

FROM THE EDITOR

By the time you receive this edition of *MEASURE*, a very important part of the magazine will be gone.

Annette Yatovitz, the *MEASURE* art director for the past 15 years, retired from Hewlett-Packard on July 1, and I feel like I've lost my best friend.

For nearly 10 of those 15 years, Annette and I have been like Siamese twins, joined by an objective—sometimes it's felt more like an obsession—to produce an exceptional magazine. For 10 years we've worked in adjacent offices. We would begin each day with a walk down the hall for a cup of coffee, swapping stories of families and outside interests and recapping where we stood on the current issue of *MEASURE*.

Twice yearly we lectured to magazine classes at San Jose State University on how an editor and art director work together in harmony.

It had better be a harmonious relationship because we have been the only two full-time employees of *MEASURE*. When it came to thinking about the magazine, Annette and I had a virtual Vulcan mind meld, as Mr. Spock on Star Trek would describe it.

And yet, you'd have to search long and hard to find two very different people.

Annette was born in the hills of West Virginia; I in the flatlands of the Midwest. Her politics are on the liberal side; mine are more to the center. Annette has an expressive personality; I'm more of a stoic. She is a talented artist; I have trouble drawing stick figures.

Somehow, this odd couple has become and remained good friends for a decade.

Like football quarterbacks, editors get far too much credit when things

go well. But in many ways, art directors set the pace. They are responsible for "the look of the book," that critical visual "hook" that grabs readers and entices them to read the text— "those gray squiggly lines," as Annette calls them.

For 15 years, her photo selections, illustrations and page layouts have had more to do with *MEASURE* readership than the thousands of scintillating—and not-so-scintillating—articles produced or arranged by the four editors with whom she has worked.

Annette is an editor's art director. By that, I mean she's been as intently interested in the content of the magazine as its appearance. She's a voracious reader and she has a journalist's curiosity for a good story. She has suggested dozens of stories for the magazine, as well as the perfect headline for them. Annette even wrote a MEASURE article two years ago—a photo feature on HP's manufacturing operation in Barcelona, Spain—interrupting a family vacation to do so.

I think the thing I'll miss most about Annette is her laugh. If you're a playwright with a new comedy, Annette is the person you want sitting in the front row on opening night, igniting the audience with her full-bodied guffaws.

She could have worked a few more years, but she says that it's time to give readers a new look.

So, after a couple dozen college lectures, 90 *MEASURE* editions, approximately 2,500 cups of coffee and more than 1.7 million laughs, it's time to say goodbye.

Thanks, Annette. It's been great.
—Jay Coleman



On the cover: Peggy Blowers, production manager at HP's Spokane (Washington) Division, is a firm believer in the importance of MBWA—management by wandering around. Is MBWA still alive? See the story that begins on page 4. Cover photo by Steve Welsh.

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MEASURE

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Hewlett-Packard Company is a global manufacturer of computing, communications and measurement products and services recognized for excellence in quality and support. HP has 114,600 employees worldwide and had revenue of \$38.4 billion in its 1996 fiscal year.

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While practicing MBWA in Beijing, China Hewlett-Packard G.M. Terry Cheng (second from left) joins in a discussion with (from left) Yu Kai, Ina Yang and Xiangdong Qi.

Is MBWA still alive?

By Jean Burke Hoppe

Purists believe there is no substitute for MBWA— management by wandering around. But there is only one you. There are only 24 hours in each day. Where do you find the time?

A lot has changed in the 30 years since HP's John Doyle coined the phrase "management by wandering around (MBWA)."

We now live in a world in which it's technically possible to work hard and produce good results with limited face-to-face contact. Why walk to the next cubicle when you can send e-mail? What's wrong with communicating by voice mail if you're in Idaho and your direct report is in Singapore? This is a pressure-cooker industry with tense product and project deadlines—is it more important to get your job done or wander around?

Is MBWA, a cornerstone of the HP Way, going to survive these changes?

The people in this article are known for their people skills and their reputations for practicing MBWA. Each believes there is no substitute for MBWA, electronic or otherwise. And they all voice the same lament: In HP's fast-paced and far-flung world, time is a precious commodity and it's hard to feel good—really good—about the amount of time spent just wandering around.

That doesn't mean they will ever stop trying. The value of MBWA is real, they say. It is essential to good management to know what is happening in your area—not just at your immediate level, but also at the levels above and below.

Terry Cheng is general manager of China Hewlett-Packard (CHP), a spreadout, fast-growing, legally complex organization that includes a wholly owned holding company, one HP wholly owned company, four HP majorityowned joint ventures and three HP minority-owned joint ventures.

He travels constantly and serves on the boards of all CHP's joint ventures. When Terry started at CHP in 1992, there were about 300 employees and MBWA was easy for him. Now, with 1,600 employees, it sometimes feels overwhelming.

department functions and informal dinners. On the road, he often invites himself to regular department meetings. "This is very useful to me," he says. "I sit to the side and I learn so much from just observing at these regular meetings and get-togethers. People can ask me questions if they want to."

Terry invites himself to

Once a month, Terry tries to deliver salary slips personally around the headquarters office. He says it's

another way to connect and to thank people for their hard work.

Roberto Favaretto, general manager of Test and Measurement in Europe, is dedicated to MBWA and its first cousin, the Open Door policy.

10 MBWA tips from the pros

- 1. Wander frequently.
- 2. Wander aimlessly, without an agenda.
- 3. Be inconsistent. Be spontaneous. Schedule time for this spontaneity if necessary.
- 4. Be a good listener. Don't restrict or try to steer the conversation. Let the other person do most of the talking.
- 5. Be open and don't argue. The goal is to provide an open environment of trust.
- 6. Talk about non-HP matters to really get to know your employees.
- 7. Wander even if you're an introvert; it gets easier with time and practice.
- 8. Remember, this is not a waste of time. Personal involvement is essential to good management.
- 9. Ask open-ended questions. Are you happy here? Do you like your job? What would make it more meaningful and productive? How is your family? How was the vacation?
- 10. Talk with all your employees, not just the ones who are easy to talk with or who have similar interests.

His desk sits in the middle of his work group. There are no walls, no partitions. MBWA is unavoidable.

"It is that important to me. Of course," he adds with a laugh, "It's incredibly noisy, and I'm often behind on things. It's a choice Thave made. I am on the road more often than I am home. When I am in the office,

I'm available to my people. It's how I take the pulse of what's happening in my group."

Lisa Lion Wolfe, strategic marketing manager for the Computer Organization (CO), lives in San Diego, California,

> and reports to a manager in the San Francisco Bay Area. She leads and works with people and teams from all over the HP world. Lisa typically spends one or two days each week in the Bay Area.

She's become comfortable with these remote working conditions over the years and has learned a few unbreakable ground rules for virtual teams. "You've got to meet faceto-face at the beginning of a working relationship to establish rapport, to build a foundation," Lisa says. "You need to develop your intuition about when faceto-face meetings are necessary. When you leave a voice-mail message or make a phone call about business, ask about the person on the other end."

Rafael Piccolo, general manager of HP Mexico, believes his most important job is to know his people,

their strengths and weaknesses. He's taken to inviting himself along on customer calls.

"With the traffic in Mexico City, that can give me several hours with different members of the sales teams," he says. "We can cover a lot of ground. We'll review the situation with the



customer, but it also gives me the chance to know them personally, what they value, how they spend their time. As a bonus, I get to meet the customer, too, and stretch the personal contact even further."

Peggy Blowers, who became the production manager at the Spokane (Washington) Division last December, once learned sign language ("bad, bad sign language," she says) to communicate with a hearing-impaired employee. Peggy sets such high standards for herself in practicing MBWA that she was reluctant to be part of this article. The transition to her new job has cut into her MBWA time the past few months. It's the dilemma every manager faces: There is only one me and there are only 24 hours in each day.

"I enjoy connecting with people informally, so this has been frustrating for me," Peggy says. "We've just completed some organizational changes, so there is light at the end of the tunnel. I've already found more time to connect with people in my organization again. It's a high priority for me. Employees deserve that personal recognition. It's the lifeblood of HP—people feeling good about their work, about the company. It's my job to help make that happen."

Using technology to reach employees is not pure MBWA, but it's often effective-the next-best thing to being there. For example, the Computer Organization and Americas

When you're part of a remotely located team, the telephone can be an especially useful MBWA tool, says Lisa Lion Wolfe, who lives in San Diego but reports to a manager in the Bay Area.

PHOTO BY KEN WEST

For the record:

John Doyle, now retired after a 33-year HP career during which he headed Corporate Development, Personnel and Research & Development, coined the famous phrase "management by wandering around" in 1967. He first used it spontaneously during a talk about manufacturing at a general managers meeting.

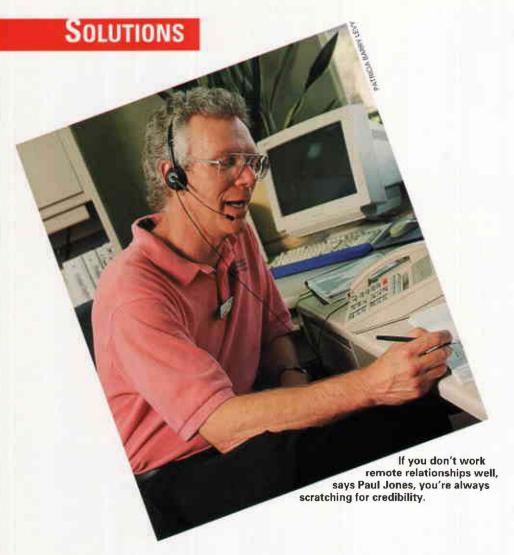
HP's co-founder, the late Dave Packard, gets credit for the "concept" of MBWA. He employed the technique during his early career in the vacuumtube engineering department at General Electric-before Hewlett-Packard was even formed.

Geographic Operations (AGO) have launched "management by phoning around" programs, which have proven very popular. High-level managers, including Dick Watts, HP vice president and G.M. of the Computer Sales and Distribution Group; Glenn Osaka, G.M. of the Extended Enterprise Business Unit; and George Cobbe, head of AGO, conduct regular, live, no-holdsbarred conference calls with about a dozen employees at a time. Employees can and do ask about anything they want. The conversations are taped, and the transcript is put

on the intranet so that virtually all employees have access to these executives.

"MBWA is like everything else," says HP Chief Executive Officer Lew Platt. "You keep searching for that balance. You use all the tools, all the resources you have to communicate with people. But there is no substitute for person-to-person contact from time to time." (See page 27 for more thoughts from Lew on MBWA.) M

(Jean Burke Hoppe is a Lincoln, Nebraska-based freelance writer. -Editor



(1) Who are the eight key people critical to your success who don't work for you?

(2) Why are they so critical to you?

(3) What is your plan for building an effective relationship with them?

"HP doesn't have much need for people who are only comfortable working on technical projects at their desks," Paul says. "If you don't work remote relationships well, you don't have a voice in the bigger process and you're always scratching for credibility. Having good skills in building remote relationships helps you plug into the world we work in."

Just one call

BÖBLINGEN, Germany—Two years ago, Heinz Schmid of Computer Systems Distribution Europe had a big problem. As a divestiture project manager, he realized HP would lose

> engineering capabilities that could harm HP business.

"I called Paul

Jones," says Heinz, who has been a distant teammate of the Fort Collins manager for several years. "That one call was sufficient to get me the money for two new hires. I did not need to go through a sophisticated, plodding process to get it done. One simple phone call did it. Without a good personal and business relationship, it would not have happened so easily and quickly."

One way to help a relationship is to speak (or at least try to speak) the other person's language. "I spent three years in Barcelona and learned Spanish from scratch," Heinz says. After one year, he started conducting meetings in Spanish. "Even though 95 percent of the employees spoke English (one of four languages Heinz

Making remote relationships work

Today more than ever, getting your job done hinges on how well you connect with colleagues halfway around the world. Here are some tips on how you can do it better.

By Gregg Piburn

FORT COLLINS, Colorado—A few months ago an interviewer asked Paul Jones what he thought was the biggest need his staff had. After a moment, he replied, "My people have to know how to make connections and work remote relationships."

That interview-conducted for a human resources survey at HP in Fort Collins, Colorado—proved to be the catalyst for this MEASURE article. Paul, manufacturing engineering manager in the Workstation Systems Division, and three other long-time HP managers provide a few key tips on how to be more effective in the global workplace.

Paul suggests people ask themselves these three questions:

understands), they really appreciated my effort."

Heinz's final suggestion is to refrain from being an "elephant." Insensitivity to cultural differences can be like an elephant storming through a store filled with glassware. Be honest, he says, but do it with tact.

Ask and adapt

CUPERTINO, California—Overseeing four implementation teams around the world is a relatively new phenomenon in the career field. There are language issues to overcome, different cultures and vast distances.

But Paula Huckaby, program manager for the Computer Organizations' quote and configuration tools and electronic commerce team in Cupertino, California, has one thing going for her. "HP people are still HP people, wherever they are located," she says. The HP culture provides common ground for employees scattered around the globe.

If you have the same global responsibilities as Paula, she says initial face-to-face meetings are a must. "You can't build relationships over the phone." Her second suggestion is to ask questions-lots of questions.

"I ask people from other countries how we could effectively and comfortably work together," she says. "How do you like to get work done? What is a normal way of conducting business with you and your team?" In other words, Paula adapts to their culture rather than forcing them to hers.

Her final tip is to use your global network heavily. "I have asked people I formerly worked with in Asia and Europe to speak on my behalf to new contacts in the same regions," Paula says. "It is amazing how many doors that opens."

Working the network

LOVELAND, Colorado-One of Terry DeKalb's first actions when she joined the Electronic Measurement Division (EMD) five years ago was to buy a phone headset. Not surprising when you consider that Terry has managed worldwide partnerships for EMD in R&D, marketing and manufacturing.

"It's a tangled web that demands four hours on the phone some days," Terry says.

time. When she starts a new project,

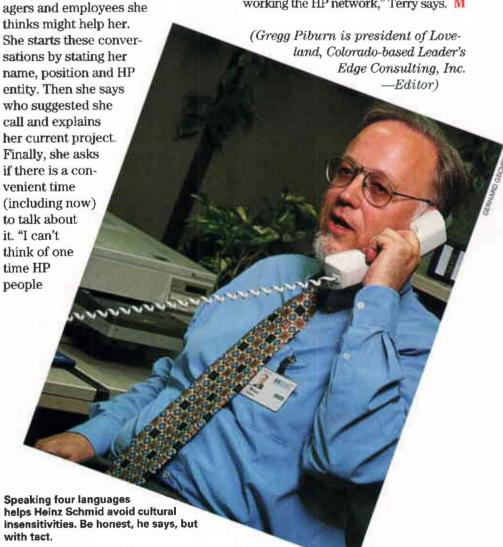
she begins by calling other HP man-

Terry also pushes networking big-

were unwilling to share information with me."

She also sees HP's corporate seminars as fertile networking ground. "At a class on new-product definition, I met some HP San Diego folks working on similar issues," she says. "We helped each other with our respective problems."

The 16-year HP veteran jokes that her nickname is "What's the Objective?" DeKalb. "Really try to understand first what you are after-key information, better relationships? Then don't hesitate to go after it by working the HP network," Terry says. M



YOUR TURN

MEASURE readers share their views on matters of importance.

Work/life began in the '50s

As usual, the May-June issue of MEASURE is excellent in all respects. Reading about new ways to meet work/life demands reminded me of the first time-to my knowledge-HP allowed job-sharing.

It was September 1955 when Bob Wardwell and I requested that HP management allow us to split a day shift so we both could attend college full-time at San Jose State University as engineering majors. Ed King, our supervisor, supported us and helped sell the concept to management.

Bob and I had just been discharged from the Navy. I worked the mornings and Bob the afternoons, so HP hired one new employee instead of two.

This led to the establishment of the "engineering pool" project within a year. At its peak, there were 32 students in the pool. We did everything, from building equipment and testing burn-in of vacuum tubes to performing R&D lab work to changing light bulbs. Nothing was too good for us, and we enjoyed it all.

Without this help, it would have been difficult to attend school. Between the G.I. Bill and HP, we functioned sufficiently on the going wage of \$1.75 an hour. I even paid the mortgage on a new \$12,000 home.

That's how Bill and Dave started the work/life program back in the 1950s. MAYNARD EAVES Corvallis, Oregon



An inspirational story

I just wanted to tell you what an inspirational story Dr. Holmes Morton is ("Keeping the faith," March-April 1997).

I was the Analytical sales rep who first dealt with Holmes in 1988, when he called asking about donations for his Clinic for Special Children. He had taken out a second mortgage on his home to help finance the clinic.

When his story first broke in *The* Wall Street Journal, I called his house to see if his loan had come through. His wife told me that Holmes' story was on the front page of the Journal. "We have enough money now to buy three of those things (mass spectrometers)." The next day I got the word that HP would come through with a donation.

In the next several days, Holmes denied interviews with 60 Minutes and others. He wanted nothing to do with the publicity.

MARCUS MAFFEI Chesterbrook (Pennsylvania) Sales

More on Dr. Morton

It was very interesting to read about the solutions to the special problems of the Amish people in Lancaster County, Pennsylvania.

This is a real tribute to Dr. Holmes Morton in gaining the trust of the Amish in order to help children who, otherwise, might die very young.

Hopefully, with the diagnostic equipment donated by HP, the rare disease can be eradicated among the Amish, and the whole world will benefit from the knowledge gained.

> MARY LOU GRANT Rohnert Park, California

More important than products

In "Finding harmony" (May-June 1997) Araceli Valle is quoted as saying that the "mommy" track is a slower-paced track than the careeroriented track.

For years, I have closely observed a woman on the "mommy" track. The "mommy" track is not slow-paced. Sometimes I wonder how she copes with all of the stress and activity. If anything, the "mommy" track carries more responsibility than my career does.

The training and nurturing of a human being is vastly more significant than the successful introduction of a new product.

DUANE GRAY Boise, Idaho

MAD about Bill

Thank you for the May-June article "Getting 'MAD' at HP Little Falls" about the Made a Difference program.

However, you left out the name of Bill Berry, the program's creator and unofficially its first recipient. Without Bill, there would be no program.

> DEB SHENK Wilmington, Delaware

They pay our salaries

I just read the May-June MEASURE and was surprised at the "sporting fun" of HP's customers, specifically the anecdote "I waited too long" in the article headlined "Did you hear the one about ...?"

About a month ago, I was on a flight and met a couple who noticed my HP shirt. We struck up a conversation on several topics, including HP printers. I work at the Vancouver Printer Division.

The couple told me of their call to the HP support line, regarding problems with their printer. They waited more than 30 minutes until somebody told them to "Try this and call back." When the customer asked for the agent's direct telephone number, the agent said he couldn't do that. The customer responded, "Then you're gonna wait while I try your fix." The agent waited while they fixed the problem.

So what is HP's commitment to customer service and support?

The moral here is that some of those stories are truly funny, but sometimes at our customers' expense. We should be careful how we get our laughs; those people pay our salaries.

RIC BURRELL Vancouver, Washington

HP—and MEASURE—take customer satisfaction seriously, Ric. That's why it's a companywide Hoshin objective for 1997. But out of the 13 million customer support calls that HP receives each year, at least a few are bound to be on the lighter side. I think that "killer" bees (not really) in a keyboard, hamster babies inside an HP printer and an HP scanner hung over a fireplace like a trophy fall into that category.—Editor

Don't take ourselves too seriously

I enjoyed the creativity and humor in HP's new ads ("Selling with a sense of humor," March-April 1997). My wife, a social worker, always gives me, an engineer, a loving nudge when we view those commercials.

We can never take ourselves too seriously; it's good to be able to laugh at ourselves. Perhaps we could help reverse the trend of people taking offense at every opportunity.

I thoroughly enjoy every issue of MEASURE.

> TOM SAPONAS Colorado Springs, Colorado

What about network servers?

It was great to read about the award that the HP Pavilion PC and other HP products received in the article "It's by design" (March-April 1997). But talk about "getting it right," check out what the HP Network Server Division has done recently.

PC World (1/97 and 3/97 issues) divided server competition into two groups: enterprise and workgroup. HP NetServers were No. 1 in both categories.

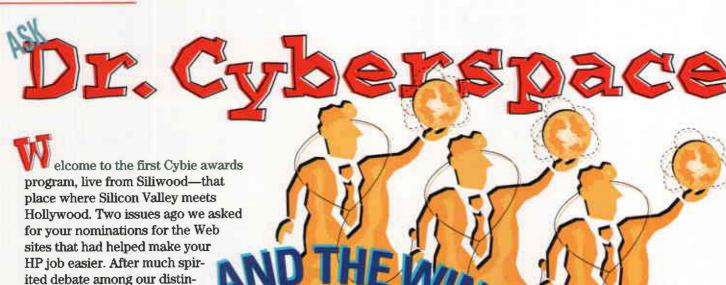
Substance and style, with support. continue to keep HP on top!

> MICHAEL CALISTRO Loveland, Colorado

Please send mail

Do you have comments about something in MEASURE? If we publish your letter, you'll receive a Dr. Cyberspace MEASURE T-shirt (one size fits most).

Send your comments to Editor Jay Coleman. The fax number and addresses are on page 3. Please limit your letter to 150 words, sign your name and give your location. We reserve the right to edit letters.



am honored to announce the first award winners.

guished panel of cyberstars, I

If you remember, there are some great prizes that go along with this honor. The first-place finishers in each category walk away with an HP OmniGo 100 Organizer Plus; second-place winners each receive an HP DeskJet printer; third-place winners may choose a one-year subscription to *Wired* or *Internet* magazine; and the top runners-up get a Dr. C T-shirt.

The winners for best intranet sites
—drumroll please—are:

1st place: Char Antuzzi Roseville, California ESP Search Form

esp.cup.hp.com:4444/cgi-bin/nph-findesp

Using this search engine, Char can pinpoint valuable promotions for HP customers, which results in sales and satisfied customers. In the "old days" this would have taken hours.

2nd place: Ken Neal Roseville, California

Roseville HPDL Part Request Form

http://qheart.rose.hp.com/ parts_pro/part_req.html

This intranet site saves Ken a lot of the leg work that used to be involved when building Mentor component symbols. Not only has using this Web site increased efficiency, it is less prone to, well, human error. 3rd place: Franco DeMarco Cernusco, Italy

THOMAS J. BROWN

Welcome to Jupiter

http://isoit989.bbn.hp.com:10101/ Jupiter/Welcome

Having to know prices in 14 different currencies for products is enough to make anybody a little spacey. Franco uses Welcome to Jupiter, a site that blasts through money exchange configurations.

And the runners-up, in alphabetical order, are:

Donna Kennedy Blackburn, Australia

EAL/Middlefield R&D Web http://platinum.mayfield.hp.com/ cgi-bin/LDIBook/B0859190137. 14734/84

Yuan Kong, Vancouver, Washington

HPL digital library

http://lib.hpl.hp.com/cgi-bin/dl/cgi-bin/state_0/welcome.html

Diane Kratzner Richardson, Texas

Americas Sales Center

http://esp.cup.hp.com:4444/dw/esp/ext/amsctr/asc/index.htm/index.htm

May Lai Singapore

Else

www.sea.hp.com/FontSmart

Charlie Lisherness Barcelona, Spain

Stock Options

http://hpweb.corp.hp.com/ publish/hwp/stock/stok_opt.htm

Candace Meindl Palo Alto, California

Hot Shot Manufacturing Recruits http://csoaw001.cup.hp.com/spam/ump/recruits.htm

Aiko Shinseki Cupertino, California

Service Access

hpweb.cup.hp.com/servicea/ index.htm

And now, the winners of the Dr. C Challenge for the Internet category:

1st place: Keith Erickson Atlanta, Georgia

Switchboard

http://www.switchboard.com

Occasionally, HP cuts checks to employees that are never cashed. These uncashed checks must be accounted for, for up to 10 years, by people like Keith. Using the Switchboard home page has helped clear about 80 percent of the items.

2nd place: Jim Johnson Palo Alto, California

Microchip

http://www.microchip.com

Jim found an employee through the Microchip Web site to write the software for a temperature control loop for a crystal oscillator oven, which has since been released as a product.

3rd place: Bill Roden San Jose, California

Allied Electronics

http://www.allied.avnet.com

The Allied Electronics Web site makes ordering electronic components a breeze, according to Bill. It eliminates the need to wait for a buyer, fill out purchase requests or wait on the phone for a sales rep.

The runners-up, again in alphabetical order, are:

Bill Brudenell Boise, Idaho HotBot

http://www.hotbot.com

Susan Holm Palo Alto, California

Amazon

http://www.amazon.com

Lawrence Holsworth Wokingham, U.K.

Thomas Register Supplier Finder http://www.thomasregister. com:8000/adfinder.html

CC Lantz

Fort Collins, Colorado

Motorola SPS Products

http://www.mot-sps.com/sps/

General/chips.html

Texas Instruments Semiconductor Product Information

http://www.ti.com/sc/docs/psheets/ pids.htm

Jerry Long Spokane, Washington

Lockheed Martin Missiles and Space http://www.lmsc.lockheed.com

Kevin N. Martin Loveland, Colorado

Switchboard

http://www.switchboard.com

Kevin Tucker Little Falls, Delaware

Hewlett-Packard

http://www.hp.com/cposupport/ eschome.html

You can read more details about the winners and the runners-up in my online clinic at http://hpweb.corp. hp.com/publish/hpnow/use/drcyber/ index.htm. And keep sending messages as you find other sites that make your job easier. My e-mail address is doctorc@corp.hp.com.

Judges

HP intranet judges:

Ira Goldstein

HP Internet technology officer Chelmsford, Massachusetts

Amy Mueller, IT engineer Palo Alto, California

Webb McKinney, general manager Home Products Division Santa Clara, California

Internet judges:

Marc Andreesen chief technology officer **Netscape Communications** Corporation Mountain View, California

David Siegel founder and chairman Studio Verso San Francisco, California

David Plotnikoff digital culture columnist San Jose Mercury News/ Knight Ridder syndicate San Jose, California

Gold Quill Award

Dr. Cyberspace's column recently won a Gold Quill Award of Excellence from the International Association of Business Communicators (IABC), the highest award IABC gives.

The doctor was out on a Web site call (that's a house call in cyberspace), so Brad Whitworth, manager of international communications/public affairs, graciously accepted the award on behalf of the good doctor and graphic artist Tom Brown.

Fish out of water

By Thomas Ulrich

CAPE HATTERAS, North Carolina—Atlantic bluefin tuna are the most valuable wild animal on Earth. At the daily tuna auction in Tokyo, Japan, a single Atlantic bluefin can fetch up to 11,250,000 yen (\$90,000 U.S.). High demand for its red flesh and a dwindling population of adult fish have scientists investigating where these animals spend most of their lives.

This spring, biologists from the National Marine Fisheries Service, the Monterey Bay Aquarium and Stanford University began monitoring the movement of bluefin tuna. They hope to better understand the life history of these warm-blooded animals and provide The International Commission for the Conservation of Atlantic Tunas (ICCAT) with the information it needs to manage the species.

Bluefin tuna have survived a millionyear journey that has brought them for yet another season to a string of low, narrow, sandy banks that stretch

Labrador current and the warm Gulf Stream join like tributaries of a great river. Where the two currents meet, bluefin tuna feast on cold- and warmwater species, which fatten them up for a transoceanic migration that could take them as far north as Nor-

> way or as far south as Brazil.

Some scientists speculate that two populations of Atlantic bluefin exist.
One population

assembles off the northeast coast of the United States and spawns in the Gulf of Mexico. The other gathers and spawns each summer in the Mediterranean Sea. Other scientists believe that Atlantic bluefin may represent a single population of fish. During its 30-year life span, a bluefin could spawn on both sides of the Atlantic, in the Gulf of Mexico and the Mediterranean Sea.

"Truthfully, we know very little about the migration patterns of these fish," says Chuck Farwell, curator of open-ocean fish at the Monterey Bay Aquarium and member of the research team working the Outer Banks this spring.

The team uses an HP OmniBook portable computer and custom software to locate bluefin across hundreds of square miles of open ocean. Before heading out to sea, a team member signals an ARGOS satellite

"Truthfully, we know very little about the migration patterns of these fish."

for more than 175 miles along the eastern coast of North America. At its center, the Outer Banks swings so far into the Atlantic that the cold

beft

A fleet of sport fishing boats cruises the waters off Cape Hatteras, North Carolina, in search of Atlantic bluefin tuna. which can bring as much as \$90,000 U.S. at fish auctions.

right

A fisherman reels a bluefin tuna up to a sport fishing boat. The crew transfers the line to the crew of the research boat. A member of the research team reels the fish to the transom of the hoat

far right

Preparing for surgery, researchers size the fish, evaluate it, cover its eyes with a moist green towel and run sea water through its gills.

receiving station with the OmniBook. The receiving station returns data to the portable, which the computer then relays to an HP 870Cse color printer, which uses the information to draw a map of the surface temperatures of the western Atlantic.

"The temperature map shows us where cold and warm currents meet," Chuck says. "Where mixing occurs, we can find bluefin tuna."

A grant from the David and Lucile Packard Foundation allowed the research team to develop and test electronic tags to track the migration of these powerful fish. Prototypes were so successful that the Packard Foundation and the National Marine Fisheries Service gave the research team additional money to place a new generation of tags on 200 bluefin tuna found and captured off Cape Hatteras this spring.



One type of tag, called an archival tag, resembles a stainless steel test tube with a filament or thread attached to one end. A microprocessor inside the tube records and stores information about the fish's movement for months at a time. Once the team pulls a bluefin onto the deck of the research boat, a surgeon implants the archival tag in the belly of the fish. There the tag remains until the fish dies or the fisherman who catches it returns the tag to the team.

This electronic tag also measures sunrise and sunset by detecting changes in light. Like a navigator calculating position, the microprocessor combines data from an internal clock with a record of first and last light to determine longitude and latitude. The tag also samples and records water temperature, body temperature and depth every two minutes for up to seven years.



Fishermen, who will earn \$1,000 for each tag, should return 6 to 10 percent of the archival tags. Once researchers receive the tag, they can transfer its contents to an HP Vectra personal computer where they can chart the data. Researchers hope to determine migration patterns for the bluefin from the information they review.

"We'll learn more from one tag than we know about the entire species right now," says Barbara Block, an assistant professor of biology at Stanford University and co-director of the tagging project.

Members of the research team attached a second type of tag to the back dorsal fin of 37 bluefin tuna. These pop-off tags, set for 3, 14, 60 or 90 days, also provide data about the



location of the fish. Engineers programmed the microprocessor inside the tag to trigger an electric current when scientists want to retrieve information about the position of the fish. The current passes through the metal clasp, accelerating corrosion. The tag falls off the fish. It floats to the surface, where it transmits its location and water temperature to a satellite that stores the information until a researcher requests it via another HP OmniBook portable computer.

Because the team does not rely on fishermen to retrieve them, popoff tags could have a return rate of 100 percent.

The information that the researchers expect to glean from both types of tags is invaluable for sustaining bluefin tuna, whose population has declined in the western Atlantic despite three decades of strict quotas.

"These tags will give us a fuller understanding of the life history of the bluefin tuna and allow ICCAT to manage these fish more effectively," Chuck Farwell says.

The high price of bluefin tuna returns huge profits to fishermen who hunt them and to middlemen who sell them through markets worldwide. Their success is not without a price. The population of Atlantic bluefin visiting the coastal waters of the northeastern United States has plummeted since 1970. According to the latest report from the ICCAT, adult bluefin tuna living in the western Atlantic

left

During surgery, a veterinarian from the Monterey Bay Aquarium cuts the belly of the fish, removing muscle tissue for DNA analysis.

DREW WILSON PHOTOS



are only about 13 percent of their 1975 population.

"Bluefin tuna are one example of an amazing life form—one piece in a complex web of life," says Julie Packard, executive director of the Monterey Bay Aquarium. "Their decline reflects what has happened to many commercial species off the Atlantic coast of the United States over the last 30 years."

"The tags that researchers placed on bluefin tuna this spring will answer important questions about the life history of these fish. Once we understand their life history, we can draw up a comprehensive international agreement to manage them." M

You can see another version of this article, including additional information and photos, in the story archive of HP's Web site. The address for the archive is: www.hp.com/ abouthp/features.

(Thomas Ulrich writes for HP's Integrated Systems Division in Sunnyvale, California.—Editor)



An aquarium veterinarian inserts the 5-inch-long archival tag into the belly of the fish.

above right

After four minutes, the crew swings the fish around and pushes it back into the Atlantic. Experiments using acoustic tags that track the tagged fish indicate the procedure does not injure the fish.

HP's Internet technology officer has bicoastal offices, an Internet-ready hot tub and a results-oriented style that's ideal for the 'net.



Using a cellular telephone and headset, Ira Goldstein is like a portable office, whether he's in Chelmsford, Massachusetts, or on one of his frequent trips to California.

Ira Goldstein:

HP's wired Internet wizard

By Grace Razo

Recently, a reporter spotted Ira Goldstein walking along California Avenue, a quaint street near HP's Corporate Offices in Palo Alto, California.

Ira was sporting a pair of spiffy, characteristic, that-has-got-to-be Ira Goldstein suspenders and a fancy headset connected to an equally fancy cellular telephone. It's a great way to get exercise, Ira said, and catch up on 50 voicemail messages—his daily average.

"You're never alone at Hewlett-Packard because there's always voice-mail," says Ira, general manager of the Internet Technology Group and HP's Internet technology officer.

Behind the jolly good humor, trademark suspenders and technical gadgetry lies a creative and brilliant mind that operates at the rate of a high-speed Internet connection. Some of his best ideas, Ira says, come to him in the shower, bicycle riding or at the theater. It was Ira's studies in mathematics and philosophy at Harvard that eventually led to his interest in computers and artificial intelligence.

"I left the more theoretical hallways of Harvard for the more engineering-based hallways of MIT when I went to graduate school," Ira says, "but always with this interest of how to build computer models that could in one way or another embody intelligent behavior."

Rumor has it among his colleagues that Ira is well-connected. He has 12 networks at home—both wired and

wireless-that he maintains as a hobby. He's currently designing an Internet-ready hot tub, complete with a battery-operated, infrared keyboard "to avoid electrocution" and display monitors on the side walls. Ira says in some ways he has an "Internet family." Of course, he's talking of wife Gerrianne, daughter Lea, 16, and son Ian, 11, and not his computer networks.

But even these computer networks have become essential members of the Goldstein household. And they're used to help solve some of the challenges brought on by Ira's busy, bicoastal lifestyle: an office in Chelmsford, Massachusetts, home of ITG, and an office in Cupertino, California, where he spends two to three weeks out of every month.

Ira worries most about keeping a close relationship with his kids. That's where the Internet comes to the rescue.

"My son is very interested in model railroads," Ira says. "From that, he became interested in examining the home pages of the various railroads on the Internet. He came across the fact that there was a possible merger between Conrail and CSX, and recommended we invest. Since I travel a lot, we needed tangible ways of sharing experiences. So, I told him I would buy whatever he would recommend and bought Conrail at his advice. He's made \$20 a share."

"If I can't make the Internet work for me and my family," Ira adds, "there's something really wrong."

Lea, Ira's daughter, also is Websavvy; she has her own home page, and it's in English and French.

Ira is excited and enthusiastic about technology because it makes a difference. Starting as a young graduate student at MIT, Ira has been involved with the Internet since the early days of ARPANET-Advanced Research Projects Agency of the U.S. Department of Defense—which quickly became an essential tool for sharing information through file transfer, electronic mail and interest-group mailing lists. He went on to receive his Ph.D. and stayed on the faculty at MIT for five years as an associate professor of electrical engineering and education.

In 1981, Joel Birnbaum, senior V.P. of research and development, recruited Ira to HP as manager of the Application Technology Lab from Xerox Palo Alto Research Center in California, where he had been a research scientist. Five years later, Science Digest named Ira one of the nation's top scientists under age 40. In 1987, when Ira was manager of research and development for HP's Technical Systems Sector, he helped establish the

Ira Goldstein on:

Internet skeptics—They are the same folks who thought the telephone was no big deal. After all, there were only two people on it and one of them was in another room.

They are the same folks who thought the little black box with the black and white figures in it in the late '40s never would replace the movies.

They are the same folks who looked at the camera obscura-the original thing with the light coming through that put the image on the back-in the late 1800s and said that photography never would amount to anything. Today, 60 billion photographs are taken every year.

People are welcome to their opinions. But one is no longer guessing at the growth of the Internet. The evidence is clearly there that not only will every computer be on the Internet, but that every device will be on the Internet. That's something particularly exciting for Hewlett-Packard because of the opportunity it creates.

To give an example, take electricity. When it was first being understood, Ben Franklin was flying a kite. Who would have thought that every house everywhere would have electricity access? Who would have thought that you could wear your telephone, let alone that the telephone system would be universal?

So, there's nothing wrong with healthy skepticism. The Internet is no different than those other examples. It's just a massive revolution that's going to rapidly transform the intellectual landscape that we inhabit.

Humor-Humor reminds adults how to learn. When you're young, learning is your profession. When you get older, it's harder. Humor is a way both to introduce new ideas, as well as make them memorable.

Work/life balance—I'm willing to be anywhere in the world during the week, and I am. But I always want to be home over the weekend; otherwise, I would really lose touch with my children as they grow up. You don't make it over the long term unless you strike a balance.

Wizard

Open Software Foundation (OSF), a Massachusetts-based consortium for the advancement of open systems, now called the Open Group.

And just when Ira's HP career was increasing in bandwidth, a glitch in the network occurred.

"The mistake I made was asking (then HP CEO) John Young where he thought I could make the biggest contribution. John said 'Go East, young man.' It was at HP's request that I went back East, first on a temporary basis, and then ultimately on a fulltime basis to set up OSF."

Much like he's doing now, Ira commuted between California and Massachusetts for four months. Then in one weekend with four suitcasesthree with clothes and one with his son's trains-Ira moved his family to Boston.

"We left the cars, the house, the furniture, the clothing, and my motherin-law," Ira says.

Last year, Joel recruited Ira-who had advanced to OSF's vice president and chief scientist-for the second time in his career.

"In his seven years away from HP," Joel says, "Ira worked with people from a great many companies and in a very open way. He's used to getting results and getting them out to the public quickly. That's precisely the Internet style and something we need to do better at Hewlett-Packard."

In his current position, Ira zips around the country like an Internet crusader. He gives talks—see http:// hpweb.corp.hp.com/Publish/ hpnow/views/speeches/seca1296/ goldstein.htm—at conferences and throughout HP to interest and excite HP's customers, and to promote the value of HP's work in Internet tech-



When you live in a "wired" world, sometimes you need to get "unwired," as Ira does at home with his daughter Lea, his wife Gerrianne and his son lan.

nology. And although there might be miles between him and his family, they are never more than a new technology away. Ira uses pictures of his wife and mother to illustrate the advancements made in digital photography and the Internet Imaging Operation, an initiative he launched to work on enhancing Internet images. Ira believes he has the perfect jobmanagement combined with creativity.

With every business working on Internet-enabling technology, HP moves closer toward its vision of being the Internet leader. Ira says his role is that of a catalyst.

"I help create the forum and communication channels by which HP businesses interact with one another," Ira says. "I help put HP's vision out to people in the company and the world because when people have a vision they can be very clever about what to do. A third aspect of being a catalyst is having a team that is large enough to do some of these pieces that fit into the 'white space,' as Lew Platt would say.

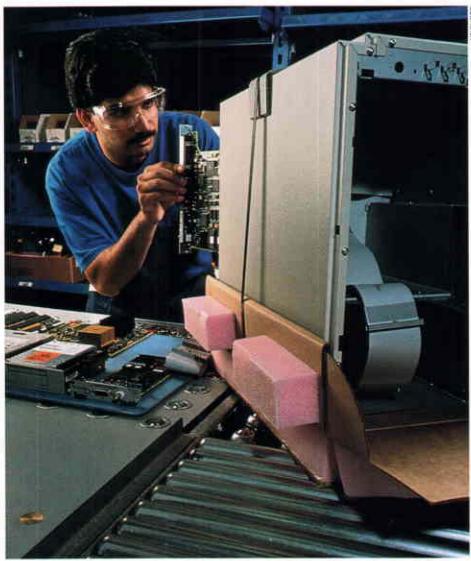
"HP is a super-saturated fluid with respect to the Internet," Ira says. "It's just ready to crystallize in a very dramatic way.

"I have a great job and I'm enjoying it tremendously." M

(Grace Razo was the 1996-97 MEASURE intern.—Editor)

MANUFACTURING

In-house? Outsourcing? Partnerships? Today, when it comes to making business decisions about manufacturing, there's no single cookie-cutter answer.



As competition and customer expectations increase, all HP manufacturing organizations are looking for ways to improve efficiency and reduce costs.

Keeping manufacturing competitive

By Sam Chu Lin

HP's Vancouver (Washington) Division is developing a new inkjet printer platform that features a value-added accessory. This new product, with its bonus feature, is expected to attract plenty of attention, but the complete project almost didn't happen because of budget limitations.

Grant Marten, procurement section manager, and Vance Stephens, R&D project manager, told management, "We think there's a way we can get this done without having to invest the money, but still have the product and accessory come out on time." They

accomplished this by convincing Vancouver management to partner with a contract manufacturer to co-develop and produce the complementary accessory.

Another scenario: Joe Schneider, manufacturing-development engineer, described how the Andover Surface Mount Center saved time and money for HP's Medical Products Group.

"The R&D lab came to us and asked about packaging for a very large integrated circuit, larger than anything that had been built before," he says. "The integrated circuit (IC) vendor offered two choices, neither of which had been put in production

Manufacturing

before. We worked with the Electronic Assembly Development Center, did some experiments and went through the manufacturing process to see if any changes would be needed to load these parts in production quantities.

"The printed-circuit boards that use this large package are now in the production prototype phase. If we were unable to use this large IC, they would have had to redesign the product."

These are just two of the success stories presented at HP's recent Elecfind these partners to gain time and to use this time for our own core competence."

One of the first sites influenced by the company's new manufacturing strategy was Roseville, California. Three years ago, it was divided into two divisions. Much of the manufacturing was outsourced to Asia.

Randy Sharp, engineering manager with the Direct Connect Operation in Roseville, recalled, "Was that the right business decision? Absolutely. I still

look back on the jobs lost and the pain that people went through," he said.

Randy continued, "I think the organization has

done a great job of bringing individuals along and giving them some education and instruction, on-the-job training and elevating their capabilities to higher-level jobs. The engineering staff has moved, in some cases, from being people who work on the shop floor to being more like scientists. I think everybody has had to step up a little and improve their capabilities. To me, it's enriched many

It's also given HP the opportunity to further develop its core competencies.

people's jobs."

John Sedej of the San Diego Printer Division said, "HP continues to grow and expand. It's not a downsize mode. We're moving into this new strategy to develop and outsource with contract manufacturers to make room for new opportunities."

That has happened in such places as the Asia Pacific Personal Computer Division (APCD) in Singapore, where Chee Kee Chung watches over the manufacture of HP inkjet printers and plotters. He said, "We're constantly reducing the price through the manufacturing process. We have a large number of contract manufacturers, and we're training new ones. They have to give us the lowest price and the best quality."

The same fast pace also can be found at HP in Penang, Malaysia, where subcontractors quickly turn lens designs into parts for prototyping LED packages.

Yew Cheong Kuan, R&D engineer, remarked, "Most of the products are business-driven. Whatever products we develop we make sure they can be manufactured in high volume, high quality and at the lowest cost."

Ian Dickinson, PCA procurement engineer of Computer Peripherals Bristol, England, adds, "You've still got to be innovative, but you've got to give the customer what he wants. That's the point. It's no good designing something that is far beyond what the customer needs."

During the manufacturing conference, many of the speakers

"Was that the right business decision? Absolutely."

tronic Assembly Manufacturing Conference in San Diego, California. Nearly 300 manufacturing experts from around the world gathered for three days to compare notes and explore new ways to make HP manufacturing more competitive. The company's increased use of partners and contract manufacturers was on the minds of many of the attendees.

Sylvia Ehrler of HP's Printed Circuit Organization in Böblingen, Germany, commented, "We send a lot of work outside-even some of our core competencies. This makes me a little nervous."

Eberhard Mayer, a procurement engineer from the Medical Products Group in Böblingen, has been using the expertise of a contract manufacturer to develop a new low-cost oxygen saturation sensor for use in medical examinations. He said, "We don't want to invent the wheel twice; therefore, we look for partners who are experts in this area. We have to

" 'If this was my money, would I pay myself this much to fulfill the role I'm playing?' "

> emphasized the importance of effectively managing the suppliers and contract manufacturers for quality and reliability.

Pat Johnson of the Electronic Assembly Development Center in Palo Alto, California, said, "We have to get



Subcontracting is an important part of the manufacturing process in Penang, Malaysia, says R&D engineer Yew Cheong Kuan.

it clear in our heads that we still own product quality if our name is on it, even if there's a competitive advantage in outsourcing."

Rafael Mayorquin of the International Procurement Operation in Guadalajara, Mexico, shared some of the challenges he faces when he deals with contract manufacturers. "Currently, we don't do any in-house manufacturing; everything is outsourced," he said. "We are using our experience and knowledge to work with contract manufacturers. We cannot really tell the contract manufacturers how to solve their problems in the process. We can only advise."

One of the highlights of the threeday conference was an explanation of the importance of the new alliance between Hewlett-Packard and Intel.

Peter Rosenbladt, general manager of System Program Management and

Development in Cupertino, California, pointed out the new pact is directly connected with manufacturing. "What we have to consider is that developing microprocessors is becoming like an arms race," he said. "The cost of developing and manufacturing those devices is becoming so huge that the only way it can be justified is on the basis of very large volumes-volumes larger than HP could generate by itself. We recognized that and established this relationship with Intel. While we have developed all of our PA-RISC microprocessors ourselves, we will be able to focus future design efforts on those devices we can't buy."

Jeff Phillips of the Order Fulfillment Group in Fort Collins, Colorado, elaborates further: "With that relationship, we ensure backward compatibility of our customer base, but also ensure that we stay open and mainstream to the future microprocessing performance."

For those who are not directly involved in manufacturing at HP, Grant Marten had this to offer about the role they can play in HP's core competencies.

"There's one thing I really would like to see everybody at HP do on a regular basis: Take a good, hard look and see if they're competitive," Grant says. "They should ask, 'What is my skill set?" 'What is my job future?' 'If this was my money, would I pay myself this much to fulfill the role I'm playing?' Hopefully, the answers are 'yes.' " M

(Sam Chu Lin is a media consultant, former producer and host for the HP VideoMagazine and a freelance reporter for ABC and Fox Television News.—Editor)

Want to play, Jerry?



By Sanjay Khanna

A MEASURE contributor and avid Web surfer stumbles across HP's fun and addictive pingpong mopier site.

tumped. Stuck. Captivated.

Addicted. After a long day
writing on the computer, I find
myself on the Web, unconsciously
navigating my way to www.hp.com/
go/mopier. My son, an inquisitive
8-year-old named Vikram, comes up
behind me, touches my arm and says,
"Pingpong? Again?"

He watches me move the cursor, directing my paddle to stop the onslaught of quick-moving balls returned by a devilishly engineered virtual kick-butt pingpong master (code-named "Jerry") on HP LaserJet 5Si mopier's Web site.

My son watches me lose to HP a few times every week. "Hey, let *me* play," he says. He grabs my hand, trying to force it away from the PPNC (Pingpong Paddle Navigational Control, a.k.a. the mouse). I give in. *Let the boy play*, I tell myself.

"Your turn, son, but be quick. I want to play, too."

My son begins to play. Now, he won't get off. It's disconcerting.

There must be someone to blame. While I don't normally blame people for my weakness, this time I will. And I place the blame on Jerry, the HP engineer who designed the Web-based pingpong ad banner. In May, I read an item in the Scan section of *Wired* magazine, that described a Java-based Pong ad banner on HP's mopier site and opined that it was the best ad banner yet created for the Web.

So I checked it out. And played the game. And read mopier specs. And played the game. And read product descriptions. And played the game.

Jerry, thanks to you, I've committed your scrolling message—located at the top of HP's ad banner—to memory.

Jerry here. I'm the HP engineer who designed this thing. It was supposed to be an ad banner. But, well, let's just say the coffee started to flow and things got a little weird around here. Kind of like when we made the mopier staple and collate. You want to play? You're the one on the right. Go crazy.

Jerry, I'm going crazy. And things have gotten more than "a little weird." Wherever you are, whoever who are,

Four reasons companies buy mopiers

The mopier (rhymes with "copier") is an exciting, new HP innovation that will change the way companies print and distribute information. The M-O-P in mopier stands for "multiple original print," so it follows that the mopier produces multiple laser prints of an original.

Here are four reasons why HP believes this new category of laser printing device will have a powerful impact in the corporate environment.

Reason #1—Mopying is faster than copying because users don't have to make time-consuming trips to the office copier. Saving time means increased productivity.

Reason #2—In surveys, consumers reveal that original print quality is one of the key reasons they choose HP LaserJet printers instead of copiers. HP mopiers deliver unrivalled print quality.

Reason #3—The price of the mopier is much lower than a comparable 25 to 40 page-per-minute (ppm) copier. In fact, 25 to 40 ppm copiers come in at anywhere between \$13,500 and \$27,000. HP mopiers are priced at \$9,000. Saving money means higher profits.

Reason #4—HP LaserJet printers are much more reliable than copiers.

More up-time equals more profits.

whether you're real or the vision of some creative genius at an ad agency, I need to find out how you understood that the only electronic game I ever liked in my youth was Pong. When complex, all-too-real video games became too challenging for me to even imagine a remote possibility of experiencing victory's adrenaline rush, it was Pong I fondly remembered. Jerry, have you grown beyond (re)engineering? Morphed into a marketing genius who understands that the mopier target market is middle-aged and remembers Pong with great fondness? Or what?

Jerry, I need to know. Help me break this cycle of game addiction. Help me get outside, print, staple and collate mopies so I can stop playing pingpong and start doing work. Jerry, I'm counting on you. M

(Sanjay Khanna is a Vancouver, Canada-based business writer who wants to meet Jerry.—Editor)

How to play the game

Unless you have the ShockWave program installed, you will not be able to see the ad banner.

To install ShockWave:

Go to http://www.hp.com/go/

If you do not have ShockWave installed, you will see a symbol that looks like a puzzle piece where the banner would normally be

Click on the puzzle piece. You will see a "Get plug-in" button.

Click on the "Get plug-in" button and you will be taken to the Shock-Wave Web site.

Click on the "Get ShockWave" button.

Follow the instructions listed on the ShockWave site.

The little ad banner that could

How the Web-based pingpong ad banner came about

"How did HP make the super-cool Web banner ad to promote the HP LaserJet 5Si mopier?" That's one of two big questions for many who've been seduced by the banner and blown hours of time playing pong at http://www.hp.com/go/ mopier. The second big question is: "Who's Jerry?"

Susan Cole, advertising manager in the Hardcopy Commercial Marketing Center, has answers to both questions. "In creating a Web ad banner to promote the 5Si mopier, we wanted to approach using the medium in a unique and innovative way."

So HP bought advertising space on PC World Online, news.com and c/net. Although ad banners have become more compelling with the advent of the gif89 standard that has allowed advertisers to rotate and flash corporate messages, HP and its advertising agency, Goodby, Silverstein & Partners wanted to push the technical envelope by doing what hadn't been done before. They worked with San Francisco-based Red Sky Interactive to create a game using ShockWave. (ShockWave is a Webbased multimedia plug-in that allows multimedia and sound animation to occur on the Web.) To ensure they could meet the technical requirements of the project, HP worked closely with the Web publishing sites where the ad banner was displayed.

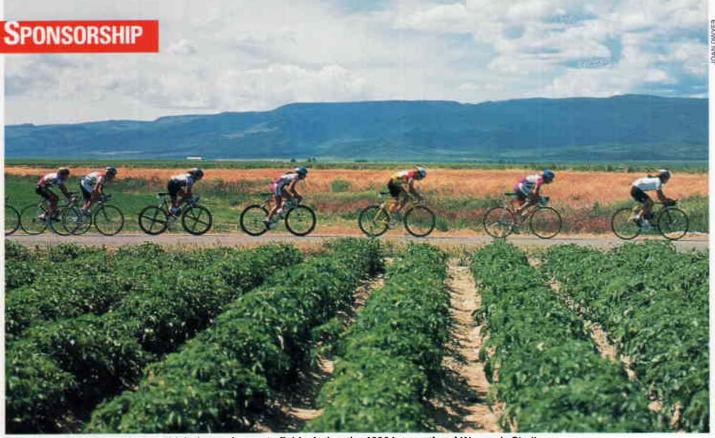
But not with Jerry Hild or "Jerry." Jerry Hild, program manager for

future mopy/copy solutions in Boise's Business LaserJet Division, did not, as claimed, create the ad banner, but did manage the team that developed the mopier. Red Sky Interactive, which has done interactive work for Nike and Wells Fargo, is the company that actually developed and produced the interactive programming.

The pingpong banner, which automatically plays at the skill level of its opponent, has produced a phenomenal response. Jerry Hild, whose last name originally was written on the ad banner, was contacted numerous times by the public. His last name has since been removed from the scrolling script.

Among other surprising requests, Wimbledon and the National Table Tennis Association both requested the right to use HP's banner on their own sites to promote their organizations. HP has given the go-ahead for these organizations to link to the HP Web site (http:// www.hp.com/go/mopier/), but did not cede display rights just in case the banner was used in ways HP didn't approve of.

And for all you marketing types, the irony of a Pong-like game was intentional. "We liked the massive appeal of a 1970s game being recreated with '90s technology," says Cole. "It's nostalgic, one of the first fun games we all really remember. This especially includes our target audience of managers who are going to approve mopier purchasing."



Elite women cyclists pedal past Idaho's scenic potato fields during the 1996 International Women's Challenge race.

Racing's best meet the Challenge



BOISE, Idaho—The streets of Idaho were all "aswoosh" June 22-29, when more than 100 top women cyclists from around the world competed in the HP-sponsored 1997 International Women's Challenge (IWC).

The 1997 event was held throughout Idaho in nine stages over eight days and included a mixture of individual and team trials, circuit races, criteriums and road races. Stage distances ranged from 2 to 90 miles and spanned a total of more than 400 miles and 15,000 vertical-climbing feet.

The race attracted riders from Italy, Belgium, Lithuania, Russia, South Africa and the United States.

The purpose of IWC is to recognize and enhance the accomplishments of women in sports and to promote an opportunity for women in competitive cycling. The event, in its 14th year, is widely considered the world's toughest women's cycling race.

"The commitment and dedication of the women who compete, teams

striving for a common goal and the balance between work and personal life are all common ideals HP shares," says Doug Cole, HP's IWC coordinator.

In its first year sponsoring the event, HP provided a total prize list of \$100,000—the largest purse in U.S. women's cycling history.

The LaserJet Supplies Operation led the way in HP's title sponsorship of the Challenge, providing supplies and accessories for all HP LaserJet printers used during the event.

The event generated an impressive HP Boise employee volunteer effort, with more than 70 employees giving their time.

The official race poster was designed by HP Philippines employee Leah Sureta. Race programs, T-shirts, pins and posters sported Leah's design. You can purchase IWC paraphanalia through IWC's Web site at http://www. hpiwc.com. There you'll also find complete race results and photos. M

-Tena Lessor

LETTER FROM LEW PLATT

HP's chairman, president and CEO emphasizes the importance of practicing MBWA—management by wandering around.



Lew Platt shares a laugh with (from left) Shoji Tanaka, Kenichi Akasaka and Kaoru Kitadate during a Corporate Offices barbecue for a visiting group from the HP Japan Retirees Club.

m really delighted that MEASURE has chosen to focus on the "state" of MBWA-management by wandering around-in this edition (see page 4), because it's such an important subject.

MBWA is increasingly at risk as our collective calendars fill up and we get busier and busier with other priorities. Yet MBWA is one of the things that makes HP different from other companies our size.

MBWA is one of the most visible ways we continue to encourage informal communications-again, a characteristic that sets HP apart.

I clearly remember my first exposure to MBWA. When I joined HP in 1966 at the Medical Products Division in Waltham, Massachusetts, I worked for classic, old-time HP managers who had a strong sense for the importance of managing by wandering around.

Bruce Wholey, the division general manager at the time, was a master of MBWA. He'd wander around the manufacturing lines, through the maintenance department, the boiler room, fabrication areas, as well as other departments. You never knew where Bruce would turn up. He would talk with anyone and everyone. And because of his effort, he had a real sense for the organization's pulse.

Of course, our co-founders, Bill Hewlett and Dave Packard, were models of MBWA. At most companies, coming face-to-face with the top executives would be intimidating. But Bill and Dave had a talent for immediately putting employees at ease.

You could argue that things were different then; the pace was slower; and HP wasn't nearly as geographically dispersed as we are today. While those statements are true, there's still no excuse for today's managers to abandon the practice of MBWA.

As the CEO of the 16th-largest U.S.-based corporation, my schedule is as demanding as anyone's in Hewlett-Packard. So I make a point of ensuring that MBWA is a part of my everyday life. For example, I:

 occasionally go to an employee's work area when a phone call or e-mail message would suffice. That gets me away from my desk for a brief time and I usually have three or four other interactions along the way; MBWA is critically important for two reasons: It shows people that you care about them as individuals, not just as employees, and it's a wonderful opportunity to hear what's on people's minds. It's a great way for managers to motivate employees and to learn from them at the same time.

So what's the "state" of MBWA today at Hewlett-Packard?

I see some people who practice it as well as it's ever been practiced. One such person is Rafael Piccolo, the general manager of HP Mexico. I can tell when I visit Mexico that Rafael really believes in MBWA. Just the reaction of the people there tells me that MBWA is practiced and appreciated.

Overall, however, I'd say that there are fewer practitioners of MBWA today, and that concerns me. We may have bigger challenges than

practicing MBWA, but I believe that every manager can find the time to do some. It's a very important way of doing his or her job.

Sometimes MBWA means face-toface. At other times, a personal phone call or teleconference is best. Electronic mail and voicemail can be effective, as long as they aren't used as substitutes for face-to-face interactions. Managers need to examine how they practice MBWA. If they're usually choosing the most impersonal way of communicating with employees, they're not living up to HP's expectations. isn't, "When is the last time I saw Lew Platt?"; The real test should be, "When is the last time any member of my local management team came by to see me?"

The list of tips for practicing better management by wandering around (on page 5) is a great set of pointers,

By the way, with nearly 115,000 HP

employees working at hundreds of

to see a large number of people in a

few years' time. The test of MBWA

sites, it's physically impossible for me

don't have time for it.

MBWA is a legacy we must protect.

especially for managers who say they

We may have bigger challenges than practicing MBWA, but I believe that every manager can find the time to do some.

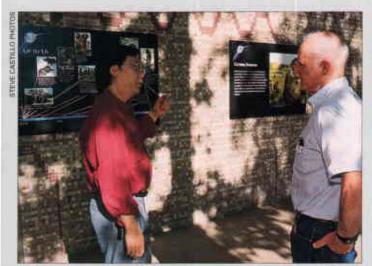
 eat in the HP cafeteria most days, typically with nonexecutives;

• stop by HP sales offices and manufacturing sites when I'm traveling for other reasons. For instance, the President's Quality Award, which we instituted in 1994, is significant in that it includes 1-1/2 to 2 hours of informal time with employees. It's a time for celebration, and employees are very open to chatting.

Extra*MEASURE*

News from around the HP world

By Tena Lessor



During his 1-mile walk, Corporate Engineering's Charlie Ng (left) had a chance to chat with Walk Thru Time creator Sid Liebes.

A walk through time

PALO ALTO, California-Imagine you're on a walk and every foot forward transports you 1 million years in time.

Seem impossible? Not

Sid Liebes, a 15-year HP veteran has had a dream since the first Earth Day in 1970 to create a mile-long Walk Thru Time, unfolding the scientific understanding of the evolution of life on earth at 1 million years to the foot and communicating mankind's influence on the future of life on earth.

After 27 years and with dozens of HP volunteers, Sid's "Walk Thru Time... from stardust to us" finally became a reality as the featured event at HP Labs' second "Celebration of Creativity Day," held on Earth Day, April 22.

Composed of nearly 100 posters printed on HP InkJet 755 printers, the fiveday exhibit unfolded the scientific understanding of the evolution of life on earth through text and illustrations.

The walk provides a context for asking deep personal and fundamental business questions and for generating new ideas for HP's future, Sid says.

"The walk was a huge success, far exceeding my expectations," he adds. "It was worth the 27-year wait."

Interested in having the "Walk Thru Time" display come to your site? If so, contact Laurie Mittelstadt by e-mail at laurie mittelstadt@hpl. hp.com.



Intrigued by one of the posters, HP employees (from left) Misty Brown, Joan Jenkins and Linda Haddock stop to examine it.



HP's Ann Marie Douet shares a special moment with daughter, Victoria, age 6, at HP Roseville's "Take Your Child to Work Day."

Mom, Dad, what do you do at HP?

Children across the United States got a day off from school in April to see just what Mom or Dad does all day at HP.

These children participated in various "take our children to work day" events at HP sites all over the country. For example, the Roseville, California, site

had an outstanding 500child turnout.

Activities of the day included surfing the Internet, "shadowing" an HP employee and a tour of the site.

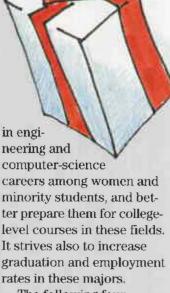
On one tour, a group of children assembled an HP server, using Legos and cardboard.

\$4 million for better education

HP's K-12 program made a \$4 million stride toward its goal of increasing the number of women and minorities in engineering- and math-related fields with a new program.

The Diversity in Education Initiative provides funding to selected education partnerships between universities and K-12 schools in four urban areas of the United States.

The program aims to boost interest



The following four schools are the program's first grant recipients for the next five years:

- Northeastern University in Boston, Massachusetts, and the Boston Public School District;
- San Jose State University in California, and the

Alum Rock Elementary School and East Side Union High School districts;

- University of California at Los Angeles and the Los Angeles Unified School district; and
- University of Texas at El Paso and the El Paso Independent School District.

In addition to funds, HP will offer scholarships to high-school and college students from these urban areas and opportunities to work at HP while going to college.

A penchant for giving

HP donated more than \$71 million in cash and equipment to schools, hospitals and nonprofit organizations worldwide in fiscal year 1996 (FY96). About 75 percent of it—more than \$52 million—went to education.

By region, HP gave \$54 million in the United States, \$12 million in Europe and \$5 million in Asia Pacific/ Latin America/Canada.

HP's FY96 donations again earned it a spot as one of the top five corporate philanthropists based in the United States.

For more information on HP's philanthropy, check Corporate Philanthropy's Web site at http://www.hp.com/go/grants.

FRANKLIN AWARD

Bill Hewlett has received the 1997 Benjamin Franklin Medal from the United Kingdom's Royal Society of the Arts. Hewlett was honored for his entrepreneurial achievements and for doing so much "to promote company values which are now successfully adopted on both sides of the Atlantic."

CHANGES MADE IN CO

The Computer Organization (CO) has consolidated its sales and channelmanagement activities and realigned segments of its operating units. CO now comprises:

- Computer Sales & Distribution Group (CSDG), led by Dick Watts, HP V.P. and G.M.;
- Software & Services Group (SSG), Ann Livermore, HP V.P. and G.M.;
- Enterprise Servers Group (ESG), Bill Russell, G.M.;
- Personal Systems Group (PSG), Duane Zitzner, HP V.P. and G.M.;
- LaserJet Solutions Group (LSG), Carolyn Ticknor, HP V.P. and G.M.;
- Consumer Products Group (CPG), Antonio Perez, HP V.P. and G.M.;
- Extended Enterprise Business Unit (EEBU), Glenn Osaka, G.M.;

- Internet Technology Group (ITG), Ira Goldstein, G.M.;
- VeriFone, led by Hatim Tyabji; and
- Marketing & Operations, Alex Sozonoff, HP V.P. and G.M.

HP LABS

The Israel Science Center has been elevated to a full-fledged part of HP's worldwide research efforts and has been renamed HP Labs-Israel to reflect the change.

NEW SSG ORGANIZATION

Ann Livermore made changes to her organization. Now in SSG are:

- The newly created Customer Support Business Unit (CSBU), led by G.M. Tom Ashburn;
- the newly created Professional Services Business Unit (PSBU), G.M. Bob Walker;
- the newly created Financing and Complements Business Unit (FCBU), G.M. Craig White;
- the Network and System Management Division (NSMD), G.M. Olivier Helleboid; and
- the Enterprise Solutions Organization (ESO), G.M. Radha Basu.



Foster children from the Massachusetts Department of Social Services excitedly flock around Boston Red Sox first baseman Mo Vaughn.

"Take me out to the ball game..."

BOSTON, Massachusetts-On May 28, excited Boston Red Sox fans packed Fenway Park to watch the Red Sox face off with the Chicago White Sox.

Among the loudest fans were 60 foster children from the Massachusetts Department of Social Services (DSS), who attended the game courtesy of Hewlett-Packard and the Boston Red Sox organization.

This was a double-play event for HP-both the Red Sox and DSS are HP customers.

The Commonwealth of Massachusetts has implemented an HP solution of PCs and servers that automated the state's entire social services system.

Also, HP and the Boston Red Sox organization have signed a multiyear pact, making HP the team's exclusive computer partner.

Powered by HP Vectra PCs and monitors. HP Net-Servers, HP LaserJet printers, HP OmniBook portable computers and HP Sure-Store tape backup units, the Red Sox organization now has a fully networked information system.

The DSS and Red Sox partnerships give HP's Boston Computer Organization (CO) team a unique opportunity to bring together HP's business, marketing and community partners, says CO Sales Manager Grad Rosenbaum.

I SECOND QUARTER EARNINGS

HP reported an 8 percent increase in net earnings. 5 percent growth in net revenue and a 3 percent increase in orders for Q2 of FY97.

Net earnings were \$784 million, or 75 cents per share, on approximately 1.05 billion shares of common stock outstanding. Net revenue was \$10.3 billion and orders were \$10.4 billion.

I VERIFONE ACQUISITION

HP has acquired Veri-Fone in a stock swap valued at approximately \$1.18 billion. The leading supplier of point-of-sale credit-card transaction systems is now a wholly owned subsidiary of HP, led by Hatim Tyabji, chairman, president and CEO.

BOWICK HEADS PERSONNEL

Susan Bowick has been named HP director of Personnel, replacing Pete Peterson, who retires August 1.

RETURN TO I SOUTH AFRICA

HP is returning to South Africa by acquiring businesses and assets of HiPerformance Systems, a subsidiary of Siltek Limited. The new entity will be known as HP South Africa, and will be led by Pat Landey, HiPerformance Systems G.M.

HP sold its South Africa sales subsidiary to Siltek in 1989, citing political, social and economic uncertainties.

ITMO CHANGES

Dick Anderson, HP V.P. and G.M. of the Microwave and Communications Group (MCG), will retire in August after 38 years of service with the company. He will be replaced at MCG by Byron Anderson, currently HP V.P. and G.M. of the Communications **Test Solutions Group** (CTSG). Tom White, G.M. of the Computer Peripherals Bristol Division, will succeed Anderson as CTSG G.M.

I E-MAIL MENTOR

HP's E-mail Mentor Program was honored by One to One/The National Mentoring Partnership. The program, started by HP CO employee David Neils, received the organization's 1997 National Corporate Leadership Award.

New Guinea adventure

PAPUA, New Guinea— Nestled deep within a solid mountain chain in Papua, New Guinea, exists a lush valley called the Southern Highlands that's occupied by a people whose existence was unknown until the 1930s.

In September 1995, Guillermo Rodriguez, a project manager for HP's Software and Services Group in Argentina, ventured alone to this remote location and discovered the Huli Wigmen.

"The Huli Wigmen, a people rich in tribal culture and tradition, live in Ulirima, a village lost in the Tari Basin. It's located about one hour from Tari by truck—the Highlands' public "bus" service—and a couple of hours walk through the bush," Guillermo explains.

Chronological age has no significance to the Huli Wigmen, who only see themselves as infants, youngsters, men and old men.



Guillermo photographed the "old man" of the village, the authoritative chief, respected for his wisdom and skill.

"I was drawn to his serenity," Guillermo explains. "It was impossible to reflect that moment on paper."

Guillermo took the photo with a Canon A1 camera and Kodak Ektachrome Professional Plus film. For one month, Guillermo experienced a culture and a people he'll remember for a lifetime. "I'll never forget the warmth of this fantastic people."

For U.S. address changes, use Change of Address form in Personnel on the Web at http://persweb.corp.hp.com.



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