

This, From That

From the New York Times

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Just inside the gates of the third annual Maker Faire, a converted fire engine belches an occasional explosive flare that sends a chest-pounding Pfoomp! Throughout the fairground, startling bystanders over and over again. That contraption was made by folks from the Crucible, an industrial arts studio based in Oakland where people can take lessons in welding, blacksmithing and many, many other ways to play with heat and flame.

... At first blush, then, this festival, sponsored by Make magazine, is a gathering place of pyromaniacs and noise junkies, the multiply pierced and the extensively tattooed. But wander awhile, and the showy surface gives way to a wondrous thing: the gathering of folks from all walks of life who blend science, technology, craft and art to make things both goofy and grand.

To read more: <http://www.nytimes.com/2008/05/13/science/13make.html>

Or: <http://snipurl.com/28mrp>



This, From That

By JOHN SCHWARTZ

May 13, 2008

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Nearby is the Swarm, a set of 30-inch cut-aluminum orbs that roll around on the grass, self-powered but guided by remote control. Children are playing keep-away with them.

But they are definitely not playing tag with Justin Gray's fire sculptures around the corner. It could have something to do with the fact that they look like menacing tanks on clanking treads. Or it could be the way Robot Libby, the one that emits a horrifying turbine whine from a metallic ball bobbing on a heavy iron chain, spits goutts of multicolored flame. (As Mr. Gray manipulates the remote control, the machine mixes powders into the flame to change its color: strontium for red, copper for bluish green, steel powder for a fireworks effect.) Each burst sends a heat wave that rocks the onlookers back a step or two.

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"We are grabbing technology, ripping the back off of it and reaching our hands in where we are not supposed to be," says Shannon O'Hare, who has brought his three-story Victorian mansion on wheels, one of the most prominent examples of the anachronistic style known as steampunk, to the Faire. He is holding forth in a vintage British military uniform and pith helmet, and is gesturing with a hand that holds a sloshing tankard of ale.

"We've been told by corporate America that we cannot fix the things we own," says Mr. O'Hare, who goes by Major Catastrophe and works as a fabricator for the stage and businesses. "All we can do is buy their stuff and like it." Cars have become too complex to work on under a shade tree, and people have no idea what is inside their cellphones and cameras. "All this technology, and it's not ours. It's somebody else's," Mr. O'Hare says. "Make is about taking that back off and making it yours."

The makers, as they call themselves, are a varied bunch. Cris Benton, the former chairman of the architecture department at the University of California, Berkeley, stood at the Faire, patiently explaining how he and his like-minded friends take aerial photographs by hoisting cameras on kites, a cunning combination of high tech and old crafts.

In the darkened building next door, Terry Schalk, a professor at the University of California, Santa Cruz, fires up an enormous, arc-throwing Tesla coil in hopes of getting youngsters more interested in science.

“This is a real geek fest,” says Professor Schalk, a high-energy physicist in both senses of the phrase. “If I was a kid, I’d wet my pants here,” he joked.

Some 65,000 people came to see the sprawling display of inventiveness and potentially hazardous fun. Many of them read *Make* magazine and its sister publication, *Craft*, and go to Web sites like Instructables.com that encourage people to take on projects and share what they learn. (Recent online projects have shown people how to convert a novelty French-fry telephone into a carrying case for an iPod; how to make a computer-powered coffee warmer from an old Intel Pentium chip plugged into a P.C.’s U.S.B. port; and how parents and children can build a small vibrating robot together.)

Armchair MacGyvers visit Web sites like BoingBoing.net that lovingly chronicle the more audacious projects here and at events like the anarchic Burning Man festival in the Nevada desert. These overlapping, even incestuous, communities form the “maker movement” of do-it-yourself enlightenment. In an age where just about every human activity, from shopping to sex, can be performed in the virtual world, they choose to get their hands dirty.

This is part of the Bay Area’s high-tech, adamantly nonconformist culture, steeped in engineering and art and innovation in garages that incubate billionaires and crowded with guys who make late-night runs to the pharmacy for bandages and burn cream. But it is not just a California thing. *Make* has fans around the world, with a paid circulation of 100,000; its Web site gets 2.5 million visitors each month. The publisher has started a second Faire in Austin, Tex., with hopes of further expansion.

The founders of the magazine and the Faire are tugging on a thread that makes its way across America’s gearhead culture, zigzagging back through the Homebrew Computer Club, which helped produce the first personal computers, and Roy Doty’s how-to cartoons in *Popular Mechanics* magazine. But it goes farther still, back to those two bicycle mechanics, Orville and Wilbur Wright, and even back to those tinkers Benjamin Franklin and Thomas Jefferson, whose hand-designed folding chairs are an elegant marvel.

What the makers are doing, then — mixing and matching technologies and hacking and tinkering — is encoded within the nation’s DNA.

“It’s deeply American,” said Xenia Jardin, an editor of *BoingBoing*. As for the family-friendly setting, she said, “It’s like Burning Man without all the icky hippie elements, without the pants-free guy on a bike.”

Edward Tenner, an author of works on the ways that technology affects society, said tinkering had waxed and waned but never disappeared in American culture. A great deal of mechanical know-how, he said, came from people raised on farms, where they had to fix their own equipment. But these days, he said, “this improvisation is starting to flourish in a mainly suburban and perhaps urban milieu.”

As important as tinkering has been to the nation’s past, it could become a much bigger deal before long, said David Pescovitz, a research director at the Institute for the Future, a consultancy in Silicon Valley. A new report from the institute argues that the makers could force enormous changes in the ways that goods and services are designed and manufactured. The renewed urge to tinker, along with flexible manufacturing technologies, could shift production from big companies and stores to communities of makers and consumers, Mr. Pescovitz said.

“It’s about having a deeper connection with the stuff around you, and through that with the people around you,” he said. That is why his research group took the slogan from the pins given out at the Futurama pavilion at the 1939 World’s Fair — “I have seen the future” — and edited it for the report to “I am making the future.”

“If you want something done right, do it yourself. That’s really what it’s about,” Mr. Pescovitz said.

It is, then, a new realm of hacking, in the fine original meaning of the term among techies. That now-debased term, as the author Steven Levy put it in his book “Hackers: Heroes of the Computer Revolution,” originated at the Massachusetts Institute of Technology model railroad club in the 1960s in the context of solutions to problems that showed “innovation, style and technical virtuosity.”

Hacking moved from model trains to software. But now it is returning to its roots in the physical world, as hobbyists hack their computers, their cars and just about anything else they can pry open, even if it voids the warranty.

Tim O’Reilly, the founder of O’Reilly Media, the company that publishes Make and Craft, said he felt echoes of the urge to transform tools and toys that he saw with the original personal-computer hobbyists in the 1970s and with the open-source software movement more recently. “We’ve ridden this wave before,” Mr. O’Reilly said. “We see hackers first, and then we see entrepreneurs and then we see it become part of the mainstream. And we’re still in that early hacker-enthusiast phase, but I’m really convinced that there is a manufacturing revolution on its way as part of what we’re seeing here.”

Which brings us back to the muffin cars. Keith Johnson and his daughter Karydis zip around the fairground in his cupcake-shaped runabout, which conceals a tiny electric all-terrain vehicle and the handlebars from a Hello Kitty bicycle. The “frosting” is sprinkled with oversize Prozac capsules. His head, and his baby’s, poke up out of a hole in the frosting.

His is one of more than a dozen cupcakes at the Faire. A founder of the cupcake makers group, Greg Solberg, is an engineer with Tesla Motors, a company that makes high-performance electric cars. Mr. Johnson is a specialist in preserving digital materials at Stanford University. The community of cupcake-car makers once rigged each car with speakers tied into an FM radio transmission system so they could all play the same music, whether the soundtrack from Disney’s Main Street Electrical Parade or Wagner’s “Ride of the Valkyries.”

When you see the members of the Acme Muffineering team rolling through their formations, however, it is difficult to suppress a single word trying to bubble up through the mists of consciousness: Shriners.

The Bay Area, Mr. Johnson notes, has a community of people whose left brains and right brains are on speaking terms, and who like to make things — as he put it, “to combine the skills that they use in their professions with their creativity to create whimsical and wonderful and sometimes useful things.”

The transport may be silly, Mr. Johnson acknowledges, but the theme is green. “We like to encourage people to use their imaginations and build energy-efficient and fun cars,” he said.

Those who came to the show did not necessarily take such a philosophical approach. Matt Miller, a postdoctoral student at the University of California, San Francisco, said he was back for his second Faire because “I like fire.” He said he subscribed to Make because he didn’t have a lot of time but lived “vicariously through others’ hobbies.”

Roxanne Stafford, a designer who visited the Faire without knowing much about it, said she was “a little overwhelmed” by the size, the variety and the noise.

She added, however, that she found an underlying message in it all. With the ghastly images from the Iraq war and the uses of technology that usually make the news, it is easy to conclude that people simply make things and use technology “to destroy one another,” she said.

“Things like Maker Faire give people hope,” she said. “Creativity is the best expression of humanity.”