

ISMAR2013 & MARart.org present:

# TRANSREAL TOPOGRAFES UNREAL

**TRACEY BENSON  
MEZ BREEZE/ANDY CAMPBELL  
ANDREW BURRELL  
MAR CANET/VARVARA GULJAJEVA  
JOSHUA HAGLER  
DAMIAN HILLS  
TROY INNOCENT  
PIERRE PROSKE  
JORGE RAMIREZ  
PAUL THOMAS/KEVIN RAXWORTHY**



**ROYAL INSTITUTE AUSTRALIA / CENTENARY BUILDING, UniSA CAMPUS  
October 1-5 2013 (opening+artist talks October 1st from 5pm)**



## MARart4::TRANSREAL TOPOLOGIES EXHIBITION::

*Transreal Topologies* will be held in conjunction with The International Symposium on Mixed and Augmented Reality. The exhibition explores the field of mixed and augmented reality art (MARart), presenting a range of artists that are contributing to the development of a unique language for MARart as both a medium and area of inquiry. The exhibition focuses on modes of representation that deal with the augmentation of data beyond traditional surfaces in order to merge virtual and real.

### *Transreal*

*"A valid work of art should deal with the world the way it actually is. Transrealism tries to treat not only immediate reality, but also the higher reality in which life is embedded." Rudy Rucker, A Transrealist Manifesto (1983).*

### *Topology*

*The study of surfaces is a branch of mathematics concerned with spatial properties preserved under bicontinuous deformation (stretching without tearing or gluing); these properties are the topological invariants.*

*It is my pleasure to present these works within the context of mixed reality, augmentation based arts practice. Transreal Topologies is part of a Mixed and Augmented Reality Art Organisation (MARart.org) scoping study initiative that launched at ISEA2013. The Mixed and Augmented Reality Arts Research Organisation (MARart.org) seeks to develop new dialogues in regards to high-end research methodologies, cultural inquiry and representation in the increasingly immersive and pervasive field of mixed and augmented reality art.*

*This initiative aims to scope the field of MARart, through the presentation and analysis of particular research outcomes, in order to develop criteria that can assess MARart's production and position within the media arts. The research endeavours to develop strategies for hybridized research practice, in a number of open platforms that will scope current trends and exemplary models from a variety of approaches. Artistic practices in MARart will be presented and discussed in order to locate new research paradigms that address issues including cultural absorption, post-biological identity, social codes and systems, mobile computing, commercialization and intellectual property, with particular regard to the media art field.*

*This exhibition, artist talks and transdisciplinary panel that constitutes the program aims to set a precedent for future showcases of media artworks that expand current, generic notions of MARart in meaningful ways*

**Julian Staddon BA, M.E.A (Australia/Austria)**  
Curator/Organiser/MARart Director  
Senior Lecturer, Interaction/Interface Design  
Salzburg University of Applied Science

**International Advisory Board**  
Sean Cubitt, Paul Sermon, Nina, Czegledy, Marc Garrett, Paul Thomas, Ross Harley, Wim van Eck, Kate Richards, Mike Phillips, Jay Bolter

## Tracey Benson (Australia),

### Words for Water

'Words for water' is an exploration into the many aspects of the chemical of H<sub>2</sub>O. Water makes up over 70 per cent of the human body, it is essential for sustaining life and has massive social and cultural significance.

Water may seem ubiquitous, but it has some rather uncommon properties. At the atomic level, water can influence how life and landscapes form, such as how water moves through a plant and how rivers meander around bends. It is also the only chemical that be formed in three states - vapour, liquid and solid.

This project will use augmented media tools to evoke a meditative work focusing on the concept water.

By using a visual 'trigger' audiences will be able to use their mobile phones and hand held devices to access the work. The work is designed to be totally transportable and 'fluid', allowing people to access the work from both physical and virtual spaces.

The process for developing the content has involved using online social networks to gather the word for water in many languages. To date I have gathered over 30 languages, including 8 Indigenous Australian languages. This project seeks to raise awareness of the significance of water to humanity - its critical importance to our existence: spirituality, culture, health and ecological sustainability.

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**Tracey Benson** is a green geek/artist/researcher into connected communities, UX, WCAG, Gov.2.0, sustainability, tech/art synergies, maps and FOSS.

Tracey has been active in a number of media arts communities over the years - In 2007, she co-founded the Canberra chapter of dorkbot with Alexandra Gillespie and was also a moderator on the internationally renowned new media list -empyre- from 2005-07. She has participated in many international digital media events including: SCANZ2013, ISEA2011, THATCamp Canberra 2010, ISEA2008; AOIR 2006; ISEA2004; Siggraph 2001; N5M4, Amsterdam 2003; N5M3; MAAP'99 and MAAP2000.

Her creative work has focused on the connections between landscape and identity. This has been realised through a number of umbrella projects including [Big Banana Time Inc](#) (1995 2000) - a parodic investigation of the landscape, tourism and consumerism and [Fauxonomy](#) (2007 - 2013). Fauxonomy uses source material of a factual and scientific nature, but by way of constructing a fictitious or personal narrative, the authenticity of the data is challenged.

More recent creative explorations have utilised mobile and hand held online technologies for the creation of virtual and augmented reality works. This has coincided with an increased focus on working collaboratively with Indigenous groups and individuals to gain better understanding of the landscape we inhabit and to raise awareness of the environmental crisis humanity is facing.

In 2001 she received a Research MA from Queensland University of Technology, focusing on souvenirs, nostalgia and personal identity. In 2010 Tracey was awarded a PhD at The Australian National University, which explores online communities and social networking tools. Recent publications include chapters in [Mobile Media Practices, Presence and Politics](#) and [Locating Emerging Media](#)

## Andrew Burrell (Australia)

### *IUXTA*

IUXTA investigates the narrative possibilities of the network. Since mid 2013, a user generated, augmented reality network has been evolving across the world. The projects audiences are invited to participate in this multi-nodal narrative construction by adding further nodes to the network and to observe the flux, fragmentation and recombination of the network via a number of portals.

In IUXTA, the audience is asked to help spread and embed personal and historical narrative into the augmented fabric of physical world around us. Over time, this narrative proliferates according to its own inner logic.

The IUXTA mobile viewer can be used to observe and listen to the narrative's current state in real time and allows a user to add augmented nodes at their current physical location. Also presented is a virtual simulation of the narrative network that can be explored online allowing a viewer to navigate through the constructed narrative leaving behind the constraints of space and time.

The IUXTA app is now available on the app store and the google play store. See <http://iuxta.cc> for more details.

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**Andrew Burrell** is an independent contemporary arts practitioner with strong history in real-time 3D and interactive audio installation. He is exploring notions of self and narrative and the implications of virtual worlds, networked environments and artificial life systems upon an individual's sense of identity. He holds a PhD from the University of Sydney, his research having focussed on philosophical and poetic connections between memory, the collected object and narrative.

Andrew Burrell is a current board member of the Metaverse Creativity Journal. His networked projects in virtual environments including mellifera (with Trish Adams), Virtual Macbeth (with Kereen Ely-Harper), Augmentiforms (in collaboration with Warren Armstrong and presented at ISEA2011), and IUXTA (ISEA 2013). He is currently collaborating with writer Chris Rodley, together they are investigating the nature of networked text.

<http://miscellanea.com>

## Mez Breeze (Australia) Andy Campbell (UK)

### #PRISOM

#PRISOM is a Head-Mounted Display 3D immersive work about privacy, surveillance, and the social logistics [and underlying ethical associations] of Wearables. The work will consist of a mixed reality station comprising a HMD and a “Synthetic Game Environment” similar to previous work we’ve created [ie “The Dead Tower”]. In order to navigate around the #PRISOM first-person-perspective environment successfully, a user will be expected to engage with objects, scenarios and text engineered specifically to question culpability in relation to sacrificing individuated privacy for brand-spanking new modes of augmented communication. #PRISOM is designed to make its users ponder the increasing global adoption of PRISM-surveillance like technology including CCTV interventions, sousveillance propaganda imagery and UAV menaces where every move may be consistently, and comprehensively, monitored.

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Mez Breeze: “Not since the work of James Joyce has any one person so creatively explored layers upon layers of dimensional linguistic meaning as the writer/artist Mez Breeze.” (Séamas Cain, the 2012 International Conference of ICIS). The impact of Mez’s unique writing has been equated with the work of Shakespeare, Emily Dickinson, and Larry Wall. Mez has exhibited extensively since the early 90s and holds awards including the 2001 VIF Prize [Germany], the JavaMuseum Artist Of The Year 2001 [Germany], 2002 Newcastle New Media Poetry Prize [Australia], winner of the 2006 Site Specific Index Page Competition [Italy] and Burton Wonderland Gallery Winner 2010 [judged by Tim Burton]. Mez is also works as a Digital Media & Arts Consultant, Augmented Reality Scholar and Technology & Culture Journalist.

**Andy Campbell:** Andy Campbell is a digital writer and the author of [dreamingmethods.com](http://dreamingmethods.com), a website described by the Times Educational Supplement as “a semi-cinematic, semi-literary blend... a distinctive voice that couldn’t be replicated in print.” He is Director of Digital Media for One to One Development Trust ([onetoonedevlopment.org](http://onetoonedevlopment.org)) heading up website and multimedia design and working on a wide range of arts projects in communities often with challenging and hard to reach groups. Campbell was a judge in 2010/11 for the New Media Writing Prize established by Bournemouth University; the annual prize, now in its 3rd year, is supported by sponsors, including Dreaming Methods. Campbell is the Creative Developer for the pioneering digital novel Inanimate Alice written by award-winning novelist Kate Pullinger ([inanimatealice.com](http://inanimatealice.com)).

## Mar Canet (Spain) Varvara Guljajeva (Estonia)

### The Rhythm of City

The Rhythm of City is an art piece that points out an innovative and artistic way for applying geo-located social data as a score for art installation. This data also represents a city's pace of life, because the score is composed by the digital inhabitants of the selected locations. The goal is to metaphorically describe locations by extracting geo-tagged content of Twitter, Flickr, and YouTube, translating it into the rhythm of a physical metronome in real time. In short, each metronome represents a city. The installation consists of modified metronomes whose rhythms correspond to the selected cities' digital pace of life. The audience is given a chance to discover and experience an alternative way of perceiving different locations through a continuous performance of metronomes. Our concerns are about the malleability of the digital world to the physical one, and the interpretation of social data for artistic purposes.

The installation is a sonic and at the same time visual interface for perceiving the urban life and culture of different locations. Moreover, it gives an alternative meaning and purpose to the location-specific invisible online data.

The Rhythm of City is an inter-disciplinary artwork that challenges art theories and contributes to new emerging art genres, like real-time and mixed reality art. Suddenly it is possible to see and hear the cities' pace of life that is performed by the modified metronomes. The score is unpredictable and never repeated cause it is composed by the online users of social networks in real-time.

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Mar Canet is an interdisciplinary artist from Barcelona. He has two degrees: in art and design from ESDI in Barcelona and in computer game development from University Central Lancashire in UK. In addition to that, Mar is finalizing his masters at Interface Cultures in Art and Design University of Linz in Austria. He has worked 2 years as a Creative Engineer in Ars Electronica Futurelab(Linz, Austria). He is a co-founder of art collectives [Derivart](#) and [Lummo](#).

He has exhibited collaboratively with Derivart, Lummo, as artist-duo with Varvara Guljajeva and independently in many international festivals and museums. Since 2011, it is doing an artist residencies tour together with Varvara as artist-duo in IAMAS Japan, FACT Liverpool, MU Gallery (Eindhoven) and STPLN in Malmö, Verbeken Foundation(Belgium), Marginalia+lab(Belo Horizonte).

Varvara Guljajeva is an artist working in the field of art and technology. Varvara has exhibited her art pieces in a number of international shows and festivals. The artist was selected for the residency at FFKD, IAMAS, EMARE (FACT, Liverpool), Crida, MU Gallery, Verbeke Foundation, Marginalia+Lab, Seoul Art Space Geumcheon, and more. Varvara is a PhD candidate at the [Estonian Art Academy](#). She has presented her research work at several conferences, like Amber Conference, Enter5 Symposium, ISEA 2011, Open Knowledge Festival 2012, MutaMorphosis 2012, and more.

Varvara is concerned about the new forms of art. Thus, she applies and challenges technology and traditional production methods in order to explore novel concepts in art. Varvara works together with [Mar Canet](#) as an artist-duo.

## Joshua Hagler (USA)

### The Evangelists

The Evangelists is a 3D animation presented as a 12-minute two-channel video projection. The models depict likenesses of collaborating “evangelists,” which include (1) a former neighbor who, suffering from emotional trauma, set fire to my previous apartment building, (2) my father, a devout Evangelical Christian, (3) a cartoonist made famous on MTV whose work inspired me as a teenager, and (4) a sometimes-homeless friend who has posted youtube videos, which make predictions about the year 2012. Several hours of video and webcam interviews are edited and re-contextualized through animated montage, which relies on source video biometrics for direction.

This process builds into a fictive apocrypha of ‘sacred history’ by enlisting individual and shared feelings about mortality to accelerate personal narratives towards myth. The work is sincere in its use of subterfuge to compress the evangelists’ life experiences into the conceptual space of mythological time and suggests that distress and trauma do not originate in individuals, but are innate in nature and foundational to our most treasured religious beliefs.

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Living and working in the San Francisco Bay Area, Joshua Hagler is known mainly for his energetic semi-figurative large-scale paintings, while showing versatility in a range of media from sculpture, installation, video and animation, and book making. The work often deals with aspects of religion including devotion, belief, and mysticism. Since 2007, the artist has exhibited extensively throughout the United States and Europe while living and working in Norway and Italy as a participant in international art residencies.

In 2012, Hagler completed his most ambitious project to date, an experimental animated video projection called “The Evangelists,” which debuted at Frey Norris Contemporary and Modern in San Francisco as part of a solo show before moving onto the Museum of Contemporary Art, North Miami. To make the project, Hagler interviewed four men who experienced psychological trauma, which included the arsonist who burned down the artist’s home in 2007. Video interviews were reframed and contextualized to explore the psychological precursors of religious belief. The men’s likenesses were then digitally rebuilt and animated.

This year’s solo exhibition of new paintings entitled *The Unsundered* displayed at the University of Illinois, where Hagler also lectured at the University’s Krannert Art Museum. These paintings make ironic use of the “cowboys and Indians” motif recurring throughout the 19th and early 20th century. The artist superimposes imagery of early American colonialists as well as Marvel and DC Comics superheroes. With a sense of levity, the work questions predominant myths about progress in America while presenting a new cosmology informed by historical and modern economic disparity.

## **Damian Hills (Australia)**

### **assimilate: enactive topologies**

The assimilate project is an online collaborative environment that allows participants to visually construct narratives in a 3D virtual space. Within a projected floor space, up to four participants generate a collaborative narrative using online media obtained through an internet keyword search. The search results are styled into generative behaviours that visually self-organise into topological data spheres that may be modified, sequenced and merged with other participants.

The work represents an augmented extension of an ongoing project (<http://www.assimilate.net>) that explores the possibilities of playful interfaces and narrative meaning with embodiment and action. These narrative actions often relate to our bodily relationships with the world and the physical forces associated with it. With the assimilate interface, these are mirrored as spatial schemes related to narrative actions, such as scope, point-of-view and the merging of those views through dramatic or unexpected outcomes. This may be understood as a holistic paradigm of meaning generation and conversational exchange that takes place simultaneously within the real and the virtual space.

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Damian Hills is a digital media developer/researcher who specialises in application and rich interface design. He has worked on a wide range of projects for industries including medicine, education, government, film, and games. Damian is currently a PhD candidate at the Creativity and Cognition and UTS Games Studio(s) at the University of Technology, Sydney. His research interests are involved with collaborative interactive narrative systems and how they can be applied to gestural interfaces for creativity support.

## Troy Innocent (Australia)

### Noemaflux:ia

There is a long history of graphical notation originating in the avant garde of the early twentieth century, connected with an interest in synaesthesia and the phenomenological experience of art. Embedded in the origins of formal abstraction are early systems such as Kandinsky's Point and Line to Plane and Moholy-Nagy's Light-Space Modulator. Later, electronic music pioneers Stockhausen and Xenakis employed graphical notation in their scores to express sonic elements not present in traditional musical notation. The proposed work plans to transcode these formal systems into a mixed reality using overt fiducial markers as elements of a graphical score embedded in an urban environment.

It establishes relationships between three major elements of media ecology:

- sight: fiducial markers and aesthetic objects
- sound: sonification of the code embedded within each marker
- touch: rhythmic vibration in time with the score from the markers

Using a customised viewing device, the markers are discovered by two players who activate and shape a musical score that is both heard (via stereo headphones) and felt (via triggered vibrations on a wearable device, this may be as simple as a mobile phone). Building on the relationships between street art, mixed reality, virtual art and gaming established in noemaflux (Ogaki 2010, Istanbul 2011) the proposed work is an experience in which connections between sight, sound and touch are created in a mixed reality.

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**Dr Troy Innocent** is a world builder, iconographer and reality newbie. His artificial worlds - Iconica (SIGGRAPH 98, USA), and Semiomorph (ISEA02, Japan) - explore the dynamic between the iconic ideal and the personal specific, the real and the simulated, and the way in which our identity is shaped by language and communication. He has received numerous awards, including Honorary Mention, LIFE 2.0: Artificial Life, Spain (1999); Foreign Title Award, MMCA Multimedia Grand Prix, Japan (1998); First Prize, National Digital Art Awards, Australia (1995); and Honorary Mention, Prix Ars Electronica (1992). Innocent co-founded the digital arts collective cyber dada and through pioneering works such as Idea-ON>! contributed to the Australian new media arts practice during the 90s. His most recent works are urban art environments: an interactive sculpture garden entitled Colony in the Melbourne Docklands and Urban Codemakers, an Alternate Reality Game that reinvents the history of Melbourne. Innocent is currently Senior Lecturer in Games and Interactivity, Faculty of Life and Social Sciences, Swinburne University, Melbourne. Innocent is represented by Hugo Michell Gallery.

## Pierre Proske (Europe/Australia)

### Cube

Cube is an installation that intersects a virtual world with the real and attempts to blur the two.

A camera attached to a wall pointing towards the centre of the room captures the contents of the empty room. A video projector on the ceiling of the room projects an image just above the camera. The content of the projection is essentially the contents of the room, except that a large, gently pulsating cube appears to sit in the middle of the space. There of course is no cube, it is superimposed into the real-time video stream.

As people begin to approach the cube, to perhaps attempt to touch it, it begins to crack, and finally shatters into shards that fade away if someone tries to get too close. An accompanying real-time sound-scape is synchronised to the visuals of the cube, and emphasises the drama of the disintegrating cube.

Once all onlookers have moved away to a safe distance, the cube reassembles itself from its shards and resumes its gentle pulsing.

Cube is a work, based on a previous piece called Stutterspot:

<http://vimeo.com/11846785>

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Pierre is an Australian artist intrigued by the pervasiveness of technology in culture and its relationship to nature. After years of juggling parallel interests in technology and the arts, Pierre tired of the schizophrenia and finally discovered that it was socially acceptable, in fact highly desirable, to merge the two. Consequently he has taken on the ambitious task of rendering computers accountable to our sometimes misplaced but inevitable humanity.

Having studied Electrical Engineering and Liberal Arts at the University of Melbourne, Australia, Pierre then spent three and a half years in Sweden where he developed a body of work and obtained a Master in Art and Technology from Chalmers University.

Proske's work involves exposing the unspoken relationships we have with technology and harnessing machines into exploring new aesthetics. Both resisting and exploiting modern techno-utopian trends, Proske employs humour and the absurd as weapons against the invasion of computer augmented realities. Alongside electronic art projects he also works as a sound designer and electronic musician. He has exhibited or performed in Australia, Sweden, Canada, Iceland, Brazil, Japan, Austria and the Netherlands.

Pierre alternates living and working in Europe and Australia.

## Jorge Ramirez (Mexico)

### Cymatics Disport

Cymatics Disport is a research of how form is created within material systems that reaches self-organization thresholds where emergent properties are displayed.

The idea is to domesticate the material phenomena and geometrize its form to be able to analyze and reproduce its geometrical properties. Sounds and vibration affect matter and can create form immanent to itself, feeding from material processes with organic life-like behaviour .

Cymatics (from Greek: 'wave') is the study of visible sound and vibration, a subset of modal phenomena. As Deleuze shows in his works on Spinoza, resources involved in the genesis of form are immanent to matter itself instead of seeing "matter as an inert receptacle for forms that come from the outside." Working in this frame of an alternative model of the genesis of form, one in which form is not imposed on matter from the outside.

Cymatics Disport lies between audiovisual performance and form finding processes through material properties

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The precise and the indeterminate, error ,repetition and exception and the perceptual repercussions of time and space are all questioned in the manipulation of material from its essential physical characteristics. Creating anomalous micro details and using error as structure provides an analogy to tectonics, where the precision of accidents, the order in the midst of chaos, creates a dialogue that envisions landscapes beyond sound.

Jorge Ramirez's research works about form-finding processes through material properties has been shown in events like SONOM, International Sound Art Festival of Monterrey,(MX), Mitos Oficiales, La Curtiduria,(MX) , Diarios Efimeros, MUAC (MX) and the 3rd Art and Science International Exhibition and Symposium, Beijing, CH.

As LiveCoder and improviser with his solo project, AVONREVLON, has presented in multiple context like Visiones Sonoras CMMAS, Volta (DF), Sound Emissions International Soundart festival(CH), Piksel (NOR) y "Vivo" festival internacional de livecoding, Centro Multimedia (MX). and shared stage with artist like, Ash Wednesday

(Einstürzende Neubauten), YanJun(CH), Sean Baxter(Aus) y Marco Fussinato(Aus).

His part of the duet MicoRex, which has been selected to participate in the closing concert of the Supercollider Symposium, (UK), Network Music Festival(UK), LiveCodeFest(GER), Algorave europe tour in 2013 and put out an EP with ChordPunch label. (UK).

[www.jorge-ramirez.com](http://www.jorge-ramirez.com)

[www.micorex.net](http://www.micorex.net)

<https://soundcloud.com/jorge-ramirez>

<http://fallopiantunes.com/smell-in-stereo/>

## Paul Thomas (Australia) Kevin Raxworthy (Australia) Multiverse

The installation *Multiverse* by Paul Thomas and Kevin Raxworthy is based on the research of silver, the mirror and Richard Feynman's quantum theories of light. Feynman in his 1979 video lectures visualised through blackboard diagrams the probability of photons reflecting from the surface of a mirror. The diagrams reveals how all points on the surface of a mirror receive and reflect light based on the speculative spin of the photon that is not visible to the viewer. In the work *Multiverse* the computer generates nearly two thousand simulations of the viewer's spinning portraits that are equivalent to Feynman's 'summing' the angles of probability. The media artwork reveals that the viewer's portrait not only appears at the shortest angle of incidence but also reappears unexpectedly revealing the potential of parallel universes.

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Dr Paul Thomas, is Head of Painting at the College of Fine Art, University of New South Wales. Paul is currently looking at photons and parallel universes in the work 'Multiverse' is based on silver, the mirror and quantum theories of light. Paul is the co-chair of the Transdisciplinary Imaging Conference 2010,2012 and 2014. In 2000 Paul instigated and was the founding Director of the Biennale of Electronic Arts Perth 2002, 2004. Paul has been working in the area of electronic arts since 1981. His pervious nanoart works 'Nanoessence' explored the space between life and death at a nano level and 'Midas' was researching what is transferred when skin touched gold. The Midas and Nanoessence installations were in collaboration with SymbioticA, Centre of Excellence in Biological Arts, University of Western Australia and the Nanochemistry Research Institute, (NRI) Curtin University of Technology.

Paul's current publications are Nanoart; The immateriality of art and Relive Media Art Histories, edited by Sean Cubitt and Paul Thomas

Kevin Raxworthy is a digital artist who originally trained as a Painter in the mid 1980s, but got distracted by computers. Raxworthy has since had over 30 years experience in digital arts and is currently the Digital Support officer for the Department of Art, Curtin University. He recently completed a Master of Art in coding artificial life that produces artifacts, which are close enough to artifacts produced, by life, as to attract the interest of humans. By applying selective pressure, life like activity emerges and Raxworthy explores this through 3D environments, sensor networks and code. Raxworthy has collaborated with Dr. Paul Thomas for a number of years, with several internationally recognized projects.

# Makings of a MARart.org Manifesto: A Post-biological Approach to Consolidate and Expand Mixed and Augmented Reality as Art Mediums

Julian Staddon ©2013

## INTRODUCTION

I would like begin by discussing the recently established Mixed and Augmented Reality Art Research Organisation (MARart.org) and how it plans to position itself in regards to developing new models stemming from life sciences, in order to define the field, within a paradigm of post-biological identity and representation.

The Mixed and Augmented Reality Arts Research Organisation (MARart.org) seeks to develop new dialogues in regards to high-end research methodologies, cultural inquiry and representation in the increasingly immersive, networked and pervasive field of mixed and augmented reality art. This initiative aims to scope the field of MARart, through the presentation and analysis of particular research outcomes along with fostering events and online discussions, in order to develop criteria that can assess MARart's production and position within the media arts.

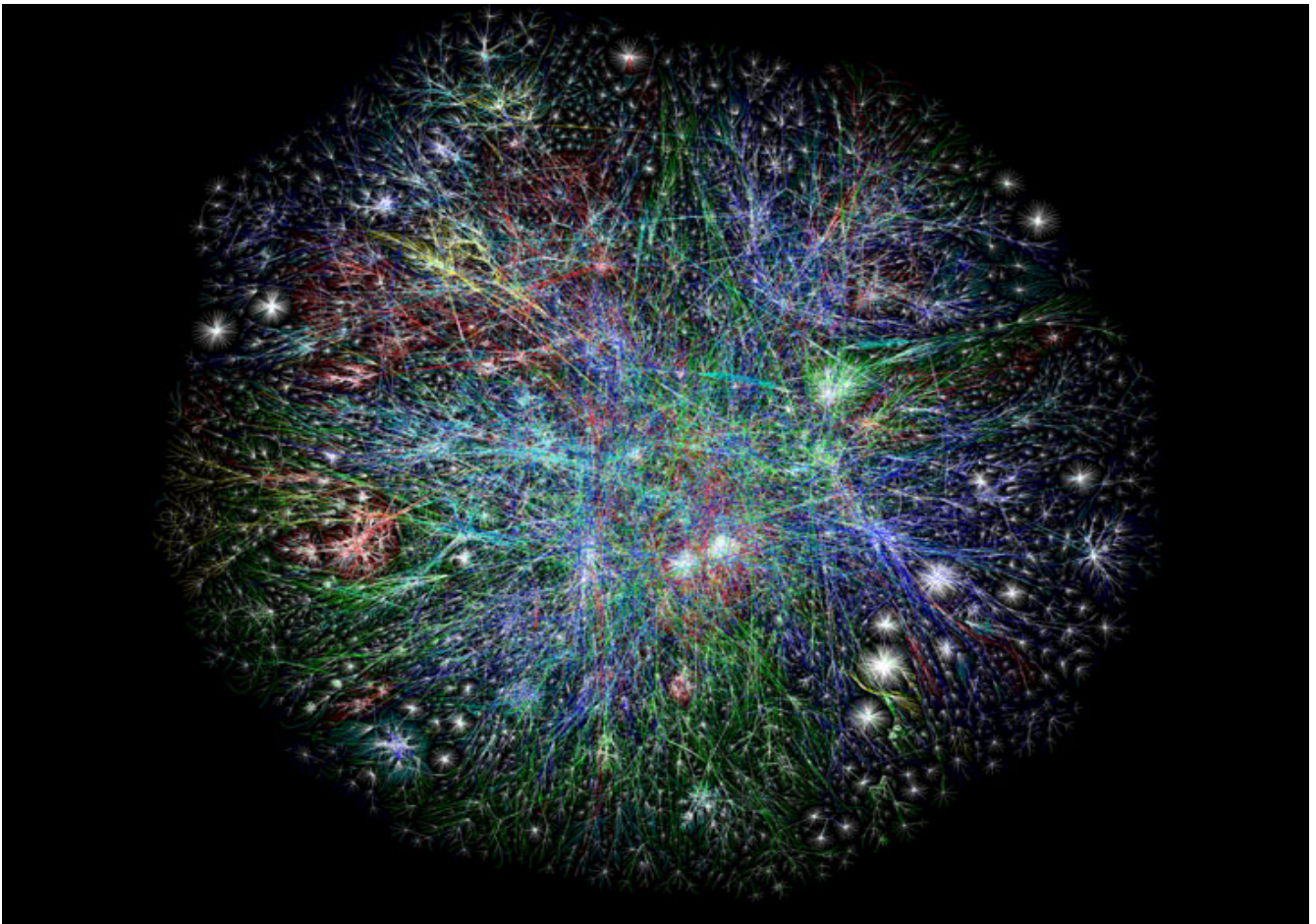
The research endeavours to develop strategies for hybridized research practice and classification, in a number of open platforms that will scope current trends and exemplary models from a variety of approaches. Artistic practices in MARart will be discussed in order to locate new research paradigms that address issues including cultural absorption, post-biological identity, social codes and systems, mobile computing, commercialization and intellectual property, with particular regard to the media art field. The recent rise of augmented reality as a technology for information data transfer has brought about many misunderstandings of the medium in regard to furthering cultural dialogues and understandings. Much of the potential for MARart to facilitate further understanding of both identity and consciousness through art has been undermined by media industry strategies that include the creation of arbitrary systems, for short-term stimulation and entertainment within audiences.

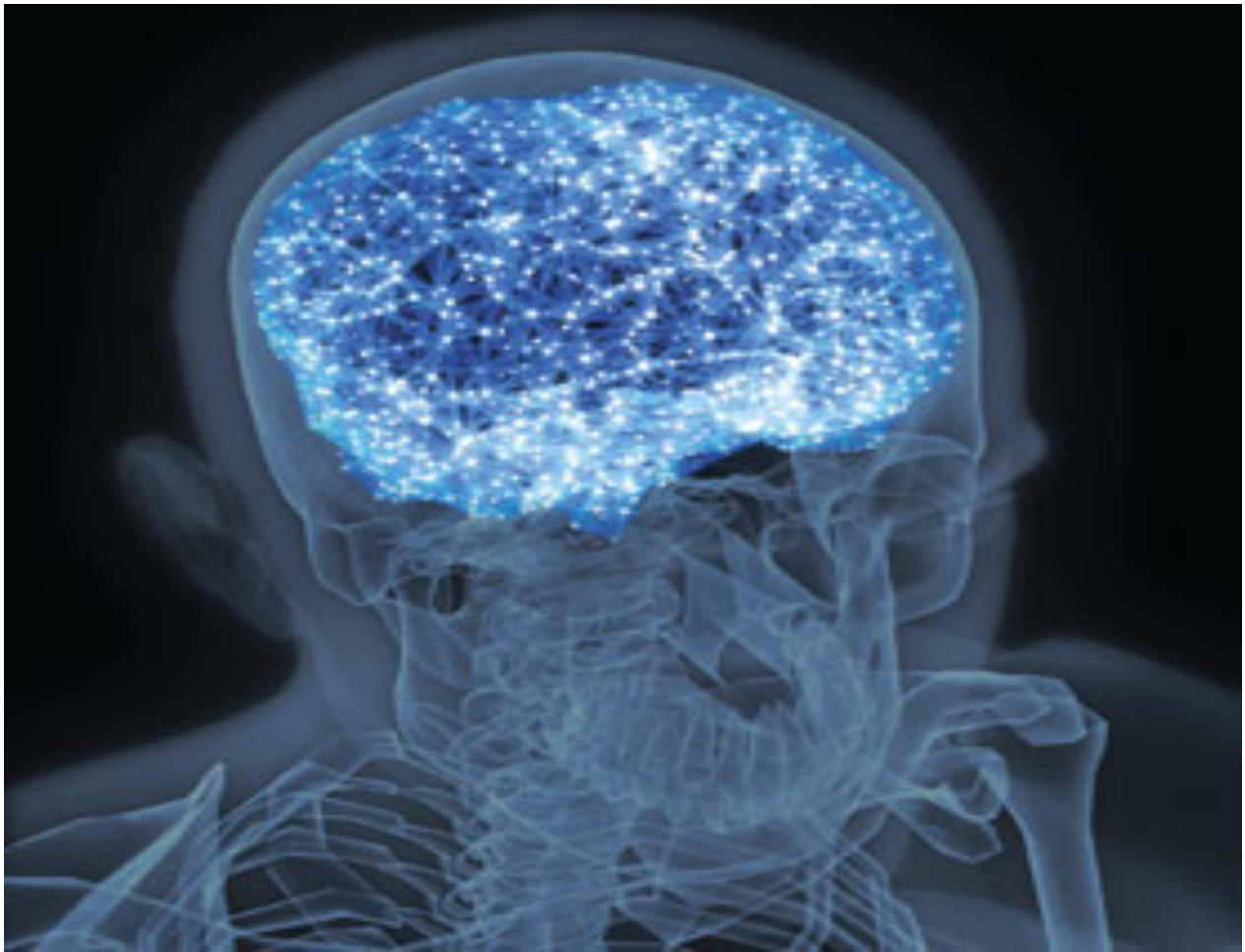


## A NEED FOR A NEW MODALITY OF MIXED REALITY

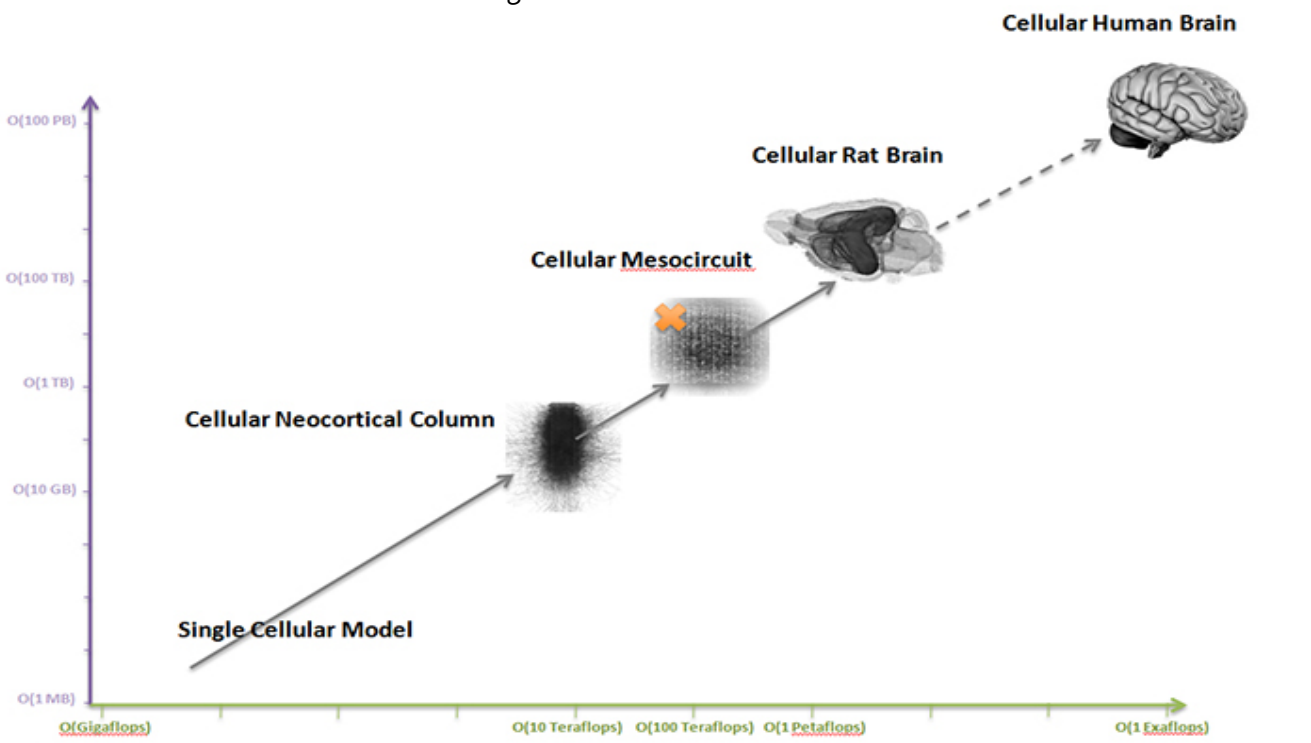
For MARart researchers this raises questions regarding whether MARart is seen as merely a 'gimmick', or an easy avenue for sensationalism, and how this issue can be addressed. Perhaps the problem is that many artists see MARart this way also, that it is a 'trick' or a part of virtual art or pervasive media. All art is virtual, a representation, a simulacra and all work involving the body through tactile media can be argued to be pervasive. MARart is pervasive mixed reality by default. It is physical and virtual hypersurfaced content. And more recently it is networked, and this is the catalyst for a new, broader definition of mixed and augmented reality art to be attempted.

Milgrm and Kishino's mixed reality continuum is an example of an obsolete, insufficient model taken from computer science to describe mixed reality interaction in networked environments, as it is a linear system. It suggests everything sits along a singular line. Realities can be described as a more quantum than linear- more dispersed and networked than dichotomous. This is a case of trying to quantify something that cannot be quantified- subjective reality and consciousness.





All one really needs to do is look at a map of a neural network and the internet and understand that while both rely on a +/- basic structure of exchange - this model excludes external factors- human factors, that affect all of consciousness and therefor all of reality. Every mixed reality "theorist" refers to this model as a model as it simply describes the 3 places- but they are becoming more and more integrated and merged, hybridised and blurred. It is like using grey scale with black and white at each end and discarding all the colours that also exist



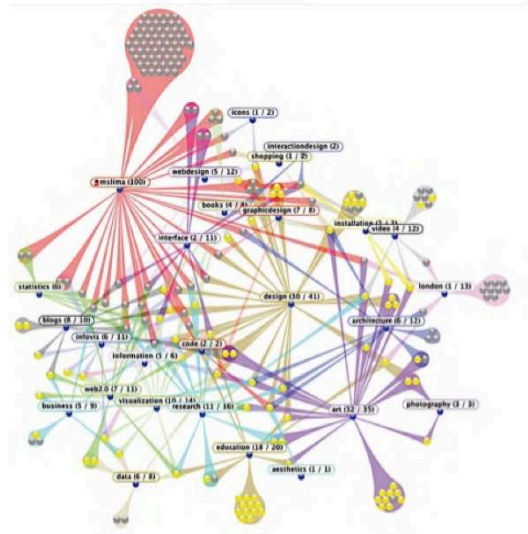
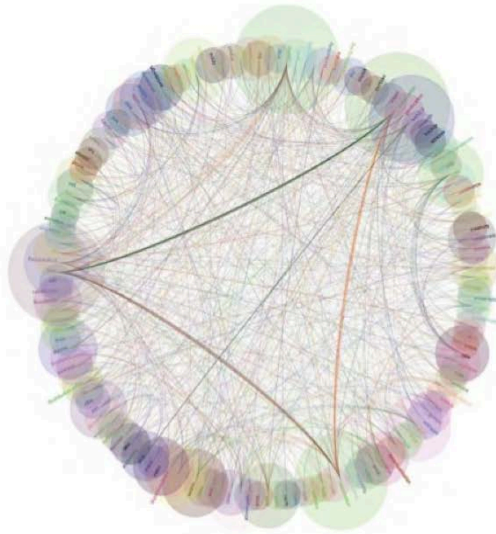
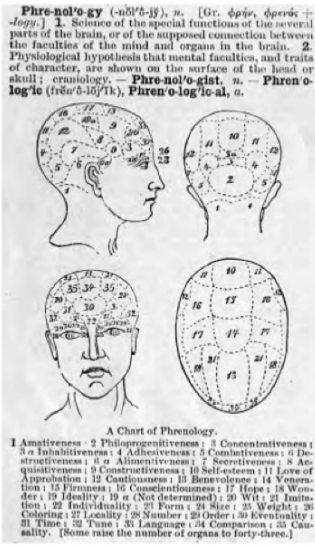


Classification works for things that can be language to occur in classes and the dichotomous key for insects is a great example of this.



But what happens when we are dealing with more historically complex animals in terms of evolution (insects are quite old and genetically predictable in most cases)?

With mammals (us included of course) we see an ephemerality of species: I mean we humans were even known, not so long ago, as homo sapiens and now we have been (archeologically/anthropologically) reclassified as the sub species homo sapiens sapiens. Culturally we reclassify ourselves in a very eclectic, deterritorialised manner. The problem here is that we usually use a top down classification system that is adjusted long after the event, with every advent of new discovery.



But what about the unclassifiable? Hybrid ecologies for example? Or collaborations? We seem in these cases to simply borrow terminology from biology to use for classifications: Tibetan Bear Dog for example. Or man-bear-pig?

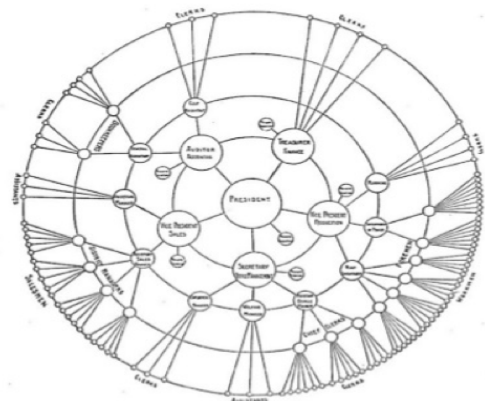
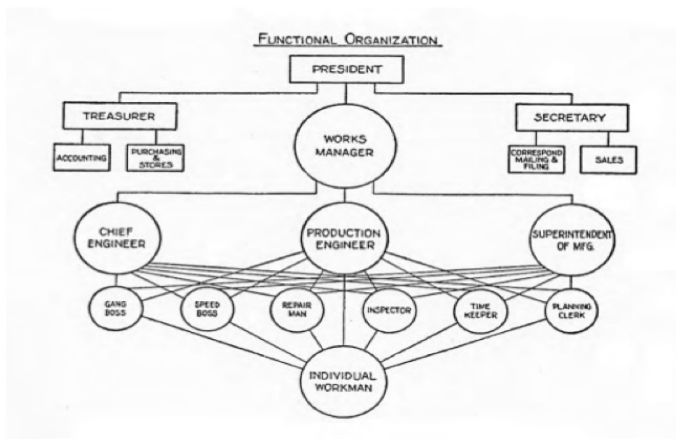


What about these unclassifiable new hybrid states? Evolution has always been erratic and not an 'evolution of revolution' like with a butterfly metamorphic cycle:

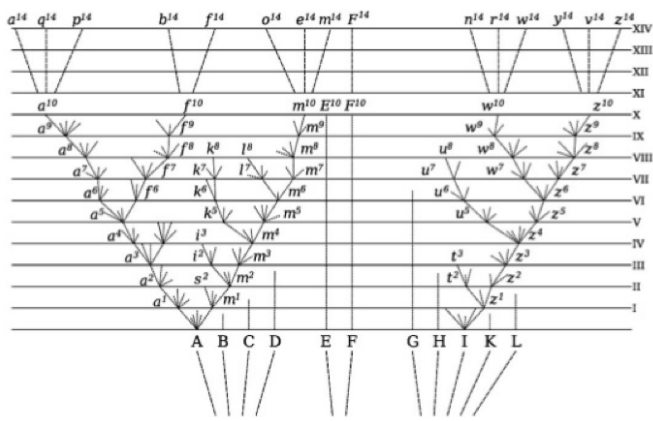


Here revolution occurs where evolution of a particular ontology is constantly shifting—it is where:

The survival of the fittest is core to forms such as memes, animated gifs & the like. Where Darwin meets Dawkins, entropic, wide & wild dissemination, reception, forwarding, modification, etc amount cultural value & currency. The faster and more furious something spreads, the higher the value, the more present the aura. While for Walter Benjamin the aura of an artwork was determined by its presence as well as destroyed by its omnipresence, in Digital Art dissemination has become the most vital aspect of presence. Viral behavior has to become part of the art-making machine in digital communities.



And this extends into the rest of society: digital archiving and biology are similar in the ways they are evolving and perhaps archivists could a more natural speculative approach can be developed that allows for evolving and ephemeral



	Human	Fruit fly
<b>Domain</b>	Eukarya	Eukarya
<b>Kingdom</b>	Animalia	Animalia
<b>Phylum</b>	Chordata	Arthropoda
<b>Subphylum</b>	Vertebrata	Hexapoda
<b>Class</b>	Mammalia	Insecta
<b>Subclass</b>	Theria	Pterygota
<b>Order</b>	Primates	Diptera
<b>Suborder</b>	Haplorrhini	Brachycera
<b>Family</b>	Hominidae	Drosophilidae
<b>Subfamily</b>	Homininae	Drosophilinae
<b>Genus</b>	Homo	Drosophila
<b>Species</b>	H. sapiens	D. melanogaster

There are many theorists who have attempted (differing approaches) to build frameworks for such (r)evolutionary systems of representation. Deleuze and Guatarri focus on a growth based system of rhizomatic development where different nodes emerge from established origins. Bruno Latour focuses more on the role actors play in networks. Both these approaches are important analyses of how networks form and function, however they in themselves formulate roles and set paths: in both cases once a connection is made it can only be broken, merged, added to etc. in other words it is not fluid.

<b>Modern art</b> <i>five players</i>	<b>Interactive Art</b> <i>five-fold path</i>	<b>Syncretic art</b> <i>five states of being</i>
<b>Cézanne:</b> <i>emergent form</i>	<b>Connectivity</b> <i>minds &amp; machines</i>	<b>field</b> <i>endo/exo</i>
<b>Pollock:</b> <i>emergent behaviour</i>	<b>Immersion</b> <i>cyberspace</i>	<b>absorption</b> <i>syncretic space</i>
<b>Duchamp:</b> <i>emergent meaning</i>	<b>Interaction</b> <i>systems &amp; cultures</i>	<b>transemiosis</b> <i>intertext</i>
<b>Pessoa:</b> <i>emergent identity</i>	<b>Transformation</b> <i>form, consciousness</i>	<b>technoesis</b> <i>mobile mind</i>
<b>Cage:</b> <i>emergent change</i>	<b>Emergence</b> <i>contingent form</i>	<b>actualisation</b> <i>variable reality</i>

Roy Ascott had applied syncretism as a model to address the new need of a 'moist' approach to connectivity. This approach allows for the integration of post-biological aspects to consciousness and beyond, via a (rather ambitious) sort of grand unified theory of everything. Thinking about Ascott's "syncretic dialogues" reminds me of the sense of magic I have whenever I thinking of floating point operations on central processing units. The fact that calculations can occur across multiple decimal positioning at the same time I find amazing, and quantum computing's emergence further amplifies what I consider to be a convergence with digital systems and life systems.

## MOISTMEDIA

The convergence of silicon dry pixels and biologically wet particles is creating a moist media substrate for art where digital systems, telematics, and nanotechnology meet.



The Big Bang: Bits, Atoms, Neurons and Genes, brought together in our post-biological universe, half in cyberspace and half in a material environment, in which reality is variable and the self is fluid and transformable.

*a new concept of nature will evolve  
with new ideas about mind and consciousness*

## SYNCRETISM

**seeking likeness within unlike things**

Syncretism attempts to reconcile and analogise disparate religious beliefs and cultural practices.

It may now help us to understanding the multi-layered world views, material and metaphysical, that are emerging in our post-biological culture.

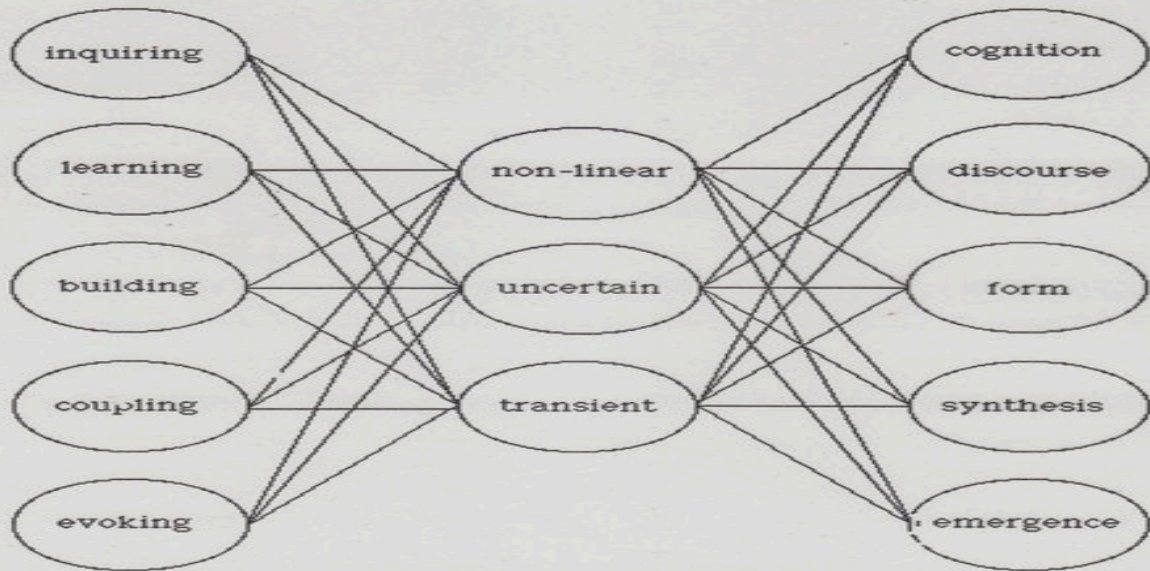
- speeds technoetic evolution
- destabilises orthodoxies
- challenges representation
- fights dogma
- confronts materialism
- demands participation
- hybridizes identity
- smooths social interaction
- re-orders time and space.



Roy Ascott 2011

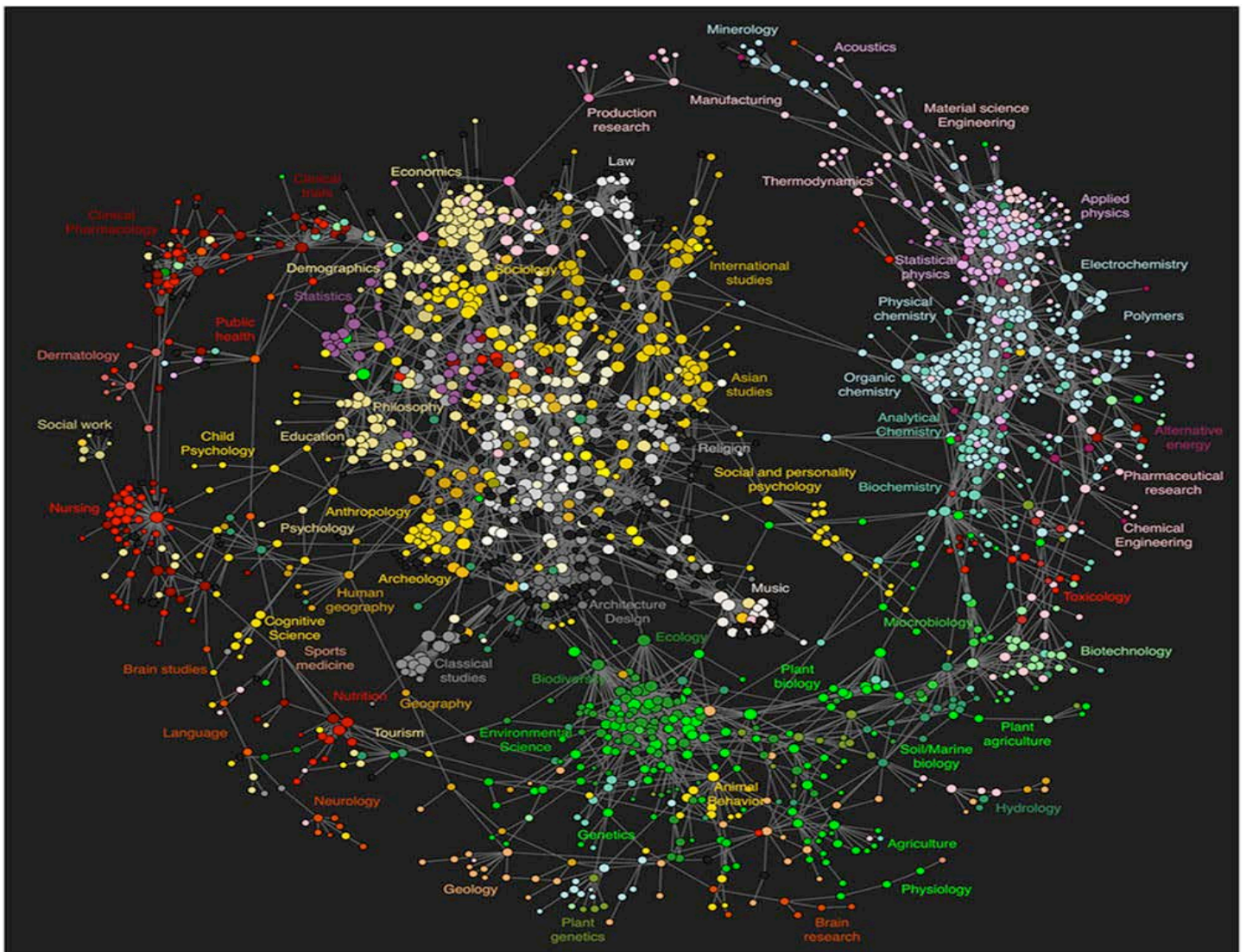
The digital is no longer linear/binary- it is moist, the body is no longer wet as it is so intrinsically linked to data(bodies)- wet and dry do indeed combine to create this moist media state Alcott describes. This state is indeed post-biological and mixed reality. Today we exist as viscera, as data bodies, materialised through agency and avatars, forced back upon us by our social media interactions; data zombies borne out of our own personal archives that come back to bite us, to infect us further and further. Life and afterlife become the same hybridized being- that of the post-biological human.

# A connectivist model of interactive art practice



"both both and and either or"

Roy Ascott



(With special acknowledgement to Roy Ascott, Richard Dawkins and Roger Malina for their contributions to these ideas and to my wider research practice)

# <?D∇+Δ∞◦DY∞∇∩KMManifesto a first draft>

So let us now look at what it means to be post-biological. I like to consider this state in relation to the (r)evolution of viscerally link personal data bodies. First let me address post-humanism and its irrelevance.

Posthumanism exists inside the history of a post-biological reality, as the birth of humanity was also the death of our biological consciousness. When we refer to biology we refer to living organism that carry out 7 life functions. With the birth of humanity we became able to have free will as to which of these 7 functions we carried out, when and how- we have, even arguably before the birth of consciousness explored the boundaries of these necessary components to life, more so than the majority of other species.

The main catalyst for this symbiotic birth and death of biologically conscious 'humanity' was a third concurrent event, that being the birth of representation. In the realisation of archiving techniques, followed by story telling and personal signatures (see below) we gave birth, not only to media art through participation in light projected imagery (see Cubitt) but also through the creation of data body banks- archives of the people present in significant moments of human development.



At this point of disintegration into representation- this "splatter" both of paint and of the body into separate parts: hands, like above, bones and important muscles like Australian Aboriginal animal depictions



The mapping in Australian indigenous dot paintings- in all these examples nature and biology became data bodies- collections of data that fit together in different ways to have different meanings. The interplay between micro and macro is reminiscent of early microscopy and satellite imagery (the image below could be compared to either).



At the birth of representation we transcended our wet bodies and killed the real. We killed our biological identities and became post-biological in our thoughts and being. We entered a (data) space that we misinterpreted as 'spiritual' because it was/is sublime. It took tens of thousands of years to discover what this space was- this data body bank in which we exist. In this space modern thought was born- in our mirror neurons and associations, connotations and analysis. At the birth of semiotic development: the birth of logic and categorisation.



## Multiple Bodies

*the most sacred body (wujud al-aqdas) and supracelestial body (jism asli haqiqi) in Sufism*

*the diamond body in Taoism and Vajrayana*

*the light body or rainbow body in Tibetan Buddhism*

*the body of bliss in Kriya Yoga*

*the immortal body (soma athanaton) in Hermeticism.*

< **The circulation of Qi energy**

At the birth of art we became post-biological in our thinking, through allowing representation to explain ourselves. We removed personal expression from an interior consciousness to a transcendental concrete medium: the work of art. At this time we split, our cellular divisions extended to our external consciousness. We commenced leaving our mark- become multiple selves through division and dispersion of identity, thorough our own documentation of ourselves.

This way of thinking is in fact what has allowed us to so consciously destroy all that did not realise this reality- all of nature. It was what led us towards modernity and industrialization: nature and to some extent the sublime. These developments- all developments- are all necessary steps towards understanding this initial shift towards becoming data bodies. We mistook it for some kind of transcendental spirituality that allowed us to live forever in an afterlife. No. We live forever through our data bodies and only recently have these data bodies and biotechnology become symbiotic again.

There was a massive break but now consciousness and biological reality are fusing together once more. This is not a return to anything like neo-biology; it is the culmination of a post-biological cycle that commenced at the beginning of consciousness. Once the real is dead it cannot be revived can it? Zombie realities are in themselves post-biological and therefore long dead 'truths'. But they DO exist. Data never dies, it just changes format!

# So, Now for the Art...

The premise for this show really was to really expand on (recently) traditionalised views on what augmented reality and mixed reality really means in wider society. There are very paradigmatic classifications of these terms within computer science and these terms have crept in to creative discourses, as I have already mentioned. The problem here is that we neglect the very core human aspect here, that being subjective interpretation of representation, be it virtual, augmented, physically objective, sound, smell, or pure data, binary/machine code etc.

## *Transreal*

*"Time travel is memory, flight is enlightenment, alternate worlds symbolize the great variety of individual world-views, and telepathy stands for the ability to communicate fully. This is the "Trans" aspect. The "realism" aspect has to do with the fact that a valid work of art should deal with the world the way it actually is. Transrealism tries to treat not only immediate reality, but also the higher reality in which life is embedded." Rudy Rucker, A Transrealist Manifesto (1983).*

## *Topology*

*The study of surfaces is a branch of mathematics concerned with spatial properties preserved under bicontinuous deformation (stretching without tearing or gluing); these properties are the topological invariants.*

For this exhibition I sought artists whose work challenges the boundaries of augmented and mixed reality environments as platforms for discourse, in a way that progresses beyond the novel technological aspects to its related mediums.

Transreality, in both Rucker's manifesto and in further writing, goes far beyond this one aspect of telepathy and if you look at the term transreal in regards to topologies it is a surface orientated interpretation that I am making here: the conference after all focuses on Augmented Reality, so augmentation beyond surfaces is the focus, not specifically telepathy. Working with what submissions I had to create a cohesive show was really a fluid process and I believe shows should evolve in this fashion. In the pool of applicants there was a strong undercurrent of what I term "situational cartography", which is just another way of saying transreal topology. Hypersurfacing is another term I could use here.

Current research in mixed reality and interactive workspaces that use the concept of a bridge for data transfer (hypersurfacing) have continued the development of new knowledge in this emerging field, however the majority of previous research in this area has been in the field of computer science. The application of cultural and philosophical discourse to these recent developments in computer science will propose new modes of representation that concern themselves with the affective capacities of art in order to articulate a sense of dispersed embodiment.

Unlike traditional sites for communication and cultural exchange, digital platforms rely on actions and conversations to shape not only the social and cultural environments, but also the spatial environments. Such systems allow participants to physically interact with virtual (deterritorialisised) biological representations and mediate (reterritorialise) through physical engagement, rather than entering traditional text or numerical based data sets and command sequences.

Dry media's hybridization with physical and biological architecture is constructed by the methods used to connect the environments. The combination and cohesion of heterogeneous elements is generally problematic, particularly when a three dimensional space is primarily viewed on a two dimensional plane. The integration of virtual elements and physical environments relies on bridging the two spaces with dynamic interfaces that are simultaneously accessible and able to be openly engaged with, edited and developed. To create integration systems that network physical and virtual data shared location are required in order to represent the data in a meaningful way that is inclusive of both environments.

For the construction and exploration of mixed reality to occur interfacing is required to bridge the virtual environment with the physical so that both spaces can be mediated in an autonomous manner. The hypersurface is the site on which bridges are built: where the real and virtual, material and textual, author and agent can meet and interact with each other. Giannachi states that, "The hypersurface is a zone of exchange between consciousness (language and text) and levels of the inorganic... Able to present dichotomous relationships, between representation and matter, inside and outside, organic and inorganic, the hypersurface is the site of virtual performance." For the construction and exploration of mixed reality to occur interfacing is required to bridge the virtual environment with the physical so that both spaces can be mediated in an autonomous manner. The hypersurface is the site on which bridges are built: where the real and virtual, material and textual, author and agent can meet and interact with each other.

The works that both the international committee recommended and I selected all traverse the surface in unique innovative ways, all striving to break preconceived ideas of how we access and represent data in meaningful ways. I selected some works for their merging of ecosystems with ecological data (Benson), some for their interplay with spatiality and perception itself (Proske and Thomas/Raxworthy). Some works (Breeze) questions ownership of data in these mixed reality spaces in a way that is particularly relevant in today's rapidly emerging panoptic societies. There are driven narratives, some based on geolocational data (Burrell) and some on collaborative interaction (Hills). Some translate form and mix reality across sensory systems (Ramirez/Canet & Guljajeva). It is in the convergent nature of these works that the transreal occurs and the remediation of data is where the new topologies are established.

All art works are unique in their method of representing a mixed reality approach to art production. Some use 'traditional' techniques and others use more novel strategies. All make individual statements on data and how it is used, represented, received and documented. All have their own story. The exhibition aims to create an anthological topology of these works in order to provide examples of the diversity of this field in media art. The topology here is very much transreal.

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