Silicon Valley Reboots: The dot-com bust was bad for Wall Street, but it was the best thing to happen to this high-tech crucible. (Industry Overview)

by Steven Levy

After the dot-com bubble was reduced to soap scum, cynics took to calling its epicenter "Death Valley." Venture capitalists switched from free-spending Medicis to Scrooge McDucks (2000: $21 billion invested. 2001: $6 billion). Acres of office space, once harder to find than elbow room on a microchip, are going begging, and unemployment has reached Dust Bowl proportions. No. 3 on the Bay Area best-seller list? A book called "Dot.Con."

But before you bust out in a schadenfreude grin--or weep over your festering Yahoo stocks--check out the Web-connected WozCam. Chances are good that you’ll catch a glimpse of the Valley’s prodigal son Steve Wozniak. Yes, he’s baaack, sitting on furniture grabbed at cheaper-than-IKEA prices from failed dot-coms, banging on a G4 titanium laptop bulging with e-mailed resumes to his new company Wheels of Zeus (check the acronym). Twenty-five years ago Woz cofounded Apple Computer in a garage. Now, of all times, he’s back on the start-up trail, ready for a new revolution.

Woz’s return symbolizes what insiders already know: Silicon Valley is not only not dead, it’s already on the way back. In the aftermath of history’s biggest and giddiest boom-and-bust, the tech industry is entering the early stages of yet another cycle of innovation. "It’s a great time to start a new company," says Heidi Roizen of Mobius Venture Capital. Jim Breyer, a partner at VC firm Accel, concurs. "This is exactly what was happening in the early 1990s [before the Internet exploded]."

In a sense, the impending rebound got its start as soon as the dot-com failures began releasing their employees. While many of the M.B.A. gold diggers high-tailed it back to Old Economy-ville, the people who matter in Silicon Valley--the geeks--weren’t going anywhere. Back on their own, many of them (with an occasional recharging in Tahoe or Maui) immediately began doing what they do best--making high-tech magic. "It’s like the city is burning, and the partisans are forced to take to the hills," says Jay Tannenbaum, a former Shockwave executive. "After hiding in the bushes, they use those little tin ‘cricket-clicker’ doodads to find each other and regroup."

They meet in Starbucks and in Web-based dot-bomb alumni groups. They hang out in each other’s houses. They give ad hoc demos of new projects. They present cool ideas at semiformal gatherings like Code Con, an ultrageeky show-and-tell held at San Francisco’s DNA Lounge last month. And sooner or later, they figure out how their brilliant new ideas might actually find their way into the marketplace.

Weirdly, one of the things that will help distinguish the next wave of start-ups--and make them more likely to last than the Webvans and eToys--is the difficulty they face in raising cash. "[During the boom] capitalization came too easy--now the filtering effect is back in," says Sky Dayton, founder of Earthlink (good), eCompanies (whoops) and now a new venture called Boingo (high hopes). Putting it another way is Mike Edelhart, a former VC who’s COO of a digital-publishing start-up called Zipio: "For two years really crappy companies got funded. It’s impossible to get a crappy company funded now."

Cognizant of the high bar, geeks with big ideas are now nurturing ideas on the Orson Welles principle of nothing served before its time. "You can stay under the radar longer," says Bill Gross, an entrepreneur known as a serial offender during the boom days. "There are not the expectations that you build a company in three months." That’s why Graham Spencer, who was chief technical officer of crashed-and-burned Excite, has been spending the last year quietly cooking up a new venture with colleague Joe Kraus. "This time we’re keeping it small," Spencer, 30, says of his yet-unnamed company, which has something to do with Web services (if he told us more the radar would pick him up). He and Kraus work from their respective Palo Alto, Calif., homes, meeting a few times a week at their virtual office, California Pizza Kitchen.

Another example is Onedoto (pronounced like 1.0), a tiny group led by Valley interface king Steve Capps and a friend who worked with him on Apple’s Newton team. With seed money tight, they’re plowing ahead with schemes to make mobile tech easier to use, stocking up on patents in anticipation of the day the company will spring into action.

When that time comes, Onedoto will find that VCs are
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more than eager to listen. But don’t expect a repeat of the ‘90s— the next revolution in Silicon Valley won’t feature idiotic Super Bowl commercials and billion-dollar ventures based on FedExing pet food. Post-bubble Silicon Valley tries hard to avoid the harebrained excesses that led to dot-bomb disasters. "We’re still doing deals, but now they’re well thought through," says Accel’s Breyer. For instance, Accel recently took a month’s worth of technical and marketing analysis before funding a wireless play called Woodside Networks. "Two years ago we would have done it in a week," says Breyer. (Woz was an exception; due to his rep, Mobius fast-tracked him after a PowerPoint pitch.)

"The bubble years were like the last days of the Roman Empire--business practices were totally weird and dysfunctional," says Greg Galanos of Mobius. Now he won’t consider companies without viable business plans, working prototypes and a sense of commitment instead of a delusional exit plan. These concepts may be too much for some pampered dot-comies to process. "There may be a lost generation of bubble entrepreneurs who won’t be able to adjust to realistic valuations and practices," says Galanos.

In many ways, the new Silicon Valley is a lot like the old Silicon Valley before the madness hit. The smart VCs, in fact, are looking back and realizing that some of the most successful companies--like Microsoft and Cisco--began not in palmy times but in bust cycles. "I’ve seen this before," says Steve Jurvetson, managing director of Draper Fisher Jurvetson. "So when we saw the bust coming, we immediately went to work. We funded Phosister [photoic integrated circuits], Nantero [nanotechnology], Luminos [health care] and Blue Falcon Networks [peer-to-peer networking]."

Post-bubble start-ups also enjoy benefits that weren’t available during the boom: lots of smart people willing to work for reasonable salaries (no fresh-off-the-campus prima donnas demanding stock options and unlimited Frappacinos). "We had a festivals of greed here, and it was kind of sickening," says Andy Hertzfeld, a veteran wizard who’s provided mind-blowing software for Apple and a host of start-ups. "Now it’s much more pleasant to walk down University Avenue [in Palo Alto]."

Meanwhile, the traditional pillars of the Valley are rejiggering their misbegotten dot-com-related initiatives or celebrating their resolve in not trying to hop on the bandwagon prematurely. Many are jumping at the first chance in years to pick off A-list talent at down-to-earth rates. When the hot but revenue-resistant start-up Eazel went belly up, Apple Computer not only snatched its veteran software guru Bud Tribble but grabbed a handful of its best engineers, too.

Like pings over the Net, random factoids and stats are trickling in that suggest the Valley is on the rise after scraping bottom. In the fourth quarter of 2001, VC investments went up for the first time in months. Temp agencies saw an upswing in employment calls. Post-September 11, the government announced a 15 percent increase in information-technology spending. There was even one successful IPO, PayPal; despite the company’s regulatory problems and a patent battle, it closed a few bucks over its offering price. But that’s only setting the stage for a more substantial comeback. In the next few months and years, if the momentum continues, we’ll see a tsunami of new ideas that will invigorate the region.

If you think about it, labeling the current Valley as a bust is almost as wacky as believing all the hype of the boom. While the valuation of high-tech firms went to hallucinatory levels, the benefits people enjoyed from the Internet itself were quite real. Recently a sweeping Department of Commerce study called “A Nation Online” painted a portrait of an amazingly connected coun-try. More than half of all Americans--143 million--were on the Net as of last September. Every month 2 million new users log on. A decade ago such numbers would have been inconceivable.

Obviously, the ubiquity of the Internet provides a platform to instantly propel new ideas into the marketplace--just as the previous boom in personal computers set the stage for the Net, and the microchip revolution sparked PCs. Historically, however, each transition was preceded by a downturn. "It’s all happened before," says economist Doug Henton. "The habitat is so rich in smart people they simply readjust themselves to the next opportunity."

Henton is coauthor of a white paper called “Next Silicon Valley: Riding the Waves of Innovation” that breaks down local history in “hype cycles” tied to tech breakthroughs. Now that the Internet hype cycle has swan-dived, it’s time for some new eruptions. In the short term, the hottest sector is wireless (particularly wi-fi, the unregulated frequency that allows for wireless Nets in homes, offices and coffee shops). Companies like Boingo, which attempts to broaden its use to consumers, are already rushing to market, and about 20 start-ups are competing to produce “wireless mesh networks” to make wi-fi work as...
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seamlessly as the Internet. Then there's Woz's start-up; though product plans are under wraps, we do know it involves merging wireless with low-cost GPS to enable people to find things—and other people. ("It's actually kind of obvious," says Woz. Maybe to him.)

Another busy area is distributed file-sharing (essentially, making Napster-like peer-to-peer systems legal and profitable). No fewer than five new companies have gotten funding to set the standard in this space, and that doesn't include countless not-for-profit schemes. And then there are Web services, subscription-based applications that utilize the Internet as a de facto operating system. A sign of their inevitability: 3,000 independent developers turned out last month to see Bill Gates introduce the tools to create software for Microsoft's .NET platform.

Expect the truly big bangs, however, from exotic technologies that are just emerging from the research lab. Prescient propeller-heads are buzzing about bio-informatics, the use of computers to exploit massive new amounts of genetic information. "It's a combination of pretty hard-core technology with the promise of some big payoffs in things like drugs and genomics," says Tim O'Reilly, whose eponymous company recently sponsored a conference on the subject. The field is rich with opportunities for those who pioneer things like DNA measurement chips and genetic data mining. Since the demands of bioinformatics push the limits of current computation, there's a potential ripple effect that could kick in as more powerful machines and in-novative data-handling techniques find their way into the mainstream.

Other far thinkers are focusing on nanotechnology, the science of creating atomic-scale devices to do our work for us. Some of the first start-ups include Nantero, which makes "carbon nanotube flash memory," and Alien Technology, which uses "fluidic self-assembly" to make microscopic semiconductors. (These might sound like a mouthful, but remember how weird "random access memory" once struck you?)

It's impossible to know just when these new technologies will kick in, changing our lives and enriching their founders. And maybe the biggest changes will come from some technology that right now is quietly cooking in someone's lab—or garage. In any case, the greatest news of all in Silicon Valley is that the buzz no longer focuses on making billions, but in producing innovation. The traffic jams on 101 may not be as dense as they were in 1999, and the Nasdaq might continue to be anemic for some time—but the geeks have all their synapses firing, the best sign of copacetic times ahead. Buoyed by our still-increasing reliance on tech, and fortified by the lessons of history, a newly focused—and newly responsible—Silicon Valley is gearing up to wire us (and wireless us) more than ever. So welcome to Revenge of the Nerds, The Sequel.