

# WHARTON

A L U M N I M A G A Z I N E

Summer 1995

## WHO'S IN CHARGE?

THE CHALLENGES  
OF MANAGING  
WITH AMBIGUOUS  
AUTHORITY



# THE WHARTON SCHOOL ANNOUNCES

P E N N

# PRONET

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WITH  
OPPORTUNITY

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Complete confidentiality is maintained throughout this process and alumni can, at any time, restrict the release of their profiles.

WATCH  
YOUR MAIL FOR  
DETAILS

ProNet information packages were mailed to alumni working in a wide range of businesses, industries and scientific fields. If you have not received one, please write to Penn ProNet, The General Alumni Society, E. Craig Sweeten Alumni Center, 3533 Locust Walk, Philadelphia, PA 19104-6226 or call (800) 488-6507.

THE MISSING I'S:  
Due to a computer error in the electronic digital output process, all "i's" that followed "f's" in the last ProNet ad were inadvertently dropped from type. We are rerunning the ad this issue with "i's" intact.

## Features

**8 WHO'S IN CHARGE?**  
Today's Flatter, Leaner Companies Have Created More Situations Where Everyone — and Therefore No One — Is the Boss. Some Managers Find "Ambiguous Authority" Creative. Others Find It Confusing. Everyone Finds It a Lot of Work

**13 PLAYING BY THE NUMBERS**  
Statistical Analysis May Not Be Perfect, Says Professor Michael Steele, But in a World Full of Uncertainty, It's the Best Tool Available for Predicting the Future

**17 REUNIONS 1995: A CLASS ACT**

## Departments

**2 SCHOOL UPDATE**  
Chatting Long-Distance on the Internet  
Hewlett-Packard CEO Elected to Honor Roll  
Military Veterans Storm Wharton

**22 ALUMNI PROFILES**  
Slivy Edmonds, WG'79: Making Deals  
Mauricio Vives, WG'84: Graffiti Takes Off  
Bruce Stevens, W'64: The Piano Man

**24 WHARTON IMPACT**  
Supply Chains: The Corporate Lifeline

## COVER ARTICLE

Companies these days expect more from their managers than ever before. One approach is a less hierarchical work environment where authority lines are unclear and changing, and a tolerance for chaos is a plus.



Illustration by  
Rafal Oblinsky

8

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# CHATTING LONG-DISTANCE ON THE INTERNET

In early 1994, Richard Ahrens, W'96, began to wonder if there was some way to cut down on the huge telephone bills he was racking up talking to friends at other colleges.

The question eventually led to the development of Internet Voice Chat (IVC), a computer program which allows users to speak to each other — with their real voices — using their Internet accounts.

By working up to 10 hours a day in his dorm room, Ahrens, an information systems and finance major, finished the program in May of last year, one day before he left for summer vacation at his home in Middletown, N.J.

The response to his software program was overwhelming from the start. Even before finetuning IVC, Ahrens was flooded with e-mail from Internet users wanting more information.

"I heard from research professors, Internet service providers, venture capitalists and even someone from NASA," says Ahrens. "I realized this was probably a very good business opportunity."

IVC is simple to use, says Ahrens, who compares it to operating a CB radio. The user records a message using IVC, then sends the voice transmission to another Internet user anywhere in the world. The second user receives the message within seconds, and can reply using his or her own IVC program.



**AHRENS: "A GOOD BUSINESS OPPORTUNITY"**

And since IVC shoots the messages across the Internet instead of long distance carriers' cables, each exchange is free. In addition, IVC has an answering machine and call screening, as well as sound quality that Ahrens says is better than a telephone.

"It's the same cost if you are talking to someone down the hall or in China," Ahrens says. "If you are making tons of long distance calls, the program can literally pay for itself

in one day." He envisioned IVC being used for such things as professors talking to colleagues at remote universities, parents talking to their college kids via a home dial-up Internet connection, and corporations offering voice tech support on the Internet.

A limited version of the software was made available to Internet users free during a 30-day evaluation period. Users were then expected to discontinue the program or pay a \$25 fee. (Many kept the program, but didn't pay

the fee, Ahrens notes.) He also began to negotiate site licenses with companies and universities.

All that came to an end two months ago when he decided to sell the program to a private company. "It's a win-win situation," says Ahrens, who is working this summer for J.P. Morgan in its corporate technology group. "I am very satisfied with the price, and the company is getting an excellent product." ▼

## GOOD TEACHING REWARDED

Every spring, both undergraduate and graduate students at Wharton take an opportunity to salute excellence in teaching.

Among the most prestigious honors is the David W. Hauck Award for Outstanding Teaching on the undergraduate level, given to two faculty members for their ability to "stimulate and challenge students, their knowledge of cutting-edge research and

their commitment to educational leadership."

This year, the recipients, each of whom receives \$15,000, were Richard Herring, professor of finance, and Larry Hunter, assistant professor of management.

On the graduate level, the Helen Kardon Moss Anvil Award - given for teaching quality and commitment to students - went to David Reibstein,

professor of marketing. Reibstein, who has been teaching at Wharton since 1980, is a former vice dean and director of the Graduate Division.

Also on the graduate level, eight faculty won 1995 Excellence in Teaching awards on the basis of student course evaluation ratings. The professor with the highest rating among the eight also receives the Class of 1984 award.

*Continued on next page*



## WHARTON MEDIA

### SAY IT WITH VIDEOS

*Continued from preceding page*

This year, for the third time in a row, the Class of 1984 winner was William Tyson (Legal Studies). The other seven winners included: Jamshed K.S. Ghandhi (Finance), Howard Kaufold (Finance), Peter H. Knutson (Accounting), Richard Shell (Legal Studies), Jeremy Siegel (Finance), Robert Stine (Statistics) and Michael Useem (Sociology and Management).

On the undergraduate level, 10 faculty received teaching awards: Jamshed K.S. Ghandhi (Finance), William F. Hamilton (Management), Richard Herring (Finance), Larry Hunter (Management), Robert Inman (Finance), Philip Nichols (Legal Studies), Georgette Poindexter (Real Estate), Diana C. Robertson (formerly Legal Studies), Abba Krieger (Statistics) and Jeremy Siegel (Finance). ▼

In conjunction with WGBH in Boston, Wharton Executive Education has created a new video series with individual presentations on marketing, management, and finance and accounting.

"The videos are done in a documentary format, with narration, case studies and workplace interviews," says Jeff Barta, assistant director, marketing.

The four videos include:

- Creating Customer Value: The Essentials of Marketing, led by Barbara E. Kahn, associate professor of marketing
- Achieving Competitive Advantage, led by Harbir Singh, associate professor of management
- Achieving Competitive Advantage: Managing for Organizational Effectiveness, led by Michael Useem,

professor of sociology and management

- Finance and Accounting for the Non-Financial Manager, led by Peter H. Knutson, associate professor of accounting

Part of the marketing video, says Barta, is filmed inside companies like Visa International, Ryka and the Bank of Boston, as well as at an athletic wear tradeshow in Atlanta. Because WGBH is co-producing the videos, much of the production work will be done in Boston, with final edits in Philadelphia.

Available August 1, each video costs \$195, any two together cost \$350, and the set of four costs \$595. For information or to order, call 1-800-255-3932. ▼

## WHAT'S NEW: 'THE WHARTON INFORMATION NETWORK'

Are you interested in what the Wharton Club of Japan is up to — or in career management programs sponsored by the Wharton Club of Washington, D.C.? What about executive education courses or the latest in Wharton faculty research?

For alumni interested in viewing Wharton information and selected publications, the School now offers the "Wharton Information Network" on the Internet.

The address for The School's World Wide Web "home page" is <http://www.wharton.upenn.edu>

To access the home page, you need an Internet connection and a web browser such as Mosaic, Netscape Navigator or Lynx. (Lynx provides text-only access; Mosaic and Netscape offer full graphics with pictures, colors and fonts.)

In addition, certain publications require use of an Adobe Acrobat viewer — a portable document format package which offers exact replicas of the printed page. For information on downloading a free copy of

Acrobat Reader, select the question mark icon on Wharton's home page.

Already available on the "Wharton Information Network" are several publications, including the "State of the School" annual report, the Guide to Faculty and "Wharton Impact" (a newsletter on faculty research). Also online are the Executive Education catalog and the MBA Student Resource Guide & MBA Placement Survey.

In addition, you can access the *Wharton Alumni Magazine* and information about the Wharton club network, including a schedule of domestic and international club events, along with updates on special programs like Alumni Weekend 1996.

Any documents accessible through the home page can be printed by the user.

Wharton Alumni Affairs has its own e-mail address — [alumni.affairs@wharton.upenn.edu](mailto:alumni.affairs@wharton.upenn.edu) — for use by graduates and students.

Expanded offerings of the home page are under development. Users will eventually find links to Wharton divisions, student organizations, academic departments and research centers, as well as information about careers and job-related resources. ▼





# Campus NEWS

■ Professor W. Bruce Allen has been appointed Vice Dean and Director of the Graduate Division. He replaces Isik Inselbag, who held this position since 1991 and who will now resume his teaching responsibilities in the Finance Department.

Allen, who is professor of public policy and management, has been closely involved in the Graduate Division through his work on the Graduate Curriculum and Implementation Committees and other initiatives. During the last year, he served as Vice Dean and Director of the Wharton Undergraduate Division.

Richard J. Herring, professor of finance, replaces Allen as Vice Dean and Director of the Undergraduate Division. Herring was chair of the Undergraduate Curriculum Committee during 1993-94, and has been the Finance Department's departmental adviser for undergraduate course offerings.

Mark V. Pauly, Bendheim Professor of Health Care Systems, public policy and management, and research director of the Leonard Davis Institute, is the new vice dean

and director of Wharton's Doctoral Programs. He replaces David C. Schmittlein, professor of marketing, who has been both vice dean of the program and chair of the Marketing Department. Schmittlein will continue on as department chair.

■ Jon Huntsman, W'59, chairman and CEO of Huntsman Chemical Corp., delivered this year's MBA commencement address on May 22. Huntsman, a highly-respected entrepreneur, philanthropist and member of Wharton's Board of Overseers, built Huntsman Chemical Corp. into one of the world's largest producers of plastics and specialty chemicals with annual revenues of close to \$4 billion.

■ With the increasing convergence of the manufacturing and service sectors, the need for organizations to analyze their sourcing, production, distribution and customer support systems is becoming more and more critical. To address these issues, Wharton has announced the formation of the Fishman-Davidson Center for Services and Operations Management.

The new center will examine the service functions of manufacturing companies and the operations functions of service firms in industries as diverse as financial services, computer products, chemicals, automobiles, insurance and hospitality. Center co-directors are Morris A. Cohen, Matsushita Professor of Manufacturing and Logistics, and Marshall L. Fisher, Stephen J. Heyman Professor. Both professors are in the Operations and Information Management Department.

■ Nationally prominent health care providers and policy analysts discussed the changing dynamics of the health care marketplace at a day-long conference in April.

Sponsored by the Leonard Davis Institute of Health Economics, the conference focused specifically on the impact of market changes on the Philadelphia region and compared Philadelphia to other regions across the U.S. Participants also discussed the effect of the unprecedented shifts in health care on consumers, providers and medical centers. ▼

## GOOD NEWS, AGAIN

WITH HIGHEST HONORS: Lewis E. Platt, WG'66, chairman, president and CEO of Hewlett-Packard Co., has been elected to Wharton's Alumni Honor Roll. Students selected Platt the 1994-95 Outstanding Alumnus from a slate of five finalists chosen for their outstanding contributions to the School and society.



In its 1995 survey of business graduate schools, *U.S. News & World Report* ranked Wharton second, two tenths of a percentage point behind M.I.T. (Sloan), and ahead of Stanford (third place), Harvard (fourth) and Northwestern (fifth). Two years ago, Wharton had placed fourth.

The poll also ranked Wharton's academic departments among the top five in 9 of 11 categories — more than any other school. Wharton ranked number one in finance, real estate and

business law, and among the top five in the areas of accounting, international business, non-profit organizations, marketing and general management.

In a separate Executive Education ranking, the School tied for first place with Harvard and Kellogg. Two years ago, the School had ranked sixth.

In *Business Week* magazine's 1994 biennial survey of business graduate schools, Wharton was ranked number one, up from number four in 1992. ▼

## UNDERGRADUATES MAKE THEIR CASE

Wharton undergraduates came close to batting one thousand in four business case competitions this spring.



**AND THE WINNERS ARE...**  
**FROM LEFT, KESAVAN, FUSS, DESAI AND FULLERTON**

At The McIntire International Case Competition, held every year at the University of Virginia in Charlottesville, a Wharton team placed first, outperforming three other finalists.

At the 1995 National Business Challenge, held at the University of Texas at Austin, Wharton came in second place overall out of 12 schools. In a separate poll, students who took part in the competition rated the Wharton team first.

In the First Annual Philadelphia Area Case competition at Temple University in Philadelphia, Wharton sophomores beat out four other local university teams. In The Harold Crookell Honors Business Administration International Case Competition at the University of Western Ontario, a Wharton team won against four others from Switzerland, Singapore, Finland and Belgium.

"We were asked to look at a Canadian company that was debating whether or not to expand into Mexico and then into other international markets," says Anand Desai, a Wharton junior who was part of the winning team. Over the course of three days, the students were allotted exactly 14.5 hours to come up with a business strategy that would take advantage of the new market opportunities. Each team presented its plan on paper and then defended it before a panel of five judges. "The judges had prepared for the session just as vigorously as we had," says Desai. "It was a great experience."

Other members of the Wharton team included seniors Shannon Fullerton, Elizabeth Fuss and Vasan Kesavan. ▼

## CONSULTING STILL #1

The consulting industry has once again attracted the highest number of new MBA graduates, followed by the investment banking/brokerage industry and commercial banking.

According to preliminary figures from Wharton's Career Development & Placement office, 27.35 percent of WG'95 graduates accepted jobs with consulting firms, compared to 23.5 percent in 1994. Investment banking/brokerage hired 16.7 percent of the class compared to 19.8 percent in 1994, and commercial banking hired 13.4 percent compared to 10.6 percent.

On-campus recruiting services hosted 6,054 company interviews, an increase of 8.6 percent over 1994.

A full report on both graduate and undergraduate job placement will appear in the next issue. ▼

### THE WHARTON MBA PROGRAM IN HEALTH CARE MANAGEMENT *Celebrates its 25th Anniversary* October 19 - 21, 1995

#### *Thursday, Oct. 19:*

- ◆ Kick-off dinner on campus
- ◆ Speaker: John Eisenberg, M.D., WG'76: Chairman, Department of Medicine, Georgetown University Medical Center
- ◆ Class dinners

#### *Friday, Oct. 20:*

- ◆ Day-long conference at the Pennsylvania Convention Center  
Theme: Health Care 2020
- ◆ Speaker: Russell Ackoff, Ph.D., Daniel Silberberg, (Emeritus) Professor of Systems Sciences at Wharton
- ◆ Dinner celebration for all health care alumni

#### *Saturday, Oct. 21:*

- ◆ Series of health care alumni association workshops on campus

*All Wharton alumni in health care are invited to participate in these events.*

For more information, call June Kinney, associate director of the MBA program in health care management, at (215) 898-6861.

## TOUR OF DUTY: MILITARY VETERANS STORM WHARTON

In the back of the MBA Class of '96 facebook is a section labeled "Previous Employment." It lists the companies or organizations where students worked before they entered Wharton last fall.

The biggest employer, it turns out, was not Andersen Consulting (no. 2) or Procter & Gamble (no. 3), but the U.S. military.

Close to 30 members of the class of WG'96 worked for the U.S. Air Force, Navy, Marine Corps or Coast Guard in positions ranging from fighter pilot to logistics officer to platoon commander.

The appeal of business school among this group isn't hard to understand: First, skills learned in the military mirror those sought by corporate recruiters - the ability to analyze data, lead teams, manage complex projects, focus on a mission and meet deadlines.

Second, the military is downsizing following the end of the Cold War and the collapse of Communism. That means fewer opportunities for promising young officers. "I was on a submarine in the western Pacific in 1989 when an AP

report came over the wires saying the Berlin Wall had come down," says Chris Boova, WG'96, who spent three years on the U.S.S. Portsmouth helping to oversee a billion-dollar ship and a 120-person crew whose average age was 21.

"I didn't know what that meant at the time, but later I came to realize that it meant really radical changes in military missions and in the outlook for the submarine community in particular. Two years ago I decided I wanted to find another challenge that was equivalent to or greater than the Navy."

The veterans even have a club, called appropriately enough, the Veterans Club, whose 60 members are evenly divided between first- and second-year students. "Most of us have never had, or needed, a



**STANDING FROM LEFT: SHALER, VICENTE, BELINNE, BOOVA AND RYAN. SEATED: SULLIVAN, SMITH, AND OGBURN**

resume, and never had to do job interviews," says club co-president Dave Ogburn, a former Navy officer who spent three of his six years in the Navy on board a cruiser, the U.S.S. England, based out of San Diego. "Second-year students offer a support network to help first years make the transition from the military to the business world."

Below, several students discuss their military background and the decisions that led them to Wharton.

■ Adrian Belinne graduated from the U.S. Air Force Academy in 1986 and spent three years as an instructor pilot in T-38s, supersonic advanced trainers. After serving for one year as exchange officer to the Republic of Singapore Air Force, he returned to Tinker Air Force base in Oklahoma City. In 1990, he piloted the E-3 AWACs airplane and flew during Desert Storm, operating out of both Saudi Arabia and Turkey.

Belinne chose early release from active duty and worked part-time for the Oklahoma Air National Guard, where he flew relief supplies to Bosnia and conducted high altitude nighttime drops into combat zones.

What he brings to Wharton is not so much a set of skills as a perspective. "We lived in Israel just after the Yom Kippur war," says Belinne, whose father was a test pilot for the Air Force and then a diplomat. "That, and my work during Desert Storm and in Sarajevo, has shown me what it means to be under siege or in a state of war. It helps you focus on what is important."

■ Lori Shaler was in Army ROTC at Pomona College and after graduation spent the next three years as a logistics officer in Germany. Her battalion, which supported a combat brigade of 4,500 men, had 80 women soldiers. Of the 25 officers in her battalion, six were women.

"You confront a lot of very deeply held beliefs about what women should and shouldn't do," she says. "When I first

### THE WHARTON FAMILY BUSINESS LEADERSHIP DEVELOPMENT PROGRAM

Invites all Wharton alumni to  
"The Next Generation"  
Oct. 15-18.

This intensive three-day training  
session will:

- Develop your leadership skills while taking into account your unique family business dynamics
- Help you understand the succession planning process and prepare for a successful transition

The program will be held at the  
Omni Hotel at Independence Park  
in Philadelphia.

For information and a brochure,  
call Timothy G. Habbershon,  
Director, Wharton Family Business  
Program  
(215) 898-4470





arrived in Germany, I was assigned to lead a logistical support team for a NATO-level competition. To do that, I traveled around Germany training with a group of 120 men. I was the only woman. They were all soldiers in a tank company. That's where you find some of the strongest opposition to women in the military — among the combat arms group. Because of that, it took longer to get to know people and to establish your credibility."

In 1991 Shaler, 30, returned to Aberdeen Proving Ground, a base north of Baltimore, Md., where she worked for the chief of the ordnance (munitions) corps.

The experiences in the military taught her not just functional skills, but also "adaptiveness. It gives you a sense of confidence that you can handle most situations," she says.

■ Bob Vicente graduated from the U.S. Coast Guard Academy in 1986. He spent most of the next four years at sea and then worked for two years in Miami as an admiral's aide.

From 1992 to 1994, as commanding officer of a Coast Guard patrol boat operating out of Miami, he was extensively involved in narcotics interdiction throughout

the Caribbean and also conducted rescue operations for hundreds of Cuban rafters and Haitian refugees trying to reach the U.S.

"Having had my own command was excellent preparation for business school," says Vicente, 30. "You have to balance every aspect of running an organization - financial, personnel, operations, work-life, etc. And aboard a ship there is a limited number of people to do a great many tasks. Time-management skills become critical."

■ Darryl Smith graduated from the U.S. Naval Academy in 1988 and spent six years in the Marine Corps. He was sent to Saudi Arabia and Kuwait in 1990 where he served as a platoon commander, a strategic planner for logistics support, and operations officer for an 80-man unit that used helicopters to provide supplies to combat units.

In 1993 he went to the Marine Corps air station El Toro in Orange County, Calif., as logistics and fiscal officer for the base realignment and closure team.

"When I saw friends of mine who had left the Marine Corps before me, I realized you need more than leadership

*Continued on page 26*

"AT THE AGE OF 55,  
I WANT TO BE AT THE PEAK  
OF MY CAREER,  
NOT THE END OF IT."

*Justin Ryan*

*Introducing the ....*



## WHARTON LEGACY CIRCLE OF THE CHARLES CUSTIS HARRISON SOCIETY

**The Wharton School has established the Wharton Legacy Circle to honor those alumni and friends whose vision and enduring commitment to excellence ensure the School's leadership for coming generations. Through their foresight and generosity, Legacy Circle members have provided for Wharton's future by remembering the School in their estate plans.**

### AN INVITATION

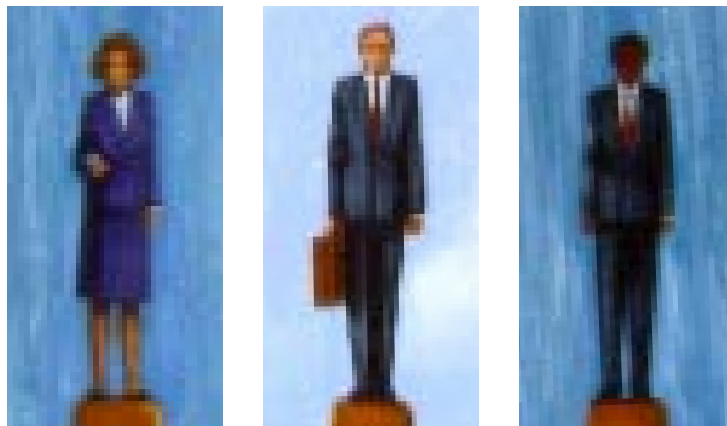
You are cordially invited to join the Wharton Legacy Circle. Qualifying donors have provided for Wharton through a bequest, life insurance policy, or one of several types of life income gifts, including charitable trusts. Legacy Circle members receive invitations to special events, a membership certificate and pin, complimentary issues of Wharton's biannual gift planning newsletter, and more. In addition, because the Legacy Circle is a chapter of the Charles Custis Harrison Society, donors automatically receive joint membership in this university-wide program.

### CONTINUING THE LEGACY

One of the ways you can help Wharton plan for the future is to let us know of your estate plans benefiting the School. If you have already done so, we extend our deepest gratitude and welcome you as a member of the Wharton Legacy Circle. If you have not yet informed us of your intentions, we urge you to notify our office. *All information will be kept strictly confidential.*

**For more information on making a meaningful and lasting gift to Wharton, please complete and mail the attached reply card. Or, contact Debra S. Gold, Director of Gift Planning at (215) 898-1638.**

# WHO'S IN CHARGE?



**TODAY'S FLATTER, LEANER COMPANIES HAVE CREATED MORE SITUATIONS WHERE EVERYONE — AND THEREFORE NO ONE — IS THE BOSS. SOME MANAGERS FIND "AMBIGUOUS AUTHORITY" CREATIVE. OTHERS FIND IT CONFUSING. EVERYONE FINDS IT A LOT OF WORK**

In the post World War II success story of the U.S. corporation, few things were more entrenched than a belief in the hierarchical style of management. A company's organizational structure was built around clear, bureaucratic lines of authority based on the assumption that the longer you had been with the company, the more you knew, and the higher your place in the chain of command.

Supporting this type of hierarchy was a system that partitioned knowledge and experience into rigidly-defined organizational "silos" with few incentives or opportunities to work with colleagues outside one's own group.

These days, however, more and more companies are turning from traditional, hierarchical structures to flatter and less defined work environments. In the process, an increasing number of managers find themselves less able to draw on traditional "legitimate authority" and more dependent on what business academics call "ambiguous authority."

Ambiguous authority arises when a person's knowledge of the task at hand and his or her need to negotiate consensus among differing opinions becomes more important than the traditional yardsticks of title, rank or seniority. As the organizational design flattens out, decision-making is pushed downward to include lower managerial ranks, and the emphasis is on people working together as a cross-functional, cross-departmental team. The advantages of such a system are faster, better, more cost-efficient customer service.

The term "ambiguous authority" strikes a chord with today's managers as they cope with new technologies,

increasing globalization, deregulation of whole industries, shifting markets, stiffer competition and downsizing. David Wilson, WG'89, director of pediatric health information systems at Kansas City-based Child Health Corp. of America, says his company hires people with the expectation that they "can operate in a flatter, team-based environment where decisions must be made quickly and it is not always clear what your responsibilities are and where the boundaries lie. Yes, there can be confusion, but it also means that we hear many different points of view. People in the company believe that managing with ambiguous authority results in better products for our customers."

Leslie Dorman, WG'89, a compensation analyst at Liz Claiborne, Inc. in its New Jersey office, says her company is "going through the same reengineering process as everyone else. A new COO who came on board last year has made a lot of changes, including pushing authority levels lower in the organization. One result has been that the necessary approval signatures on most paperwork have been cut by about half."

Ross A. Webber, professor of management, who has written extensively on this subject, sees "a greater need than ever before to bring multiple perspectives to bear on problems. Doing business in a global, highly competitive environment is too complex for employees with specialized backgrounds. Leadership these days requires one to make ambiguity tolerable by articulating an organizing vision out of the chaos people are experiencing."

Like other management buzzwords — such as empowerment, reengineering, team building, right-sizing and total quality management — functioning with ambiguous authority can surface problems as well as efficiencies.

At its worst, redefining people's roles without preparing them for the new environment causes chaos. If authority becomes too unclear, conflicting or overlapping, the new structure turns dysfunctional. "A company that expects its people to act differently, but doesn't change the information flows, the reward systems or job descriptions, and doesn't explain how decisions should be made, creates a paralyzing situation. People aren't empowered; they are abandoned," says Michael Seitchik, director, program development, Wharton Executive Education. "You need a leadership approach that lets people talk about negotiating their new roles and using conflict in a positive way."

Nancy Drozdow, director of closely held business practice at the Center for Applied Research, a former Wharton research center, deals with questions of ambiguous authority as it relates to strategic and succession issues within family businesses. "Ambiguous authority often turns out to be absence of authority," she notes. "Nobody is in charge. Everyone thinks everything is done by consensus, when in fact, nothing gets done."

At its best, however, the move to set up flatter, less hierarchical structures encourages risk-taking, innovation and creativity, and breaks down functional and departmental barriers so that people work together as teams. "Whatever you call it," says John Kimberly, Henry Bower Professor of Entrepreneurial Studies and professor of management and health care systems, "the fundamental fact is that you are trying to get people in organizations to think differently about their roles and responsibilities and, in the process of doing that, to become creative in finding new solutions to a variety of problems."

To illustrate the concept of ambiguous authority, the *Wharton Alumni Magazine* interviewed several alumni who studied this subject in Ross Webber's course, "The Individual in the Organization," when it was first offered in 1989 and 1990.

A majority of those contacted agreed — wholeheartedly — that ambiguous authority was a phrase that describes some or all of their current jobs. Their situations fell into three general categories — managing cross-functional teams, working in multi-divisional organizations where the divisions compete for a limited resource; and operating in multinational companies where questions of regional autonomy and cultural flexibility create their own ambiguous authority environments.

In all of these situations, says Webber, certain management skills are needed. First, one must have the ability to empathize with other functions and other priorities. Inherent in that is the willingness to listen to other points of view and learn how other functions operate.

Second, one needs a "tolerance for ambiguity." While most people prefer clarity and certainty in their jobs, those

who can learn to manage in less well-defined environments have an advantage in today's matrix organizations.

A third component, especially in today's global marketplace, is the ability to operate well in a multicultural environment. Webber calls it "a sense of cosmopolitanism."

## CROSS-FUNCTIONAL TEAMS

Cross-functional teams pose unique challenges for mid-level managers, says Webber, "especially when a manager finds himself or herself the leader of one project team one day, but only a rank-and-file member of another project team another day. Or when a manager needs to reach a consensus within a team of peers, but has no direct authority over team members."

Michael Seitchik poses the question this way: "If someone in charge of marketing is on a team with someone in charge of finance, when are you representing your function and when are you representing the greater good? Roles and authority aren't always clear."

Seven months ago, Thomas J. Sullivan, WG'91, was director of national planning and distribution for J&J Consumer Products, one of the five J&J consumer companies. He reported directly to the company's vice president of operations at headquarters in Skillman, N.J. "It was a very functional, hierarchical group," he says.

In January 1995, Johnson & Johnson instituted a pilot program in Irvine, Ca., that combines all five consumer companies — J&J Consumer Products, McNeil Consumer Products, Personal Products Company, Advanced Care Products and J&J-Merck — into one, and promoted Sullivan to director of logistics for J&J customer support center, western sales division. "We now approach customers as one J&J organization," Sullivan says.

In his new position, Sullivan reports to both the executive director of the sales division (his matrix line) as well as the vice president of operations (his functional line).

In reality, no one in the Irvine office has any operations experience besides Sullivan. And Sullivan has no one working underneath him. "But there are a lot of people I draw upon, from customer service and warehousing to transportation and order entry."

Ambiguous authority, he adds, "is an appropriate term for this situation ... Basically my role is to facilitate the logistics process, from the day a customer decides to place an order to the day the customer receives the product at whatever shipping point is requested. That means, for example, that I am responsible for overseeing the performance of trucking companies, warehouse operators and others even though they are independent contractors with no functional relationship to J&J.

"We find that the key is to keep focusing on the ultimate goal, which is the customer. So when you meet with a contractor, instead of saying, 'You have to do this or that,' we focus on what the customer needs and what we can do as

an organization to make this happen. Then we derive everyone's roles and responsibilities from that."

Although Sullivan has only been in this position for several months, he says that everyone involved in the process "likes the idea that instead of being told what to do, they play a part in the decision making. It was the first time many of our public partners really felt like they were part of a J&J team."

If there is a difference of opinion between Sullivan and a contractor, who makes the ultimate decision? "We pay for their services," Sullivan says. "If a carrier decides they don't want to be part of our program, we won't use them anymore. But so far that hasn't happened. When we sit around the table as a team, people can look and see that something may not be better for them, but is better for the customer."

Sullivan says his biggest challenge "is always ensuring that you are getting the information you need and that you have good communications with all your constituents."

And the biggest drawback, he adds, is the need for frequent meetings. "With so many teams, I spend 10 to 16 hours a week in staff meetings or communications meetings, just to make sure our network is tight. But it's necessary, especially at the beginning. You have to make sure you have the right information and other support tools in place."

"A key part of that is the electronic network — e-mail, voice mail, data analysis software. That's been the big enabler in managing with ambiguous authority."

Sullivan says he loves his work. "Other companies may be operating like this, but for J&J, it's a whole new platform. I feel like a pioneer, which is one of the things that makes this job exciting. I am doing something new."



As a manager in consultant A.T. Kearney's Atlanta office, David Jacoby, WG'89, sees ambiguity on several levels, especially in the nature of the consulting business itself.

Consultants are often called in with a substantial degree of influence and/or power, but their actual authority is less than that suggested "by a dotted line relationship on an organizational chart,"

Jacoby says. So a consultant's role is not to manage, "but to influence and lead. The idea is to understand who the key players on the team are, what their personal and team goals are,

and whether these goals agree or conflict with others." Laying out a "road map to the group dynamics in your team," he says, is "worth a million bucks."

Jacoby sees substantial change occurring in client companies due to the decentralization of information technology as well as the new management trends emphasizing empowerment and team-based organizations. Progress comes not through having authority over someone, but through "actually influencing people to change their behavior," he says.

The move towards more team-based organizations, "while it can take longer to reach a decision, is generally positive, because once a consensus is reached, the power to achieve the goal is much greater. Everyone is on the boat."

In his own company, Jacoby says, "project teams are staffed according to the responsibility of the individual as a member of the team, not according to the level of the person. You could have a project manager who is, in fact, a principal in the company, one level higher than a manager. You could also have a project manager who is an associate, one level lower than a manager. You could have a manager working for another manager."

"You could say that's not ambiguous, that it's clear, because you report to a certain team manager. But once you have conveyed the principal ideology that everyone is empowered to influence the team, then nobody has absolute authority. An associate could be having an argument with a partner, what people call 'constructive dissent.'

"If you do in fact have an argument going on, that gets into the longer-term issue of training people. Associates don't have a good sense of managing up. It's a skill that you learn — how to manage your relationships with superiors so that you can achieve constructive dissent without angering others."

## COMPETITION IN MULTI-DIVISIONAL FIRMS

Some of the most difficult tests of management capabilities are in situations where the objectives of the independent parties are quite different, and often competing. An example would be where managers of equal rank are vying for a finite resource — such as limited production capability, space, or other employees' time. The ability to negotiate in situations like these is considered critical.



David D'Arezzo, WG'89, is a group unit manager for Wegman's, a \$2 billion supermarket chain with stores throughout Pennsylvania and New York. He is in charge of 45 percent of the grocery department, including soft drinks, beer, paper goods and laundry products.

Ambiguous authority is a term D'Arezzo, who is based at company headquarters in Rochester, N.Y., knows well. "Just last week I met with our heads of candy and gum, magazines and cigarettes to negotiate over who has the rights to put what in the front end of the store. Cigarette people want

"Everyone involved in the process likes the idea that instead of being told what to do, they play a part in the decision making. It was the first time many of our public partners really felt like they were part of a J&J team."

*Thomas Sullivan, WG'91, director of logistics for J&J customer support center, western sales division*

cigarettes in front, candy and gum people want their products in front, I want soft drinks in front, and so forth.

"In the past, while there were buyers in the company who were relatively junior, and merchandising people who were relatively senior, there was nobody in mid-level positions who could really work through the nuts and bolts of these ambiguous issues. So what tended to happen was more senior time was spent on less senior issues.

"Now what happens is each group unit manager does a lot of soft selling and talking unofficially behind the scenes, trying to get people to see his or her side of the issue. At first you feel a little uncomfortable because authority is ambiguous. Nobody will make the final decision. So it becomes a matter of 'getting to yes,' getting to where everyone is happy. We did that. We all met in my office to find out what each manager wanted. I wrote things down on a chalkboard and kept at it until we came up with something we could all agree on."

In order to reach a consensus, D'Arezzo says, "you need to put the customer first and try to minimize your own needs. Sometimes that means putting another group's priorities ahead of yours. For example, we know it's important for customers to be able to buy *TV Guide* at the front of the store. So any plan we came up with had to satisfy that customer-driven need. In my case, I wanted to put cold bottle soft drink equipment up front, which we had never done before. Immediately it was viewed as taking away space from cigarettes and magazines. We worked it out logistically so that four of the first 12 checkout places — where people tend to have fewer items but frequently these items include deli food, like sandwiches — would have a soda machine."

What if you can't agree? "Unfortunately, you either do nothing, which is a problem, or you retrench and come back with more data ... The only place we all come together is the number three person in the company. You hate to go up that high for a dispute over where to put cigarettes and magazines."

The group manager job was added to Wegman's organizational structure two years ago when more emphasis was put on the role of category management. D'Arezzo is one of six group unit managers. He oversees a staff of seven, including two category managers, both of whom work with people on their level in other groups.

Wegman's offers negotiation training to all employees. "It's one of the most important skills we could possibly have — not just in terms of dealing with peers here, but also in terms of dealing with our suppliers," says D'Arezzo. "They have certain needs, we have certain needs. If we can satisfy each other, we are better off. We want suppliers to look at us as a good partner."

The structure at Wegman's is one of the most appealing parts of his job, says D'Arezzo. "In the company I used to work for, I typically had to go through 8 to 10 layers of people before I got a store manager to even think about doing a promotion or a program. Here, we think it up and then

implement it. Things can get done very quickly and you know right away if your ideas work."



## THE MULTINATIONAL ENTERPRISE

In multinational companies, the problems of ambiguous authority tend to be amplified because the ambiguity exists on several levels. For example, directives from U.S. headquarters frequently don't apply to the business climate in another country, making traditional chains of command irrelevant.

Take the financial services industry, says Webber. "Here you have specialized people in charge of specialized products. What happens when you have a customer who wants to buy *several* products? These customers may be domestic or foreign, from developed, or developing countries. So you have a double matrix, between product specialists and between regional organizations. The person representing a U.S. firm in Europe will have to deal with multiple product people who may be housed in New York, London and Singapore.

"The question is: Where is the power? In the product line? In the regional organization? Or in the home office? It's in all of them. And which people, from which teams, do you choose to work with in this particular situation? It takes a multiple negotiation to arrive at the best strategy."



John Hotta, WG'90, is a product manager, international consumer long distance group, for AT&T. He is responsible for direct dial service between a consumer's home in the U.S. and locations in Asia.

"It's a market and a product which crosses throughout the U.S. and outside," says Hotta, who joined the company after graduating from Wharton. "I am constantly interacting with people who play many different roles, from people who work with the phone companies in Japan, to people who do marketing on military bases, to people who do advertising here in the U.S. for Japanese-speaking customers. These are all AT&T employees in different business units, with different levels of responsibility, and yet I work with them all in what I call a team."

The team — which usually numbers around 12 people — holds weekly conference calls, and includes people from customer service, telemarketing, marketing, advertising and carrier services. The focus is on both profitability and market share growth, and the discussions revolve around what customers are saying about the AT&T product. "It could be a pricing issue, an advertising issue, or whatever, but our goal is to meet or exceed customer requests," says Hotta.

Although all members of the team are considered equals, sometimes a particular initiative "requires one of us to take the lead. In another instance, that leader would be in a supporting role. It's not hard to switch back and forth because we work in an environment where people constantly take on different roles based on their function."

One of the reasons the structure works is "because we real-



ize that part of teamwork is conflict. You have to experience conflict and work through it to get your projects done. We use conflict-resolving skills every day."

Those skills aren't assumed. AT&T holds extensive training classes on such subjects as leadership for the future, interpersonal coaching and feedback, and negotiating. "It's a process of continuous learning," says Hotta, who is based in Morristown, N.J.

"I can't imagine working in any other type of environment," he adds. "There is no other way to involve all stakeholders in a decision and move towards an objective. When you look at the scope of the global markets that AT&T supports, there is no way that could fit within a hierarchy."



## IT'S EVERYWHERE

Managers who experience ambiguous authority in one form or another seem to be the norm these days, but the phenomenon does tend to be more prevalent in certain industries than others, often because of major shifts in competition or threats of government intervention.

Health care, for example. "Hospitals are prototypical situations where you have a strong need for administrative and management control on one hand, and on the other hand, strong professionals (doctors) who believe they and they alone are capable of evaluating the work they do," says Kimberly. "Then on top of this you have strong cost control pressures which are operating on both those parties. The cost control pressures are winning out, but along the way there is a lot of organizational pain."

Adds Tom Gilmore, adjunct associate professor of health care systems, "Doctors have historically been captain of the ship, and the administrative apparatus was the servant of the doctor. That is dramatically changing with the advent of managed care. Now doctors are told they have to discharge a patient after 'x' days or file an explanation. So it is less clear who is in charge of the choices — partially the patient, partially the doctor and partially somebody who is constructing clinical guidelines as part of the managed care initiative."

In general, says Gilmore, you see ambiguous authority in industries where the rate of change is enormously complicated, like pharmaceuticals, biotech and telecommunications. It's also common in firms that have a large number of highly professional employees. These tend to be service organizations, including accounting, consulting and law firms, financial services firms and educational institutions.

While some observers predict an eventual backlash against ambiguous authority — inspired in part by the stress of unclear job responsibilities and the desire to return to a simpler, even hierarchical, organizational structure — others contend that this type of management structure will become more, rather than less, entrenched. "It's not a management fad, but a reality that comes out of many global

megatrends," including information technology and the ability of people to meet and communicate with ever increasing speed, says Jacoby.

The key seems to be ensuring that the processes work as smoothly as possible. Organizations that ignore the issues raised by unclear authority lines are in for trouble.

As Dave D'Arezzo well knows. He worked in sales and marketing for a soft drink company before joining Wegman's. In his former job, he remembers how difficult it was for managers in his department to work with production staff on the introduction of new products.

Plant managers, for example, would agree to put a new soft drink only in two-liter and six-pack cans even though sales and marketing had asked for additional packaging, including 12-packs, 16-oz. bottles and/or one-liter bottles.

"The production facility would say, 'Sorry, we don't have the line time to add those variations'," D'Arezzo remembers. "Yet part of the strength of carrying a new flavor is making it available in many different sizes and packages. If you don't, the product either fails from the start, or doesn't do as well as it could have.

"But nobody had influence over the plant managers. They had their functional silos and we had ours. We didn't come together until we got to the president of the company. It wasn't realistic to go to somebody that senior to get a minor decision made. So often we would do nothing. We would stay with the status quo." R.W.S. ▼

**Wharton Executive Education is offering a three-day program Nov. 28 through Dec. 1 on "Managing with Ambiguous Authority." The seminar explores the nature of authority in organizations, the sources of ambiguity in authority relationships and how managers can develop and use authority.**

**This course has been offered twice before. It is designed for managers whose responsibilities require them to work in situations in which they encounter ambiguous authority on an individual basis or among work groups.**

**For information, call Michael Seitchik at (215) 898-1108.**

**Also being offered is "The Wharton Executive Negotiation Workshop: Bargaining for Advantage," from Oct. 1-6, 1995, and again from April 14-19, 1996.**

**The course — designed for middle and upper level managers who have reached a point in their careers where they need specific negotiation training — covers negotiating on internal teams as well as with outside firms.**

**For more information, call Pam Whitman at (215) 573-3424.**

# Playing by the Numbers

**STATISTICAL ANALYSIS  
MAY NOT BE PERFECT,  
SAYS PROFESSOR  
MICHAEL STEELE,  
BUT IN A WORLD  
FULL OF UNCERTAINTY,  
IT'S THE BEST TOOL  
AVAILABLE FOR  
PREDICTING THE FUTURE**



Economics is widely seen as the “dismal science,” and in the opinion of many, statistics is not far behind. But during a conversation with Professor J. Michael Steele, the image of statistics as dry, abstract and far removed from everyday life is quickly dispelled.

It’s not just that Steele finds statistics intellectually challenging, that he enjoys teaching it, that his research has led him all over the globe, or that he has been hooked on the subject ever since high school when he read a book on probability theory called *Lady Luck*.

Steele, the C.F. Koo Professor of Statistics and Operations and Information Management, sees statisticians as the only people in the history of mankind who have ever succeeded in predicting future events. “Fortune tellers or astrologers may do well for a while, but soon enough they end up being exposed as frauds or charlatans,” he says.

Statistical analysis has a different track record. While it is not without flaws, and doesn’t always lead to powerful conclusions, and at times creates more uncertainty than most humans would like, “it is, nevertheless, the best technology

the planet has come up with to say something serious about the future.”

Steele sees statistics everywhere: In the theory that leads to improved quality in our television sets; in the current health care debate over medical outcomes; in the day-to-day work of stock analysts; in the number of murders expected in the U.S. during 1995; in a gambler’s lawsuit against an Atlantic City casino; and in the enormous R&D efforts of organizations as diverse as the pharmaceutical giant Merck and the U.S. Army — just to name a few of the examples that came up during a recent conversation about the ubiquitousness of statistics.

## Hidden Markov Models

Statistics is composed of two parts, the first being the collection, organization and integrity of data. “We all take for granted a report in the newspaper that tells us the inflation rate,” says Steele. “But if you actually sat down and looked at the procedure for figuring out the Consumer Price Index,

you would be astounded at the intellectual background behind it and the amount of labor and money that goes into it."

Even the definition of terms requires an exacting level of precision: "For example, what do you mean by 'inflation'? Is it service sector inflation? Producer inflation? Original goods and industrial output inflation? Inflation of prices of real property? Simple measurement of the economy is a difficult process and to do it right, the government must make a sustained investment in data collection and data integrity."

The same, of course, is true for work that goes on in the private sector. "The whole pharmaceutical industry, for example, is driven by rigorous experimental processes that are completely rooted in statistics, such as drug testing, drug design, drug searching, and allocation of resources to drug investments," says Steele. "Drug testing itself is a multiple process where you have to do toxicological studies, test for efficacy in animal populations, run clinical trials for humans, and finally develop a set of protocols to monitor for side effects," to name a few of the measurements used.

"Merck is just one company in the pharmaceutical industry, but its research budget for 1994 was about \$1.2 billion — more than the total National Science Foundation budget for physical sciences, geosciences and engineering. And the intellectual agenda that drives that research department is deeply rooted in statistics."

The second component of statistics is model building. Steele's own interest lies in probability theory, which he defines as the mathematical subject that goes into the modeling of chance behavior in all of its aspects. The phenomenon can be as simple as rolling dice or as complicated as the errors that occur in sophisticated measurements, such as those used to identify the location of the space shuttle in flight.

Scientists conduct analyses of a statistical experiment by comparing what they observed in their data to alternative explanations that are driven by chance, says Steele. "The stalking horse of every statistical analysis is chance — the possibility of the observed outcome just being a random occurrence. In drug tests, for example, if you give a drug to 25 people, and 14 do well and 11 don't, then to understand the force of the evidence, you have to find some way to compare your data to a chance occurrence."

Steele is particularly interested in Markov processes and in their statistical cousins, hidden Markov models. Markov processes are named after a Russian mathematician who worked around the turn of the century, but hidden Markov

models are a recent innovation. They are built around an abstract notion called "the state of the process."

"Imagine a chessboard, where on each square of the board someone has written a letter. One of those squares might truly have the letter 'L' in it, but if you saw a corrupted picture of the chess board, you might see in that square what you think is an 'I'. In this example, 'L' would be the true state, what is truly there, and 'I' would be your incorrect but still partially informative observation. In hidden Markov models, you use a probabilistic relationship — the Markov property — to tie together all your imperfect observations to make the best guess you can about the true values, or true states, of the squares on the board."

The hidden Markov model offers an abstract framework that serves many areas of application. One can use the framework to analyze the economy during periods of expansion or contraction, or to analyze the responsiveness of psychiatric patients during periods of mania or depression.

Hidden Markov models are part of an ongoing project Steele is pursuing for the U.S. Army Night Vision Laboratories. The project has several technical goals, but ultimately these goals all come to focus on how to improve images and how to use images to make decisions. "The process of being able to decide whether or not the object below is a target is a decision problem which, at a certain level of abstraction, is not so different from the process used in pharmaceutical companies to determine the effectiveness of a particular drug," says Steele. "Instead of looking at what happens to 25 rats, you are looking

**"In choosing which drug to take, which car to buy, how to allocate our personal assets, we all rely on the experts... And the experts, in turn, must rely on experiment, the integrity of data, and a lot of people telling the truth about the data that has been collected."**

at the gray levels of a sensing device for as many as 100,000 pixels (the smallest unit that makes up a computerized or digitized image).

"For any one of those pixels in an image there is a true value, called the true state. But given that there are all sorts of measurement error — including angle error, calibration error and so forth — what you observe is not that true state. The true state is a hidden state and it *influences* your perception but doesn't necessarily *determine* your perception.

"With hidden Markov models, you tie together all those imperfect observations to make the best conceivable guess you can about the true values, true states, which led to the picture you are looking at."

Steele's probability models and associated algorithms — the mathematics that precedes the actual writing of computer code — are used by the army to design equipment that will facilitate tasks like automatic target recognition.

In another recent, but quite different, application of statistical analysis, Steele used a mathematical tool called the



theory of Martingales during testimony as an expert witness in a lawsuit against an Atlantic City casino. The suit involved a way of playing blackjack called “counting,” in which a card-playing patron keeps track of a simple summary statistic (called “the count”) of the cards that have been played, and uses this statistic to inform his betting and playing strategy.

Because the dealer doesn’t reshuffle after every hand, information about the cards is carried over from one hand to the next, and this information can be used to increase the player’s odds — even to the point of having an advantage over the house. The plaintiff in the case claimed the casino had denied him the opportunity to practice counting, and thus deprived him of the opportunity to earn substantial money. “The nature of New Jersey public access laws granted the plaintiff rights that he would have been denied in Nevada, such as the right to be present at the table and to engage in counting,” says Steele.

Steele used the theory of Martingales to estimate the probability of ruin — i.e. the probability that the plaintiff would lose all of his initial stake in the course of applying the counting methods over a period of years. More central to the case, and to the estimation of damages, was Steele’s estimate of how much the plaintiff would have won if allowed to play according to the conditions that are provided for typical, non-counting patrons.

The substantial judgment awarded to the plaintiff is expected to be appealed. If the appeal is denied, Steele says, one likely outcome is that the rules of New Jersey blackjack will be changed.

## Empowering the Experts

A subject that Steele returns to frequently in conversation is “this puzzle about predicting the future” — or at least pieces of it.

“It is frightfully easy to predict that over the next 12 months there will be about 23,000 murders in the U.S.,” he states. “Naturally there is uncertainty in this estimate, but I will bet you a boatload there won’t be fewer than 18,000 or more than 30,000. Each one of those murders is a cataclysmic event for the people involved, yet in aggregate we can say something pretty precise and sensible about that subject.”

Statistics is at its best, Steele says, when lives and livelihoods are at stake. Data on the growth of the over-60 population as a percentage of the total population, for example, may not seem particularly compelling to many, but in Steele’s view, changes in that simple ratio can cause the shift of hundreds of billions of dollars of the nation’s wealth over the next 20 years.

“Statistics is not always a very good tool, but it’s often the best that is available. Most times, uncertainty is far greater than we humans would like to admit. We have a preference for certainty and at times we will become more ‘certain’ even when nothing material has changed. In one recent psychological study — and almost all of these studies are written on

the basis of statistical analysis — an interviewer asked gamblers waiting in the betting line at the race track about their confidence in the horses they were about to bet on. Other gamblers were asked the same question after they had placed their bets. The players who had already bet were much more confident in their choices than those who hadn’t yet put their money down.

“It’s one example of how consoling confidence is to human beings. We like certainty, even certainty founded on the most fickle of bases. Statistics offers one example of a sound basis. But statistics isn’t there to make anyone feel good. It’s there to reveal truth.”

Statistics can, in fact, be troubling to those who want to make risk-free decisions. Steele recently went to India with a group of MBA students and took the highest-recommended anti-malarial drug on the market. “The best data they have on this drug is that it’s 75 percent effective. Well, if you sit down and consider what it means to have a 25 percent probability of contracting malaria given a certain level of exposure, it’s pretty terrifying. Still, this is an extreme case. If you look at the childhood vaccines, statistical analysis will help you understand that they save many millions of lives. This does not deny that the vaccine may cost some lives as well. In rare circumstances, there are adverse reactions to quite safe things.”

In choosing which drug to take, which car to buy, how to allocate our personal assets, we all rely on the experts, says Steele. “We have no alternative in many cases except to make decisions by empowering the people who work on such decisions all day long every day, and then holding them accountable for their success and failure over a large number of actions. And the experts, in turn, must rely on experiment, the integrity of data, and a lot of people telling the truth about the data that has been collected.”

## Wine Cellars and Lamp Posts

Steele graduated from Cornell University in 1971 with a degree in mathematics and earned his PhD in mathematics from Stanford in 1975. He taught in the statistics departments at the University of British Columbia, Stanford, the University of Chicago and Carnegie Mellon. From 1983 to 1990 he taught at Princeton, first in the statistics department, and then in the engineering school where he created a program called Statistics and Operations Research. He came to Wharton in 1990.

He just recently completed service as a member of the National Academy of Science Committee on “Improvement of Data on International Capital Investments” and as editor of *Annals of Applied Probability*, which he founded in 1989.

Steele also has been involved in the practical sides of finance. Several years ago he worked at Sanford Bernstein in New York as a fixed income research statistician. His job included studying aspects of the yield curve and the development of statistical tools for the pricing and trading of U.S. Treasury bonds. At Wharton, current projects include statis-

tical analyses that support risk management in the financial service industries and an empirical analysis of foreign exchange management that has led him to conduct interviews with managers of foreign exchange trading at many of the nation's largest financial institutions.

In his teaching of statistics, Steele makes a serious effort to enliven his classes with material chosen from practical situations. In Statistics 202 for undergraduates, alongside assignments on simple and multiple regression models, rates of change of parameters and predictors, multiple correlation coefficients, and the relationship of honest residuals to the X matrix, he includes references to an analysis of the Olympics in "Going for the Gold in Barcelona," an *Economist* article entitled "Battle of the Bulge — Female Literacy Rates and Birth Rates," a *Consumer Reports* article on "Secondhand Smoke" and an introduction to the National Victimization Survey.

One section of the course is devoted to using regression analysis to determine the investment potential of vintage wines. "The students used data on the prices of California Cabernet Sauvignon at New York auction to estimate a rate of return for the holding of quality wines," says Steele. His intent is to give students "experience with the uses of statistics in economics, public policy, business decision making and personal finance."

One important skill you learn in Steele's course is how to chase down and evaluate data. There is a multitude of research reports produced on Wall Street that are filled with statistics; the print media produces its own volumes of data; and then there are the mountains of data generated by the federal government. "The challenge is to figure out which data is trustworthy and which isn't," Steele says. "Students start to understand that there are very big differences in the quality of statistical sources — for example, the high integrity of statistics from the National Victimization Study vs. the near worthlessness of a fax-back poll conducted by a publishing company.

"The typical fax-back magazine poll is a marketing device, and many of the inferences one might try to make from such polls are completely bogus," says Steele. "The key problem is that people who choose to respond to the poll are self-selecting. The typical respondents are those who care passionately about an issue. For example, a fax-back poll about abortion wouldn't necessarily be a sample from which you could make any inferences about the national population. And yet the results of magazine polls get quoted — for better or for worse."

One of the old saws about statistics, Steele adds, is that it's "like a lamp post. You can either use it for illumination or for support. When you are using it for support, it's probably not in the nation's best interest."

## Fact or Pseudo-Fact

In Statistics 202, Steele asks his class to look at data from the Barcelona Olympics in an attempt to discern whether the host

country — Spain — received a larger number of gold medals than would have been the norm based on the number of silver and bronze medals. (It did.) The students were then asked to investigate whether this suggestion of host favoritism also held true for other Olympics.

"In statistics we try to use some facts we know to predict other facts. Suppose you told a statistician how many silver and bronze medals Germany won, and asked for his or her best guess as to how many gold medals were won. In the case of Barcelona, we discovered that Spain did indeed get more gold medals than our model would have predicted."

But in Steele's recounting of the Barcelona study, he declines to offer an opinion as to why host countries might win an unexpected number of gold medals. "In most cases, I don't see any great utility in speculating about causes," he says. "I try to discourage it. You have to fight against the human urge. On the other hand, I'm perfectly prepared to have people think about what might be useful and testable inferences for the future. For example, in 2000 the Olympics will be held in Atlanta. I'm prepared to make a modest bet about the relationship between the number of golds and silvers that will be won by the U.S. I won't bet you on the absolute number of golds or the number of silvers, but I'll bet you on the relationship between them."

The question is also raised as to whether statistics are used to confirm or refute prejudices. Steele readily admits that he is a very skeptical person. "First off, some of the statistics one reads in the newspaper are simply made up. They are pseudo facts. For example, there was the story a few years ago that reported an increase in spousal abuse during the Superbowl. When people decided to chase down the study on this, it didn't exist. But people believed it because it was consonant with their intuition.

"In the field of science, the tradition of academia is that one provides citations so you can go back to these citations and check them. When you do, you almost always find there are more caveats in the scientific paper than were mentioned in the media coverage. In part, the media resorts to caveats in order to provide a view of the best of current thinking, but one may also suspect that the 'quest for certainty' leads to the simplified message.

"When I pose a model for some data I realize I am posing a very specific model and that the model might not be right. In fact, it is almost certainly wrong at some level of precision. I have to examine what is in the data that is consonant or dissonant with that proposed model. You have to entertain alternative hypotheses. We all want to have clean and clear statements that represent the full truth. But that's not right most of the time.

A statistician's job is to remind himself constantly, and others periodically, that there is much more uncertainty out there than you can guess. And still, statistics is the only consistent technique available for helping us sort out whatever truths are to be found in our valuable data." R.W.S. ▼



# Reunions 1995



FROM THE KICKOFF COCKTAIL PARTY OF FRIDAY AFTERNOON TO THE FAREWELL BRUNCH SUNDAY MORNING, REUNIONS 1995 OFFERED ALUMNI A HOST OF OPPORTUNITIES TO SOCIALIZE, NETWORK, MARCH IN A PARADE AND PARTICIPATE IN ALUMNI-FACULTY EXCHANGES ON CURRENT BUSINESS TOPICS.

CLOSE TO 900 GRADUATES AND GUESTS CAME BACK TO CAMPUS, AS ATTENDANCE RECORDS WERE SET BY A NUMBER OF GROUPS, INCLUDING WG'90, WHICH DREW THE BIGGEST CROWD EVER RECORDED BY ANY REUNION CLASS.

THE FOLLOWING PAGES HIGHLIGHT EVENTS OF THE WEEKEND.

**D**ISTINGUISHED COMPANY: This year's Distinguished Service Awards, established in 1988 to recognize exemplary voluntary contributions by alumni to the School, were presented to Craig Harding, WG'75, and Seng Tee Lee, W'50.

Harding, shown (near right) with Dean Thomas P. Gerrity (far right), is chairman and CEO of the Harding Group in Greenwich, Conn. He is currently chairman of the Wharton Graduate Executive Board as well as chair of the Wharton Annual Fund. He was co-chair of the gift committee for his class reunion this year and also in 1990.

Lee, who was unable to attend the awards ceremony, is head of Lee Pineapple Co. in Singapore and director of The Lee Foundation. He has contributed to the renovation of Steinberg Hall-Dietrich Hall and the Steinberg Conference Center, among other projects. Last year, he donated money for a loan fund to help West Philadelphia entrepreneurs start and run their own businesses.







**WELCOME BACK:** A cocktail reception at the Tarnopol Room in the Steinberg Conference Center featured a Dixieland band and hors d'oeuvres for returning alumni and friends. The kickoff event was sponsored by the Wharton Alumni Association and Reunion class leaders.



**DECADE DINNERS:** Alumni from the '60s and '70s (three photos at left) gathered in the atrium of Steinberg Hall-Dietrich Hall for a barbecue and bluegrass music. The '80s class (three middle photos) staged their own barbecue in Hoover Lounge and Patio, while the Class of WG'90 (far right) relived their days of pizza and beer at the MBA Pub.





**D**AY IN THE SUN: Alumni and friends blanketed Mack Plaza and Lehman Brothers Quadrangle during a cool, sunny picnic followed by the Penn Parade down Locust Walk. Wharton t-shirts came with the lunch.





**A GIFTED GROUP:** At a Saturday evening cocktail reception, the Wharton Annual fund offered its special thanks to reunion class gift volunteers and Benjamin Franklin Society donors. Below are Committee volunteers.



Pictured above are Emile Geisenheimer, WG'75, left, and Craig Harding, WG'75, 20th year reunion gift co-chairmen. Below are David Ford, WG'70, left, and Gary Ray, WG'70, 25th year reunion gift co-chairmen.



**ALUMNI/FACULTY EXCHANGES:** The weekend began on Friday afternoon with an executive education seminar on leadership and change management. On Saturday, four alumni/faculty exchanges looked at "Personal Finance: How to Manage Your Money;" "The New Wave of Mergers and Acquisitions;" "Forming Strategic Alliances: The Key to Competing (and Surviving) in the Global Marketplace," and "The Common Habits of Highly Successful Entrepreneurs."

The mergers and acquisitions exchange was led by Harbir Singh, far left, associate professor of management. Panelists included Michael L. Tarnopol, W'58, center, senior managing director and chairman of the investment banking division of Bear Stearns & Co., and Thomas G. Amato, WG'70, near left, senior vice president and CFO of Symbol Technologies, Inc.



**SCHOOL UPDATE:** Dean Thomas P. Gerrity, right, outlined the School's strategic goals during a Wharton town meeting that included welcoming remarks from Penn president Judith Rodin, left.







**R**EENGINEERING THE '90s: For their second dinner of the weekend, the class of WG'90 chose another familiar locale - the 30th Street Train Station.



**N**IGHT LIFE: Dinner and dancing Saturday night at the Marriott Hotel topped off the day for members of WG'65, '70, '75, '80 and '85. During dinner, class leaders presented Dean Gerrity with checks announcing their class gift contributions.





## SLIVY EDMONDS, WG'79: MAKING DEALS

Slivy Edmonds recognizes that Tucson, Ariz., isn't the ideal location for a leveraged buyout firm. "The biggest problem is airline transportation," she says. "You can't get anywhere from Tucson without going through Dallas or Phoenix."

Edmonds expects her travel schedule to heat up in the coming year as she takes to the road to raise money — somewhere in the \$200 million range — for an investment partnership. The fund will be in addition to Walnut Capital



### EDMONDS: INCREASING CAPITAL TO MINORITY BUSINESSES

Corp., a private investment firm she and a partner started up in 1994 with their own assets. "In this business you spend most of your time looking for opportunities," she says.

And finding them, she might add. She started her business career as an analyst at Bristol-Myers Squibb in 1979, then moved in 1981 to the corporate finance department at Equitable Capital Investment Management in New York.

"The company was just then starting to change its very stodgy image and begin competing aggressively within the financial markets," says Edmonds. "Those of us with experience, who felt we were up to the competition, had opportunities to do a lot within a short period of time."

In 1986 she left to work for one of Equitable's portfolio companies, a startup airline called Air Atlanta. Edmonds served as CFO for 11 months before it was decided to put the company into bankruptcy.

In 1987, she and two associates formed an investment leveraged buyout firm in Washington D.C. called Georgetown Partners. Their goal was to invest in entrepreneurs and/or minority-run companies that looked promising but would have trouble getting access to the capital markets.

In what would turn out to be one of those classic examples of unforeseeable bad timing, the company also formed

an alliance with Drexel Burnham Lambert. Drexel Burnham in 1988 was interested in becoming a prime source of debt capital for minority entrepreneurs. It agreed to commit \$100 million in financing to Georgetown Partners.

"We started to look for deals," says Edmonds. "In 1990, four days after we had submitted a letter of intent to buy a company, Drexel Burnham was out of business. The capital disappeared overnight. It was the end of everything we had set out to do."

Edmonds and one of her two partners made a crucial decision. "We decided the best way to show that you could make money investing in minority entrepreneurs was to go out and do a deal for our own account. It meant that when we went back to the marketplace we would be talking from the standpoint of experience, of having a track record of our own."

In 1990, Edmonds and her partner bought, and helped run, Hamilton Test Systems, Inc., the number two firm in the auto emissions testing industry. With pending changes in the 1990 Clean Air Act, Edmonds saw the company as a chance to get into a potentially high-growth industry. Two years later, Georgetown Partners acquired the number one company in the industry and merged the two together.

One year later, newly-merged Envirotech Systems Corp. went public with an IPO of \$50 million in equity and \$125 million in debt. "It worked out very well," says Edmonds. "As a result of that deal, there were a number of first-time, minority-run, leveraged buyout funds that got capital. We were pioneers in proving that the best way to increase the flow of capital to minority businesses is to show that these businesses can achieve superior returns." Harvard Business School did a case study on Envirotech Systems in 1994, and invited Edmonds to participate in the presentation.

Edmonds left the company in January 1994, but decided to stay in Tucson, where she had spent three years at the headquarters of Hamilton Test Systems. In Tucson, she was an early supporter and member of a women's fund to help target more money to women's social and health issues.

She grew up in Norfolk, Va., and earned a nursing degree from Medical College of Pennsylvania before getting her undergraduate degree in business management from Marymount College.

Edmonds, 48, has always been a resource for minority businesspeople. She is a member of a group called Capital Circle, formed specifically to increase the flow of capital to women's businesses; and the National Association of Investment Managers, whose mission is to increase capital to minority groups.

"Much of the work I have done has been within corporate America, making sure opportunities that were presented by minorities were evaluated and looked at on the same basis as other opportunities.

"I have found a lot of very talented minority entrepreneurs whose biggest problem is figuring out how you get access to decision makers at the highest levels. The main obstacle is getting in the door." ▼

## MAURICIO F. VIVES, WG'84: GRAFFITI TAKES OFF

Watt's, a Chilean manufacturer of fruit juices, marmalades and ketchup, recently began selling an orange juice with extra calcium. To publicize the new product, the company's ad agency came up with a two-page spread showing a glass with water and dentures on the left page, and a glass with the new calcium-fortified juice on the right page.

The text, loosely translated, reads: If you don't want to see this glass [with the dentures] on your night table, you better start seeing this glass [with the juice] on your breakfast table.

The ad comes courtesy of Graffiti, a Santiago agency that recently celebrated its first birthday and is already the 12th largest agency in the country and the third largest Chilean-owned agency. Its president and majority owner is Mauricio Vives, a 37-year-old businessman with a nose for new markets.

Example: During a trip to Boston one weekend while he was working for Procter & Gamble in Cincinnati, Vives came across a coupon for a P&G product that was written in Spanish and contained numerous typographical errors. Back in Cincinnati Vives typed a memo loaded with typos to his supervisor.

The boss got the message, and soon after asked Vives to help with the company's first serious effort at selling products to the Hispanic market.



**VIVES: REINVENTING AN AD AGENCY**

Within a year Vives was named the Hispanic marketing brand manager. Over the course of three years, he convinced P&G to let his group handle several different products, rather than the customary one, but only in areas where there was a sizeable Hispanic population. Vives also asked the company to allocate a portion of its existing advertising budget to the Hispanic marketing group, and suggested that P&G's ad agencies affiliate themselves with Hispanic agencies. "So you had a

group thinking about Hispanic business, with money to support the effort, and with ad agencies to help promote the products," Vives says.

Vives left P&G in 1989 when the opportunity came to open a Unisys microcomputer distributorship in Chile. A year later he moved back to the U.S. to work for an Hispanic ad agency owned by Grey Advertising.

Vives was then approached by Young & Rubicam — with billings of

*Continued on page 26*

## BRUCE A. STEVENS, W'64: THE PIANO MAN

Talk about believing in your product. For Bruce Stevens, president of Steinway & Sons, the opportunity to sell Steinway pianos around the world is "like a gift from heaven."

Rarely in your life, he says, do you get the opportunity "to be involved with a company that is considered an icon throughout the entire world. Few products give you the kind of genuine elation that a Steinway piano does. It's a thing of beauty."

That said, what first attracted Stevens to Steinway was the opportunity to turn around a poorly managed company with a lot of potential for improvement. That was back in the mid 1980s when CBS announced it wanted to sell off what had once been a thriving musical division. Stevens, with two partners, formed Steinway Musical Properties and in September 1985 bought from CBS four companies, including Steinway & Sons.

Steinway Musical Properties sold the three other companies several years ago, as had been originally planned, and Stevens now concentrates all his time on Steinway. During his nine years there, he has completely revamped the marketing and distribution networks and made progress improving the manufactur-



### STEVENS: PRODUCT INTEGRITY

ing process, all with an eye to preserving the integrity of the product and the name.

Much of it comes down to customer service. "We call it the partnership program," says Stevens, referring to Steinway's relationship with its 93 domestic and 200 international dealers. These dealers agree to properly present, maintain and service the pianos, not just for the ordinary customer but also for concert artists. In exchange, the company gives these dealers exclusive territories and what Stevens calls "a roadmap to profitability." This consists of a merchandising philosophy, promotional concepts,

*Continued on page 26*

# SUPPLY CHAINS



## THE CORPORATE LIFELINE

*The efficient flow of materials and finished goods is essential to the success of a manufacturer and its suppliers. Now, with the increasing use of manufacturing strategies such as just-in-time production and quick response, an effective supply chain provides even greater opportunities to increase profits.*

*Wharton researchers provide insight into the design of a supply chain, from the delivery of parts and materials to the manufacturer, to the distribution of the finished product to retailers.*

### DEDICATED ASSETS: THE MANUFACTURING EDGE

U.S. automakers are gaining ground on their Japanese rivals by imitating some of their effective production strategies. Much of the success of these Japanese automakers stems from their close relationships with their suppliers. Toyota, Nissan, and others, working closely with lean production networks of parts suppliers, can produce high-quality models quickly and inexpensively.

Jeffrey Dyer, assistant professor of management, compared the production networks of Nissan and Toyota and 96 of their first-tier suppliers, with General Motors, Chrysler, and Ford and 125 of their direct suppliers. He determined the exact impact of customized assets such as plant proximity and dedicated capital on lowering costs, increasing quality, and boosting profits, and described what changes U.S. manufacturers should implement to compete.

**Plant proximity.** Plant proximity facilitates just-in-time deliveries. As the distance between suppliers' and automakers' plants decreases, automakers' inventory costs drop as well. Toyota's and

its suppliers' inventories as a percentage of sales are almost a fourth of those of GM, Ford, Chrysler and their suppliers, showing that far less of its capital is tied up in inventory.

**Human assets.** Japanese auto manufacturers place a high value on face-to-face communications with their suppliers to hold down the frequency of defects. Toyota requires that its suppliers have engineers assigned to the automaker's plants to better coordinate activities. Direct interaction is also a more efficient way to communicate complex information during the development of new vehicles.

**Dedicated capital.** Japanese suppliers in Dyer's study reported that 22 percent of their physical assets were so focused on their primary customer that they couldn't be redeployed if the automaker walked away. In contrast, U.S. suppliers said only 15 percent of their investments couldn't be redeployed. Since the activities of the Japanese automakers' suppliers are so focused on fewer manufacturers, there is improved product integrity and, therefore, higher overall product quality.

Dyer says that the U.S. automakers' way of choosing suppliers — through competitive bidding — is simply obsolete. A tightly integrated production network, dedicating supplier assets to the customer, will virtually always outperform a loosely coupled production network. He also concludes that managers, in conjunction with other key players in the production network, must strategically locate activities through joint planning for facilities or simply by co-locating key personnel.

*Jeffrey Dyer, "Dedicated Assets: Japan's Manufacturing Edge," Harvard Business Review, November 1994.*





## COORDINATION CAN LEAD TO INCREASED PROFITS

Most consumer products flow through a pipeline that begins with plant production and ends with transportation to the retail outlet, perhaps passing through a distribution center on the way. Usually companies manage these two functions independently, with little coordination between production scheduling and product delivery. However, the cost of carrying inventory and the trend toward just-in-time operations are pressuring companies to explore closer coordination along the manufacturing/distribution channel.

Marshall Fisher, professor of operations and information management at Wharton, and Pankaj Chandra, professor of management at McGill University, created two models. One model solves production scheduling and vehicle routing problems separately, and the other model coordinates the two. The models were applied to 132 different scenarios, taking into account such variables as the length of the planning horizon, the number of products and retail outlets, and the cost of inventory holding and vehicle travel.

The researchers found that the value of coordination can be extremely high — anywhere from a 3 percent to a 20 percent decrease in operating costs. The value increased as the length of the planning horizon and the number of products and customers increased.

*Pankaj Chandra and Marshall Fisher, "Coordination of Production and Distribution Planning," European Journal of Operational Research, forthcoming.*

## BENCHMARKING AFTER-SALES SERVICES

Technological advancements and intensified competition in many industries have forced product prices to drop rapidly while improving product performance. Customer expectations for product reliability have increased as well. As a result, the need to provide superior after-sales service, at a competitive price, has become a vital factor for firms' competitive survival.

Morris Cohen, chairperson of Wharton's operations and information management department and co-director of the Fishman-Davidson Center, Yu-Sheng Zheng, associate professor of operations and information management, and Vipul Agrawal of New York University interviewed managers from Hewlett-Packard, IBM, Unisys, and 11 other companies to determine how they coordinate their service parts distribution networks and product maintenance and repairs.

The researchers found that service revenues were 30 percent of product sales, and the cost of providing after-sales service was 39 percent of service revenues. Thus, providing effective service after the sale is vital for strategic performance. The authors recommend certain leading edge practices that can significantly improve a company's service system. They include:

**Service quality measures.** To measure service, most companies measure the number of requests for parts filled immediately from existing inventory. But this doesn't fully capture customer satisfaction, as it can include repairs that aren't completed because of the lack of needed parts. Instead, companies should be focusing on job completion, or the number of customers' orders that are completely filled. The difference can be substantial.

**Accurate Response Time Measure.** Companies must also develop an accurate measure of response time. Many firms just keep track of the length of time between the customer's call for service and the shipping out of parts. Instead, companies should include the total time it takes for parts to actually get to their customers. The distance between the parts supplier and the customer, as well as the mode of transportation used, have a great impact on response time.

**Consolidating the network.** Reducing the number of levels and the number of locations at each level will streamline the service parts system. A large number of echelons and locations tends to increase costs and to introduce more inventory into the system. A maximum of three echelons is appropriate in most cases.

**Stocking the right parts at the right locations.** Parts with a higher cost and a lower demand rate should be stocked at central, higher echelon locations. Companies may be able to reduce their inventory investment by carefully redesigning stocking policies.

*Morris Cohen, Yu-Sheng Zheng, and Vipul Agrawal, "Service Parts Logistics Benchmark Study," May 1994.*

## SUPPLY MANAGEMENT FOR THE GLOBAL CORPORATION

Global corporations face a daunting challenge in developing an effective supply chain. Managers must consider both structural decisions (such as plant location and technology implementation) and coordination issues as well as tariffs, quotas, and tax differentials between countries when organizing their product flow.

Global companies must also deal with uncertainties, such as exchange rates volatility, when creating their supply chains. Managers need to consider in their global perspective that transactions involving their companies are occurring in different countries and different markets. Where their products are sold or where they acquire products is determined by the local currencies in those countries.

Morris Cohen, chairperson of Wharton's operations and information management department and co-director of the Fishman-Davidson Center, and Arnd Huchzermeier of the University of Chicago Graduate School of Business, have developed a model analyzing alternative supply chain strategies that takes into account the adjustment of the solution mix based on differing exchange rates. The model allows for contingencies. For example, as market and exchange rate uncertainties arise, the global company can shift sources and production to take advantage of the changing local currencies. A low-valued peso would allow a company with plants in Mexico and the United States to save money, for example, by shifting more of its production to Mexico.

The researchers' work can help managers develop an optimal supply system. If a company can invest in capacities and capabilities in different areas of the world, and is able to intelligently shift its activities based on fluctuations in exchange rates, the researchers' model can increase expected returns and reduce risk in the long run.

*Arnd Huchzermeier and Morris Cohen, "Valuing Operational Flexibility Under Exchange Rate Risk," Operations Research, forthcoming.* ▼

## VETERANS *Continued from page 7*

experience to get a job," says Smith, 30. "You need skills, contacts, and the ability to think more like a businessperson and less like a marine."

■ Sean Sullivan graduated from the U.S. Naval Academy, joined the Marine Corps and became an intelligence officer for an infantry battalion at Camp Pendleton, Calif. He spent four months in Central America in 1989 gathering intelligence on potential amphibious landing sites for the Navy, and then, following Iraq's invasion of Kuwait, was sent to Saudi Arabia for seven months as an analysis officer in the first marine division's intelligence section.

Back in the U.S., he taught intelligence to new marines at a Navy command in San Diego before starting the joint-degree program with Johns Hopkins and Wharton.

"After my combat experience in the Gulf War, I found the peacetime Marine Corps no longer presented a challenge," says Sullivan, 29. "I didn't feel I could grow intellectually."

■ Justin Ryan was in Navy ROTC at MIT, earned his master's in aeronautical engineering and was commissioned in 1986 as an ensign in the U.S. Navy. After graduating from jet pilot school in 1988, Ryan flew the A-6E Intruder, a carrier-based airplane whose primary role was to attack ground targets in all-weather conditions.

On board the U.S.S. Saratoga, he flew combat missions, including 10 inside Iraq, during the Persian Gulf War. He returned to the U.S. in 1991 as part of the Black Panthers squadron, and then relocated to Washington D.C., where he spent two years managing flight tests of the Tomahawk Cruise Missile.

Ryan, 31, decided on Wharton because "with the downsizing of the military, the A-6E was scheduled to be phased out. So my long-term career potential was much more limited. Also, in the military, you see that people have careers until they are about 45 or 50, but then they are farmed out to the civilian world and often don't make that transition very successfully. I figured that at the age of 55 I want to be at the peak of my career, not the end of it." ▼

## VIVES *Continued from page 23*

more than \$8 billion and offices in 64 countries — to turn around its Chilean subsidiary, which at that time was one of Y&R's least successful foreign operations.

Vives suggested as one option that Y&R merge its current office with an existing top-ten agency in Santiago. What eventually happened was this:

Y&R bought a top-ten agency which is now called Prolam/YR, and sold its old office to Vives. Vives kept not only the office space and furniture but also the staff. Prolam/YR took the multinational clients, while the old Y&R, which Vives renamed Graffiti, kept the local clients.

"It was convenient for everyone," says Vives. "I did what Y&R wanted, which was to put their name among the top 10 agencies, where it belonged; I took over the existing Y&R

office, which meant that Y&R didn't have to fire the staff or pay severance; and I got the opportunity to go out on my own." The deal was finalized in May 1994.

Graffiti, with its staff of 40, is already profitable, and has 13 different clients, including Loncelleche, a dairy manufacturer; adidas; Pioneer and NEC electronics. About 50 percent of billings are TV ads, although print ads are a close second.

Vives grew up in Chile, spent a year on an AFS exchange program in Doylestown, Pa., and earned an engineering degree from Catholic University in Santiago. He and his wife have four children, ages 3 to 12, and live outside the city.

Vives is not the creative genius behind the company's ad campaigns, which have already won two of Chile's top fifteen awards for best TV ads. "One of my partners is the creative director, thank God," says Vives, who concentrates on the business side and also uses his marketing background to advise clients. "I am a civil engineer by training. If I did the ads they would be full of numbers." ▼

## STEVENS *Continued from page 23*

and a concert artist program that includes free endorsements from the world's leading concert artists.

"We ask a lot of our dealers, but in turn they ask and expect an awful lot from us," says Stevens.

Steinway pianos range in price from \$11,900 to \$17,400 for vertical uprights, and from \$26,400 to \$75,800 for grand pianos. More than 90 percent of professional pianists play on a Steinway.

In April, Steinway & Sons was acquired for \$100 million by the Selmer Company, a maker of band and orchestral instruments based in Elkhart, Ind. Under the terms of the transaction, Selmer and Steinway will continue to operate as independent entities, with no changes in management, plant locations, marketing strategy or employment levels.

Stevens, 52, grew up in Shenandoah, Iowa, and attended Iowa State University for two years before transferring to Wharton. He worked for Armstrong Cork Co. in Lancaster, Pa., for one year after graduation, and then moved to Polaroid Corp. in Cambridge, Mass., where he stayed 18 years. Twelve of those years were spent in the U.S. and the last six in the international arena, including three years in Tokyo where he ran Polaroid's Japanese subsidiary and was in charge of all other Asia-Pacific subsidiaries.

Stevens is married, has two daughters ages 18 and 16, and lives in Winchester, Mass., when he's not traveling.

About five times a year, he checks in on Steinway dealers in Europe as well as the company's manufacturing plant in Hamburg, Germany. He also spends several days of most weeks at the company's other plant in Long Island City, N.Y. Company headquarters are in Waltham, Mass.

What little time he has for recreation is devoted to sports — bike riding, skiing, tennis and golf. He is not a piano player. "But we did have a Steinway when I was growing up," he says. "There has always been music in my family." ▼