



JOURNAL OF COMPUTATIONAL MEDIA DESIGN





ISSUE 2 SUMMER 2011

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Flock and Awe Publishing
ISSN 1925-5691

Cover Images and images on pp. 2 - 6 | Emily Allchurch

LETTER FROM THE EDITORS

“Must be tough living your life according to a couple of scraps of paper. You mix your laundry list with your grocery list and you’ll end up eating your underwear for breakfast.” - Memento

It has been an ‘underwear eating kind of semester for both of us. The nice thing about starting this journal is that it gives us a chance to stand still once in a while. In a strange way we now study a field that changes daily and are producing a magazine that temporarily makes everything come to a halt. I think it is necessary to do this – it becomes far too easy to keep shouting “next!” (if only I practiced what I preached).

Laurel and myself both have a background in printmaking, one of the oldest communication techniques. I can buy Fabriano paper in our bookstore which originated in 1283. I feel that this historical thread makes the world of computing, art and design so fascinating.

Tokyo stories is a project with just such a thread. Referencing Hiroshige, Emily Allchurch creates a contemporary view of Japanese society. Her work reminds me of Jeff Wall’s *A Sudden Gust of Wind (after Hokusai)*. A business man’s documents become ephemeral. The veneer of business culture is upset by the power of nature. In a ‘not

so subtle’ segue, we are of course reminded of the Japan earthquake this past March. The quake moved the island of Honshu by 2.4 meters, our days are now 1.8 microseconds shorter, and the tsunami raced along the open ocean at 800 kilometers per hour, giving the residents of Sendai 10 minutes warning time before the tsunami hit.¹ The newsworthiness of this event has now been surpassed by Chinese aircraft carriers, German E-Coli, and Lady Gaga’s shoes.

araumi ya the rough sea
Sado ni yokotau stretching out towards Sado
amanogawa the Milky Way
– Basho [1689]

We would like to thank all our contributors, our new contributing editor Josh Taron, and congratulate Lindsay MacDonald.

Laurel & Manjan ☼

¹ <http://www.scientificamerican.com/article.cfm?id=fast-facts-japan>





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“THE ASCENT” ART INSTALLATION | RIDE AT RENSSELAER LINKS EEG HEADSET AND THEATRICAL FLYING RIG

A team of Rensselaer Polytechnic Institute students has created a system that pairs an EEG headset with a 3-D theatrical flying harness, allowing users to “fly” by controlling their thoughts. The “Infinity Simulator” made its debut with an art installation in which participants rose into the air – and triggered light, sound, and video effects – by calming their thoughts.

Creative director and Rensselaer MFA candidate Yehuda Duenyas describes the “Infinity Simulator” as a platform similar to a gaming console – like the Wii or the Kinect – writ large. “Instead of you sitting and controlling gaming content, it’s a whole system that can control live elements – so you can control 3-D rigging, sound, lights, and video,” said Duenyas, who works under the moniker “xxyy.” “It’s a system for creating hybrids of theater, installation, game, and ride.”

Duenyas created the “Infinity Simulator” with a team of collaborators, including Michael Todd, a Rensselaer 2010 graduate in computer science. Duenyas will exhibit the new system in the art installation “The Ascent” on May 12 at Curtis R. Priem Experimental Media and Performing Arts Center (EMPAC).

Ten computer programs running simultaneously link the commercially available EEG headset to the computer-controlled 3-D flying harness and

various theater systems, said Todd.

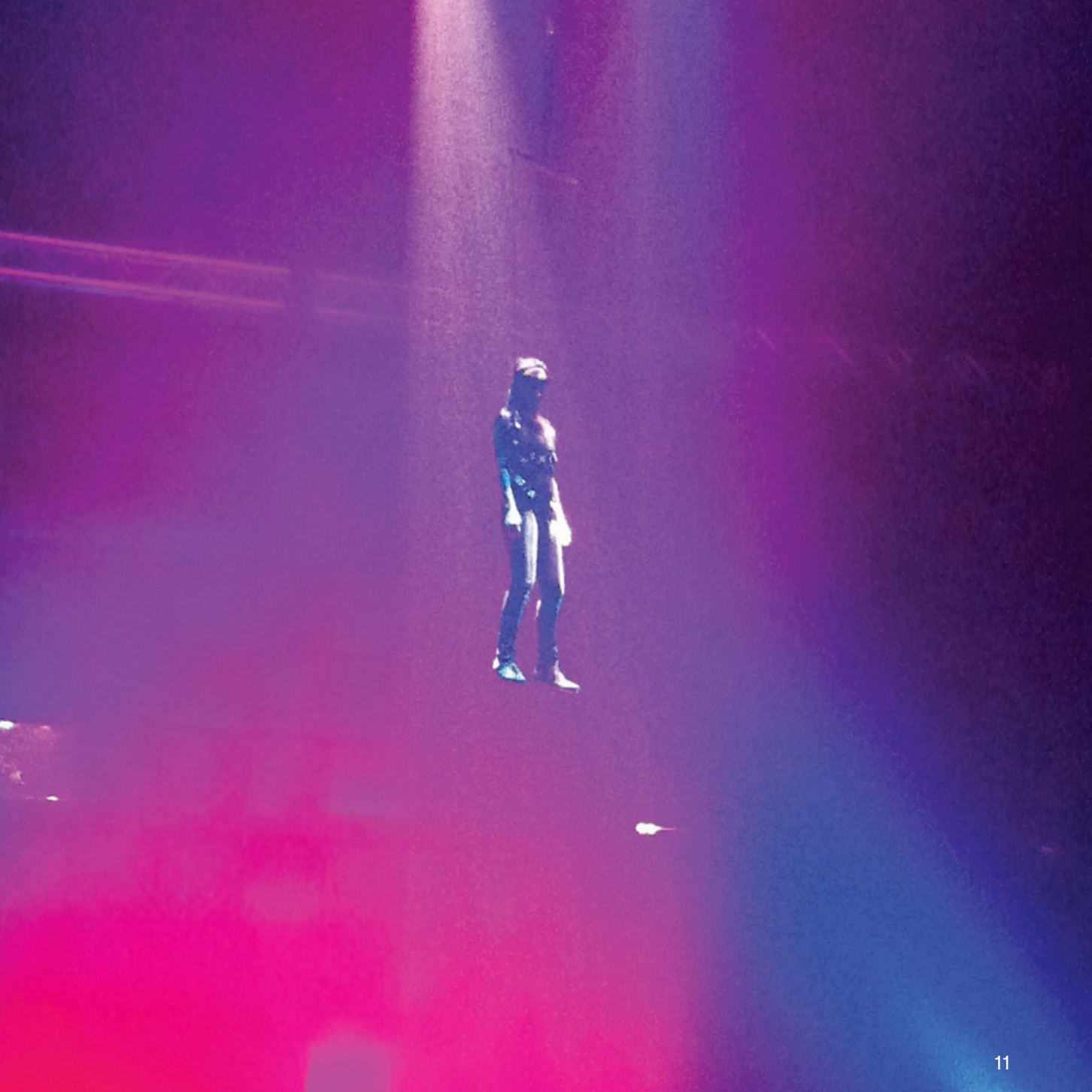
Within the theater, the rigging – including the harness – is controlled by a Stage Tech NOMAD console; lights are controlled by an ION console running MIDI show control; sound through MAX/MSP; and video through Isadora and Jitter. The “Infinity Simulator,” a series of three C programs written by Todd, acts as intermediary between the headset and the theater systems, connecting and conveying all input and output.

“We’ve built a software system on top of the rigging control board and now have control of it through an iPad, and since we have the iPad control, we can have anything control it,” said Duenyas. “The ‘Infinity Simulator’ is the center; everything talks to the ‘Infinity Simulator.’”

The May 12 “The Ascent” installation is only one experience made possible by the new platform, Duenyas said.

“‘The Ascent’ embodies the maiden experience that we’ll be presenting,” Duenyas said. “But we’ve found that it’s a versatile platform to create almost any type of experience that involves rigging, video, sound, and light. The idea is that it’s reactive to the users’ body; there’s a physical interaction.”

Duenyas, a Brooklyn-based artist and theater director, specializes in experiential theater performances.



“The thing that I focus on the most is user experience,” Duenyas said. “All the shows I do with my theater company and on my own involve a lot of set and set design – you’re entering into a whole world. You’re having an experience that is more than going to a show, although a show is part of it.”

The “Infinity Simulator” stemmed from an idea Duenyas had for such a theatrical experience.

“It started with an idea that I wanted to create a simulator that would give people a feeling of infinity,” Duenyas said. His initial vision was that of a room similar to a Cave Automated Virtual Environment – a room paneled with projection screens – in which participants would be able to float effortlessly in an environment intended to evoke a glimpse into infinity.

At Rensselaer, Duenyas took advantage of the technology at hand to explore his idea, first with a video game he developed in 2010, then – working through the Department of the Arts – with EMPAC’s computer-controlled 3-D theatrical flying harness.

“The charge of the arts department is to allow the artists that they bring into the department to use technology to enhance what they’ve been doing already,” Duenyas said. “In coming here (EMPAC), and starting to translate our ideas into a physical space, so many different things started opening themselves up to us.”

The 2010 video game, also developed with Todd, tracked the movements – pitch and yaw – of players suspended in a custom-rigged harness, allowing players to soar through simulated landscapes. Duenyas said that that game (also called the “Infinity Simulator”) and the new platform are part of the same vision.

EMPAC Director Johannes Goebel saw the game

on display at the 2010 GameFest and discussed the custom-designed 3-D theatrical flying rig in EMPAC with Duenyas. Working through the Arts Department, Duenyas submitted a proposal to work with the rig, and his proposal was accepted.

Duenyas and his team experimented – first gaining peripheral control over the system, and then linking it to the EEG headset - and created the Ascent installation as an initial project. In the installation, the Infinity Simulator is programmed to respond to relaxation.

“We’re measuring two brain states – alpha and theta – waking consciousness and everyday brain computational processing,” said Duenyas. “If you close your eyes and take a deep breath, that processing power decreases. When it decreases below a certain threshold, that is the trigger for you to elevate.”

As a user rises, their ascent triggers a changing display of lights, sound, and video. Duenyas said he wants to hint at transcendental experience, while keeping the door open for a more circumspect interpretation.

“The point is that the user is trying to transcend the everyday and get into this meditative state so they can have this experience. I see it as some sort of iconic spiritual simulator. That’s the serious side,” he said. “There’s also a real tongue-in-cheek side of my work: I want clouds, I want Terry Gilliam’s animated fist to pop out of a cloud and hit you in the face. It’s mixing serious religious symbology, but not taking it seriously.”

The humor is prompted, in part, by the limitations of this earliest iteration of Duenyas’ vision.

“It started with, ‘I want to have a glimpse of infinity,’ ‘I want to float in space.’ Then you get in the harness and you’re like ‘man, this harness is uncomfortable,’” he said. “In order to

achieve the original vision, we had to build an infrastructure, and I still see development of the infinity experience is a ways off; but what we can do with the infrastructure in a realistic time frame is create 'The Ascent,' which is going to be really fun, and totally other."

Creating the "Infinity Simulator" has prompted new possibilities.

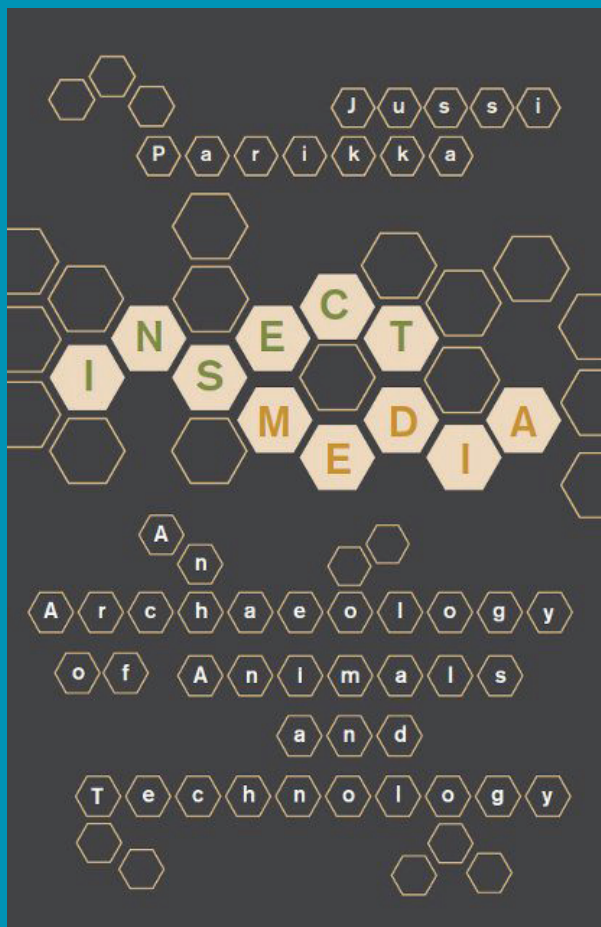
"The vision now is to play with this fun system that we can use to build any experience," he said. "It's sort of overwhelming because you could do so many things - you could create a flight through cumulus clouds, you could create an augmented physicality parkour course where you set up different features in the room and guide yourself to different heights. It's limitless."

⌘

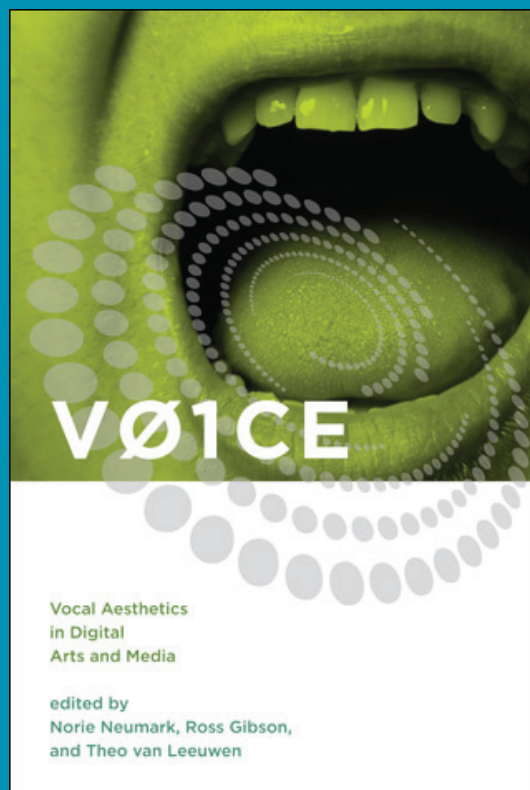
Article courtesy of Rensselaer Polytechnic Institute, Troy, NY, USA.

Originally published May 3, 2011 in the RPI News, Rensselaer website.

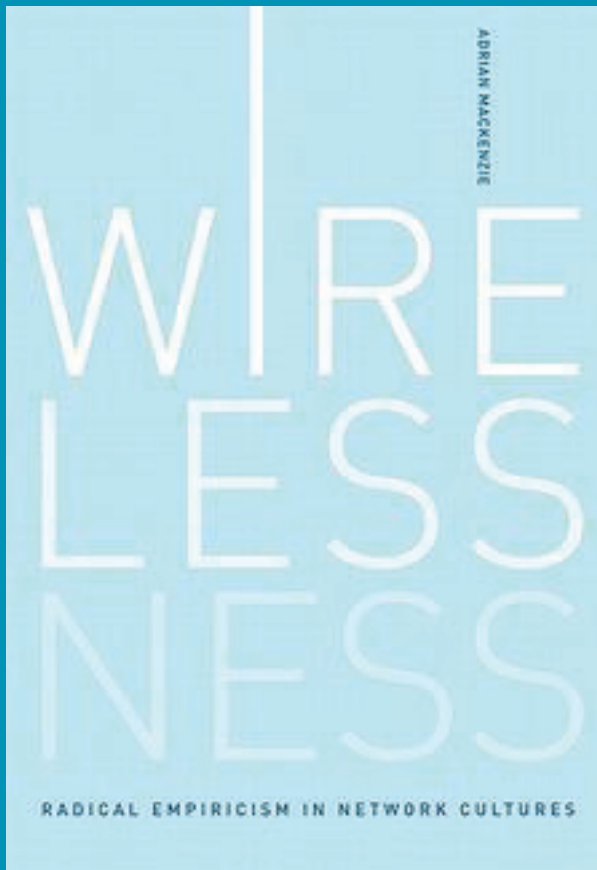




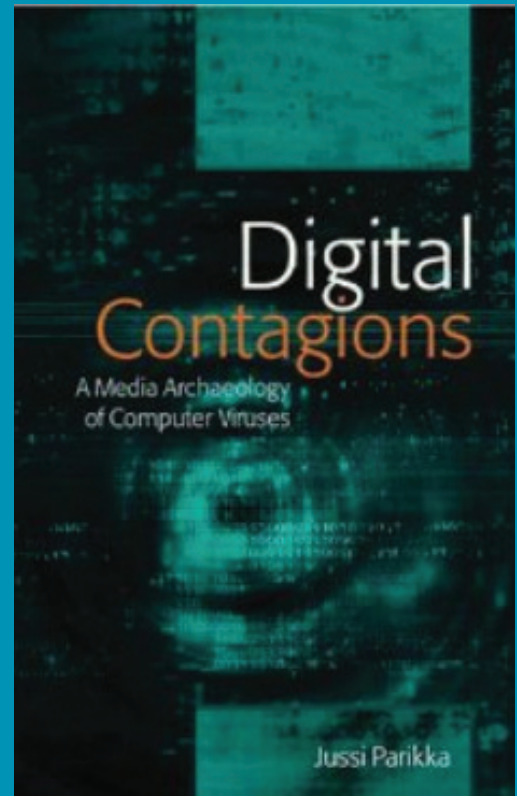
INSECT MEDIA: AN ARCHAEOLOGY
OF ANIMALS AND TECHNOLOGY |
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VØ1CE: VOCAL AESTHETICS
IN DIGITAL ARTS AND MEDIA |
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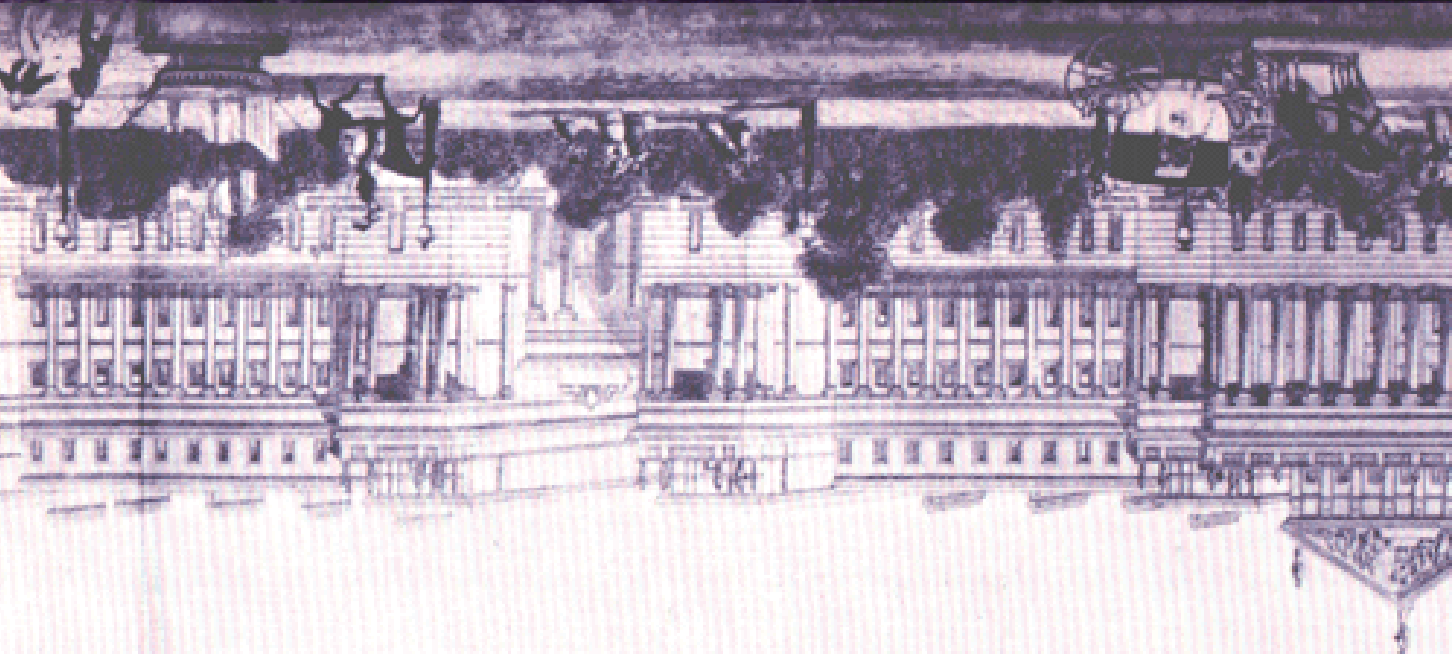


ADRIAN MACKENZIE |
WIRELESSNESS,
RADICAL EMPIRICISM IN
NETWORK CULTURES



DIGITAL CONTAGIONS: A MEDIA
ARCHAEOLOGY OF COMPUTER
VIRUSES | JUSSI PARIKKA

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**COMPLEXITY CLASSES AS SEEN IN
LONDON RESIDENTIAL ARCHITECTURE |
THE ROLE OF ECONOMIC REVOLUTION
ON ARCHITECTURAL MORPHOLOGY**

COMPLEXITY CLASSES AS SEEN IN LONDON RESIDENTIAL ARCHITECTURE *THE ROLE OF ECONOMIC REVOLUTION ON ARCHITECTURAL MORPHOLOGY* | MATHIEU HÉLIE

The immensely productive Physicist-Mathematician-Entrepreneur Stephen Wolfram theorized, based on his studies of cellular automata in the 1980's, that there exist four classes of physical processes in the universe. Class I is simple continuous behavior (line). Class II is repetitive behavior (checkerboard). Class III is nested, hierarchical-fractal behavior (basic fractals like the Sierpinski triangle). Class IV, the most fascinating, is chaotic behavior (random fractals such as the Mandelbrot Set). Wolfram believes that Class IV behavior, exemplified by the Rule 30 automaton, is behind the complexity we see in the universe, and that very simple

generative rules produce it.

The way we as humans are used to doing engineering and building things, is that we tend to operate under the constraint that we have to foresee what the things we're building are going to do. And that means that we've ended up being forced to use only a very special set of programs – from a very special corner of the computational universe – that happen always to have simple foreseeable behavior. But the point is that nature is presumably under no such constraint. So that means that there's nothing wrong with it using something like rule 30 – and that way inevitably



producing all sorts of complexity.

Wolfram gave a speech on his new science to big shot architecture schools at Yale, Princeton and MIT. He believes that his new science has profound implications for the generation of form in architecture. I agree with him, but not for the reasons he provided. In fact his classification of the geometric properties of different physical phenomenon provides extremely profound insight into the history of architecture, and its future.

A visit to London was what really made me appreciate this insight. London, as an architectural artifact, is quite unique in that its greatest period of growth, the period 1750-1850, coincides with the beginning of modernism in

architecture, a time when architecture became in a sense aware of itself and in search of its meaning. Neoclassicism was followed by Gothic Revival, Romanesque Revival, Neo-Venetian, all of it got mixed up in eclecticism, and the invention of new materials and building processes came to confuse things even more. Regardless of stylistic debates, what may be most important about that period is that, for the first time in history, large capital funds for speculative real estate development became available. Where architecture had once been a piecemeal business occurring quite randomly, in London, for the first time ever, housing subdivisions were possible.

**THE RESULT WAS THE
TERRACE HOUSING.**



The big housing developments in London were initiated by aristocratic landowners who hired architects to plan and control the form their estates would take. Walking through Chelsea and South Kensington, one is faced with sometimes overwhelming repetition of identical houses. Class II behavior, that Wolfram claims is fundamental to engineering, is obviously visible. The architects of the estates, not really knowing the specific constraints of the future residents of the place, opted for endless repetitions of the same building. The fact that each building is a copy of the next, inadapted to the particular wants of its occupants, makes it standard

behavior, far from complex.

The human mind is by nature fractal and is repulsed by Class II geometry, which is why traditionally architects have built Class III, hierarchical fractal geometry. This was employed by some terrace builders, such as the architect of the Regent's Park estate, John Nash. Here the monotony of the model is interrupted by nesting houses in flourishes like arches, or bigger houses with large porticoes.

Classical architectural education, based on the teaching of the classical orders, trained architects in the art of doing such hierarchical



decompositions of their buildings. As such most of the high western classical architecture, starting from the renaissance architecture of Alberti (the first modern architect in the sense that his name is more important than any of his buildings, not true of the medieval architects of cathedrals), is rigidly symmetrical. Classically-trained architects only expanded the scales of decomposition as the size of buildings increased, up to the neoclassical skyscrapers that modernists considered to be ridiculous. The classicals were right about the need to create fractal geometry by decomposition of what were rigid engineering plans, what the modernists claimed

was ornamental crime, philosophically dishonest and replaced with elementary repetition in their designs (regression to type II geometry). People have hated architects ever since.

Whenever I read through architectural history books, even those of honest traditionalists like David Watkin, I am struck by what is clearly missing from the record. That is to say the towns built up over centuries, the accretion of simple building acts into complex symmetries. The topic is touched by some thinkers of urban morphology, typically under the label of “organic” growth, such as in *The City Shaped* by Spiro





Kostof, but everyone appears dumbfounded by the means through which such symmetry was accomplished. And largely the whole career of Christopher Alexander has been dedicated to decoding this mystery.

But even in the 19th century, when large-scale development was sweeping London, some complex geometry was achieved.

THESE ARE FOUR DISTINCT BUILDINGS ON LINCOLN'S INN FIELDS.

We immediately notice that each building is different from the other, having been built for a unique purpose and therefore being a unique solution to a unique problem. Despite that, the buildings form a harmonious geometric composition because they share many transformations to which randomness is applied. Even within one building, Lincoln's Inn on the left, randomness is visible. The tower is unique, but symmetric with the rest through shared transformations. What we are seeing here is, I believe, a genuine Class IV pattern.

How could this be possible? If Wolfram's theory on the origins of complexity is correct, then there must be a very simple rule to produce this kind of street scape. This rule can be applied to any random architectural demand and provide a perfectly appropriate solution to an individual problem while remaining completely harmonious with other such random solutions in its neighborhood! Since such organic complexity appears in all human civilizations, then we must conclude that every single building culture in the

world has known, at some point, such a rule, and has applied it to solve building problems of all forms. Without understanding how these rules created complexity, they simply repeated them after each successful building.

What to do with new technology? New technology necessarily creates a new scale into the rule, but the remaining rules are still valid.

THIS IS VISIBLE IN THE GLASS STRUCTURE APPENDED TO THE ROYAL OPERA HOUSE.

We can see many shared patterns between the central structure and rightward structure, but not with the new addition on the left. Typical of modernist architecture, the left building is only made of elementary geometry, barely even qualifying it as a Class II structure. It doesn't feel as though it belongs there at all. There is an important lesson here, one that architects I fear do not want to learn.

Wolfram claims that complexity science is about finding simple rules that can generate complexity. We can decode simple rules from traditional architecture that, even with the modest means of poor villagers, will generate complexity when applied repeatedly to random events, creating random fractals while simultaneously solving a vast diversity of unique problems. This is exactly the kind of work that good urbanists should be doing today, and from there we could allow maximum diversity in our cities without breaking symmetry and harmony at costs as low as the meanest buildings currently cost. If Wolfram is correct, then the rules may be so simple that they may be easily codified into building regulation

even by the dullest bureaucrats. Then again the behavior may be so complex (that is to say there is emergence) that no a posteriori codification is even impossible, and the processes by which cities are governed may have to be completely reconsidered. Either way this is not good news for architects. If architecture is so easy, then their idiosyncratic designs are not necessary nor valuable. The big shot schools of architecture that Wolfram visited will be made irrelevant by Wolfram. ⌘

Mathieu Helie is a graduate of the Institut d'Urbanisme de Paris, Universite Pantheon-Sorbonne and Concordia University, a student of urban planning, economics and computer science

References:

Mathieu Helie - Complex geometry and structured chaos (<http://emergenturbanism.com/2007/11/19/complex-geometry-and-structured-chaos/>)

Stephen Wolfram - The Generation of Form in A New Kind of Science (<http://www.stephenwolfram.com/publications/recent/architecture/>)

Christopher Alexander - The Process of Creating Life (<http://www.natureoforder.com/overview.htm>)





This tutorial on recursion is intended for novice programmers.

Before defining recursion, let's start by defining the term function. A function is a cohesive block of code or program statements that perform some specific task or tasks. A function may or may not require input data (aka variables) and it may or may not create output values. A function may also be referred to as a method, a procedure, a routine, or a subroutine.

One of the benefits of functions is that they allow a programmer to break down a large programming problem into smaller, more manageable components. Typically one function calls another function to perform some specialized task on some data or variables. For example, in some function there may appear the following lines of code:

```
float mynumber = 4;
float result = squareIt(mynumber);
```

We see the numeric floating point variable mynumber declared and assigned a value of 4. The next statement calls the function squareIt and passes it the value contained in the variable mynumber. The squareIt function will return the square of mynumber which will be placed in the variable result. In this case the value will be 16.

Following is the source code for the function squareIt.

```
float squareIt(float value) {
    return (value*value);
}
```

As you can see, the **squareIt** function does not call any other functions. It is frequently the case that in order to perform some more complicated task you'll have a situation where function A calls function B which calls function C and so on.

With recursion, we have the situation of a function calling itself one or more times. So a recursive function is a function which contains one or more calls to itself. A useful visual metaphor for recursion is that of the Matryoshka - the Russian nesting dolls where one doll holds another, smaller version of itself inside and that smaller doll has a smaller version of itself inside, and so on.

With recursive functions it's critical to have a

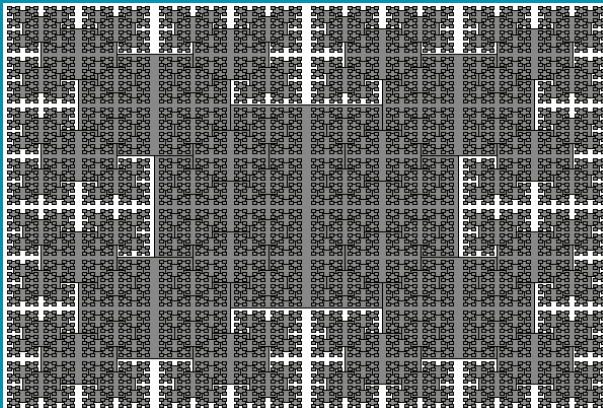


Figure 1

terminating condition - also referred to as a base case. This is a condition or rule that will cause the function to stop calling itself. Without such a terminating condition, the function would call itself forever - or until it consumed all the system resources available to it.

The principal benefit to programmers of using recursion is that the programmer has less code to write and maintain. However, designing a recursive function does require some additional thought and planning.

For the algorithmic artist, the beauty of recursion is that it provides a way to create complex visual forms from a simple beginning using simple rules. To illustrate the concept of recursion, I've written a short program for the Processing platform¹. The program contains the recursive function `Recursion_Art()`. As you can see in the source code below, the recursive function `Recursion_Art()` is quite simple. It consists of

- a command to draw a rectangle - `rect()`
- an if statement to test for the terminating condition (base case)
- four calls to itself.

I have used the picture created by this program to illustrate this article (see Figure 1). What makes this visual complexity possible is the transformation that is applied to the rectangle when the `Recursion_Art()` function is called. Each time `Recursion_Art()` is called, it calls itself an additional four times passing to the next iteration of the function the `x,y` coordinates of each corner of the rectangle it has just drawn, and a new, smaller size for the next set of rectangles.

`Recursion_Art()` is initially called inside the `draw()` function, which is a Processing function that executes continuously. The `Recursion_Art()`

function expects to receive four values, an `x` and `y` which defines the location of the center of the rectangle, and a width and a height which defines the size of the rectangle to be drawn.

```
// Processing Source Code for Recursion_
Art.pde

// By Jim Plaxco, www.artsnova.com

static final int LIMIT=6; // rectangle
size limit

void setup() {
    size(600,400); // canvas size
    background(255); // canvas color
    stroke(0); // draw color
    fill(126); // fill color
    rectMode(CENTER); // use x,y as
rectangle center
}

void draw() {
```

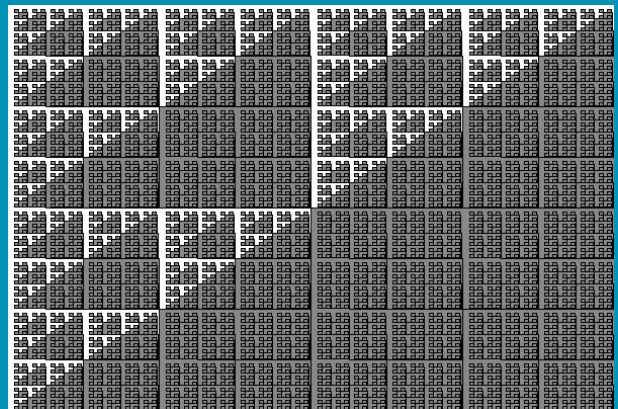
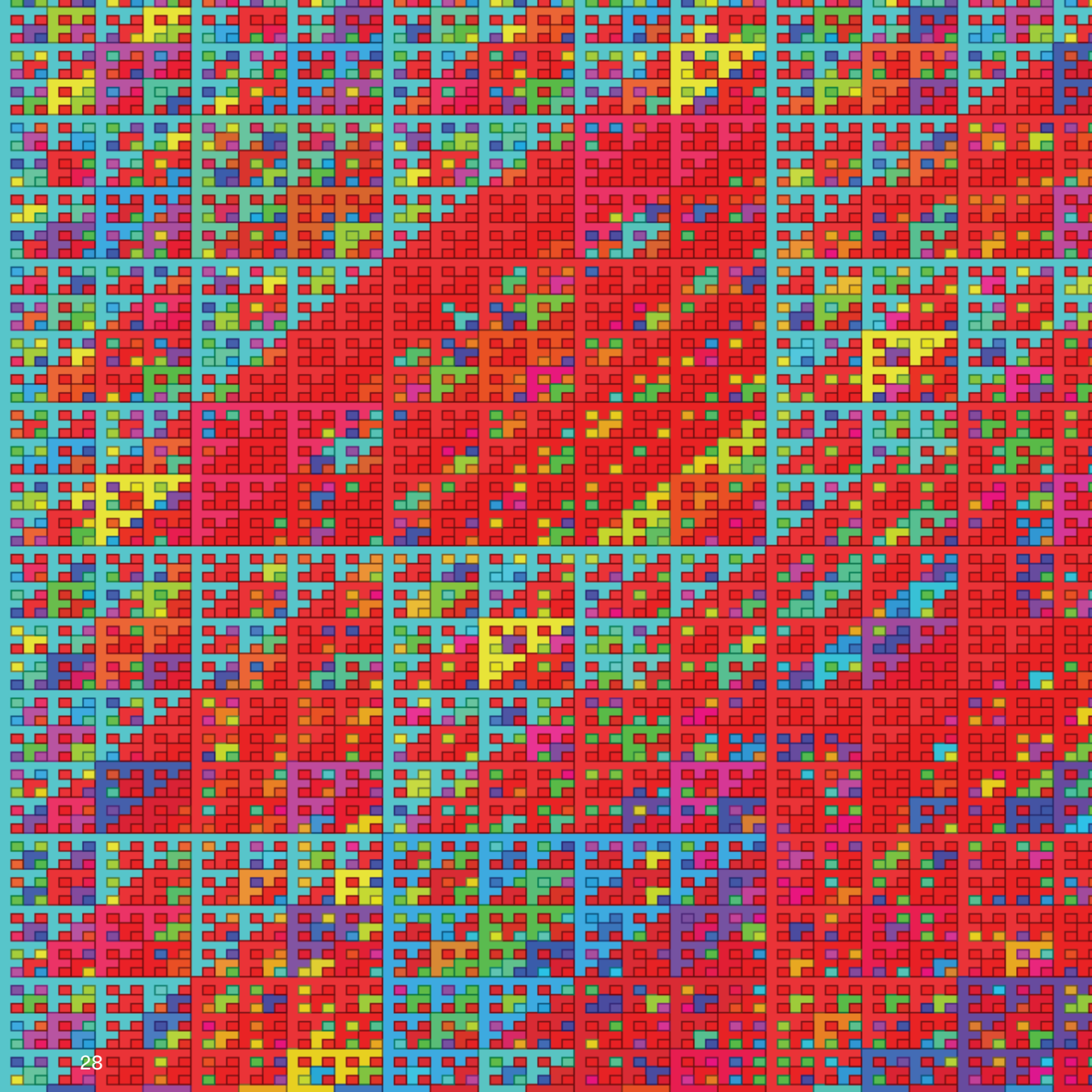


Figure 2



```

        if (frameCount==1)      Recursion_
Art(width/2,height/2, width/2,height/2);
    }

// Parameters: x,y = center of rectangle
// w,h = width and height
void Recursion_Art(int x, int y, int w,
int h) {
    rect(x,y,w,h);
    if(w > LIMIT) {
        Recursion_Art(x-(w/2), y-(h/2), w/2,
h/2);
        Recursion_Art(x+(w/2), y-(h/2), w/2,
h/2);
        Recursion_Art(x-(w/2), y+(h/2), w/2,
h/2);
        Recursion_Art(x+(w/2), y+(h/2), w/2,
h/2);
    }
}

```

In the example given, the function Recursion_Art executed 5,461 times - meaning that 5,461 rectangles were drawn on the screen. The depth of recursion is 7. Think of depth as equivalent to generations of offspring.

1. The draw() function, calls Recursion_Art()
2. which then calls Recursion_Art() four times
3. each of which call Recursion_Art() four times
4. each of which call Recursion_Art() four times
5. each of which call Recursion_Art() four times
6. each of which call Recursion_Art() four times

7. each of which call Recursion_Art() four times

It is at the final level that the width of the current rectangle being drawn finally drops below the limit that has been set, thus causing the process to come to a stop.

Recursion is most powerful graphically in its ability to create complex, repeating patterns. In fact the nature of the patterns can be changed by making small, simple changes to the program. For example, commenting out the rectMode() function in the program results in the image seen in Figure 2.

In addition, simple rules for generating color can be added to the function. In the illustration on the opposite page, the patterns of color were generated by mapping the remainder of the squares of the coordinates onto a color range.☘

Jim Plaxco is a digital artist specializing in algorithmic, abstract, astronomical, and space art. Jim has served as a judge in numerous space art contests; taught astronomical image processing for the Adler Planetarium; and has used his astronomical and planetary image processing skills to illustrate the presentations he creates as a NASA JPL Solar System Ambassador.

Jim's work can be found on artsnova.com



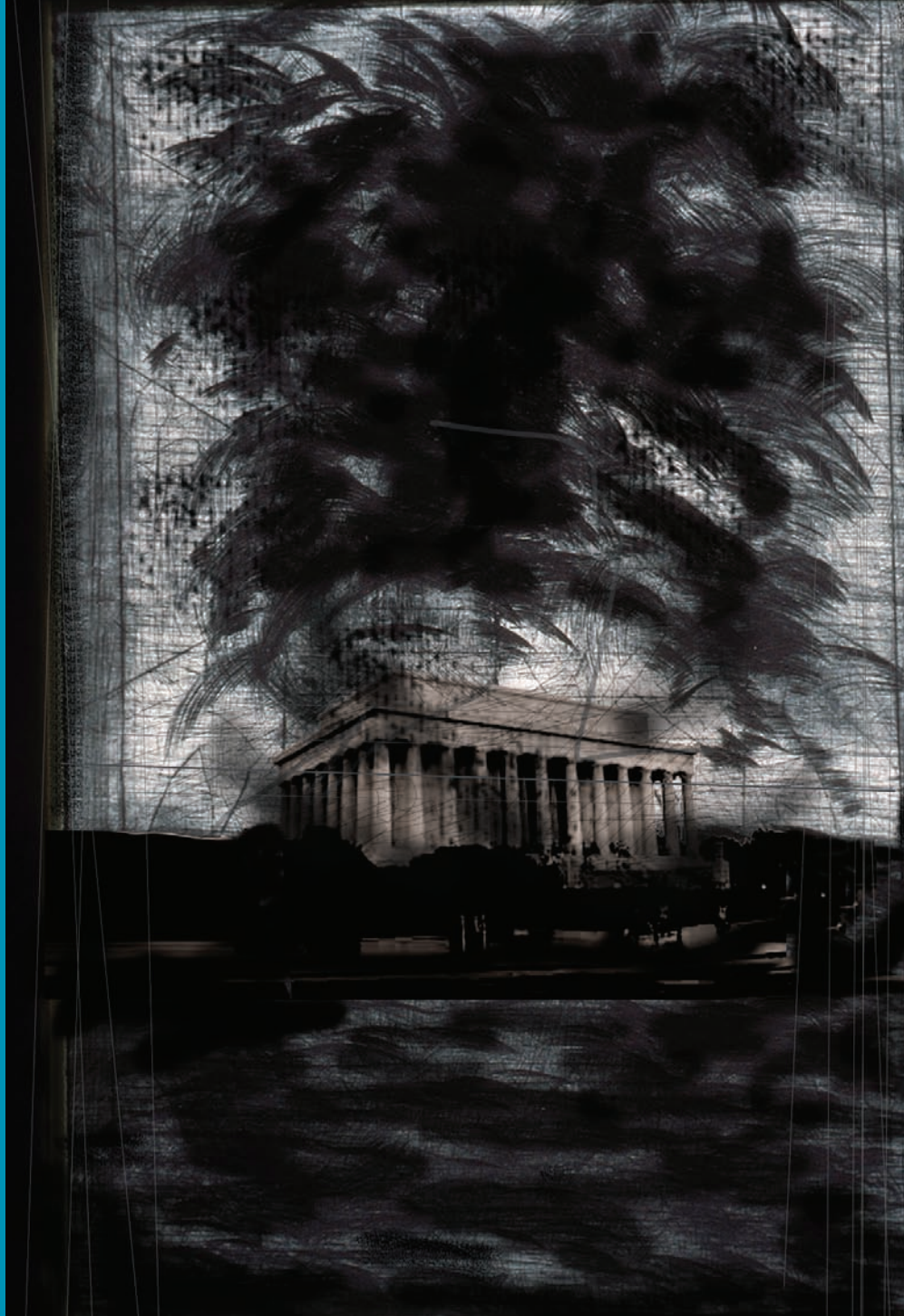
PORTFOLIO |
HUGH MERRILL

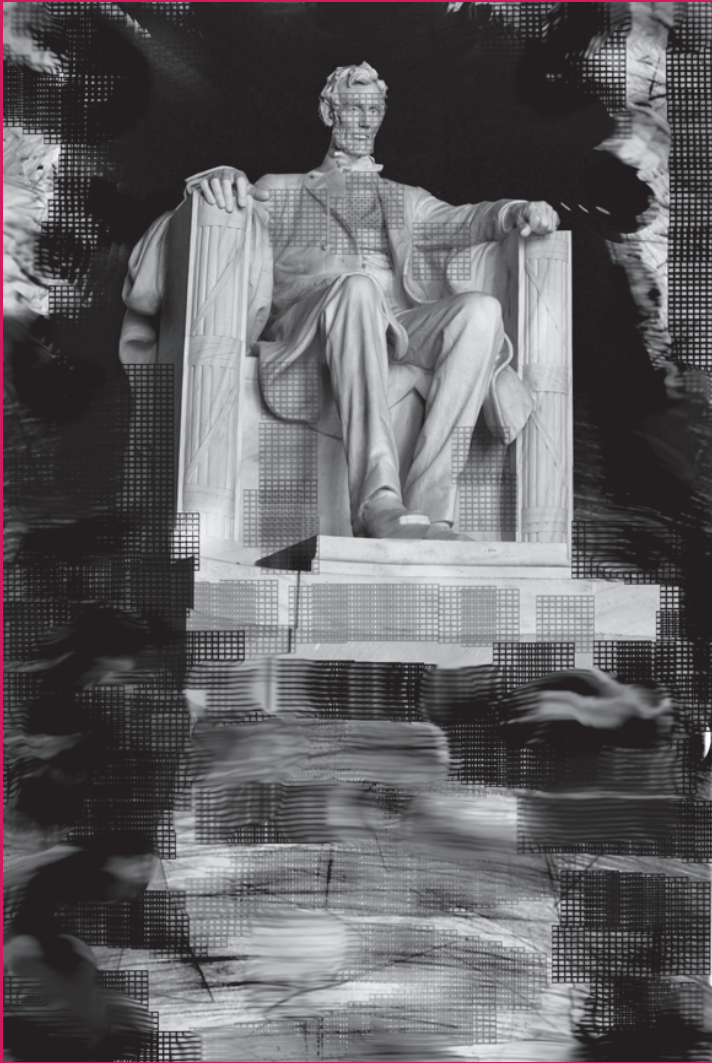


AMERICA IS NO LONGER THE LEADING DEMOCRACY IN THE WORLD. IT HAS BECOME A PLUTOCRACY MANAGED BY CORPORATIONS AND THE EXTREME WEALTHY. THE ARCHITECTURAL SYMBOLS ARE NO LONGER ICONS OF FREEDOM BUT ARE ALL TOO OFTEN IMAGES OF A DISTRUSTED AND HATED FEDERAL GOVERNMENT.









Hugh Merrill is a noted studio artist and printmaker whose art-work has been exhibited internationally and is in the collections of Museum of Modern Art, New York, Yale University Museum, Nelson Atkins Museum, National Museum of Poland, Poznan and many others. In 1996 he collaborated with French artist Christian Boltanski on the city-wide community arts project Our City Ourselves for the Kemper Museum of Contemporary Art Kansas City. Merrill had a one-person exhibition at the Nelson-Atkins Museum of his sequential series of etching *The Lucky Dragon* in 1985, these prints were acquired by the Daum Museum of Contemporary Art in Sedelia Missouri.

Merrill has produced 1% for the arts and public/community arts commissions for the city of Dania Beach Florida, Columbia Missouri and Roeland Park Kansas among others. Merrill was invited to create community arts actions for the 2005 Impact Conference in Berlin Germany and Poznan Poland; *Pools of Belief* and *Wish-Flush* for the Dalarnas Museum in Falun Sweden for the Falun Print Triennial 2007. Merrill had a 40-year retrospective of his studio and community work, *Divergent Consistencies* at the Leedy Voulkos Art Center in Kansas City in 2009

The book *Divergent Consistencies* charts the studio and community art of Hugh Merrill.

www.hughmerrill.com



ARTICLE | WHEN DO DIGITAL GAMES BECOME ART? | NILS OLSON

Digital games have become a cultural and economic behemoth. They have burgeoned from the isolated mainframe computers of the 1960s, into rec rooms and arcades in the 1970s, and now into nearly every computerized public and private space. They are pervasive. As a new media form, digital games raise questions of classification and definition - What are they? A lucrative commercial product? A playful extension of the work-centric processor? A new genre of art? Digital games are used as a raw material in the creation of a variety of fine art forms. Game iconography is taken and adapted as concept art (Clarke & Mitchell, 2007, p. 9). This ranges from the work of professional artists using the images as subject matter, in postmodern pastiche and forms of pop art, to fans creating and recreating their favourite game characters, settings, and themes. This work may be digital, or it may use more traditional tools, but it is not a game. It cannot be played. At times, the audience is afforded a degree of interaction, but these pieces are meant to be viewed.

What about games themselves? A medley of artists will be embedded in any large-scale game design project: writers, programmers, musicians, and concept artists. These artists may use similar technical processes to those creating work in recognized fine art fields. There are elements of representational art in many

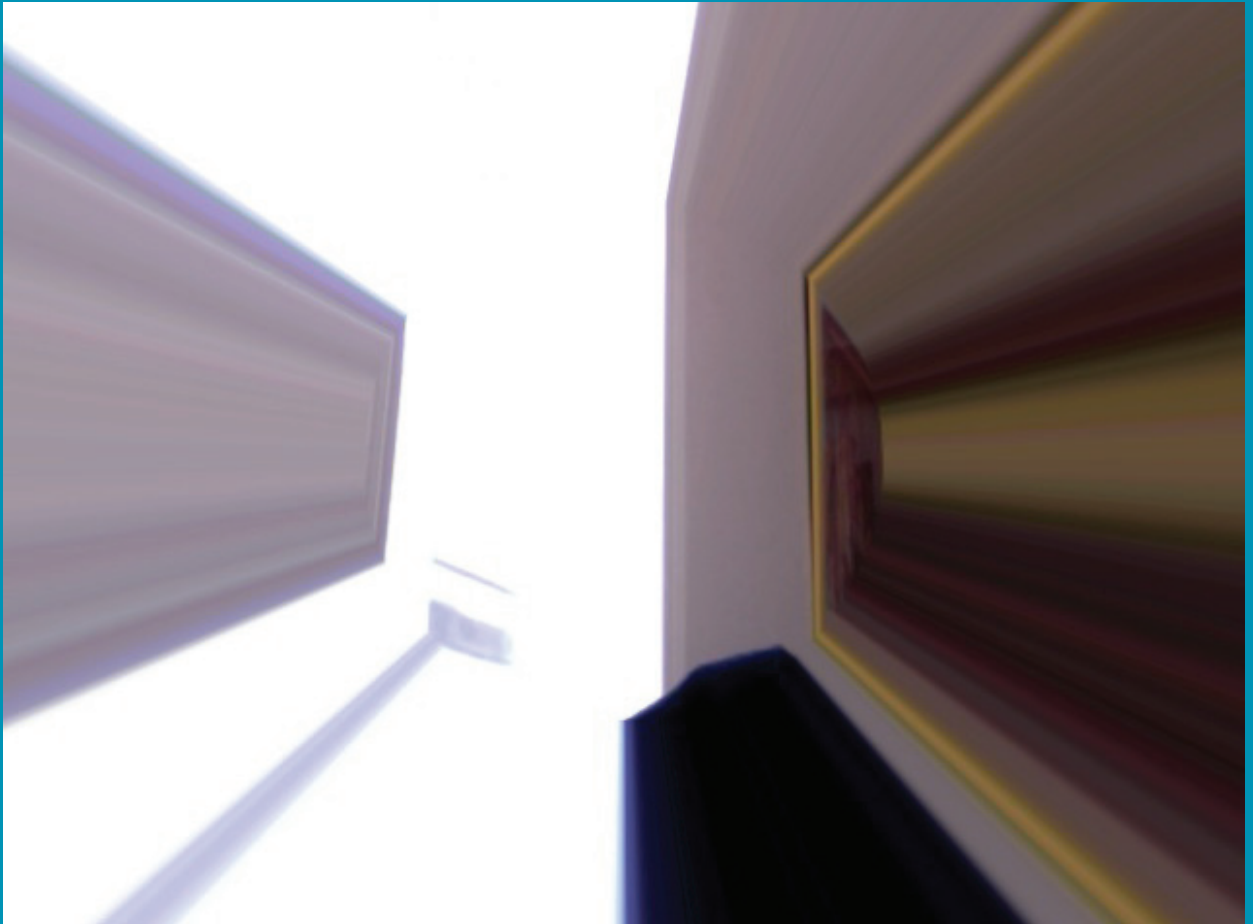
games. Still images, video segments, levels and environments, character skins and textures - each can be beautifully rendered and presented, able to inspire an emotional reaction in the player - But are they art? The problem is that commercial games are made to sell. The integrity and purity of the game designer is easily masked beneath a corporate profit motive, which ultimately directs the system of production.

The days of a lone, nerdy twenty-something-year-old jury-rigging games in his parent's basement are largely over. The landscape of digital play is ruled by "platform oligarchies" (Kline, Dyer-Witthford, & De Peuter, 2003 p., 171) - Sony, Nintendo, Microsoft - and grossly successful development companies - such as Blizzard Entertainment (creators of the popular Warcraft and Starcraft franchises). Games require massive upfront investments to meet the standards of exponentially expanding production values. Does commercialization stamp out the glowing ember inherent in a potentially artistic medium? This has been a question other mechanically reproduced and commercially successful art forms have experienced (including areas tertiary to fine arts, such as cinema and even the novel). Digital games are successful through a "razor and blade" profit strategy (Kline et al., 2003, p. 112-13). In the console market, for example, hardware makes up a razor's edge of profit. It

may be sold at a loss. Software – the blade – is the real cash cow. This puts strong pressure on game developers to create popular, profitable games. There is a tendency to stick to what works. Artistic innovation is steamrolled by the desire to keep to a winning formula.

One of the most innovative design features in digital games in the past twenty years was the development of the first-person shooter (FPS)

format. In the early 1990s designers John Romero and John Carmack, through id Software, created a new visual and spatial gameplay perspective via *Wolfenstein 3D* (1992). Romero and Carmack innovated a realistic three-dimensional game-space, through which the player could explore from a first-person view. This immersive mode of play would become explosively popular among hardcore gamers. To date, FPS's remain



remarkably unchanged. Although there has been a tremendous expansion of this genre, focusing on increasing the verisimilitude of the look and “physics” of the game, it tends to shy away from true artistic innovation. Year after year, the same wartime shooter hits the shelves, quickly inundating the market and winning critical acclaim. Perhaps the experienced fan and trained eye can appreciate the nuances of gameplay between *Call of Duty* (2003) and *Call of Duty: Black Ops* (2010), but there is a lack of deep creativity in the unfolding of this franchise. There has to be. A successful formula will beget more of the same. Of course, there are innovative games. New genres form, new playstyles emerge, and new aesthetics are pursued. However, the commercial nature of the digital game industry is too overwhelming to simply accept popular digital games as art in their entirety. Commercial games are a form of popular culture, not art.

There are avenues for games to develop as art outside of the commercial juggernauts. Part of this potential lies in the open-source movement. Programmers will leave the code of the game transparent, allowing techno-savvy players to modify or hack the game. Some designers, such as Bioware in *Neverwinter Nights* (2002), included development software with the game product. Player-created modules flourished, giving the game a second-life. Many of these would eclipse the original game, moving into unforeseen directions, creatively and innovatively. These types of projects could be considered an unpaid arm of the digital game industry, since developers often keep close connections with their player communities, appropriating their innovations. One famous example: a former Simon Fraser University computer science student, Minh Le, modded the game *Counterstrike* from the FPS *Half-Life* (Kline et al., 2003, p. 252). Valve

software was quick to recognize the popularity of this player-mod, and assisted Le with its publication. It would quickly become the most popular game in its genre.

Game modifications are typically fan projects, created for pleasurable play. There is no intention for them to be art. When these same games become hacked or subverted by trained professionals, rather than fans, true art rises to the surface. In “Meltdown” Rebecca Cannon refers to this new art genre as “Artistic Game Modification” or “art modding” (2006, p. 38). It consists of the creative reuse of videogames for artistic purposes. This is something different than fan-based modification. The artist transmogrifies a commercial product into something more. Cannon provides numerous examples, including machinima (using FPS game engines to create a form of digital cinema) and political game mods (retooling gameplay to make subversive statements about our world and about the games themselves).

The medium of the game, requires one to consider the nature of the player, who exists in a formative role. Sal Humphreys has argued that digital games are, “...open or emergent structures... where the creativity of the player leads to new and unpredictable outcomes.” (2005, p. 39) As an emergent medium, games do not fully manifest their creative aspects through a designer’s hands. They remain unfinished. Player interaction completes the game through a constant state of growth and alteration. This interaction is more than a mechanical and mathematical feedback loop. The player is actively incorporated into a creative and innovative play-style, which constructs and maintains aspects of the game.

The emergent nature of digital play is more evident in games that foster open and free-form

styles of gameplay. Sandbox games, popularized through Will Wright's *Sim City* (1989) and *The Sims* (2000) and made infamous through the sordid *Grand Theft Auto* series, are known for encouraging gameplay that diverges in a meaningful way depending on the motivations and actions of the player. There will always be hard boundaries - limits based on structure and code, and sometimes narrative development - but sandbox play manages to retain something of an artistic experience, even in the midst of the most corporately commercial of gaming products. While not always subversive, this play is creative, imaginative, open-ended, and experimental.

Another genre with a greater potential for emergent gameplay is the Massively Multiplayer Online Game (MMOG), which consists of persistent gaming worlds populated by upwards of thousands of players on a given server. The framework for the world exists whether anyone is there or not, but the gameplay requires the perpetual interactions of players: socializing, negotiating built-in game objectives, and creating their own ways of experiencing the game. More than other media, digital games incorporate the creative performances of players into the "text". Does the emergent nature of digital games make them art? Probably not. Such a claim would run risk of identifying everything as art, and therefore everyone as an artist. The meaning of what is art becomes too broad and loses significance. What is important though, is that there is something artistic unfolding at the moment when a player plays.

As an entertaining and artistic medium, digital games are still crawling through their infancy. However, within and between the lines of code, within the hearts of designers and players, a new genre of art has emerged. It remains to be seen where the boundaries between commercial play

and true art will be drawn, but what is clear is that digital games will continue to inspire new generations of players and artists for years to come. ¶

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**JOSHUA M. TARON &
JASON S. JOHNSON**





**AN INTRODUCTORY
CONVERSATION**

AN INTRODUCTORY CONVERSATION | JOSHUA M. TARON & JASON S. JOHNSON

With the recent publication of Schumacher's "The Autopoiesis of Architecture" and its advocacy of Parametricism as the emerging dominant style in architecture, the debate around the role of computation as an enabler of increasingly complex and interconnected models is once again being brought to the forefront. Whereas conversations once revolved around multi-dimensional form finding techniques, we are increasingly seeing architects position form finding strategies within the context of sensation, optimization, performance and network structure.

Joshua M Taron and Jason S Johnson discuss a selection of projects that represent a range of design strategies/behaviours that are digitally pursued and in which the actual techniques and tools deployed share certain sensibilities if not ideological positions. This discussion was carried out over 6 hours via Google talk and used the projects as a jumping off point for comparing the aesthetic and performative sensibilities of the projects and their relationships towards one another. What follows is not a critique of the projects themselves but a free ranging conversation on the nature of how this work is both presented and perceived. The nature of the tool used to carry out this discussion means that the authors are often responding to a question written simultaneously as an answer or similar question was being provided by the other person. This conversation has been edited for length and in some cases clarity.

JT: ...So right now we are both looking at the work of Hernan Diaz Alonso/Xefirotarch and Marc Fornes/theverymany.

JJ: This pairing seems to have a certain exuberance to the articulation of color/pattern formal logics - beyond functionality I would say - or a different sort of functionality that isn't as easily described as a coded necessity.

JT: We're looking at two rather excessive practices and projects. Both employ extraordinary, nearly illegible geometric assemblies but at the same time are deeply communicative. It's hard to imagine being able to form such understandings or emotions without a degree of excess and exuberance.

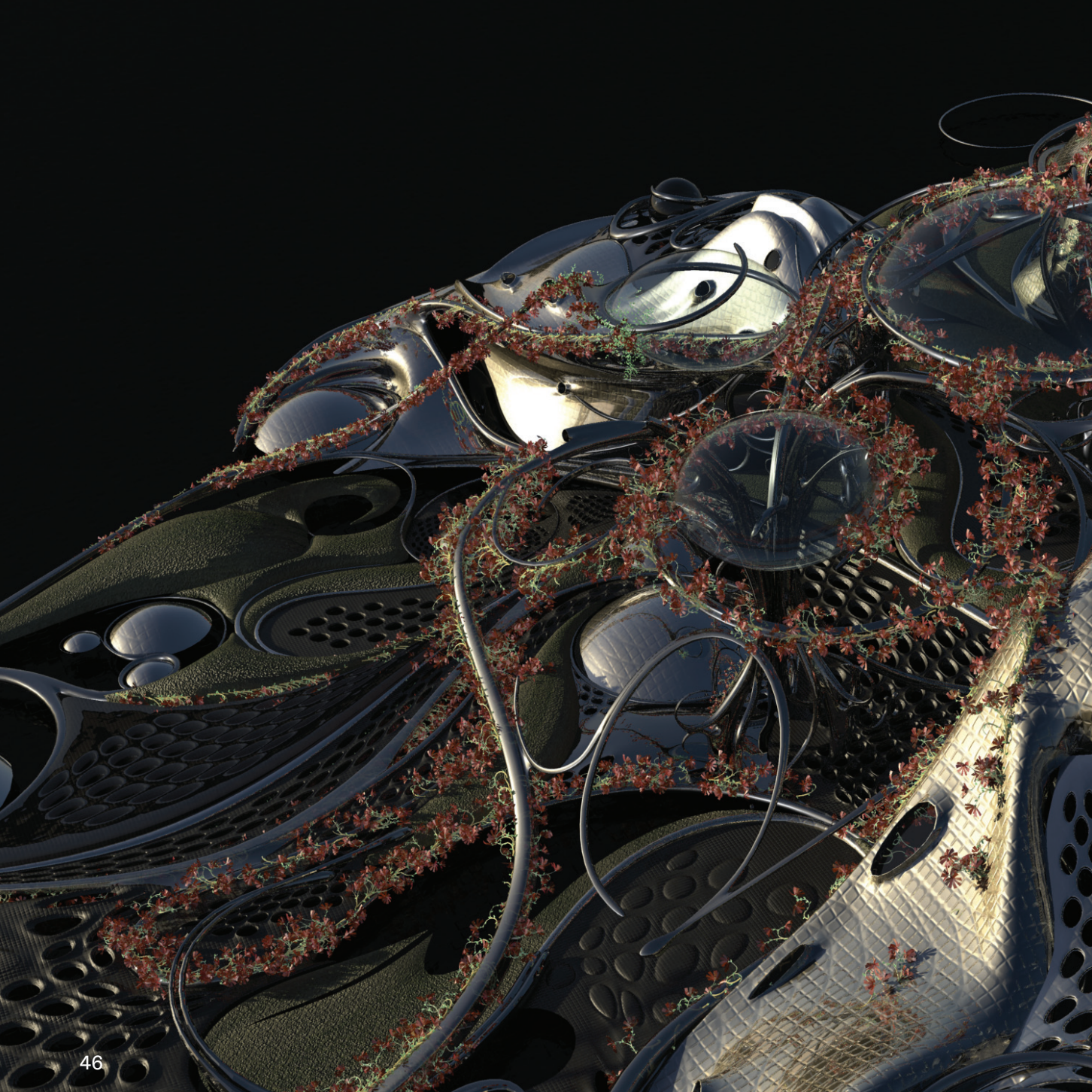
JJ: Right. I wonder if it isn't an end around at producing an embedded "narrative" translated through techniques.

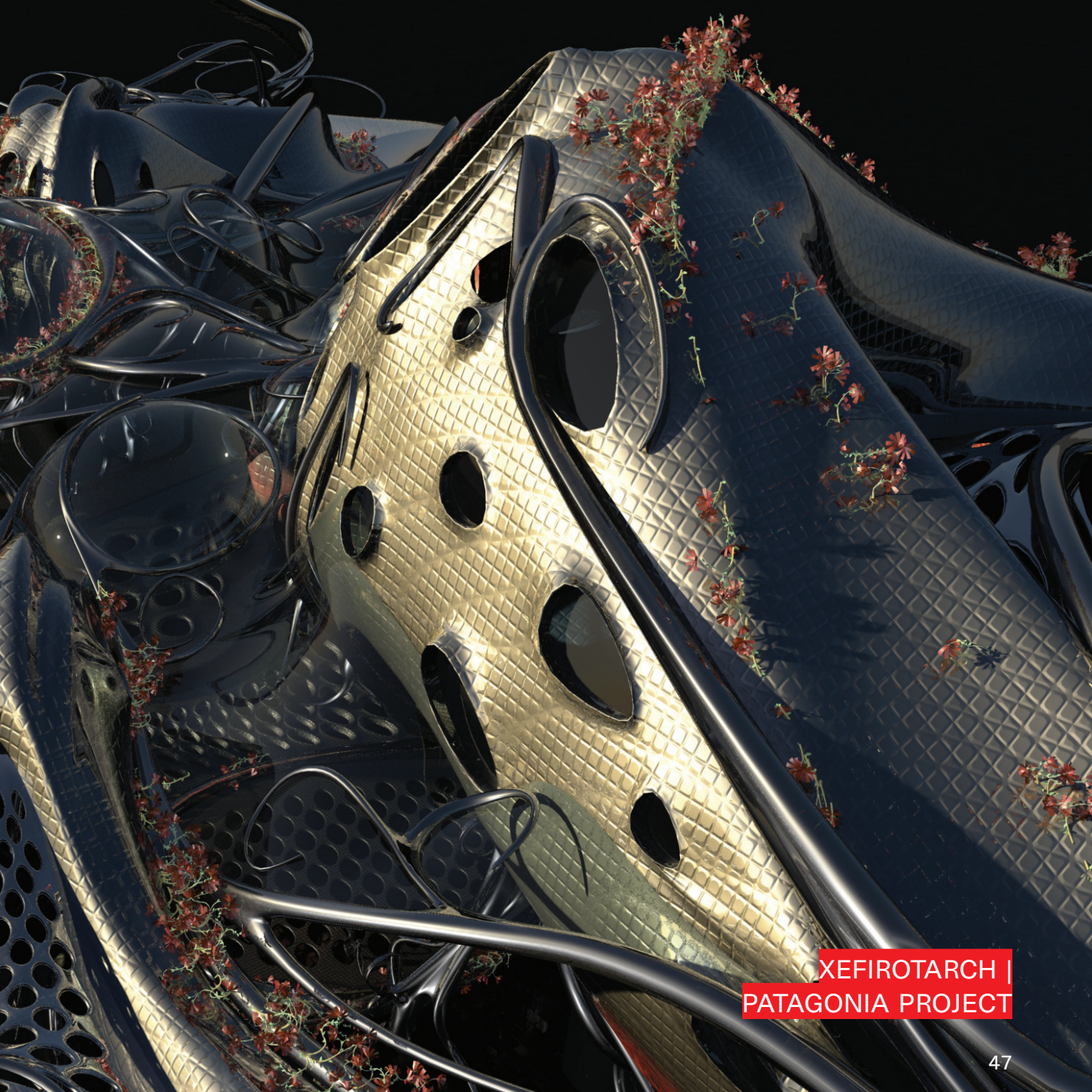
JT: Before we talk too specifically about one project or the other, I wonder if there might be a way to begin to understand these two practices at large.

JT: There's such a degree of repetition and fetish within not only the objects, but in the series of



XEFIROTARCH |
PATAGONIA PROJECT





XEFIROTARCH |
PATAGONIA PROJECT



XEFIROTARCH | PATAGONIA PROJECT

projects that they produce. I wonder if any single project is capable of granting any sort of access into what either of them is about or pursuing.

JJ: I think the layering of repetition is an important quality of the work because it spans not only each of the individual projects but a whole body of work. In a sense it only moves forward by degrees each time until it makes a jump to the next thing.

JT: They obviously master a set of techniques for themselves - Marc might be a bit more inclined to talk about certain techniques of his in certain forums - but at the end of the day, neither one

advocates the significance of the work as solely situated in technique. It's "just" a means... Hernan sites the painter Francis Bacon because as much as he employed rigorous technique, he was able to induce a logic of sense within the work that effectively freed and expanded the technique itself.

JJ: Marc for example has work that was explicitly object-like in its reading or perhaps "field-like" and now seems to moving towards a sort of enclosure or two sided sensibility.

JJ: What's interesting is the contrast in how on is a sort of material take on the problem of variance

while the other is more strongly formal or image based.

JT: Hernan made that jump [from flat to manifold geometry] following the U2 and Busan projects – due to both an increased use of subdivision modeling as well as a likely exhaustion of a previous line of exploration. If nothing else, the work is extremely restless and never seems to settle on a single problem or technique for too long.

JJ: By that I just mean the notion of seems is more central to a description of something that is clearly aimed at material construction.

JT: That might be true, but only if you are actually in the presence of Marc's installations. At the end of the day, architecture seems to be moving more and more to the image – blogs, powerpoint presentations, etc. Just look at how refined both are at producing their images – tuning them to illicit extremely specific sensibilities.

JJ: I think this might be a difference between a sort of additive software process (ie. scripting) vs. a process of deformation and subdivision.

I think the notion of the imaging maybe doesn't speak to the production as much as the post-production.

JT: Miralles understood that architecture was about much more than “mere” buildings... besides, architects don't build buildings – they describe what they could become.



We might be arriving at a measurable difference between these two.

JJ: Yes, but we have a few in this list that are trying to build and describe things simultaneously.

JT: I don't think post-production is exactly an appropriate term though.

JJ: I think the question of building really needs to shift in the context of both of these figures.

JJ: If we are talking about what joins them it is likely a certain exploitation of the tools/techniques towards complex variation – that type of work is well described in images...

...in the way that say “Dutch” architecture is best described by its diagrams and not the buildings.

JT: Both build. This returns us to the question of technique. Maybe a way of framing it is managerial style – management of information, matter, material, pixels, volumes, geometry, etc. Both manage it in incredibly complex ways and produce work that expresses the utter unknowability within their designs. I would argue that knowing and feeling unknowability is precisely what is at stake with both. Hernan in relation to the horrific, Marc in relation to the intensely political very many.

JJ: So maybe let's move on for a second. In a way the work we are looking at here diverges strangely from this point...towards either a more

“deliberate” or optimized technique or towards a sort of effects driven “ambient” condition.

JT: While framing projects in such a way that they can't or shouldn't be entirely understood obviously lends itself to particular sensible effects, I wonder if the presence of building performance as an organizing concept might be an alternative way to understand/manage/present highly complex work?

JJ: How would you situate the work of our next two practices (Matsys & Emergent) in terms of how they approach complexity and optimization?

JT: I would say performance – but a performance that acknowledges a certain aesthetic sensibility.

JJ: Maybe acknowledges is the wrong word.

JT: I wouldn't say that it is a mere alibi for them though. I don't think performance is somehow secondary, but rather that they entwine themselves in one another.

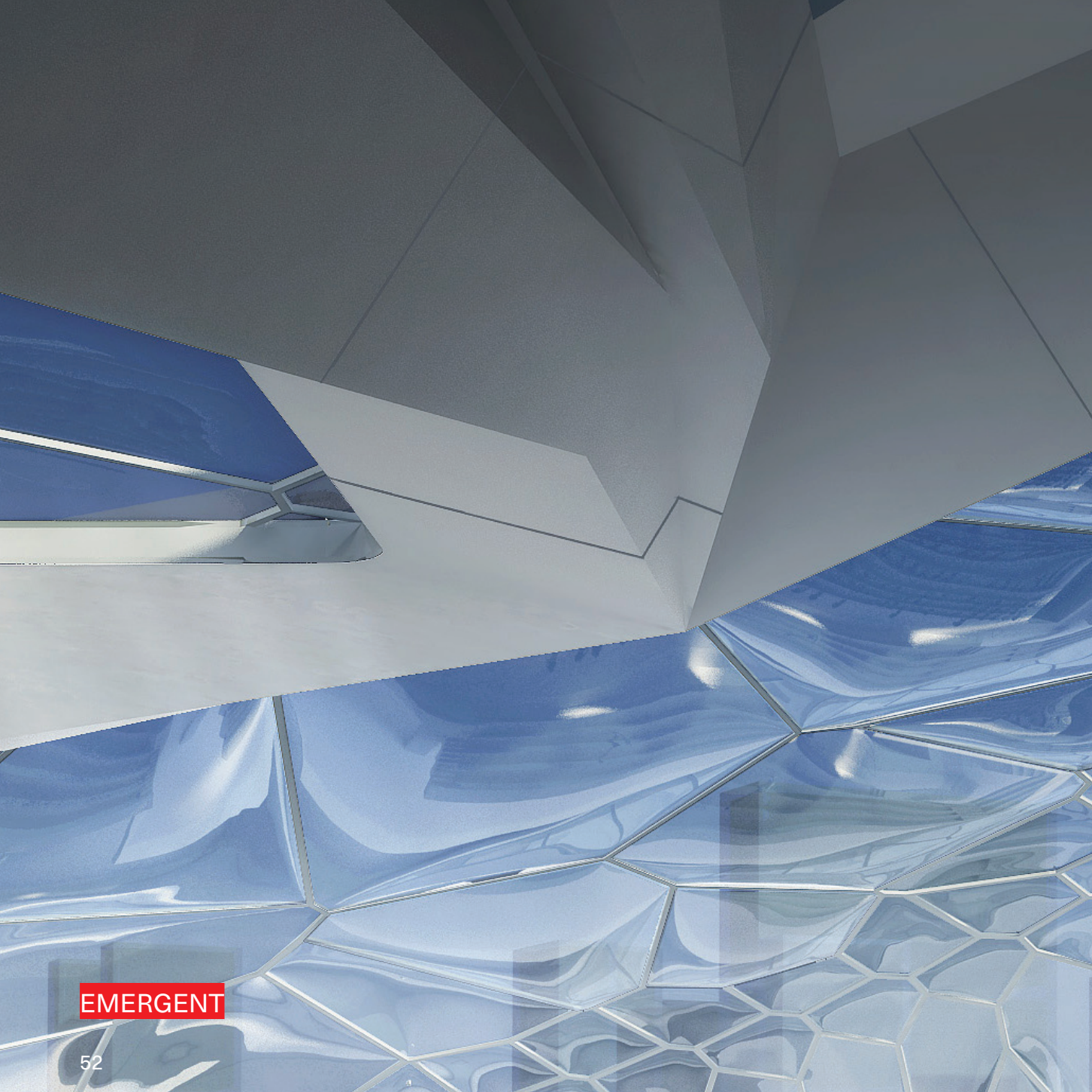
JT: In so many instances, architects opt to run from the potential that performance might afford.

JT: Both Tom and Andrew use it as a vehicle to unlock the projects.

JJ: As an instance of this the screen wall starts to look at the constraint of minimal material not as a



EMERGENT



EMERGENT



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driver towards a reduced formalism.

JJ: The technique uses each component as a starting place for the subsequent component in a way that allows for a continuous deformation of the screen while operating within the constraint of absolute minimum waste.

JJ: This technique moves the problem from one of creating a one sided flat stock material organization strategy towards a two sided manifold assembly by allowing the nesting diagram to become operational a form generator.

JT: The P-Wall was similar in that it used a material constraint to generate a larger unexplored effect. The Zero-Fold screen has a similarly limited constraint that yields its own effect. It's interesting though that the constraints in both the P-Wall and the Zero Fold Screen are completely invisible if you are not told of them. The constraints are completely essential; yet in terms of feeling the work, simply don't exist.

JJ: Its a good point. There is a sort of sensibility that demands an efficiency of means towards a surplus of effect to the point where that efficiency disappears.

JT: But who needs to know the constraint then? Why tell anybody? Does the work need to announce the constraint in order to appreciate it?

In Andrew's case, I would say "yes" but only because it enhances the experience once you are told.

In a sense, it's fulfilling the need for excess to

emerge out of brutally austere economies.

JJ: I think I would term it the Voronoi Affect (like the butterfly effect) In that the most successful projects that use tessellation strategies are the ones that bury it under layers of dependant information and geometry.

JT: Interesting that you bring up the butterfly.

JT: Tom did an installation with Buro Happold in the Sci-Arc gallery a number of years back titled "Dragonfly" that tackled the use of a "thick" Voronoi cantilever. Kind of amazing to see how tessellation has become a dominant feature in his work without becoming reductive.

JT: What's most compelling to me in this sports complex is how the manifold tessellation of the entire project is able to form both mass and surface articulation. One technique deployed at different scales and frequencies that produces a highly differentiated project – it does not "feel" monolithic or fractal.

JT: To the contrary, it produces a highly dynamic condition that starts to open up performance in a distinctly new way.

JT: Begins to reframe building performance as relying on singularity of economy: light, heat, material, loads, etc... becoming either appropriate or even necessary to deploy singular techniques that are capable of differentiation so that an economy has a consistent substrate to operate through.

JJ: Performative expression via material versioning within a singular framework.

JT: In English?

JJ: The optimization is embedded within the logics of the tessellation pattern as it becomes material. So openings, structure and spatial articulation are developed towards higher performance through an understanding of the various material forms that the cells or subdivisions take on.

JT: Quoting the project description: “The architecture is based on crystal patterning found in nature at all scales. The design features large membrane bubble windows with views out to the Park and the city. The patterning of the windows spreads out onto the metal panel facades of the building, erupting as zones of solar panels on the roof. “

JJ: There is for instance a range even within a specific material like ETFE that can from an opaque to clear reading within a specific performative region.

JT: ...and variable depth and area...

JJ: That allows for an interesting reading of the scalar changes.

JT: Materials, geometry, program all forming a programmatic mixture.

JJ: There is a similar thing happening in the Sietch Nevada project...

JJ: ...in that there is a layer of performance that is tuned up to condition specific regions within a larger “landscape” or organizational system...

JT: It’s not to say that Tom and Andrew have a similar sensibility. In fact, their sensibilities end up forming the clearest differentiation of the work – even beyond performance.

But the fact that they use performance as a generative technique that produces both form and understanding within the work.

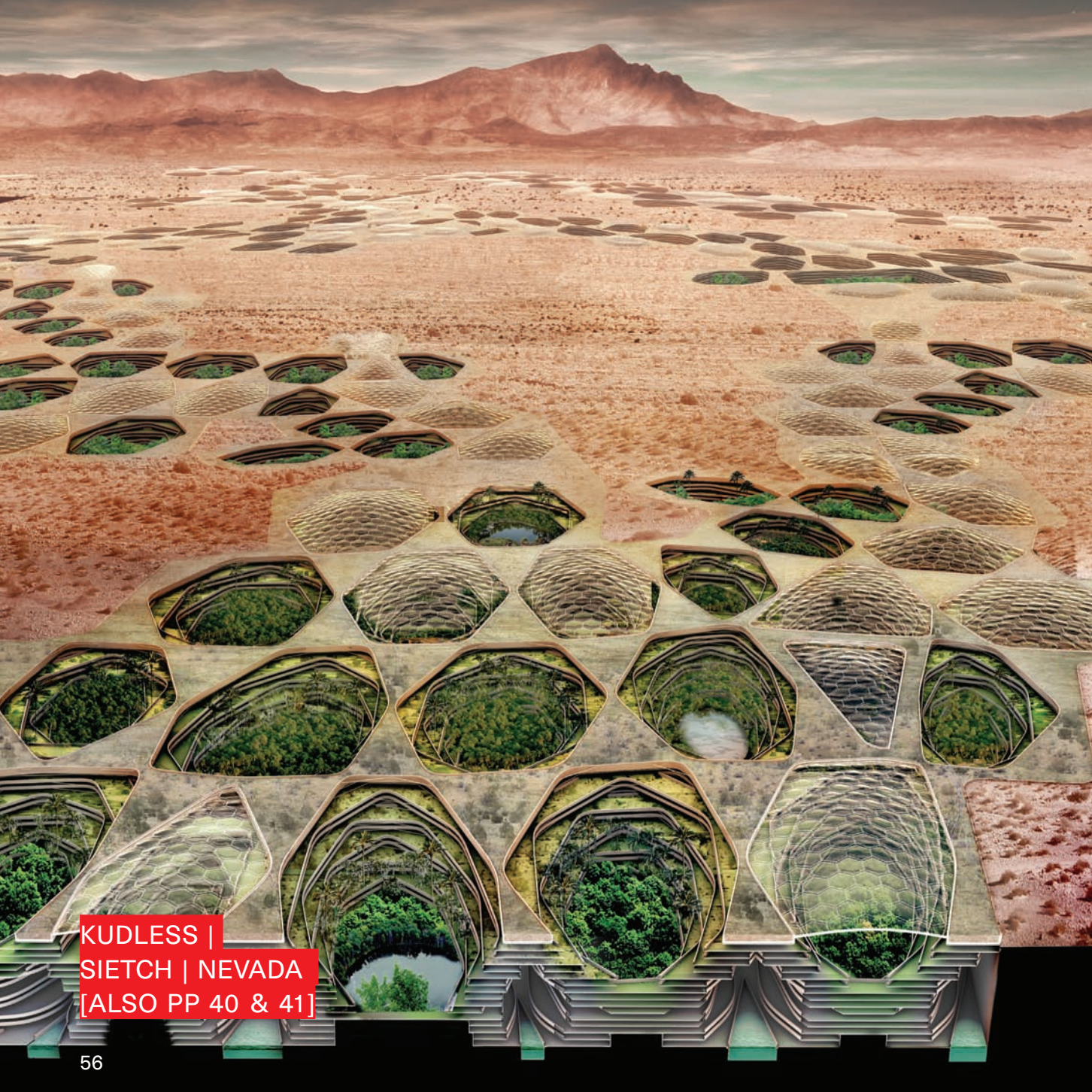
JJ: And that that performance is not explicitly geared towards effects...

...or maybe it is...

...actually it totally is.

JT: Sietch is definitely about more than geometry. But it also clearly embeds performance in the narrative scenario that situates the project: Underground aqueducts in the desert. OK, “go.” The outcome becomes about so much more, but again, the performative aspect ends up enhancing the sensibility of the work – an optimistic sensibility at that.

JT: It’s a bright and light-filled future even though we are forced to live underground in Seitch. Very different from the carcass-laden foothills of Hernan’s Patagonia. Both find certain contradictions that attempt to acclimate us to a



KUDLESS |
SIETCH | NEVADA
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dystopian future. But again, this is something that moves beyond any single lens of the project and into more complex conditions embedded within the work.

JJ: OK, not to get off topic but is there any condition placed on this in terms of being explicit about the computational drivers at play here?

JT: Sure. Both struggle to describe a new form of beauty – beauty within the austerity of performance or in the cannibalistic excess of our present condition. Computation allows for an “honest” and robust projection of those conditions.

JJ: I think in terms specifically about how it is that this work is not new but rather newly enabled by computational excess.

JT: It could be argued that performance-oriented practices are trying to establish broad utilitarian territories for architecture while others see architecture as a vehicle for burying technique within an inherent complexity.

JJ: Diagrams aren't going away they are just becoming more complex and legible in a different way. they aren't about reducing information anymore.

JT: Diagrams have taken on an additional load – they not only describe things, but they have become active things themselves – all part of becoming more acclimated to complexity.

JT: Work from 10 years ago looks simple now but it was mind-blowing then...

JJ: They are now about managing complexity that is ubiquitous and simultaneous – even the renders (from 10 years ago) are just gag worthy.

JT: So is it futile or necessary to try to maintain a level of difficulty in understanding the architectural project?

JJ: Right - how is this stuff that is so image heavy stand up...
in 10 years time?

JT: Yeah, but how does the built stuff not get in the way in 10 years time... or even not get in the way tomorrow?

JJ: In the way of what?

JT: Image has become an active object. If you had a smart phone (which you don't, btw), you would know what I'm talking about....

Marc built an instalation in the Kasian Gallery a few years back. If I'm not mistaken, it is still dominating your office...

JJ: This is just a side question I think but kind of interesting to think about.

But the point I was trying to make was more about how the excess in terms of the computing



MINIMAFORM |
ARCHIGRAM REVISITED

power needed to produce “buildings” is tied to our need to optimize that capacity.

So if we have a more powerful machine we feel the need to do more complex stuff.

JT: One camp might say, “Let’s do a simple, knowable value so we don’t realize how complex things really are.” Another camp might revel in an apparent complexity knowing that it is fleeting and ephemeral, a cultural condition that can never be sustained but drives us toward an excessive brink.

JT: So we are looking at two projects that effectively create an active and somewhat ornamental ground scape.

JJ: How are they displaying opposing mannerisms...or manners.

JT: Interesting to me that there seems to be two breeds of work beginning to emerge out of this collection of projects. Maybe not so clear in the last two we looked at, but some projects, computational and excessive as they might be, appear to insist in the presence of the human hand in the sensibility of the things whereas the other breed almost insists that human interjection in the design is nearly non-existent (barring the fact that there is still an author associated with the work) it could be described as a problem of manners.

I do wonder what manner quasar assumes though.

The information is quite pure, but what changes

everything in the project is the text that accompanies the installation.

JJ: The narrative seems to try and control the experience or at the very least frame it.

JT: So much of the historical Archigram experiment was in fact about a human speculation about the city as a living breathing entity.

Quasar assumes as much by projecting an identity into the network itself.

JJ: its interesting in a sense because these things appear to be in that scenario the sort of undersea helmet that allows you to survive in that environment

Pods, and vehicles.

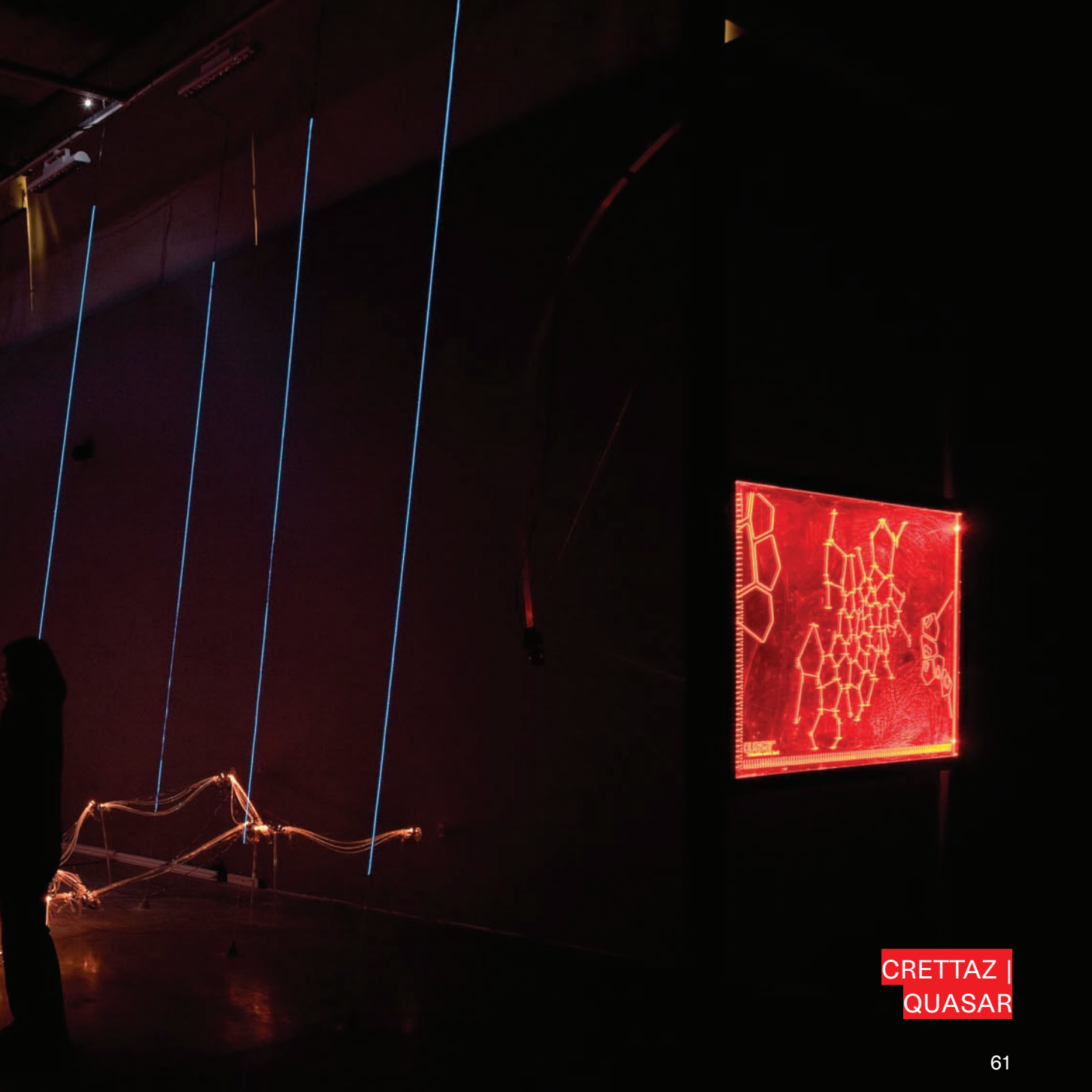
JT: I really do think that playfulness is essential in design at large.

JJ: ...and apparatus for experiencing larger scale phenomena.

JT: I like to think that this is the truly lasting legacy of Archigram - something that the set of designers in this discussion I think all actively embrace.

JJ: Playfulness?





CRETTAZ |
QUASAR

JT: This is the thing that always gets ignored when someone unfamiliar with aesthetically computational architecture (architecture that employs computational techniques toward aesthetic ends). There is always the mistake of understanding the work as “merely formal” when the work itself is a form of play. A serious investigation of undiscovered potential made possible only when one is engaged in a playful state.

JJ: I think we know why that happens...

JT: Like the chained husky that disarms a hungry polar bear by simply assuming a playful posture. Architecture that is too serious is ultimately deadly in my mind. Beauty, desire, follies...

JT: If modern minimalism was truly desirable, humans wouldn't participate with computation and information in these ways.

It happens because we get bored otherwise.

JJ: This kind of work is hard to commodify...

JJ: ...and on the other hand it is hard to make some sort of “academic” case for how it is research.

JT: This is where I like to think that militarization offers a more profound understanding than terms like commercial or academic, residential, institutional or whatever.

The significance of militarization is that it resists compartmentalization and is consumed in indeterminate ways.

JJ: So those who engage these techniques of aggressive design play or design research often try to bury it or cloak it in pretty dull descriptions or bury in some sort of philosophical premise.

but in fact those things are just excuses...

we all just want to play with new toys.

JT: M&M's were soldier food that wouldn't melt in your pocket. In much the same way, I think architecture has to shift toward projecting alternative forms of consumption if it's going to survive.

JT: Not necessarily excuses. Regardless of “packaging” the work we are looking at has infiltrated across a broad spectrum of academic, commercial and even military spectra. Quasar was done in conjunction with extraordinarily funded astrophysical resources. This to me actually links these projects together in the most honest sense though. That the medium connecting multiple data sets is architecture itself - it is the means that produces the fleshy multitude, the living city.

Both aspire to operate as a new kind of interface that in turn spawn new modes of behavior and sensation.

JT: Interesting to note the “Becoming animal” project. Benjamin Bratton ran a seminar at SCI-arc in 2005 paralleling an HDA studio that aimed

at producing animal architectures.

JJ: It seems that more and more of this work is getting lumped into a certain “biomimicry” herd by many who look at it.

JT: It’s an understandable misunderstanding if one isn’t immersed in the problem. Animals don’t think about acting like animals, but they invariably express animal behaviors...

JJ: ...versus a sensibility towards behavior and strategies...

JJ: I think that in general the idea of an interface helps in one sense (in that it seems to indicate a way to change scale)

but on the other hand it also tends to disregard what some might call the responsibility of big A architecture.

JT: To internalize processes from any scale of biological, biopolitical & social processes, would presumably yield an “animal” result. The difference is that the projects we are looking at here are not at all trying to “look” like an animal, but rather, they look animal. They act animal. They might even smell, taste, screw or die like animals.

JJ: So when you say architecture is the thread that connects them all it makes some feel a bit suspicious about how you use the term.

JT: But they are not trying to be anything. In a

sense, this might actually rationalize the means that produces the manner we were discussing earlier.

...architecture is more than mere objects.

JJ: I don’t actually agree that they are not trying to be anything.

JT: Even rationalizing objects in terms of process is effectively useless as Frederic Jameson so famously pointed out.

JJ: I think the fact that all of these projects are easily within 6 degrees of separation from one another can’t be ignored.

JT: Sure. For one, they are trying to achieve behavioral tendencies.

Their successes and failures can be measured in degrees.

JJ: Perhaps, but through a shared set of behaviors which are computational behaviors some might call techniques.

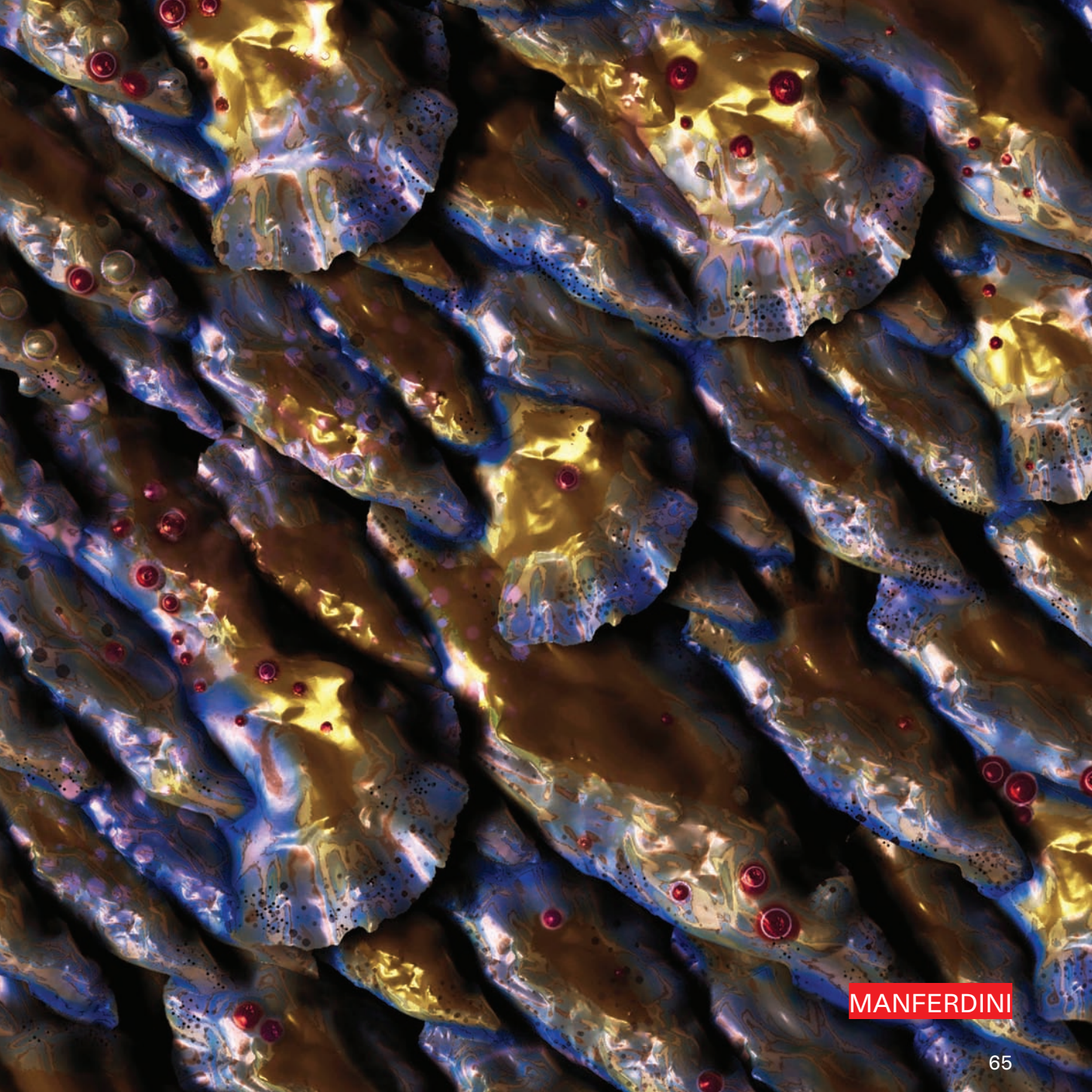
...but the implementation of technique through serial repetition becomes behavior.

JT: But is it that formulaic? I would say, “no.”

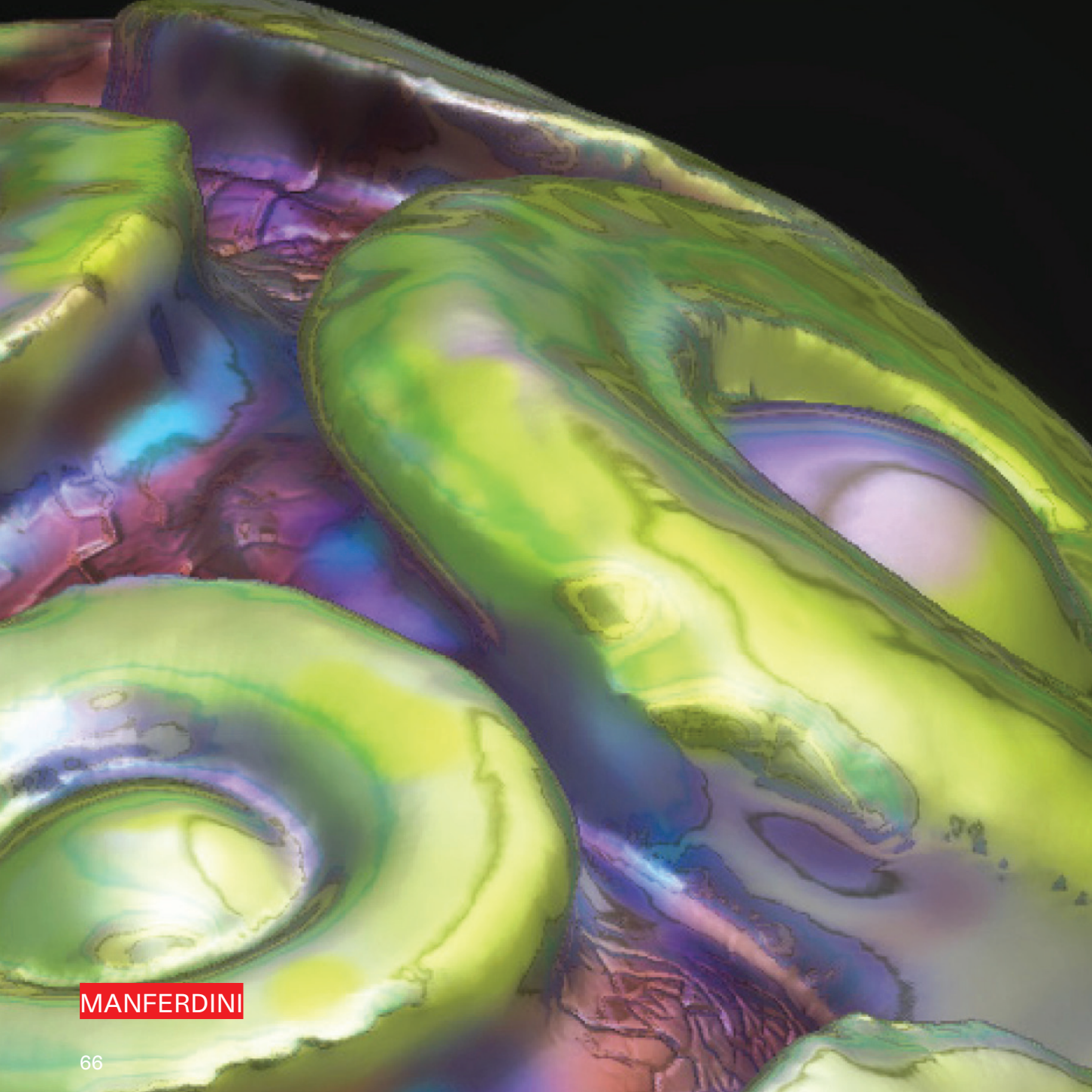
JT: Sol LeWitt might have followed that formula, but that behavior is not what we are really talking



MANFARDINI



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about. Gerhard Richter or even Tara Donovan might serve as more relevant parallels.

That change has to manifest within the body of the work as well as the condition that surrounds it.

Reflexivity as a concept can't be understated when trying to understand how architecture might actually achieve animal behavioral tendencies.

JT: Degree of similarity number 1, we picked them... but seriously, they span the globe, operate across a huge range of territories and yet, I agree, they do share common attributes. I would even go so far as to say they are mainstream. This is to say that they have all achieved a certain level of acceptance (social, commercial, critical, academic, institutional).

JJ: I don't know.

I think it is more of a collective OCD.

JT: I wouldn't disagree with that. Zombie architecture. But this isn't happening in a vacuum... there is a network that perpetuates itself and supports the endeavor.

JJ: Maybe this is a good time to describe what you see as that "change".

JT: Change might be material, geometric, textural, kinematic...

JJ: Towards what does this work trend?

Is it for instance away from the solitary object produced by a solitary manifesto towards an ecology of interconnected and embedded inputs?

JT: But in my mind, architecture that is understood as only a passive and static object, the way modernism framed architecture, is fundamentally incomplete.

JT: Let's just stop being coy about this point because I think we most likely disagree here, but this is the elephant in the room.

JT: Architecture is autonomous in that the decision to design something comes in advance of forming those connections. Those connections incorporate economies into an explicitly limitless yet singular condition. This might be described as a pure interiority.

JT: The notion of framing architecture as both a distinct discipline and as a meta-design entity allows architecture to survive even if it is completely invisible to most.

JJ: Whereas I only suspect that it is...

but hope that it isn't.

JT: I like the fact that the ideological position is being made because it gives architecture a point to then operate around and ultimately destroy...

In a sense, this might be a way for me to implicitly express by own biases toward the projects discussed here.

I like the ones that have the inherent capacity to literally undo themselves.

JJ: I'm just not sure how that makes "architecture" autonomous.

JT: We need at least two volumes of discussion to settle that, but that is a discussion I am dying to have. I think it is fundamentally important to understand the relationship between autonomy and integration if we are to make use of either concept.

JT: I will just say that design must reserve the right to except itself a priori to any given condition. It allows one to initiate the process of forming connections. If nothing else, it allows things to start and philosophically preserves our ability to operate.

JJ: I don't fundamentally disagree which would make the volume a bit dull.

JT: For me, this is what I like about the Manferdinis' new explorations.

I don't know exactly how they will manifest as buildings or materials or programmatic strategies, but I know that an architecture that operates with the level of saturation that it assumes is destined for catastrophe – and I mean this in the most positive sense.

It is a way of forming explicit connections between otherwise disconnected economies and as a result forms a new kind of architecture.

It is as beautiful to me as it is disturbing.

It is exciting precisely because I cannot understand it as a building.

It is very clearly a second or third generation problem that more than a few figures in this article have significantly contributed to and borrowed from.

JJ: I agree that the tendency in both Elena's and the other work discussed here, towards a sort of intensification of connection is what really makes it both digital and biological in a sense...

JJ: ...but at the same time I do think that this work is trending towards is a range or series of steps away from this starting point and towards a more integrative (but not integrated) set of conditions.

The decision to graft something to a tree eventually becomes a new tree and not just the "decision".

JT: The body of architecture cannot remain autonomous, but the project, the projection, is inherently exceptional in my mind. While I don't think exceptional forms of state power are very good, I do like that technology (information technology, software, parametrics, etc) have actually distributed a great deal of power to individuals and individual designers.

JT: Phenomenology, which is so obsessed with the body, effectively arrives at this point. I'd like to think that rather than assuming feminist or patriarchal models, that there might be a more

androgynous model that we might be able to assume...

...but seriously, instead of assuming the patriarchal condition of the tabula rasa the idea that we can actually induce genesis - and assuming that we cannot just make like hippies and start at the point of "we are all one" (where the hell does that get you anyway?) perhaps there is a way to understand that interface inherently produces new populations. We are nonetheless charged with the responsibility to constantly reframe architecture within a changing milieu.

I am wondering - we have been discussing these projects in rather great detail. But how do you go about addressing these kinds of problems in your own work or even through your studios? You have been dealing with weather, a body without organs – something not really biological, but something explicitly behavioral. Maybe you could elaborate on that a bit.

JJ: As in, "are you just as interested in catastrophic disruption as I am? I think the reason that weather interests me is that it is immersive. That its modes of formation can be known but are at a level of complexity that makes them difficult to actually control. This produces a variability that is both ambient and material...

I think the idea behind looking at weather is ultimately for me about how to internalize what we have maintained as an external condition.

It's maybe a question of what do we imagine ourselves to be protecting our precious spaces from when we use terms like envelope and environmental controls...

JT: I think it's just being honest about

architecture's desire to dominate and prescribe knowing that it is inevitably a discipline fueled by imprecision rather than total control.

JJ: The funny thing about doing it this way is that there is actually a kind of strange loop inside the conversation.

JT: I hope so...

That would actually make this thing worth reading.

JJ: Every other comment jumps to the one before. It's like the film Memento.

I need some tattoos to keep up.

⌘

Joshua M. Taron is Principal of Synthetiques, an architecture and design studio focusing on hybrid ecologies afforded through the interface of virtual and physical economies across multiple scales. He is an Assistant Professor of Architecture at the University of Calgary's Faculty of Environmental Design where he co-directs the Laboratory for Integrative Design (The LID). His work has been recognized and exhibited across North America.

Jason S. Johnson is Principal of minusArchitecturestudio (mAs), a collaborative network of designers, coders and fabricators who seek to maximize a distributed knowledge and skill base to engage in architectural speculations and proposals. He has taught and practiced architecture in North and South America and Europe. He is currently an Assistant Professor of Architecture at the University of Calgary where he co-directs the Laboratory for Integrative Design.

FEATURE PORTFOLIO |
EMILY ALLCHURCH





Private

立入禁

**TOKYO STORY
(AFTER HIROSHIGE)**



Emily Allchurch creates complex photographic images that closely reference old master paintings and prints. Each of her images is composed from numerous photographs, carefully blended using digital software, to produce a seamless recreation of the original, set in a contemporary idiom. Tokyo Story is the culmination of Allchurch's long-standing interest in Japanese wood-block prints in the ukiyo-e tradition ("pictures of the floating world" produced between the 17th and

20th centuries), and pays homage to the master printmaker Utagawa Hiroshige (1797-1858) and his last great work the 'One Hundred Famous Views of Edo' (Meisho Edo hyakkei) (1856-58) - the largest single-sheet landscape album in the history of ukiyo-e and considered Hiroshige's masterwork.

Hiroshige was active at a very interesting period in Japanese history, just before the end of the Shoguns' rule in 1868, when Japan was opened

up to the West. His series of views of Edo (former name of Tokyo) captures his native city at this important threshold between a traditional Japan and the huge upheaval induced by both the threat and opportunity of Western imperialism. The prints indirectly reflect upon this moment of rapid change and the subsequent pressure on the environment and cultural heritage. It was a time when travel throughout Japan was opening up to the masses. Tourists could buy these mass-produced prints as a single sheet souvenir (for the cost of a double helping of noodles) or collect the full album over a period of time, as each new print was released. It was the picture postcard/photography of its day.

The 'One Hundred Famous Views of Edo' is celebrated for its striking compositions; with a dramatically enlarged and often sharply cropped foreground object, set against a distant view and for its mastery of bokashi; luminous cross-fading effects created through the graduated wiping of the ink on the printing blocks. Allchurch was captivated by the vibrancy of these works and wanted to follow in the footsteps of Hiroshige to see if she could update the series, from a modern-day perspective, using contemporary photographic tools and her use of back-lit imagery. Her challenge was to transpose the flat colours and brevity of line inherent in the woodblock print into the medium of photography, to create images that would resonate to an audience today.

In 2009 Allchurch travelled to Tokyo and journeyed around the city to many of the locations in Hiroshige's album. She took many hundreds of photographs along the way to form an image library from which to complete her digital composites on her return to London. She was amazed that, whilst much of the skyline has changed beyond recognition in the subsequent 150 years, so much tradition has been preserved,

particularly around the temple and shrine culture. She found an attention to detail and pride in appearance that permeates the whole society and wanted her homage to respectfully reflect this.

Each of Allchurch's ten 'portraits' of Tokyo presents a different story, revealing a gentle social narrative for the city today. Nothing has been left to chance. Every element in the work: landscape, architecture, street furniture and people have been carefully selected by the artist to show an aspect of Japanese culture; from the protective wrapping of the tree trunk in Tokyo Story 6: Shrine to the 'coupling' of figures and objects in Tokyo Story 9: Bankside. Enlarged lotus flowers are set against a present day Tokyo skyline, complete with advertising hoardings, in Tokyo Story 1: Lotus Garden. The mid-ground reveals a female figure captured in the leisurely pursuit of flower photography. Tokyo Story 5: Cherry Blossom poignantly contrasts the delicate beauty and hope of spring blossom with the harsh reality of modern life, illustrated in the sad figure of the homeless man. Whereas Tokyo Story 8: Temple, juxtaposes the religious heritage of the temple grounds, with the light entertainment of souvenir shops and fairground rides sometimes found within them. Throughout the series the deliberate positioning of signage and motifs offers a contemporary vision of underlying control and polite order.

Just as Hiroshige's 'One Hundred Famous Views of Edo' has come to mark a decisive moment in Japanese history, so Allchurch's re-staging in Tokyo Story might prove to form a lasting portrait, capturing the essence of the city for the early 21st century.

⌘

TOKYO STORY
(AFTER HIROSHIGE)

BY EMILY
ALLCHURCH

TOKYO STORY 1 |
LOTUS GARDEN
(AFTER HIROSHIGE)

TOKYO STORY 1 |
LOTUS GARDEN
(AFTER HIROSHIGE)
DETAILS PP 78 & 79



警告
蓮の花、少根を踏む
歩み遅ることを
お願い致します



警告
蓮の花、ツボミ等を
切り取ることを
厳禁します。
上野恩賜公園管理所

← 順路





THIS IMAGE IS PHOTOGRAPHED ALMOST ENTIRELY AT UENO PARK

1. "IT IS FORBIDDEN TO PICK THE LOTUS BULBS

2. THE JAPANESE HAVE OBSERVED THAT CATFISH EXHIBIT UNUSUAL BEHAVIOUR BEFORE AN EARTHQUAKE

3. NTT DOCOMO YOYOGI BUILDING IN THE SHIBUYA WARD IS THE 3RD TALLEST BUILDING IN TOKYO

TOKYO STORY 1 |
LOTUS GARDEN



Inspiration: Horikiri Iris Garden

TOKYO STORY 2 |
BRIDGE (AFTER
HIROSHIGE)

TOKYO STORY 2 |
BRIDGE (AFTER
HIROSHIGE) DETAIL
PP 84 & 85



目木橋

63部

新 63







1. SIGN READING
'NIHONBASHI' (BRIDGE OF
JAPAN) FROM THE 19TH CE
REPLACEMENT BRIDGE

2. WROUGHT IRON DETAIL
FROM THE 19TH CE
REPLACEMENT BRIDGE

3. PACKED FISH FROM
TSUKIJI FISH MARKET

4. KITCHENWARE FROM
KAPPABASHI DORI

5. PORT OF TOKYO
AND SUMIDA RIVER

6. RIVER FRONT ASAKUSA

TOKYO STORY 2 |
BRIDGE (AFTER
HIROSHIGE)

7. ODAIBA SKYLINE WITH
FUJI TV HEADQUARTERS

8. WADAKURA BRIDGE AT
WADAKURA FOUNTAIN PARK,
NEAR THE IMPERIAL PALACE



Inspiration: Nihonbashi and Edobashi

TOKYO STORY 3 |
NIGHT HARBOUR
(AFTER HIROSHIGE)

TOKYO STORY 3 |
NIGHT HARBOUR
(AFTER HIROSHIGE)
DETAIL PP 90 & 91









1. SUMIDA RIVER

2. HARBOUR EXIT AT
HAMA RIKYU GARDEN

3. PHOTOGRAPHED ON
SUMIDA RIVERBANK
IN ETAI AREA

4. STREET GRAPHICS
PHOTOGRAPHED IN THE
RYOGOKU DISTRICT

5. LANTERN WITH
TAKASHIMAYA DEPARTMENT
STORE LOGO

TOKYO STORY 3 |
NIGHT HARBOUR
(AFTER HIROSHIGE)



Inspiration: Tsukuda Island from Eitai Bridge

TOKYO STORY 4 |
INTERIOR (AFTER
HIROSHIGE)

TOKYO STORY 4 |
INTERIOR (AFTER
HIROSHIGE) DETAIL
PP 96 & 97









1. KIMONO ON HANGER

2. ACCESSORY TO HANG FROM THE OBIKIME – DECORATIVE CORD WORN TO SECURE THE OBI (SASH) AROUND THE KIMONO

3. WASABI PAPERS

4. PILE OF KIMONO FABRICS AND OBI (SASHES)

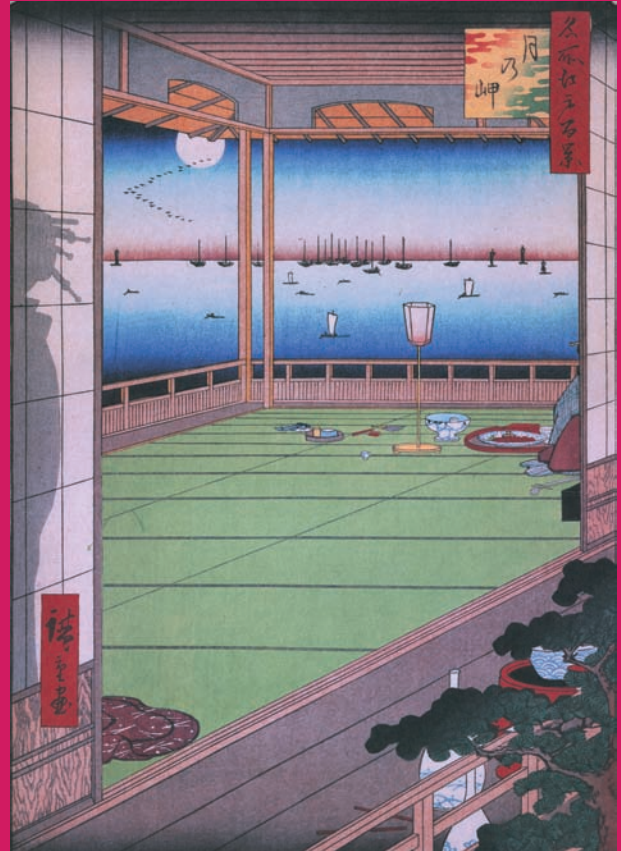
5. REFERENCE BOOK 'ONE HUNDRED FAMOUS VIEWS OF EDO' BY HIROSHIGE

6. PORT OF TOKYO

7. WASHING LINE

8. SLIDING SCREEN,
KASUGA SHRINE, NARA

9. FABRIC BANNER
FROM NARA SHRINE
WITH CHARACTERISTIC
DEER DESIGN



Inspiration: Moon Promontory

TOKYO STORY 5 |
CHERRY BLOSSOM
(AFTER HIROSHIGE)

TOKYO STORY 5 |
CHERRY BLOSSOM
(AFTER HIROSHIGE)
DETAILS PP 102 & 103



納通
奉融
錢塚地蔵尊

柴田元







1. PORT OF TOKYO /
ODAIBA SKYLINE

2. THE RAINBOW BRIDGE

3. TORII GATE: MARKS
THE APPROACH /
ENTRANCE TO A SHRINE

4. KIYOMIZU-DERA
TEMPLE, KYOTO

5. ONIKUJI: FORTUNE
TELLING PAPER STRIPS.
ACCORDING TO CUSTOM
BAD FORTUNE CAN BE
AVERTED BY TYING THE
PAPER TO A TREE'S BRANCH

TOKYO STORY 5 |
CHERRY BLOSSOM
(AFTER HIROSHIGE)

6. MANICURED LAWN IN
TEMPLE GROUNDS, KYOTO

7. BANNER WITH NAME OF A
PATRON WHO HAS MADE A
DONATION TO THE TEMPLE



Inspiration: Sujin Shrine and Massaki on the Sumida River

TOKYO STORY 6 |
SHRINE (AFTER
HIROSHIGE)

TOKYO STORY 6 |
SHRINE (AFTER
HIROSHIGE) DETAILS
PP 108 & 109



本殿

落書き禁止
文化財を落書き等で損傷すると
法により罰せられます。
No scribbling here.

♡ 7.5.2009
Please pray for my grandma
who is fighting a battle with
lung cancer. Keep my parents
family and other friends
in good health and spirits. 願
Watch over all of my new 意
Tokyo abroad friends to keep
them safe. I pray to be strong
for my friends and family
during these times. -Traci B.

2009.5.16.

Nicole

• 希望能找到好工作!!!
• 大家身体保健康! Meichiao 願
• Lili 学业“顺利”下次再一起来日本 意
• 能顺利毕业,早日娶大家





1. EMA: WOODEN PLATES ON TO WHICH SHRINE VISITORS LEAVE MESSAGES OF HOPES AND WISHES

2. PROTECTIVE WRAPPING ON TREE TO PROTECT AGAINST SUMMER HEAT

3. OUT-BUILDING AT PRESENT-DAY KANDA MYOJIN SHRINE

4. STREET GRAPHICS PHOTOGRAPHED IN THE RYOGOKU DISTRICT

5. MIZUKO KUYO: 'FETUS MEMORIAL SERVICE' – MEMORIAL TO LOST BABIES, ZOJO-JI TEMPLE

TOKYO STORY 6 |
SHRINE (AFTER
HIROSHIGE)

6. RARE EXAMPLE OF
CCTV SURVEILLANCE

7. MUCH OF SKYLINE
FROM PRESENT-DAY
KANDA MYOJIN SHRINE

8. PEACE GARLAND WITH
ORIGAMI CRANES TO
SYMBOLIZE HOPE FOR
PEACE IN THE WORLD



Inspiration: Dawn at Kanda Myojin Shrine

TOKYO SHRINE 7 |
NIGHTFALL (AFTER
HIROSHIGE)

TOKYO SHRINE 7 |
NIGHTFALL (AFTER
HIROSHIGE) DETAILS
PP 114 & 115







TOKYO SHRINE 7 |
NIGHTFALL (AFTER
HIROSHIGE)

8. DRAIN COVER WITH
LOTUS FLOWER DESIGN



Inspiration: Dawn inside the Yoshimara

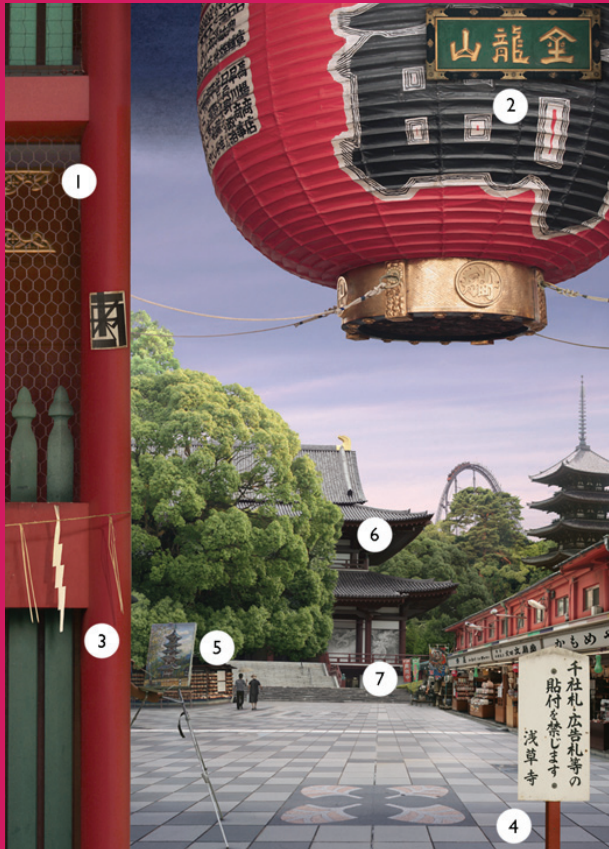
TOKYO SHRINE 8 |
TEMPLE (AFTER
HIROSHIGE)

TOKYO SHRINE 8 |
TEMPLE (AFTER
HIROSHIGE) DETAILS
PP 120 & 121









1. KAMINARIMON GATE
'THUNDER GATE', SENSO-
JI TEMPLE, ASAKUSA

2. SENSO-JI TEMPLE
(ASAKUSA KANNON TEMPLE)

3. SHIMENAWA: STRAW
ROPE WITH ZIG-ZAG PAPER
(GOHEI) MARKS BOUNDARY
TO SOMETHING SACRED

4. SIGN READS: "PLEASE DO
NOT PUT UP SENJAFUDAS
OR ANY OTHER POSTERS,
ASAKUSA TEMPLE"

5. EMA: WOODEN PLATES
WHERE VISITORS WRITE
THEIR HOPES AND WISHES,
MEIJI JINGU SHRINE

TOKYO SHRINE 8 |
TEMPLE (AFTER
HIROSHIGE)

6. ZOJO-JI TEMPLE

7. SCREEN FROM INTERIOR OF
RYOGEN-IN, SUB-TEMPLE OF
DAITOKU-JI TEMPLE, KYOTO



Inspiration: Kinryuzan Temple at Asakusa

TOKYO SHRINE 9 |
BANKSIDE (AFTER
HIROSHIGE)

TOKYO SHRINE 9 |
BANKSIDE (AFTER
HIROSHIGE) DETAILS
PP 126 & 127









1. "DANGER: MIND YOUR STEP", ODAIBA, PORT OF TOKYO

2. SUMIDA RIVER

3. TURTLES IN UENO PARK

4. JETTY, ODAIBA, PORT OF TOKYO

5. BOAT POND, UENO PARK

6. STREET GRAPHICS PHOTOGRAPHED IN THE RYOGKU DISTRICT

7. KAMO RIVER BANK, PONTOCHO DISTRICT, KYOTO

TOKYO SHRINE 9 |
BANKSIDE (AFTER
HIROSHIGE)

8. "MAPLE TREE"



Inspiration: Ommayagashi

TOKYO SHRINE 10 |
WILLOW LANDSCAPE
(AFTER HIROSHIGE)

TOKYO SHRINE 10 |
WILLOW LANDSCAPE
(AFTER HIROSHIGE)
DETAILS PP 132 & 133



柳橋

←
富士山
Mt. Fuji: Fuji-san
97km



舟
心





1. "WILLOW BRIDGE"

2. TSUTENKYO BRIDGE IN
KOISHIKAWA GARDEN

3. MOAT WALL AROUND
IMPERIAL PALACE

4. TSUKIJI FISH MARKET

5. SHIBUYA WARD

6. SUMIDA RIVER

7. FUJI-SAN FROM THE 'SKY-
DECK' AT ROPPONGI HILLS

8. DISTANCE FROM
TOKYO TOWER

TOKYO SHRINE 10 |
WILLOW LANDSCAPE
(AFTER HIROSHIGE)



Inspiration: Yatsumi Eight View Bridge

Emily Allchurch, born 1974, is a UK artist, living and working in London. She completed an MA at the Royal College of Art in 1999 and has since established an international reputation for her complex photographic images output as back-lit transparency works.

Her practice closely references old master paintings and prints from a Western tradition and more recently an Eastern perspective. Using the original image as my map and guide, she sources and photographs buildings and landscapes in the urban environment that she can use to recreate the scene from a contemporary perspective. The aim is to engage the viewer in a new dialogue with a painting/print genre from the past – through a contemporary filter of narrative and social subtext. Many photographs are used to fabricate each image, using digital software to create a seamless new space. Each of the photographic elements has an overt meaning; nothing is arbitrary. In one sense they are composite documentary records of her journey around a city in pursuit of the jigsaw pieces that will complete her mapped image. She compresses a journey around a city or landscape into a single scene.

In ‘Settings’ series (2003-6), Emily’s visual transpositions of well-known paintings by European masters are apparently visually faithful, yet it is on closer inspection that the story unravels. In her images the original protagonists have been removed, shifting the focus to the background setting, all shot around London. They are now suggestive of theatrical backdrops or film sets, anticipating an event or perhaps recording its aftermath. What remains, however, are the residual traces of a narrative; graffiti, discarded beer cans, rubbish left after a summer

picnic, road works, for sale signs etc. The works are presented as large backlit transparencies, accentuating the dramatic allusion of the pieces.

The series ‘Urban Chiaroscuro’ (2007) is a visual meditation on contemporary urban living inspired by the master Italian etcher Giovanni Battista Piranesi’s acclaimed series, *Carceri d’Invenzione* (Imaginary Prisons) c.1745-1761. Just as Piranesi’s prison fantasies, with their boundless space, impossible structures and spatial paradoxes were seen by many as a commentary on the restrictive social order of his time, so Emily’s series captures the claustrophobic climate of fear and the prevalence of the technology of surveillance in our age. Each image is a constructed composite of photographs taken in contemporary London, Rome and Paris. The series received critical acclaim and was featured in *Portfolio #47*, FMR White edition 2008 and *Paper City: Urban Utopias* at the Royal Academy of Arts in 2009.

Her latest series ‘Tokyo Story’ (2011) pays homage to the master Japanese printmaker Utagawa Hiroshige and his last great work *One Hundred Famous Views of Edo* (1856-58). Hiroshige’s series was made at a time of huge upheaval in Japan, induced by both the threat and opportunity of Western imperialism. This poetic series of Edo *meisho* (famous places of old Tokyo) indirectly reflects upon this moment of rapid change and the subsequent pressure on the environment and cultural heritage. Transposing his distinctive techniques of abstraction, vivid colouring and composition into photography, *Tokyo Story* is Emily’s own record of the city from a contemporary perspective. Shot on location in Tokyo, she visited many of the locations depicted

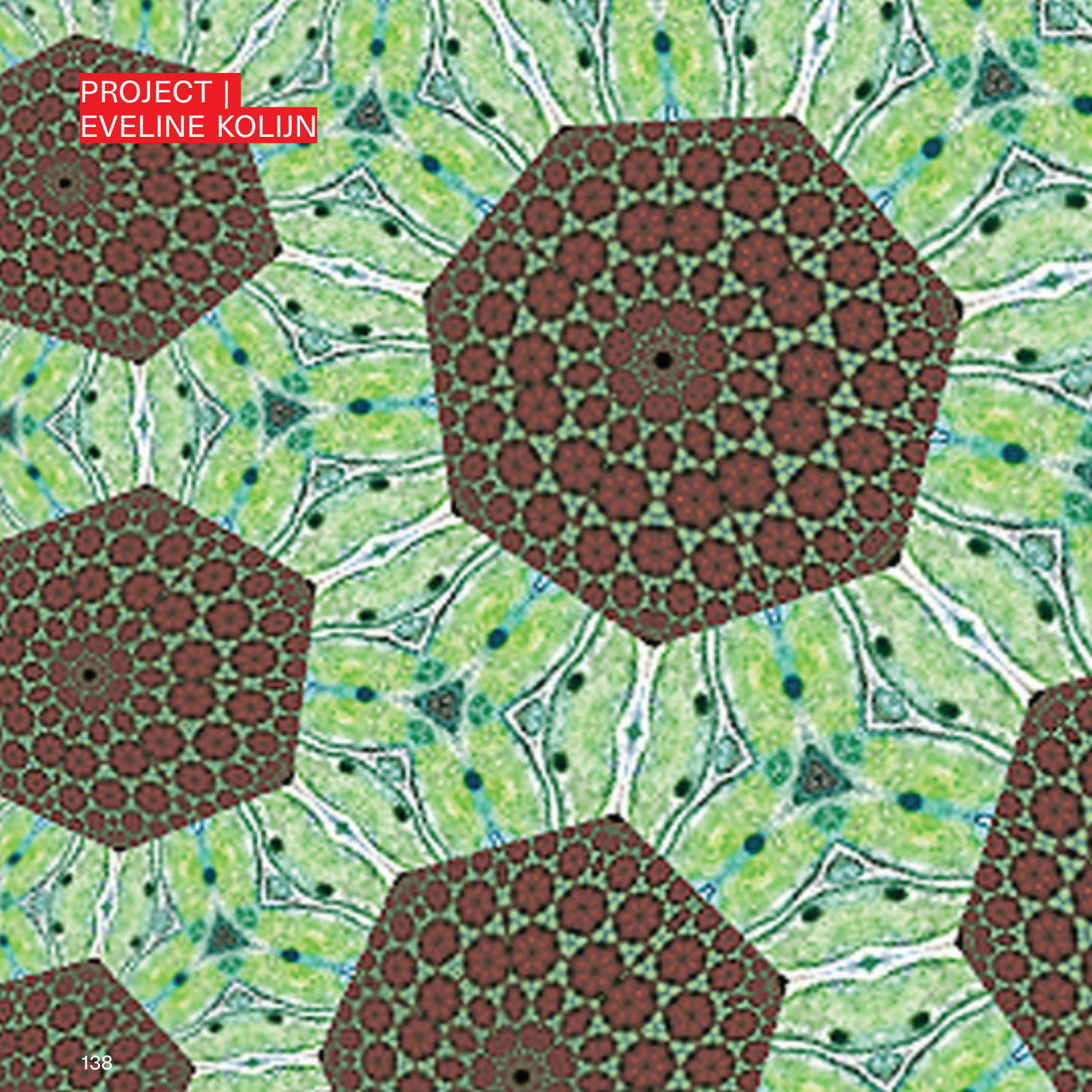
in Hiroshige's 'views' and the resulting composite images reveal a gentle social narrative for the city today. The series was launched at the Daiwa Anglo-Japanese Foundation in London from 19th January-11th March 2011, and moved to Diemar Noble Photography from 17th March-7th May 2011. The series was featured in the Sunday Times Magazine on 3rd March 2011.

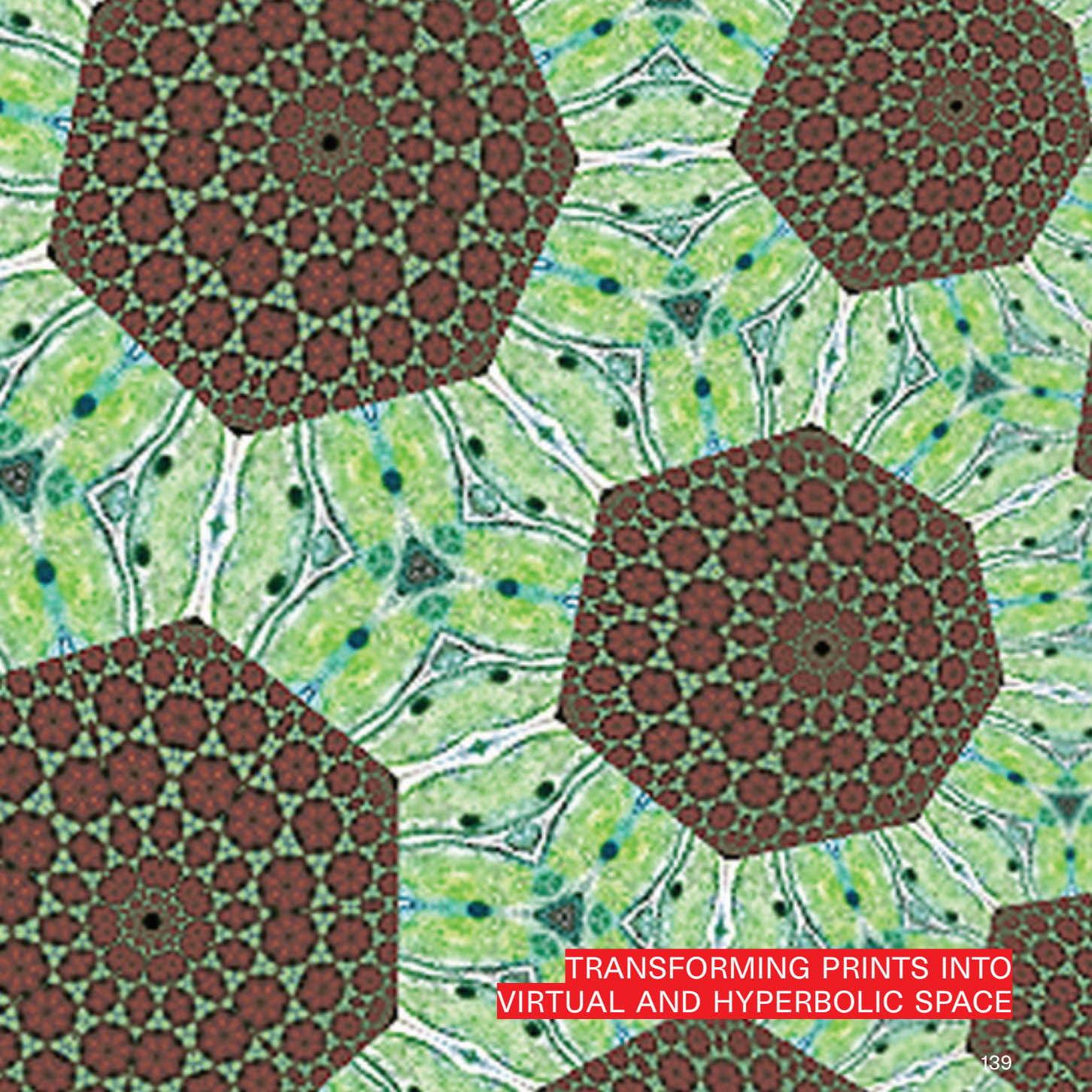
Emily has works are in international public and private collections including Nouveau Musee National de Monaco, Financial Services Authority,

Aspen Re Insurance, Galleria Parmeggiani and Charing Cross Hospital. Teaching at all age levels is an important part of her practice. She has been a visiting artist at Alberta College of Art & Design in Canada, University of the Creative Arts, Rochester and Newport College of Art. She featured in the BBC4 series' A Digital Picture of Britain (2005) and Britain in Pictures (2007) and appeared in the BBC4 film This Green and Pleasant Land; The Story of British Landscape Painting in May 2011. ☚



PROJECT |
EVELINE KOLIJN





TRANSFORMING PRINTS INTO
VIRTUAL AND HYPERBOLIC SPACE

TRANSFORMING PRINTS INTO VIRTUAL AND HYPERBOLIC SPACE | EVELINE KOLIJN

Science and nature inspire my art. My work investigates forms and patterns in nature, organisms, and mechanisms. In recent prints and recycle-art, I have focused on marine environments. The current environmental threat to coral reefs is a personal issue, as I lived in the Caribbean during my teens and have been able to observe first-hand their spectacular decline in the past decades.

An international, collaborative art-project that relates to my practice is the Crochet Reef¹. Daina Taimima, a mathematician who is also well-versed in the fibre arts, produced a perfect physical model of non-Euclidian, hyperbolic geometry in crochet. Margaret and Christine Wertheim recognized the organic shape of coral in this model and started a collaborative effort, in which women from all over the world crochet coral reef forms. These pieces have been collected and installed at various locations and have also been used to raise environmental awareness about the precarious state of the world's coral reefs.

In Taimima's original prototype, I instantly recognized the shape of *White Scroll algae*, Caribbean seaweed that tends to grow on rocks and old coral boulders in the shallow surf close to the beach. Intrigued, I researched three-dimensional renderings of all these fantastic,

non-Euclidean mathematical shapes that exist in hyperbolic space. Everyday samples are the curls of a lettuce leaf or the shape of a saddle.

In my search, I encountered a freeware computer program², which allows the user to manipulate geometric solids, tiling kaleidoscopic images and also create the Poincaré-disc³, which is a two-dimensional model of the hyperbolic plane.

Through this program I converted images of my own art into mathematical solids and kaleidoscopic figures. The manipulation transported images of hand-drawn, physical prints and objects into both the virtual and hyperbolic space.

Further digital manipulation of resulting images can continue on endlessly, extending the possible variations infinitely. This begs the question what the piece of art finally is: the original piece, its digital image or the probability of all the possible variations? What better mathematical form to express this issue than the Poincaré-disc, which is a two-dimensional depiction of an image endlessly extending, but never reaching the edge of the circle into infinity? ☼

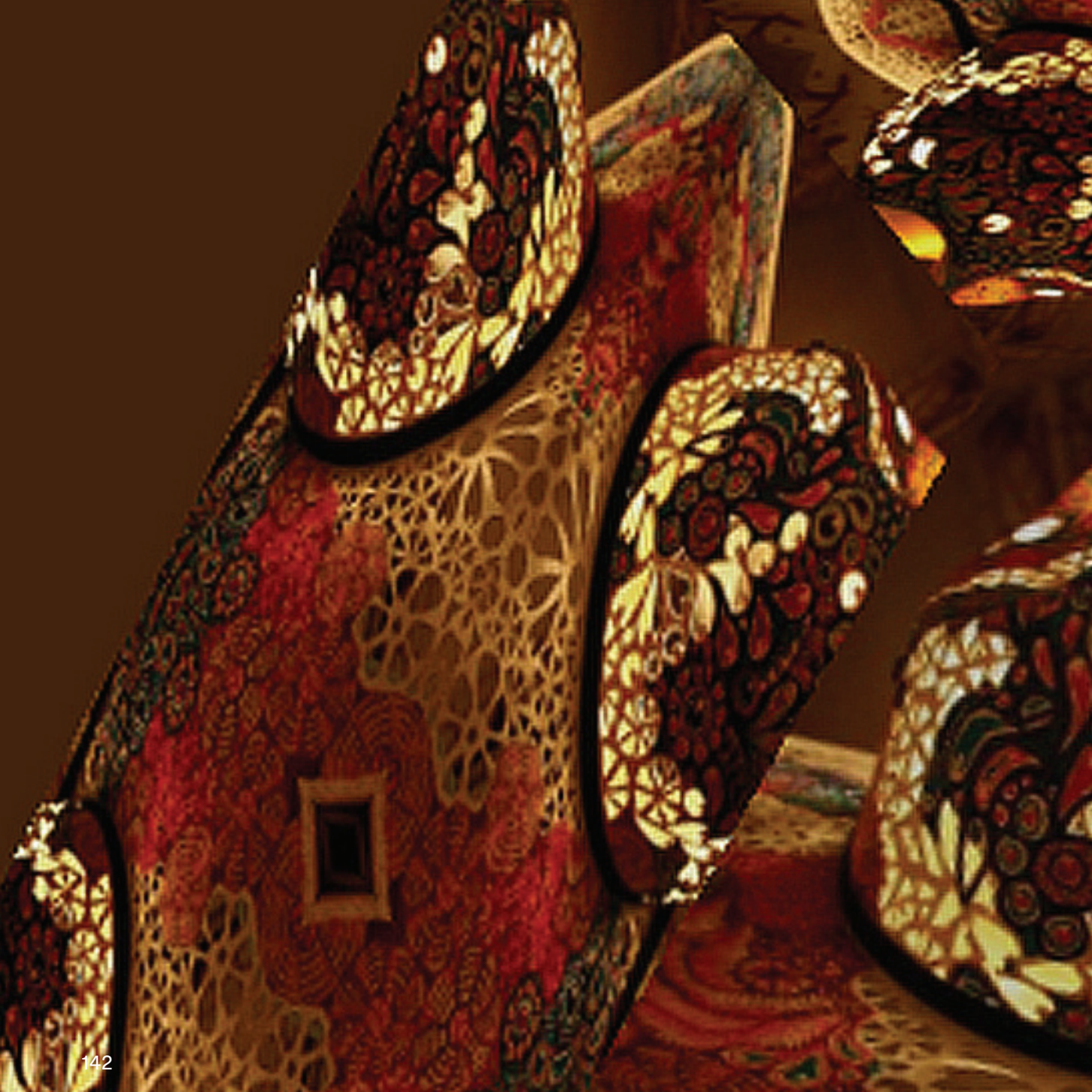
1 <http://crochetcoralreef.org/about/history.php>

2 <http://www.geom.uiuc.edu/software/download/KaleidoTile.html>

3 <http://mathworld.wolfram.com/PoincareHyperbolicDisk.html>

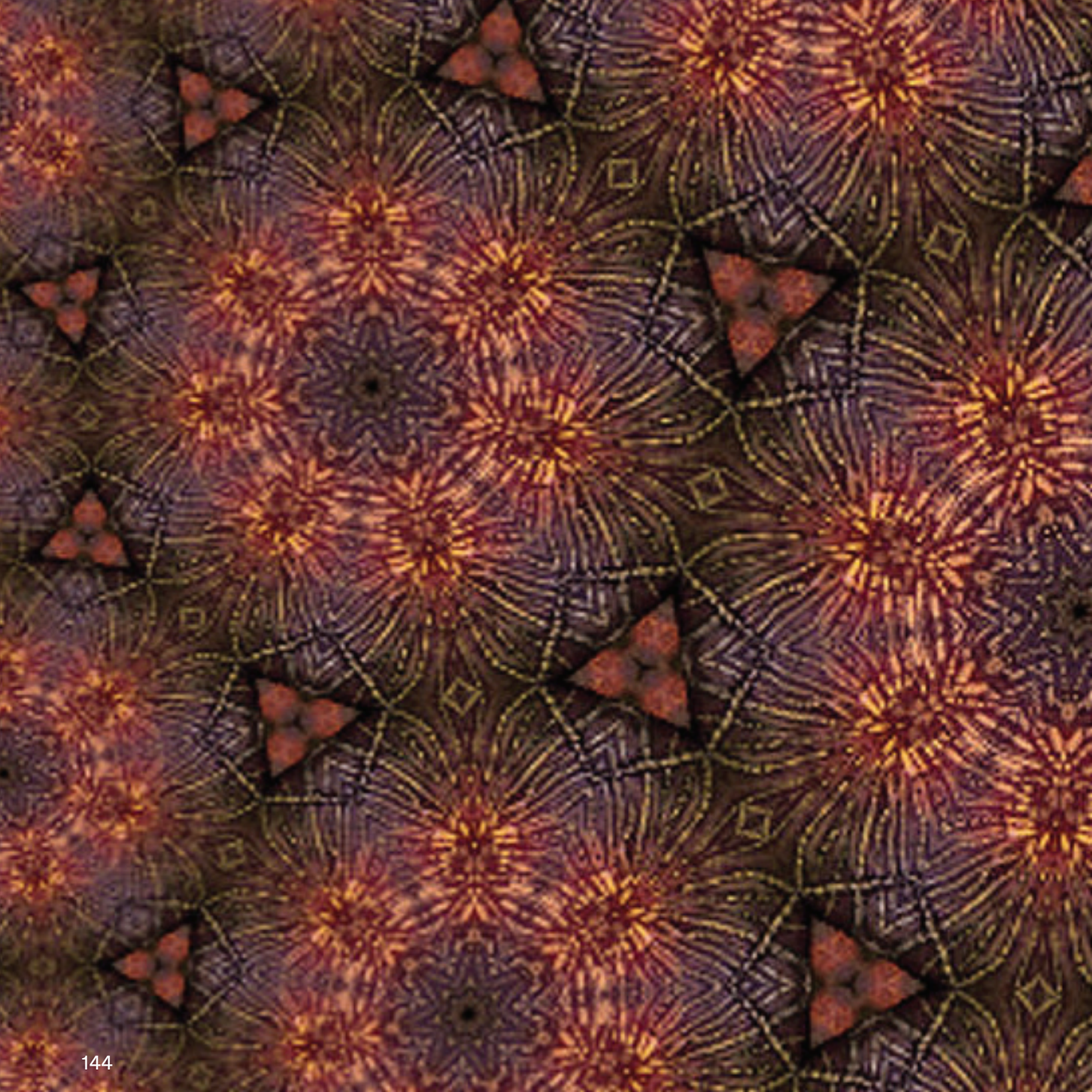


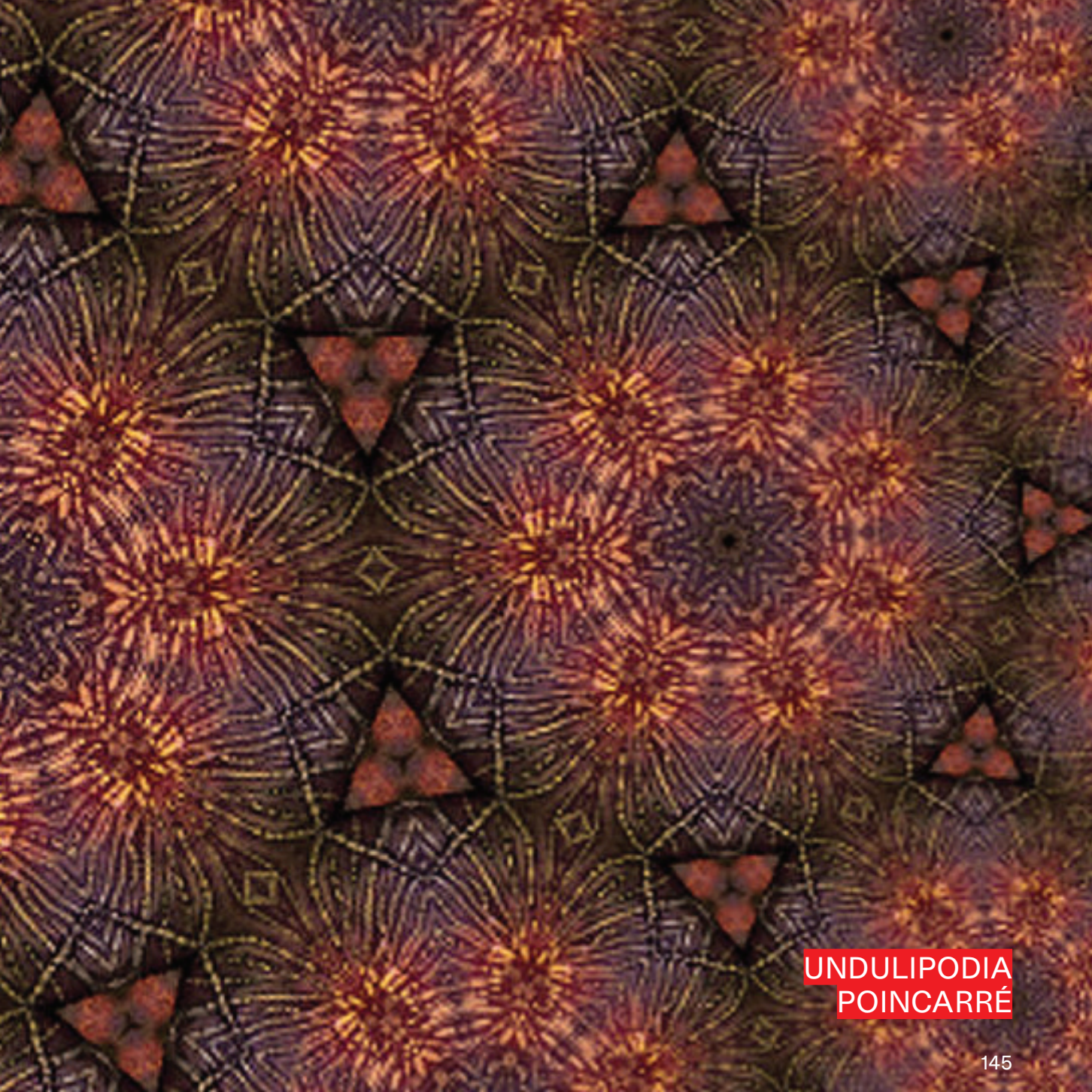
**CHLOROPLAST
SPHERE**





CORAL HAT
CUBE TRIANGLE
OCTAHEDRON





UNDULIPODIA
POINCARRÉ





VESICLES |
SPHERE

TRANSITION: CONTEMPLATIVE INTERACTIVE ART | KATAYOON ETEMAD, LIA ROGERS, SHEELAGH CARPENDALE & ALAN DUNNING

Transition, an interactive gallery installation, investigates the notion of developing new art work that promotes a contemplative state. To this end we have blended new and traditional media. Transition has four primary elements: a reflecting pool containing a submerged Muqarnas (a sculpted form of ancient Persian architecture); projected animated Persian floral patterns; spoken poetry audio; and passive interaction. To fully view Transition as an installation is entirely dependent on the audience's stillness. Considering art and science as mutually beneficial modes of inquiry, this paper details the development of the installation, its history, cultural and theoretical underpinnings, and documents how individuals and groups respond to an interaction requirement in the viewing of an artwork.

Introduction

Over the centuries the goal of many forms of art has been to promote a more contemplative state in the viewer. It is this goal, which is less common in new media art work, which we pursue in our installation, Transition. To do this, we explore the integration of traditional art forms with passive interaction in a single installation. Transition consists of four elements; a physical construction – a submerged sculpture in a pool of water; projected animated Persian floral patterns; spoken poetry audio; and passive

interaction. The physical elements in Transition - the reflecting pool, animations and audio, were chosen because of their relationship to change. The intent of the piece is to explore change and ultimately to elicit a change in the viewer. Ideally, the viewer will enter into a quiet state upon encountering the installation. The physical construction is a Muqarnas – an intricate piece of decorative architecture, immersed in a reflecting pool. Animated Persian floral patterns are projected into the pool and onto the architecture, while recorded spoken poetry is played. The interaction between the animation and the Muqarnas creates a mystery anticipated to draw the viewers' attention. The rhythmic poetry of the audio matches the rhythm in the animation. The audio-animation pairs are intended to instill a feeling of contemplation. The rich symmetry of the architectural piece and the movement in the projections and poetry is a source of rhythmic transition between stillness and movement. When visitors enter the space, their motion causes the video and audio to switch to a new animation and poem.

If viewers continue to move, the content continues to change, never getting past the first snippet. Thus, viewers must achieve physical calm in order to allow the animation and the audio to be fully realized. The intention is that this physical quietness will encourage a calm emotional and mental state. Three of the elements of Transition

share a common cultural root. The Muqarnas, floral patterns and the poetry all originated in Persian culture. As the project developed we investigated different shapes, patterns and audio, and how best to present them. We evaluated options for aesthetic and structural aspects. We were sensitive to cultural biases but did not base our decision on cultural or

religious grounds. Each element was removed from its regular environment and context. We stripped the Muqarnas of extra ornamentation. We also modified the elements by animating the patterns, inverting the Muqarnas and playing the poems without displaying the text. Nevertheless, the elements were removed from their regular context and placed together in to interact in a



Figure 1 Transition installation different views.

novel way. For instance, Muqarnas and Persian floral patterns are normally seen as part of a whole. Isolating and juxtaposing them creates anew context. Additionally, Transition's ability to respond to the passive presence of the viewer creates new meaning and unity for all these elements.

Elements of Transition

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Reflecting Pool

The reflecting pool is the core for the piece (Figure 1). The word "reflection" can be understood as a mirror or reflection as an internal interpretation of thoughts. It is the intent of the pool, to act as a mirror of the viewer's state and to promote

reflective thoughts. The pool is a physical object which the viewer can relate to; a physical frame of reference. It centers the installation and focuses the viewer's attention. There are three parts to the pool: the submerged Muqarnas, the water and the pool itself, which will be discussed in the following.

Animation

Animated Persian floral patterns (geometric abstractions of plant structures) are integral to the work. These patterns have been used by artists for decorating poems, religious books, tiles, and architectural designs for more than two thousand years (Figure 2). Transition uses animated patterns for their relevance to the Muqarnas, and especially for their mesmerizing and meditative qualities. Dynamically producing Persian floral patterns visualizes the design process and existing symmetries.

Audio

The audio component reinforces the rhythm

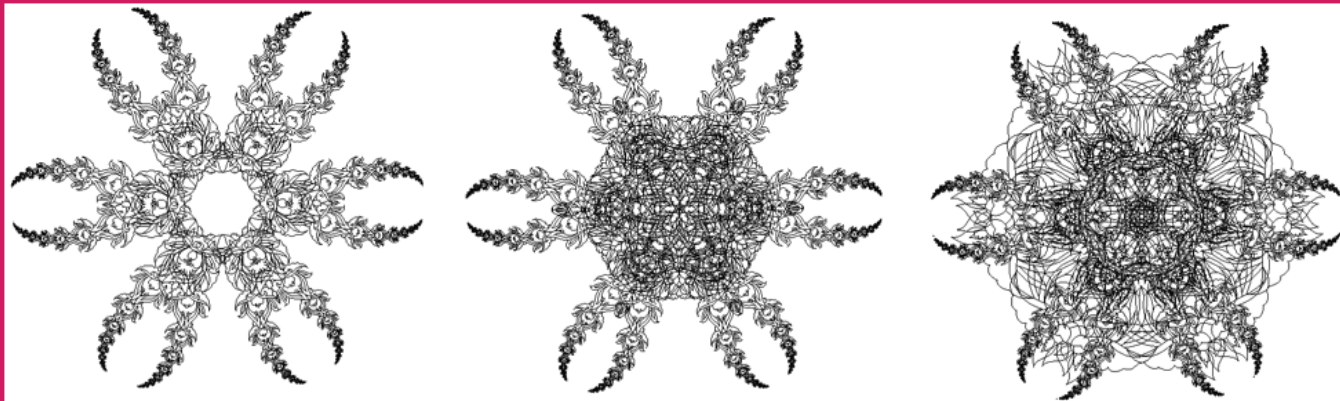


Figure 2 Sample of the animation progression used in Transition.

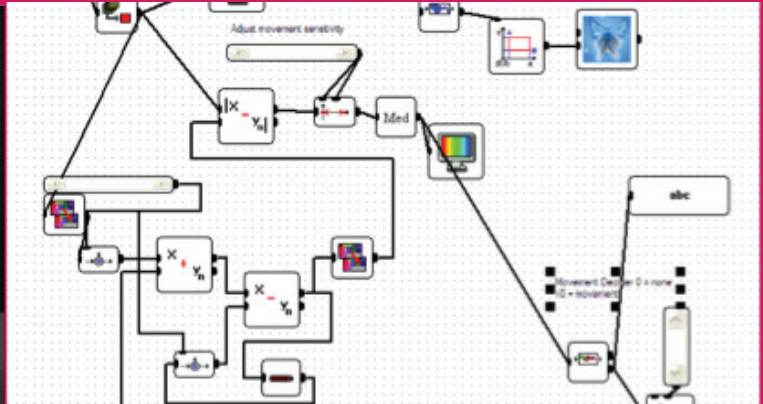
and movement of the animation. The audio is composed of the poetry of Rumi spoken in the poet's native Farsi. The poetry of Mevlana Jalalludin Rumi (1207-1273) was chosen for Transition not only because the rhythms mirror the rhythms in the animations and Muqarnas, but also because he went through a transformation during his lifetime.

Interaction

Passive interaction occurs when the physical presence of the viewer changes the artwork. This is in marked contrast to active interaction in which the viewer must deliberately interact with the installation. Active interaction can be seen in the context of a table top, where the viewer is required to touch the table and move things around in order to interact. Passive interaction can be experienced when entering buildings through automated doors. The act of approaching a door signals it to open. There is no need to manipulate controls or contort the body to initiate the interaction, it just happens. In art, this type

of interaction is facilitated by sensors who the received signals to intelligent computer system for interpretation. The interaction becomes part of the content of the piece and in the case of Transition the interaction is a primary element.¶¶

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ART INSTALLATION | A DELICATE AGREEMENT | LINDSAY MACDONALD

Our schedules are carved into blocks of time that are devoted to various tasks. Time to get up. Class time. Lunch time. Meeting time. Between these blocks of time in our day exist small streams of “in-between”. These are not our coffee breaks or bathroom breaks; they are the time between leaving our desks and arriving at the coffee shop or bathroom. We normally let these moments pass by without a second thought, even though, stacked end-to-end, they probably account for a sizeable portion of our lifespan. Sometimes a meaningful event will occur during one of these “in-between times”, or liminal times, such as a casual interaction with another person.

There is a certain expectation that tacitly exists for common liminal spaces such as stairways, hallways and elevators. These spaces require movement in order to exist comfortably within them, for example, walking through a corridor or riding in an elevator. In the case of an elevator, the space itself is moving and the people within must wait for it to complete its task. Consequently, a definite “in-between” time is created within a liminal space, and the movement of people is restricted to a limited area. In Western civilization, we have well defined notions of personal space that we expect others to respect. This is not limited to proximity alone, but includes gaze and speech. The liminal space of the elevator

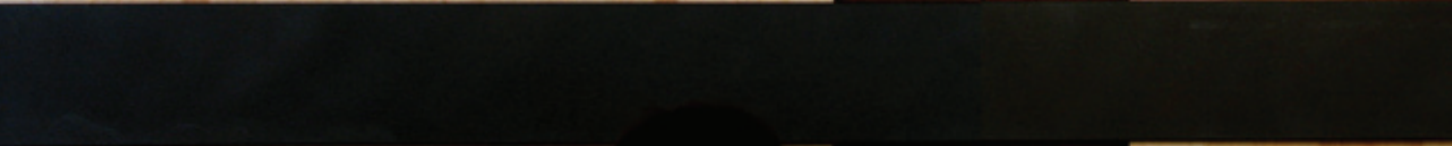
is an appropriate setting to examine the effects of gaze on interaction between strangers. There is an intrinsic awkwardness and tension in this space; its occupants hope that their co-riders will not break the silence or somehow violate the delicate agreement about how one ought to behave and where it is acceptable to look when one must be alone with a stranger for a set amount of time in a confined space.

A Delicate Agreement is a gaze-triggered interactive installation that explores these concepts. It is a set of elevator doors with a peephole in each door that entices viewers to peer inside and observe an animation of the passengers. Each elevator passenger, or character, has a programmed personality that enables them to act and react to the other characters’ behaviour and the viewers’ gaze. The result is the emergence of a rich interactive narrative made up of encounters in the liminal time and space of an elevator ride.

This project is a collaboration between Miguel Nacenta, John Brosz, Sheelagh Carpendale, and myself.

<http://lindsaymacdonald.net/index.php?/interactive/a-delicate-agreement/>











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