The brain is called ‘The Competition’

YES, THE human body is 70 percent water, but it still bugs me a little that artificial life followers, like sci-fi author Rudy Rucker, have dubbed organisms like us and animals and plants “wetware” — distinguishable from computer hardware and software only by the sloshing sound we make when we walk.

But we’re talking about artificial life here, a field of endeavor where the human brain is referred to as “the competition” and where corpuscles have great hopes of proving that we Real Life critters are someday be described precisely in the language of a computer program. They just figure all the world’s philosophers to date, who’ve tried and failed, didn’t have the right tools for the job.

I met a great many such folks during an artificial life — or “A-life,” as it’s called — conference a little over a week ago in Santa Fe. As I said in last week’s column, the unifying principle in A-life is to take the “bottom-up” approach — start with the tiniest part of a living system (as tiny as a silver of DNA) and use technology to figure out how it grows and changes.

So A-lifers are starting their quest, and although some are starting small, some of the “artificial lives-in-progress” demonstrated at the conference were remarkable in their resemblance to the living world.

Many A-life projects at the conference’s “Artificial Life Show” came out of that high-tech pop-culture icon, Massachusetts Institute of Technology's Media Lab.

For example, the Media Lab’s Mitchell Resnick demonstrated two prototype toys played by scientists at the conference. The first, called “Lego LOGO,” made up of specially-designed Lego building blocks that contain electronic sensors and motors. They respond to waving stimuli, such as light and loud noises and can actually learn behavior when presented with the same obstacle over and over.

And Michael Travers of the Media Lab showed a Macintosh-based simulation of an ant colony, called Animal, “ants” of the drop put algorithm, sent next as help with the kind that’s artificial life.

Amazingly, conference organizer Chris Langton turned out to be a long-time fan of San Francisco performance artist Mark Pauline’s Survival Research Laboratories. Pauline has been creating his own rather unique brand of artificial life — that is, great big spewing metal machines — for more than 10 years.

Pauline brought a mess of videos and an impressive sound cannon from San Francisco, and during the course of the conference discovered — to his delight — that SRL is in a technology race with the Media Lab’s Rod Brooks.

Both are hurrying to build what Pauline calls “swarmers,” a kind of robot that displays flocking behavior. SRL’s robots will use position sensors (stripped from military gun-aiming systems) and surplus aircraft motors. I suspect MIT’s equipment will be a bit less industrial. The tricky part, Pauline says, will be to make them move as a flock without touching each other.

“We’re hoping to build 30 or 40 of them,” says Pauline, who relies on donations of parts to build his performing creatures. Pauline and SRL cohorts Jonathan Levine and Raymond Drewry expect to have at least one finished by Feb. 21, when Pauline goes to MIT’s architecture department to give a lecture.

To add insult to injury, when Pauline’s cannon detonated, the force spilled tea all over Brooks’ papers and blew them all over the joint.
I feel that what I'm doing now with Survival Research Labs is preparing me to be a machine: to me, the highest level of evolution would be to be a machine and still have your soul intact. I'm very skeptical about people's ability to do that, though. There's no protocol to prepare people to deal with that kind of power in a way that would be positive. Right now, our relationship with our devices is very distorted by money and aggression and the needs of politics. Machines have a bad name for the same reason that guns have a bad name. Why are guns bad? They're not bad, but people employ them in a way that's very negative.

The downside of being a machine is that machines tend to be singular in their purpose. If you were connected with a machine it would limit you, to some extent. But if you were able to connect with thousands of different machines, and control and be part of thousands of attachments, that would be different. One of the problems of being a person is the whole redundancy of existence, especially when you get older. After about 18, I don't think people change very much. That's what this whole quest for personal growth is about. It's about taking yourself out of your body or out of your ego, out of these things that have become fixed inside you. For me, the ideal relationship between myself and a machine would be to allow myself to grow by giving myself millions of options. That's why SRL is really positive for me. As a creative person, it enables me to get involved not with one or two kinds of painting, for instance, but with the billions of devices you can make with machines. There's no limit, really, to how many kinds of different machines you can make, because how many different kinds of machines are there? There are already millions of different kinds of machines, and they're defined only by their productive capabilities. No one's thought about the machines that aren't productive, that are just ideas. For me, my evolution, my life, is already determined by the multiplicity of possibilities of my connection with machines. If I could actually become a machine, I wouldn't. I would become machines, all machines.

Mark Pauline is the guiding intelligence behind Survival Research Laboratories, a group specializing in darkly satirical performances using deadly homemade robots. Mark has described SRL's activities as the ultimate capitulation to the machine. By taking machines out of the realm of "production," be gives them the opportunity to express their personalities, and... do something besides make widgets or bottle beer.

—Richard Kadrey
Robots Rampant
California artists spawn technological monsters

Survival Research Laboratories. Sounds like another high technology startup, a purveyor of futuristic weapons perhaps. Actually this San Francisco-based organization does deal in complicated machines with a destructive bent. But the goal is not profit. It is art, performance art.

“We’re trying to develop a theater that revolves around machines,” says Mark Pauline, an expert welder and machinist who founded SRL about a decade ago. Working primarily with hardware scavenged from the region’s many defunct factories and machine shops, Pauline’s troupe has created such marvels as the One-Ton Walking Machine, which resembles a skeletal elephant; the Big Arm, a cross between a backhoe and a dinosaur, and the Inspector, which looks like a terribly uncomfortable hospital bed equipped with long, clawed arms.

During an SRL performance, usually staged in a parking lot or other damage-resistant arena, the gasoline- and diesel-powered robots crawl, stagger and hurtle into one another to the accompaniment of cacophonous sound track. Pauline and other SRL members usually lurk offstage, controlling the machines with radio transmitters. Some of the robots can also operate autonomously. A guinea pig engaged by a set of contact switches once piloted a flame-throwing walking machine. The Big Arm has recently been given a more conventional onboard brain: a programmable microprocessor.

SRL has won a following among avant-garde aesthetes but also among engineers, some of whom lend their expertise to the troupe. Phillip H. Paul, a mechanical-engineering researcher at Stanford University who has followed SRL’s progress for some seven years, helped to design one of its noisiest “special effects” devices. Called the Shock-Wave Cannon, it focuses the explosion of an oxygen acetylene mixture into a shock front that can shatter glass 100 feet away. “What impresses me most about SRL is their ability to tackle some pretty tough problems in a reasonable amount of time and at no cost,” Paul says. He notes that machines such as the One-Ton Walking Machine, although relatively “crude and heavy,” do essentially the same things that robots built for millions of dollars by Government and industrial researchers do.

Rick Rees of Bell Northern Research, who helped to design the Big Arm’s computer-based control system, suggests that SRL fills a persistent void in modern culture. “Artists and engineers usually don’t speak the same language,” he says. “SRL is blazing new ground by trying to build a collaboration between art and technology.”

Pauline professes dislike for most art that incorporates technology. Too often it “serves the status quo of the art world,” he says. “The art world wants something very packaged and ordered.” SRL shows are not very packaged and ordered. This was evident during a show one rainy night last spring in a parking lot outside Shea Stadium, in Flushing, N.Y. At one point the Walking Machine bumped into the two-story-high Big Wheel, a low-tech but dangerous-looking contraption made of oil drums welded together, and sent it rumbling into a light pole. SRL technicians rushed out and heaved the Big Wheel away from the swaying, sputtering light. Then the Big Wheel lurched toward the Shock-Wave Cannon. A fiery blast from the Sprinkler from Hell, an industrial sprinkler turned flamethrower, blistered the paint on the Big Wheel but failed to stop it. Finally the Big Arm seized the Big Wheel and stopped it just short of the Shock-Wave Cannon. The audience, soaked and shivering, shrieked its approval.

Asked later about the incident, Pauline said, “We planned it.” —J.H.
A San Francisco Army Of Fire-Spewing Robots Invades New York City

By STEPHEN HOLDEN

Weather permitting, tonight at 9 o'clock, the parking lot at Shea Stadium in New York will be the site of an hour-long battle involving flame throwers, artillery, explosives and anthropomorphic metal machines that crush everything in their paths.

The event, which promises more intense combat than most of the sporting events inside the stadium, has an enigmatic name, "The Misfortunes of Desire" (Acted Out at an Imaginary Location Symbolizing Everything Worth Having)." Over the course of the evening, a set depicting a mechanized manmade paradise, including a giant wheel of fortune, will be exhilarated by a fireball and smashed to bits by roaring, fire-spewing mechanical beasts.

While this machine-made destruction may resemble an actual military maneuver, it is really an art event put on by the San Francisco collective known as Survival Research Laboratories.

22 Tons of Equipment

"The Misfortunes of Desire," co-sponsored by three New York experimental arts organizations — Creative Time, the Kitchen and the New Museum of Contemporary Art — and budgeted at $30,000, is the most elaborate production to date in the collective's 10-year history.

The 22 tons of equipment involved in the performance include a 12-foot shock wave cannon, a 16-foot-high, 4-legged walking machine, a 20-foot-long, robot-nicknamed "the big arm," which can pick things up and throw them, a 350-pound flame thrower, a small radio-controlled tank, a 1,900-pound catapult and a 20-foot-long device called "the inchworm" whose giant metallic pineers can lift and carry thousands of pounds.

Under a Flattened Truck

Since arriving in New York eight days ago, the members of Survival Research Laboratories have been camped out at the Shea Stadium site, living under a flattened truck and working day and night to assemble the machines and fireworks.

Mark Pauline, the 34-year-old mastermind behind Survival Research Laboratories, is a native Floridian and journeyman welder who moved to San Francisco in 1977 to be an artist. He started out doing billboard modifications and other forms of what he said in an interview last week was "creative vandalism."

Then in 1978, he formed Survival Research Laboratories, choosing the name because of its official corporate ring and the anonymity it gave him. He began by collecting heavy machinery from factories that were going out of business. Two years later, he teamed up with Matt Bruckmeier, who designs the sounds for the performances, and in 1981 they began building fantastic, unwieldy devices of which look like prehistoric beasts, and using them in performances that paralleled demolition derbies and other familiar forms of cultural violence.

Today, Mr. Pauline presides over a 6,000-square-foot machine shop on the edge of the Mission District in San Francisco and makes his living as an engineer.

A machine to be used in an art event planned by San Francisco's Survival Research Laboratories.

Continued From Page 81

neering consultant and professional fabricator of oddball devices. While consultancy is his livelihood, Survival Research Laboratories is his passion.

In 10 years, the group has given 35 performances around the country and made several videos that have spread their reputation in avantgarde circles.

They recently completed a 15-minute, 16-millimeter film, "A Bitter Message of Hopeless Grief," in which they created an imaginary world where machines acted out their own mechanical wills. This evening's performance is an extension of that film.

Survival Research Laboratories has built up a cult following. A corps of up to 50 volunteer workers follows members of the group around the West Coast when they give performances. For their trip East, they brought 20 assistants, who are divided into different teams. One group specializes in computer and electronics work; another is devoted to props, and a third to mechanical operations.

Creating imaginative warlike machinery involves a certain amount of risk. In 1982, while experimenting with rocket fuel, Mr. Pauline was blown into the air and lost four fingers of his right hand. But because he is left-handed, he was able to continue developing his art. "The accident, he says, taught him a valuable lesson.

A Sense of Hubris

"When I examined the situation, I realized I was just another white male who had lived a life of privilege," he said. "Nothing had ever happened to me, and I'd gotten a sense of hubris. It becomes destruc-

tive when you think you can do anything and get away with it."

Because of the nature of the work, Survival Research Laboratories, whose only other New York appearance was a small-scale performance three years ago at Area, a downtown club that is now defunct, had difficulty in finding a suitable New York site. "The Misfortunes of Desire" was originally planned for September but had to be postponed when the piece was rejected by the Intrepid Sea-Air Museum. The Port Authority subsequently authorized use of the adjacent Pier 84, but rescinded its permission after its engineers decided that the pier wouldn't support the weight of the machines. The group then approached the Department of Parks and Recreation, which approved the Shea Stadium parking lot site.

While the behavior of the robotike monsters in Survival Research Laboratories' performances is carefully choreographed, the mechanical destruction that audiences will witness seems random, unpredictable and frightening. Above all, the performances are meant to create an aura of technology run amok.

But if the work is loaded with metaphors about the relationship between humans and machines, Mr. Pauline is reticent about describing its specific meanings.

"I don't take a dogmatic view of why what happens happens," he said. "The show is about the power of the things we've created. It's about unadulterated, uncontrollable greed. It's about how paradise once gained, is soon lost."

Tickets are $12, and a rain date is scheduled for May 19. For information, call (212) 210-1222.
ECCE MECHO
It is a carnival atmosphere that pervades the crowd, an evil, yet merry, miasma augmented by the continual downpour. It is cold and wet and, after watching the bleachers fill for the next two hours, it becomes apparent that there is to be no relief, private space, or comfort. I am forced to question my motives: am I one of the Romans waiting for a blood orgy in the coliseum?—another redneck at the mud races, hoping Bigfoot will emplace its auto roof quota and still roll over in the slime?—another rubbernecking voyeur of the traffic accident up ahead? Are we all just the jaded, black-clad clichés of the New York City demimonde come for one more sick thrill?

At the time it seemed, to me, that Survival Research Laboratory’s first full-scale extravaganza in New York was more important than health or comfort. According to founder Mark Pauline, speaking a few days before the fact, it is a sacrifice that they gladly make. “It’s impossible to estimate the cost of these shows. The money we get is like a slash fund; something like this could never support itself no matter what it does. It’s more like a pure research lab; essentially, the things that are produced are intangible in terms of their value. We want to find out about the things that no one knows about and that’s what SRL does.”

These inventors/constructors want to reclaim the public spectacle from people who they feel don’t really understand its underlying principles. “We’re trying to re-orient the control of the spectacle towards ends that are not as repressive as the spectacle is typically couched in, in terms of our present society. The control of the spectacle is in pretty mediocre hands and employed for very base purposes and we’re trying to re-orient it towards something a bit more respectable and interesting. We use the cliches of violence and disgusting imagery to provide an unforgettable experience. The shows are always different but, basically, they all come down to evoking people’s concern with death and destruction. We’re into the manipulation of emotions and propaganda. Occasionally we’ll use a political icon as a target. If you have a device that shoots, you need targets.”

In this show, called “The Misfortunes of Desire Acted Out At An Imaginary Location Symbolizing Every-thing Worth Having”, the target seemed to be New York, New Yorkers, and their pretensions. Mundane musics, such as the 1950s easy-listening Canadians “Three Suns On A Magic Carpet” and cheesy accordion records, assault the nerves. When it finally begins, we are treated to the premiere of their latest, and most anamorphic creature: a dinosaur. The mood picks up a bit when the soundtrack changes to horror movie loops and organ music (“WHAT IS SHE GOING TO DO WITH ALL THAT MONEY? YOU MONSTER—YOU’LL NEVER GET AWAY WITH THIS! No-No-No-NO-AAAAARGGH!!!”) at ear-splitting volume. The first big cheer came as a response to a kind of motorized, hospital gurney with pioneer arms, apparently gone berserk, that attacked and turned over a plastic camera canopy, forcing flight. A few oohs-and-ahhs could be credited to the projectile launcher that arches fluorescent light tubes through the sky. The “Wheels of Misfortune” roll and stop, with an anthropomorphic figure in the middle that jerks around, but never gets very far. It was anticlimactic.

Perhaps more interesting are the failures, the things that didn’t work. The Shock Canon’s original schedule was a blast every ten seconds; it was reduced to sporadic delivery. The exploding leaflet grenades, which were intended to send cascades of color-serened twenty dollar bills like manna to the mob, fell futilely among the puddles of the back lot. The early smoke screen, instead of enveloping the lot in mystery, blew straight into the press section, choking all. The glass towers of wood-sashed windows—ziggurat skyscrapers standing in for midtown and Wall Street—we’re too wet to catch fire. And when the pilot went out on the flamelower, the pressure still sent the fuel spurring forth—covering the brightened press again—in fine diesel mist. Like the work of Karen Finley or Lydia Lunch (both of whom Pauline numbers among the few performance artists he admires), the element of abuse seems inherent to the enjoyment of the affair, as symbiotic as the rose and the thorn.

The fact is, this is not an example of performance art as much as it is a gathering of the faithful, the corpus of the Church of the SRL Resurrectionists. “Meanings are for museum directors. I don’t believe in the dictatorship of morality; I don’t like dogma,” says Pauline, and Heckert adds the fill: “If you want a passionate, maniacal relationship with your audience, you have to create it.” This seems to set up SRL against even the antinomian philosophy of pure faith over humanistic value systems, but the very presence of the enduring fans contradicts the situation. People are not keen to contemplate truth and beauty; they’re here for the elevation of the host, the transubstantiation of matter. Much of it didn’t work is of no concern; it was the possibility of the unpredictable, the threat of chaos, that held us there. What each wants—a laugh, a sense of belonging, a riot—is a spectacle, a display of magnitude and force that will come, hopefully, with some instant of transcendence.

And, yes, that moment did come for me. When the huge, ferris wheel-like juggernaut lumbered across the lot, crashing into a lamp post, an intense gout of flame erupted from the powerful flamethrower hidden behind a tower of glass windows. Seeing that sudden loss of order, the possible destruction of private property, thrilled me unaccountably.

“Anything I would be interested in promoting or presenting would be very unpredictable,” says Pauline. “Which is exactly against what the art power structure dictates. Everything should be predictable and maintain its market value because of that predictability and so on and so forth. The people that are making money now in the art world are not going to have any place in the history of our society... they are just going to be forgotten.”
SRL Piece

I have the privilege and the challenge of describing the work of Mark Pauline and his Survival Research Laboratories. I say "work" rather than "art," for the term "art" seems altogether too refined and feeble a word, for the strange activity of this visceral and powerful creative genius. The work of SRL is art by headlong assault. It is performance art, a popular spectacle. Its usual venues are not galleries, museums, or cultural centers, but rather parking lots, corruding warehouse districts, and the desolate wastelands under concrete highways -- brutal, lonely, threatening places, where mayhem of all kinds is possible.

SRL have created sculpture (of a sort), and film -- of a sort -- and of course video documentaries, of the kind you have here. But the classic Pauline work is a spontaneous, bizarre, and horrific spectacle. "Robot wars," some people call them. Others have referred to them as "performance art with nonhuman actors."

The closest parallels to a Pauline spectacle are not to be found in theaters, nightclubs or galleries, but in the modern mass spectacles of sport, industry and warfare. Consider for instance the weird but classically American pop-event known as the "Destruction Derby," in which automobiles -- and recently, monstrous trucks -- are publicly toppled, smashed, crushed and overturned. Another spiritual cousin of the SRL performance can be found in dragster races, which feature brutally supercharged racing machines, so intensely specialized for short bursts of high speed that they resemble some weird mix of insect and torpedo. These are intensely technicized industrial amusements, dependent on skilled mechanics and the vast modern infrastructure of mass-production. They are pleasures unique to the twentieth century.

Our industrial society has a certain intense native fascination with the malignant aspects of our own machinery. And yet we fear this aspect of our own personalities, so the morbid appeal of dragsters, bulldozers, flamethrowers, tanks, and fighter-jets is not often openly discussed. Even rarer is an open admission of the sinister glamour possessed by more high-tech accoutrements, such as nuclear missiles and the vast modern spectrum of arcane surgical devices. But Mark Pauline understands this completely; it is his native milieu.

SRL creates machines. They make machines of a kind unseen and previously unimaginable. These machines seem possessed by a twitching spirit of nightmare. They are horrific, ugly, even shocking in their bold violation of decency -- and yet they also have a twisted ingenuity, a certain gratuitous, bravura cleverness. Pauline and his crew are industrial designers of considerable talent, men who are deft
and crafty with the welder, the drill, and the wrench. Their sheer skill lends a certain grace-note, an element of black humor, to performances that might be otherwise unbearable.

The work of SRL is not for the timid. It is grotesque, surreal, and profoundly disturbing. It creates sensations of intense ambivalence, confusion, and fear. Worse yet, an SRL performance often subjects the audience to a very real physical hazard. In America, SRL audiences are required to sign legal waivers against the possibility of their being scorched, splattered, deafened, or perforated.

And yet people take this risk gladly; in search perhaps of some subconscious gratification that only the art of SRL can supply. The strong appeal of an SRL performance is difficult to describe in any rational terms. Perhaps the secret can be found in the short SRL film, "A Scenic Harvest from the Kingdom of Pain." This is a work of intense imaginative inspiration, for it creates an entire world of its own, a world with its own rules, its own mysterious logic, its own native life-forms. It is as compelling as a dream, and offers the viewer a strange kind of liberation: the existential freedom of a realm where one's darkest imaginings take on concrete form, in savage incarnations of gasoline, steel, and mummified flesh.

Pauline's work has no single "message" -- he does not seem to need one. The man is utterly in the grip of his Muse -- a dark and stinking Muse, an industrial kame. To witness the work of SRL is to see the world of the late twentieth century with new eyes. The invisible becomes visible, the repressed returns and rules, and technology -- our purported servant -- grows the vicious claws and spikes and fangs of Darwinian evolution. Freed of human presence, technology pursues some grim mechatronic destiny of its very own.

It is no coincidence that contemporary science fiction writers, myself included, regard Mark Pauline with respectful awe. He speaks our language -- but he speaks it with a roar and a bellow and a staggering intensity. Like Seiko Mikami, the Tokyo industrial sculptress, he gives a Frankenstein vitality to the industrial detritus that society would prefer to forget, repress, and ignore.

I want to end this commentary with a well-meant warning. The work of Mark Pauline and SRL is not "nice." It is not "beautiful." It is not "spiritually elevating." It is probably, in some basic ontological sense, not good for you. It is like nothing you have ever seen -- or rather, is is like nothing you have ever previously allowed yourself to see. In Pauline's own words, it makes you face the worst feelings you have ever had. And it calls up the darkest kind of suspicions about the life that we allow ourselves to lead. And, having done this, it offers us no answers at all.

Bruce Sterling
World Design Conference
Nagoya, Japan 10/19/1989
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SUGGESTIONS

- Select from the performance.
- Certificate of participation.
- A free gift will be received for a special offer.

- Proceed to burn them to ashes.
- Use only materials that burn.
- Employ these props in a wide variety of ways to create large sexually explicit Buffalo New York: SRW

ARTIFACT

Leviston, New York: 1992

Statement of Interest

Another expression in obscenity.

Don't miss the important symbols of revenge and ritualistic torture.

Survival Research Laboratories

Performance staged by connected circuses cutting animals held in such conditions are of this type are difficult to generate.

Sounds simple, right WRONG!
August 10, 1990

Mr. Mark Pauline  
Survival Research Laboratories  
1458-C San Bruno Avenue  
San Francisco, CA 94110

Dear Mark:

This letter is to inform you that I have decided to cancel the performance of Survival Research Laboratories at Artpark scheduled for September 1, 1990. My decision is based on the fact that your current plans for the performance, as detailed in the poster distributed by you, are unacceptable to us. Furthermore, I consider this a breach of contract in that these issues were not discussed with us in advance of public distribution. Attached is a copy of the press release which is being issued today.

I also want to inform you that we reserve the right to recover funds advanced to you for this performance.

Respectfully yours,

[Signature]

David Midland  
President and Executive Director

DM: sept

Enclosure

CC: Mr. Albert Caccese