



White Stripes, "Fell in love with a girl"

DIRTY PIXELS

A particle of representation, a pixel is the self-same grain of an image, given meaning by its structured relationship with other pixels. The pixel is a poignant, sometimes even palpable symptom of digital culture. Visual atomism, gridding and breaking images into monochrome, indivisible chunks, has a history stretching from classical mosaic to grainy photo id. Dirty Pixels explores the anatomy of the pixel, the slice and dice of the grid that underlies much of our

visual culture. The artists in Dirty Pixels build worlds, fields of information from tiny repeating units.

The pixel is analogous to any other repeating element used to build a whole — the brush-strokes in a Seurat, grains of silver in photographic emulsion, stitches in a tapestry, any array of exchangeable components subsumed to the logic of a greater entity. In spite of existing only in informational space, pixelvision colours our worldview. Graphic fashion has seen the return of the pixel — bigger, bolder, more ironic. Chunky GIFs and jaggy fonts recall Lego-strewn bedrooms and all-night Atari binges.

As consumer-electronic grainlessness approaches with the highly rendered scenes of Playstation2, and the smoothly perfect synthespians of Final Fantasy, those blocky styles have retro cachet (not to mention quick download times).

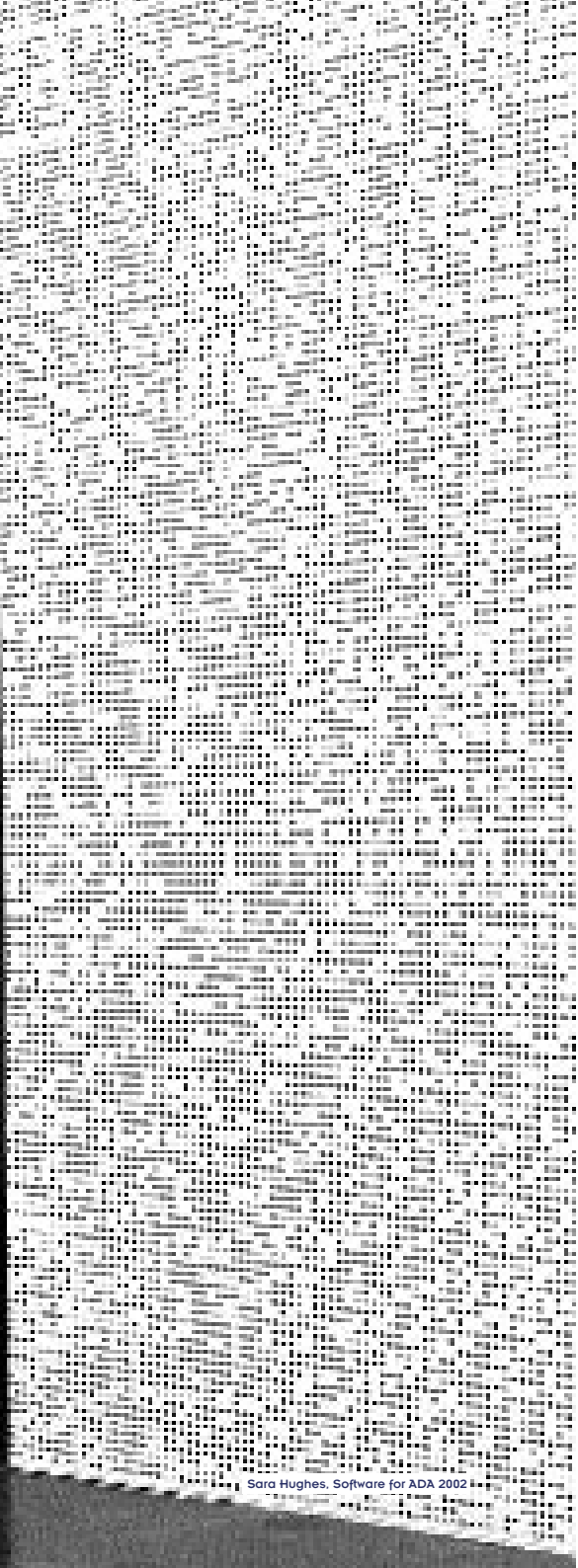
Dirty Pixels is about ideas and attitudes that feed into and out of digital culture, about corrupting a Cartesian dream. From Piet Mondrian's austere low-res boogie-woogie to heavily compressed jack-in-the-box porn, the grid gets grubby in the real world.

Dirt challenges the notional exchangeability of pixels, dirt has specificity, a pattern, it is locating. A dirty pixel is no longer an uninflected container of information: it has its own, corrupted character. How does a pixel get dirty? How does it become so corrupted? By coming down from the discreet binary world into the land of objects, by making the passage from the notional realm of numbers through the real-time crunch of dodgy hard-drives, crackly phone lines, flickering monitors and fugitive ink on paper.

The dirty pixel is rooted in synaesthetic thoughts about how pixels look, smell, taste. Lego is a key, remembering low-res childhood struggles to make buildings, or vehicles, or anything else for that matter, out of the small pile of available pieces. Imagine hard, indivisible pixels, like those little shiny plastic blocks. Sharp-edged, painful underfoot, roll them around in your mouth, suck on the hard plastic like insoluble candy, clacking against your teeth.



Michel Gondry's meticulous stop-motion Lego animation for Detroit band The White Stripes plays with this childhood analogy. In Fell in love with a girl Gondry





filmed the band, pixellating the footage and then building each blocky image frame-by-frame in primary plastic brightness. The resulting music video is a combination of low-fi and high-tech, echoing the arch simplicity of the one guitar, one voice, one drum of the artpunk duo.

The dirty pixel challenges the purported transparency of digital media, its supposed texturelessness. Not all pixels are equal. The resolution and quality of its component pixels make up the character of a medium — the coarse cathode blue scan lines of a television screen, the pale silky grey precision of an

LCD monitor. Pop artists knew this, lovingly painting the dot screen of the printed page, Roy Lichtenstein rendering every inky comic splotch.

Sara Hughes' work, *Software for Ada* is a swarm of grey spots, a haze on the white wall, like printed dots on a white page, or holes in a punch card. The work is a meticulous combination of the mechanically produced and the handcrafted: each vinyl spot sliced out by computer-controlled blade, then painted a specific shade — dove grey, battleship grey, bone black. Like pointillist wallpaper the work frames the doorway, folding around the gallery surface, flickering and shifting

its dimension. Digital photos of the work dissolve into moiré patterns as the grid of the camera display overlays the dot screen of the work.

Unbuttoning the coat, he thrust his hands into the trouser pockets, the better to display the waistcoat, which was woven in a dizzy mosaic of tiny black-and-white squares. Ada Chequers, the tailors called them, the Lady having created the pattern by programming a Jacquard loom to weave pure algebra.¹

— William Gibson and Bruce Sterling, *The Difference Engine*.

Software for Ada references Ada Lovelace, recently resurrected mathematician, daughter of Lord Byron, and collaborator of nineteenth-century inventor Charles Babbage. Babbage was the inventor of the Difference and Analytical Engines, machines that foreshadowed the modern computer. Ada herself has been hailed as the first computer programmer. The revival of interest in these eminent Victorians marks the reentanglement of the computer, historically stereotyped as a masculine technology (notwithstanding all those women labouring in the cleanrooms of microchip factories) with the history of weaving. The punched card programmes of old room-sized mainframes are again intertwined with the punched pasteboard patterns of steam-powered Jacquard looms, cards which enabled them to weave complex scenes of foliage, flowers, fruit.

The hygienic labour of the shrink-wrapped cleanroom worker is not so distant from domestic handiwork. As the history of the computer is reconnected to the history of the loom, feminist historians have traced occluded female labour from Victorian textile worker, to the crisp-haired and bright-suited ladies tending corpulent mainframes, to today's electronics assembly

piece-workers, labouring long hours with dangerous materials for little pay. The pixel has dirty hands.

DOT HATRIEX

The embroidery Tuesday, 3 July 2001, 10:38 am is a stitch-for-pixel representation of my computer screen, bearing the datestamp of the desktop snapshot it replicates. The time-consuming and often communal labour required to replicate the now commonplace metaphors of the Graphical User Interface forms part of the work. Taking over a year to complete, the production of the embroidery was an experience of the embodiment of information. Analogous to a rendering process, every stitch of thread has run through human fingers. Minor deviations from the pattern mean no two file icons are identical. Alterations in tension and thread colour are other indications of the hand-made. Making the work was a journey into all those Photoshop commonplaces we take for granted — you'll never feel the same about anti-aliasing once you've done it by hand. Often I had the sense I had shrunk, and was crawling across the desktop as if across some enormous terrain.

Tuesday, 3 July 2001, 10:38 am is a self-portrait, a mapping of a personal space. The work represents a world unto itself — the mnemonic device of the hard drive — but simultaneously points away, to the technologies it is a component part of. While the embroidery represents a specific desktop image of a particular computer at a precise moment, it also refers out to all other similar desktops constructed according to the metaphors of the Graphical User Interface.²

Obsessive, repetitive labour characterizes the works in *Dirty Pixels*. Strange programmes are rigorously implemented. Working on standard 1mm graph paper, Martin Thompson builds up paired drawings,

squares of meticulously rendered pattern. The drawings' creased and dirty edges betray the time and labour contained in their construction. Thompson draws freehand, colouring directly, using tape and scalpel to graft new sections and erase errors. The artist builds fields of intricately arranged blocks, shapes with intimations of stars, Pac-men and snowflake-patterned knitwear. Order and symmetry are apparent, but at times the images almost teeter into white noise. Thompson's preferred Day-Glo inks create shimmering figure-ground ambiguities. The tiny squares swarm, resembling the glowing phosphenes of hallucinogenic or closed-eye vision, the white noise of the eye.

LOSS

The dirty pixel draws on notions of digital decay, particularly on Lev Manovich's argument that lossy compression, the squeezing out of information in order to fit large amounts of data down narrow channels, or onto say, a DVD, represents the true aesthetic of digital media.

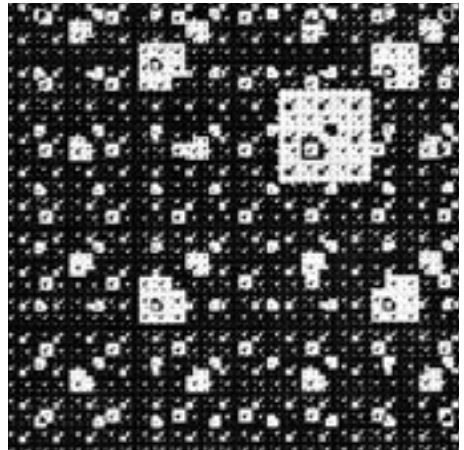
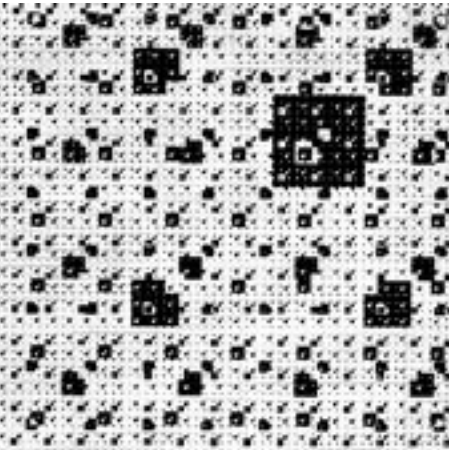
...rather than being an aberration, a flaw in the

otherwise pure and perfect world of the digital, where not even a single bit of information is ever lost, lossy compression is the very foundation of computer culture, at least for now. Therefore, while in theory computer technology entails the flawless replication of data, its actual use in contemporary society is characterized by loss of data, degradation, and noise.³

— Lev Manovich, *The Language of New Media*.

Taking Manovich's lossy aesthetics to their logical extreme, Tim Ryan's work *Crash Media* riffs on the fancy algebraic compressions we rely on to digest video and sound into bandwidth-friendly formats. Ryan crunches and stretches the stream of digital images till the colours smear and pixels dissolve into blocky swarms. There is a sympathy between the panel-crunching car crashes he samples and the grinding codecs he abuses. Transformed by this process into ambiguous boiling, tumbling smears and blocks of colour, the footage occasionally reveals a recognisable glimpse of wheel or fender through the algorithmic haze.

THE GRID



The pixel gains meaning through its co-ordinates, its insertion in the Cartesian grid. The order and evenness of the grid, its democratic distribution, rules the pixellated image. Uncompressed, it is a uniform, continuous space.

In her 1978 essay, "Grids", Rosalind Krauss draws a distinction between two types of grid. Firstly she describes the perspectival grid of Leonardo or Dürer, where the perspective lattice structures the transformation of perceived space onto the picture plane, and secondly the self-contained use of the grid in modern art.

Perspective was the demonstration of the way reality and its representation could be mapped onto one another, the way the painted image and its real-world referent did in fact relate to one another... everything about the grid opposes that relationship... if it maps anything, it maps the surface of the painting itself. It is a transfer in which nothing changes place.⁴

— Rosalind Krauss, "Grids" *The Originality of the Avant-Garde*

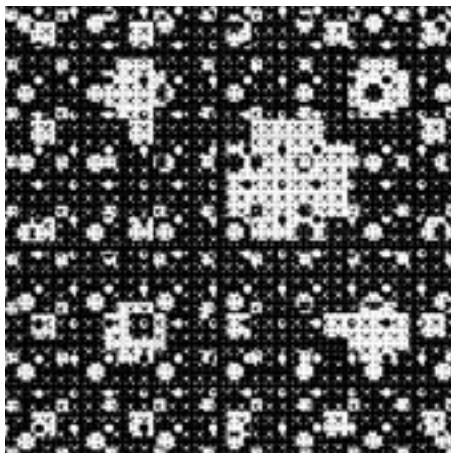
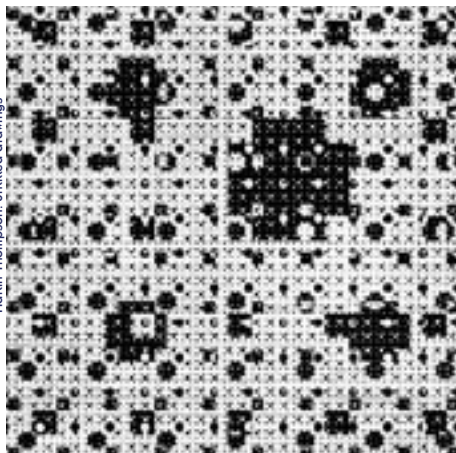
Krauss asserts that perspective contains an indissoluble tie to the representation of an external world,

while the modernist grid refers back only to itself. But technologies of perspective, and the contemporaneous development of accurate cartography have worked to impose the abstract lines of the grid onto the form of the land. Conversely, modelling software is designed to generate perspectively accurate renderings of imaginary wire-frame landscapes.


Joyce Campbell's sprawling photographic grid *LA Bloom* confounds this distinction between the grid as the structuring logic of a landscape and the grid as a world unto itself. *LA Bloom* is a series of photograms infected with the images of fungi and bacteria gathered from around Los Angeles. From her field samples, the artist inoculates nutrient agar plates the same size as the final photogram. Days or weeks later, after the colonies of microbes have grown into their characteristic splotches and nets, the plates are direct printed onto cibachrome paper. Created in a one-to-one relation without recourse to camera or lens, they resemble Borges' tale, related by Baudrillard, of a one-to-one scale map of a kingdom lying obscured beneath it.⁵

LA Bloom traces the grid of Los Angeles. The photograms are arrayed on the wall according to

Martin Thompson, untitled drawings





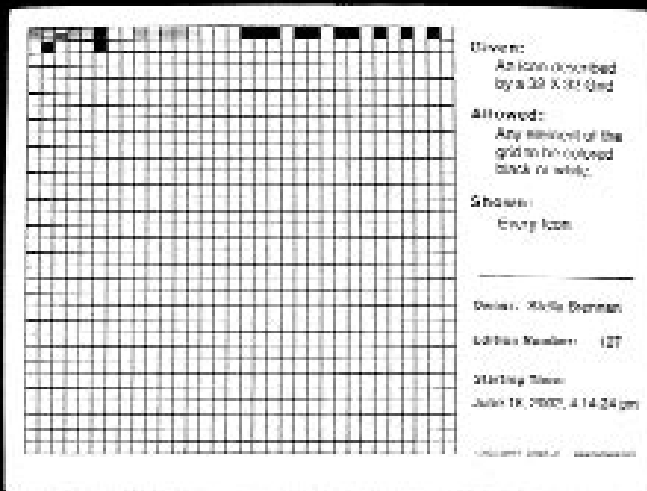


the location of their parent samples in the plan of the city. These microbial samples stand in for landscape, the invisible city of spores and scrapings. The photograms trace the colonies' slow spread across their agar terrain, revealing in grainlessly intimate detail delicate tendrils, greasy spots, the odd stray hair. In total, the work creates an image of the sprawling city, formed from the bodies of its lowliest inhabitants.

How does a pixelated image differ from these chemically produced photographs, where grains of silver in emulsion serve the same recording purpose as the raster grid? Converting images to binary information gives the digital image its main distinction, its mutability. In its coded essence the pixel can contain many different values, represent many kinds of image, whereas once a film is shot or paper printed, it is capable only of accreting more images. The photographic emulsion cannot shake itself off, wipe itself clean and begin again. *LA Bloom* complicates the relation between the cold, hard Cartesian pixel and goopy self-replicating organic worlds. Cells, subsumed to the logic of the colony, are, like the pixel, or like the grain of the cibachrome paper that images them, similar parts of a greater whole.

LA Bloom exhibits the indeterminate scale we experience in a world where libraries are folded into the surface of an etched wafer of silicon, where resolution, the level of detail in an image, is unhinged from its physical dimension. Diminutive in relation to the city grid that forms its structuring logic, Campbell's grainless photograms encapsulate vast fields of data. In terms of stored visual information they are enormous. This ambiguity enables each agar plate to form its own microcosm. It is only the dirt and hairs trapped in the photograms that pop the work into scale.

Dirt has specificity, it is evidential, showing pas-



John Simon Jr. EveryIcon 1997

sage through the world, and acting as a marker of authenticity. The two channel video work *Zen DV* uses the built-in *Dust and Scratches* filter from the video editing software *Final Cut Pro* and a preprogrammed *Record Noise* plug-in. The filters are applied to video signal generated by the software itself — bluescreen and bars and tone — images and sound that mark an absence waiting for information (bluescreen) or an equipment test (bars and tone). The filters emulate on digital video the degraded emulsion of film stock and the hiss and scratch of old vinyl.

Zen DV plays on the strangeness of simulacrat

dust and scratches and pays homage to Nam June Paik's 1965 work *Zen for Film*. Paik's film plays out in light John Cage's aleatory means of constructing artworks. *Zen for Film* is a clear loop of film with no sound-track. The array of injuries to the film's surface creates the work. *ZenDV* is subject to different kinds of loss than Paik's slowly degrading loop — image compression, smears and scratches on the surface of the disc — but unlike the film which is eroded by each performance, the scratched and dirty image that the digital video presents will be the same the first and the thousandth time it is played.

ZenDV also bears a strong relation to Paik's work Zen TV. Paik manipulated the scanning beam of a television so that it formed a single line. The electron gun, rather than playing democratically over the screen's surface then accreted every scan line on top of every other. The visual information was compressed into a tiny strip of indecipherable light running along the center of the screen. Modifying a mass medium to extract new meanings from it, Zen TV is, in retrospect, a parable of compression — all the flickering data of the televisual image flattened into a narrow band of light.

The vagaries of chance embraced by Cage and Paik in generating artworks are rigorously excluded by the mathematical permutations programmed by John Simon's 1997 work *EveryIcon*. The work displays a 32 by 32 pixel grid, the standard dimension of computer icons. The grid is bitmapped black or white, on or off, and within this tiny universe every possible combination is trialled by the software. The grid flickers as the computer's processor runs through thousands of possibilities per second. But even in this constrained environment the time required to exhibit all possible combinations will exceed the life of the universe. Chance is excluded, but only notionally.

Once I went to Texas, to Donald Judd's Chinati Foundation. We weren't allowed to take pictures of the artworks there, so I spent my time photographing the animals and plants slowly invading the blank minimal structures — the tendril of grass forcing its way between two concrete slabs, the spiders in the corners. For me the photographs became images of the exaggerated entropic state of these programmatic artworks. Like the dirty pixel, the cobwebbed Judd snaps into specificity. Its equivalence and replicability are compromised. No longer a subset of an infinitely extending system, it is located by that blade of

grass and that spider, placed in a field under the hot afternoon sun with the tourists and the rattlesnakes.

Like the primary structures of Judd's concrete cubes, you could think of a monochrome as an image of a single pixel. Think of Malevich's white square, tilted, self-contained, grubby with the passage of time. Perfectly self-reflexive, yet marked by its yellowing pigment as a historic artifact. Similarly self-contained, the pixel shines. Hanging in dark Cartesian space, pinioned on a fixed axis, a radiant mathematical possibility. But once a pixel comes down into the world, once it stops being an abstract sequence of numbers, once a pixel decays, gets dirty, fingered, reconfigured, it exits the virtual. Once this particle of representation becomes a familiar object of use it becomes ours. As a pulse of pure electricity it is clean, discrete and distant, but as we draw it through the smeary depths of the screen it becomes our own.



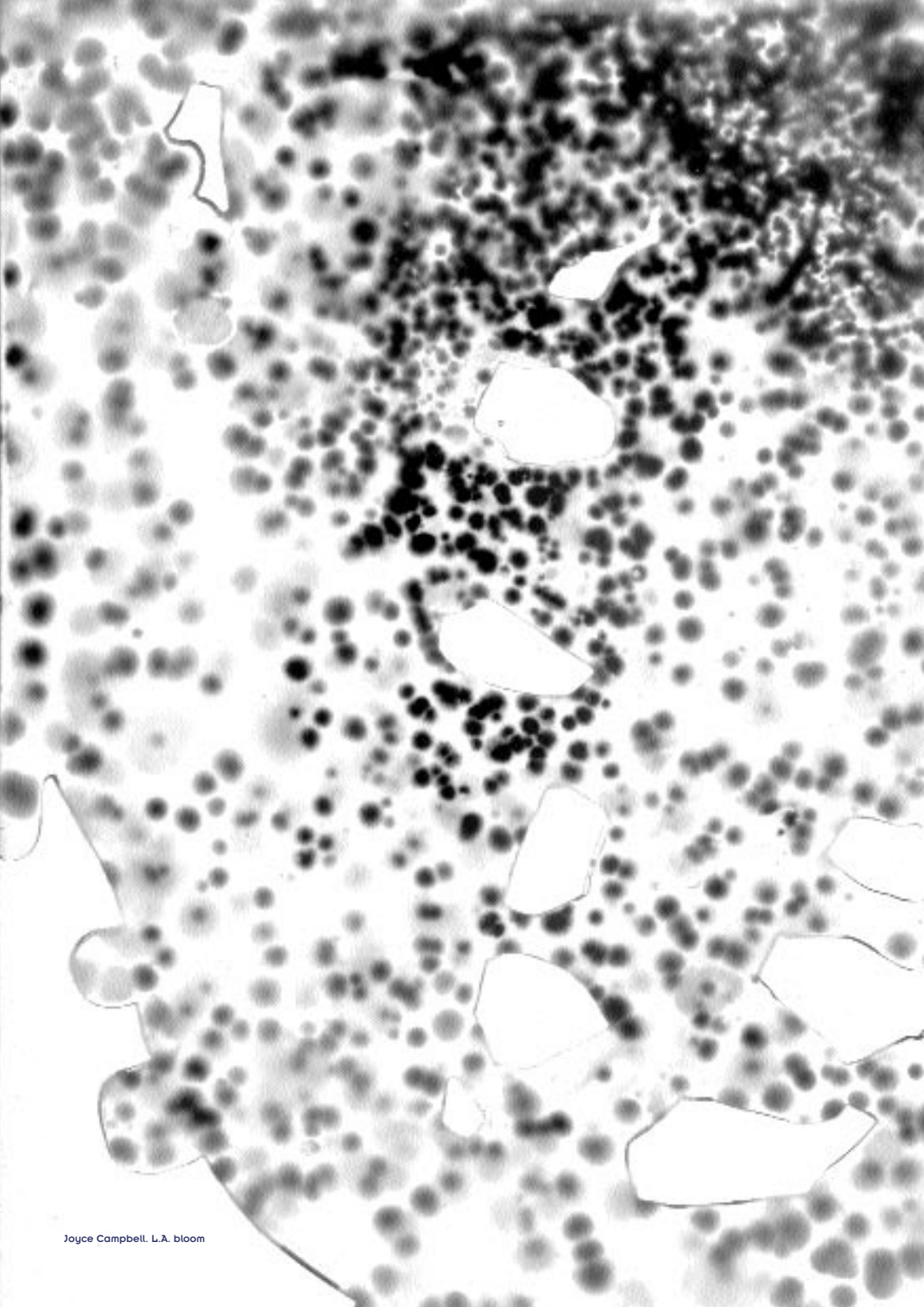
1. Gibson, William and Bruce Sterling. "The Difference Engine" quoted in *Zeros and Ones* Sadle Plant London: Fourth Estate 1997 p23

2. This pointing is literally depicted in the Microsoft Internet Explorer icon: a small, pink, generic hand points to a globe. The cartoonish paw traces lines of power, its indicating finger touching down somewhere around New York.

3. Manovich, Lev. *The Language of New Media* Cambridge, Massachusetts: MIT Press, 2001 p55

4. Krauss, Rosalind. "Grids" *The Originality of the Avant-Garde and other Modernist Myths* Cambridge, Massachusetts: MIT Press, 1985 p10

5. Baudrillard, Jean. "Simulations" translated by Paul Foss, Paul Patton and Philip Beitchman. *Semiotext(e)* New York 1983 p1





The pixel, or picture element, has a history preceding its appearance on our computer screens. In its essence the pixel is a type of module, a repeating element used to build — and to rebuild — a larger whole. As a building method and as a philosophy, as a material, as a graphic element and as an informational medium, we have lived in and seen the world through the pixel in every age.

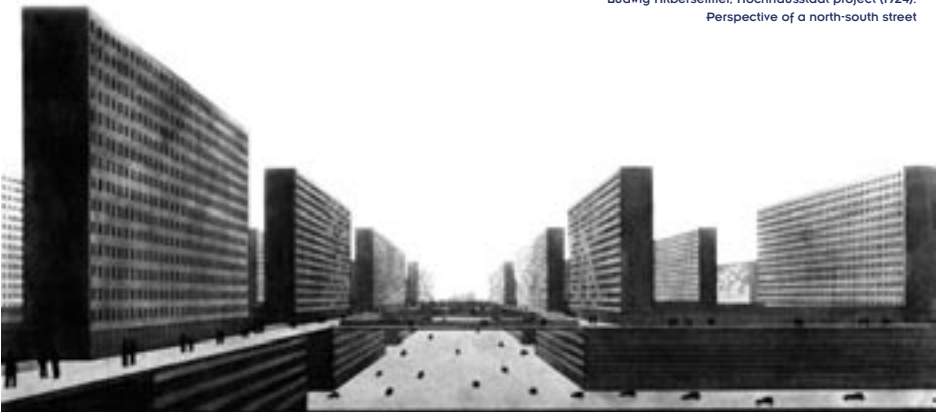
Stacked and overlapped, the artwork, architectural dreams, cybernetic experiments and decors heaped upon these pages remind us of our fundamental relationship to these discrete units, repeatable elements, and modular connections. This text is a composite image tracing our compulsion towards all things modular. Plunging cores through these accreted layers, we may magically telescope from the micro to the macro, backwards and forwards through time and space, forever constructing Utopian futures with elements disassembled from the shortcomings of our past.

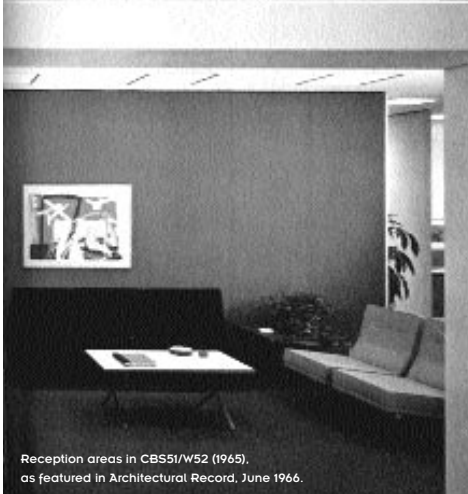
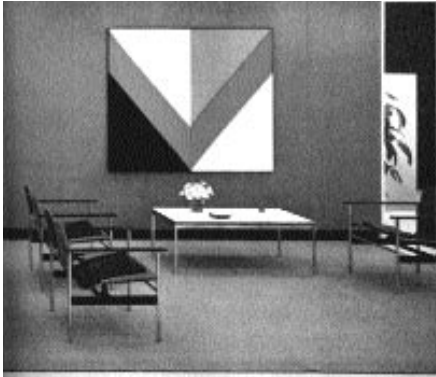
The module leads in two directions: toward a self-affirming organicism on one hand; toward the dissolution of the object and its maker on another. Often it leads in both directions at once. In its organic mode, the module is the expression and affirmation of the rational subject — the building block of nature, it echoes the shapes and behaviours of organic life. This abstract qualia permits us to explode the objective world and reassemble it as a home around us. In its latter mode, the module represents protest, the resigned expression of aesthetic fatigue, and a challenge to essentialist and biological thinking. Now the compositional hierarchy of the modular is threatened with dissolution, and with it, the image of the subject that reflected upon it. The picture element has become a death drive — the perfect inhumanity of the cleanly divisible unit.



Infinitely reproducible, without orientation or identity, the module threatens concepts of place or space.¹ For architect Ludwig Hilberseimer, the single building is no longer an object; it is only an instance in which

Ludwig Hilberseimer, Hochhausstadt project (1924).
Perspective of a north-south street





Reception areas in CBS51/W52 (1965), as featured in *Architectural Record*, June 1966.



“elementary cells” combine into physical form: “The single room as the constituent element of the habitation will determine the aspect of the habitation, and since the habitations in turn form blocks, the room will become a factor of urban configuration, which is architecture’s true goal”. A single technical principle will fulfil all programmatic requirements.²

Relentless repetition. The solution to the crisis of the machine is to be found in the machine itself. But where is the architect in these designs? In this resigned city — a cold Utopia of form, not content — the architect no longer attends to design. Instead,

the architect organizes objects into processes, and plans for their future iteration.

+1+1 (1958, 1965)

Vase to table, table to couch, couch to wall, wall to painting. Aspiring to total image control, a *Gesamtkunstwerk* for the glory of the Modern Corporation, Florence Knoll Bassett’s interior design for CBS’s 1965 New York City headquarters was the embodiment of total modernist design at the service of postwar corporate America.

In CB551/W52 (as the building was christened) Bassett employed picture elements to enjoin human scale and organizational clarity to the anonymous modern corporation. The picture element became an index, a code to orientate the worker and the visitor within the corporate labyrinth.

Up and down a vertical axis 35 stories tall, each floor of Bassett's design offered a series of carefully inflected variations upon the same basic arrangement. This indexical ordering ensured each floor of the tower was the same as the next, while, importantly, maintaining difference.

The raw material involved in Bassett's scheme was enormous. With 3,000 paintings, prints and lithographs, 899 species of plants, numerous families of designer furniture, and a year-round roster of fresh flowers, Bassett ensured that every part of the building received its own calculatedly unique complement of colours and textures, regardless of the season.³

As a generating algorithm — no different in principle from the rule-based art systems practiced outside the office by the likes of Barry Le Va or Sol Le Witt — Bassett's design coded consistent relationships between office décor and the programming of the

workspace.

Where Bassett's design for CBS organized the corporation like a stack of Cuisenaire rods, a solution to the density and verticality of midtown Manhattan, IBM had begun to use the module to spread itself outward across the landscape in Minnesota. Replacing a prewar top-down corporate structure inherited from his father, ("...the first thing we did was to break Dad's taboo against organization charts") Thomas J. Watson Jr. reordered his company upon the systemic, open-ended logic of the module.⁴ Effortlessly telescoping between scales, connecting the micro to the macro, the core to the periphery, the module allowed IBM to disassemble itself across the globe.

Eero Saarinen's IBM Manufacturing and Training Facility, Rochester, Minnesota (1958), embodied the new imperative. Here the architecture inculcated the principle of modular flexibility at every level, from the two-toned blue stripes on its space-age porcelain-enamelled aluminium skin, to the chunky, pop-up positioning of the buildings upon the site. Saarinen designed the facility to eventually double in size. Seen from the air, the complex's checkerboard massing clearly reveals the modular progression that fur-



IBM Manufacturing and Training Facility, Rochester, Minnesota, 1958. Eero Saarinen, Architect. Photograph: Baltazar Korab



IBM System/360 Model 85 in the Poughkeepsie "white room", New York, c.1968

ULTRAMODERNE

The Century apartments, New York City.



ther expansion would take.⁵

The same principle of interconnectivity was being developed amongst IBM's computers. By 1968, the System/360 Model 85, with its coordinated boxes and uniform colour scheme, arrived as the world's first family of computers, a design and marketing strategy commonplace to us today. The likeness shared between the members of this "family portrait" and Saarinen's manufacturing plant is not coincidental.

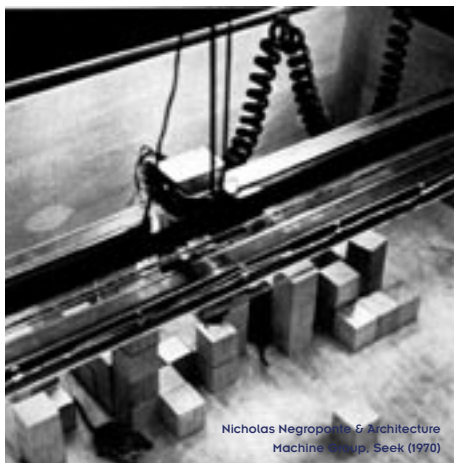


In his essay "Quasi-Infinities and the Waning of Space" Robert Smithson frames his obtuse, atomized declarations within a field of quotes and illustrations, themselves exploded and atomized from their original contexts. From Wilhelm Worringer's book *Empathy and Abstraction* he samples the notion, "As a sensuous object is still dependent upon space, it is unable to appear to us in its closed material individuality." And "Space is therefore the major enemy of all striving after abstraction..."⁶

The digital objects — drawn, captured or rendered images — that radiate from the phosphors of our

computer screens are aspatial. Might, then, the computer offer the kind of experience Worringer believed the plastic arts were never to obtain? But the digital aspatial is purely abstract — it denies the "material individuality" Worringer had hoped such an environment might reveal. Atomized in rows on the electronic screen, redrawn again and again each second, the digital object can never obtain the "wholeness" of its material counterpart. A weak structure, the digital object's transcendence of spatial constraints comes at the price of its material integrity.

Like *Star Trek's* "Borg", the loss of any one pixel from the digital object will not affect the whole; indeed, its loss will hardly be noticeable. Is it the same object after such a substitution has occurred, or is it a different object altogether? An extended series of such inconspicuous changes over time might change the object entirely, yet the change itself, from one iteration to the next, would be imperceptible. As media theorist Friedrich Kittler has noted, "Now, for the first time in the history of optical media, it is possible to address a single pixel in the 849th row and the 720th column directly without having to run through everything before and after it...it deceives the eye which is



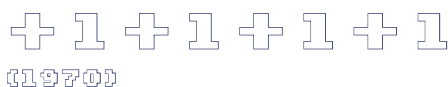
meant to be unable to differentiate between individual pixels, with the illusion or image of an image, while in truth the mass of pixels, because of its thorough addressability, proves to be structured more like a text composed entirely of individual letters.”⁷

Smithson’s textual fragments resonate against Kittler’s description of the effects of digital media. Just as the digital image dissolves into discrete bits of information — each bit discontinuous and absolute, even as it is part of the system — so Smithson reassembles his broken quotations in such a way that their discrete identities can always be recovered.

The spatial and temporal implications of these “picture elements” are further developed in Smithson’s essay “Ultramoderne,” a theoretical paean to arriere-garde architecture of the 1930s.⁸ At pains with organic, evolutionary and self-perpetuating forms of modernity, Smithson advocates an alternative, a cyclical and algorithmic spatio-temporal manifold, where the object of experience is configured and reconfigured in a cyclical fashion: “...a paradigmatic or primordial infrastructure, that repeats itself in an infinite number of ways. Repetition not originality is the object.” In the

realm of the “Ultramoderne”, objects have the same weak identity as digital objects.

Like dirty pixels, air conditioners now encrust the windows of the Century Apartments, the building whose “intricate configurations” and “geographic topographies” illustrated Smithson’s essay. Cubic protrusions into the “rectangular valleys” and “islands” of the façade, the units might be taken to represent the continuing presence of the “Ultramoderne”, its “prime” crystalline configurations erupting through the visage of modernity that Smithson contested. The fruits of the serial production of a different era, the air conditioning units corrupt the façade’s integrity. Like undesirable elements in electronic data that make it unusable or unreliable, these dull boxes corrupt readings of the building built upon modernist notions of beauty, organicism and progressive development. The Century Apartments becomes an unreliable historical object, and so dissolves before us, like pixels upon the screen.



In 1970 art and technology theorist Jack Burnham curated “Software: Information Technology: Its Meaning for the Arts,” an exhibition predicated on ideas of software and information technology as metaphors for art, and, more ambitiously, modern life. A proponent of New York’s burgeoning conceptual art scene, Burnham was responsible (among others) for introducing the languages of computer technology and cybernetics to the art world. Burnham was a former fellow at Gyorgy Kepes’s MIT Center for Advanced Visual Studies and editor for *Arts Magazine* and *Artforum*. He conceived of “software” as parallel to the concepts that underlie the formal embodiment

of the material art object, which in turn paralleled “hardware.”⁹

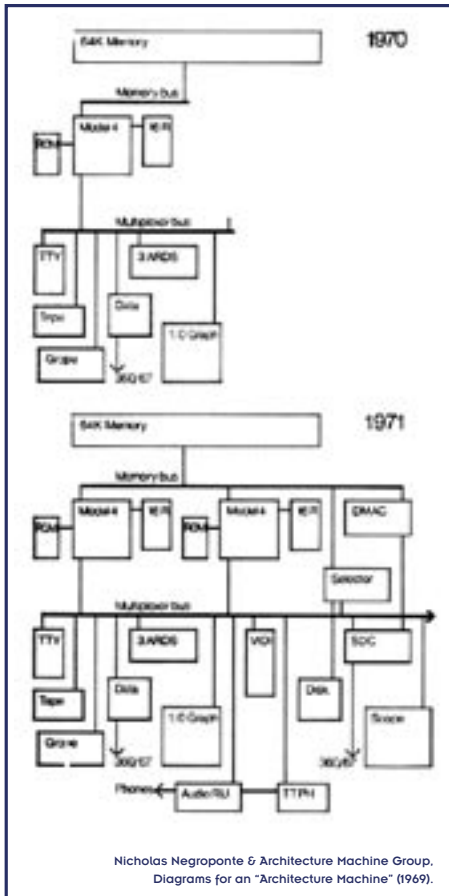
In Software, MIT Professor Nicholas Negroponte and his Architecture Machine Group presented Seek, a computer-controlled robotic environment that, at least in theory, cybernetically reconfigured itself in response to the behavior of its inhabitants. An organic machine, Seek consisted of an array of stacked building blocks inside a giant vitrine, a computer-controlled grappler on a motorized track above, and a small community of furry gerbils below. Scuttling their way through the elementary environment distributed

by the grappler, the gerbils disarrayed the blocks, disturbing Seek’s programmed pattern. The computer would then rebuild the environment to the gerbil’s behaviour, modifying its programmed memory of the block placement, thus educating itself through a cybernetic feedback loop.¹⁰

As Gyorgy Kepes might have described it, the cold, hard module and high-tech grappler had fused into a new organicism with the gerbils below, “a self-regulating, interdependent, dynamic pattern that moves from yesterday into today and from today into tomorrow.”¹¹ Was Seek, as Jack Burnham enthused in the exhibition catalogue, a model for the self-perfecting city of the future?

Every feedback system contains noise. Paradoxically, the return signal that refines the system’s performance carries distortion, slowly and unalterably changing the original transmission’s content. The reintroduction of the system’s past performance regulates — and also destroys — its future behaviour.¹² A second photograph of Seek taken up to a month later shows the building blocks accumulated in a series of stocky closely-stacked towers. Had Seek developed its design toward the increasing “exclusion” of the destructive gerbils below? Presuming the gerbils could not topple the density of a large pile of blocks, the stacking action appears to be nothing short of such a fortress mentality.

Seek had begun to obsolesce, exhibiting a kind of structural blindness. The seemingly simple refinement of a schematic design to the requirements of an unknown variable unknown all too clearly revealed the limitations (and dangers) of this new robotic organicism. Whether Seek did or did not truly exclude the gerbils — and whether they would have noticed — is not important. Rather, the experiment offers a lesson in the dangers of technological determinism,



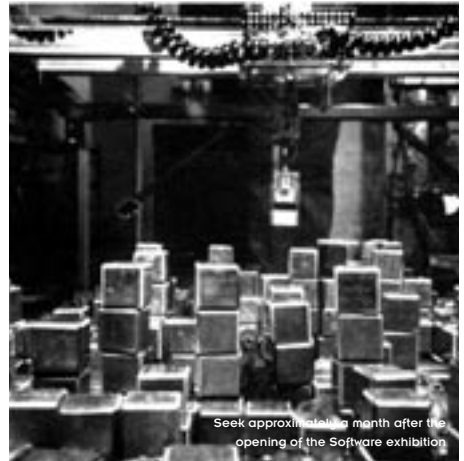
of the "self-regulating, interdependent, dynamic pattern that moves from yesterday into today and from today into tomorrow."

As Smithson's "Ultraist" structures can be rediscovered in the digital realm, so can the forms of organicism he contested. The self-conscious evolutionism championed by computer programmers — the hypothesis of aesthetic and social change as progressive and Utopian — lies firmly in the tradition of an outmoded modernity.¹³



Even and perfect, the city lies amid green lawns, sunny hills and wooded mountains; slim, tall sheets of continuous buildings intersect in a rigorous, square mesh, one league apart. The buildings, or rather the single, uninterrupted building consists of cubic cells 5 cubits each way; these cells are placed one on top of another in a single vertical stack, reaching a height of a third of a league above sea-level, so that the relative height of the building varies in relation to the level of the ground on which it rises. Each cell has two external walls. Cell walls are of opaque material, porous to air, rigid, but light. The wall facing north (or if this is an external wall, the wall facing west) is capable of emitting 3D images, sounds and smells. Against the opposite wall is a seat capable of moulding perfectly to the human body, even of enclosing it completely. Incorporated in this seat is an apparatus for satisfying all physiological needs. When not in use, this membrane and all apparatus withdraw and the wall reforms. The floor is a simulator, and can evoke all sensations of living things. The ceiling is a brain-impulse-receiver.

In each cell is an individual whose brain impulses



are continually transmitted to an electronic analyzer set at the top of the building, beneath a continuous semi-cylindrical vault. The analyzer selects, compares and interprets the desires of each individual, programming the life of the entire city moment by moment. All citizens are in a state of perfect equality.

Death no longer exists. Sometimes someone indulges in absurd thoughts of rebellion against the perfect and eternal life granted to him. At first the analyzer ignores the crime; but if it is repeated, the man who has shown himself unworthy is rejected. The ceiling panel descends with a force of two thousand tons until it reaches the floor.

At this point, in this marvellous economy, another life is initiated. The panel returns to its original height, and all the individuals living in cells within a distance of a quarter of a league from the empty cell donate an ovum or a group of spermatozoa, which are transported in channels created for this purpose in a mad race to the now-empty seat. Here, an ovum is fertilized and the seat is transformed into a uterus, protecting the new son of the city for nine months, until his happy dawn.

Superstudio, "2,000-ton City"¹⁴

for Architecture, 2000 p146

5. Ibid. Martin, p154

1. Tafuri, Manfredo. Architecture and Utopia; Design and Capitalist Development Cambridge, Massachusetts: MIT Press, 1976 chapter 5

2. Hays, K. Michael. Modernism and the Posthumanist Subject: The Architecture of Hannes Meyer and Ludwig Hilberseimer Cambridge, Massachusetts: MIT Press, 1995 chapters 5 & 6

3. See Conway, Patricia L. "Design at CBS" Interior Design #13, February 1966 pp.48-56; also Robert Stern, Thomas Mellins and David Fishman New York 1960: Architecture and Urbanism between the Second World War and the Bicentennial New York: Monicelli Press, 1995 p409

4. Martin, Reinhold. "Computer Architectures: Saarinen's Patterns, IBM's Brains" in S. Williams and R. Legault (eds.) Anxious Modernisms: Experimentation in Postwar Architectural Culture Montreal: Canadian Centre

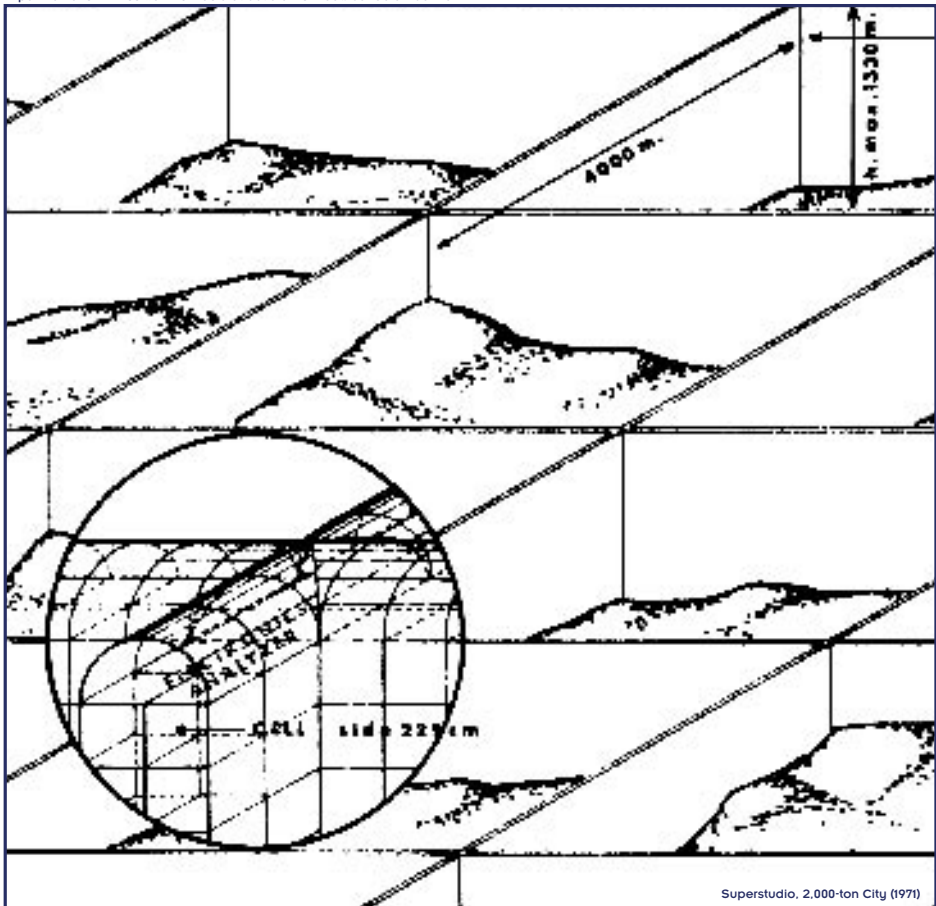
6. Smithson, Robert. "Quasi-Infinities and the Waning of Space" Arts Magazine 41, #1 November 1966 p31

7. Kittler, Friedrich. "Computer Graphics: A Semi-Technical Introduction" Grey Room 02, Winter 2001 p32

8. Smithson, Robert. "Ultramoderne" Arts Magazine 42, #1 September-October 1967 pp31-33

9. Shanken, Edward. "The House that Jack Built: Jack Burnham's Concept of "Software" as a Metaphor for Art" Leonardo Electronic Almanac 6:10, November 1998

10. See Ashton, Dore. "Software=Everywhere" Studio International V180, #927 November 1970 pp200-202; Billie Vinklers, "Art and Information:



Superstudio, 2.000-ton City (1971)

LIST OF WORKS

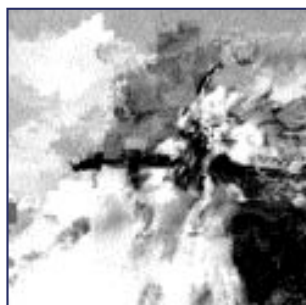
ALL WORKS COURTESY OF THE ARTIST, MEASURED IN MILLIMETRES HEIGHT BEFORE WIDTH



WHITE STRIPES

"FELL IN LOVE WITH A GIRL" FROM THE ALBUM WHITE BLOOD CELLS 2002

VIDEO DIRECTED BY MICHEL GONDRY, 1 MIN 50 SEC
WITH THANKS TO SHOCK RECORDS



TIM RYAN

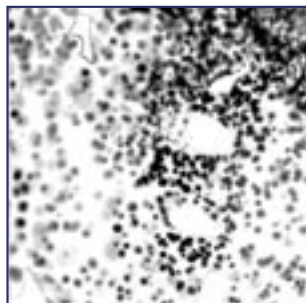
CRASH MEDIA 2001

DVD PROJECTION, 62 MINUTES



Stella Brennan

Tuesday, 3 July 2001, 10:38am 2001-2002
cotton on canvas, 860x 1150 mm



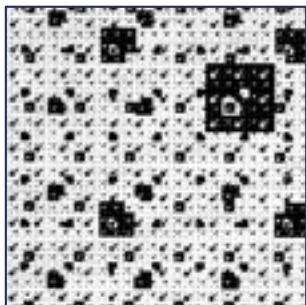
Joyce Campbell

L.A. bloom 1999-2002

ilfochrome contact prints, 26 each 485 x
375



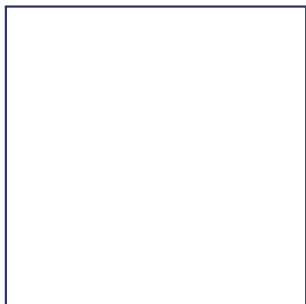
Sara Hughes
Software for ADA 2002
paint and vinyl, dimensions variable



Martin Thompson
untitled drawings c.1997-2002
six diptychs, each 400 x 560 overall
ink and sellotape on graph paper



John Simon Jr.
EveryIcon 1997
software



Stella Brennan
Zen DV 2002
two channel DVD, two minutes

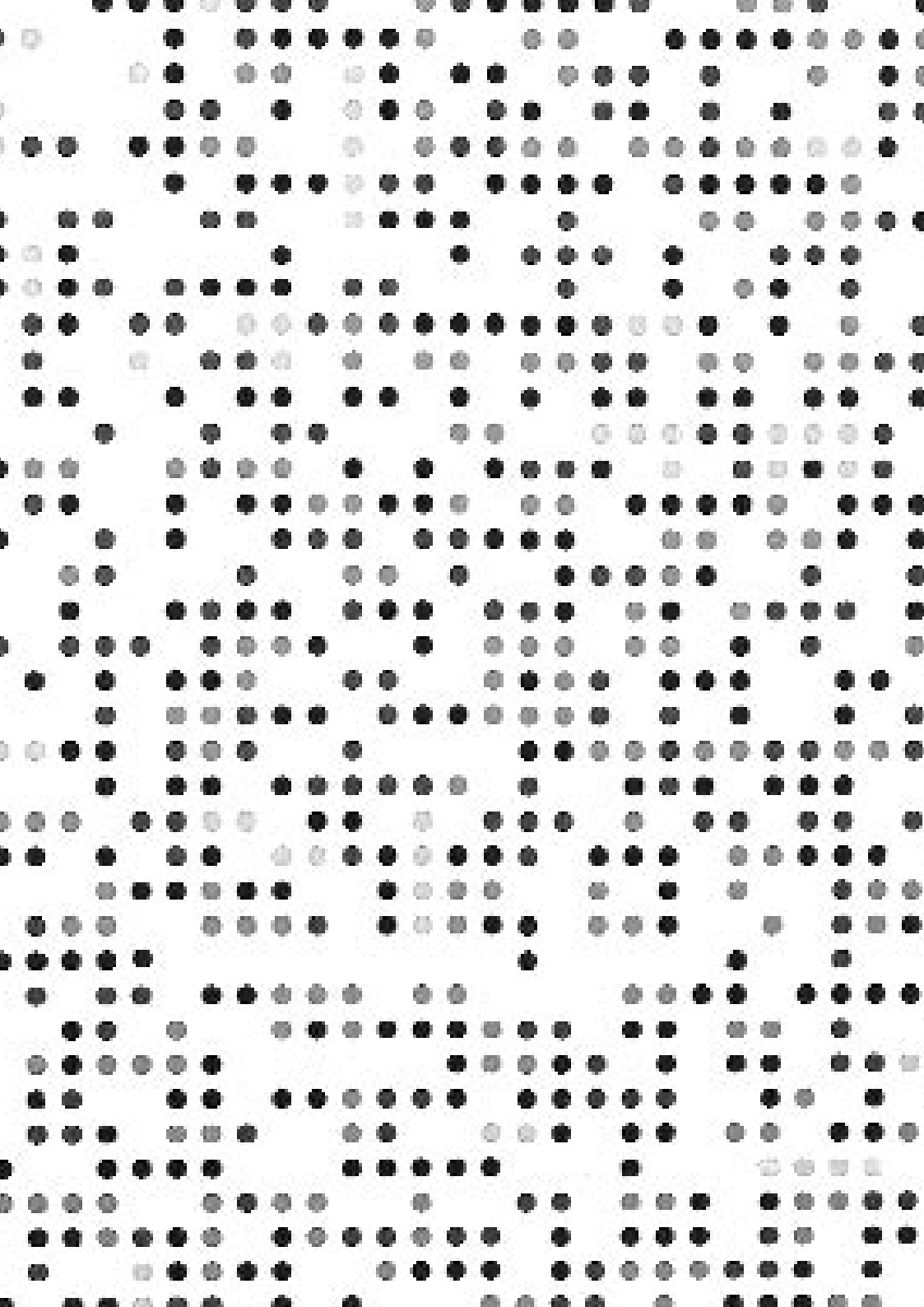
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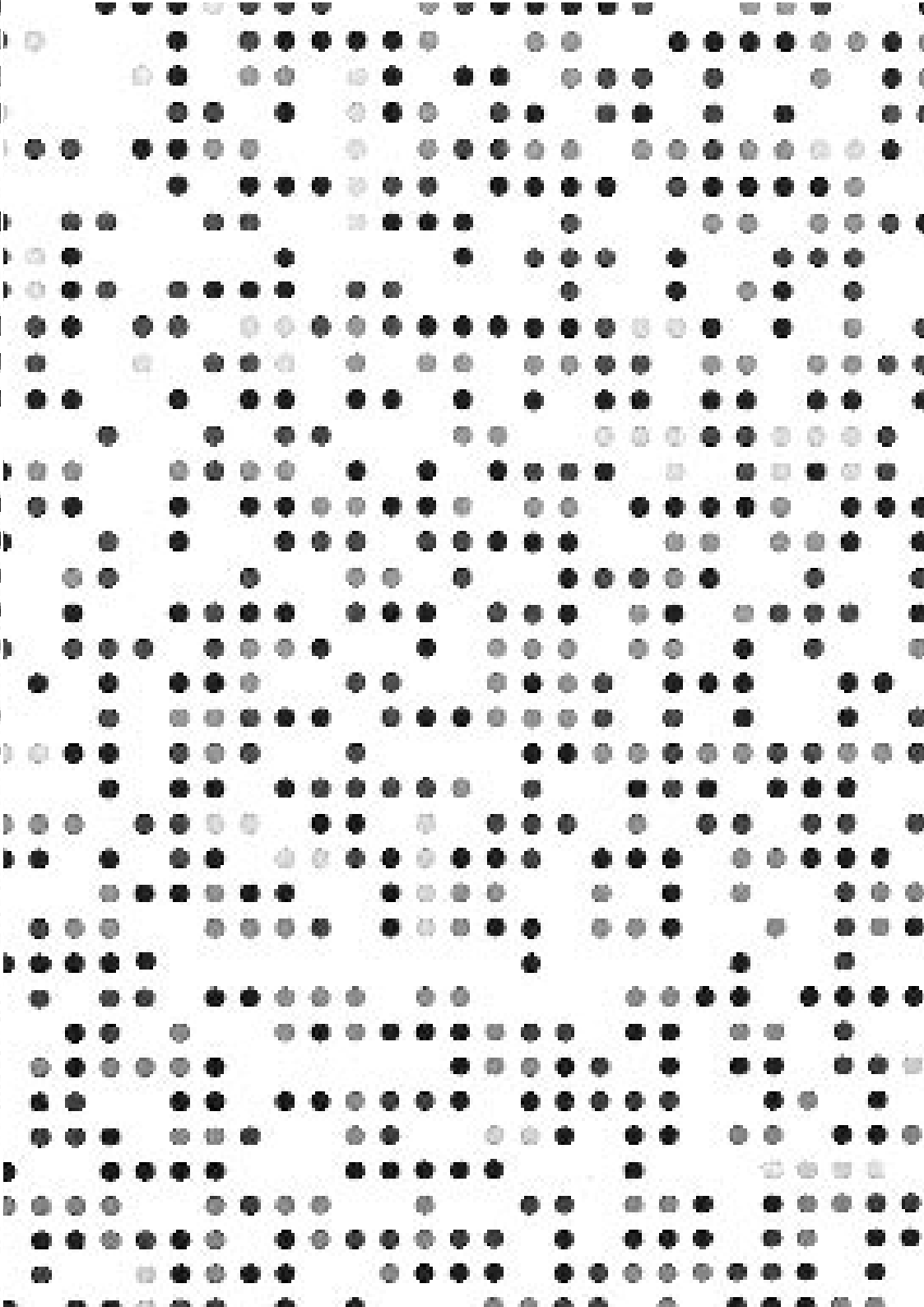
Published by Artspace, Auckland in conjunction with the exhibition Dirty Pixels 12 August – 14 September 2002 curated by Stella Brennan. Copyright the artist, authors and publishers 2002. ISBN 0 9582189 9 4. Edited by Stella Brennan and Hanna Scott, photographs by Stella Brennan Greta Anderson and Graham Perry, designed by Jo Clements.

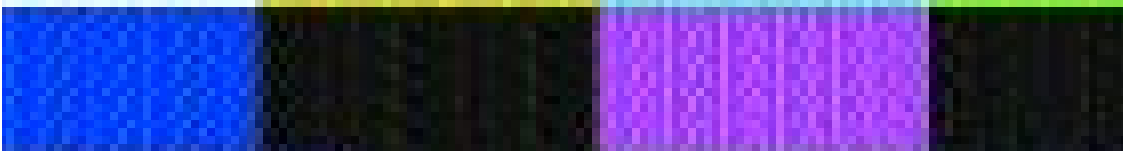
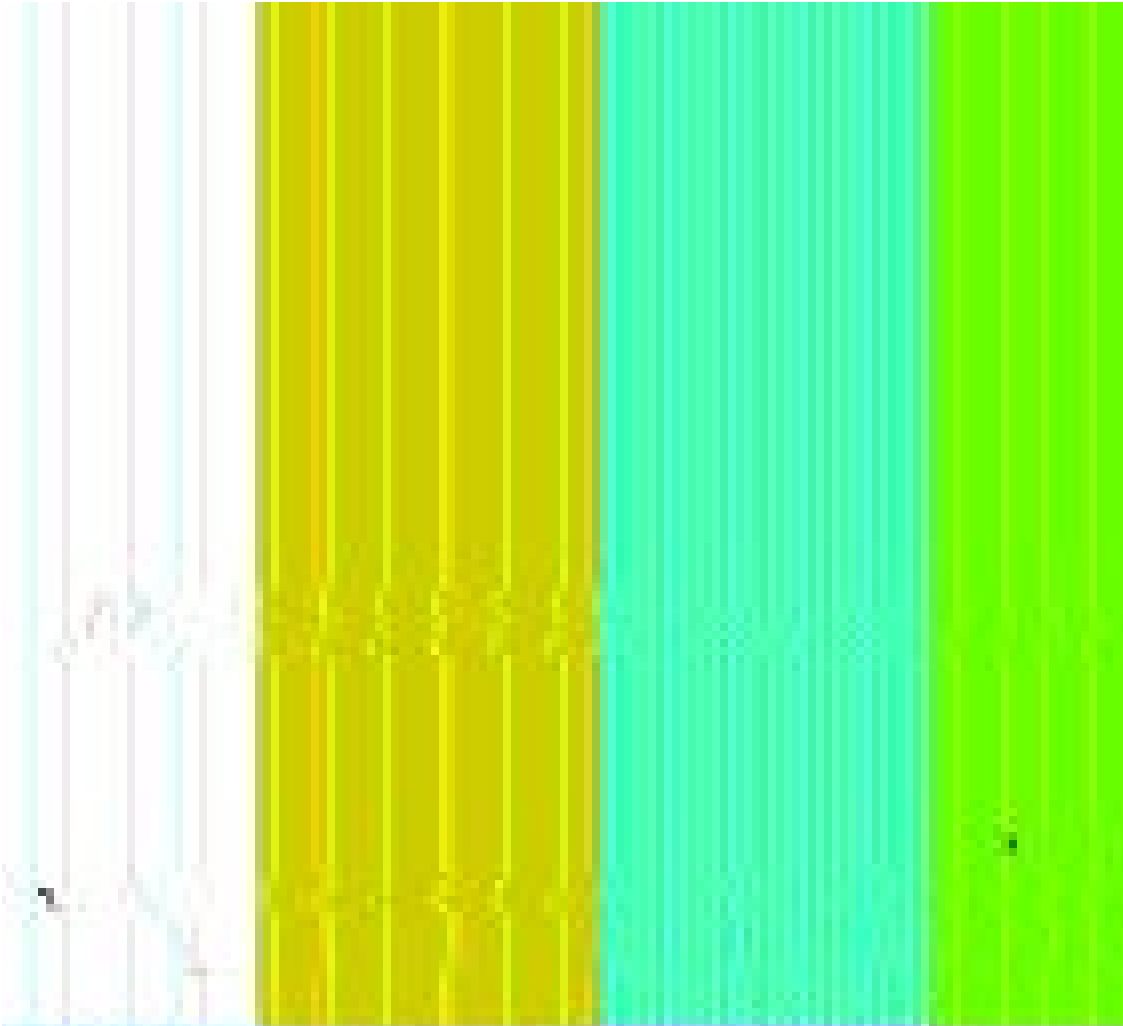
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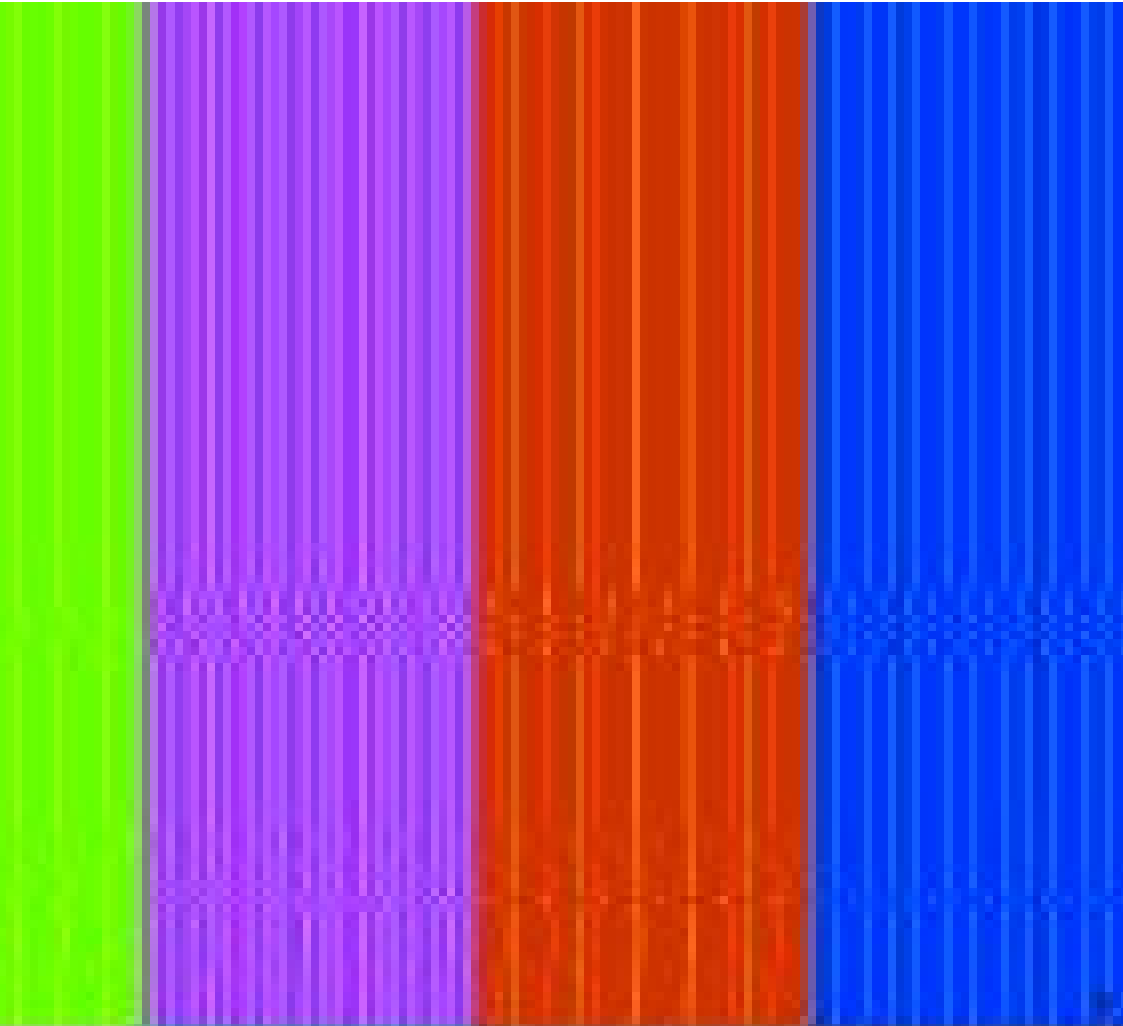
[ARTSPACE LOGO WITH ADDRESS DETAILS]

ARTSPACE RECEIVES MAJOR FUNDING FROM CREATIVE NEW ZEALAND









DIRTY PIXELS