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Metaplasticity in Virtual Worlds:

Aesthetics and Semantic Concepts

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Chapter 13

Digital Media and the Quest for the Spiritual in Art

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ABSTRACT

'On earth, painters, sculptors, musicians, dream dreams of exquisite beauty, creating their visions by the powers of the mind, but when they seek to embody them in the coarse materials of earth they fall short of the mental creation. The marble is too resistant for perfect form, the pigments too muddy for perfect color. In heaven all they think is at once reproduced in form, for the rare and subtle matter of the heaven- world is mind stuff, the medium in which the mind normally works when free from passion and it takes shape with every mental impulse. Each man, therefore, in a very real sense, makes his own heaven, and the beauty of his surroundings is indefinitely increased, according to the wealth and energy of his mind' (Besant) (Ringbom, 1986).

INTRODUCTION

Although the artist cannot recover the richness of inner visions in the coarse materials of the everyday world, digital art of today is given challenging role to continue the quest of the spiritual. Today's generative algorithm based painting offers limitless freedom in the choice of line, shape, and color as long as artist sees to it that representational forms are excluded. Algorithm provides artists with wealth of artistically exploitable ideas and

images, representing the almost ephemeral forces and manifestations that could emerge spontaneously and involuntarily.

The intent of the following is to present a series of art works, my own artist practice pursued through the process of research and discovery, the outcomes of the work done at the School of Art Design and Media, Nanyang Technological University titled: *Digital Imaging in Singapore: The Integration of digital imagery with traditional art media and techniques for site specific architectural, urban and landscape settings of Singapore*. The work delves into an exploration

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of an innovative approach toward image creation methodologies, researching and integrating emotive and subjective abstract imagery in digital, traditional and non-traditional forms.

Made at the School of Art, Design and Media at Nanyang Technological University where part of the educational mission is to provide opportunities for faculty and students to pursue art as research, the art-work is created with the financial support from Academic Research Fund (AcRF). With a focus on exploring digitally generative systems and techniques for integrated image generation, painting methods with digital technologies and integrating traditional art methods and materials, the emphasis of art practice is on exploring the limitations of the digital medium, abstract painting and other forms of visual imagery, striving to achieve greater creative levels. With it artist's creative nature is manifested in a way and to an extend that before would be hardly realized.

WORKS: REASSESSING THE PAINTING

On Meaning of Abstraction in Art

'There is no aspect of life that does not reveal to us an infinity of the new and unexpected if

we approach it with the knowledge that it is not exhausted by its visible aspect, that behind the visible there lies a whole world of the invisible, a world of comprehensible forces and relations beyond our present comprehension. The knowledge of the existence of the invisible world is the first key to it.' (Ouspensky, 1912)

In the following study of the main concern is the profound experience of abstract visual phenomenon in which the imagery has emotive impact rather than narrative meaning. Usually wordless and silent invisible experiences provoke a wide range of emotional responses that cannot always be put into words and are only possible to be expressed in art. (Zegher, 2005)

Abstract art is often misunderstood by the viewing public as being without meaning.

'Non-associative and abstract art challenges the viewers in a particular way: They are required to look with fresh eyes at pictures that are different. They have to discard old habits, such as the desire to recognize something. Abstract art does not imitate, it represents in a different way. Viewers are denied the satisfaction of re-encountering a known reality. One of abstract art's great discoveries is undoubtedly to have made reality's energetic side visible again. It helps us to comprehend that nature

Figure 1. Natural Systems: Decomposition of Blue', Detail, Digital Painting, 118 x 84cm (©Ina Conradi)



is just as invisible, immaterial and dynamic as it is tangible, concrete and static. The importance of the in-between is rediscovered. The abstract representation of reality is founded on the two-way flow of visual energies. ' (1994) (Gottfried Boehm from Gooding, 2001, p. 91-92)

When groups of artists started moving away from representational art towards abstraction at around 1910, there was never a desertion of content in their paintings. Instead, they drew upon deeper layers of meaning to constitute the spiritual in their work. The subject and content of this non-representational form of art were found within the inner states of the artist and depicted through the paint medium to trigger an empathic response in the viewer. This power of abstract art in embodying messages and engaging the viewer is of particularly interest to this project (Khoo & Conradi, 2009).

From its' beginnings, the abstract work was meant to represent something almost vague and intangible, like a feeling or spirituality, a means of reawakening the experiences and emotions in art. The starting point for this study is comprised of image generation researching the diversity of stylistic methods of abstract art painting: painterly automatism with free creation of imaginary forms, action painting and color field painting with a highly articulated, psychologically based use of color. Through a course lasting a few months, diverse hybrid methodologies of spontaneous mark making were repurposed in creating still images and moving painterly abstractions. Short animated clips that use time and imaging, the process of painting using algorithm were generated. The properties, limitations, and site-specific scenarios associated with an image process guided art, while developing methods to extend the intertwined boundaries of image aesthetics, physical potential of animation and digital code. Here, painting is reassessed through the use of the new artist's palette employing algorithms to be constructed into lifelike installations of natural phenomena

in motion. The practice launched a never-ending painting process; a pattern than can go on indefinitely, that is open ended, and suggestive of ceaseless coming into existence.

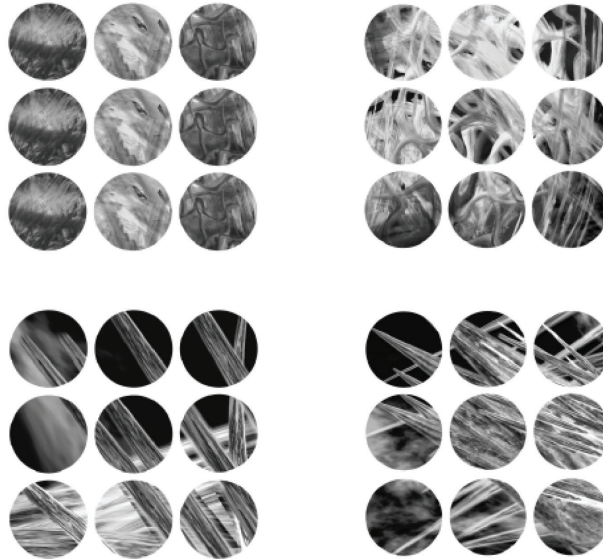
ARTIST PALETTE

Reassessment of Materials: Algorithm

Artists are selecting, highlighting, and thereby conferring form upon the formless and setting the seal of their style upon it using digital code. Today, sophisticated electronic techniques allow us to find unexpected formal aspects in the depths of material (Figure 2).

The newly developed artistic palette of algorithm brushes originally drew inspiration from science, nature and mystical thought. The resulting images question the primacy of representation and describe invisible forces and processes that lie behind nature and its ephemeral phenomena. The main goal was to crystallize that connection between natural arbitrary flux and spiritual existence. Following the rhythm of continuously moving, unfolding and floating geometries, an endless process of painting evolves. Algorithm is by definition open-ended, in a state of flux and suggestive of perpetual potentiality, seriality, repetition, merging into a blurred field. These works use these procedures, structures and processes, making insignificant, the traditional concept of integrated finished and framed paintings. The images started as simple drawings of elementary form: circle, square, triangle and elliptical structures. Light, color and formlessness are engaged in the repetition of certain geometric brushes and shapes marking the experimental and the infinite through reacquiring structures of linear pattern abstraction as a means to achieving the invisible and immaterial. Through machine 'crafted' occurrences, the marks whirled into complex dynamic patterns. Autonomous and in-

Figure 2. (a) Algorithm brushes: 'Decomposition Red' Digital Rendering. (b) Algorithm brushes: 'Decomposition Blue,' Digital Rendering (©Ina Conradi)



dependent expressions of algorithm had enabled development of spectacular pictures of chaotic geometry. Forces invoked were to be gathered and later articulated into painted digital stills or were to be moved in short animated clips.

The idea of using automatic techniques of algorithms as a means to generate imagery, includes expressive needs parallel to risks like the ones Jackson Pollock took as 'action painter' in abandoning traditional studio routines. The act of digital painting creates an equal collaboration between painter and machine that results in a set of rules and in an organizational model that once in motion produces something that is very often independent of the author. As organic algorithmic brushes are growing and blending smoothly with one another, the images are spontaneous, expanding and assuming multifarious shapes. Self-generating painting is conceived again as an action fraught with risk, but leading, when successful, to the thrilling discovery of original and revelatory image. The main significance is not only on techniques employed but rather on the artist's understanding of new digital means and radicality of the works that can

be produced using algorithms. The technique is not merely mechanical method but is integral to aesthetic expression itself. Often symmetrically mirrored lavish kaleidoscopic imagery reflects characteristics of algorithms as comprehensible yet unpredictable descriptions of themselves. As such, it is in principle easily possible to articulate any number of the same work. Within a picture, the system of rules can also be expanded at will. Work becomes prototype of similar series of work. Given the arbitrary repeatability, this set of works requires, the question of originality arises. Nonetheless: even though we are familiar with the simple method behind the generation of this picture, there is always something mysterious and exciting about it. (Pamminger, 2008).

Paradoxically the commitment might be to the creation of imagery that is done through 'automatic', hallucinatory method, arrived at without conscious deliberation, and as the consequence of spontaneous arbitrary 'actions'. Its unpremeditated and unpredictable forms were derived, from the individual or collective consciousness, rather in the manner that free association or dreams had

been demonstrated by psychoanalysis to bring into view things normally hidden from the conscious mind. (The Museum of Modern Art, New York, 1999) (Beyeler Museum AG, 2008)

ABSTRACTION IN VISIBLE

Abstraction in Visible is a series of visual explorations proposed for Singapore Cityscapes.

The field of abstract art investigations transcended from the artist's studio into an urban landscape to create new aesthetic encounters through conjuring visionary objects and familiar environments in public settings of Singapore.

When the digital print combines with traditional painted medium, of what importance is the significance of the surface? The proposed visualizations and materialized works delved into an innovative approach toward image creation methodologies, researching and integrating emotive and subjective abstract imagery in digital, traditional and non-traditional forms. Implementing the latest technologies in image creation works documented emotive spaces and impressions of Singapore to build illusions of three-dimensional creative vision; moving forward to using this imagery as a resource for more creative work that will be comprised of an exploration of manipulated surfaces and mixed media structures in site specific settings (Figures 3 and 4).

Contemporary painting practice is not taking advantage of integrating traditional painting methods of abstract painting with available digital prototyping and printing devices to create high impact artworks in public spaces. Usually the outcome of digital painting is dull digital print that lacks the physical presence interest and excitement of traditional art forms. To avoid that the aim was to customize unusual materials and transferring digital images to absorbent, non-absorbent and three-dimensional surfaces. Layering digital paintings within virtual and real urban public spaces originated extraordinary art visualizations extending beyond traditional canvases. Working on an architectural scale created an even greater physical presence of digitally generated images. Once imagery is combined with outsized and multidimensional surfaces, the creative possibilities become vast and influence applications of new emerging technologies. Parallel with digital visualizations and prototyping experimenting with a wide range of numerous uncoated flexible and rigid substrates was possible with the help of specialized large format UV curable flat-bed inkjet printers, - UV VUTEk® QS2000 series and Mimaki JF Series, perfecting ultraviolet (UV) curable inks. A number of physical prototypes were test-printed using various printing substrates (rice paper, textiles & dye sublimation, textured canvas, metal, acrylic polycarbonate, Dibond).

Fascination with contemporary installation and architecture evoked a desire for renewing and

*Figure 3. Public Art Proposal for Esplanade Exterior 'Natural Systems: Elixir of Redness' 14 panels 1100 x 227x 200 cm, variable, Tempered glass, exposed U-channel with *concealed*ground mounting, Singapore. (©Ina Conradi)*



Figure 4. 'Elixir of Redness' is depending on existing architecture, counterbalancing it with the seamless mix of technology and image's painterly aesthetic. Grand in scale and opalescent it is consisting of modular transparent red voids that are changing its phenomena depending on the light and atmosphere. The light reflected of the transparent surface and present color creates new interference patterns thus giving form to the invisible. As elusive virtual "Elixir of Redness" enables us to see given space as infinite, dimensionless without form, and void. At the same time the differences between genuineness of location and intruding art are blurred as both of these are equally important in the process of conceptualizing art authenticity in desired locations. (©Ina Conradi)



Figure 5. Singapore City Scapes, 2008, Singapore Photography: Quek Jia Liang. (©Ina Conradi). The photographs used in these studies are not so much a representation of things as a presentation of time in space. The frozen cityscape's spatial reality frames and encloses the visual by exploring, unfolding and anchoring the art in existing space.



elevating the existing sites through various art proposals and virtual renderings. Art works triggered and evoked new emotional responses to given space, transforming urban and built, into a more personalized interaction to contemplate new space. These virtual proposals were not meant to be manifest of the artist's identity, or an idea or

personal emotion but rather an effort to heal and at same time exalt the given urban life landscape. Glamorous and non glamorous, the places were transfigured into new visual experiences serving as harmonious meditative states of everyday metropolis life. Throughout the design process, digital prototyping was used for art visualizations

in various outdoor and indoor architectural settings. The fusion of art and technology was visualized through the realistic reconstruction of 3D dimensional sets and photo space manipulation. The aim of purposing these artworks in a large scale constructs was to transform the existing space into new one, creating a sense of awe and to engulf the viewer in a totally new environment, with different imagery generating different feelings, emotions and thoughts through colors, form, material and physical construct of these artworks. Viewers were not limited to viewing the artwork from a distance, be it a canvas on a gallery wall or an image on the computer screen. Rather, the viewer interacted with the manipulated environment, which become the art itself.

Actual construction of large scale physical structures can prove to be extremely costly, hence the importance of digital pre-visualizations as a precursor to actual construction. From which, the flexibility of the digital medium allowed to accurately explore multiple versions and variations of space, artwork, lighting combinations. Other than large scale structures, the digital imagery were repurposed and conceptualized in different possible mediums. The results were realistic visualizations that depict the extent and possibilities in which such digitally created imageries can be dynamically employed within the existing environments around Singapore and repurposed in different digital mediums with the intention of using technology to push traditional artwork

beyond its norm into a sea of possibilities (Figure 6). (Tan & Conradi)

The below pieces were prototyped in relation to the exhibit site architecture. Taking full advantage of the computer's ability to create motion and points of view that are not available by any other means a playful point of immersion created aesthetically engaging and inspiring experiences in the designing process. The paintings became autonomous and independent expressions and experienced physically in relationship to the viewer's movements through the space. The exhibit space in Kyoto Textile Center measured just over 12 sq meters. More than a dozen of pre-visualizations were made to explore the possibilities and creative ways of integrating existing large-scale artworks with the constraints of the limited space. In a series of digital planning and prototyping for this art installation in Japan, both 3D flythrough animation and the visualization of art objects were utilized to model, to augment or to engage synthetic image with the given architectural space. As a result architectural space could easily be transformed and the painting transitioned from the 2D canvas surface into an architecturally integrated moving image. This new painting would to expend into space and onto a light translucent fabric. Whether spilling out on the floor or hanging in space, by moving beyond restrictions of frontal picture frame its compelling immediacy challenges the ways that audiences look at art. Digital prototyping again underscored continuing investigation into convergence of digital technol-

Figure 6. Exhibit Proposal Digital Rendering and pre-visualization; translucent fabric hangings 20 sq m, International Contemporary Textile Art Centre & Gallery EX Kyoto, Japan, 2009 (©Ina Conradi)



ogy and traditional painting methods. The analysis of painting through the associated technologies devised to augment the execution of future creative designs and visualizations. The pieces were prototyped in relation to the exhibit space and architecture. Taking full advantage of the computer's ability to create motion and points of view that are not available by any other means, a playful point of immersion created aesthetically engaging and inspiring experiences in the designing process. The paintings became autonomous and independent expressions and experienced physically in relationship to the viewer's movements through the space.

EXHIBITIONS

About Luminous Abstractions and Sacred Geometry

Several ideas are common to the world views of most myths: the universe is a single, living substance; mind and matter also are one; all things evolve in dialectical oppositions, thus the universe comprises paired opposites (male- female, light-dark, vertical-horizontal, positive - negative); everything corresponds to a universal analogy, with things above as they are below; imagination

is real and self-realization can come by illumination, accident or an educed state: the epiphany is often suggested by heat, fire, or light (Figure 7). The ideas that underlie mystical beliefs are often augmented by illustrations that, because of the ineffable nature of ideas discussed, were abstract or emphasized with the use of symbols. (Senior, 1959) (Tuchman, 1986)

Sacred geometry is inextricably linked with various myths and traditions. Thus sacred geometry treats not only the proportions of the geometrical figures obtained in classical manner, but the harmonic relations of the parts of human beings with one another; the structure of plants and animals; the forms of crystals and natural objects, all of which are manifestations of the universal continuum. Since the earliest times, geometry has been inseparable from magic. Even the most archaic rock-scribing are geometrical in form. The complexities and abstract truth expressed by geometrical form could only be explained as reflections of the inner most truths of the world's being. Complex concepts could be transmitted from one to another by means of individual geometrical symbols or a combination of them. The fusion of symbol and meaning in Hinduism's esoteric ideas is expressed through the use of basic but sacred geometric figures in architecture. This influenced the artwork planning for exhibit in Post-Museum.

Figure 7. Paired Opposites (©Ina Conradi)



Figure 8. *Natural Systems: Primal Atom, Ten Energy Whirls, Detail, Digital Painting, 118 x 84cm* (©Ina Conradi)



Sri Veeramakaliamman Hindu Temple has integrated conceptualizing expressions of natural systems and behaviors in its sacred architecture and organic abstract geometry of its interior patterns (Figure 8).

INTERNAL EXTERNAL

Exhibit Installation in Post Museum, Singapore 18/2/-3/8 2009

'...The dreamwork is not simply more careless, more irrational, more forgetful and more incomplete than waking thought; it is completely different from it qualitatively and for that reason not immediately comparable with it. It does not think, calculate or judge, in any way at all; it restricts itself to giving things a new form...the dream above all has to evade censorship, and with that end in view the dream work makes use of displacement of physical intensities to the point of transvaluation of all physical values. The thoughts have to be reproduced exclusively or predominately in the material of visual and acoustic memory traces...' (Freud, 1955)

'Internal External' is a multilayered environment combining video projection, 3D computer animation and space modifiable backlit digital still

image. The traditional concept of painting as a surface and space integrated and limited by the frame is argued and contrasted with ambivalence between the mark and its support. Open-ended unframed painted surface maintains separate existence and is only bound by the gallery walls. The exhibition space is transformed into an intricate spatial environment consisting of tall backlit compositions that are aspiring to escape the frame and create a unified visual field (Figure 9).

Using dreams as a conceptual motif, and adopting simulated natural phenomena such as flow and growth, the work explores organic and natural design leading the viewer thorough the aesthetic impression of a dream like state sensibilities, feelings and experiences that go beyond language. Inundated with light, color and motion, works are visually translating invisible realities, the ephemeral and ever changing appearances of nature in flux. The overlapping and mirrored layers of complex imagery are engaging in the repetition of marking the void: experiential, spiritual and infinite. Exploring phenomenal nature of the space between the observer and the picture plane, between the viewer and the viewed, new emotive and tangible contemplative space awareness is created. Enhanced by light and augmented through an increased scale, the works could be viewed as a vista from the very entrance into the exhibit space or even further from the street

Figure 9. 'Internal External Digital Rendering The Center of Creation, Blue Conjunctio, Elixir of Gold and Gold Conjunctio', Digitally generated still images on UV VUTEk ® QS2000 backlit polycarbonate 100 sq meters; 11 backlit panels, each panel 2.27x 1.00 x 0.008 m, variable Art Installation Post-Museum, Singapore, 2009. (©Ina Conradi)



through the open door of museum space; but it is at the point of entering into and moving across the field of luminous colors and patterns that the distance collapses as a kind of limitless depth and engulfs the viewer. From the visible external matrix drawn are invisible relational dynamics between things that could only be realized in abstract form, experiences that are wordless and silent, but nevertheless of verifiable and tangible pleasures. Installation thus fleshes out an experience of bliss, beautiful and consoling, perception as satisfaction, experience takes shape between object and viewer (Figure 10).

CONCLUSION

Drawing on the ideas of the merging of digital painting, avant-garde film-making and sound cultures, resulting work aims to craft immersive, interactive and 3D animated installations using digital images, seeking innovative convergence of art and technology to transform spaces into novel experiences. Through an integrated design and fabrication practice, created are experimental, built environments that enhance and celebrate the potential for social interaction through sensation and physical engagement. To achieve these results, novel image making methodologies were

Figure 10. There are two main visual parts to the installation: one- the re-constructed museum interior using tall backlit compositions depicting hallucinogenic dream space, the other- the projected experimental animation at the back of the exhibition space mirroring the map of that dream universe. (©Ina Conradi)



employed, experimental animation was developed and applied towards architectural installation in unorthodox ways. (Conradi & Vasudevan, 2010)

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KEY TERMS AND DEFINITIONS

Abstract: 1. disassociated from any specific instance b: difficult to understand: abstruse; 2. intellectual and affective artistic content that depends solely on intrinsic form rather than on narrative content or pictorial representation.

Abstract Art: Imagery that is expressing personal, spiritual, or metaphysical through non-representational forms.

Algorithm: A step-by-step problem-solving procedure, especially an established, recursive computational procedure for solving a problem in a finite number of steps.