager of telecommunications.

Prices of HP computer products reduced due to lower cost of manufacturing core memories.

McMinnville Division, formerly Femcor, expanded by purchase of 54.5 acres. A new 65,000 square-foot building will be built.

November

Fuel and energy conservation measures initiated throughout HP organization in the U.S.

New computer control system and new marketing approach announced for HP-3000, the largest product ever developed by the company, with a price tag starting at $185,000.

John Brown, GM at San Diego Division, named to YHP as co-director. Dick Moore, EM at Loveland Instrument Division, was named to replace Brown at San Diego.

Loveland’s Civil Engineering team given division status.

H. I. Romnes, an HP director since March, chairman of the Executive Committee of AT&T, died in Sarasota, Fla.

December

Earnings of $1.89 per share (preliminary) announced for 1973.

Profit sharing checks for second half distributed.

Phase One of new payroll started in U.S. with aim of putting most people, including 'hourly,' on common semi-monthly pay cycle by end of May 1974.

Year ended with approximately 28,400 people—a gain of 7,400 people.

Happy New Year!
To Russia —
with instruments
Hewlett-Packard sales offices in Moscow?
In Warsaw?
Yes, indeed.
Permission to establish such branches
was granted by the Soviets
just a few months ago,
specifying a full-fledged commercial operation
in Moscow and a technical support office in Warsaw.

These developments place Hewlett-Packard in a select group of companies to receive such permission. For that reason it might be worth looking back some five years to see what brought about this particular status in our relations with the Socialist countries—keeping in mind the fact that HP is the only company in its particular business to be there under such sanction.

It was in 1967 when HP made the decision to begin a study of the Socialist Bloc market and to try selling them some products. A three-man team headed by Doug Herdt was formed in Geneva to carry out the basic research and to promote some exploratory sales. This activity soon grew to the point where new people had to be added and consideration had to be given to moving closer to the marketplace—while still remaining in a non-Socialist country.

Vienna was chosen for this role—and a look at the map will show why: closeness to most of the Socialist nations yet favorably positioned with respect to Geneva. Today, the Vienna operation, headed by David Shortt, has some 100 people engaged in selling and supporting HP products in the Soviet Union, the Socialist countries, Austria and Yugoslavia.

Why was Hewlett-Packard selected? Fundamentally, these countries have a real need for technology. But along with HP quality and extremely wide range of needs filled
to Russia

In lieu of product advertising and publicity opportunities which are virtually non-existent in the Socialist countries, potential customers are contacted mainly through trade fairs. The photograph above shows HP's first exhibit in the U.S.S.R. in the Moscow Fair of 1969. Note the Russian version of "Hewlett-Packard." Adjacent photograph catches HP's much-traveled show as it awaits uncrating in Budapest—one of dozens of such showings on the industrial trade fair circuit.

by HP equipment, they are particularly interested in obtaining the technical support and maintenance services that we can give. It is a service they have not been accustomed to receiving.

The general economic picture appears quite dynamic. If you begin with the fact that this is a relatively unsaturated market for our product lines and add to that a GNP having an annual rate of increase of some 10 percent, you have the makings of a very substantial growth. Meanwhile, the 37 percent devaluation of the U.S. dollar has put us in a very favorable competitive position pricewise, even if it has also increased our expenses.

This doesn't mean that doing such business with the Council for Mutual Economic Assistance (the official terminology for the markets composed of the six Satellite countries and the Soviet Union) will be easy and uncomplicated. Our competitors, chiefly from Japan and Western Europe, have been involved in Soviet trade for many years. And we have had to learn how to deal with various restrictions in doing business with the Socialist countries. These restrictions apply to some 50 percent of our product line and tend towards those of high frequency capabilities.

There is also the problem of obtaining a close relationship with the end-users in that part of the world. Most purchasing in those countries is done through Government Foreign Trade Offices (FTO's), which tend to shield the user from the supplier. These FTO's are tough bargainers who could care less about our pricing policies and who insist on discounts or some other sort of flexible deal. In fact, however, we've had very good success in directly contacting users.

One of the ways HP's East European field force first gets in touch with potential users is at the many trade fairs. "This is our major promotional approach," commented David Shortt. "Advertising, publicity and sales promotion as we know them in the West are unknown, so events such as shows and seminars are extremely important in establishing contact and communication."

In addition, the HP field sales and service people log many miles in calling on their C.M.E.A. customers. Generally, they'll drive if a call is within five or six hours by car from Vienna, fly if beyond that. As it happens, flight service today has been vastly improved in recent years, and, at the other end rental cars are cheap—$5 a day in Moscow. On the other hand, hotel rooms are expensive—$30 a day—and confirmed reservations may mean nothing unless the traveler is prepared to be very tough about it.

The great majority of users and potential buyers on whom the HP field people call are involved in research activities, usually in national research institutes that perform the basic research function in Comecon countries. They admire HP equipment and go to considerable lengths to specify our quality in their requisitions.
The modern skylines of Warsaw (left) and Moscow will soon become familiar territory for HP people who will set up offices in the two cities. The offices will particularly facilitate HP’s ability to provide maintenance service and technological assistance—factors that previously have not had high priority in the Socialist approach to economic activity.

But often there is the problem of money: Does the buyer have an allocation? And can he get a foreign money allocation? The latter is most important inasmuch as rubles can be spent only in the USSR.

For his part, the HP field engineer has also to take steps to assure that the intended application of the equipment is a peaceful, non-military one. In all cases he must obtain a signed document describing the application. Even more convincing, as far as reviewers in COCOM and U.S. Department of Commerce are concerned, is a service contract, since this assumes that the HP service people will have access to the equipment and thus it obviously is not part of a restricted military project.

The people who staff the HP organization in Vienna and cover the Comecon countries are described by David Shortt as a “young, hard-driving, competent and ambitious bunch. They have to be, because it takes a lot of poise, stamina and flexibility to deal with the conditions they meet.”

About 14 different nationalities are represented in the organization, and between them they can communicate in 16 languages. All of the field engineers have a technical degree, and some of them also have qualifications akin to a business degree.

According to Shortt, HP is beginning to put into effect a plan that will establish a number of HP sales and service offices located in key centers. First to be set up will be a Moscow team. There, sales and administrative quarters will be housed in a downtown hotel, while the service and training departments will locate in two research institute buildings. The staff, still to be selected, will include a manager, service manager, and three service technicians from the HP European organization, plus secretary, driver and handyman to be hired locally. Local technicians will be trained as soon as possible to replace the visiting technicians—HP’s first Soviet-citizen employees.

It remains to be seen, of course, whether doing business with the Socialists is necessarily good business over the long term. HP president Bill Hewlett admitted to some uncertainties during a speech before the International Industrial Conference in San Francisco, September 21: “The relations between the U.S. and the Soviet Union,” he concluded, “have had a long background of being up and down. I have no reason to believe that history will not repeat itself, and there will be occasions when the current detente may be set aside for political reasons. But in the long run, I feel that economic pressures will prevail and that the United States and the Soviet Union, whether they like it or not, will find themselves as important trading partners.”

Better they should trade goods than gunfire.
Hachioji, Japan—John Brown, for the past six years manager of the San Diego Division, will join YHP early next year as the key HP management representative.

Dick Moore, formerly engineering manager at Loveland Instrument Division, will become the new San Diego manager.

Palo Alto—Bob Grimm, formerly sales/market manager for Automatic Measurement Division, has joined HP Labs in a new role as R&D program analyst and divisional liaison. Grimm’s responsibilities will include analysis of market opportunities, competition and business considerations for new product ideas of interest to HP Labs, as well as liaison with HP divisions to ensure smooth and timely transfer of projects from the four Corporate laboratories. He will report directly to Barney Oliver, vice president-R&D, on these matters.

Boise, Idaho—HP’s Data Systems Division has commenced operations in a leased facility here. The initial program includes the development and manufacture of a new line printer, the first in a series of such products aimed at rounding out EPG’s line of computer peripherals.

In undertaking the line printer program last July, HP acquired manufacturing rights from Tally Corporation’s Series 2000 line printers designed for business and scientific data processing applications. The first HP version is expected to come off the Boise assembly line in mid-1974.

The leased building eventually will be replaced by a major facility to be built by HP.

Palo Alto—Preliminary figures reported on November 29, by Hewlett-Packard indicate a 38 percent increase in the company’s sales and a 32 percent increase in net earnings for the fiscal year ended October 31, 1973.

Sales totaled $663,129,000, compared with 1972 sales of $479,077,000. Net earnings amounted to $50,704,000, equal to $1.89 a share on 26,815,566 shares of common stock outstanding. This compares with earnings of $38,461,000, equal to $1.45 a share on 26,450,200 shares, in fiscal 1972. These figures are tentative, with the final audit due to be completed late in December.
For the past several years, the top 15 or 20 management people in HP have taken a day and a half off to go to San Felipe ranch for informal discussions on the problems and challenges that face the company.

We have just completed this year's session, and a very large part of the meeting was spent on trying to understand the relatively disappointing results of the fourth quarter of this year. Although I mentioned some figures when I announced the profit sharing percentage for the second half, it would be of value to review these briefly and in so doing reconcile the reported earnings per share with the base on which profit sharing is calculated.

The basic problem was that although net earnings per share increased about 17 percent, the before-tax earnings (the figure on which cash profit sharing is based) increased only five percent. In addition, some minor, but necessary, accounting adjustments reduced this to the four percent increase I announced last month. On the other hand, shipments increased 27½ percent in the second half. If we had been able to maintain our pre-tax profit margin at the same rate as that in the first half, we could have easily absorbed the 21 percent increase in the salary base on which profit sharing is distributed, and still showed an improvement over the first half.

The question is, therefore, why didn't this happen?

It was exactly this subject that was the particular point of discussion at this year's ranch meeting. Although no one clear answer was forthcoming, several facts were evident.

The first was that by and large the general performance and dedication of the people in the company was excellent. The problem was more in the area of control. As an example, our inventories and accounts receivable alone increased $40 million more than they should have. Our manufacturing overhead increased sharply, resulting in a higher cost of goods manufactured. Our factory marketing costs were extremely high in October. Parts and materials shortages slowed up many production lines, and extensive subcontracting added to our costs. Finally, the very fact that we have been growing so fast in itself added extra costs.

The real problem that we must address ourselves to therefore is how to improve the system so that these items may be brought under control — so that we can get back to the point where the hard work of HP people can really show up in the profit sharing payment. These are problems that the management team must solve, with the help and understanding of all of you.

On this note, let me thank all of you for your efforts during the year, and join Dave in wishing you all the very best for the holiday season and the New Year.
Boeblingen's Birdman

It’s a simple enough hobby that Werner Motz pursues. Foreman in the printed circuit fabrication area of the HP GmbH factory at Boeblingen in southern Germany, 25-year old Werner raises exotic birds. The 100 or so birds — chiefly parakeets — are housed in 30 cages Werner has built in his backyard. What’s interesting about his hobby, and that of many other Swabians who are native to the region, is the basis from which it apparently springs. Somewhere along the ancestral line, the Swabian fathers made a decision about the inheritance of their farmlands that differed markedly from the custom in Europe. In most countries, the eldest son became the chief heir. He got the big hunk or property which was thereby kept intact. The younger sons then rode off into the sunset in search of their fortunes. In fact, some cynical historians will tell you that the Crusades were fostered by the desire of the authorities to rid the European countryside of pesky knights drawn largely from the ranks of younger sons.

The Swabian fathers, on the other hand, decreed that each child should receive a part of the family farm. As a result, there are a great many very small farms in the south of Germany. Many of them are too small to support a living, and others are more or less backyard operations, yet often complete with goats, a cow, hens — or many different kinds of birds. As it happened, Werner’s parents did indeed keep birds — hens and doves.

Today, there’s little if any money in Werner’s hobby. But he likes to feel he is contributing to the perpetuation of some rare birds who, in turn, help keep him in touch with nature.