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Disparallel Spaces

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24 May - 16 June 2007
Tin Sheds Gallery

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Curator: Belinda Cowen

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disparallel spaces 07

DISPARALLEL SPACES is an architectural design exhibition showcasing creative digital design techniques. It explores how the coupling of architectural design with digital modelling and fabrication methods allows for a deeper comprehension and experience of space and form.

This May to June, 2007, Disparallel Spaces will mark the beginning of interdisciplinary design within the Faculty of Architecture, Design and Planning at The University of Sydney. Students of the Bachelor of Architecture programme present their stream of contemporary works, and innovative engagement with architecture, design, art, and technology at the Tin Sheds Gallery.

Fuelled by the theme *Cliff Hanger*, four different architectural design studios – *CNC and Fabrication* by Damien Butler, *From Digital to Physical* by Patrick Keane, *Interactive Architecture* by Zayad Motlib, and *Parametric Architecture* by Marc Aurel Schnabel – merge together a collection of artwork presented in this catalogue. In their studios, the designers propose architectural solutions that challenge and defy gravity, dimension, space and volume in unprecedented ways. These novel designs are created with the freedom of innovation, interpretation, and definition without boundaries. The notion of non-conformity is the core of this collection of works, held together by the idea of spatial concepts in disparallel configurations and unconventional methods in the process of design.

Creative use of computer-aided architectural design tools, scripting, parametric design techniques and fabrication, as well as crossover media, drive the works in their spatial and visual qualities. Knowledgeable employment of these tools in sophisticated and unorthodox ways is exhibited in the collection.

Disparallel Spaces confronts problems in architectural design from a diversity of multi-faceted and eccentric approaches, setting the trend for novel viewpoints of innovation and spatial design, offering a unique opportunity to experience the digitalized future in the field of architecture.

Dr Marc Aurel Schnabel

disparallel spaces

07 contributors

Studio Tutor/Co-ordinator	Dr Marc Aurel Schnabel	03
Studio Tutor	Damien Butler	05
Studio Tutor	Patrick Keane	07
Studio Tutor	Zayad Motlib	09
01_Metalux	Paul Kennedy, Sam Samarghandi, Nathan Wrightson	11
02_Spatial Polyphony	Peter Christensen	13
03_A Day in the life...	Adam Rusan, Sam Tran, Daniel Wong	15
04_Fissured Forms	Alex Nicholls	17
05_Extraterrestrial	James O'Neill	19
06_Untitled	James Garvan	21
07_Erosive Fluidity	Ben Coorey, Nicola Tan, Henry Beresford, Josh Thompson	23
08_Line, Form & Volume	Miruna Sladescu	25
09_Rain	Lemin Hua	27
10_Graffiti's Third Dimension	Caroline Grandjean-Thomsen	29
11_Nervous Plastic	Katherine McCowage	31
12_Les Paramètres et L'Art Islamique	Djibraan Hossen	33
13_Simulacrum	Siddharth Mansukhani, Timothy Matuszewicz, Jonathan Stavert	35
14_Dynamic Surface Panels	Shayani Fernando	37
15_Stop Motion	Nadia Barbov, Daniella Catalano, Cara Doherty, Monica Earl, Kate Freney, Edward Seeto, Katie Shuttle, Kevin Zhuge	39
16_Responsive Digital Heart	Justina Lee, Wing Chee Wan	41
17_Para/site	Paul Hohnen	43
18_Suspension_Fluidity_Trust	Marc Jean-Baptiste	45
19_Halfway	Jonathan Spicer	47
20_Rigid Fluidity	Kyra Thomas	49
21_Sense, Space, Synthesis	Jennifer Lua, Andrew Kyon	51
22_Disparallel Model Of Space Division	Hannah Dar, Amber Lush	53
23_Animated Shadows	Tomoko Suga and Zayad Motlib	55
24_Shelter	Connor Denyer	57
25_A0 digital print of sculpture in clay	Teresa Tang	59

studio group 1

studio
Parametric Architecture

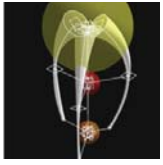
Marc Aurel Schnabel

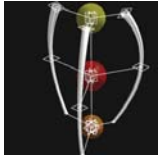
disparallel spaces

parametric architecture studio

parametric architecture

Dr Marc Aurel Schnabel



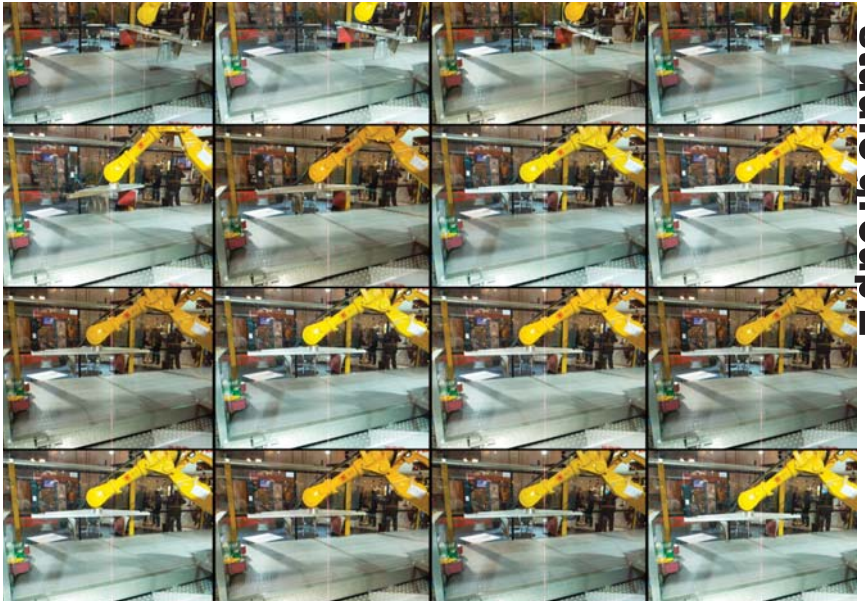


Any object or form that constitutes our surroundings can be specified in a myriad of ways. We may describe its geometric properties graphically, as we do in drawings, such that a teapot, stair, or building can be depicted in detail and accurately constructed or replicated. Alternatively, we may describe the behaviours we wish to observe by means of performance specifications. In lieu, it is also possible for us to explain an object's properties as relationships between entities, just as mass can be found by multiplying the object's dimensions by its material density.

Such calculations are not necessarily explicit. It is possible for materials and quantities to concomitantly adjust their properties in reaction to their environmental conditions. For instance, a thermostat will calibrate electric current to maintain and regulate temperature of supplied air. Electro-chromic glass can be induced to change from opaque to transparent by manipulation of electrical charge. Streetlights will switch on when lux levels fall below a threshold, and walls will move as users change location.

The existence of such relationships enables parametric design tools to formulate links between an array of data that can then be used to generate an indefinite number of geometric forms. These descriptive parameters and rules can be applied directly to areas of manufacturing or design, such as in architecture, where spatial, experiential, financial, and environmental expectations and ideals can be met. Students explore these dependencies, illustrate their vision using the software 'CATIA,' and produce large-scale designs to express their unique parametric language.

studio group 2



studio

Fabrication: Virtual to Built

Damien Butler

disparallel spaces

studio

fabrication: virtual to built

Damien Butler

Computer aided design technologies have allowed architecture to take new directions. The combination of computer technology with computer controlled machinery has meant that any shape, however complex or irregular, can be built. In this exhibition we have explored a new avenue of architecture that lies in a transformation from design into built via computer aided manufacture, previously reserved only for the industrial manufacturing.

fabrication: virtual to built

studio

Scripting: from Digital to Physica

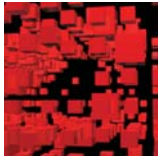
Patrick Keane

disparallel spaces

studio

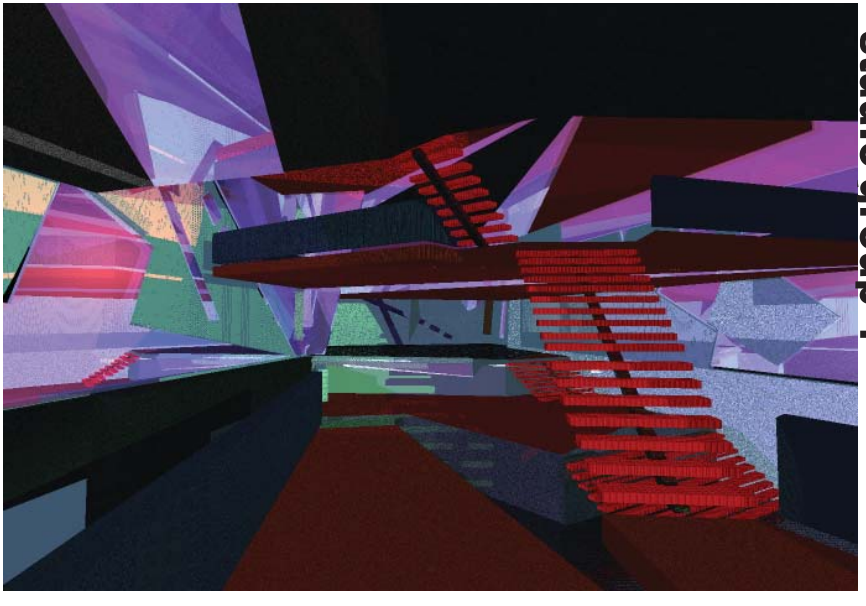
scripting: from digital to physical

Patrick Keane



Scripting languages (commonly called **scripting programming languages** or **script languages**) are computer programming languages that are typically interpreted and typed directly from a keyboard. Thus, scripts are often distinguished from programs, because programs are converted permanently and are executable. Scripts remain in their original form and are interpreted command-by-command, and interchangeable each time they are run. The name script is derived from the written script of the performing arts, in which dialogue is set down to be interpreted by actors and actresses - the programs.
The term scripting language is not technical. In computer games, scripts extend game logic, tailoring the game engine to particular game data. Scripts also make applications programmable from within, so that repetitive tasks can be automated, potentially offering endless possibilities due to content and behaviours that can be set up

Nature Does Nothing Uselessly - Aristotle
Using the latest digital space-making techniques in Maya, the studio addressed parameters intrinsic to any built form in architecture: scale, gravity, materiality and site. Instead of compositional methods of designing, the script takes over. It forms its own generative properties, its own logic, like tree branching, schools of fish, or noise patterns in water. Sourcing any form of algorithm or computation from the natural environment, the script can be edited and controlled by the hand of the designer to apply a context and function to any built form.



studio
Interactive Architecture

Zayad Motlib

disparallel spaces

interactive architecture

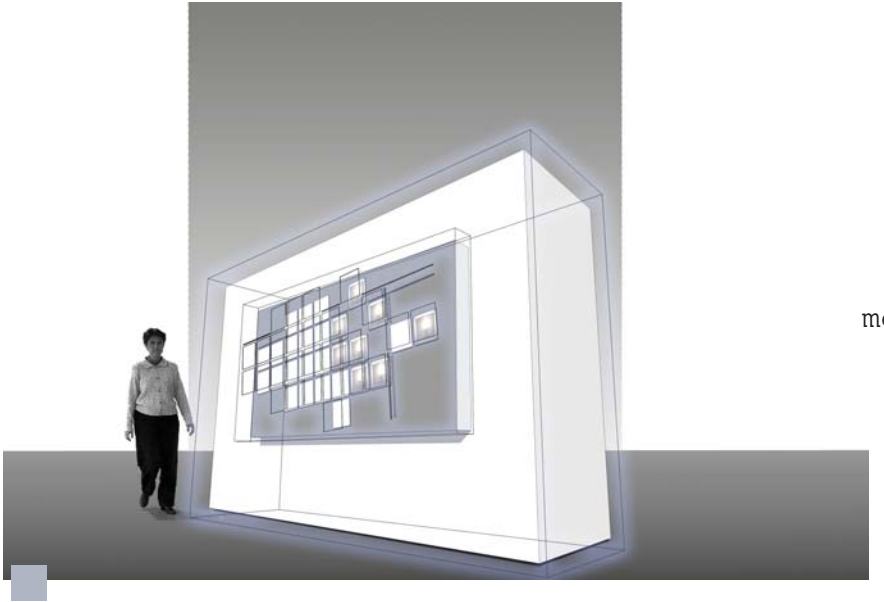
interactive architecture

Zayad Motlib

Freehand sketches have established an effective and useful media for architects for conceptual design and presentation. However, the emergences of digital media have made new types of sketches and design thinking possible. The digital media have incited new ways in the conceptualization, transformation and development of architectural concepts and their realization. Consequently, both media have become extensions of both our mind and hand, offering new possibilities in the processes of designing, visualizing and analyzing architecture.

The studio attempted to reconcile a dialogue between digital and analogue approaches to architectural design. Operating in a non-linear process, the course introduced a technique to bridge between conventional and digital methods. By interactively moving from one type of media to another, design concepts developed and students explored the potentialities of each to realize their ideas in a comprehensive manner.

The technical side of the course explored the potentiality of the integration of manual sketching with Form Z software. Students were also encouraged to integrate any other software or media that would enable them to have a deeper understanding of the design process. The focus of the course was to experiment with the way that this integration can influence the process of conceptualizing, analyzing and visualizing architecture. Consequently, each student developed a unique concept for a particular cliff, translating their thoughts and feelings into digital formations.



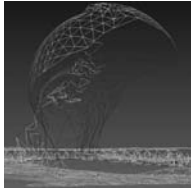
metalux

metalux

01

disparallel spaces

01 metalux



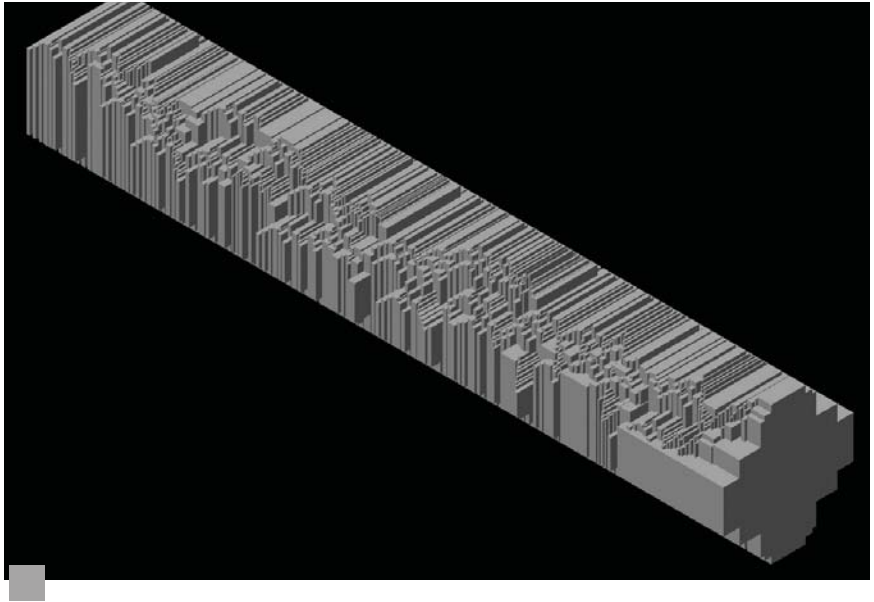
CNC Milled, Thermoformed Styrene sheet, compact fluorescent lamps

Paul Kennedy
Sam Samarghandi
Nathan Wrightson

Rather than a prescriptive brief *Cliff Hanger* can be interpreted as a process without any formal structure or preconceived notion of outcome. By embracing the studio as a series of risks and experiments based around a simple idea, the designer is able to achieve an objective analysis of their results and a true appreciation of the progression of a concept. This metaphorical leap into the unknown was a welcome abstraction of the design process for an architectural student collaborative.

An inanimate assembly of electrical components formed the basis and singular parameter of the experiment. Uninhibited manipulation of this test object provided a bridge between the digital and the physical, as well as revealing the latent potential for beauty in the inane.

The final Metalux installation is the reinterpretation and implementation of a specific outcome; however the potential for development of any or all resultant ideas as well as the conception of simultaneous design explorations is seemingly infinite.



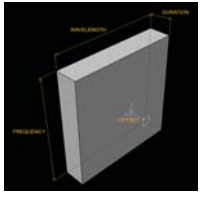
spatial polyphony

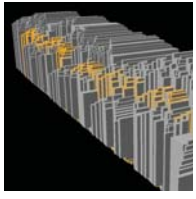
02

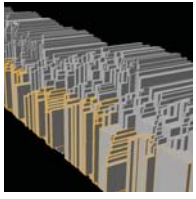
disparallel spaces

02 spatial polyphony: translating music into virtual architecture

Peter Christensen







Sculpture *Fugue No. 1 in C major BWV846, from The Well-Tempered Clavier, Book I*, Plywood, 100 x 100 x 450mm

There is a long history of musical analogy in architecture. In antiquity, an understanding of music was considered indispensable for the architect. During the Renaissance, proportional systems were based on the rules of harmony, in the belief that beauty in architecture and music are manifestations of universal principles. More recently, architects such as Daniel Libeskind and Steven Holl have attempted to translate music into architectural form, either directly or indirectly.

The music of Johan Sebastian Bach (1685-1750) is notable for its overtly ‘architectural’ qualities. Past attempts to translate the polyphony of Bach’s music into physical form have met limited success. The advent of digital technology and the notion of ‘virtual space’ offer new avenues to explore this problem.

In the work on display, musical parameters of pitch and time have been mapped to the x, y and z axes to create a physical representation of a fugue. The shape of the music is rendered visible, allowing it to be seen 'all at once' rather than heard sequentially. Like notes on a page, or vibrations in the air, the resulting form is a valid manifestation of the musical ideas of the composer.

a day in the life...

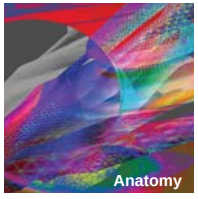
03

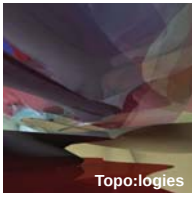
a day in the life...

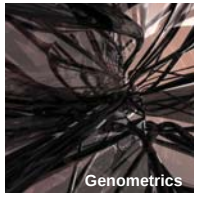
disparallel spaces

a day in the life... 03

Adam Rusan
Sam Tran
Daniel Wong







Projection, 3 x panel, 900 x 2000m

Tomorrow. Tomorrow never sleeps. There's a future place, a disparallel space that devours us.

Anatomy. Dwelling deep in the parameters of history, the human body has been a typological dependency to the generation of architecture, thrusting perception from the detailed intricacies of the internal realm, a formulation of totally dynamic spatial development. Topological data and fluctuating infrastructural and programmatic parameters of the body are synthesized and evolved and deploy a systematic relation between sets of information. "An intense sense of REALNESS, when inner stimuli becomes more real than objects: Transcendence of time and space, And Unusual Modes of perception" By Adam Rusan

Topo:logies. The sea and cliff stand in a dialogue of tensions between a state of the indeterminate and the singular, each an imprint of the presence of the other as the phases shift continuously, never ending transitions. Rhapsodic flushes of programmatic erosions, distant noise fading into and out of determinacy, colour the architectural interstices of land and water; a frozen, floating textu(r)al surface. By Daniel Wong

Genometrics. Genometrics explores the dependent relationships between numerical representations of data within a complex DNA sequence through a multitude of generations, using a relationship to formulate the model in concentric patterns. The data linked to the genetic model uses these constraints to generate and regenerate more advanced modes and layers. By Sam Tran

fissured forms

04

fissured forms

disparallel spaces

04 fissured forms

Plasma cut mild steel sheet metal, 1400 x 600mm

Architectonic geometric forms layer above one another with crack-like fragments eroded into their surfaces, resembling the cliff face landscape characteristic of Sydney's coastline. The sculptural forms represent a potential for a cliff-hanging architecture.

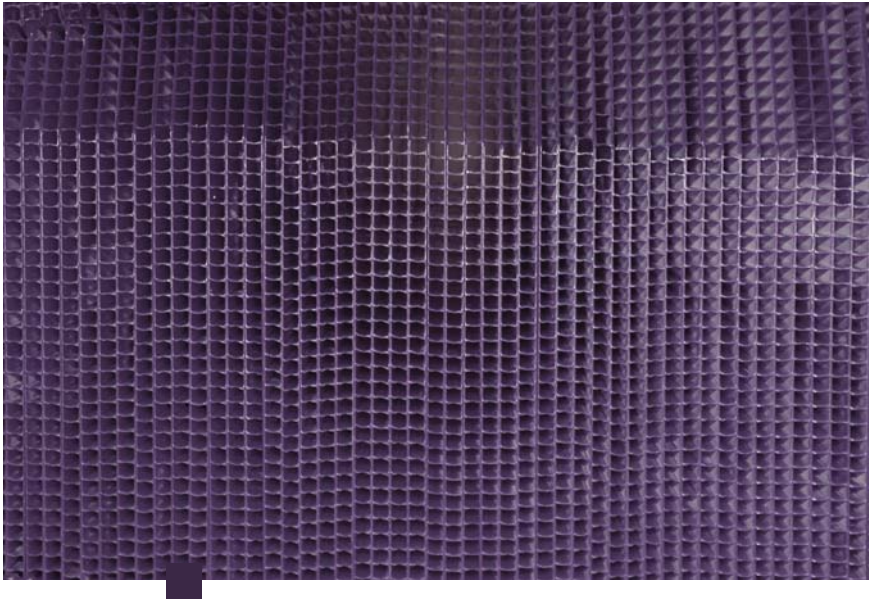
As a building typology, the forms are responsive to the landscape and site specific as opposed to the ubiquitous traditional Australian beach shack or modern waterfront mansions.

As a specific building, exposed to the elements, the structure could change over time and its appearance would depend on the tide and swell as voids would become rock pools and areas of the structure could be submerged entirely.

As a sculptured landscape, it could be fished off, walked over, sunbathed on, explored and inhabited.

Alex Nicholls

And as an object, its highly sculptural forms, construction, materiality and lighting inject life into a space.



extraterrestrial

05

disparallel spaces

6 x acrylic, 700 x 350mm, 4 x corflute, 400 x 400 x 400mm, 4 x UV Lamps

05 extraterrestrial

Extraterrestrial is an installation that investigates the idea that light can define enclosure or represent form. Light is space and colour and has very rigid rules. The materials used to investigate this concept manipulate light in unique ways. Corflute limits light to a single axis but arrangement and stacking defines dynamic three dimensional objects. Flourescent perspex is a sheet with glowing edges, but once scored, light is refracted to create glowing depth on a strictly two dimensional surface.

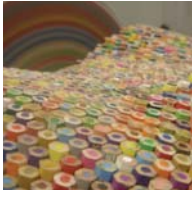
James O'Neill

untitled

06

untitled

disparallel spaces

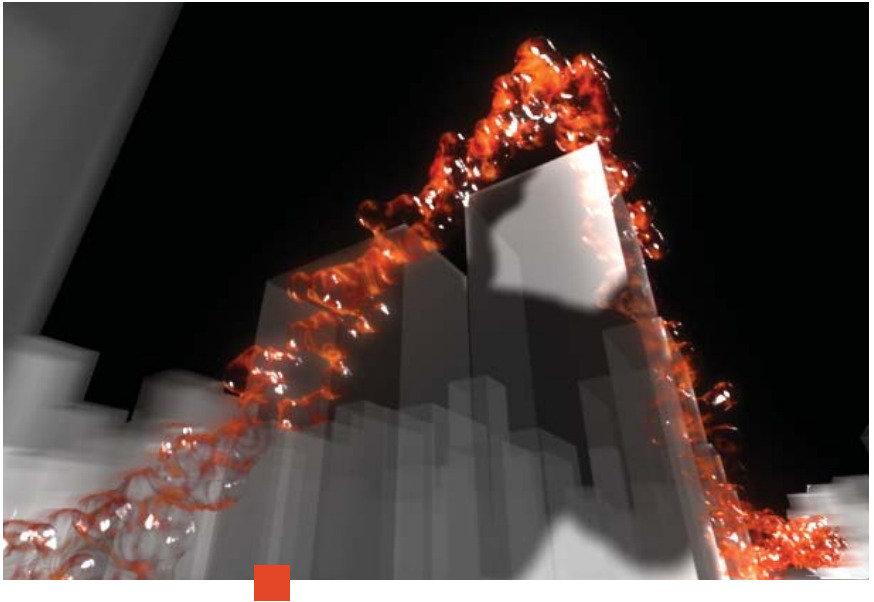


Coloured pencils, 500 x 500 x 250mm

06 untitled

James Garvan

The sculpture will take the form of two distinctive interlocking skins. Utilising the properties of the coloured pencil, the piece explores the formal and structural properties of the hexagonal prism. Drawing from and relying on data taken from the chosen site, it takes this rigid, structurally efficient and directional form and creates a pair of organic, playful skins. It subsequently investigates the positive and negative spaces created by those skins and the interplay between them.



erosive fluidity

07

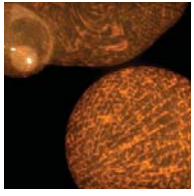
disparallel spaces

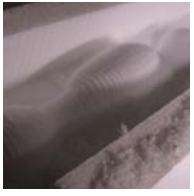
07

erosive fluidity

generative elements of nature

Ben Coorey
Nicola Tan
Henry Beresford
Josh Thompson





Digital animation, 90 sec., 100 Mb, Styrofoam sculpture, 400 x 800 x 2000mm

A new type of architecture is emerging.

An architecture that employs technology to design,
rather than document design.

An architecture that uses systems to generate design.

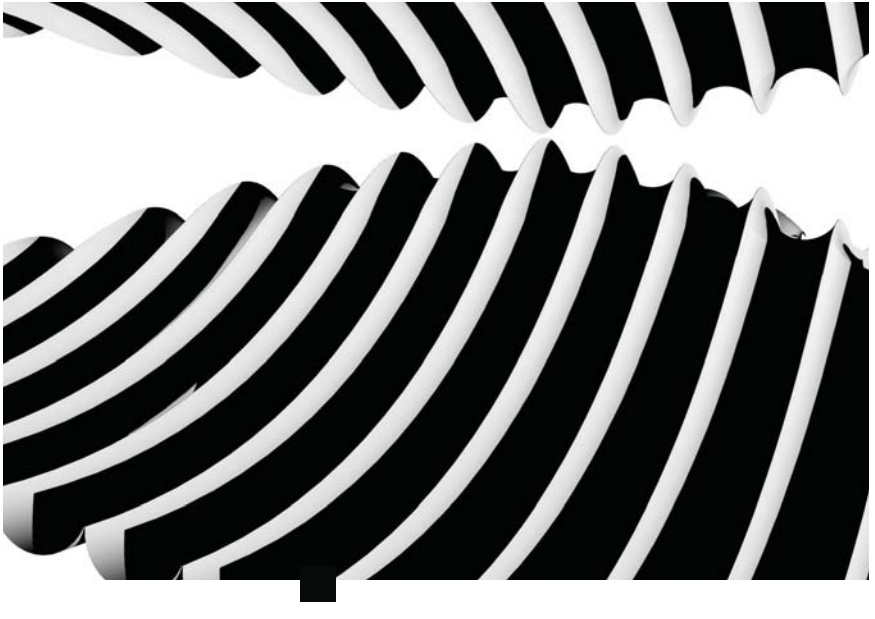
An architecture that responds to events and the environment.

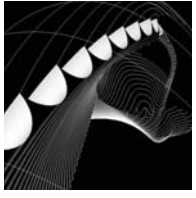
An architecture that evolves,
according to the context it lives in.

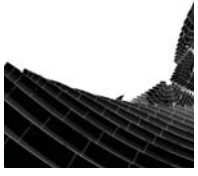
An architecture that is complex.

An architecture that is 3-Dimensional,
forming new spatial experiences.

This is the world of Digital Architecture.





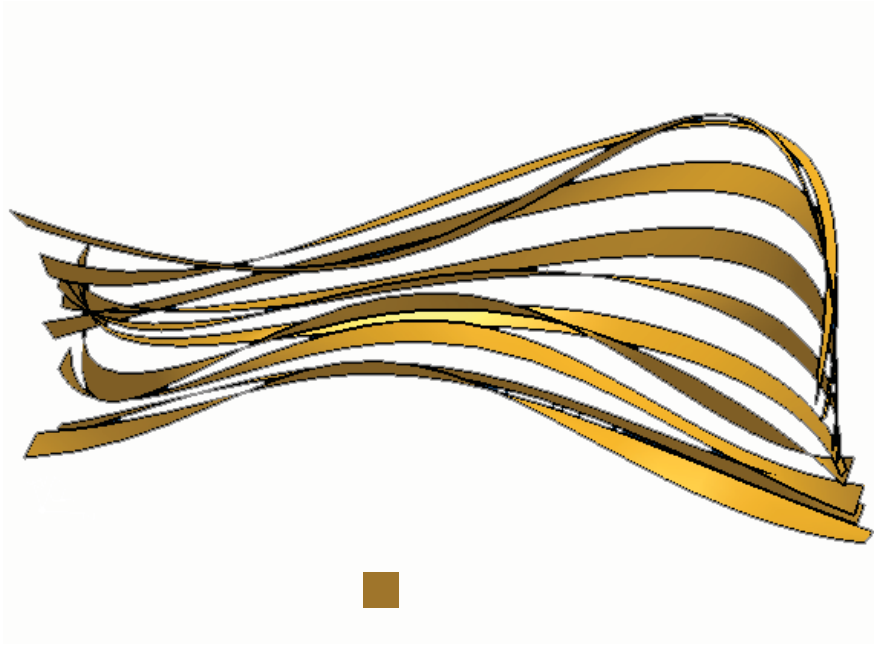


Perspex, foam and plaster, 1000 x 300mm

08
line, form
& volume

Miruna Sladescu

Exploring the concept of draping a material over a form, through the process of draping, folds and stretches occur within the material's surface. A draped material creates a series of folded ribs which become structural. They follow the contours of the form they wrap, and between these ribs the material becomes cloth like and is stretched.

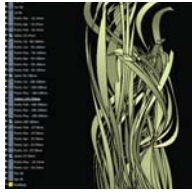


rain

09

disparallel spaces

09 rain



Fabrics and wire, 600 x 1500 x 3200mm

The installation is an exploration of rainfall and its interaction with space. It represents a specific amount of rainfall throughout NSW over a six-month period between February and July 2006. The aim of the work is to bring out the qualities of rain as it defines space by folding and enclosing parts of it - representing the conditions from a light shower to a thunderstorm.

The final piece is a realization of a parametric model containing data obtained from contour maps of monthly rainfall available from the Bureau of Meteorology. The results are from an analysis of that data, which depicts the different aspects involved relative to that information.

Architecturally, the work is about investigating how intangible ‘materials’ (such as rainfall, mist, sand, wind, etc) can also present the same ideas of wall, floor, and ceiling from a new perspective, where all angles of the three dimensional space is being addressed, rather than through such planar definitions as the conventional understanding of a building. Simultaneously, it looks at how the unique qualities of permeability and this ethereal nature can give us new ideas about architecture and when designing.

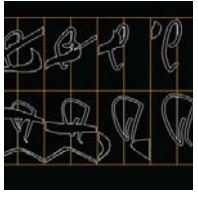
Lemin Hua

graffiti's
third dimension
10

disparallel spaces

10 graffiti's third dimension

Caroline Grandjean-Thomsen



Plywood, 190 x 190 x 260mm

Graffiti art is undergoing a rapid stylistic evolution - what began as a mere distortion of traditional planar letters has been gradually replaced by abstract, less conventional approaches. Today, graffiti is having its boundaries pushed to the limit. Artists are developing styles which give their artwork the illusion of leaping out of two-dimensional space. Further exploration is limited, however, by the physical restriction of the wall, page or other planar surface upon which the artist's work is set.

Graffiti's Third Dimension uses digital media to explore the representation of a two-dimensional culture in three-dimensional space. A simple *tag* is taken and extruded to generate a model, built by a series of flat, stacked sections – as a reminder of the tag's planar origins. The model's inverse (Boolean) representation, created by subtracting the model's volume from a similarly-sized rectangular prism, creates yet another fascinating spatial quality. This humble model allows one to realize the exciting potential that lies ahead for graffiti art of the future.

nervous plastic

nervous plastic

11

disparallel spaces

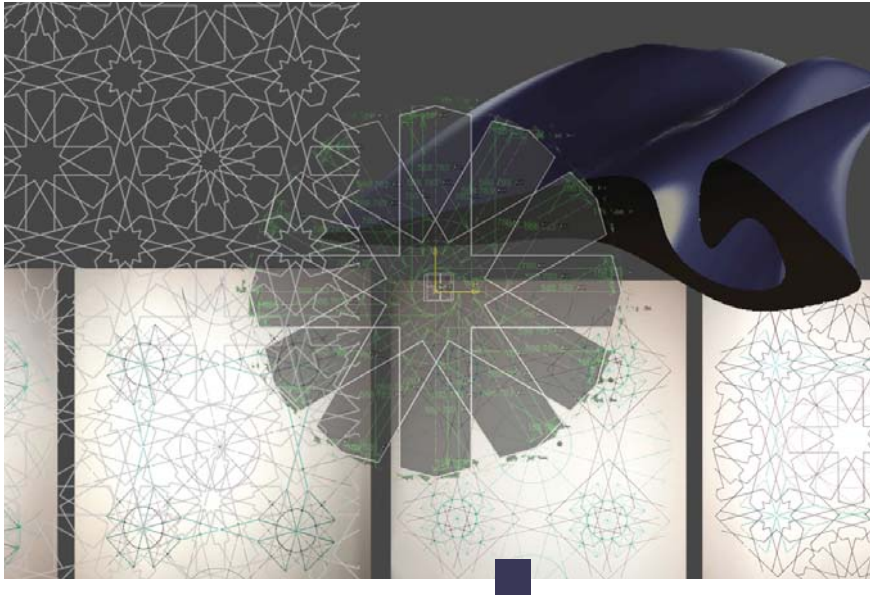
11 nervous plastic

Katherine McCowage

Styrene, 900 x 900 x 900mm

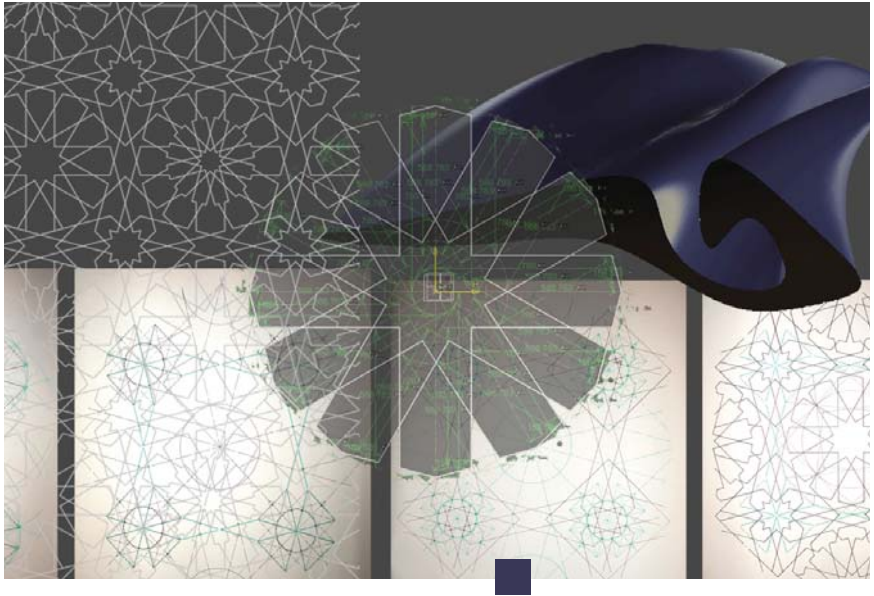
The work Nervous Plastic attempts to translate the sense of impending doom associated with the notion of *Cliff Hanger* into a spatial expression. My piece set out to explore how an experience could be expressed in sculpture using three dimensional weaves and patterns as a basis. The lighting woven throughout the work is a representation of the stimulated nervous pathway, the result of tension arising from the *Cliff Hanger*.

It is inspired by the works of many architects, engineers and artists, foremost Cecil Balmond, Felix Robbins, Rachael Whiteread and the firm Ocean North. The work was constructed using styrene sheets cut into varying thicknesses. The resulting strips were twisted and woven into the cubic form and heated into place.



les paramètres et l'art islamique

12



les paramètres et l'art islamique

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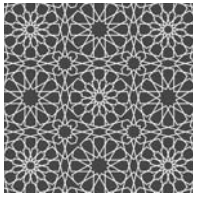
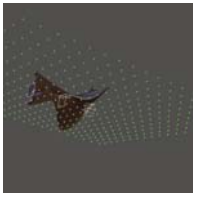



Plywood and canvas, 800 x 400 x 200mm

les paramètres et l'art islamique

12

The doctrine of unity which is central to the Islamic revelation combined with the nomadic spirituality which Islam made its own brought into being an aniconic art wherein the spiritual world was reflected in the sensible world not through various iconic forms but through geometry and rhythm, through Arabesques and calligraphy which reflect directly the worlds above and ultimately the supernatural sun of Divine Unity.

Seyyed Hossein Nasr

Djibraan Hossen

Islamic art has long been two-dimensional. The use of powerful 3D tools like CATIA and Rhino have produced an artwork that is inspired by the complex geometries of Islamic patterns and the fluidity of Islamic calligraphy. The artwork offers a glimpse of what contemporary techniques of design can bring to existing art.

simulacrum

simulacrum

13

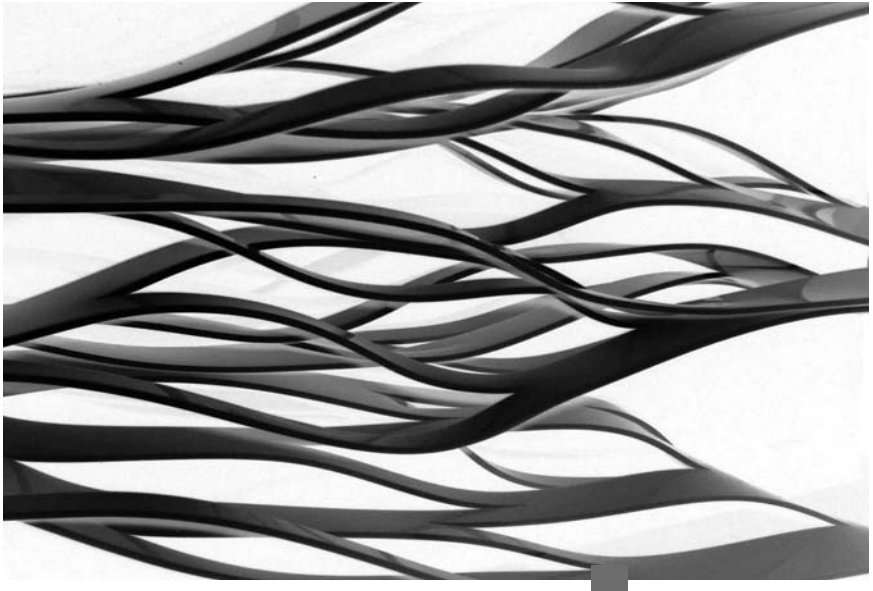
Interactive digital installation 600 x 1200 x 1200mm

13
simulacrum

The world as we know it is the construct of a multiplicity of signs to which we attribute meaning: imagery, sound, communications, media, advertising and other digital phenomena. As a consequence, it surpasses the real world and thus becomes hyper-real. As viewers are engaged in the fluxus between the real world and our virtual reality, they become aware of the simulacrum in which they are immersed.

The project will consist of two computers connected via a network. On the computers, the game 'Counterstrike: Source' will be loaded. The world shown in the game is a virtual gallery that we have created which is an exact replica of the Tin Sheds gallery space. The computers will be contained within a unit that we will construct. We will have custom-made controls for the public to control their respective characters. The projects that will be present at the actual exhibition will be shown virtually in our own virtual gallery.

Siddharth Mansukhani
Timothy Matuszewicz
Jonathan Stavert



dynamic surface panels

14

14 dynamic surface panels

Shayani Fernando

3mm clear perspex, 400 x 130mm

From one design template, a number of different forms or surfaces can be produced which create differential spatial forms and relationships. These modular panels can then be connected by rings or interlocking strips to produce a sculptural/spatial form or function. This may include a building façade, a cliff reinterpretation, or a sculptural walkway or paths which connect and lead to places.

stop motion

15

disparallel spaces

15 stop motion

Nadia Barbov
Daniella Catalano
Cara Doherty
Monica Earl
Kate Freney
Edward Seeto
Katie Shuttle
Kevin Zhuge

Perspex, steel and wire

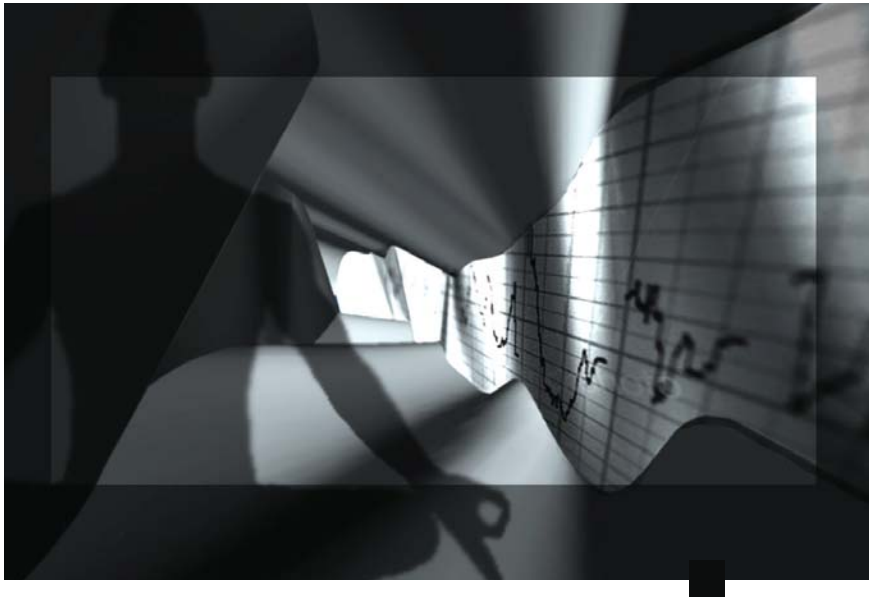
Like rain it sounded till it curved, And then I knew 'twas Wind –
Emily Dickinson

Converging and diverging, forms distorting, elegance astounding as they fly swiftly by.

Through the manipulation of attributes, such as surfaces, lines and vertices, we have experimented with basic scripts: scattering, cracking, weaving and flocking. Our installation captures the sweep and surge of a flock of birds, and is the physical realization of our digital process. Perspex, steel, wire and mathematical computations translate into a visual cadence, breathing and existing, as it glides through the space.

The study of Maya has enabled us to understand the potential to forge creative links between the conceptual and physical form. The program, and the scripting process within it, can construct exact replication of attributes and behaviours whilst also allowing for integrated and layered complexities that build a sense of the natural world.

Scripting gives us control over the living organisms we create: the power and beauty of nature is, quite literally, in our hands.



responsive
digital heart
16

Computer, chair, heart rate detector and headphones

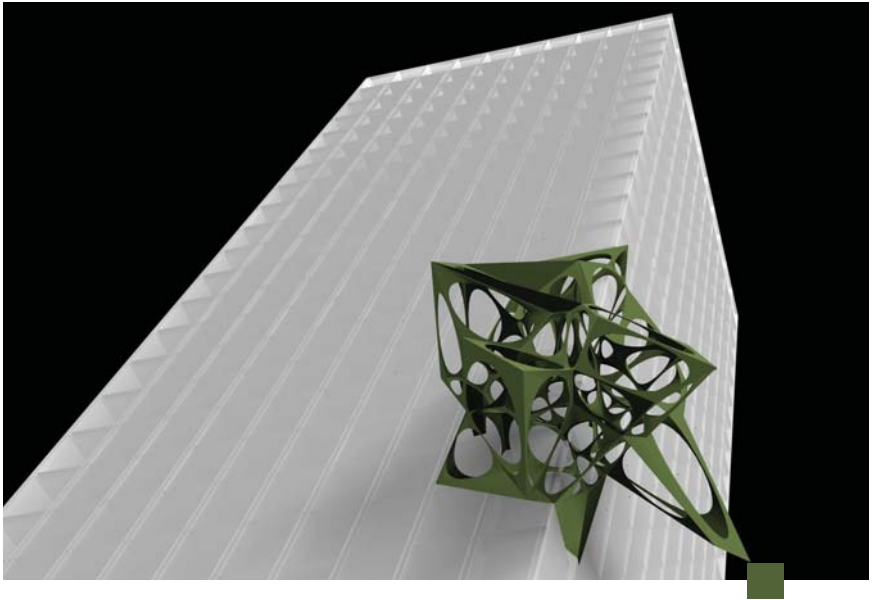
16 responsive digital heart

Justina Lee
Wing Chee Wan

The concept of "Responsive Digital Heart" conveys human dynamics merging with the digital world. The heart rate of a human is converted into representative data and then re-interpreted as a 3d digital model. The 3d model represents heart dynamics parameters such as respiration and the frequency rate of beats per minute.

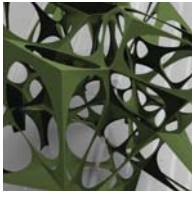
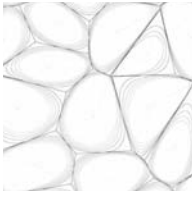
The initial digital model conveys the heart dynamics of a human at a normal state of mind and posture. This being normal breathing when sitting down. As a person goes into meditation of the mind and body, the heart dynamics go into transition. As shown in the latter model, a meditative sitting posture is assumed, with legs crossed and hands placed on top of knees. All concentration is focused at the centre of the temple. The dynamics of the heart in deep meditation are again measured and converted into analytical data for representation. Deep meditation of the mind and body allows the heart to beat at a calm and consistent rate. This is in contrast to the fluctuating and random rate before meditation.

This interactive animation visually conveys the transition of parameters before and during deep meditation of mind and posture, through digital representation.



para/site

17

Animation, Rapid prototyped FDM in ABS plastic and perspex 1000 x 40 x 40mm

17 para/site

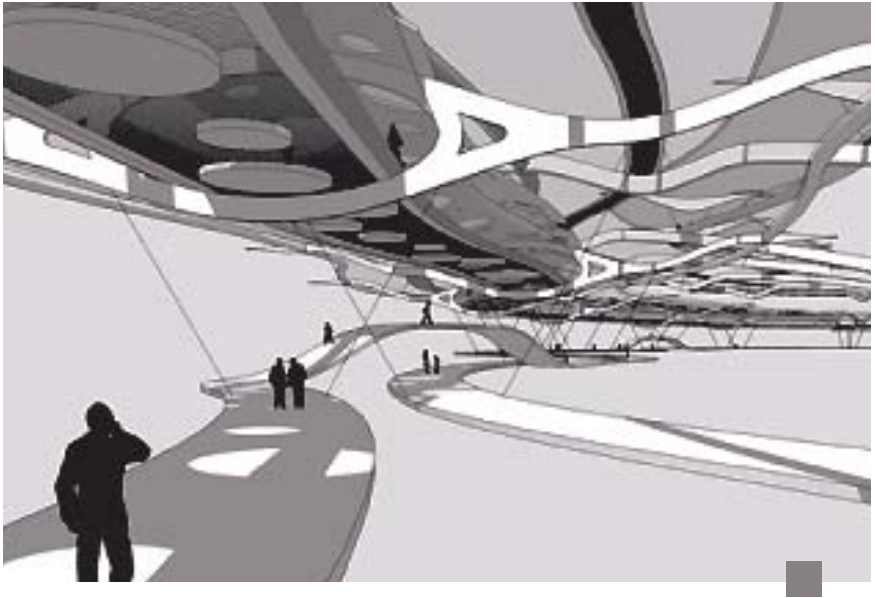
The urban para/site develops a mycorrhizal relationship with its host. It is a parasitic architecture which cannot survive without the support of its host. The urban para/site seeks opportunities in which to thrive, based on the needs of its architectural biology (appropriate structure, access, electricity, sunlight, water).

Once an appropriate site is discovered the para/site employs a cellular growth pattern, creating a skeletal voronoi space frame structure.

The para/site depends on its host for survival and though its establishment creates a new architectural engagement. These new parallel-sites are its symbiotic gift to its host.

The para/site implements an intelligent cellular growth algorithm intended to mimic precedents of growth from the natural world. The resulting design is a function of the growth algorithm's responsiveness to the environment in which it finds itself.

Paul Hohnen



suspension, fluidity, trust

18

3 x perspex panels 400 x 800 x 40mm

18

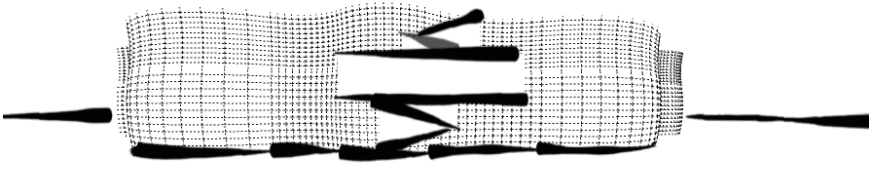
suspension, fluidity, trust

Marc Jean-Baptiste

Inspired by the art of flying - hang gliding - the conceptual frame work for this project was to bring together those who fly and those who are not familiar with the weightlessness of flight.

This work focuses on three aspects of flight itself - the feeling of suspension, the notion of fluidity and the issue of trust.

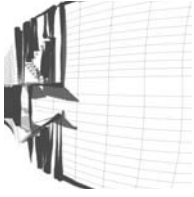
The moment hang gliders leap off the edge they become suspended and only supported by the surrounding air. It is at this point; aerodynamics and the notion of fluidity come into play. Surrounding air flows in an organic motion around the glider's wings, create lift, thus enabling flight. The hang glider is only connected to the flying machine through a series of very slim tensile elements – the hang glider must develop a sense of trust to fly.



halfway

halfway

19



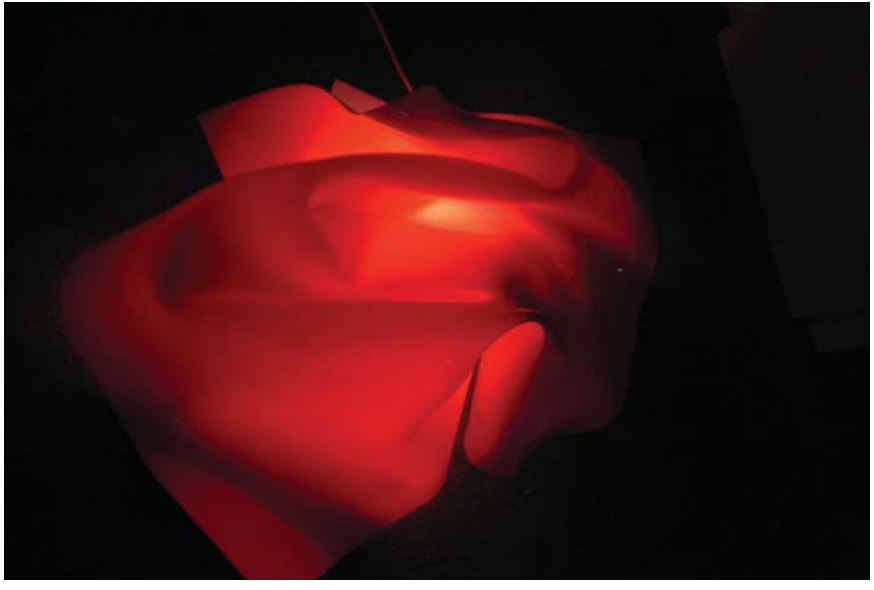
Perspex 700 x 300 x 300mm

19 halfway

Halfway is a meeting point by which a traversable horizontal landscape is made possible via continuous vertical forms shaping the space. The space can be entered from above or below and is an interchangeable space, which can be vertically dislocated and re-assembled to reform a different horizon of spaces.

Made up of a series of flowing curves descending down to ensure uses can ascend and descend through the space enjoying the views in a horizontal way but understanding how it is made possible by the vertical.

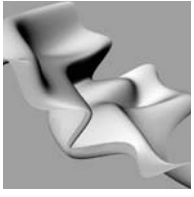
Jonathan Spicer



rigid fluidity

20

20 rigid fluidity



3 x Perspex elements, 800 x 500 x 450mm

Rigid Fluidity consists of three separate elements, all of which are based on the play between fluid + rigid objectivity. The aim was to evoke a strong sense of movement in a solid item. Something that appeared to have the ability to unravel in a second or to be manipulated easily but in reality is permanent and unyielding.

I explored these concepts as a result of my interest in architecture that has the ability for not only spatial, but also visual movement. Each element of the sculpture has a clearly defined form which creases and folds to house the most wonderful + random, yet structured, spaces within its shell.

As the ideas develop so do the various digital and physical models, from net, foam, paper and plaster to perspex to best articulate rhythm and movement in an object. The three elements progress in colour from white to pink and alter again when lit from underneath and above. Lighting allows the form and fluidity of each to be recognised and highlighted.

Kyra Thomas

21

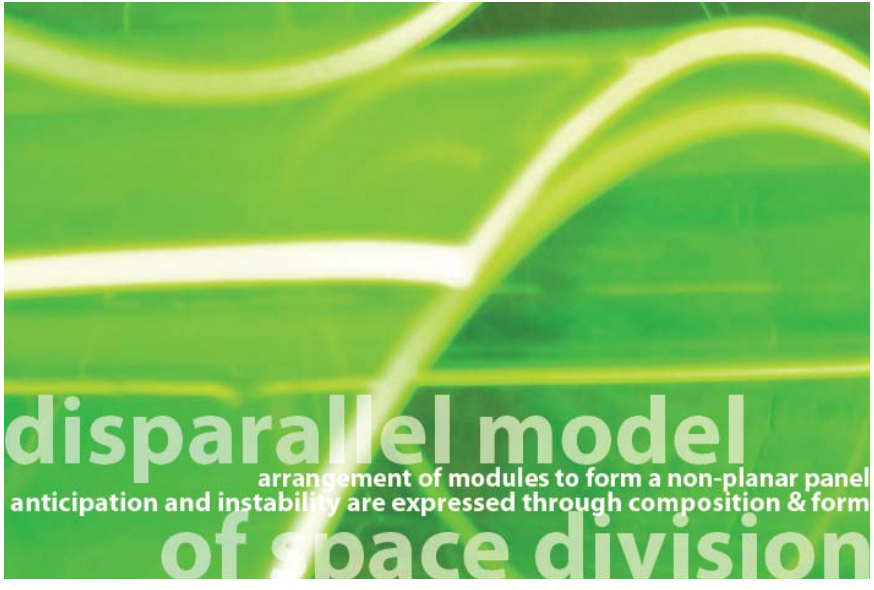
5 foot balloon, projection

21 sense, space & synthesis

Andrew Kyon
Jennifer Lua

The conventional interpretation of space is typically generated into two dimensional architectural drawings that intends to convey a particular spatial dimension. “Sense Space Synthesis” challenges the creation and perception of space, gravity, boundary and dimension through means of digital interpretations.

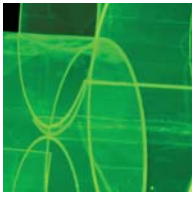
The principle of this exploration aims to tackle volume over surface, using forms with responsive characteristics that defines the concept of ever-changing spatial dimensions. This responsive form aims to demonstrate the relationship built between senses and space in a digital representation. The idea of endless space undergoes experimentation through different digital design media and is consequently expressed by an animation that seeks to provide a sense of macro and micro scales of space.



disparallel model
of space division

22

disparallel spaces



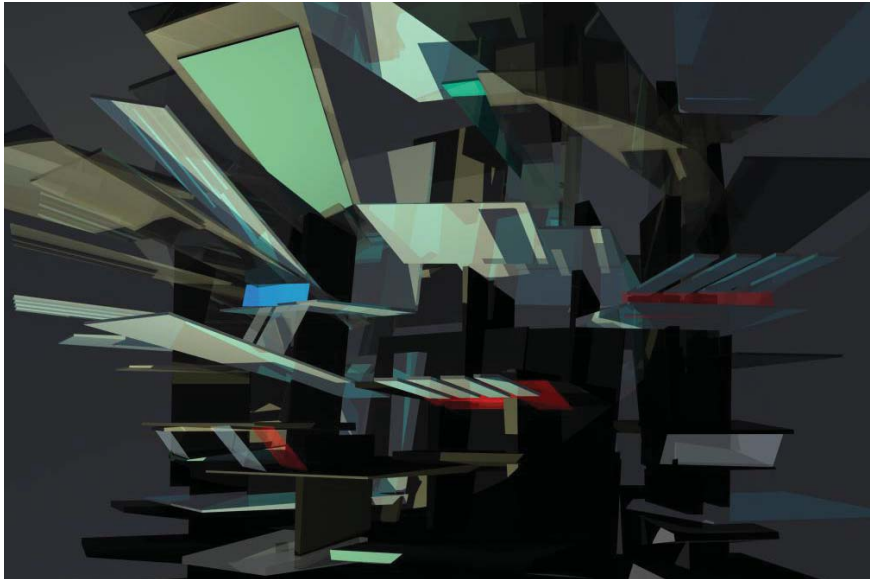
22
disparallel
model of
space
division

Hannah Dar
Amber Lush

An arrangement of modules to form a non planar three dimensional panel subverts notions of vertical separations of space. Perspex circles are placed on each other to create each panelled surface.

Each circle lies upon another and appears to be held by natural gravitational forces. The model represents the fluid movement of the individual matter and its deposit, and settlement as a single element. Each element has different settling patterns and behaviour depending on its size, volume density and shape.

The system is made up of modules which can be varied according to the placement and combination of each graduated size of circle. A sense of movement is created in the precarious assemblage of modules. Spaces within entice interaction on a human scale. Gravity, movement, anticipation and instability are expressed through composition and form.

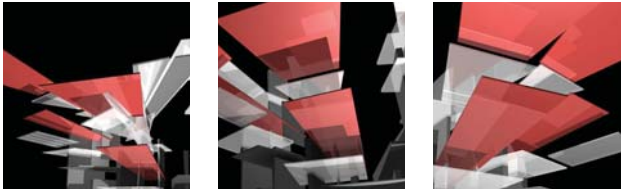


animated shadows

23

23 animated shadows

Tomoko Suga
ZayadMotlib



Projection

In 1810, Goethe produced his *Theory of Colours*. Goethe ignored wavelength. Instead, his work was aimed at perceptual relations and particular phenomena. He described the experience of fixing his eyes on bright flowers, then looking at a gravel path and seeing it studded with spots of the opposite colours. The afterimage of marigolds is a vivid blue, while that of peonies is a beautiful green. This constant law of complementary colour phenomena was observed acting on the whole retina. Goethe wrote *If we look long through a blue pane of glass, everything afterwards appears in sunshine to the naked eye, even if the sky is gray and the scene colourless.*

Animated shadows is an experimental formation employing the reflections and refractions of the different colours of the light on a cliff face. By virtue of its orientation as well as its proximity to the ocean, a cliff face can display a variety of colours. Stone, metal, and glass are composed as interlocking blades, creating overlapping spaces animating the reflected light. Coloured shards of glass are inserted between them, filtering the sunlight into different colours, and patterning the walls with their effect. Each space begins as neutral space, silent space, animated through its specific light pattern throughout the day. A journey throughout those spaces is an encounter to Goethe's *Theory of Colours* and its effect on a cliff face perception.

24 shelter

2 x plasticine models 160 x 80 x 70mm, 1 x laser cut plywood, 3mm white perspex model 300 x 200 x 170mm

Based on the concept of erosion and time, the shelter for climbers was designed entirely through the process of modelmaking. The form of the shelter uses the concept of the Möbius strip, a three dimensional object with one endless surface, to represent the idea of time. The layering of material is indicative of rock formation over many years. The water catchment looks at splash erosion, openings explore wind movement and penetration. The perspex insertion shows the beauty and destruction of human intervention in the natural environment, it also represents the connection with the rock as it 'hangs' from the cliff.

A plasticine model was cut up, scanned and edited in the CAD program Rhinoceros, allowing the design to be laser cut from any material, giving it the possibility to be built. This takes the idea from concept and evolves it into architecture.

Connor Denyer

sculpture in clay

a0 digital print
of
25 sculpture
in clay

disparallel spaces

Print on paper

25 a0 print of sculpture in clay

Teresa Tang

From part design to interactive product visualisation, from manufacturing to marketing, 3D modelling is an integral part of most design projects. It allows designers to efficiently evaluate design details and assembly options before committing to tooling or prototyping.

Architects translate spatial volumes and communicate design ideas within both digital and physical realms. The design process is often reinterpreted from real to virtual and then back to real.

The re-interpretation of a virtual model, using the contours of a cliff, began the design-creation to shape a physical clay model. The final step involved using a 3D-Scanner to translate the form further and back into a digital model.

acknowledgements

This catalogue DISPARALLEL SPACES was conceived and produced using a variety of digital and analogue media, re-representations, digital printing, and CNC techniques, mirroring those of the featured artworks.

The exhibition and this catalogue would not have been possible without the advice of our external editor and proof-reader Jennifer Gamble and Aimee Tang; the support and contribution from both the Dean of Faculty of Architecture, Design and Planning, Prof Warren Julian; the Discipline of Architecture, Art and Allied Arts, with its Chair, Prof Tom Heneghan; the fabulous Tin Sheds Gallery and the guidance of Anita Lever and Jan Fieldsend; and the Faculty's never-sleeping backbone ICT-support team, Julian Tam, Leslie George and Ben Coorey, as well as Phil Granger, Rick Moss and Rob Beson from the Architectural Technical Services Centre.

acknowledgements

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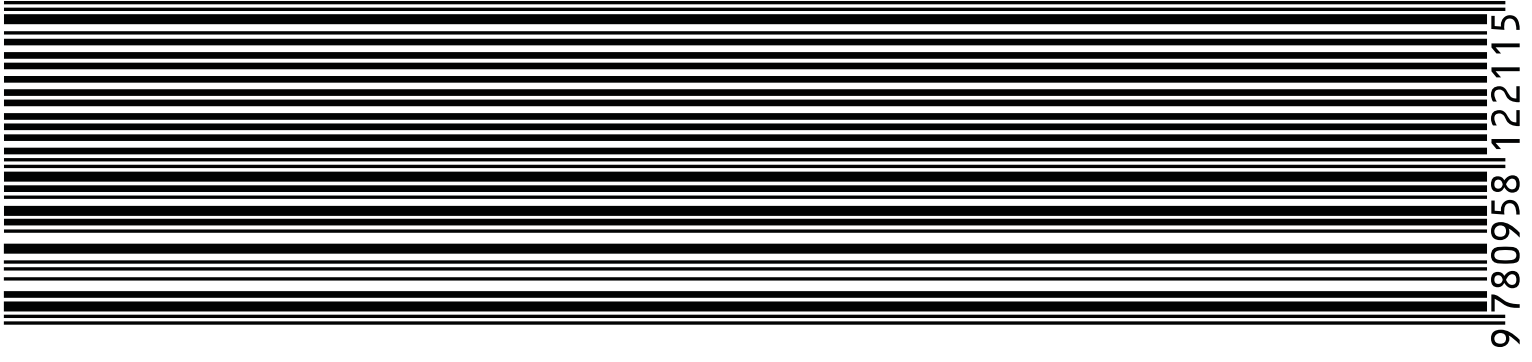
DISPARALLEL SPACES is an architectural design exhibition showcasing creative digital design techniques. It explores how the coupling of architectural design with digital modelling and fabrication methods allows for a deeper comprehension and experience of space and form. It confronts problems in architectural design from a diversity of multi-faceted and eccentric approaches, setting the trend for novel viewpoints of innovation and spatial design. It offers a unique opportunity to experience the digitalized future in the field of architecture.

Work by Bachelor of Architecture students, curated by Damien Butler, Belinda Cowen, Patrick Keane, Zayad Motlib and Dr Marc Aurel Schnabel.



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