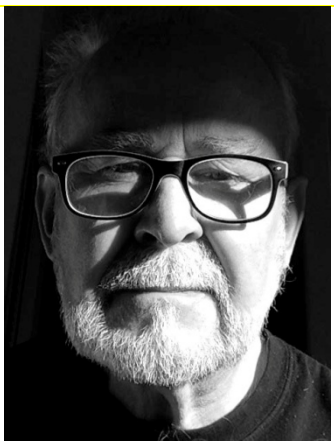

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THE LABOURING MACHINE –THROUGH REPETITION TOWARDS AUTONOMY
Paper and Artworks

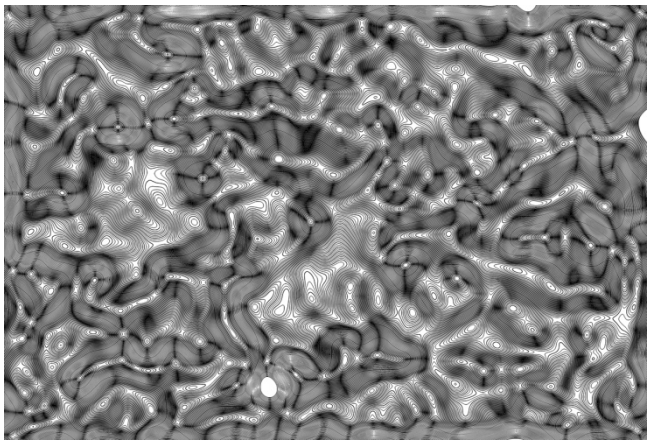
Topic: Art

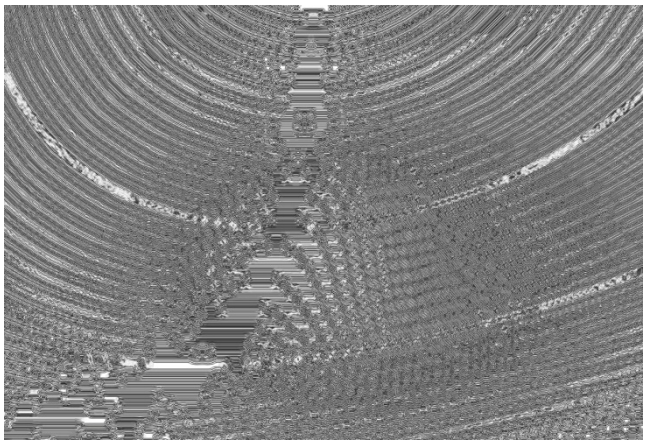
Alan Dunning,
Canada, University of Calgary, Department of Art
www.ucalgary.ca

Abstract

Repetitive processes that are at the heart of computing provide a means to generate unintended forms and processes. Although originating in human coding and invention, looping processes left to generate forms and patterns over long periods of time seem to take on life of their own, beyond expectations of the algorithmic results. In this recent work simple actions contained within ubiquitous imaging programs are used to generate new forms through thousands of automated repetitions. The resulting images show, complex structures emerging from the indulgent excesses of the process.

The work is examined in relation to earlier works that used simple human actions repeated over and over again over a period of days and weeks – tracing, scribbling, cutting, erasing, rubbing, and others - to generate large, complex installations that were a visual record of a particular human activity. This new work, and its accompanying theory, imagines a laboring machine, and the idea of a hidden, selfless labour to fancifully suggest an autonomous existence generating unbidden images and structures.





The exhibition of a selection of large printed images show the range and variety of images produced together with details of their processes and elapsed production times. The paper sets out to situate this work within the larger understandings of repetitive process in contemporary art and its use as a aesthetic and poetic device.

adunning@ucalgary.ca

Key words: repetition, labour, art

The Labouring Machine - Through Repetition Towards An Autonomic Uncanny

Alan Dunning
Department of Art, University of Calgary, Calgary, Canada
e-mail: adunning@ucalgary.ca

Premise

Repetitive processes that are at the heart of computing provide a means to generate unintended forms and processes. Although originating in human coding and invention, looping processes left to generate forms and patterns over long periods of time seem to take on life of their own, beyond expectations of the algorithmic results. In this recent work simple actions contained within ubiquitous imaging programs are used to generate new forms through thousands of automated repetitions. The resulting images show, complex structures emerging from the indulgent excesses of the process. Examined in relation to earlier works that used simple human actions repeated over and over again, the new work imagines a labouring machine, to suggest an autonomous existence generating unbidden images and structures.

The Process of Repetition

Earlier artwork used simple human actions repeated over and over again over a long periods to generate large, complex installations that were a visual record of a laborious, almost obsessive, human physical activity. Transferring that labour to a machine fancifully suggests an autonomous existence generating its own images and structures, as the artist relinquishes control to a machine.

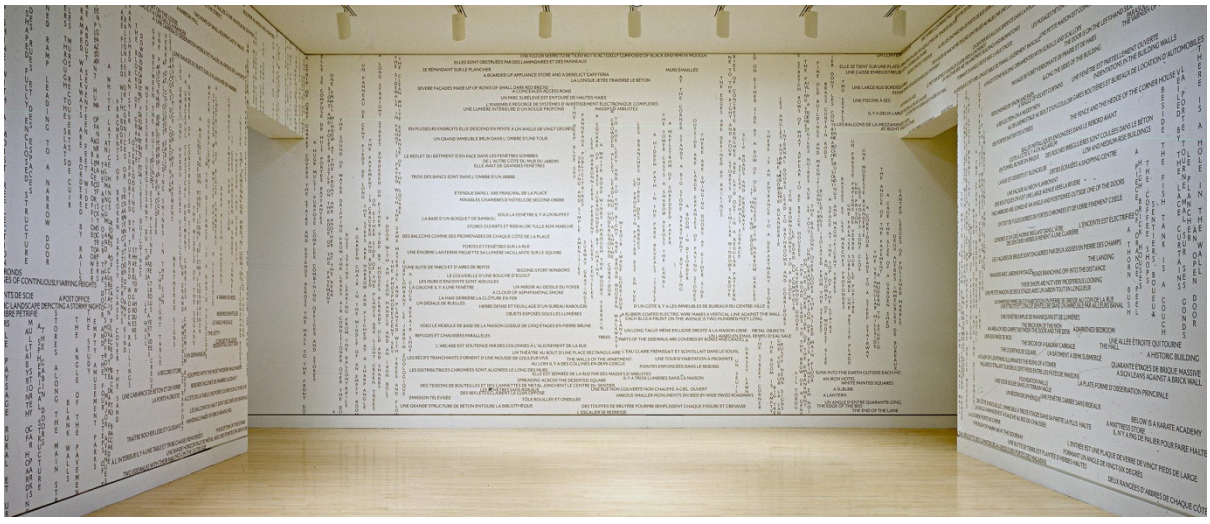


Image 1: City of Lights, Laser cut vinyl, durachrome photographs, © 1997

The work builds on areas in earlier work that explored the unbidden emergence of forms and patterns through prolonged manual and computational processes. This work used analog, hands on,

techniques to mix text and image until meaningful phrases or image juxtapositions emerged. In the second half of the 90s computer algorithms were used to generate random textual arrangements. [Image 1] Recent work has referenced paranormal investigations to explore the appearance of organic and human forms in noisy or empty visual and sonic fields, where there should properly be none, and the emergence of lifelike patterns in the visual processes of computers.

Related earlier work comprised hours, days even weeks – gluing, tracing, pasting, cutting, erasing, rubbing, and others - to generate large, complex gallery installations. This early work was deliberately and excessively labour intensive, with room sized, ephemeral, site-specific installations taking up to 1000 hours to install up to 500, 000 elements, and were readable in terms of a clear trace of the labour invested in their production. They contained signs of the process, evidence, of human activity: fingerprints, blood, errors in texts, visible signs of exhaustion in the structure of the work: patterns within the works showed fatigue, loss of concentration, arbitrariness, sloppiness, waning interest, and their opposites: deftness, vigour, care, and so on. They were concerned with building an architecture of signs in which meaning emerged from the actions within the site.

Image 2: Rapture – scattered bodies, printed vinyl, video projections, © 1996

The production/installation process for these works was mentally and physically exhausting. Long days and nights were required to make and complete the works within the periods available for installation. Under such circumstances the process became automatic, unthinking. The placement and configuration of elements was increasingly unconcerned with making meaning, communication or pattern, but simply obsessed with reaching, an end result.

The initial content for these works were established by chance means. Texts for example were culled from various dictionaries and encyclopaedias, printed and cut into individual words, and

mixed into a kind of textual soup in large containers. Choosing an element to adhere to a wall was simply a matter of reaching in a drawing out a slip of paper. As such the processes involved in making these installations became increasingly fewer and fewer. A typical process might only be: draw a piece of paper from a bin, paste into an empty space on a wall. Repeat. Again and again. [Image 3]

The meanings that emerged from these works were unclear. That they were handmade was apparent, as was the fact that they took many hours to install. Their initial presence was of labourious installation, of investment, of commitment, coming from the visible, unintended index of that labour. Beyond this recognition, and driven

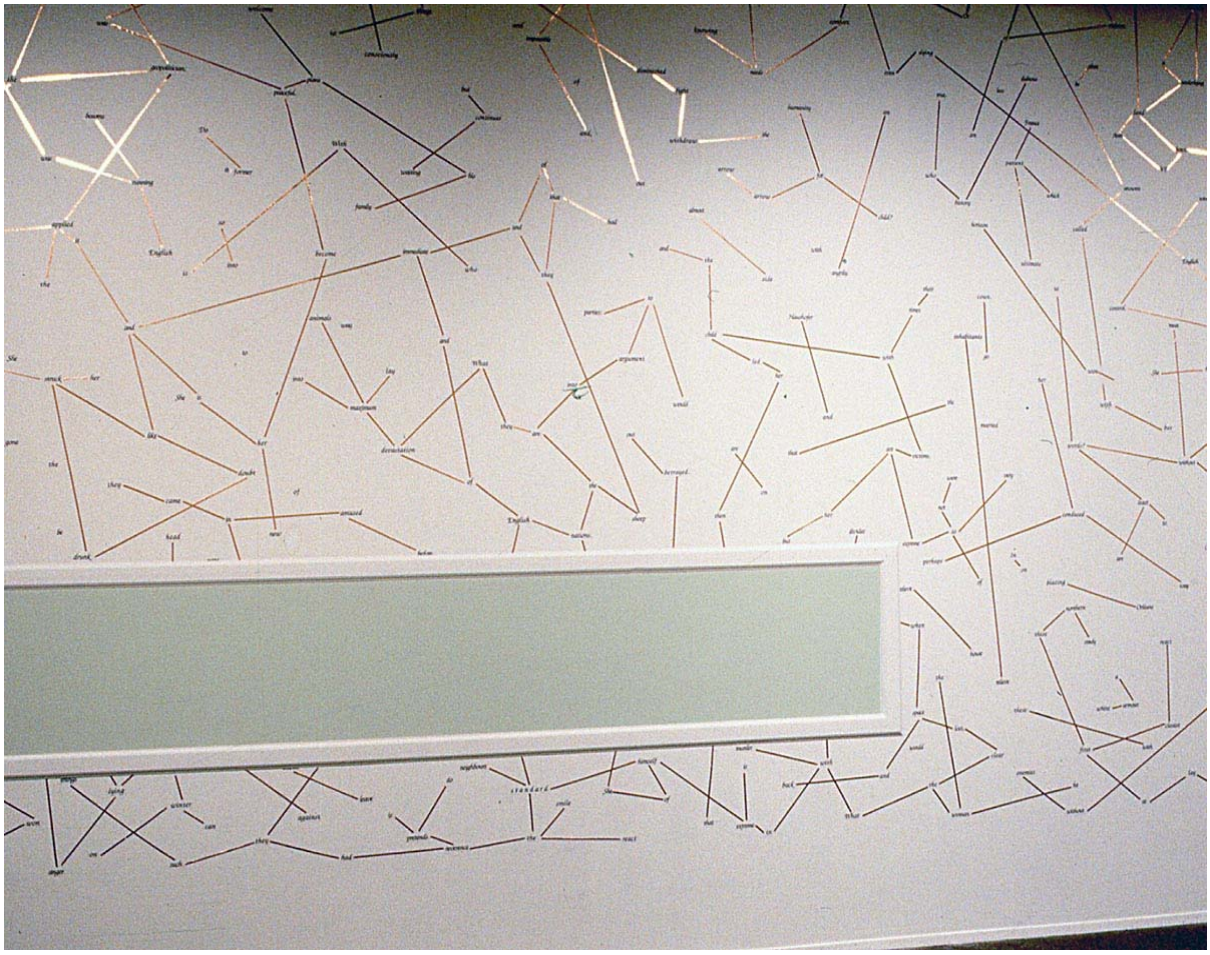


Image 4: mother, Xerox prints, copper tape, paint, wood, © 1990

by seeing recognisable words and images that implied a some sort of narrative, reading the work became an exercise in looking for connections, for meaning that was at best elusive. Often sensible, poetic phrases, or image clusters, would emerge, only to disappear as links became tenuous or untrustworthy, or were subverted by adjacent texts or images. Faced with such resistant meaning, the viewer was obliged to take an entirely interpretative stance to become a producer of meaning rather than a consumer of previously arranged meanings.

These early works presage many later computer works and directly relate to the works discussed here. In both works the smallest of actions repeated many times build a complexity that generates new meanings and new understandings. There are differences. The new works employ a recursive, feedback loop, the state immediately prior to the current state effects changing an imminent future state, that is missing from the earlier activity, the medium for the works is digital rather than

material, and the raw material is non narrative, but in both, the works build from simple to complex by the simple reiteration of a process and the accretion of the results of that process, and in the end both rely on a local context of to provide a way to enter the work, beyond mere aesthetic appreciation.

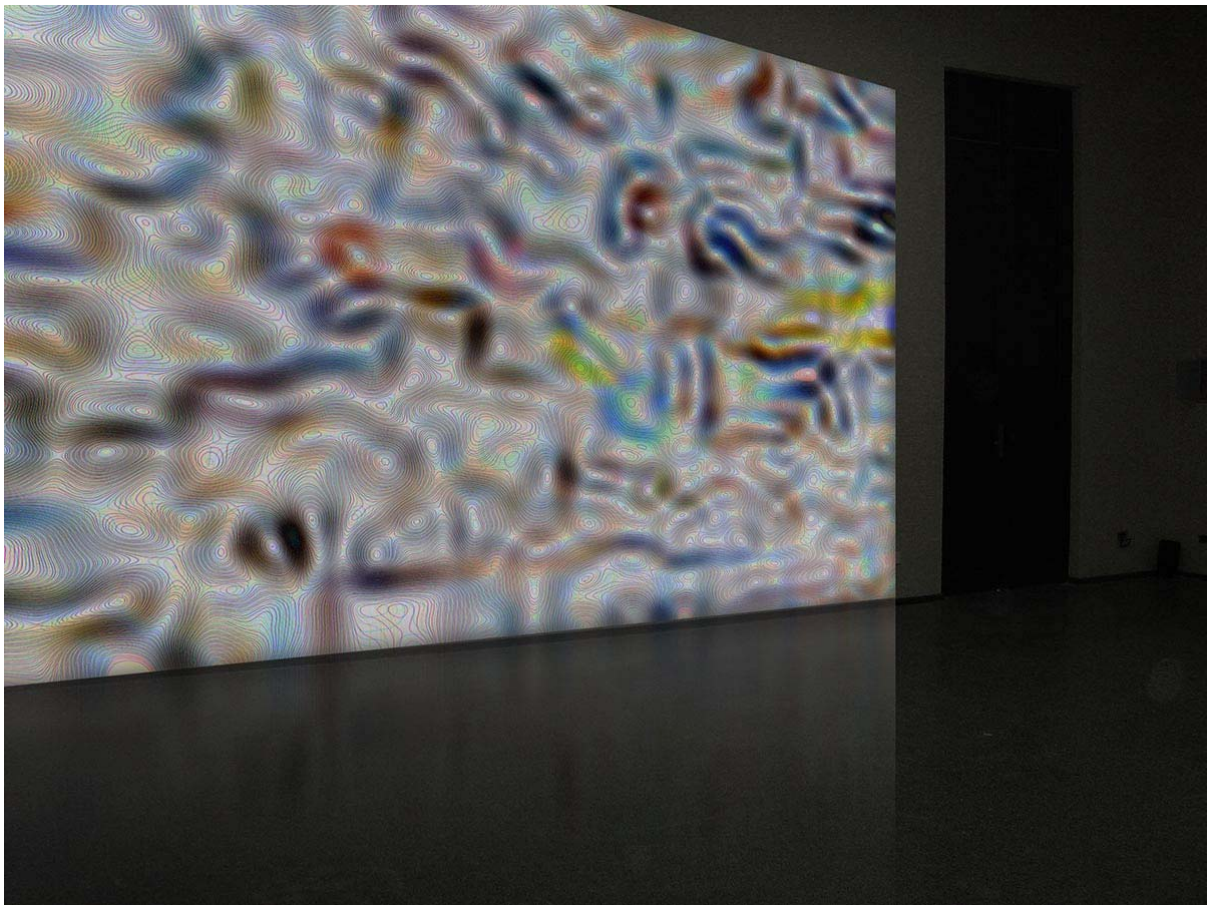


Image 5: Untitled, computer generated projection, © 2018

The images of new work, presented here as prints, are projected on to the surfaces that generate their initial state. [Image 5] A camera takes an initial image of a blank wall and predetermined processes spawn an image that overlays the blank wall with content generated entirely from the location. Quite what these images show is unclear. They are often colourful and complex. They can be more or less aesthetically pleasing. They are final results of a process to generate a particular image in the context of local, site specific, input.

The original image is processed by a repeating loop of instructions culled from everyday imaging programmes. Tracing, finding edges, blurring zooming, cropping and so on. Repeated many thousands of times the process begins to produce images that are increasingly and apparently unrelated to the initial image. The type and length of each process, their places in the algorithm and the total number of reiterations are determined by true random numbers, generated by random.org. The resulting images are highly textured, some reminiscent of topographical maps, some of abstract and op art painting, others of water ripples, stains or shadows. [Image 6]

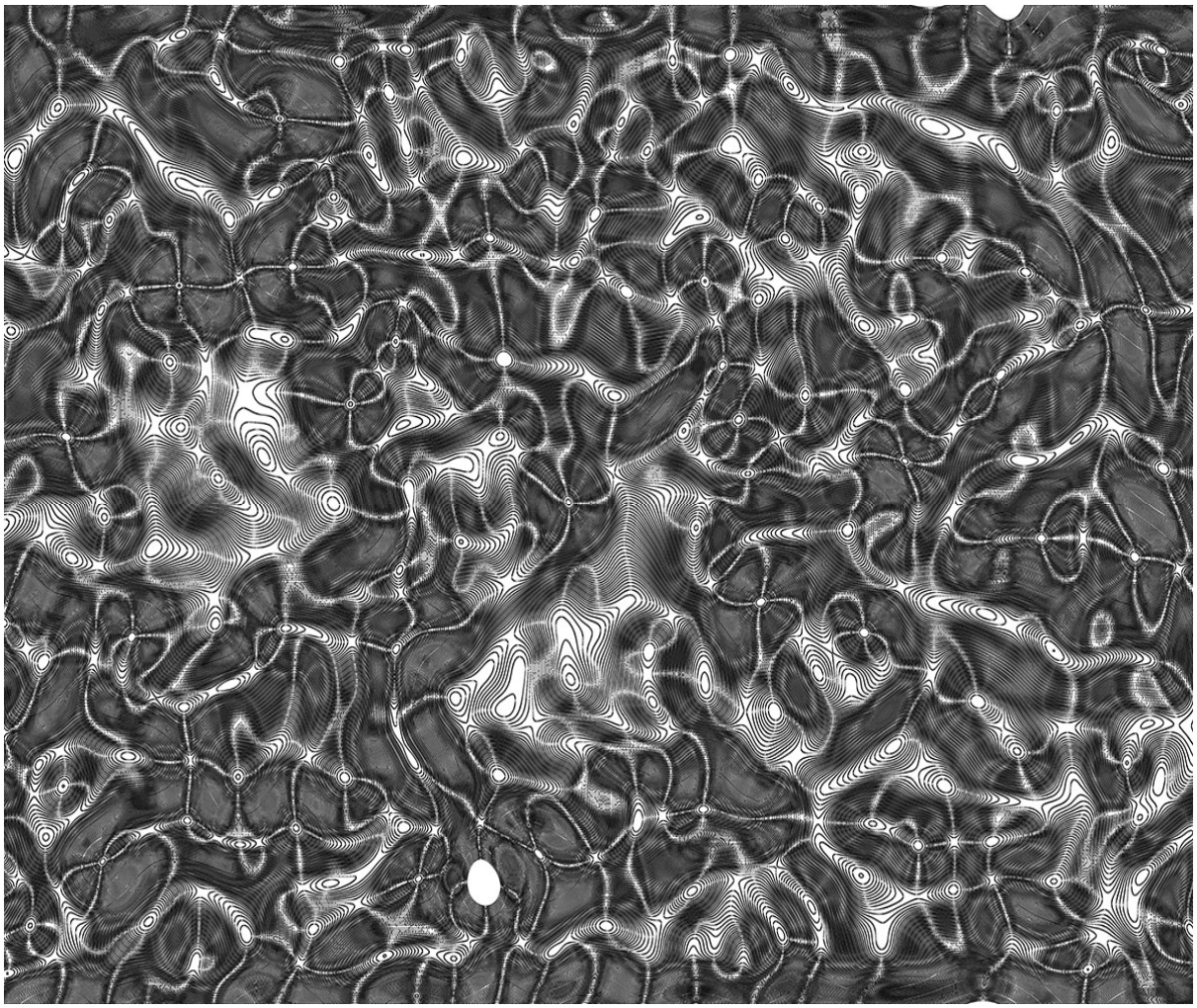


Image 6: Untitled, digital image © 2018

In retrospect, the actions in earlier works seem increasingly like an exact analogue of the actions now employed by computational works presented here. There was a very attenuated set of instructions, the processes were invisible at the time of each iteration (hidden in a closed gallery space), and the results were, to all intents and purposes, even though not unexpected, unforeseen, until revealed by an interpretative viewer.
Amy Gogarty explains:

"The endless hours of searching, selecting, printing, cutting, assembling and eventually disassembling, seem at first pointless, absurd, excessive. …the role of labour is central to the work – The constituent parts have literally passed through the body of labour – Dunning's body – and this deeply personal act has transformed them. The viewer becomes involved in the "labor of language" by entering into the text, passing the shifting signifiers through the mind, and gleaning the scant shreds of shared meaning, the reader/viewer similarly participates in the text." [1]

The Labouring Machine

It is perfectly possible to imagine a machine consuming energy, working tirelessly on some endless calculation. The processes are unseen, the results never seen; the only indication of activity is the warmth of the unit and the consumption of electricity. Something is being undertaken. Pure and autonomous, set into motion by a set of instructions, but creating strings of autonomously discovered numbers. Considering a computational machine in terms of labour, attempts to move

our

This machine sits apart, unconnected except for the instructions to engage with and carry out the task. But contemporary thought places the machine as part of a complex interconnected world of objects, rather than objects existing independently from other objects and selves, and its work often appears to mimic the processes of identity formation. While this reimagining of a machine is fanciful, it is useful in a reconsideration of the human/machine relationship in the creation of artworks, as mutually symbiotic.

Parallel with the expanding and developing technologies of communication and representation in scientific research and artistic production, the notion of identity has undergone a transformation. In the past, the notion of self has been directly linked to the physical limits of the body constituting a more or less objective and stable make up. Presently this locative conception of the body has been extended to include all places where electricity can power and spawn communication devices and systems. It is common now to speak of the body as distributed and the mind as extended.

Felix Guattari writes:
...the machine's environment forms part of machinic agencements. The liminal element of the entry into the machinic zone undergoes a kind of smoothing process, of the uniformisation of a material, like steel, which is treated, deterritorialized and made uniform in order to be moulded into machinic shapes. The essence of the machine is linked to procedures, which deterritorialize its elements, functions and relations of alterity. Hence it will be necessary to speak of the ontogeny of the technical machine as that which makes it open itself to the exterior. [2]

Technology has changed how we consider the machine/body relation. Bodies have long been seen as machines, now machines can be seen as bodies. There is a perception that our material selves and machines are becoming increasingly enmeshed in an information age.

Christoph Asendorf writes:

"Unlike the eighteenth century, in which man became a machine, in the nineteenth, the machine is assigned human characteristics ... The machine has become a subject, the individual its object ..." [3]

Daniel Black continues:

"... while the automata of the Enlightenment had existed in a realm outside everyday life and had possessed no productive capacity, industrial machines operated amongst the human population, working in close relationships with or replacing human workers. For Karl Marx, the industrial machine was an entity that replaced the worker by claiming his tools and wielding them in his place while the mechanised factory was a kind of monstrous organism that absorbed human bodies into itself, 'a productive mechanism whose organs are human beings'. [4]

Anson Rabinbach describes the relationship between the industrial machine and the labouring body: The human body and the industrial machine were both motors that converted energy into mechanical work ... From the metaphor of the motor it followed that society might conserve, deploy, and expand the energies of the laboring body: harmonize the movements of the body with those of the industrial." [5]

It is clear we have increasingly complex relationships with machines, and contemporary thought begins to resituate the machine as not only extensions of our bodies but as identities, as selves

existing beyond our bodies. Our world has moved towards a hybrid state, composed of biological organism and machine in which it is not always precisely clear "who makes and who is made". The boundary between organism and non-organism, actor and non-actor, self and non-self has been abandoned and our postmodern bodies are artificial constructions of technologies and technological discourses. The body is so inextricably enmeshed with its surroundings and the technologies that support it, that representations of the body become indistinguishable from the mechanisms of its representation. Looked at this way the machine begins to labour with autonomy, with self-purpose, to manage its own processes, to point towards a new unsummoned product from its labours.

As mechanical reproduction has passed into digital reproduction, so new technologies have reshaped the perceiving body. The relationship between the image and the receiving body is now complicated by the processes of a new machine/human interpretative paradigm that extends into all of life.

In 1435, Alberti, in *Della Pittura*, described a surface onto which a projection of a scene could represent 3D reality in two dimensions. The construction of the Albertian grid allowed its users to map an accurate rendering of the world to a two dimensional surface in order to get a view of a scene by observing it through a thin veil, or *velo*. The idea is that we can get a *correct* image of some object seen through such a veil or a window by tracing the outline of the object on the windowpane. However, paradoxically, in the search for a truer representation of the world through the use of a drawing machine to produce more realistic images, artists found out just how distorted the world appears. On one hand the development of perspective allowed the reproduction of increasingly realistic images, but at the same time changed our sense of how pictures are produced. It allowed an observer to understand images not as windows on the world, or as simulation, but as perceptual constructions that are the product of machines and humans.

Context, place, participant

After the initial, decision on my part to initiate the process, the machine does the hard work of repeating a process loop many, many times. They are, without a guiding hand, to all intents and purposes, completely formal, devoid of intentional narrative content, and while exhibiting structure, they present as random images, more or less equal in value and weight, of similar significance and appearance, without apparent obvious meaning.

Images do not exist outside the world in which they are generated. They are connected to memory, to place, to society and its historical, economic, cultural and political moments. Even when obvious meaning is absent or withheld, the interpretative drive is strong. George Wolford at Dartmouth College finds that people find patterns in random sequences, even when they are told that the sequences are random. “There appears to be a module in the left hemisphere of the brain that drives humans to search for patterns and to see causal relationships …even when none exist." [6]

His research partner, Michael Gazzaniga has nicknamed this creative narrative generating part of the brain "the interpreter." [7]

What Wolford and Gazzaniga say is that we are driven to find pattern in randomness, that it is unavoidable, even when we are aware of the drive itself.

N. Katherine Hayles suggests:

The contemporary pressure toward dematerialization, understood as an epistemic shift toward pattern/randomness and away from presence/absence, affects human and textual bodies on two

levels at once, as a change in the body (the material substrate) and a change in the message (the codes of representation). [8]

This introduces a new category of subjectivity, an embodied hybrid of human and machine, that privileges pattern, and its opposite, noise, over the material and moves between the material and the immaterial. A new body acknowledges the absent. This body is biologically developed to see pattern and grant it significance in its dynamic mental model of its world. This is why degraded images can be recognized, why patterns can be seen in clouds, or in the noise of a television tuned to a dead channel. And it is why indeterminate images, patterns emerging from noise, can and must be reconfigured as images of things.

The works use this interpretative drive to explore physio-spatial memory, and as means to invoke recent and distant histories or invisible elements, and to create psychologically charged sites, building a narrative linked directly to the site through the perceptions and interpretations of images by a participating audience.

Meaning is always generated through relations between place, context and participant. [9] It is temporary and enduring, dynamic and stable, comprising many psychological, biological and emotional states, and systems of belief, and it is easily and continuously remade. Whether real or imagined meaning is bound to the physio-spatial context even as that context is bound to meaning.

In spite of its apparent randomness, there is a sense that these works embody a system of logic, reinforced by the means by which they are displayed and produced. False leads, blind paths, abound in the interpretation of the images, but what is perceived is that something is actually emerging from the processing that is generated directly from the machine, even when quite what that is remains elusive and uncertain. In this way the images are a visibly direct function of the space suggesting that something is being discovered, that something is being revealed - that something in the material of the space is at play in the generation of the texts.

The feedback loops generating the images recalls the difficulties contained within the Bootstrap Paradox, in which objects can exist even though they have never been created. This time travel paradox describes a situation in which information or an object is sent back in time, it is recovered in the present and becomes the very object/information that was initially brought back in time in the first place. It is this lack of original to generate an image that lays at the heart of the work and a digital uncanny. The forms that emerge represent only the inner workings of a machine system; yet often engender a feeling of an uncanny unbidden presence, the feeling of an otherworldly event.

The Uncanny

One of Sigmund Freud's original senses of the uncanny, that feeling of something appearing to have an inexplicable basis, beyond the ordinary or normal, seeming uncomfortably strange, included the notion of "the unhomely", the experience of strangeness associated with aspects unfamiliar to or out of place in house and family. Freud suggested that there might be aspects of the uncanny that arise from feelings that are usually not allowed to come to consciousness and remain unspeakable. For this project, this suggested that the withheld or concealed might give rise to a sense of the uncanny at the moment that such concealment or withholding is apparent. Moments of recognition of presence rather than absence, pattern rather than randomness, might give rise to feelings that are synonymous with the uncanny. These works leverage the momentary perception that there is something meaningful arising from a place where there should properly be nothing meaningful, as the basis to reconsider the machine as the source of some producer of meaning.

A similar effect, albeit one based in vision, can be seen in Michelangelo Antonioni's film Blow-Up. The main protagonist, Thomas, a photographer takes some pictures of a couple's meeting in Maryon Park, in Greenwich. When developed, the negatives reveal what seems to be evidence of a murder. Subsequent enlargements reveal what might be a body and a gun.

The black and white prints, enlarged until they show only blobs of silver particles are surely unintelligible. And yet they are obstinately open to interpretation. What do the photographs show – an innocent meeting, the scene of a murder, or are they merely an opportunity for one or more pareidolic or apophenic experiences? Cultural and biological compulsions and interpretations drive these random optical marks into patterns that demand to be recognized – and in turn more and more believed. A recursive loop forms – the more believable the images are the more they look like the subject's desires, and in the desiring the more believable they become.

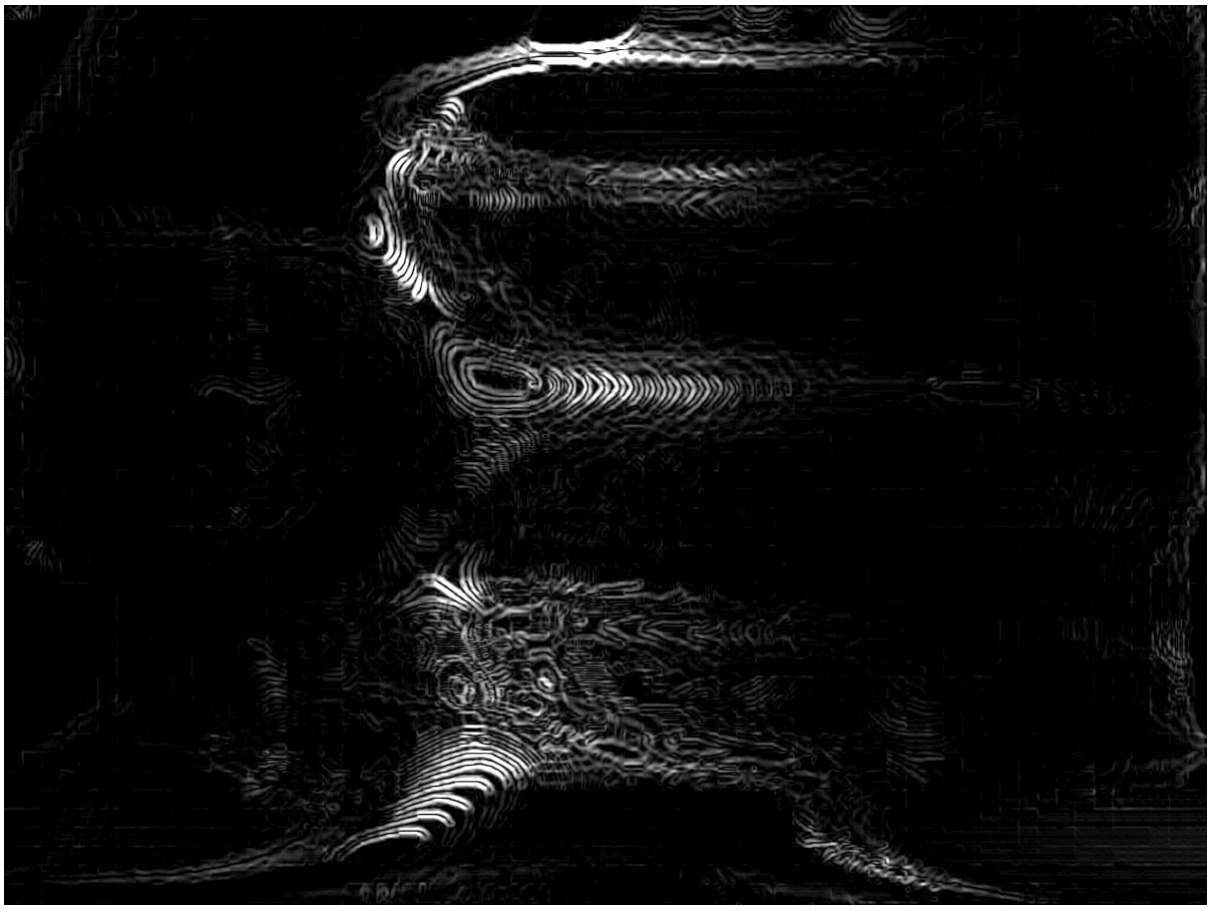


Image 7: Untitled, digital image © 2018

The works seek to use this experience of something made strange, through something hidden being revealed, to complicate a disturbance in the relational field made of the self, its surrounding space, and labouring imaging machines. As a participant sees images emerging from autonomous processes the results are perceived as meaningful and highly structured. Reconfigured through the lens of the uncanny, and the drive to find meaning, the images, like Antonioni's photographs, are remade as product of a symbiotic relationship between human and machine.

An audience is primed to respond in particular ways. Presenting these works in an art context affords a viewer with an experience that is familiar – it is at once an artwork that expects interpretation, it is cinematic, and it is further contextualized through a rational, computing process. Other contexts other locations will elicit different responses, but in all cases the drive to

interpret the images will be present.

A machine with any degree of autonomy enables an artist to eschew making aesthetic choices, but one tendency is for the machine to make overly formal and aesthetic images that are devoid of real content other than pattern, form and colour. Framing the work in particular ways, locating the machine as a connected to bodies places, and worlds, recognizes that the machine generates meaningful patterns that can act as emotional and historical triggers. That can like the traces of labour in earlier works acts as indices of past activities to invoke past memories and past emotions.

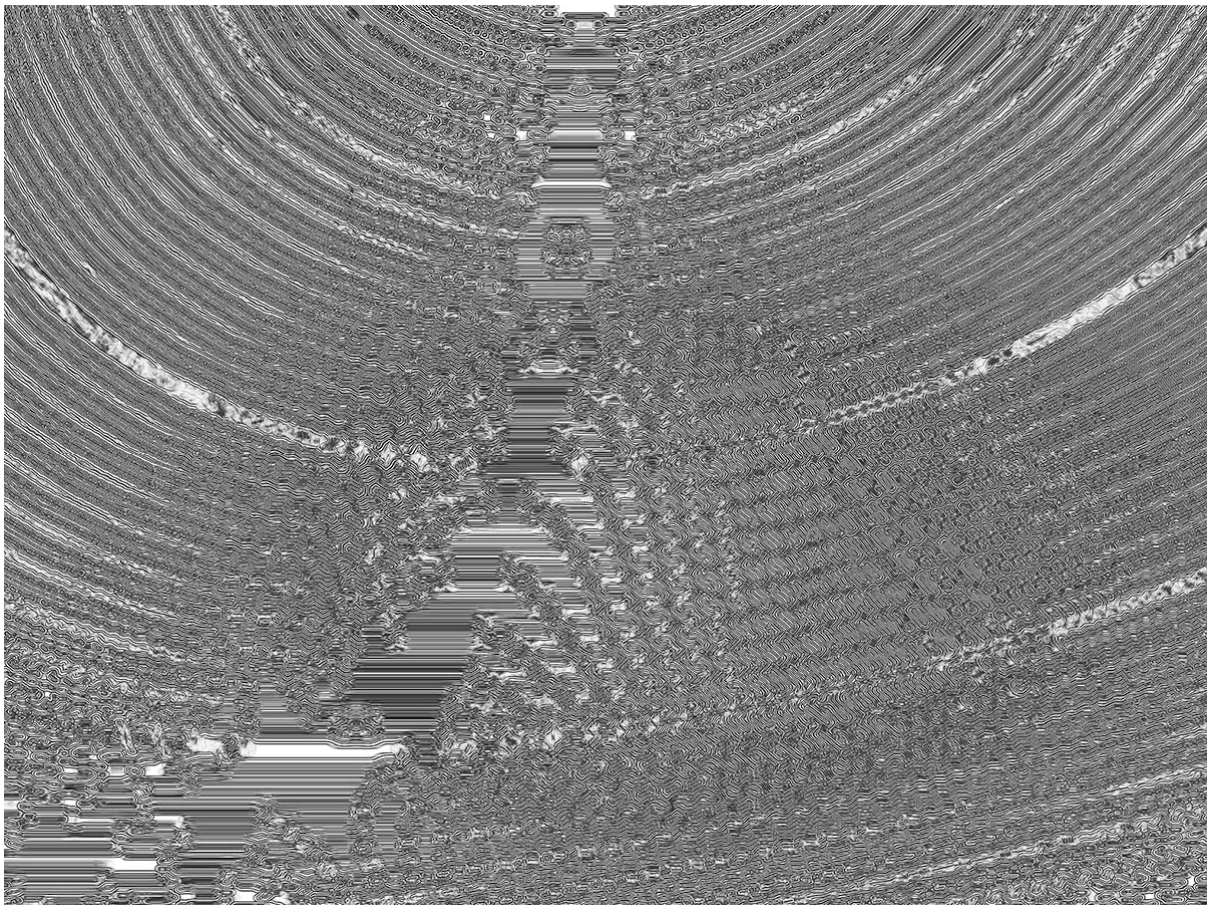


Image 8: Untitled, digital image, © 2018

Orhan Pamuk in remembering the recent passing of his friend Ara Guler the famed photographer of Istanbul writes:

"...the landscapes of the city eventually turn into a kind of index for our emotional life. A street might remind us of the sting of getting fired from a job; the sight of a particular bridge might bring back the loneliness of our youth. A city square might recall the bliss of a love affair; a dark alleyway might be a reminder of our political fears; an old coffeehouse might evoke the memory of our friends who have been jailed. And a sycamore tree might remind how we used to be poor. [10]

New works form the beginnings of a new means to develop installations and visual systems that use the relationship between an observer and an image generating machine to build a picture of the shared autonomy between machine and human. Previous work shows that interpretations of images are constructs that are not uniquely related either to the information that generates them nor the images themselves. They are a complex hybrid of machine, human interpretation, and artistic vision, which promotes a remapping of information beyond any functional value. This powerful drive

to fill in the spaces opened up by those parts of an entity that resist their informational links, produces what we might only think of as false positives, but in doing so brings into focus acts of cognition that are inextricably linked to the building of meaning, the understanding of narrative, and, in turn, to the structuring of the body. While earlier work used readable content – texts and representational images - this new work develops processes that use a combination of machine imagining and the apophenic and pareidolic impulses to construct meaning not so easily linked to prescribed index or information. The structures created are a function of the body used to observe them and the machine/human used to produce them. [Image 8]

The works embody the belief that the new technologies have not only altered our traditional understandings of observer and representation, through the development of visual spheres that are now structurally and conceptually different to the mimetic zones of film, television and photography, but also, and much more importantly, through what Virilio describes as: 'the splitting of viewpoint, the sharing of perception of the environment between the animate (the living subject) and the inanimate (the object, the seeing machine). [11]

This shift in consideration opens up the possibility that computational machines are mediums – as opposed to tools, and there are ways to think about the labour of a machine as inextricably linked to our bodies and our selves.

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