left:
Erosion Machine,
2005, stainless
steel, rubber, felt,
glass, galvanized
steel, sandstone,
silicon carbide,
electronics, dust
collector,
reclaimer,
robot, air,
348 x 640 x 348 cm

below:
Erosion Machine
Stone #2 (1990's.
com Boom Stock
Market Data),
2006, sandstone
61 x 168 X 91 cm

DO ANDROIDS DREAM OF MAKING ART?

ROXY PAINE'S ROBOT ARTWORKS AND ARTIFICIAL ENVIRONMENTS ASK JUST THAT QUESTION.

words: JONATHAN T. D. NEIL

above: *Erosion Machine Stone #2 (1990's.com Boom Stock Market Data)*, 2006 (detail)

For more than a decade now New York-based artist Roxy Paine has built elaborate constructions that seem to answer the following question: how would a machine make a painting or sculpture? This is no easy task. Leaving aside the pragmatics of building a functioning machine, certain commonplaces about art present further constraints to Paine's practice. The most obvious of these is that works of art are generally supposed to be unique. Machines, however, are not good at 'unique', at least not when left to their own devices. So, to ensure that none of his machines will produce identical, standardized, assembly-line products – for that would simply be commerce, not art – at certain points in the logic of each mechanism's build, Paine introduces irreducible contingencies into the equation.

So, with the early *Paint Dipper* (1997) and the various *SCUMAK (Auto Sculpture Maker)* devices (1998–2005), the artist's materials – paint and polyethelene – were given their own say in how each 'work' turned out. In more recent pieces, randomized data dictates the realization of form. In the case of *Unexplained Object* (2005), that form is worked and reworked by an array of hidden robotic arms that poke, prod and generally shift the configuration of the piece's canvas wrapper according to subatomic intercepts recorded through a Geiger counter. For *Erosion Machine* (2005), the stream of silicon carbide that cuts canyons into a block of sandstone is directed by strings of meteorological data recorded during the 1980s, over Binghamton, New York.

Unlike the earlier work, contingency in these later projects no longer enters at the level of materials; it now comes into play at the level of operation. And though it may be tempting to write off Paine's machines as contemporary iterations of the process issues that consumed the artists who came of age during the late 1960s and 70s (the figure of Eva Hesse no doubt stands behind the *Paint Dipper*; Lynda Benglis behind the *SCUMAK*), Paine's newest machines push well beyond a concern with any 'phenomenology of making', to use Robert Morris's phrase. The question is no longer one of process, but 'processing'. What Paine's machine's now ask, or at least ask us to consider, is how might a machine *think* to make a work of art.

Since Alan Turning first posed the problem, whether or not machines can 'think' has proven a particularly interesting issue for practitioners of cognitive science and philosophy of mind. Most stands on the matter stem from positions taken on two other long-standing philosophical problems however: that of 'other minds' (How do I 'know' that you are a conscious being, that you have a mind, like mine, if I have no direct access to your thoughts or feelings?); and that of 'free will' (Who am I to 'know' anything, much less to 'act', if 'I' am nothing more than a heap of mindless, robotic cells behaving according to deterministic laws?).

On the problem of 'free will', the configuration of Paine's latest machines would appear to parallel those arguments that place great store by the

above: *Unexplained Object*, 2005, canvas, stainless steel, electronics, pneumatic cylinders, valves, Geiger counter, 244 x 244 x 244 cm

below: *Misnomer*, 2005, stainless steel, 376 x 488 x 353 cm

promise that quantum indeterminacies at the smallest scales of matter provide the thin sliver of chance, that little bit of freedom, so very necessary to guarantee the place of free will at the origin of all the causal chains that would seem, albeit reductively, to end with us, here and now. With regard to Paine's work, whether such indeterminacy (a more proper term might be 'probability') is quantum in nature is beside the point; as Paine has demonstrated, it could very well be atomic or meteorological as well. What matters is that that little bit of freedom, that role of the dice, is situated exactly where we always take 'thinking' to occur: somewhere deep in the raw material of the mind, a place that Henri Bergson appropriately enough described as a 'zone of indeterminacy'.

The question we are faced with now is whether we feel comfortable recognizing in Paine's machines the operation of a mind. In other words, are they 'thinking machines'? One's first inclination is to state, 'Certainly not'. We do not recognize in these contraptions the workings of minds like yours or mine. But we should bracket this problem a bit by remembering that Paine's machines are intended as works of art, and in particular, as works of art that engage with, and comment upon, the production of other objects conventionally conceived of as a works of art. Paine's machines may not be granted the status of rational, thinking agents, equivalent in every ascertainable respect to real minds, but within the circumscribed field of artistic production, they certainly achieve results in every way indistinguishable from those that have been, and are, produced and presented by real artists. Paine's machines, it turns out, might have minds after all.

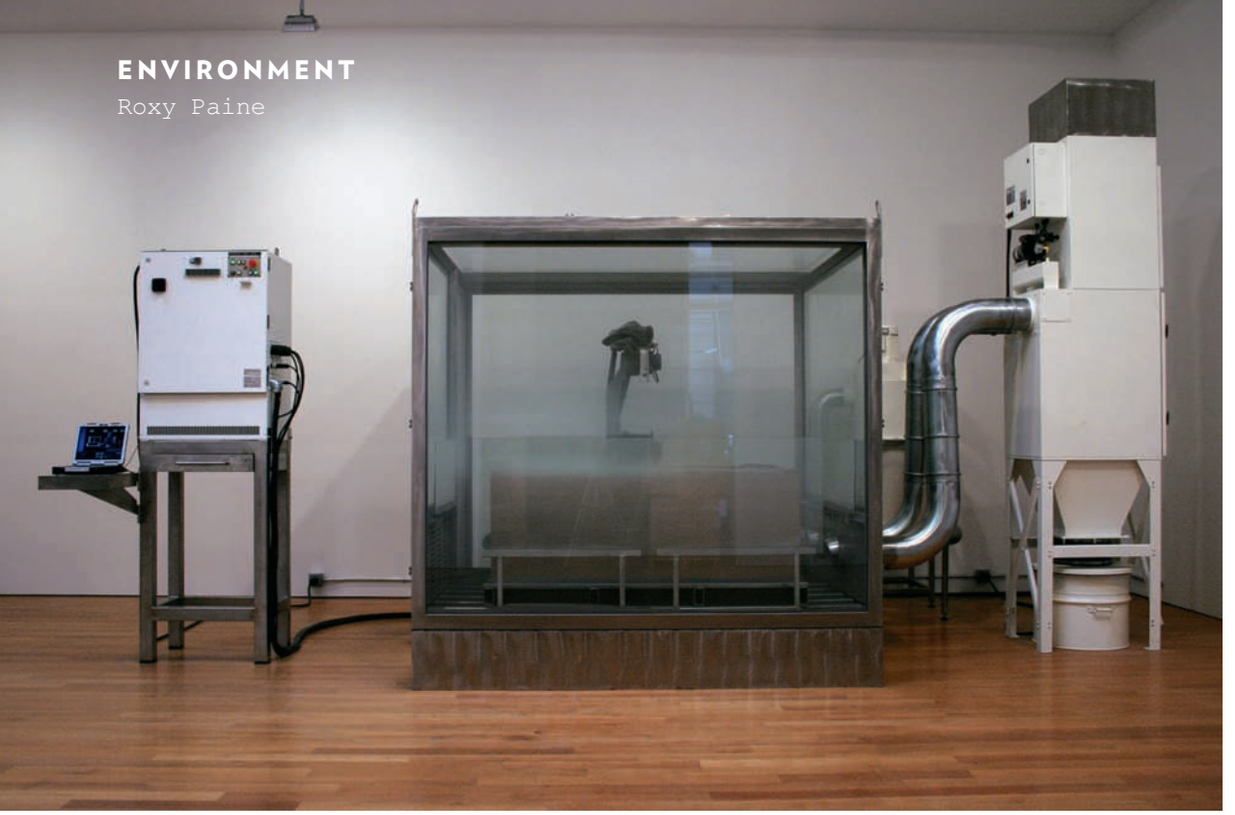
above:
Misnomer, 2005
(detail)

top right:
Breach, 2003,
stainless steel,
1069 cm high

The sleight of hand that Paine's mechanized works play with the problem of other minds may be better understood if conceived of as a short circuit between what Daniel C. Dennett has described as the different 'stances' – physical, design and intentional – one might assume in order to explain and predict the behavior of some object or entity. Briefly explained, each 'stance' offers a different degree of explanatory and predictive abstraction: by taking a physical stance we concern ourselves with the concrete physical processes that affect the object or entity in which we're interested; by the design stance, we concern ourselves with that object or entity's functions and operations; and by the intentional stance, we concern ourselves with its thoughts, beliefs and desires.

The key is that there are simply some objects or entities, a tree, for example, towards which it simply does not make sense nor prove profitable to adopt an intentional stance. Likewise, there are some objects or entities towards which it would seem far from profitable to adopt anything else. Works of art tend to fall into this latter category, insofar as they may serve as extensions of their makers, to whom we may then impute the thoughts, beliefs and desires that we sense in the objects of their industry.

The problem, or rather, the particular power, of Paine's machines, indeed of Paine's art as a whole, is that it does not fall so easily. If anything, his work systematically dismantles the possibility of assuming an intentional stance, not by denying that intentions, thoughts or desires stand behind the work, as was the strategy of artists from Jasper Johns to Donald Judd and after, but by substituting function and operation – i.e. design – for intention, and then substituting concrete physical processes for design, and then the physical for intention, and on and on. Nowhere is this vacuum of stances more clear than in Paine's *Erosion Machine*, where one physical process, 'weather', *intends* another, 'erosion', through the operation of a rather elaborate machine, itself encompassing a multitude of operations and physical processes, the meaning – or rather the thoughts, beliefs and desires of which, are nothing more than the slow eroding of a sandstone block.



Erosion Machine, 2005

The question we are faced with now is whether we feel comfortable recognising in Paine's machines the operation of a mind

Nor should it come as a surprise that, alongside his more machinic enterprise, Paine has built, and continues to build, a series of full-scale trees in stainless steel. With titles like *Imposter* (1999), *Transplant* (2001), *Bluff* (2002) and *Placebo* (2004), there can be little doubt that artificiality and artifice are central to these projects. But, as noted above, the tree also serves the impoverishment of intention. One can no more intend to grow than it can desire to speak. Towards a tree, then, we are only rewarded by assuming the physical or design stance.

"Not so with a tree intended as art," one might object. When the artist creates a tree, the messiness of meaning immediately jumps into the frame, and of the trees Paine has made over the years, *Defunct* (2004) is surely the most freighted with an excess of meaning. Inspired by the romantic landscapes of Caspar David Friedrich, *Defunct* appears like a natural ruin, a marker of time quite beyond human scales: its lost branches and bare trunk speak of endurance and perseverance, even in the face of an inevitable, and necessary, demise.

The stainless steel of Paine's trees does more than announce their art, however. For Paine, each tree is part of a deeper inquiry into a problem of structure. Though verisimilitude is important, Paine does not approach the trees with the same exacting artifice as he does the reproductions of plants and fungi for which he has become so well-known. Only the first tree, *Impostor,* was constructed through the use of an inner armature, the 'trunk' around which Paine wrapped a steel 'bark'. Since then, each subsequent tree has been built up, has been 'grown', from cylindrical piping and rods of diminishing size.

In this, structural verisimilitude functions as an overriding constraint. And what is a tree except a lesson in structure, one which Paine continues to learn. In the more recent works, he has discontinued grinding down the welds between joints, preferring instead to leave the structural logic exposed, like growth rings worn on one's sleeve. In this, design and physics takes the place of intention. For Paine, the logic of arboreal structure offers another language into which the artist is immersed, his thoughts, beliefs and desires becoming subordinate to it. Through this language, the artist sets in motion yet one more apparatus of manufacture, even if this one is more readily recognizable as conventionally artistic, in nature. ⁝

left and below:
Weed Choked Garden,
1998–2005,
thermoset plastic,
polymer, oil paint,
PETG, Stainless
steel, apoxy,
lacquer, epoxy,
pigment,
163 X 353 X 96 245 cm

below:
Bad Lawn, 1998,
epoxy, PVC, steel, wood,
PETG, lacquer, oil
paint, earth,
305 x 213 x 122 cm.
All images courtesy
James Cohan
Gallery, New York