



Ecology

by
Susan
Rogers

As the revolution comes to pass, erupts or whatever, new kinds of businesses are as inevitable as the new generation's refusal to work in the old ones. John Kenneth Galbraith, in his criticism of Reich's *The Greening of America*, says that the industrial state "imposes its own truth and discipline on people and persuades them that this is happiness."

But that's no reason to reject technology and all its potential, and that's where Ecology Tool and Toy comes in. It's a small beginning—two brilliant men trying to make technology relevant to what they conceive as the good life.

Dr. Warren Brodey and Dr. Avery Johnson live and work on 50 acres of woodland surrounding an old water-filled quarry in southern New Hampshire. Back from the dirt road around the quarry is the tube house, a mass of about two dozen inner tubes loosely strung together and suspended from tall fir trees under a parachute roof. The idea is to crawl through and bounce around.

It's Brodey's idea of soft architecture, "an organic, living, breathing house." He and Johnson believe people are capable of an infinite variety of behaviors but experience only a few of them. They would like to see new products filling undiscovered desires—rather than phonily-induced consumption that provides no real pleasures.

Why not have beds that massage you? Shoes that react to how your feet are feeling? Cribs that respond to a baby who rolls over? Dolls that walk when a child is not watching and stop when she is? Silverware each person can mold to fit his own hands? These may not appeal to everyone,

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but they indicate some new directions.

Dr. Brodey and Dr. Johnson have a couple of products ready for production: a tactile clock made of three sliding bars that describe a figure eight over a 12-hour cycle, and a light fixture that emits as bright a glow as the surfaces it faces. They say it's not so much the money they're after as a "network." "We're interested in factories with good management and some expertise in materials," Brodey explained.

He and Johnson would like to see radical changes in urban lifestyles, transportation, communication and education. Both men have impressive backgrounds. Brodey, 46, is a former family psychiatrist and author of *Changing the Family*, in which he outlines the family's complex communications systems. He has taught cybernetics, consulted at a NASA research center and now consults on a free-lance basis. Brodey recently went to New York to see Dr. Alan Shefflin whose work in body language was the basis of a best seller. Johnson, 38, is an electrical engineer who has done work in radar signal theory and physiological monitoring, and is concerned with "man-relevant engineering."

The papers they write have titles like "Information Tools That Decision Makers Can Really Talk With" (Johnson) and "Human Enhancement through Evolutionary Technology" (Brodey). I learned of Ecology Tool and Toy in an article Brodey published in *Innovation*, a management magazine. It concerned optimum climates for "searchers." (Could Columbus have discovered America had he worked in an IBM-like office building?)

Brodey and Johnson do not welcome visitors and weren't sure they would let me come until the last minute. When I arrived late one Friday in August, Brodey picked me up at the bus stop in a friend's VW bus. We shook hands and the next thing I knew we were on our way, lying in back on a cushioned platform.

In the morning I had my first skinny dip—with Brodey's son, Ben, 11, at the quarry where frogs shared the

rocks and sun with us. His brother, Ivan, 4, ran around naked most of the time, and soon I didn't bother with underwear.

Later that day, Brodey pulled out a roll of polyethylene and an iron and started making an inflatable room to add onto the VW bus. "These are the kinds of materials kids should be experimenting with in school," he said.

Ben hates school. When he says it's a jail, his father has to agree. Brodey is against "taxonomy and the endless memorizing of lists." He would rather a child understand the world of a butterfly than be able to spell umpteen varieties of the species.

Before lunch, Ben and Brodey were picking vegetables from the truck garden down the road when Ivan found a chameleon. Brodey patiently explained that they could not take the chameleon home because that was "out of his world." This seems to be where teaching ecology begins for Brodey.

In the quarry under several feet of water, he and Johnson have anchored a large Plexiglas hemisphere. It's one of their favorite spots, "an ideal place to study the interface between water and sky."

They're fans of Marshall McLuhan, and point out that in *War and Peace in the Global Village* he says no creature knows less about water than the fish. That's why their sunken hemisphere is both a tool (a new vantage point from which to see the world) and a toy (because it's fun).

"The sun was cascading in rhythms and at the same time breaking into rainbows," Brodey said, after an early morning swim under the hemisphere. "The fish came in and nibbled at my legs. I was chasing around a whole school of them and having a ball."

After a long breakfast around the heavy wooden table in the main house, Brodey went down to the garage to work on his worm, an inflatable toy that's a mass of hoses and little pillows and inches along with a peristaltic movement.

Brodey thinks a toy like his worm teaches not only about peristaltic action (which he suggests as a replacement for the wheel), but also teaches

about pumps and membranes. His workbench is suspended from the garage ceiling on heavy industrial springs. "I'm working on moving things, so why shouldn't I have a moving workbench?"

Brodey and Johnson met in the Electronics Research Laboratories at M.I.T. through Warren McCulloch, "the father of cybernetics." They managed to get a grant for studying "communication focused on man-environment dialogue" and set up their Environmental Ecology Laboratory on a wharf in Boston.

They put a bombsight from an old WWII bomber in the lab and pondered just where the technology of accuracy had taken us.

The back end of an automobile was the next addition. Apparently there's nothing like having a car seat, complete with roll-up windows and trunk in the middle of your living room to take the bogey out of Detroit's shiny products.

Brodey and Johnson then built an electronic environment with automatic switches, programmed lights and electric eyes. It turned out to be a crashing bore, and they came to the conclusion that the random element was lacking. It wasn't yet possible to program variety.

When their grant ran out, Johnson and Brodey packed up and moved to New Hampshire.

They foresee a day when "informal manufacturing" will be a reality, when the people will have access to the machines of the industrial state. "An age of involvement—a crafts movement using the technology of the 20th century" is how Brodey describes his vision of the post-industrial era. They consider the *Whole Earth Catalog* a good start.

Ecology Tool and Toy can't pretend to be more than the beginnings of a "people's technology" that may influence the redirection of some industries toward ends that are good for children, adults, plants and animals.

The first morning I was there, Brodey, Johnson and his wife, Franette, were sitting on a promontory overlooking the quarry, surrounded by apples. Brodey handed me a bowl and a knife. "Peel," he said. 🍏