

Mary E Behr Clips

Who Is Jaron Lanier?

By Mary E. Behr

Jaron Lanier has worn many hats since he was a teenager—computer scientist, philosopher, and renaissance man. He's also the man who invented virtual reality. Today, he's taking virtual reality a step further as the lead scientist on the Tele-immersion project. In his spare time, he has performed with big-name musicians such as Sean Lennon and Philip Glass. Currently, he's in a band called Hand Made Techno, with Will Calhoun. He's also featured on a stamp issued by Palau, an island chain in the North Pacific Ocean, southeast of the Philippines.

Mary E. Behr: You coined the term "virtual reality." Why those exact words?

Jaron Lanier: I originally came up with the term as a reaction or a response to a term that was already around. There was a guy named Ivan Sutherland—he's the father of computer graphics—and he used the term "virtual worlds," which actually goes back to a philosopher of art named Suzanne Langer. She talked about virtual worlds in the 50's before there were technologies to imagine them; she was using the term as a metaphor. Then Ivan Sutherland used it to describe what you'd see through a head-mounted display—where a single person would be able to look out and see a computer-generated world and think that it was real. I was interested in a different approach—I was interested in having more than one person at a time in that computer-generated world, so that those people could see each other and share the world as a means of communication. To me, the term "world" refers to what's out there outside of you, but the term "reality" refers to what you share with other people. In other words, the world is out there to observe, but reality is something that you have to interact with. So I thought that the shift from using "virtual world" to "virtual reality" expressed that. Back then there was also a political thing with some of the people who were active in this area. We each had our own terms. Ivan Sutherland and others preferred "virtual world," Larry Kruger had "artificial reality," and mine was "virtual reality." And we all had different philosophies about what we were doing and the terms expressed different emphases and approaches.

Mary: So did you win?

Jaron: (Laughs.) That's a good question. My term certainly won. It became a part of popular culture and I don't think the other ones did, but whether my ideas have won out, I think it's too early to say. I like the idea of treating it as a form of communication. Just making some strange world that seems real is kind of boring to me. I mean the physical world is pretty neat as it is—very well-rendered and everything.

Mary: Have you ever been sorry that you unleashed virtual reality on the world?

Jaron: The one time that I got very sad was recently when the a**holes who attacked my neighborhood here in New York City [Editor's note: Lanier lives near Ground Zero] used

simulators to learn how to pilot the planes. It was very sad to see something that had such good intentions perverted in that way. But I still think that there is more good than evil that comes out of technology and I don't regret my part in it.

Mary: In 2030, there will be no distinction between real and simulated people. That's the future according to Ray Kurzweil, in an article he wrote for PC Magazine's issue on the 20th Anniversary of the PC. Do you agree?

Jaron: Ray really believes that. It's the oddest thing. I made the first avatar [Editor's Note: Originally a Sanskrit word for the earthly incarnation of a Hindu god or goddess, the meaning of avatar has evolved to mean one's interactive incarnation in a virtual reality environment], it's kind of my turf, but Ray's adopted it as his banner. He thinks we'll all be living in virtual reality, and there will be these fake people wandering around and we'll treat them as real. I don't like that vision on two levels. One issue is whether I believe that it's technically feasible, so there's the nerd response to it, and then there's the question of if it's something we'd want if it were feasible. And they're intertwined and it can become a little bit subtle. There's not really any objective test about whether some avatar is so good that it's as real as a person. This is especially true because we'll only see avatars as they develop, so people will have to work out their feelings about avatars with avatars that even Ray would have to admit are not perfect. Whether these will feel real will be a cultural question and will also reflect the psychology of the user. That seems like a rather obvious comment to make, but what it means is that when people learn how to accept a computer-generated avatar as a real person, they're changing their own psychology.

Mary: Who or what is teaching them this acceptance?

Jaron: I think they're being taught by the Microsoft Corporation right now. Let me explain myself more carefully: There's a thing called The Turing Test in which you're asked to determine which of two e-mail correspondents—one human and one computer—is human. If you can't tell them apart, Turing asserts that the computer should get the same rights as the human. But I would claim that if you can't tell them apart it doesn't necessarily mean that the computer got smarter. Maybe the person got dumber. I believe that the Turing Test is being passed all the time: Every time anyone puts up with stupid software. Which is where Microsoft comes in—a good example is when you're typing in Word and it thinks it knows what you want to type and it changes your spelling, et cetera. It's a lot of work to keep these features turned off, so you end up learning to behave as the program wants you to. You have to bend over backwards to get it to understand what you mean so it comes out right. If you look carefully at what's happening there, the software is training you to do all this work to make it look like it is intelligent and knows what you want. And the problem is that when Ray talks about avatars that appear real, well, they're not going to drop from the sky, they'll appear gradually over time. There's no way to be sure how much the software is getting better versus how much people are bending over backwards to create the illusion that the stuff is getting intelligent. By the time we're done with this, we might just have a massively dysfunctional stupid population, with a decline in individuality and IQ, that put a lot of energy into the illusion that avatars are real. We can make ourselves as stupid as we need

to be to make Ray's avatars seem smart. That's a profound problem. If you're an engineer, you have to have a way to test your product. But if you have this ideology that it is autonomous, then you give up your ability to test it. Because if something's autonomous, then you respect it too much and you have to give it credit for the way it is. If Microsoft did an honest test of its software, they would abandon it, but there's this ideology that it's supposed to be smart, you're supposed to adapt to it. So you can't do real engineering today—it's almost like a religion.

Mary: Is anything going to happen to reverse this, or are we stuck with bad software from here on out?

Jaron: Well, I'm going to ridicule it so effectively that the public will reject it.

Mary: What's the future of artificial intelligence (AI)?

Jaron: I don't think that AI exists. Because of the problems I just described, there's no way to measure if it exists. You can't distinguish machine intelligence from human stupidity. I'm not just being silly when I say that—it's actually a deep problem. There's no way to measure it, so it's a religion, not a science or type of engineering. I want to distinguish AI and virtual reality. If you're making a fake world, it doesn't matter, because the world doesn't have a consciousness—it's like making art. It's one thing to have designer clothes or homes; it's another to have designer people. As soon as you try to create a person, then you are screwing with your definition of your self and spirituality.

Mary: So if not AI, what now? What direction will we go in?

Jaron: There are a whole bunch of other directions, but the ones that I like best are the ones in which technology helps bridge the gap between interpersonal communications. The most fundamental thing about the human condition is how limited it is. We're only alive for a short time and we exist in these separate sacks of skin. The biggest program so far for bridging the gap is natural language, which works pretty well. But I see digital technology as a further effort on a different front to bridge the gap between people in different ways. I hope that it provides a form of intentional, waking-state, shared dreams. You might be able to share ideas in a different way than we can with language. It's like going out to brunch with your friends, but instead of being in a restaurant, you'd be inside all the crazy stuff you dream about. The point is that virtual reality suggests a kind of connection we haven't had before. And the earliest examples are the online gaming worlds. People share these crazy worlds together and they're communicating in a different way—they're really sharing these experiences that are beyond what you can describe with language. And it's really real to them. It's like a technology-enhanced version of shared make-believe. I call this type of communication post-symbolic communication. With language, we trade symbols, but with this we trade something beyond symbols: We trade experience.

Mary: What are you working on right now? What is Internet 2?

Jaron: Internet 2 is a big extranet for universities—about 180 of them are participating. It's also used for research, and it played an unsought role in inadvertently subsidizing Napster. When it was designed about five years ago, it was the fastest network in the world. One of the projects we're working on is called tele-immersion. It's the illusion that people in different cities are in the same room. It's a blend of videoconferencing and virtual reality—like simulation of a transporter booth. Right now it's just an academic project—the Internet 2 is very powerful and we needed a hard project for it to tackle, but it may be a commercial product some day. The interesting thing is that, like a NASA project, tele-immersion has generated about 12 different subtechnologies like new ideas in display technology and machine vision.

Mary: Have the events of September 11 changed any of your ideas and plans?

Jaron: We do need to be more careful about security. But that can go two ways—a total lockdown that civil libertarians fear would be Ashcroft's dream, or we could become a society of radical transparency. The problem with a total lock-down is that you have to trust the people in the center who hold the keys and that doesn't always work. Or we can become like the Netherlands. It's a densely populated area, with a very diverse population that's really vulnerable—the only thing keeping back the sea is the system of sea walls. And the population has to trust each other. If one person doesn't report a hole in a dike, it could hurt thousands. So the Netherlands' culture has become a very open one. It's considered socially unacceptable to have curtains, for instance. The windows are open all night long and you can see people doing whatever they are doing. It makes it harder for people to engage in nefarious activity because they are seen all the time. And the privacy that we think is so important turns out not to matter, because everyone has a fat butt and no one's secrets matter that much. And if we had a society like that, enough people might have noticed something screwy was going on.

Mary: How do we get there?

Jaron: One way is to support transparency ideas in digital policies. A lot of cyber-libertarians have been supporting the right to encryption. I feel neither the government nor the average person should encrypt as a matter of course—as much as possible should be out in the open. And there's another side to this: I'm now really pro-Napster and anti-copyright in the sense that we've been doing copyright. We should try to avoid a future in which people only see what they can afford to see—where you'd always have to buy access to know what's being said. I think we ought to prefer ways of earning money for content that don't involve controlling access, because that harms transparency. But my ideas on this involve a whole 'nother discussion...

Mary: Thank you.

###

For the Tech Industry, It's Not Business as Usual
September 14, 2001
First Steps After the Tragedy
By Mary E. Behr

As the shock of the terrorist acts on Tuesday continues unabated, it's hard to know how to act and what to do next. Our country's leaders are urging people to go on with everyday life, but that's a struggle for most of us. Forrester Research has some tips on how companies can ease the strain on employees.

- Phone lines into and out of the New York Tri-State area are still jammed. Update your Web sites to provide customers and clients with easy-to-find critical information quickly. Put frequently asked questions right on the home page. Don't hide it a few layers deep. Include all essential information like toll-free numbers and e-mail addresses for checking on affected employees, instructions for getting assistance, business hours or locations, and any new security policies like extra identification.
- As you post these messages, watch the tone. Write all messages carefully, considering how to console and reassure shocked, grieving, or perplexed employees. Leave out unnecessary graphics, verbiage, and fluff.
- The whole nation is suffering from post-traumatic stress and everyone is going to be uneasy about doing business for some time. Make professional counselors available to help your staff cope with the shock and losses.
- Tightening your physical and electronic security may help reassure employees. Check IDs and search bags at entrances to buildings. Add security patches for your computer and network security systems.
- Use broadcast e-mails to cover issues like travel - do frightened employees need to fly next week and, if not, how can they submit tickets for a refund? -- as well as guidelines on what to say to clients and partners.
- Send e-mail to your customers and suppliers, updating them on the status of your products or services.
- Consider using e-mail, the phone, and videoconferencing gear instead of traveling. Air travel in the U.S. will be unpredictable for at least the next few weeks. Check into videoconferencing equipment from firms Sony and PictureTel and Webcasting products from companies like WebEx and RightWorks.

September 18, 2001
E-Commerce Giants Want to Help
By Mary E. Behr

In the wake of the terrorist attacks of last week, e-commerce businesses are responding. Even as disruptions in shipping put their businesses at stake, e-commerce leaders are forgoing their usual home pages for messages of sympathy and links to help such organizations as the American Red Cross and the United Way.

Auction giant eBay enacted a special program Monday called Auctions for America. A joint program between eBay, eBayers, New York state, and New York City, Auction for America seeks to raise \$100 million in 100 days. The eBay Foundation is starting off the program with a \$1 million donation. All proceeds will go directly to the September 11th Fund, established by the United Way of New York City and the New York Community Trust, to provide short-term emergency assistance for victims.

"This is something we have to do," said Meg Whitman, president and CEO of eBay. "The people affected by the horrible attacks in New York and Washington need our help. The creative and entrepreneurial spirit of eBay's community is unstoppable and can do tremendous good in this time of great need."

Sellers will donate items as well as shipping and handling charges for Auction for America. All eBay insertion and final value fees will be waived, and eBay will make no profit from Auction for America listings. Only credit cards and electronic checks will be accepted as payment for these special auctions to insure that the money gets routed to the charities quickly and directly. Payments can be made through Billpoint, an online credit card payment service that, along with MasterCard International, Visa International Service Association, and Wells Fargo, is waiving its fees to participate in this program.

The online auction house knew it wanted to help even before it got the official plea from the mayor's office and the governor's office on Thursday morning. By Thursday night, eBay had a plan.

"We want to leverage the power of the eBay community and let it do what it does best," said Kevin Pursglove, senior director of communications for eBay. "Since Tuesday, we've been swamped with requests from eBayers on how to help. Now, with this program, we hope that everyone will sell one item and buy one item." The site has over 34 million registered users.

New York Mayor, Rudolph Giuliani, echoed eBay's sentiment. "We welcome eBay's assistance in our efforts, and I urge all New Yorkers and Americans to buy and sell at least one item as part of this cause," he said.

Half.com, an eBay company, has United Way contact information on its home page, and Amazon.com's home page highlights an American Red Cross logo. A click on that logo leads you to a page with a contribution counter for both the dollar amount and number of

donators. Amazon's traditional Ready to Buy? box has been transformed into a Ready to Give? box, and the click button says "Give Now." All money goes directly to the American Red Cross; Amazon.com has waived all fees. As of 5:00 P.M. Monday, September 17, over 158,000 people had donated over \$6 million.

A statement on Land's End's site reads, "Right now, our nation's needs are both practical and spiritual--disaster relief for victims and their families, and the strength and comfort that comes from renewed solidarity and national pride." So the clothing retailer is offering special mesh polo shirts with an embroidered American flag for various prices up to \$24.50. All proceeds will go to the American Red Cross. There's also a link to the American Red Cross page.

Similarly, Kmart is selling remembrance T-shirts for \$7.99, with all proceeds going to the American Red Cross. Kmart's home page contains a link to the American Red Cross and several 800 numbers for blood donations. Wal-Mart is donating \$2 million to the national relief effort. The company's home page gives information on how to get to a local store to contribute, plus a link to the American Red Cross.

October 5, 2001

Thor Technologies: Back in Business

By Mary E. Behr

Brian Young was in Tucson when the World Trade Center towers were attacked. Alone among hundreds of conference-goers, he felt helpless. His 42-member company, Thor Technologies, had offices on the 87th floor of One World Trade Center, and he had no idea if his employees were safe.

The 38-year old CEO started sending instant messages. "It was faster than e-mail," he says. "The last guy was accounted for at midnight Tuesday—he caught a ferry to Ellis Island in all the confusion, and it took him awhile to get home."

It turned out that only four employees at Thor were in the office at the time of the attacks and, though their experience escaping from the building was harrowing, they made it to safety. "We're a tech company--we work 10 to 10," Young explains. Thor, a provider of access-rights management solutions for the enterprise, makes Xellerate, a security administration software package.

After establishing that everyone was safe, the next step for the company was to rebuild. Young was hesitant. He didn't know if everyone was ready. But each of his employees expressed a desire to get back to work right away--eager to prove that they weren't going to be terrorized.

Almost everything in Thor's offices was lost. Young, however, retained some backup tapes and a local copy of his e-mail on his notebook computer.

Thor personnel immediately called customers and partners to reassure them that the company was still in business. Then the company's Web site, www.thortech.com, was updated to offer the same information. These steps--along with offering counseling to workers, which the company did immediately--fall precisely in line with what Forrester Research analysts recommend as the first business steps to take after a catastrophic event (see "First Steps After the Tragedy").

The next step for Young and his company was to look for new office space. They settled quickly on a ready-made office suite not far from the company's old offices.

What happened next is still amazing to Young. "Our vendors--Compaq, Dell, Sun, Iona, Microsoft, Check Point--all bent over backwards to help us. They expedited orders and worked out payment plans. We even got calls from our competitors offering assistance." Clients were just as supportive. In the days before the attack, Thor was trying to close a deal with a Fortune 10 company. A week after the attack, Young signed the deal.

Total strangers offered concern and well-wishes too. "Someone found my business card on top of a police car down at Ground Zero and called to make sure I was OK," Young said. "It's all helped me regain--and actually increase--my faith in humanity."

In the weeks following the attacks, Thor has been rebuilding its IT infrastructure. Due to lower prices, the company was able to assemble a hardware infrastructure comparable to what it had before for \$500,000, as opposed to the \$2 million original cost.

The company also had a chance to rethink its IT infrastructure. Not surprisingly, Thor is looking into a location-independent architecture that includes both local systems and a remote data center "somewhere safe--like Iowa," says Young.

October 17, 2001

One Rescue Effort Turns to the Web

By Mary E. Behr

In the first hours after the September 11 terrorist attacks, the Federal Emergency Management Agency (FEMA) needed to coordinate many aspects of the disaster relief effort, from search and rescue teams and volunteers to medical, mental health, and veterinary personnel. Sadly, by September 12, the agency also needed to get 500 refrigerated trucks to New York.

For help, FEMA turned to GST, a transportation services company based in Memphis, Tennessee. The job was too big for GST though, so Scott Nicholas, a GST logistics analyst, called TransCore of Harrisburg, Pennsylvania, a company that specializes in technology-based services and products for the transportation industry. "It had never been

done before, but we needed to broadcast a message to as many truckers as possible," Nicholas says.

One of TransCore's products is the Web-based TransCore Exchange, a network over which trucking companies, shippers, and intermediaries share information on availability of trucks and freight. "Because trucking is a such a daily business, companies will check with the exchange at least once a day. It's kind of like a dating service for truck loads. We have over 80,000 Internet sessions a day," says Marc Cameron, COO of TransCore's Commercial Services Group. With over 20,000 customers, TransCore Exchange was the only tool big enough and fast enough to get the word out.

The call was also displayed on the monitors that TransCore operates in over 1,000 truck stops across the country. Similar to airport arrival and departure screens, these monitors offer information to all truckers, TransCore Exchange subscribers or not.

The request was for 500 refrigerated trucks, currently east of the Mississippi, that could make it to New York in a day's drive. An 800 number for GST was included. Within two hours of the post, the phones were ringing off the hook. "We had very little information at the time about how they'd be compensated, but 99 percent said, "we're not really worried about getting paid." It was just "where do you need us and when," Nicholas says. By the end of the day, 800 trucks had committed to the job.

The power of his product amazed the TransCore executive. "It's astonishing how fast we found the trucks," Cameron says. "If this had happened a few years ago, I don't know how we'd have gotten the word out. Maybe by fax, I guess, but it would have taken a couple of days. It just shows how the Internet can help people come together to exchange information instantly."

But the spirit of the trucking community came as no surprise. Says Cameron, "We've always known that truckers were a patriotic bunch, but this was a way for them to show it."