Training of a Salesman:

- "...and for a salesman, there is no rock bottom to the life. He don't put a bolt to a nut, he don’t tell you the law or give you medicine. He’s a man way out there in the blue, riding on a smile and a shoeshine..."

The rumpled image of Willy Loman, as eulogized in Arthur Miller's *Death of a Salesman*, has become a classic—a man on whom life and customers suddenly stopped smiling.

One character in the play suggests it was because of such things as spots on the hat—the loss of appearance. Another says that Willy had the wrong dream.

But the chances are that if Willy Loman had passed through Neophyte Training, Sales Sonics, weeks and weeks of new-product seminars, months of in-the-factory training, and a year or more of exposure to customer applications and problems—on top of a technical degree and a high grade-point average—he just might have made the grade as a candidate for field sales engineer.

Greg Michels, now electronics systems engineer at the Neely Palo Alto office, is one such candidate. He has all of those things that Willy never had—the training and the direction. The fact that Greg was one of the first sales trainees taken straight from college, and one of the first in the instrument group to enter directly into specialist training, doesn't change the fact that his training is quite typical in quality and intensity for HP.

Even as long ago as 1964, the *Wall St. Journal* wrote that: "Hewlett-Packard's products are among the most intricate scientific instruments known. So its salesman are hardly ever the jovial back-slappers of business tradition; they're engineers rather than drummers, and it often takes considerable schooling to know what on earth they're talking about." With more sophisticated instruments and computer-based systems, that's even more true today.

The way *MEASURE* "chose" Greg as the subject of this sales training story tends to support that point. It was not a case of asking for the star candidate and then holding him up as "typical." On the contrary, *MEASURE* set out to find a sales trainee of whom—for a start—there was a good photographic record to offer. Neely's Bob Reade dug into his photo file and came up with G. Michels, 23 years old, single, 1969 EE graduate of San Jose State College, son of a woman who had worked as an HP secretary eight years ago, specialist through training in Microwave's automatic network analyzer system and other systems—and candidate for field engineer. But see for yourself his qualifications and progress toward that goal:
Attracted to engineering at the age of 10, Greg Michels gradually changed his interests during college years from designing circuits to working with people—using his technical background to help solve problems. HP was one of 20 companies to interview him. In fact, says Greg, other companies offered more money: "But by then I was sold on Hewlett-Packard—from the things my mother used to tell me about it when she worked here, and from my conversations with guys like Jim Hodel of Customer Service, and George Combs of Neely. Everybody I talked to had so much pride in the company!" Joining HP in February 1970 and fresh out of San Jose State where he was graduated third in a class of 300, Greg soon found himself back in a classroom. Here he was introduced to salesmanship, order processing, product lines, and HP organization and philosophy. Photo shows Greg (left), with his then fellow neophytes John Borrione, Bill Huselmire and Doug Walker receiving product information from Don Williams, Neely senior staff engineer for medical and analytical products. Then it was off on an extended program of training in their various product assignments.

than a smile and a shoeshine
Among the attractions in HP for Greg was the opportunity to train as a specialist in the relatively new field of instrument systems. Following general indoctrination, he put in six months with Microwave Division for intensive training in microwave automatic systems. Here he is shown with a group of engineers discussing the recently developed 8580A automatic spectrum analyzer featuring the HP 8500A graphics terminal. Standing from left are: Reed Ogden, Bill Ray, Joe Mello, and Greg. Seated are Pete Showman, Wes Wickham, and Mario Beauchamp (from Puerto Rico). One interesting aspect of Greg's assignment was that he got to write his own job description in which he outlined the role of the regional expert for microwave systems.

One of Greg's first opportunities to meet customers came when he was asked to demonstrate the new low-frequency automatic spectrum analyzer aboard a Neely mobile lab bus. According to Bob Martin, Neely regional sales manager for systems, formal training is now just about over for Greg: "However, there's always something new to learn around here, especially in the systems business. So he'll still be spending a fair amount of time this next year learning the other HP systems products. But it will be mostly a case of learning through involvement and problem solving. The real challenge—for us—is to keep these fellows like Greg challenged!"
After completing his half-year factory stint, Greg was assigned to the Neely Palo Alto office. Here his training began to pay off as he changed from student to instructor. The more than 25 network analyzer systems in the region also helped to keep him very busy assisting customers in usage, programming and problem solving. But his training continued with new product seminars, more involvement with the other systems-oriented divisions, and—coming soon—the well-known Sales Sonics course. “To this point,” he said last month, “about 60 percent of my time has been spent in training. But now the technical stuff is beginning to taper off, while my involvement with customers and with problem solving is growing.” Here Greg confers with Tom Gautsch, systems sales engineer in the Palo Alto office.

Much of Greg’s office time is spent configuring and quoting systems for field engineers and their customers.

Today, a year and a half after joining the company, Greg is frequently called on to help train customers in the use of systems. For example, at the General Dynamics facility in Pomona, California, he spent several days instructing customers in programming their 8542A automatic network analyzer. His past training and his increasing responsibilities point most clearly toward the next likely step in Greg’s career: systems field engineer. But beyond that are other possibilities—product marketing, management in the sales organization, or maybe even going into business for himself sometime. Meanwhile, he expects to begin studying for an MBA degree, the better to equip himself for any of these possibilities. Training and challenge, it’s clear, are not things that have finite endings for HP field sales people. They would seem to be a way of life.
Now it's "Caveat venditor"
Out "there" in consumer land, the warnings are being sounded—by committees, caucuses, legislators, government agencies, news analysts, ad hoc public service investigators, and even by stockholders: "Let the seller beware!"

Insurance men warn that product liability cases are rising rapidly in number and in the odds against corporate defendants, and that it is no longer necessary for a plaintiff to prove negligence.

A national public relations organization warns that product and service organizations are now working "in a fishbowl:"

A federal official warns that the outlook is for more and more consumer protection legislation.

So? Should HP worry?

Not long ago, that question—if it even got raised—would have been relatively easy to answer: HP took good care to meet the needs of its "consumers." In the hands of these technically sophisticated people, Hewlett-Packard instruments easily met the accepted standards for safety.

But it's just not that simple anymore. The company's own growth into new markets with new product lines has brought on much greater involvement with people less qualified to evaluate and avoid electrical hazards. These new consumers include hospital people and their patients, secretaries and civil engineers, chemists and mathematicians, EDP operators and programmers, and teachers and students from grade school to graduate school.

Thus, Hewlett-Packard is now very much concerned when a medical writer discusses the hazards of electrical shock in hospitals. Or, when a general safety standard for electronic equipment is questioned—such as how much leakage of current to earth is safe?—or, what level of microwave radiation can be accepted?

To come to the point, what is the company doing to insure that its products offer maximum safety?

It turns out that HP is doing quite a few specific things, together with others that might generally be classified as "human factors" engineering and design.

As might be expected, considerable emphasis has been put into the safety of HP medical products and the training of medical users in safe handling. A good part of this effort is suggested in a recently published Medical Division brochure titled "Patient Safety:" It describes how electrical hazards develop in hospitals and how equipment and environment can be designed to minimize the dangers, particularly to patients who are being monitored with internal electrodes. It also outlines HP's engineering efforts in these areas, such as the design of isolated patient circuits. Another approach has been through "fail-safe" loops in monitoring equipment, loops that insure that an alarm system will function when it should.

The medical products division at Waltham can also look back on years of involvement aimed at helping to improve the endangerment of the patient and operator.
develop uniform standards of safety on which bodies such as Underwriters' Laboratories and the American Medical Association can agree. Now this is close to realization. HP people including consultant Dr. Arthur Miller have been very active in this effort.

Still another tack—not confined to medical products—is through design features. The latest venture along these lines is an ingenious, patented cart wheel that “skis” easily over cables. A Corporate Industrial Design project, it could go a long way in reducing the occurrence of overturned equipment, spilled materials, and staff injuries.

Data products represent another area where a high priority has been given to safety. The priority is based on the increasing exposure of these products to the general public. Desktop calculators, for example, frequently are used in homes, creating the chance that a child might test a cable plug with its mouth. Without the design precautions HP has taken, the child could be hit by a jolt accumulated in the power supply.

A new power module will soon provide an extra measure of safety for HP instruments. The unique new module requires the user to remove the AC connector before attempting to change a fuse, thus eliminating the possibility of contacting the fuse connector while it is “hot.”

According to Al Inhelder, chief of Corporate Industrial Design which developed the module, safety is a major consideration in human-factors engineering. It may begin with such measures as rounding the corners of instruments to reduce the likelihood of cuts and tears. This may seem simple enough, yet it often involves extra manufacturing steps and costs. But this has been done.

Even the design of an instrument’s front panel—putting the knobs where they logically go according to function, and uncluttering the appearance—can be viewed as a blow for safety. Certainly, the nurse rushing to hook up an emergency patient in an intensive care ward doesn’t want to have to think about the electronics involved; she just wants to react, and she wants the equipment to operate with minimum fuss. The same applies to the technician running a production-line test: the less he has to worry about the complexity of the instrument, the “safer” will be the results for all concerned. HP has mounted a major effort along these human-factor lines in all product areas.

Safety is also an important consideration when materials are being selected for a product. The company’s materials engineers have set very high standards for the insulating properties of wire, and the heat resistance of other items. The latest example of this is the HP calculator cart: even a blow-torch won’t cause it to flame.

Through Aubrey Smith, Corporate Manufacturing Engineering, the company has been involved in a world-wide effort to define and establish safety requirements for electronic measuring equipment. One task was to locate plugs and outlets that could be used in HP products regardless of the user’s power-line voltage. The major effort has been to reach international agreement so that products could float freely and interchangeably in world trade.

The company is involved in similar programs in other areas. In the past, for example, HP has not been formally allied with the U.S. Electrical Code, the Underwriters’ Laboratories standards, or the IEC (International Electrotechnical Commission), although it has maintained very high standards of its own. Now, we recognize that conformity to such national and international standards is becoming more important.

Accordingly HP is embarking on a UL listing program as new products are invented or as they become more involved in the new “consumer” markets.

It all gets back to the fact that more and more of these products are exposed to people who wouldn’t know a Wein bridge from the Golden Gate.

How times have changed.

...seller beware

Although HP products always have been designed to very high safety standards, the company has participated only to a limited extent in such code-setting and monitoring groups as Underwriters’ Laboratories. Now, however, more and more customers need UL listing for the electronic products they sell to cities and other agencies that insist on conformity. The company is responding to this situation by a program having the eventual aim of company-wide participation. The new 7970B digital tape transport now in full production at Mountain View is the first of HP’s data products to be granted recognition under the component program of Underwriters’ Laboratories. According to Jim Gillette, QA manager who is presently responsible for monitoring the Mountain View program, the recognition process turned out to involve much less effort and expense than expected, because it was part of the design team thinking from the start. Doug Hanson, digital tape product manager, said that UL “recognition” is particularly important to OEM customers who plan to incorporate such products as part of their end-user systems. In turn, it is then easier for the OEM to obtain UL “approval,” providing no significant modifications are made to the various recognized OEM components. Pictured in this view of the 7970 production line are, from left: Roy Chitwood, Mike Byrne, Gary Bullen, and Vic Hanson.
The new HP power module seen in the instrument at right is scheduled to replace the system at left. An obvious benefit is the considerable reduction in size and area required, but the main feature is improved safety. To change the fuse of the new module, for example, the power cord has to be disconnected before the fuse can be reached, thus minimizing the hazard of electrical shock. The cover’s transparency allows easy inspection.

Safety is more than a matter of protecting against electrical shock. It is also concerned with reducing the opportunity for errors in the operation of equipment. Al Inhelder, manager of Corporate Industrial Design, demonstrates this approach with a hypothetical design of a signal generator front panel. As his hands emphasize, the principal functions—in this case, frequency, modulation and attenuation—are grouped in sequence of their use. Their locations and relationships would be easily remembered by the user. This kind of "human factors" design now has a high priority in all HP products.
But, at heart, they are artists...

They are secretaries, assemblers, engineers, machinists, marketing men, technicians, scientists and supervisors. At least that's their daytime disguise.

But, at heart, they are artists. With brush and blowtorch, knife and kiln, pigment and paste, they contrive a more brilliant world of interesting shapes and dramatic colors, new perspectives in space, and textures that please the touch.

There are hundreds of them around the company, people who at some time have turned their hand to art. A more select number have persisted in their efforts, leading to exhibits, sales, teaching and, in a few cases, even acclaim by professional critics. It's from among this number that MEASURE selected the following representatives. Their selection, in fact was based on their works being accepted for showing or sale in the company of, or competition with, other serious artists. (In fairness, it was felt that people working at HP as professional artists should not be included. It was also necessary to exclude photography and the craft-type arts, to avoid being swamped. But we expect to get around to considering them, too.—Ed.)

Meanwhile, on with the show:
Though his memory of it is dim, Victor Lalka's first birthday gift may have been a paint brush. The native Argentinian, a precision mechanical assembler at San Diego Division's Escondido plant, has been painting for 35 of his 39 years. Although he'd planned a career in art, it didn't pay enough. It's just a hobby now, yet Vic still sells a few paintings each year for upwards of $100 each. But it's the competition he loves, and he enters it with enthusiasm. Over the years, he's won 60 awards in Southern California shows, including two for best in show. Caricatures are his favorites. Seven years' experience as a portrait artist were helpful, but all are created strictly from memory and imagination.

Even if bugs drive you buggy, Peter Brink's unusual and artistic assemblage of far-out creatures should fascinate you. Pete—information systems manager for the Electronics Products Group in Palo Alto—collects, mounts, frames and sells large, rare insects. Although he studied biology at Stanford, Pete's presentations aren't meant to be scientific studies. He wants the focus on the insect and its beauty, and chooses wood and mat colors to complement the specimen. He buys gigantic butterflies, moths, beetles, grasshoppers and walking sticks from importers and other collectors. Most specimens come from countries near the equator and cost between $30-$200, but some go as high as $900. Pete, who claims to be the only deer hunter in the world who packs along a butterfly net, has mounted about 100 insects in two years and describes his home as "wall-to-wall bugs." He'll be bringing many of them into the Stanford Plant for a four-week exhibit beginning July 17.

Once upon a time, Maggie Dayton's teacher made her stand in the hall after she had "wasted time" admiring her paintings. The punishment obviously failed, because Maggie, a secretary in the Fullerton, California, sales office, has kept right on looking at art or painting her own. Actually, her endeavors were interrupted by several years of advertising art studies at UCLA. But when an associate at the Neely office discussed an oil painting class, Maggie was inspired again. Since then she's sold a number of paintings, done others on request, and is being encouraged by her art teacher to exhibit her paintings publicly.

(continued)
“Cornflower” is the name of the glass mosaic Zoe Adorno is working on here. It was commissioned by a European collector who purchased an earlier work after seeing it on display last year in the HP headquarters exhibit area. Zoe, a secretary in Corporate Material Engineering, has been called “one of California’s leading mosaic artists” by a newspaper reviewer and has exhibited her works in a dozen art shows and festivals. Unfortunately, she says, mosaics are not accorded full recognition by many galleries. She came by her interest in this form of art while walking the beaches of her native Southern California. Picking up sea-burnished glass, shells and wood, she became fascinated with the possibilities of piecing them together into designs. For Palo Alto people, Zoe’s work will next be shown in the Microwave exhibit area from August 16 to September 10. See it.

Kurt Doehler is a whittlin’ man, one of a rare breed who passes time with a penknife and a block of wood in hand. His driftwood sculptures and graceful figurines of rare myrtlewood recently won him a first and third prize in a local National Woodcarvers Association show. The tool room machinist from Cupertino Division (currently on loan to AMD) can’t recall ever being without his pocketknife as a youngster. He refined his art while a POW during World War II and, despite a shortage of wood in camp, still managed to create an entire chess set from scrapped wooden boxes. Family outings to the mountains and along California’s rocky beaches keep him well supplied with treewood and driftwood.
Pat Medellin Ekleberry, billing clerk in the Richardson, Texas sales office, got a head start in art. Her father is an internationally known sculptor and teacher. It was in the Medellin studio in Dallas that Pat first learned the many skills that go into the training of a sculptor. She worked with such media as terra cotta, chipped marble, bronze, plastic and plaster. And such techniques as mold making, welding, casting, and “lost wax” Pat’s works have been shown and sold in art shows and window displays. In the photo above she is shown with a terra cotta piece titled “Four Faces of Eve.”

Jeff Thomas, advertising and promotion manager for Microwave’s micro-electronic products, is a fellow who likes to boggle the mind with his kinetic sculptures in metal. He recently developed a dandy box that folds, spindles and mutilates computer cards (a large toy manufacturer has expressed a commercial interest in this nefarious device). Then there’s the large clock that releases an appropriate number of marbles on the hour, and transports them through a labyrinth of elevators and runways until they strike the gong. In the view above, Jeff seems to have developed a secret weapon for entering the formidable ferrous fortress. When someone observed that Jeff’s version of the M-16 rifle would shoot back at the shooter, he answered: “Now you’re getting the idea!”

Nona O’Grady, production employee at the New Jersey Division’s Rockaway plant, got off to a relatively late start in art. For years she simply observed the techniques and teachings of her landlady, Madam DeBliqui, a well-known Parsippany artist. Then, seven years ago Nona decided to try her hand with oils. The result has been exhibits as far afield as Utah and Ireland as well as many local showings including several at the Rockaway plant. But she especially enjoys the action when one of her donated paintings fetches a good price in a charitable fund-raising raffle.
From the president's desk

On a number of occasions I have been asked by Hewlett-Packard people what the company is doing to help toward solving the critical minority problems that face this country. I sense a feeling that these people are not sure that HP is doing its share, or worse, is not living up to its stated objective of social responsibility.

A proper course of action poses some difficult questions. HP has been actively working on these problems, but I have been reluctant to make a big thing of it, for I believe that such actions should be for the results and not for the record. Nonetheless, because this question has been raised so often, I feel that I should say something about some of our activities.

It is exactly because this policy of results, not record, is carried out throughout the company that my knowledge of accomplishments is much more specific about the Palo Alto area than about our operations elsewhere in the United States. I have made enough investigations, however, to know that HP divisions in other parts of the country are equally dedicated to working on minority problems, and have in their own way made substantial contributions.

There are two broad areas in which HP is working on the minority problem. One has to do with jobs within the company and the other has to do with general help within the community. Let me talk about them in that order.

Almost since we began, we have insisted on a policy of non-discrimination in hiring and advancement. The implementation of this policy must be viewed in a time frame perspective. By that I mean that the implementation of this policy twenty years ago would hardly be called progressive today. Yet in terms of that point in time, our position was liberal and advanced. I hope that today we are still ahead of the pack.

I say all this because it should be evident to anyone who looks at our structure that had today's policies been in effect for the full life of our company, we would have far more minority people in upper level positions. As I look at the company today, it seems to me that this is one of the biggest problems that we have. It is often difficult to identify the really capable minority employee when so often his background serves to obscure his ability and potential. Our main thrust, therefore, for the future is to continue to increase our

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News in Brief

Palo Alto — A program for recycling waste computer printout paper has been started by the Bay Area Electronic Data Processing center of HP. It is estimated that more than 140 tons in printout and IBM cards can be recycled during the coming year. One source reported that each 115 pounds that is recycled will save one tree.

Palo Alto — Hewlett-Packard scholarships valued at $750 each have been granted to 50 sons and daughters of HP employees. The awards were made under the HP Employees' Scholarship Fund which is designed to assist graduating high school seniors in pursuing higher education at the college or university of their choice. Funds are derived from contributions by employees and the company plus earnings of the trust fund. Awards are made on the basis of scholastic achievement, financial need, participation in activities, and educational objectives.

Berkeley Heights, New Jersey — John Blokker, formerly operations manager of the New Jersey Division, has been named general manager of the division. In his new position, Blokker succeeds Don Tighe, who has resigned to pursue personal interests.

Blokker joined HP in 1957 as a project engineer. He became engineering manager of the division's Berkeley Heights plant in 1965 and was named operations manager of the division in 1970.

A native of The Netherlands, Blokker is a graduate of the University of California in electrical engineering and
minority employment and then bend every effort to advance those with ability and long term potential as rapidly as is consistent with their development.

Let me turn to the second part of our activities, our efforts in the community. This is much more difficult to cover because in many cases it is impractical to talk about specific projects in detail. I can, however, report on some examples of both personnel and financial assistance.

People involvement is very important, and we have loaned HP individuals on a full time basis to Counterpart, to National Alliance of Businessmen, and to the OICW. The present head of the Mid-Peninsula Urban Coalition was loaned to the Coalition on a full time basis prior to his permanent appointment to that position. On a part-time basis, many HP people are doing tutoring at local schools, and are providing financial counseling to minority individuals and organizations during working hours.

Direct financial support is also very necessary. Within the past 18 months or so we have provided or guaranteed well over a half a million dollars to organizations such as Mid-Peninsula Urban Coalition, National Urban Coalition, National Urban League, United Negro College Fund, Bayshore Employment, OICW, OIC–San Jose, San Marcos Foundation, National Corporation for Housing Partnerships, Santa Clara Valley Skills Center, Management Council of Northern California, Mid-Peninsula Citizens for Fair Housing, Opportunity Capital Corporation, and Committee for Corporate Responsibility.

Some specific examples might be of interest. We have invested $150,000 in the National Corporation for Housing Partnerships, providing interest-free money for the development of low-cost housing. We are lending a similar amount to assist in the financing of an all-black shopping center in East Palo Alto. We also have provided a bank loan guarantee of $100,000, for which we will be paying a major portion of the interest, to the Urban Coalition for use in low-cost housing development. We have continued our interest in East Palo Alto Electronics, an all-black concern, through financial aid and by providing them with subcontract work.

In Loveland, we had a significant training program for Spanish speaking Americans whereby they might learn enough English to operate successfully in the company. The Medical Electronics Division ran a very successful training program in Roxbury, a predominantly black suburb of Boston. When we moved the old Mosley Division to San Diego, we made major efforts to move as many of our minority employees from Pasadena to San Diego as possible.

I need not dwell on the individual contribution that HP people themselves have made in helping with the minority problem. I believe that these activities were well covered in a special issue of Measure last year. I found this issue particularly stimulating and was impressed to see how many of our people are voluntarily spending untold hours of time on such worthwhile activities as education, training and employment, human relations commissions, fair and low income housing, and various study committees.

HP is trying to live up to its standards of corporate social responsibility, both through its people and through its own actions.

holds a Master's Degree from Stanford University.

Palo Alto — Hewlett-Packard has been awarded a contract for 100 of its microwave link analyzers by Western Electric Company. Western Electric now has ordered approximately $2 million worth of these units.

The MLA’s identify, measure and locate distortion in the microwave radio links that carry telephone conversations, television pictures and data communications across the United States.

Worldwide sales of these units have totaled more than $6 million.

They were designed and are manufactured at the plant in South Queensferry, Scotland, and marketed by HP throughout the world.

The HP solid-state microwave link analyzer is a portable instrument with integral display. The two-piece unit is designed to be carried easily to the relay stations, which often are located on remote mountain tops for better line-of-sight transmission.

Ames Research Center, Calif. — Dr. Bernard Oliver has taken a summer leave of absence as vice president for research at Hewlett-Packard in order to direct the start of an ambitious scientific search for life beyond our solar system.

The mission for Oliver and his team of engineers and scientists at Ames Research Center is to begin the design of a huge array of radio telescopes that would listen for signals indicating intelligent life in the Milky Way galaxy.

Project Cyclops, as it is called, is a joint summer faculty fellowship program of the National Aeronautics and Space Administration (NASA), and the American Society for Engineering and Education. It is being held at Ames Research Center, the NASA laboratory near Mountain View.

One aim of the Cyclops team is to complete the study in time to advance specific proposals at an international astronomy conference in the Soviet Union in September.

Palo Alto — More than 50 officers and general managers of the worldwide Hewlett-Packard organization attended the semi-annual managers’ meeting, June 16–18. General sessions and seminars reviewed a wide range of operating results and the business outlook, with emphasis on forward planning.
From zero to 100 mph — in 2 seconds?

Yes, says Car Craft magazine. The world's fastest dragster recently did this—as recorded by a San Diego Division two-channel strip-chart recorder. The recorder rode right along with driver/owner Don Prudhomme (shown wearing teeshirt) as the vehicle shot down the drag strip. The trace showed that it hit 100 mph exactly on the 2-second mark, then went on to set a record for the strip of better than 200 mph. A few days later, however, someone else bettered this record, so Prudhomme sallied forth again. Although he had two good runs recorded, Don went for a third. It was a great 210-mph run, except that near the end, while doing 125 mph, it flipped in what Car Craft editor Terry Cook called “one of the biggest power-wheelies I've ever seen.” Just about everything was smashed—except the HP recorder. For a less smashing view on product quality and safety, see pages 6 to 9.