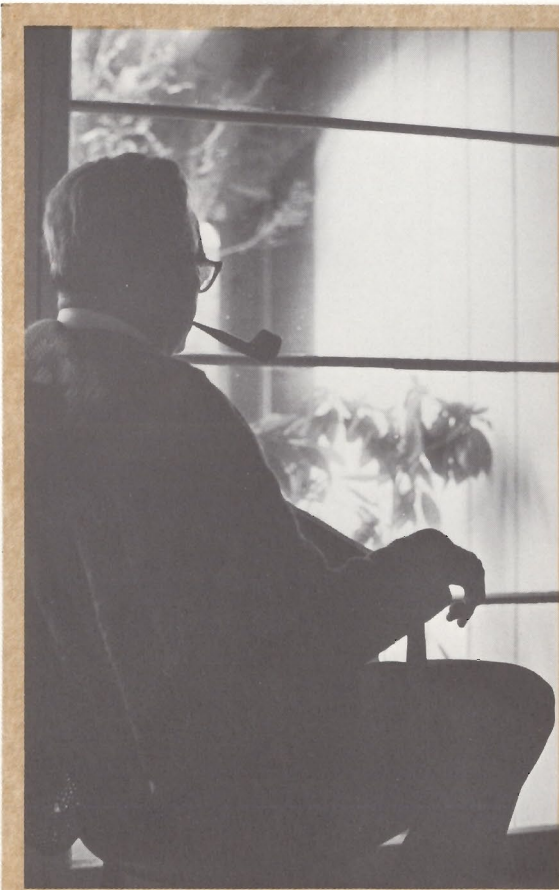




Measure

For the men and women of Hewlett-Packard/FEBRUARY 1971



RETIREMENT

Don't play it again

□ How many people do you know who regard the prospect of retirement as a dismal disaster? Probably several, at least. And perhaps you do, for yourself, too. And it's no wonder: Tales of teary farewells, strained eulogies, ill-chosen gifts (after 65 who needs a watch to watch?), and of former associates rapidly going to seed in a rocking chair—all of these ruinous ruminations have helped build a sorry image for retirement.

The HP chap who drew the cover illustration had just such an abysmal image in mind when he went to the blackboard.

And then there's the other side of the image—the huckster's—of retirement as a blessed vale of endless sunny days and secure nights, if only you would please sign here and here and here.

But now you should be able to forget all that. Those old images have been made obsolete by a new approach called Pre-Retirement Planning. It is no exaggeration to say that PRP has literally turned hard-set opinions 180 degrees around—from suspicion and antagonism to understanding and even enthusiasm—during the first two pilot programs recently conducted by Hewlett-Packard in Palo

Alto. That, of course, was the hope, the goal. The central idea of PRP is to give participants, whose ages range from 55 to 64 years, a positive sense that on reaching 65 they will be retiring *to* something, not just severing connections *from* the known world.

HP came to realize the need for something like PRP about a year ago when it looked at the numbers of people—in the hundreds—who would be entering the ranks of the retired during the '70s. These statistics made it clear that the former one-at-a-time, handle-it-when-it-happens approach wasn't going to work too well in the future. It became clear, also, as the company gained experience in retirement, that this was a very personal and emotional issue, one that needed to be handled in a professional way.

This thinking led to last July's pilot PRP program in Palo Alto. It brought together 20 employees ranging in age from 54 to 65, and their spouses if they wished. Purpose of the mixed-age grouping was to see how the various age levels reacted and to reach all of those who are already in the 55–64 age group. Eventually, the program will first be offered to those reaching 55, followed by refresher programs at 60 to 64. The first two tests were



CLUES?

Sam!

unanimously successful. In fact, in the eyes of some of the pilot program participants they were a revelation. Even the few who emerged still dissenting from mandatory retirement at 65 nevertheless had very favorable words for the program itself; they felt much better about their prospects even if they couldn't see the "why" of retirement.

A lot of planning went into the program, much of it based on findings by the Drake University Pre-Retirement Planning Center in Des Moines, Iowa.

Each pilot program consisted of ten two-hour sessions held on company time for approximately 20 people. Subjects included an introduction, financial planning, social security benefits, managing money, legal affairs, the use of leisure time and employment opportunities, health, living arrangements, taxes and company retirement benefits. Each session started with a presentation by an expert, some from within the company and others from outside, but as much as possible was directed to questions and group discussion. They soon turned into lively, pleasant meetings.

The effectiveness of PRP, however, is probably best judged by the testimony of some of the "graduates" themselves. The following are representative:



Clark Smith, inventory control, Santa Clara Division:

"What my wife and I really want to do is to convert our hobby—square dancing—into a business. I still have ten years to go before official retirement age, but with a little effort we could expand our dance classes into a living.

"My wife's the brains behind it. She keeps the books. She's the hostess. I'm the instructor. We got started by teaching just a few friends. Then the Sunnyvale Park and Recreation Department asked us to take on a class. Now we're in our eighth season and we've even given classes out of state. It's great fun.

"The program really made me think. Before that, or if we hadn't taken it, we probably would have used any spare income to go out and buy a new car. Just like we've been doing all along. But now I'm buying bonds.

"As far as the retirement class is concerned, I really think they could start even earlier than 55. My wife and I thought we had plenty of time. But from the point of view of building an estate and deciding what we were going to do we could have started sooner. Because that would have made it easier for us to consider retiring at 59 or 60."

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retirement planning

A course pioneered by HP gives veteran employees a refreshing view of retirement



Aaron and Willa Flowers, Automatic Measurement Division:

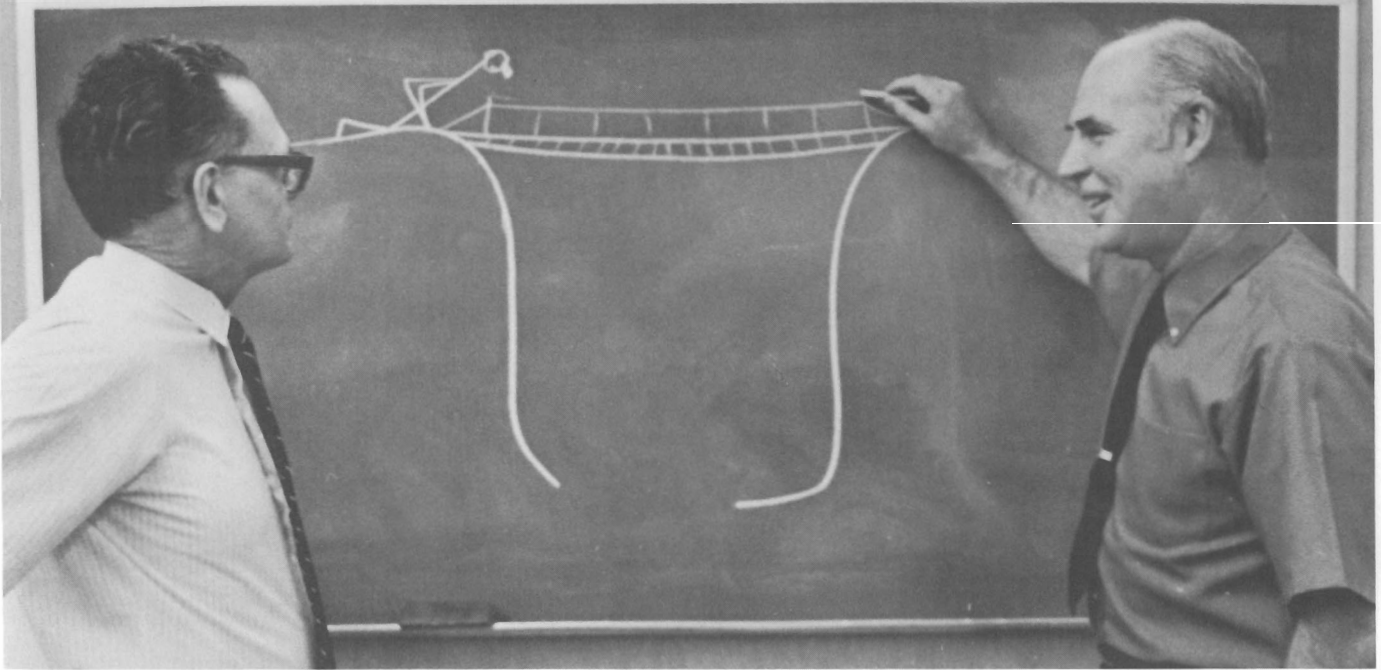
"July 2 is going to be the last payday for Willa and me. That will give me 20 years to the day with HP. Willa still has three years to go but she's going to retire the same time I do.

"So this program comes a little late if we had depended on it to tell us what to do. If we had counted just on pensions and Social Security, things would not have looked anywhere near so good.

"But we've got the income situation all planned out. I knew when I came here in 1951 that this was going to be the last company I'd punch a clock for. So we put our savings into several things—real estate, mutual funds, and even a savings account.

"But you'd be surprised at how many people don't make plans. Just don't get around to it until too late. They try to get by on a pension.

"I don't aim to ask anybody for anything. We're going to do some fishing, some gardening, paint the house, and travel around. And I'm going to come over here once in a while and see how my business is doing."



Dick Stone, materials management:

To involve participants in first retirement-planning session, Ed King, EPG employee development manager, asked them to draw their view of retirement. Dick Stone, at left, then went to a blackboard and drew the figure shown on the cover of a man fearfully looking into an abyss. King, at right, then said the course might help build a bridge to cross it. Dick now agrees that it did that:

"There I was at 57, not really wanting to face retirement. It all seemed like a long way off. I still can't imagine waking up without a job, because I enjoy my work. But in the back of my mind something told me I probably should look into the subject. So this program filled a need for me.

"It turned out to be a very solid program with lots of good information. But what pleased me most was the comraderie of the people. It was just like old friends together. All had the same comfortable feeling about the company. My wife thought it very heartening to come in contact with the people I had worked with for more than 20 years.

"Now I no longer have the guilty feeling that I should be doing something. I feel reassured on a number of points and better informed on others. And I'm looking forward to the next retirement session in a few years. I think it's quite important to go back and repeat the program at intervals just to keep up the good intentions"

Rose Carson, industrial design, Cupertino Division:

"A lot of people at first didn't understand what this course was all about. They thought it had to do with early retirement. That's not the idea at all, although I can see where it could easily change a person's mind and let him think more favorably about retiring earlier.

"Retirement used to be such a hush-hush thing. But now people seem to be ready to talk about it. The speakers at the course did a nice job in clarifying things.

"But I'm not really ready to retire yet. Social Security is almost a joke. I've been paying into it since June 1937 and it still wouldn't amount to much. But if I did retire in a few years at 62 and added it into my HP fund and my husband's retirement, we would be doing okay.

"My husband's family, now, has been very retirement conscious. It seems to me they've always had it on their minds. My brother-in-law, for example, really researched the subject and did a very good job of it when he retired eight years ago. But a lot of people have no idea where to go and just fumble around until it's on them. For them this kind of class would be a godsend!"



(continued)



Al Spear, manufacturing services, Manufacturing Division:

“Frankly, I had never made any plans for retirement. I had always enjoyed working. After 30 years with the company—I was Number 3 on the original payroll—it was hard to think of leaving. But then last June I suffered a mild stroke.

“That sort of changed the picture. But until the pre-retirement program came along I was still debating with myself about an early retirement. The class brought out some things that sounded good.

“The best part was the association of the people in the class. Their interest helped open my mind to the subject.

“It’s not going to be hard for me finding things to do. I’m a born tinkerer with all kinds of tools, and I enjoy doing it.”

retirement planning

Commenting on the new Pre-Retirement Planning Program, Bill Hewlett noted that: “In the past our pre-retirement efforts have been quite limited, due to the small number of people involved. Now our personnel population nearing or reaching retirement age has mushroomed. Among present employees in the U.S., more than 660 will reach the 65-year mark during the next decade.

“Looking at results of the first two pilot classes, I’m convinced this program will be an important benefit for all of our people.”



Harvey Zieber, corporate construction; HP Employee #1:

"It's good to get unbiased advice from experts who are not trying to sell you something. If you just take the word of your broker or insurance salesman you're only getting part of the story.

"Frankly, I think it would be a good idea to offer courses in investments for young people who are just getting going. Maybe have a short course on 'how to live within your income.' Because most people are lucky if they have even ten percent of their income to spend on themselves after paying the bills.

"The program really galvanized me into doing things I've been putting off. I'm retiring in January—going to look for a warm place to spend the winter. So I've had to take stock of things—get my house appraised, and look into the income tax situation.

"This is quite a company to be leaving. You know, none of us who were here in the 40's ever dreamed it would grow this big"

**Madeline Del Ricco, quality assurance inspector,
Santa Clara Division:**

"What do I think about retirement planning? Well, I don't particularly care about retirement—period.

"I don't want to have to retire at a certain age. I feel if you've got all your buttons and can do a job that you should be able to continue. Why just go by age?*

"But as far as the pre-retirement course is concerned, I liked it. There were lots of good ideas brought out. What I think I'll do is take a course in something like travel work, or real estate or motel management—something that will keep me busy."

**This question was answered by Bill Hewlett who informally stopped by during one session of the first pre-retirement course. He responded to the effect that some method or standard of retirement is needed. No doubt that age 65 itself is an arbitrary standard, since many people reaching 65 are mentally and physically young while others can be quite "old" by 60. Unfortunately, no one has come up with a satisfactory alternative.*



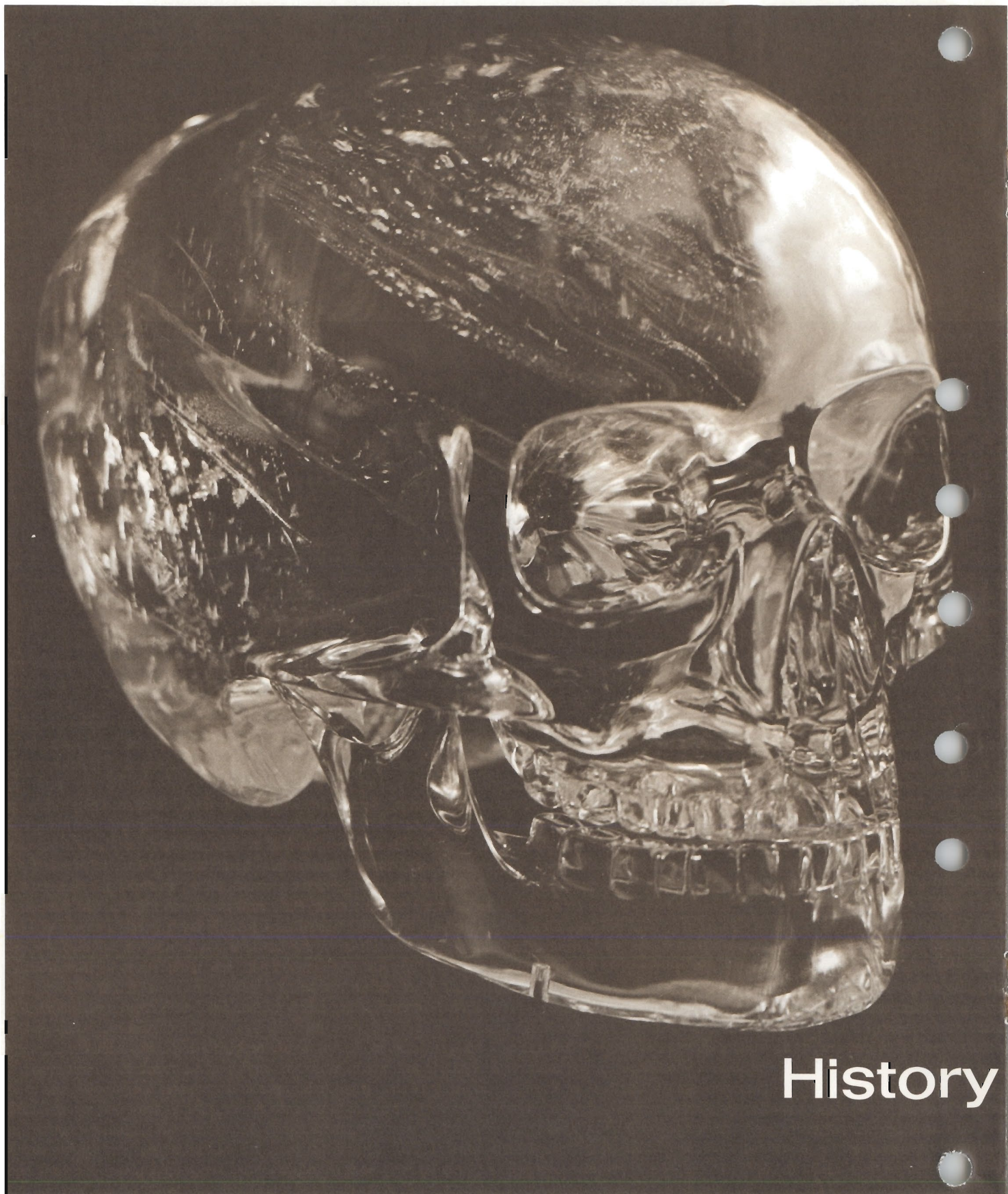
Christine Longfellow, secretary, electrosensitive paper area:

Christine: "My husband, Roy, here can tell you about some of the problems of retirement. He's been at it four years."

Roy: "I can tell you that the rains in December really showed me how inactivity can get to a person. I'm used to about three games of golf a week. It was terrible waiting for a good day. I found out another thing. When I was working, Christine was working, too, but also she kept house and tended the garden. When I decided to retire I found out just how much work there was to do.

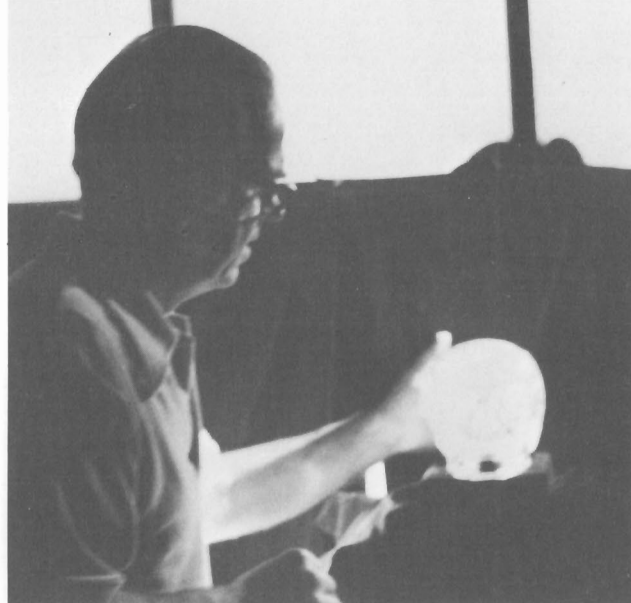
"We can also tell young people—particularly married couples used to two salaries—that Social Security and Medicare and pensions are not going to take care of them in the style they might like to maintain. Most people spend their earnings as they go, but they won't have nearly as much to spend if they don't make plans."

Christine: "Fortunately, my hobby has been the stock market. I'm a chartist. I buy and sell by my own charts. Been doing it since HP went public 13 years ago. The retirement program should be an alert to many people to look into their resources—before it's too late."



History

Frank Dorland, keeper of the Mitchell-Hedges skull for a number of years, demonstrates its prismatic qualities. Dorland has advanced many of the far-ranging theories concerning the skull, including the belief that it originated in China, Tibet or Egypt, then was transported by ancient sea-goers to South America by way of Atlantis. The skull is now back in possession of Miss Mitchell-Hedges who discovered it under a ruined altar in an abandoned Mayan temple in British Honduras in 1927. Its sale price to museums is said to be \$250,000 but it also is described as "priceless".



Santa Clara's crystal lab helps tackle the case of the hard-headed Honduran...

□ Let the doors squeak, the shutters rattle, the curtains shake, the cats run, the dogs whimper, the bats flutter, the mists swirl and the moon blaze. Ignore the heavy footsteps in the hall, the creaking stairs, the labored breathing beyond the door. Listen, instead, to a tale of true mystery involving prehistoric cults, lost civilizations, the "granddaddy of all crystal skulls," and some scientific sleuthing by members of the HP crystal lab at Santa Clara Division.

Centerpiece of this tantalizing tale is a clear quartz crystal sculpture the size and shape of a human skull estimated to be as much as 120 centuries old. Known as the Mitchell-Hedges Skull, after the name of its discoverer, it is an object of fantastic sculptural perfection. No other quartz crystal sculpture approaches its quality; even the British Museum's crystal skull, discovered in Mexico in 1889, is classed as a "rough cut" in comparison.

The now-elderly owner, Anna Mitchell-Hedges, discovered the mysterious skull in 1927 on an expedition with her explorer father to the ruins of a Mayan Temple in British Honduras. The two-part sculpture—head and detached jaw—lay under a collapsed altar. Since then, it has alternately been under study or in safe keeping, most recently in a house on the slopes of Mount Tamalpais to the north of San Francisco. Here, in the temporary custody of a free-lance art conservator and restorer named Frank Dorland, it came to the attention of Dick Garvin, writer

and supervisor of the Hewlett-Packard advertising account at the San Francisco office of Lennen & Newell. In a co-authored new book titled *"The world of the twilight believers,"* Garvin discussed the other-worldly aspects of the skull in one of the chapters on far-out phenomena. Then he arranged for Dorland to bring the skull to the HP Santa Clara lab in order to test certain theories and speculations about its composition.

The lab, of course, is exactly the right place for testing quartz crystal. That is one of its day-to-day occupations. Its major mission, according to Jim Pruett, components manager for the Frequency Standards team, is the production of precision quartz oscillator crystals used in HP oscillators and quartz crystal thermometers. The lab purchases raw one-pound Brazilian crystals and, with the aid of many skills, converts them into gold-plated wafers that vibrate at a precise frequency.

For the Mitchell-Hedges skull the lab performed two significant tests. Submerging the sculpture in a bath of index-matching fluid, and viewing it under polarized light, the lab people first determined that it was almost certainly a single crystal of quartz, rather than a composite of three crystals as Dorland had suspected. Next, they probed the lower-jaw question. Was it originally an integral part of the crystal? The orientation of its X-Y axis and the "veils" revealed by the polarized light showed that it had indeed come from the same crystal.

These findings raise again many of the same questions that have followed the skull-shaped rock crystal since its discovery—or rediscovery—in the ruins of Lubaantun.

Where did it come from? Is it phony or for real? Some experts assign its origin to various Central American civilizations including the Aztecs, Mixtecs or the Olmecs. Dorland suggests it may have come from Egypt, Tibet or China, and may have been roughed out as much as 12,000 years ago. How then did it come to British Honduras?

Dorland believes the skull originally was used in prehistoric religious ceremonies. At that time it resembled the

(continued)

or hokum?



Jim Pruett, components manager on Santa Clara's Frequency Standards team, reviews one of the polarized-light setups used to test the skull. Later, the quartz crystal object was immersed in an index-matching fluid that allowed polarized light to reveal veils and crystalline structure.

The Mayan mystery head attracted lively attention among Santa Clarans during its two-day stay there last December. Tests run in the division's crystal lab help establish its composition. It was found to be a single quartz crystal. It was also determined that the detached jaw came from the same crystal. But other mysteries surrounding its origin remain unsolved.



history or hokum?

British Museum work, its jaw attached, its workmanship less finished. Later, sea-going Phoenicians brought it to Central America, perhaps even by way of the lost city of Atlantis. Mayan or Aztec craftsmen then detached the jaw so that it could be animated and made to serve as an oracle, dispensing judgments from atop a trick altar. This fateful role was enhanced by the prismatic qualities of the skull; flames or light placed under or behind the skull are projected eerily through the eye sockets.

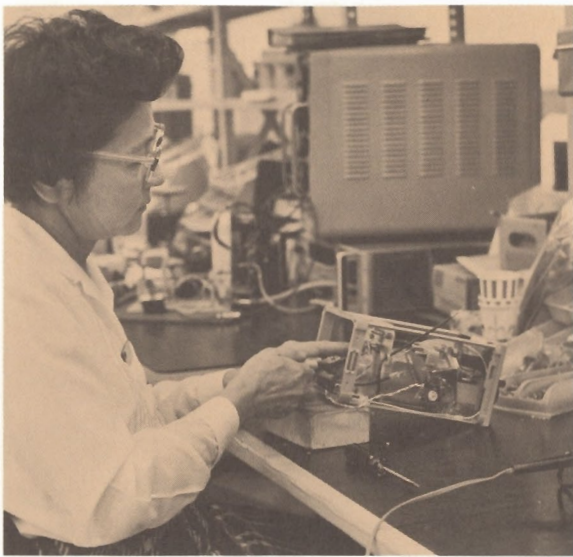
If it is phony, it's a very artistic one. Quartz crystal is an extremely hard material—hard in the sense that a diamond is hard, and hard to work with. The size and clarity of the 11-pound, 7-ounce Mitchell-Hedges skull made it a rarity. The workmanship is exquisite, a com-

pound of patient hand crafting (using sand and water to smoothly abrade the rock) and technical precision requiring an estimated 300 man-years of effort.

"One of our guys kidded that he might be able to duplicate it if you gave him a year and \$100,000," said Jim Pruett.

"There's no way of proving its age. A lot of the occult aura—tales of mystery and evil—that have sprung up around it could easily come from its eyes. By shifting a light source or when an observer moves his view even slightly, an infinite variety of refraction patterns can be seen. They could be quite hypnotic.

"I look on it as a very beautiful work of art irrespective of its age or authenticity. There's no denying that!" □



□ At a time when HP business in the U.S. markets is slow, why would a domestic division permit and even encourage the production of its products outside the United States?

For that matter, why do so any time? Doesn't this activity — known as parallel production or instrument transfers — take the bread right out of our domestic mouths? Isn't it coddling the overseas plants? Couldn't we do just as well producing everything "at home"?

Rather than simply saying 'yes' or 'no' to these points, let's hear from several of the people who have had a close association with product transfers and who in some cases have helped set or influence transfer policy:

Partners in production



SANTA CLARA—SOUTH QUEENSFERRY: Santa Clara frequency counters are now produced in three overseas locations—West Germany, Japan, and Scotland. In some cases, the counter mainframe sales have as much as doubled because of the more competitive pricing allowed by local production abroad. U.S.-produced plug-in unit sales have grown equally, adding a major increment to HP exports.

In photo at top, Santa Clara's Betty Furusho assembles frequency converter unit; above, Cathy Morton of HP Ltd. assembles 5245L transferred from Santa Clara, which still furnishes key parts and components.

George Newman, general manager of Cupertino Division,* believes a very strong case can be made that our overseas manufacturing of transferred products has created more U.S. jobs than would otherwise exist:

"Let's begin with the simple fact that those product lines doing best internationally include some transferred instruments. While no one can actually pin this to transfers, we do know that transfers give the local overseas sales force an important entree in selling our other instruments. It's the flywheel effect—by improving our chances of selling product 'A' through its transfer, we stand a very good chance of improving the sales of the 'B's, 'C's and the 'D's. Since the establishment of YHP in 1964, for example, our sales in Japan have increased more than ten times.

"As a matter of fact, our total sales overseas have grown more rapidly than our overseas divisions. Obviously, our greatest growth has been in exports from the U.S. divisions. This trend continues, and in my mind transfers have served as an important catalyst. And with sales down in the U.S., it's a good thing we have that business now."

Ray Deméré, operations manager for the Electronic Products Group, looks at product transfers with the view of one who has managed both an overseas division (HP-GmbH) and a domestic division (Loveland):

"The question of transfers, of course, is part of the broader question of why we manufacture overseas. To become a world-wide company, we decided to establish HP field sales forces in the major countries, and to establish manufacturing plants in each major market to provide better customer service and support, and to better penetrate these markets.

"Transfers were heavy initially in order to increase the

(continued)



partners

BOEBLINGEN—COLORADO SPRINGS: Colorado Springs oscilloscopes are now produced in the HP plants in Scotland, West Germany and Japan, and are continuously challenged by competition in almost every country. Parallel production of scopes has helped the company improve its position in these markets. More than \$3-million in labor, parts and plug-in were shipped from Colorado Springs last year to support this activity. At left, Hilde Born of HP GmbH assembles 1821A scope; at right, Jean Jones of Colorado Springs checks glass used in cathode ray tube production. CRT's are an important export item for the Springs.

sales of selected products in the new market and to build up production capabilities. Shipments of transferred products, in turn have supported the engineering development of proprietary products by the new overseas divisions.

"Originally, before divisionalization within HP, the responsibility for world-wide product marketing was held by corporate management. In recent years, this responsibility has been taken on by the divisions as they were formed, with product transfer decisions being worked out between the divisions and the overseas regional marketing managements.

"The calculator has been a good example of this philosophy. Before the introduction of the 9100, Europe was recognized as a potentially strong market. So immediately after its first shipment, Loveland decided to transfer production for that market to HP-GmbH. The final marketing and engineering responsibility remained in Loveland, but the team effort proved very successful.

"In the Japanese market we were selling only a few HP calculators a month because, according to government regulations, our machines were classified as computers and thus subject to stringent import controls. Within two weeks after making the transfer decision, YHP was shipping 9100A's that had been delivered in kit form from Loveland, and within several months were in production. Subsequently, calculator sales in Japan have increased rapidly.

"Recent changes in accounting procedures have made it more attractive for a division to transfer some of its products. Under the former system, a production transfer also meant a transfer of profitability. The new system evaluates performance of each division, whether U.S. or overseas, on a world-wide production responsibility basis, and encourages each general manager to maximize sales and profits, with the world as his market place."

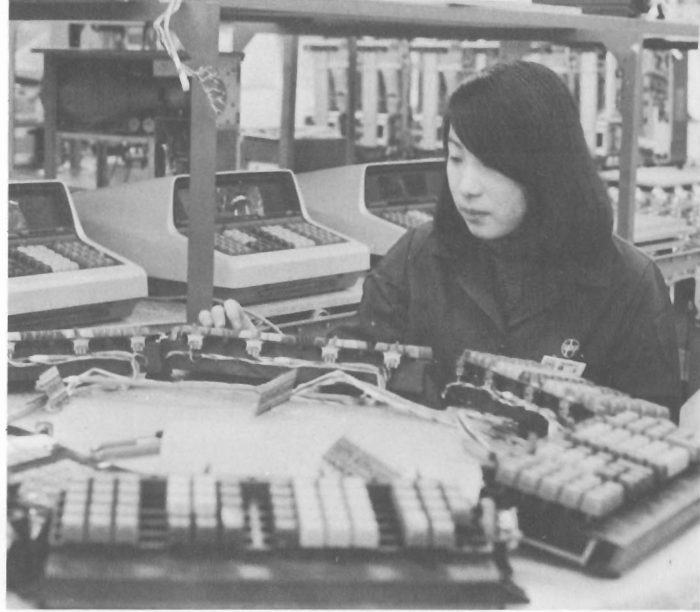
Karl Schwarz, manager of new business development for International Operations, said the main reason product transfers are requested by the overseas divisions is to anticipate heavy local competition.

But there are other benefits: "These arise from a combination of factors. Savings on freight and import duties, which typically run from 15 to 20 percent, can be made by shipping in key parts and components rather than finished instruments. The enthusiasm of the local sales people is raised because they feel they have a local product to sell. Customer service is improved because complete parts are available along with fully trained people and test equipment.

"One obvious aim of transfers is to meet the 'buy local' regulations and sentiments. By the way, this works both ways. Just recently, for example, the U.S. Bell System was in the market for some microwave link analyzers. Ours are manufactured in our Scottish plant where the MLA was developed. So, before Bell placed the order, it first checked to be sure that none were available from U.S. producers. Had there been U.S. competitors, we may have had to transfer production of the Bell System order back to one of our U.S. plants. I expect we'll see more and more transfers to the U.S. plants of products developed abroad.

"Building up the overseas divisions also lessens opportunities for local competition, generates local-language manuals and sales support, helps meet local power line requirements, and allows more flexible local prices and better delivery.

"On the other hand, transfers should not be made blindly. For one thing, the overseas divisions simply do not have the ability to absorb too many transfers. In fact,



LOVELAND—TOKYO: HP calculators are now produced in two overseas plants as well as at Loveland. Since the transfer to Boeblingen in mid-1969, sales by the European Sales Region have more than doubled and now represent a substantial portion of the total calculator sales. In Japan, sales of calculators have increased eight-fold since start of local production at YHP. Use of U.S.-produced parts and peripherals has increased almost four-fold.

of the 2,647 products we list, only a small share—less than 10 percent—are involved in transferred manufacturing activity?”

Paul Ely, general manager of the Microwave Division, takes the view that product transfers should be considered as just one alternative among a broad range of possibilities for reaching world markets: “One direction we feel encouraged to follow is that of making marketing transfers. That is, to ask the overseas divisions to assume total marketing responsibility in their market for a product line—in effect, a marketing transfer. Along with this we could transfer manufacturing responsibility for a key product in that line—perhaps a product involved in every sale.

“Giving the marketing responsibility to an overseas division means we should actually discount the transfer price in order to provide some local resources and value-added profit. They would conduct such marketing activities as local advertising, translating data sheets and manuals, product control, market forecasting, and even some local applications work. They would order from Microwave on a master-schedule basis just as they would from their own factory.

“It seems to me that this approach could give us a number of the advantages of production transfers for a whole product line without taking on all the costs involved. Since some of the value would be added at the local overseas plant, the import price might be lower. This would give us a chance to offer more competitive prices.

“The overseas divisions have reacted very favorably to this concept. It’s not new—except in the strong emphasis we’re giving to it.

“Actually, we need to come up with a stable of al-

ternatives so that each product can be evaluated against a much wider range of choices, and the total cost of one way versus the other ways made clear. This would permit better decisions.”

Bill Terry, new general manager of the Data Products Group,* said a significant change has gradually evolved in his division’s attitude toward transfers in the past few years:

“Previously there was almost a barrier between the domestic and overseas divisions. A product was transferred from the U.S., and then it was pretty much a sink-or-swim proposition overseas. Today, we are tremendously involved with all three overseas divisions because of the highly competitive worldwide market for scopes and pulse generators. Our basic aim is to increase sales of our products thus maximizing profits for the company. To do this, we must utilize all of our resources cooperatively and employ all of the strategies available to us.

“The strategy of product transfers has been a very effective one for our product line. I’m sure our figures would show it has brought the company significant new business.

“There are some important ramifications to this strategy. Because of the heavy involvement of our product lines overseas, for example, our managers here have to accept responsibility for carefully balancing the distribution of effort between facilities to achieve the desired overall result. Another aspect has been the start of cooperative R&D efforts, notably in pulse generators at our Boeblingen, West Germany facility. It’s been very successful from our point of view.

“The truth is, we are in business on an international scale, and we need to make decisions on that basis.” □

*General manager of Colorado Springs at time of interview.

News in brief

Palo Alto — Bob Boniface, vice president of marketing will join the office of the president and assume many of the duties formerly held by the late Noel Eldred, HP President Bill Hewlett has announced.

Boniface will continue as vice president of marketing, with responsibility for all marketing-related activities including policy, strategy, pricing, customer service, training, marketing communications and government relations.

Hewlett said Boniface's general areas of responsibility in the office of the president would be concerned with the external operations of the company. Exceptions would be the corporate public relations and corporate planning functions which the president would direct. Executive Vice President Ralph Lee will continue to have direct responsibility for the company's internal operations.

Palo Alto — Carl J. Cottrell, formerly Data Products group manager, has been named deputy director of the company's international group.

In the newly created position, Cottrell will assist Bill Doolittle, vice president of the international group, in the overall management of the company's activities outside the United States.

"The creation of this position reflects the increasing importance of our international activity, which now accounts for more than 40 percent of the company's business," President Bill Hewlett said. He added that Cottrell's appointment "provides greater management flexibility and top level direction to this area of significant growth for the company."

Bill Terry, formerly general manager of the Colorado Springs Division, will succeed Cottrell as manager of the Data Products group. Included in this group are divisions producing HP computers, calculators and various other data processing equipment.

George Newman, formerly manager of HP's intercontinental operations, was named general manager of the Cupertino Division. He succeeds Tom Perkins, who recently was named director of corporate development.

Hal Edmondson, formerly marketing manager of the Colorado Springs Division, was named general manager of the division, succeeding Terry.

Cottrell joined HP in 1952 as a test engineer. He later served in the corporate marketing department and was named managing director of Hewlett-Packard S.A. in Geneva, Switzerland, in 1961. He became manager of HP's eastern sales region in 1965 and data products group manager three years later. He is a graduate of DeVry Technical Institute.

Terry joined the company in 1957 and held a number of positions in training, sales and corporate marketing before being named marketing manager of the company's Colorado Springs division in 1965. Two years later he became general manager of the division. He is a graduate of the University of Santa Clara.

Newman joined HP's corporate accounting department in 1957. He then held various management positions in England and Switzerland until his return to the U.S. as corporate assistant treasurer in 1963. In 1965 he was named vice president of Yokogawa-Hewlett-Packard, Ltd., in Tokyo. Three years later he became international administrative manager, and in 1969 was named director of intercontinental operations. He is a graduate of Menlo College School of Business Administration.

Edmondson joined the company in 1954 as a development engineer in the Microwave division, and was made division production manager in 1961. In 1963 he became pulse generator and sampling manager of the Colorado Springs division and division marketing manager in 1967. He is a graduate of the University of Kansas and holds a M.B.A. from Harvard University.

Palo Alto — Tom Perkins, formerly general manager of the Cupertino Division, has been named director of corporate development.

In the newly-created position, Perkins will be responsible for evaluating potential for additional growth

in HP's present fields, and developing plans for entry into new fields. He will report to the office of the president. The office of corporate development will incorporate the existing corporate planning function.

Palo Alto — The Hewlett-Packard board of directors has elected two new directors.

They are Dr. Robert J. Glaser, vice president of The Commonwealth Fund, New York City, and Bill Doolittle, vice president of the company.

Prior to joining The Commonwealth Fund last September, Dr. Glaser was vice president for medical affairs, dean of the School of Medicine and professor of medicine at Stanford University.

A native of St. Louis, Missouri, Dr. Glaser received his S.B. degree from Harvard College and his M.D., magna cum laude, from Harvard Medical School.

After his postgraduate training, Dr. Glaser held medical, educational and administrative positions at Washington University, the University of Colorado and Harvard University. He has also served frequently as a consultant to medical schools and national agencies throughout his professional career. He has published extensively in the fields of medical research and medical education, and is the Editor of The Pharos, the publication of Alpha Omega Alpha Honor Medical Society.

Bill Doolittle joined Hewlett-Packard in 1947 as a production engineer and later became supervisor of prefabrication and machine assembly. From 1959 to 1961 he served as managing director of Hewlett-Packard S.A., the company's European subsidiary. Upon reassignment to Palo Alto headquarters, he was appointed manager of international operations and, in 1963, was named vice president in charge of international operations.

Doolittle is a graduate of the College of San Mateo. He is a registered professional engineer in the State of California and a member of the Institute of Electrical and Electronics Engineers.



From the president's desk

I always enjoy my January visit to the European managers' meeting in Switzerland, even though it is not the best time of year for travel plans. For these meetings Dick Alberding, who is the manager of HPSA, pulls together the top marketing people from all over Europe as well as the key people from our plants in Queensferry and Boeblingen. There is always a dynamic atmosphere about these meetings due to the continued rapid rate of growth of our European market. For instance, our European sales grew last year about 35 percent. Growth rates of this nature force rather drastic changes in marketing structure to insure that we are really properly handling this high level of business activity.

As an example, last year Fred Schroeder, who had been manager of our plant in Boeblingen, moved to Geneva as the head of all data products activity for Europe. As such, Fred reports directly to the Data Products Group in the U.S. More recently, Chuck Williams, a Canadian, has been appointed the European manager for the Electronic Products Group.

One result of rapid growth is that Europe may now be partly thought of as a fifth sales region (the four others being those in the United States). In this regard it now would be larger than any single U.S. region. Here, however, the similarity stops, for this European market is broken up between many countries. As an example, we have HP sales offices in 12 different countries of Europe, and representative structures in at least four others. In addition, from our base at HPSA, we are now expanding our activities to cover the tier of countries in North Africa and the Middle East, extending from Algeria to Iran.

I think that I am as much impressed by the calibre of people that we have working for us in Europe as I am by the size of the market and its growth potential. Indeed, I believe these two factors go hand in hand. Europe is and will continue to be a very important area in HP.

Bill Hewlett

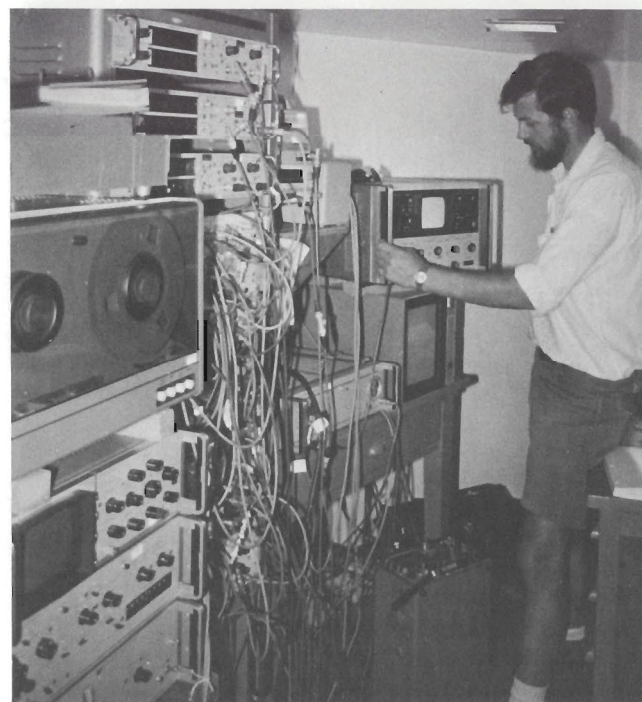
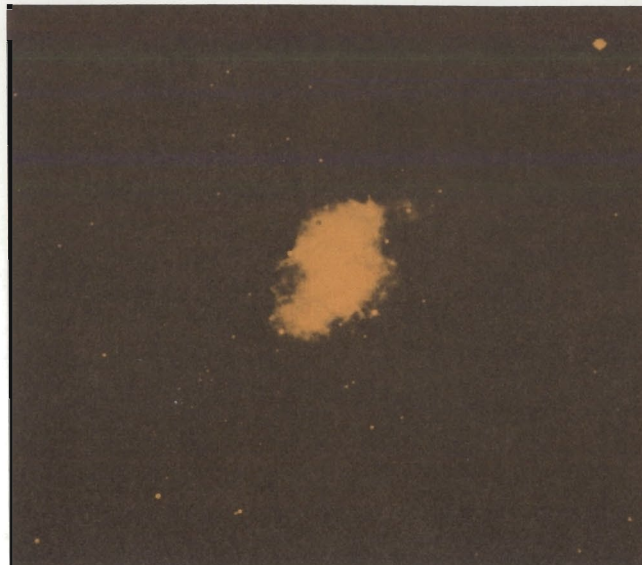
Taking a dying star's pulse

You might well wonder at headlines such as "Quakes 'sighted' on a Pulsar." Science is marvelous and all that, but do astronomers really expect us to believe they can detect such remote phenomena as an earthquake on the surface of a rapidly rotating small object 6,000 light years (roughly 35,000,000,000,000,000 miles) from Earth?

Yes, and in doing so they necessarily point to the role of electronic instruments, many of them of Hewlett-Packard origin. Pictured at right, for example, is a University of California astrophysicist, John Saarloos, setting up an HP Correlator in preparation for a night of measuring signals from the Crab Nebula pulsar. The desk-top correlator has a built-in computer that can locate weak signals by making thousands of comparisons until it finds similarities. The HP signal averager is another tool of the modern astronomer. It can extract an otherwise lost signal from surrounding noise by algebraically adding together many weak signals. The positive and negative elements in the noise tend to average or cancel themselves to zero. Meanwhile, an HP atomic clock, or cesium standard, helps the signal averager lock precisely onto the repetitive weak signals, and allows timing of the exact arrival of the signal. Many other HP instruments are in supporting roles.

But what about that quake? Well, the U.C. star watching colleagues came to this theory by first noting unexpected changes in the signals received from the Crab Nebula pulsar, believed to be the dense remnants of a burnt-out star or super nova rotating about 30 times a second. The astronomers theorize that the tiny change occurred when a loss of internal energy by "burning" or volcanic action, caused the outer shell to collapse, thereby slowing the pulsar's rotation—and its signal.

Now the team of young U.C. scientists, joined by contributors from Columbia and Princeton, are focusing their instruments on a phenomena known as M101. It's a newly formed supernova 1,000 times further out than the Crab Nebula. Now that's really spaced out!



Measure

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