Out of Control

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Systems are getting so complicated that they're out of control in a rational sense.

To avoid self-destruction, we have to start thinking of our interaction with technology in terms of the intuitive, the irrational.

A trialogue on machine consciousness with Mark Pauline, Manuel De Landa and Mark Dery.

Mark Pauline is the founder and director of Survival Research Laboratories (SRL), a San Francisco-based organization that stages mechanical spectacles in which teleoperated weaponry and utonomous robots menace each other - and audience members - in a murk of fumes and flames. SRL performances incorporate military technology - an electromagnetic rail gun, a V-1 jet engine - in a Theater of Operations that explodes popular myths about antiseptic "smart" wars. On another level, the group's colliding vehicles and reanimated roadkill can be seen as a scaled-down model of our chaos culture, with its freeway pile-ups and automated slaughterhouses.

Chaos is Manuel De Landa's bailiwick as well. In War in the Age of Intelligent Machines (1991), he considers the evolution of the war machine from a vantage point at the intersection of chaos theory and post-structuralism.

De Landa's argument turns on the notion that singularities - the "transition points...where order spontaneously emerges out of chaos" - catalyze curiously lifelike behavior in nonorganic matter. By extension, he argues, the military apparatus might be seen as a self-organizing process in which human agents function as "industrious insects pollinating an independent species of machine-flower that simply [does] not possess its own reproductive organs". More auspiciously, he speculates on the use of the "machinic phylum" - a superset containing all singularities - to facilitate "a symbiosis in which the evolutionary paths of humans and machines interact for their mutual benefit".

Although Pauline had read War in the Age and De Landa had seen SRL videotapes, the two had never met. When we learned that Pauline would be visiting New York in preparation for a performance, the remedy seemed obvious : a trialogue in De Landa's midtown apartment.

Dery: The notion of the "machinic phylum", which you define as "the overall set of self-organizing processes in the universe", is central to War in the Age of Intelligent Machines. Could you expand on that definition ?

De Landa: The idea, basically, is that humans didn't really invent machines. A hurricane is a motor in the literal sense, a motor defined as something with a heat reservoir that circulates heat through a Carnot cycle via differences of temperature. When a hurricane is born, a lot of self-organizing processes are involved that bring heat from the outside and concentrate it into a reservoir. In other words, it's a self-assembled motor. That, to me, is a mind-blowing concept, because it took centuries before humans discovered the motor, something that self-assembles spontaneously in nature.

So the machinic phylum is simply the notion that as soon as you let matter and energy in any form (whether it is organic or inorganic) flow in a nonlinear manner (that is, past a certain threshold of complexity) machines will

tend to spontaneously self- assemble. The key word here is "nonlinear". When you let matter and energy get far from equilibrium, spontaneously stabilized states called "attractors" emerge.

Dery: Mark, your performances could be seen as dynamical systems. Have you noticed any consistent patterns in the flux and flow of machine interaction ?

Pauline: Yeah, it's all based on being able to pump enough energy, enough machines, enough inputs of all kinds into the situation. Otherwise, you get a collection of machines stomping around, halfway between a performance and chaos. To me, a show is when everything coalesces in such a way that it's undeniably more than the sum of all the activities involved.

De Landa: What Mark does is push things far from equilibrium, to that point of unpredictability. From the videos I've seen of his performances, I gather that a lot of the experience has to do with the fact that you don't know when these machines are going to attack the audience; the question in everybody's mind is, "Hey, are these guys really in control ?"

Pauline: But that, to me, is the mark of a true machine consciousness - when a mechanical system gets to a point where there's a disjunction between you and what's going on because what's going on is just too complicated or too intense. Systems are getting so complicated that they're out of control in a rational sense.

The role model for the future of human interaction with machines, if we want to avoid our own destruction and regain control, is to start thinking of our interaction with technology in terms of the intuitive, the irrational.

De Landa: One of the things I admire about Mark's work is that he uses the human body as a laboratory. Mark's remote-controlled devices affect the mind of the operator so that he or she becomes the machine, experiencing these intensities.

Pauline: I was just running our high-pressure air launcher last week. We have a lightweight armature with two hi-8 camera viewfinders that fit into your eyes with eyecups. There's a set of servos that turns your head into a big joystick operation, so that when you move your head the machine points wherever you look. On the machine is an air-launcher that uses high pressure CO2 to fire a beer can filled with concrete, an explosive, and a contact detonator at about 550 feet per second. There's a cross-hair at your focal point, and when you line that up with the target, you fire, and it just obliterates it.

De Landa: Do you get the feeling that you are becoming the machine when you operate this thing?

Pauline: Oh, yeah. The depth perception is incredible; you just sink into it. You start to imagine your body in different ways, like you do when you're in an isolation tank. Because of the comfort level, your body becomes transparent, which is the key feature in any of these input devices. Once you achieve transparency, interesting things start to occur.

Dery: It seems as if there's an ontological nausea, beyond simulator sickness, induced by the experience of losing your body. People mapping cyberspace seem obsessed with creating new, cartoon bodies or inventing tactile effectors to generate the sensation of touch on the actual, physical body.

De Landa: Well, we have all these self-organizing effects, clocks that regulate the sleep cycle and so on, trapped in our bodies - trapped in the sense that DNA controls when they manifest themselves. Any experience that opens up a little bit of space that DNA doesn't control directly, allowing these self-organizing processes to play more freely, is to me an important thing to experiment with.

We thought everything was so simple and linear, but the fact of the matter is that there have been, throughout

history, missed opportunities for human flesh to go into a different attractor.