

# WIRED

May 1997

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**Corporate Rebels**

**Moore's Law**  
**Repealed?**

**NetWar** Worries  
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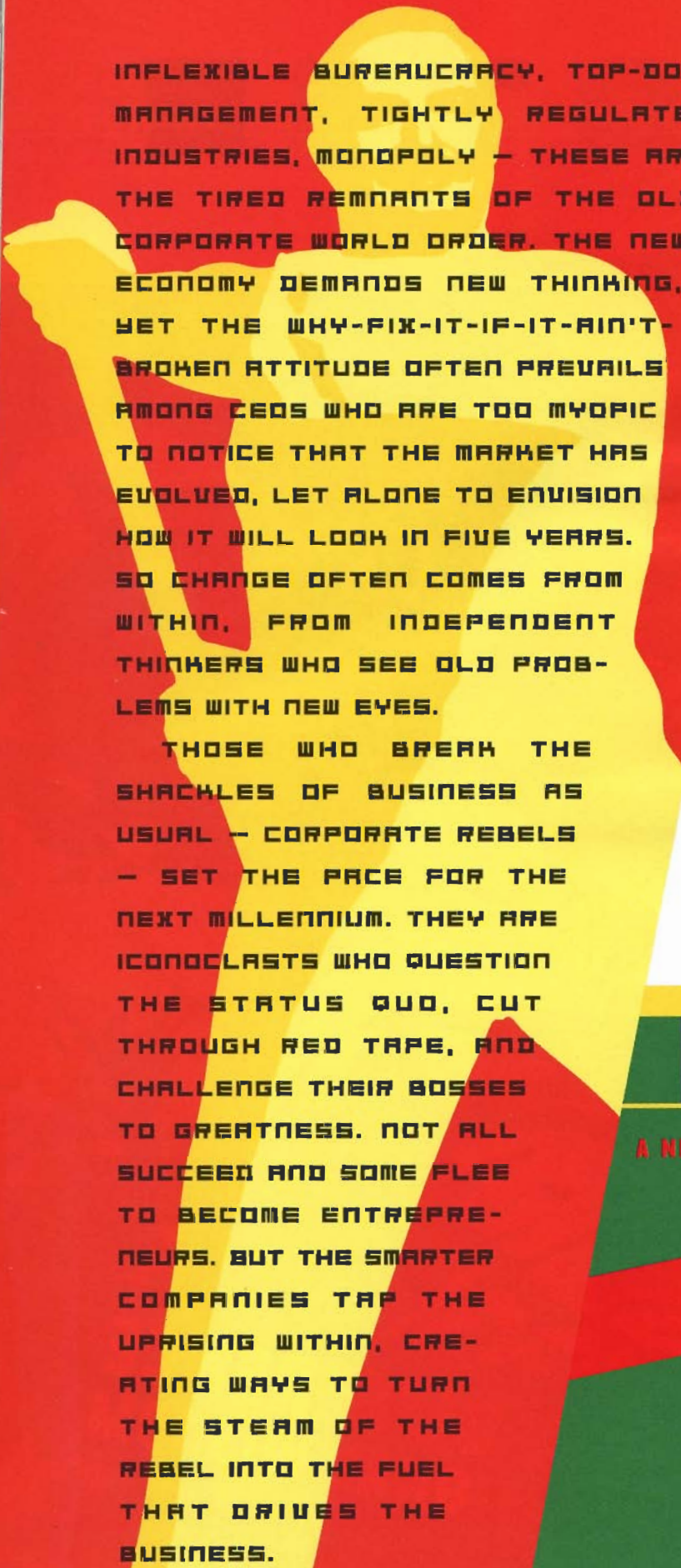
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**OUR RATE**

**REBELS**

**EIGHT WHO MADE A DIFFERENCE  
BY CHALLENGING CONVENTIONAL WISDOM**



INFLEXIBLE BUREAUCRACY, TOP-DOWN MANAGEMENT, TIGHTLY REGULATED INDUSTRIES, MONOPOLY — THESE ARE THE TIRED REMNANTS OF THE OLD CORPORATE WORLD ORDER. THE NEW ECONOMY DEMANDS NEW THINKING, YET THE WHY-FIX-IT-IF-IT-AIN'T-BROKEN ATTITUDE OFTEN PREVAILS AMONG CEOs WHO ARE TOO MYOPIC TO NOTICE THAT THE MARKET HAS EVOLVED, LET ALONE TO ENVISION HOW IT WILL LOOK IN FIVE YEARS. SO CHANGE OFTEN COMES FROM WITHIN, FROM INDEPENDENT THINKERS WHO SEE OLD PROBLEMS WITH NEW EYES.

THOSE WHO BREAK THE SHACKLES OF BUSINESS AS USUAL — CORPORATE REBELS — SET THE PACE FOR THE NEXT MILLENNIUM. THEY ARE ICONOCLASTS WHO QUESTION THE STATUS QUO, CUT THROUGH RED TAPE, AND CHALLENGE THEIR BOSSES TO GREATNESS. NOT ALL SUCCEED AND SOME FLEE TO BECOME ENTREPRENEURS. BUT THE SMARTER COMPANIES TAP THE UPRISING WITHIN, CREATING WAYS TO TURN THE STEAM OF THE REBEL INTO THE FUEL THAT DRIVES THE BUSINESS.

**H**is arms gesticulate spastically and his head keeps bobbing and flicking between his visitor and every item that comes into view as he races down the hushed hallways of the IBM Almaden Research Center.

He's fumbling over his words, changing the subject every few seconds, then backing up, finally throwing out his hands and letting go a staccato burst of laughter before launching into a story about a cocktail party, someone named Lou, and a computer you wear on your belt.

## REBEL WITHOUT

BY STEVE G. STEINBERG

At this point, the visitor is so convinced that Ted Selker seems too, well, flaky, to be a real scientist — he's not calmly staring off into the middle distance, loosely holding an uncapped marker in one hand, preparing to record the next flash of inspiration like others at Almaden — that it takes a minute to connect "Lou" with Lou Gerstner, IBM's CEO. And then the visitor starts wondering: *How the hell did this maniac become so important to a staid corporation like IBM?*

Corporate R&D labs have always been a dumping ground for misfit technogeeks. If they are a bit weird, so much the better. They can be shown off every quarter or so when the CEO takes investors on a tour of the lab: "Yep, we have some brilliant researchers here. Just look at Ted! He's almost as crazy as Einstein!"

## HOTHOUSE FLOWERS

BY DAVID DIAMOND

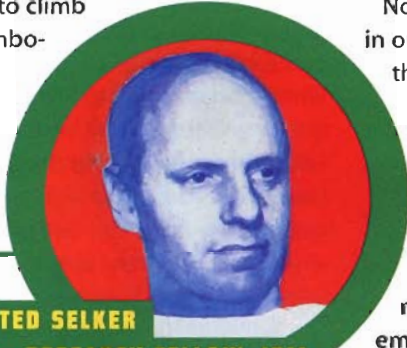
A NEW GENERATION OF COMPANIES IS WORKING HARD TO FIND AND NURTURE THE IN-HOUSE MAVERICKS WHO CAN CHALLENGE THEM TO SUCCESS.

If Mark Weiser's name sounds vaguely familiar, it's probably because he plays drums in Severe Tire Damage ([www.std.org/](http://www.std.org/)), the first band to broadcast a concert live on the Internet in June 1993. What you may not realize, however, is that the hyperpercussive Weiser leads a double life: he's also chief technologist at Xerox PARC.

Weiser doesn't possess many of the traits typically associated with corporate rebels — or, to quote one futurist, "He's not an abrasive asshole." Weiser is soft-spoken. He doesn't like to brag. But as the Number Two person at PARC's legendary chief scientist John Seely Brown, Weiser has turned the lab's research direction around, and led it

Selker, 41, seems like a natural for this role. His angular face is framed by his annual winter beard, and he's breathtakingly smart, with an appropriately esoteric academic background. As an undergraduate at Brown University in 1978, he built an electronic simulation of how the eye focuses and then went on to study brain modeling and AI at the University of Massachusetts and Stanford. In his spare time, Selker used his restless energy to climb peaks like the 20,702-foot Chimborazo in Ecuador and to carve a 6-ton oak sculpture.

# A PAUSE



**REBEL:** TED SELKER

**POSITION:** RESEARCH FELLOW, IBM

**CRUISE:** BATTLED ENGINEERING AND MANUFACTURING SKEPTICS TO CREATE THE TRACKPOINT, THE KNOBBY RED POINTING DEVICE THAT HELPED BOOST SALES OF IBM'S THINKPAD PORTABLE PC.

He worked at Atari's think tank during its heyday in the early 1980s and moved over to Xerox PARC in 1984. Both labs were full of rebels who invented brilliant things and ... were ignored!

But Selker has managed to break that pattern. You know the little red positioning button used on the ThinkPad? That's his. Called the TrackPoint, it is the biggest improvement in pointing devices since the mouse. IBM tripled its notebook production every month for four months after the TrackPoint arrived. Two other IBM notebook PCs introduced without a TrackPoint were both discontinued.

Selker never really fit in at Atari or Xerox. So in 1985, when IBM asked him to join its T. J. Watson Research Center, he accepted. "I wanted to show I wasn't a flake," he says. He wound up joining as a lowly advisory programmer because he didn't have a PhD, and he kept getting slapped down by management. But he was starting to learn a few tricks for getting his way within the IBM bureaucracy.

One day, Selker noticed that people were slowed down by always having to reach for the mouse. If some kind of joystick device could be integrated with the keyboard, then users could keep typing. Selker experimented with different tracking algorithms and created hundreds of plastic mock-ups, finally ending up with a stubby plastic shaft that fit between the keys.

Now came the hard part: to have his pointing device used in one of IBM's laptops, he had to win over Satoru Yamada, the IBM Japan engineer heading up that research. Satoru wanted an alternative trackball device and objected to Selker's TrackPoint because it left an imprint on your finger. That was ridiculous, thought Selker. It was like criticizing a Ferrari because the clutch was stiff.

But Selker initiated an orgy of collaborative head-scratching, and the two experimented with different materials to reduce the TrackPoint's stiffness. What emerged was a squishy rubber top that was both more accurate and more comfortable than the earlier version. Most important, Satoru had a stake in it.

Selker knew he had to stay involved during the entire birthing process. IBM's hardware engineers claimed the TrackPoint's microcode was too bulky and unstable, so Selker and his team rewrote it. When the manufacturing expert said they had to use a cheaper rubber even though it wasn't as sticky as Selker wanted, he enlisted his father (who had worked with the rubber industry in the 1940s), and they found a company that could meet IBM's price demands. What emerged was the distinctive red dot. Even today, when many have imitated the design, you'll find people stealing the rubber covering from TrackPoints to replace the more slippery plastic used on other computers.

Selker was rewarded for his success by being chosen as an IBM Fellow, the company's highest accolade. But that hasn't made it any easier for him to get his ideas accepted. Nor has it made him any less worried about being perceived as a flake. ■ ■ ■

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into the post-PC era of ubiquitous computing, involving wireless computers implanted in everything from walls to key chains.

Weiser, 44, personifies the dire need for companies to identify, nurture, and keep

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those who can challenge them into success.

It's the nature of the high tech beast that many of the best innovations spring from the dreams of smart people who challenge the system. Steve Wozniak was a maverick programmer at Atari, for instance, when he devised plans for an easy-to-use PC. (The blueprint, of course, was

dismissed by Atari head Nolan Bushnell, and Wozniak left with another Atari employee named Steve Jobs to create Apple Computer.) In recent years, companies have learned the hard way that in an industry awash in venture capital, it isn't difficult for lone rangers to suddenly jump ship and establish a start-up that has the agility and speed to

develop innovative products.

Of course, there can be a downside to rebel worship. Stanford University economics professor Timothy Bresnahan says it's not always easy to tell "useful, out-of-the-box thinking from raw weirdness." Adds Andersen Consulting partner S. Russel Craig: "It's a dual-edged sword. If the rebel is right, it could be very valuable

**H**oward Jonas is an international telecommunications pirate. Or he is the David to AT&T's Goliath. Or he is a loud-mouthed hustler (who was hawking 25-cent tours of the Bronx Zoo when he was 6). It all depends on whom you talk to. One thing is certain: the 40-year-old New Yorker is a brash competitor who has made no qualms about fighting the titans of long distance telecom.

And he tells a good story: in 1990, when Jonas was in publishing, he discovered that it cost a helluva lot more to call New York from Paris than the other way around. Why?

Because most foreign markets were controlled by state-owned monopolies. So he "hacked together

## THE TELECOM HUSTLER

BY JESSIE SCANLON

some relays and dialers" and founded the International Discount Telecommunications Corp. – and international callback was born.

Using this renegade service, someone in, say, Paris calls IDT's central switchboard in Hackensack, New Jersey, and then hangs up. An IDT operator (now a bank of computers) calls the person back and patches in the call. Because the connection originates in the US, the Parisian pays the cheaper US rates.

Callback found a clever backdoor to introduce competition into monopoly-controlled markets. Needless to say, foreign monopolies didn't like this. (Jonas tells of being thrown out of the Telecomm '91 convention by the president of France Telecom.) AT&T liked it even less. But when the global telcos petitioned the FCC to declare callback illegal, Jonas successfully presented his case to Vice President Dan Quayle.

Over the years, Jonas has been a vocal proponent for cut-rate long distance service, international callback, and Internet telephony. "Howard is an in-your-face entrepreneur," says Danny Briere, an industry analyst with TeleChoice.



REBEL: HOWARD JONAS

POSITION: FOUNDER AND CEO, IDT CORP.

**CRUISE: CREATED INTERNATIONAL CALLBACK, A RENEGADE TELECOM SERVICE THAT OFFERS COMPETITIVE US RATES TO A WORLD MARKET, BYPASSING FOREIGN MONOPOLIES AND FORCING THEM TO CUT THEIR PRICES.**

"He's been on the leading edge. But he's not *leading* the leading edge," says Briere. "He's been compared to Bill Gates, who lets someone else develop the technology, and then moves in."

The origins of callback aside (Briere dates the technology back to the '70s), it was Jonas who first commercialized it. International callback is now a US\$500 million-a-year industry, of which IDT does about \$30 million to \$40 million, serving more than 25,000 customers in 120 countries. Callback's success forced the international carriers to cut their prices, which, Jonas says, "has leveled the business playing field, giving entrepreneurs the ability to compete in global markets." Though AT&T and the foreign monopolies threatened lawsuits, no telco had legal grounds to stop IDT. Jonas had successfully faced the Goliaths, hustled the media, and worked the industry. ■ ■ ■

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**W**hen you're trying to break decades-old telecom monopolies by building the first private global satellite phone network, you can expect explosive business risks. So when an airborne Delta II rocket mysteriously blew up one week before Iridium was set to launch its first three satellites on a similar craft, project manager Bary Bertiger took it in his stride. "That was hardly significant compared with some of the issues we've faced," says the 50-year-old engineer. And he's not being cavalier.

The genesis of the Iridium project is Motorola legend. In 1985, Bertiger and his wife, Karen, were vacationing in a remote corner of the Bahamas. Unable to make an urgent call on her cellular phone, Karen challenged her husband to create a wireless phone network that would work anywhere in the world.

Bertiger's managers originally scoffed at his plan to build a global halo of 66 low-orbit satellites. Traditionally, space programs have been the pursuits of wealthy governments. But Bertiger's idea caught the attention of company chair Robert Galvin, who informed President John Mitchell that

## ROCKET SCIENCE

BY RACHEL LEHMANN-HAUPT

to the corporation. If they're wrong, it could be disruptive."

But many firms realize that there is much to be gained and are creating environments that nurture iconoclasts. To do so, they've had to come up with ideas that counter traditional thinking. Like financial compensation that matches what rebels could reap as entrepreneurs.

Or realizing that in some hierarchies it might not be easy to say, "Go ahead, we want you to challenge your boss" – and actually mean it.

As a result, the list of rebels making a major impact is growing rapidly. In some cases, they are as critical to a company's direction and success as the CEO. People like James Gosling, the scientist (now

vice president) at Sun Microsystems who co-invented Java. Or Steven Sinofsky, J. Allard, and Benjamin Slivka, who introduced Bill Gates and Microsoft to the Internet. Or VAX minicomputer inventor Gordon Bell, whom Microsoft set up in his own San Francisco Bay Area Research Center, where he is working on server software. You've also got John

McCrea at Silicon Graphics, who drove the 3-D graphics workstation company into the Web server and Web-authoring business and is now responsible for working on cross-platform software. Then there's Narain Gehani at Lucent Technology, who invented Concurrent C, a language designed, in part, to handle errors in program

if Motorola didn't invest he would personally fund the project. Since then, Bertiger and his team – which has swelled to 2,000 – have run an obstacle course of tech hurdles, regulatory rigmarole, and political back-scratching.

Before Motorola could begin work, it had to secure the largest amount of broadcast spectrum ever requested by a private concern. In 1992, Bertiger traveled to the World Administrative Radio Conference, where he asked some 200 nations to let Iridium broadcast to their turf.

Next challenge: finances. Motorola agreed to fund 25 percent of Iridium; Bertiger needed to come up with the rest. Two years, 50 trips, and 32 countries later, the Iridium initiative had raised US\$1.8 billion through a consortium of 17 companies. With the exception of Sprint, which signed on at the last minute, the big telcos were conspicuously absent.

But 11 years after Bertiger conceived of Iridium, it is almost a reality. Along the way, Motorola's engineers have cut the traditional cost of building a

satellite from almost \$200 million to less than \$20 million and have shrunk the manufacturing time from two years to five days.

Meanwhile, the skies are getting mighty crowded. Craig

McCaw and Bill Gates, for instance, are backing Tele-

desic, a \$9 billion project that hopes to launch more than 800 satellites for its own phone network. Several other similar satellite projects are planned.

Bertiger still needs to raise at least \$2.6 million to launch all of

the satellites by next year. And then comes what might be the hardest part: convincing consumers to spend their dimes – \$3 worth – to access Iridium's network. ■ ■ ■

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ming. And, of course, you've got Mark Weiser – remember him? – at Xerox PARC.

Soon after the University of Maryland granted Weiser tenure in 1985 as a computer science professor, he decided to leave. "The challenge was gone," he recalls. In 1988, he took a job running the CS lab at Xerox PARC, birthplace of Ethernet, the mouse-windows

interface, laser printing, and, in recent years, not a heck of a lot else. "It needed shaking up," Weiser says.

He wanted to get researchers excited about his personal obsession – ubiquitous computing – but got nowhere. "It was very unpopular," Weiser says. "A lot of new hardware had to be built to make it happen, and computer designers

only think of faster and better, not smaller and lighter and easier."

So Weiser went to universities, lecturing about his visions of a post-PC era. He often hired students, particularly those who approached him after his lectures, to help on such critical problems as increasing the number of mips per watt that a computer can

process. Surprisingly, Weiser says that no one at PARC had worked on the problem for 10 years. With the help of these new hires, Xerox was able to increase the mips-per-watt rate by a factor of 100.

In 1994, Weiser told John Seely Brown that he planned to leave and form a start-up to develop a computer that hangs on a key chain. Xerox ▶

“A revolution is not a dinner party,” Mao Zedong once observed. The Chairman wasn't kidding. Revolutions are messy, chaotic, and, by definition, challenge centers of power.

Sherman Woo knows this all too well. Since 1993, the 51-year-old programmer at U S West Communications has spearheaded an information revolution within the hierarchical telco by developing Global Village, one of the world's first corporate intranets. "I knew from the start it was going to be countercultural," Woo says.

## GLOBAL VILLAGE BUILDER

BY TODD LAPPIN

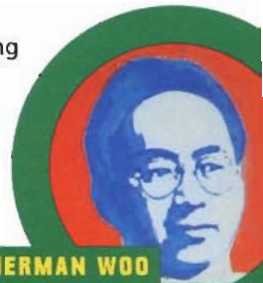
Global Village began as part of an effort to reengineer the billing system at the Denver headquarters to distribute information to employees across 14 states. Woo figured that the TCP/IP technology that formed the backbone of the nascent World Wide Web could also be used to create a proprietary online network within U S West.

Woo set up his first intranet using off-the-shelf software and crude Mosaic browsers. His demo to corporate execs was impressive, but Woo's request for US\$4 million and 40 people was denied. He got just \$200,000 and a staff of four. Disappointed but undaunted, Woo built grassroots enthusiasm for Global Village by linking anyone to the network who demonstrated the system to at least two other employees.

It worked. And the corporate drones who initially saw Global Village as a threat to the company's carefully controlled lines of communication eventually gave the project an official blessing. Today, roughly half of U S West's 60,000 employees are jacked in to the network.

"When I wasn't given \$4 million, I didn't look like a threat," Woo says in hindsight. "That minimized the institutional resistance." Sherman Woo may have sparked a revolution, but the experience was still no dinner party. ■ ■ ■

*Todd Lappin (telstar@wired.com) is a section editor at Wired.*



**REBEL: SHERMAN WOO**  
**POSITION: DIRECTOR OF GLOBAL VILLAGE LABS, U S WEST**

**CRUISE: BUILT A RADICAL COMPANYWIDE INTERNATIONAL NETWORK THAT REVAMPED A HIERARCHICAL ORGANIZATION AND BECAME A BLUEPRINT FOR TODAY'S INTRANETS.**



**REBEL: BARY BERTIGER**  
**POSITION: VICE PRESIDENT, SATELLITE COMMUNICATIONS GROUP, MOTOROLA**

**CRUISE: CIRCUMVENTED TELECOM MONOPOLIES WITH THE FIRST PRIVATE GLOBAL SATELLITE PHONE NETWORK.**



No one wants to talk about Block Trading. No one at Lehman Brothers. Or Merrill Lynch. None of the venerable brokerage firms want to discuss the upstart trading house based in Houston, Texas, that offers insider access to Nasdaq's trading floor through a little-known system called SOES – the Small Order Execution System.

Chris Block, partner Jeff Burke, and their Block Trading customers are known on Wall Street as SOES bandits. But as they see it, the only laws they have broken are the unwritten rules of the stock exchange: collusion, price-fixing, kickbacks. This is how Nasdaq works: I want to buy a stock. I call my broker, who contacts the trader. The order flows to a market-maker, who matches my buy order with a sell order. The process might take 20 minutes. If the market price

## STOCK OPTIONS

BY JESSIE SCANLON

has dropped in that time, the marketmaker in effect buys the stock at the best price available, resells

it at my higher offering price, and pockets the difference. In contrast, SOES investors have access to the latest stock quotes and bark orders to a dealer who executes the trade within seconds. Presto. Done.

In 1991, Block and Burke, now both 30, were suit-and-tie grunts at Lehman Brothers, making 600 cold calls a day. One day, Block phoned Harvey Houtkin, a savvy investor who introduced him to SOES (pronounced "sews"). The ambitious team visited Houtkin for a crash course. Burke learned fast and soon earned the US\$10,000 the duo needed to start Block Trading.

When Block and Burke left Lehman Brothers, their old colleagues laughed. But five years, 12 branches, 200 customers, and \$18 million in annual commissions later, no



**REBELS:** CHRIS BLOCK (above), JEFF BURKE  
**POSITION:** FOUNDERS, BLOCK TRADING

**CRIME:** BROKE THE STOCK BROKER'S TRADING ADVANTAGE BY GIVING INDIVIDUAL INVESTORS QUICK ACCESS TO THE MOST TIMELY QUOTES ON NASDAQ.

one on Wall Street is laughing. "We've taken the market-makers' bread and butter – information – and given it to the public," says Block. "It's not an exclusive club anymore."

And the marketmakers are pissed. They believe the SOES bandits are manipulating the system. As Nasdaq spokesperson Reid Walker claims, the SOES traders "are hitting quotes that have not been updated and creating artificial volatility by acting on information completely unrelated to news from the company, analyst reports, et cetera."

SOES investors are the black sheep of Wall Street – under 35, dressed in jeans and T-shirts. They left jobs as secretaries and lawyers to begin day trading full time at Block, which offers free informal training, as well as all the necessary tools. They trade minute-to-minute and never own a stock overnight. They never read a prospectus, never talk to analysts. They care only about the spreads, the difference between the marketmakers' buy and sell prices. They are vigilant, watching bid prices flit across the Level II screen and then pouncing. They place 20 to 70 transactions a day, trading in blocks of 1,000 shares, making profits of a quarter even a sixteenth of a point per transaction. Although each trade is small, on a good day a SOES bandit can make thousands of dollars. Thousands that the marketmakers don't get a cut of.

When the marketmakers fought the upstart system – by lobbying to limit the SOES users to four trades per day, capping the size of the trade at 500, and instituting a 20-second delay rule to take away the bandits' speed advantage – "we decided to blow the whistle," says Block. The ensuing SEC investigation resulted in several Nasdaq rule changes, including the reversal of the 500-share trade limit. The other intended SOES-killers were never instituted.

But Block is skeptical that the commission – "a handful of executives with no computers and rotary-dial phones" – can regulate Nasdaq. So he has joined a coalition of SOES traders that is fighting several new rules that "give the marketmakers a back door."

Meanwhile, what is his partner Burke doing? Trading, of course. Like any good SOES bandit, he never takes his eyes off the screen. ■ ■ ■

▶ didn't want to miss the boat – again – so it finagled a way of keeping the valuable employee. Technically, Weiser would be on leave from the company, but Xerox gave him his first round of financing (roughly US\$500,000) and office space.

The deal required that someone else provide the second round of financial backing, but when the time came and

no source emerged, "PARC approached me and said, 'Let's talk about how to get you back in here,'" Weiser says. That's when he was made chief technologist – a new position. Weiser was given free rein to oversee the entire technical program at PARC, not just computer science but linguistics, philosophy, physics, and other areas of

research. "My official role is to work across the grain and fill in the cracks of the official programs," he says. "If I see something fall in the cracks, I have some people and a budget: a troublemaking budget and troublemaking people."

Weiser's compensation package includes "phantom stock" in technology the company had begun licensing.

(Since it provided the first-round financing, Xerox owns the technology.) Issuing such phantom stock is one way to hang onto rebels. Typically, a company will set up the individual in a special unit called "spin-in," according to consultant John Neshiem, president of Saratoga, California-based Strategic Enterprise Consulting. It then hires a consultant

**W**ebvertising. You love it or loathe it, depending on which side of the HTML you're on. For Web publishers, ad banners mean money. Lots of it – potentially. Forrester Research expects online advertising revenues to reach US\$4.8 billion by 2000. But ad banners also add frustrating seconds to every download. You know the scene: Click Open. Enter the URL. Wait. Curse the Java-laden banner that's slowing your PC to a crawl.

## A BANNER CAUSE

BY JOEY ANUFF

James Howard did more than swear. Along with three other University of North Carolina students, he founded PrivNet. Howard, 24, knew that lots of people don't like online ads, that more webvertising meant more frustrated Web surfers, and that this was a great business opportunity.

PrivNet's motto was simple: "If it's out there, we can filter it." The

start-up released its first product, Internet Fast Forward, in early 1996. A weedwhacker for the Web, the software allowed complete filtering of all Web advertising. Fast Forward would identify ads by name, link, or directory position and wouldn't download them.

Advertisers were not amused. Neither were Web publishers, who saw ad filtering as a block to their revenue stream. ESPNET SportsZone publisher Starwave argued, through numerous cease-and-desist letters, that *any* alteration of its content was illegal. Infoseek listed this type of software as a risk factor in its prospectus. Sharon Katz, a media planner at advertising agency Modem Media, summarized the industry POV: "Consumers have the opportunity to not click on an ad. But the concern [with IFF] is that you're messing with some copyright laws and changing somebody's Web page."

PrivNet's rebuttal, engineered by code whiz Mark Elrod, was known as the Scissors Defense: if *Rolling Stone* learns

that its readers are cutting out Bacardi Rum and Hootie ads, it can't blame the scissors manufacturers.

By mid-1996, more than 100,000 people had downloaded PrivNet's software. Advertisers were mad, but demand was high, and the company planned to start charging \$20 in 1997 for the basic software plus the daily update service.

Enter Pretty Good Privacy Inc. Founded by cryptoevangelist Phil Zimmermann, PGP bought PrivNet last November for an undisclosed sum. The PrivNet coders had shown they could hack any browser, and Zimmermann wanted to rechannel that irreverent coding into his own PGPmail 4.5. He hired the PrivNet team and also released a stand-alone version of Internet Fast Forward's Cookie Cutter function, which allows users to track cookies.

Although it's unclear exactly what Zimmermann – a rebel with his own cause – plans to do with IFF, there are rumors of an updated PGP version of the ad-zapping software. For his part, Howard wants to buy back the rights to the code and release it as freeware. Either way, webvertisers better watch out. ■ ■ ■

Joey Anuff (joey@suck.com) is cofounder of Suck.

**C**orporate America is run by a small class of high priests who control the flow of financial information, interpret the balance sheets and earnings charts, and set company strategy. The middle managers, employees, and workers who fill the corporate ranks are expected to follow along – no questions asked.

## REMANUFACTURING BUSINESS

BY ART KLEINER

John P. Stack, 49, has set out to defrock the priests. A lean and blunt-speaking John F. Kennedy look-alike, Stack is CEO of SRC Holdings Corp. in Springfield, Missouri. But Jack, as he is known, is also the pioneer of "open-book management," a 14-year-old business philosophy that rejects hierarchical paternalism.

In 1983, as a mid-level manager at International Harvester, Stack was ordered to shut down a moribund engine reman-

to establish a value for the internal unit and give the rebel and their staff a percent of the "equity."

Neshiem – who has consulted for Hewlett-Packard, Digital Equipment Corp., and TRW because they feared losing smart people to start-ups – says managers and employees in spin-ins usually get equity comparable to what venture

capital-backed entrepreneurs receive. In software ventures, 40 percent of the spin-in's value typically goes to the rebel and staff. In hardware ventures, it's about 25 percent. If the rebels don't like the valuation, they can bring in an arbitrator. The only way to cash out is to sell the phantom stock back to the company.

Lucent Technologies hopes

such remuneration will help in its year-old program to nurture rebels. Bell Labs president Dan Stanzione says the AT&T spin-out wants to "uncage the tigers." In the past year, Lucent has set up two new ventures based on promising projects that were the brainchildren of rebels: elemedia – which will develop components for multimedia

over networks – and Inferno, which is making a distributed operating system for personal communicators, handheld devices, and other equipment without a lot of memory. Lucent plans to set up as many as 10 such ventures a year.

The high tech giant adds its own creative twist by pairing "technology rebels" – a scientist or engineer with a

ufacturing plant. Instead, Stack (who was fired from GM for playing poker on the job) took a gamble. The energetic Midwesterner and 12 other Harvester managers bought the struggling factory. They raised the capital, closed the deal, and found themselves with



**REBEL: JOHN P. STACK**

**POSITION: CEO, SRC HOLDINGS CORP.**

**CRIME: OPENED THE COMPANY'S BOOKS, MAKING SENSITIVE FINANCIAL DATA, CASH-FLOW CHARTS, BALANCE SHEETS, AND STRATEGY AVAILABLE TO ALL EMPLOYEES.**

US\$1.08 million in annual interest payments. "We had an 89:1 debt-to-equity ratio," Stack says, "which put us on a par with, say, the government of Poland."

Stack's survival strategy: open the books, teach everyone – from the factory floor to the suit-and-tie echelons – the financial secrets, and make every employee a co-owner. The workers then had a common goal in making SRC a success. Everyone was trained in the subtleties of return on investment, cost of goods sold – and how each individual's decisions fit in. Stack led SRC's people to figure out how much material, labor, and over-

head went into each engine they rebuilt. They broke out the costs and revenues into a balance sheet for every part of the business. And they festooned the building with financial reports, charts, and graphs. Eventually, any worker could access any financial data from all terminals. Employees and managers spent 30 percent of their time studying after-tax profits, cash flow, and cost control or putting the knowledge to work in weekly roundtable discussions.

People have a misconception about business, Stack believes. "It really is a game," he explains in his book, *The Great Game of Business*. "It's no more complicated than basketball or golf or bowling." And it's a game that SRC is winning. Since the books were opened, the company's value per share has risen from 10 cents to more than \$33.

The open system has led directly to some of SRC's greatest breakthroughs. In the mid-1980s, a janitor stopped Stack

in the hallway to question SRC's strategy of rebuilding truck engines. "You're telling us that if we reduce the debt, we'll be secure," the janitor argued. "But the truck market has a recession every six years." SRC soon diversified into rebuilt automobile engines, now a critical part of the business.

When another employee wanted to start a company to recycle junked engine coolers, SRC funded it. SRC invested \$60,000 in Engines Plus Inc., taking a majority interest of 74 percent and giving its entrepreneurial employees the remainder in sweat equity. The venture was such a success that SRC spun off two dozen more companies.

Despite SRC's turnaround (it pulls in \$130 million in annual sales), corporate America hasn't embraced open-book management. A few small firms have adopted the philosophy, but most big companies – strictly controlled by the financial priests – ignore it. Meanwhile, at Stack's 25 companies, employees are all business partners: remanufacturing not just engines, but capitalism itself. ■ ■ ■

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Maybe it's living in Berkeley – the groovy 1960s California counterculture hangout – that gave him the idea. Like, peace bro, and let's give the money back to the people. Perhaps. Chief executive Nat Goldhaber and his 25 employees at CyberGold certainly have an idealistic side. But they're also fiercely competitive – note the well-worn Chuck Norris heavy bag in the middle

## PANNING FOR WEB GOLD

BY GARY ANDREW POOLE

of their office – and hope to cash in on their clever idea: paying consumers to look at Web advertisements.

Goldhaber, 49, works from two simple, yet seemingly disparate, premises: 1) people dislike online ads, and 2) people like to get paid. At the CyberGold site, visitors read an ad, then prove it by answering some questions. For their troubles they get cash credited to a bank account. The money can also be directed to charity or put toward merchandise.

deep and abiding faith in their ideas – with "business rebels," people with a talent for the rough-and-tumble of marketing and management who can build viable businesses around the projects. "Both are equally impatient," says Arun Netravali, vice president for research at Bell Labs.

One of the big obstacles is the jealousy of others, says

elemedia president Joe Mele. "People would get all bent out of shape," he says. Consultant Neshiem says the typical whine is "Why do they get to have fun in the sandbox and I have to do the old stuff?" It's not a problem that should be dismissed lightly. Unless companies set up a rebel in as separate an entity as possible and make it clear they value the

contribution, "people who don't like what they're doing will put up roadblocks," says Andersen's Craig.

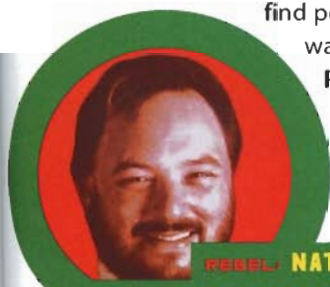
Companies such as Intel and Cypress Semiconductor take it a step further by institutionalizing rebelliousness. Intel even has a name for it: constructive confrontation. It means you are expected to be tough, opinionated, entrepreneurial,

and willing to engage in intellectual combat over your views, says Dennis Matthies, a Stanford University lecturer. Matthies has been hired by Microsoft and Cypress to coach employees on the painful art of (this is on his business card) "question-driven learning, self-coaching, think on your feet, mental ecology." He explains, "You

Such thinking goes against the generally accepted Web ad model, which holds that online product plugs should mimic static magazine ads or that viewers don't mind TV-like commercials on their PC screens. But the conventional wisdom hasn't excited potential advertisers, or the public. Result: while Web ad revenue climbs – a respectable US\$157.4 million during the first three quarters of 1996, according to the Internet Advertising Bureau – it still represents only a fraction of the \$65 billion spent by traditional media last year.

CyberGold hopes to tap some of the Web's latent profit-making capabilities. "A company's goal is to make its shareholders rich," says Goldhaber, who looks like a college professor as he props up his New Balance running shoes and scratches his brown beard. Not so fast. CyberGold has already laid off eight employees (it was ramping up too quickly and sales just weren't there), and not every analyst is convinced CyberGold isn't scrap metal. "It's difficult to

find people with a high income who want to look at a car ad for \$2," says Peter Storck, director of online advertising at research firm Jupiter Communications. Goldhaber disagrees, saying that advertisers pay very little to get eager customers.



**REBEL: NAT GOLDHABER**

**POSITION: CEO, CYBERGOLD**

**CAUSE: FLIPPED TRADITIONALLY PASSIVE WEB ADVERTISING MODEL ON ITS HEAD BY PAYING PEOPLE TO READ ONLINE ADS.**

Goldhaber has already proven himself as a manager with his networking company, Tops, which he sold to Sun Microsystems for almost \$20 million in 1987. Moreover, überpitchman Jay Chiat and superflack Regis McKenna like CyberGold enough to be board members. If CyberGold clicks, it

may prove to be one of the most original ideas yet for web-vertising. So hurry, go look at some ads and – yes – make some money. ■ ■ ■

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can think of it as a personal quality that has to be fostered or a bottom-line cultural characteristic for the organization." So Cypress has its "wolf packs," people who ask tough questions in job interviews to weed out anyone who is too thin-skinned to weather the attacks frequently launched at innovators.

Sun Microsystems has set

up the position of "distinguished engineer" to give smart iconoclasts a loft from which to operate. James Gosling was a DE when he worked on Java. DEs are at the same level as company directors, who manage about 100 people. But these folks are on their own. "Your job is to do things differently, and to tell people what they're doing

is not the right thing," says Jakob Nielsen, a Sun DE. "The rule is, they have to listen to what we say, but they don't always have to do it."

Vanderbilt University business professor Terrence Deal, who in the early 1980s was one of the first academics to write about corporate cultures, says rebels will play an increasingly important role

millions of microscopic pyramids into a standard pattern for more efficient sanding.

Pieper couldn't get funds for machinery to build a prototype, but the Genesis grants gave him the chance to bust through the bureaucracy. The grant committee awarded

**S**ome companies punish rebels. Others merely stifle them. But 3M celebrates its malcontents, to the point of doling out major cash to reward their restless spirits.

Got a great product idea you can't get past your boss?

## MAD MONEY

BY RUSS MITCHELL

### 3M DOESN'T WEED OUT NUTBALLS AND MALCONTENTS – IT GIVES THEM CASH.

If you worked at 3M, you could turn to the Genesis grants. Since 1990, these funds have provided US\$3.5 million to 70 projects, offering a second chance to workers who could not get their ideas approved through normal channels.

Ideas need nurturing if 3M is to meet its goals for fresh merchandise: 30 percent of each division's sales must come from goods introduced within the last four years. That's 500 new products annually.

3M engineer Jon Pieper was a key member of the team that invented a new sandpaper called Trizact Abrasives. Most sandpaper consists of tiny abrasives randomly glued to stiff paper, but Pieper's replication technique places

Pieper about \$50,000 to move Trizact into development. 3M hopes to sell \$100 million worth of the new sandpaper by 2000.

Pieper's iconoclastic thinking follows in the tradition of famed 3M inventor Francis Okie, who in 1921 began pushing a new waterproof sandpaper as a replacement for razor blades. Face sanding never caught on, but 3M supported Okie's ideas until the auto industry started snapping up the invention, turning it into the firm's first blockbuster product. At a lot of companies, encouraging oddballs is a new concept. At 3M, it's a tradition. ■ ■ ■

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in the hypercompetitive high tech market.

"You need a voice of honesty consistently tweaking the culture," he says. Want evidence that rebels really matter? Just open your business history books, says Deal. "When IBM started smashing these people down, that's what started them getting into trouble." ■ ■ ■