Simulator Sickness and Spectacular Destruction: Survival Research Laboratories' Theater of Operations

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"War has finally become the third dimension of cinema."
— Paul Virilio[1]

The Strategic Air Command in Omaha, Nebraska is closed for business. Described in the December 29, 1991 *New York Times* as "the nerve center of the United States' nuclear strike force," the SAC once employed 260,000 people at 66 bases; its underground command post incarnated Hollywood visions of cold war paranoia, omniscient computers, and wall–sized maps sprinkled with blinking lights, like the one in Stanley Kubrick's *Dr. Strangelove*. In 1991, its ranks thinned by thousands, the SAC was absorbed into a smaller unit—an inauspicious omen in an area whose economy had previously received a 400 million–dollar transfusion from the military each year. Those who remain behind to point nuclear warheads skyward are confused: Who, exactly, is the enemy?

Increasingly, he is computer–generated—a ray–traced wraith, a bit–mapped phantasm who lives and dies and lives again on an unreal killing field. As the United States slowly downshifts the permanent war economy it has maintained since World War II—a staggering investment which, according to the War Resisters League, gobbled up 53 percent of the federal budget for fiscal year 1993—military technologies are swarming out of government laboratories and Air Force bases, into the cultural arena.

Malls are fast being overrun by video arcade incarnations of virtual reality—gladiatorial diversions descended from the Link Trainer, an Air Force flight simulator introduced during World War II. Battletech Center, a video parlor located in a Chicago mall, features high–tech cubicles whose viewscreens allow players to peer through the eyes of armed and armored robots resembling Japanese Transformer toys, blown up to gargantuan proportions. Working manual controls, combatants stalk one another across a war–torn landscape; incautious opponents are blown to smithereens.

More impressively, Horizon Entertainment's Virtuality system, installed in malls and movie theater foyers across the States, uses headgear outfitted with televisual goggles, quadrophonic sound, and a magnetic head–tracking device to immerse cybernauts in 360–degree, real–time hyperrealities. Programs include "Exorex," in which the operator pilots an "exoskeletal combat vehicle" through a decaying metropolis, lobbing guided missiles at robosaurs, and "Dactyl Nightmare," in which shootists blast away at each other while dodging predatory Pterodactyls.
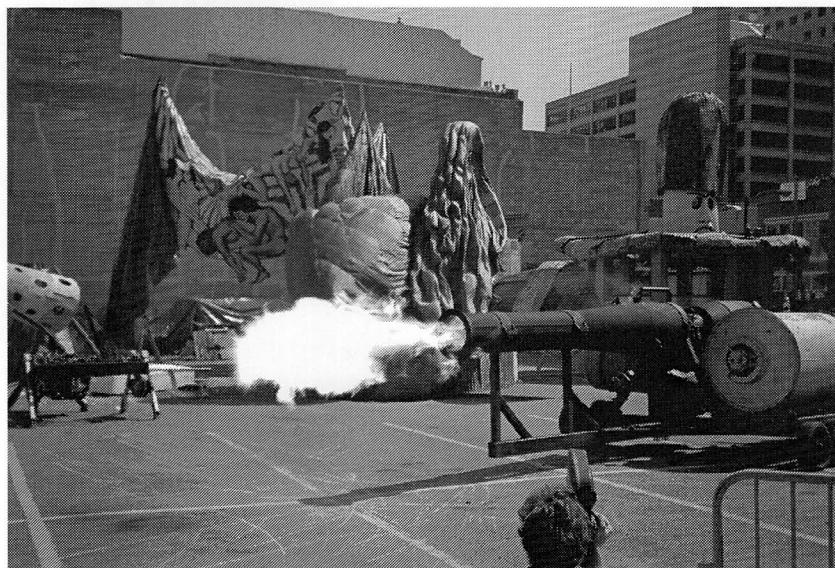
Spectrum Holobyte, the company that writes Virtuality software, is eager to turn its established line of Electronic Battlefield PC games into wraparound simulations. Meanwhile, Spectrum's parent company, Sphere, is busy developing a low–cost flight

Survival Research Laboratories' theater of war

simulator for a military contractor. The flux and flow between the entertainment industry and the military sector, between the software of desire and the hardware of predation, augurs the day when the two coalesce in a corporate entity whose assembly lines and brain trusts fabricate apocalyptic simulacra and, more horrifically, entertainment wars.
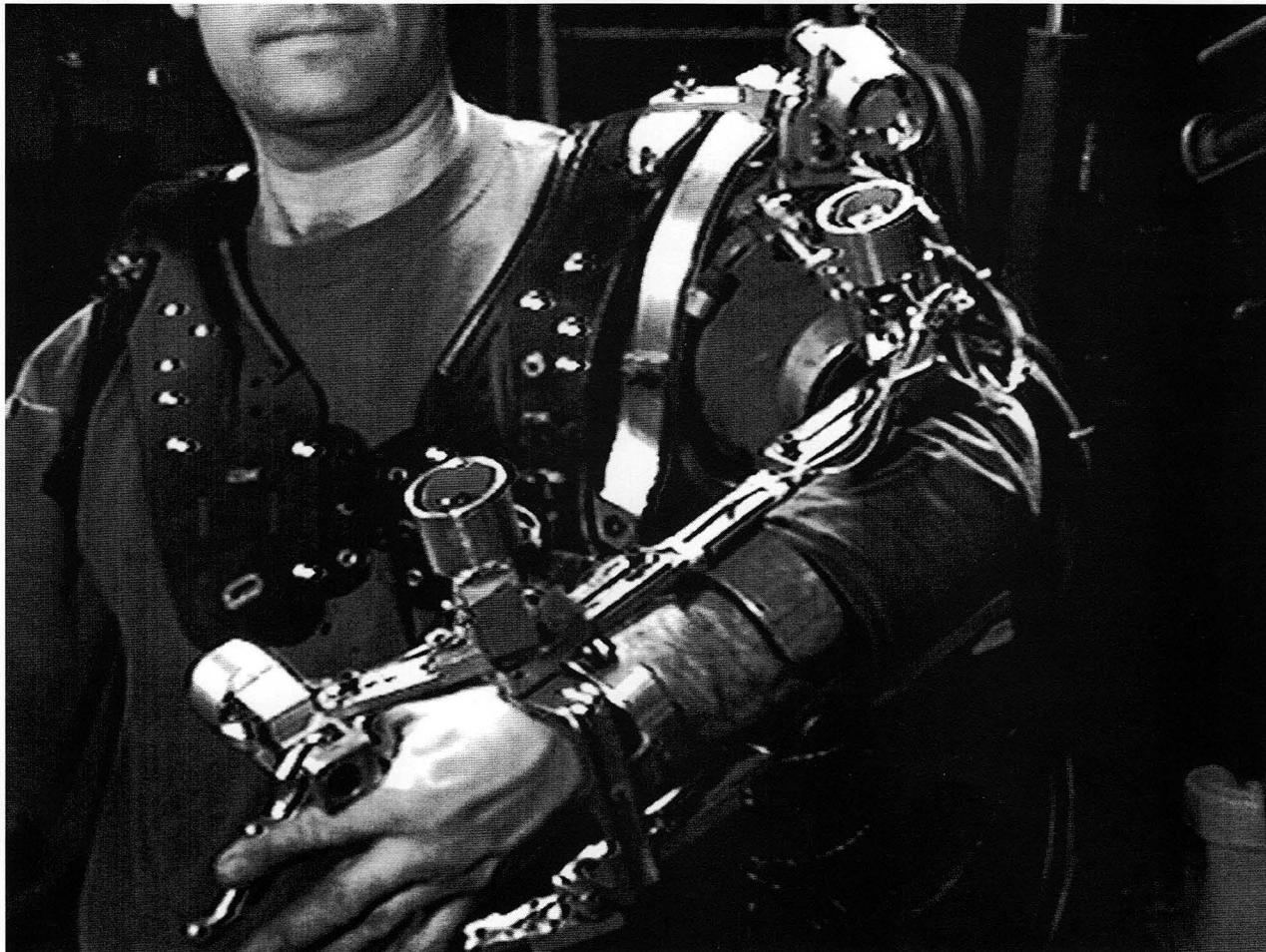
Increasingly, Americans are escaping to electronic playgrounds with military pedigrees that immerse participants in narratives of spectacular destruction. There is more at play here than technology transfer, a truism underscored by P.J. O'Rourke's only half–joking quip that it is every American parent's patriotic duty to raise a Nintendo game warrior, since the toy hones the skills of future Top Gun pilots. In her acclaimed "Cyborg Manifesto," Donna Haraway argues that

The culture of video games is heavily orientated to individual competition and extraterrestrial warfare. High–tech, gendered imaginations are produced here, imaginations that can contemplate destruction of the planet and a sci–fi escape from its consequences.[2]

Less philosophically, and more insidiously, "[t]he use of video games to recruit people into the military in our own nation is already under way," according to Eugene F. Provenzo, Jr.[3] Further, he notes, "The military's attitude toward video

Teleoperated arm control

nery, aircraft landing, and missile launching are taught to recruits using video game formats. In the early 1980s, military recruits at Fort Eustis near Williamsburg, Virginia, played a version of the arcade game **Battle Zone** that targeted realistic silhouettes of enemy tanks, helicopters, and armored personnel carriers.[5]

At the same time, actual war (as opposed to virtual war) has become a "cyborg orgasm," to borrow Haraway's pungent phrase, a Vorticist delirium of speed, vertigo, and bodiless ecstacy whose "video game-ness"—its Nintendo gestalt, if you like—is inescapable. Operation Desert Storm was history's first entertainment war, a fact underscored by piggybacked merchandising (T-shirts, baseball caps, Saddam toilet paper, Original Desert Shield Condoms), gushy, *Entertainment Tonight*–style hype from an utterly uncritical media, and the oft–repeated bromide that cybernetic combat in the Persian Gulf bore an unsettling resemblance to death by joystick on the home front. Targets blossoming into fiery flowers on the evening news played well before a public titillated by movies such as *Into the Sun* ("At Mach 2, you have two choices—win or die!") and electronic games such as Spectrum Holobyte's *Tank* ("How about commanding an M–1 Tank and firing on someone...in New Jersey? Modeled after the U.S. Army's own SIM-NET.") Indeed, the pumped–up war

games is revealing. Major Jack Thorpe has commented, for example, that 'it's important to have training devices that don't appear so obviously to be training devices.'"[4] The militarization of the mass imagination is a stealth operation.
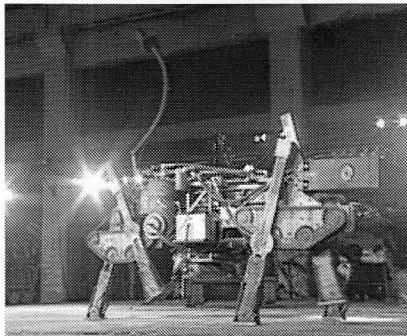
Yet, concomitant with the malling of the military, computerized conflict is growingly important in an ever more cybernated military, where human operators must react with bionic speed. "[I]n an age when most wars will not be fought hand–to–hand,

but by planes dropping their bombs on anonymous populations, or by missiles launched across the globe," notes Provenzo, videogames "provide an almost perfect simulation for the actual conditions of warfare":

Skills such as aerial refueling, gun-

Running machine

whoops of U.S. airmen interviewed on the tarmac after bombing runs were eerily reminiscent of the exultant yells of gamesters who have just scored a kill in *Nintendo Top Gun.*

Throughout the Gulf War, some Americans experienced the societal equivalent of "simulator sickness"—the nausea experienced by cybernauts when perceived movement is not matched by a corresponding disturbance in the vestibular system. It was brought on, in this case, by the giddy collision of harmless carnage in malls and the push–button destruction of Iraqi targets, viewed from on high in cockpit video displays. Even now, this disorientation lingers, upsetting the nation's psychological equilibrium.

Survival Research Laboratories' theater of war exploits this cultural vertigo. Since its formation by Mark Pauline in November 1978, SRL has been perfecting scary, stupefyingly loud spectacles in which infernal machines armed with buzz–saw blades and bear–trap jaws do battle in a murk of smoke, flames, and greasy fumes. Many, though not all, SRL performances are war games—dysphoric orgies of destruction meant to explode popular myths about surgical strikes and collateral damage. "I make weapons to tell stories about weapons," confirms Pauline. "SRL shows are a satire of kill technology, an absurd parody of the military–industrial complex." He and his dozen–odd, mostly male co–workers have stockpiled an arse-

nal in the 6000–square–foot machine shop where Pauline lives and works, on the outskirts of San Francisco's Mission District. Shortly after the Persian Gulf war, SRL built a teleoperated high–pressure air launcher that uses a blast of pressurized CO_2 to shoot a projectile with brute force. Its operator wears a lightweight armature that rests on his shoulders; its visor is equipped with two Hi8 video camera viewfinders that fit into the operator's eyes with eyecups, immersing the operator in a stereoscopic projection of what two video cameras mounted on the barrel "see." The headmount is connected to a servo system that enables the barrel of the launcher to follow the wearer's head movements. "The VR display couples the operator more closely to the machine," says Pauline. "It feels like you're riding on top of the missile."

It is a disquieting harbinger of the cyborging of human operator and high–tech weaponry. The U.S. Air Force, Navy and NASA have already experimented with cockpit displays that act as wraparound computer screens, immersing the wearer in a photorealistic, 3–D map of the terrain actually beneath him; targeting is accomplished with the aid of a helmet whose eye–tracking systems determine the focus of the pilot's gaze with pinpoint accuracy. He flashes a (literally) piercing glance and a point of light—one of myriad data bits in a "target–rich environment"—blinks and is gone. In that moment, war and cinema become one.

In SRL performances, the gun–mounted video cameras project the view to a kill seen by the goggle–equipped teleoperator onto a large screen positioned near the audience. The green phosphor imagery relayed by cameras mounted on smart bombs during the Gulf War comes immediately to mind. Watching "the pornography of destruction through [SRL's] eyes" (Pauline's words), spectators are reminded of their wartime role as living room voyeurs, and of the numbing unreal-

ity of history's first "virtual" war—a made–for–TV miniseries introduced by punchy logos and pumped–up, martial music reminiscent of trailers for Hollywood blockbusters.

The events staged by Pauline and his confederates are multivalent, and intentionally so. Evoking monster truck rallies, automated slaughterhouses, pre–Christian rituals such as the burning of the wicker man, and Jean Tinguely's auto–destructive kinetic sculpture, *Homage to New York* (1960), they resist assimilation by totalizing ideologies, quests for universal coherence. They seem, at times, to incarnate Jean Baudrillard and Paul Virilio's overwrought rhapsodies about hyperacceleration and the implosion of meaning in postmodern technoculture. Simultaneously, they invite comparison to blue–collar rituals such as the demolition derby or the sci–fi Circus Maximus portrayed in *Death Race 2000.* "I try to provide a panorama of ways of looking at things," informs Pauline. "SRL shows are a way of laying it all out on the table; the real commentary is what you make of it. I don't believe in preempting peoples'
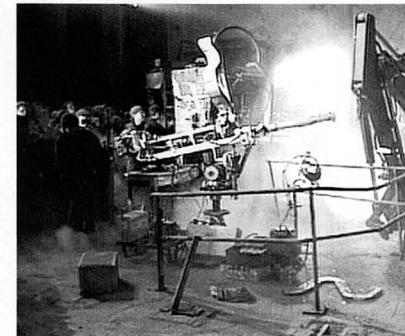
Teleoperated rail gun

ability to draw their own conclusions." In his essay "Technology and the Irrational," he writes, "in the machine performances of SRL, the non–rational and the absurd act as the baseline of all activity."[6] SRL's Circus Machinus does not so much critique our troubled relationship with technology as crystallize it. The group's Theater of Operations, with its battling automata, colliding vehicles, and mechanized animal cadavers, offers a scaled–down model of our chaos culture, with its freeway shootings, media–fed sociopathologies, and telegenic smart wars.

Pauline has defined SRL as "an organization of creative technicians dedicated to re–directing the techniques, tools, and tenets of industry and science away from their typical manifestations in practicality or product."[7] The group's impractical contraptions, unsalable as labor–saving devices, echo the "useless machines" of Bruno Munari, whose existential clock *L'Ora X* is rigged with hands that spin ceaselessly around a blank face. But unlike Munari's poetic objects, SRL machines—grungy, exuberantly ugly creatures that, not yet housebroken, leak oil everywhere—are unmarketable as objets d'art. Additionally, they bear little resemblance to their Duraflex–skinned, pneumatically–animated relatives, the audioanimatronic androids familiar from Disney robot dramas. Insisting on its autonomy from corporate theme parks and an elite, effete art world in thrall to multi-

Copenhagen

national investors, SRL produces an immaterial commodity, an intangible mix of noise and gasoline fumes, horror and hilarity, revelatory flashes and smoldering ruins.

On another level, the group's suicidal machines, hurtling headlong into each other like bumper cars or consecrated to oily conflagrations, can be read as a mordant critique of military state capitalism and the lunatic excesses of Mutual Assured Destruction. SRL spectacles celebrate technocracy's malfunctionings even as they concretize cyberpunk fantasies of mutinous machines and technologically–enabled resistance.

To Pauline, the weapons race is a missed opportunity for combustible fun. "Once machines get specialized to the point where they're killing machines, they're not very interesting," he points out. "I mean, what if even a little of the money that went into developing a fighter jet went into developing a really bizarre machine that did amazing things, something people could be part of? Technology is supposed to make life more interesting, and I honestly believe that it can, although other things usually get in the

way, like making money or projecting political power."

Finally, SRL events are war porn, black comedies about the United States' puritanical fear of the body and necrophilic obsession with sexy weaponry. In their mechano–erotic couplings and uncouplings, they fulfill J.G. Ballard's prophesy, in *Crash*, of "a new sexuality born from a perverse technology," all the while reaffirming Walter Benjamin's observation that mankind's "self–alienation has reached such a degree that it can experience its own destruction as an aesthetic pleasure of the first order." They remind us, too, that nothing is more American than the confusion of death, sex and technology, neatly inscribed on the image of Major T.J. "King" Kong (Slim Pickens) riding an H–bomb into eternity in *Dr. Strangelove*, the missile between the Major's legs suggesting a penile prosthesis suitable for the giant ape who is his namesake.
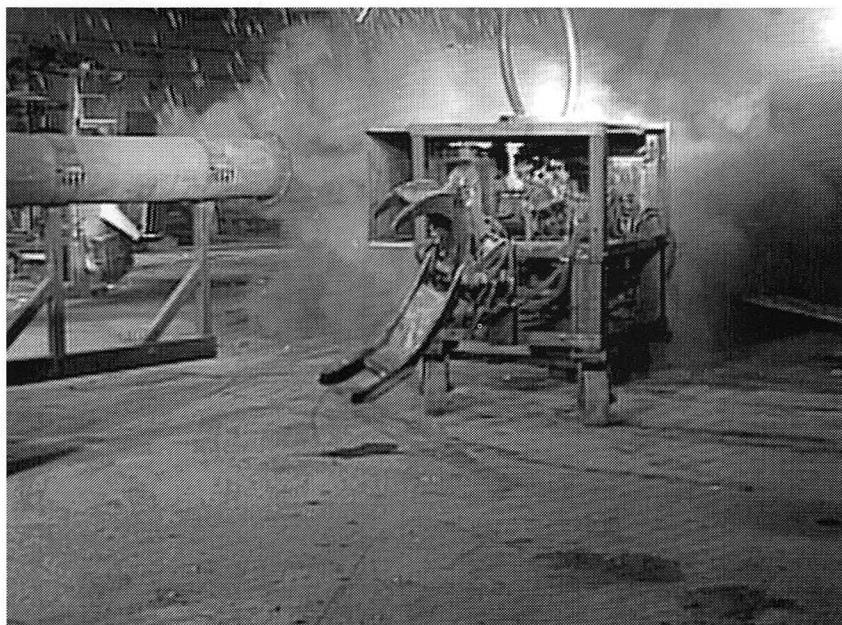
"No one has ever really defined the sexuality, if any, of machines, but there is something there," Pauline reflects. "Sometimes, I try to make pointed sexual statements in SRL shows. In *A Carnival of Misplaced De-

votion: Calculated to Arouse Resentment For the Principles of Order*, the show we performed in Seattle in 1990, there was a 40–foot–tall metal scarecrow made of huge drums, moving back and forth on a cart. At a certain point in the show, the Big Arm grabbed its crotch, tore its codpiece off, and then pumped it up and down in this gesture of sexual gratification." He grins drily. "That was nice."
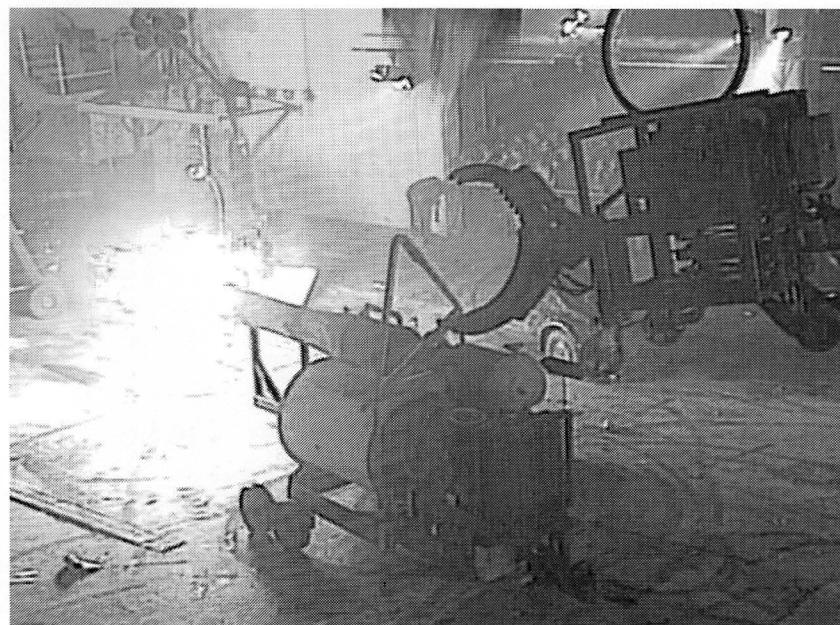
This essay first appeared in the 1992 program for the Steirisher Herbst Festival in Austria, coincident with SRL's performance in Linz at that festival.

Notes
1. Paul Virilio, *War and Cinema: The Logistics of Perception* (New York: Verso, 1989), p. 85.
2. Donna Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), p. 168
3. Eugene F. Provenzo, Jr., *Video Kids: Making sense of Nintendo* (Cambridge, MA: Harvard University Press, 1991), p. 132.
4. Loc. cit.
5. Loc. cit.
6. Mark Pauline, "Technology and the Irrational," in *Ars Electronica/BandII/ Virtuelle Welten*, ed. Gottfried Hattinger, Morgan Russel, Christine Schopf, Peter Weibel (Linz, Austria: Ars Electronica Festival for Art, Technology and Society, 1990), p.232.
7. Mark Pauline, in the unpublished introduction to his press packet.

Smoke Jaws

Jaws Bombing