# shimmer

by glen henderson

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Nature intrigues both scientists and artists alike. They study its intricate design and geometric proportions in order to reach a better understanding of themselves, of others and of the environment. The brain is part of nature and a core part of who we are, but it remains a mystery to most of us.

The artwork in *Shimmer* has been largely inspired by research data supplied by The Queensland Brain Institute – essentially, photographs of floating cell structures on glass plates where each image captures a fleeting moment of cell life. Recent groundbreaking advances in stem cell research for optimising and extending life are now common knowledge. These leaps in scientific thinking call upon an extraordinary level of creative intelligence. This intelligence has a captivating, 'shimmering' quality and, like nature itself, changes and adapts moment by moment.

*Shimmer* has become an exhibition of squares: translucent cubes, photographic prints, sequin and bead drawings, and paintings – working across materials and processes to explore different ways of interpreting nature's dynamic geometry, and allowing people to see the connections between science, design and us.

*The translucency of the material in the exhibition's cubes obstructs clear and simple observation from all positions, reflecting science's challenge in the aspiration for new knowledge.*

# natural geometry

The square begins from the simplest order, the straight line. Four lines ordered in a certain array will suggest a wall. Walls arranged and connected in a certain way become an element of a higher order: a form, such as a cube. The cube structure is essentially a hierarchy of orders.

There is much beauty in nature's structures and we can all recognise it without training in mathematics. The reason I worked with the square and the cube for *Shimmer* is connected to its aesthetic. I attribute its harmonious proportions to the way the stress lines, from corner to corner, create triangles. Stress lines indicate the ways shapes tend to segment. The triangle is significant as the basic unit of complex structures. Through repetition of the triangle, the hexagon evolves as a functional shape that absorbs stress.

Within the cube, both in my work and in natural geometry, is the curved line that becomes the circle, the cell. The circle and the hexagon are referenced in my sequin and bead drawings, demonstrating some of the exploratory paths I have taken in the process of 'feeling out' spatial elements and structures captured for me as cellular data. The detail within these small works is diffused, and changes from each viewing angle.

The curved line also develops into a spiral and, the potential to map genetic material within a human cell. In the spiral, successive pairs of segments define different planes so that the curve turns into a third dimension. Nature turns material into a functional shape. Nature shows us that everything evolves, and that by being true to themselves, these functions are also beautiful.

Within the cube is a poetic evolution from curved line, to circle, to spiral – all through a process of division and change. The translucency of the material in the exhibition's cubes obstructs clear and simple observation from all positions, reflecting science's challenge in the aspiration for new knowledge.

# adaptation and harmony

Scientific data can provide factual information about brain structure and function. The structure of nerve cells demonstrates collective awareness, an evolving process of change where the elements cooperate to achieve a function or a solution. Through successive change and connection making nerve cell adaptation provides a perfect example for understanding complex systems.

Science teaches us to look at facts in an unbiased way. A scientific spirit is necessary not only in research but also in art and in every phase of life. There exists a human need to assimilate our experience of both the external environment and our internal psychology, so that we can respond wholeheartedly. This sense of harmony and totality is the key link between art and science.

# links between art and science

The arts have always been sensitive to a certain kind of objectivity to nature's structures and formations. By expressing this perception through artistically created objects, artists have helped other people to see in a more sensitive way.

Our most creative scientists have felt that the laws of the universe, which govern even the smallest particle, have a significant kind of beauty. Scientists feel the beauty of a theory when it is ordered, coherent and harmonious, and with its parts working together to form a unified total structure. But no work of art is simply a reflection of its subject matter. For the artist, the subject matter is a focus point for recognition and selection. It is through the exploratory process that the work is conceived and completed.

# process

Each of the *Shimmer* paintings refers to a cellular origin. The sensuality of the paint medium and the process of layering have enabled me to flesh out and extend the essential characteristics of the image. The unifying element is their subtle hexagonal surface patterning.

In both art and science, natural processes are investigated for the way they can reveal their essential order and structure. Long before being aware of the potential of a new idea, a scientist may feel it in ways that are difficult or impossible to articulate. These feelings are like very deep and sensitive probes reaching into the unknown while the intellect ultimately makes possible a more detailed perception of what these probes have touched on.

The visual artist works in a similar way except that the whole process culminates in a sensually perceptive work, rather than a theoretical insight into nature's structural process. The artist must direct perception in a more subtle way that is much harder to explain verbally, however, the work of art must be coherent in itself as well as with the natural laws of space, colour, rhythm and form.

In order to free my mind of preconceptions in the spirit of scientific thinking, I brought freshly focused attention to the final stage of the *Shimmer* project. I have developed a set of nine photographic images for the exhibition using the digital media. By visually 'tuning in' I worked to accentuate new and different characteristics of each image while respecting the essential link with its origin.

*Sequin and bead drawings, demonstrating some of the exploratory paths I have taken in the process of 'feeling out' spatial elements and structures captured for me as cellular data. The detail within these small works is diffused, and changes from each viewing angle.*

Scientific ideas about the organisation of matter have their roots largely in abstraction from experience, mainly visual and tactile. As a visual artist, I find new scientific notions of structure significant, not because they can suggest new ideas to be translated into artistic form but rather at a deeper level because they change my way of thinking about form and space.

The evolution within world art has helped open our eyes to seeing structure in new ways. The value of this to the scientist is not in 'the idea' that a work of art suggests, rather in a new general understanding of structure at the perceptual level, which is relevant to every field of experience.

Scientists have also acknowledged that in the advancement of their work, it is less important to learn of a particular new way of conceiving structure abstractly, than it is to understand how the consideration of new ideas can liberate the thought process from preconceptions, which may be absorbed almost unconsciously within any discipline. A fresh approach makes it possible to be more attentive to what is unknown, rather than to pursue variations, which may lead to modifications to what has already been achieved. It is suggested that in this way new work can begin to be really creative, not only in the sense that it will contain genuinely original advances, but also in that these will cohere with what is being continued from the past to form a harmonious yet evolving totality

# Non-objective art

In the predominately twentieth century move toward abstraction, we have seen the intuitive processes of the visual artist compete with objective reality to extract meaning, first witnessed in Kandinsky's *Point and Line to Plane*, originally published in 1926. Artists began to abstract from the visual world to produce purely structural images, which were considered complete creations without associative references of any kind. The creation of such works enabled the engagement of the mind in an active process of distilling perception and experience to their essence. These developments reveal a likeness to the work of scientists and mathematicians.

Abstraction enabled experimentation with the formation of new structures. It suspended the historical and personal reliance on representational imagery enabling a fresh perspective and a generative visual language. When the creative climate takes a leap in this way, it is always founded on a perception of what is new and different from what is inferred from previous knowledge.

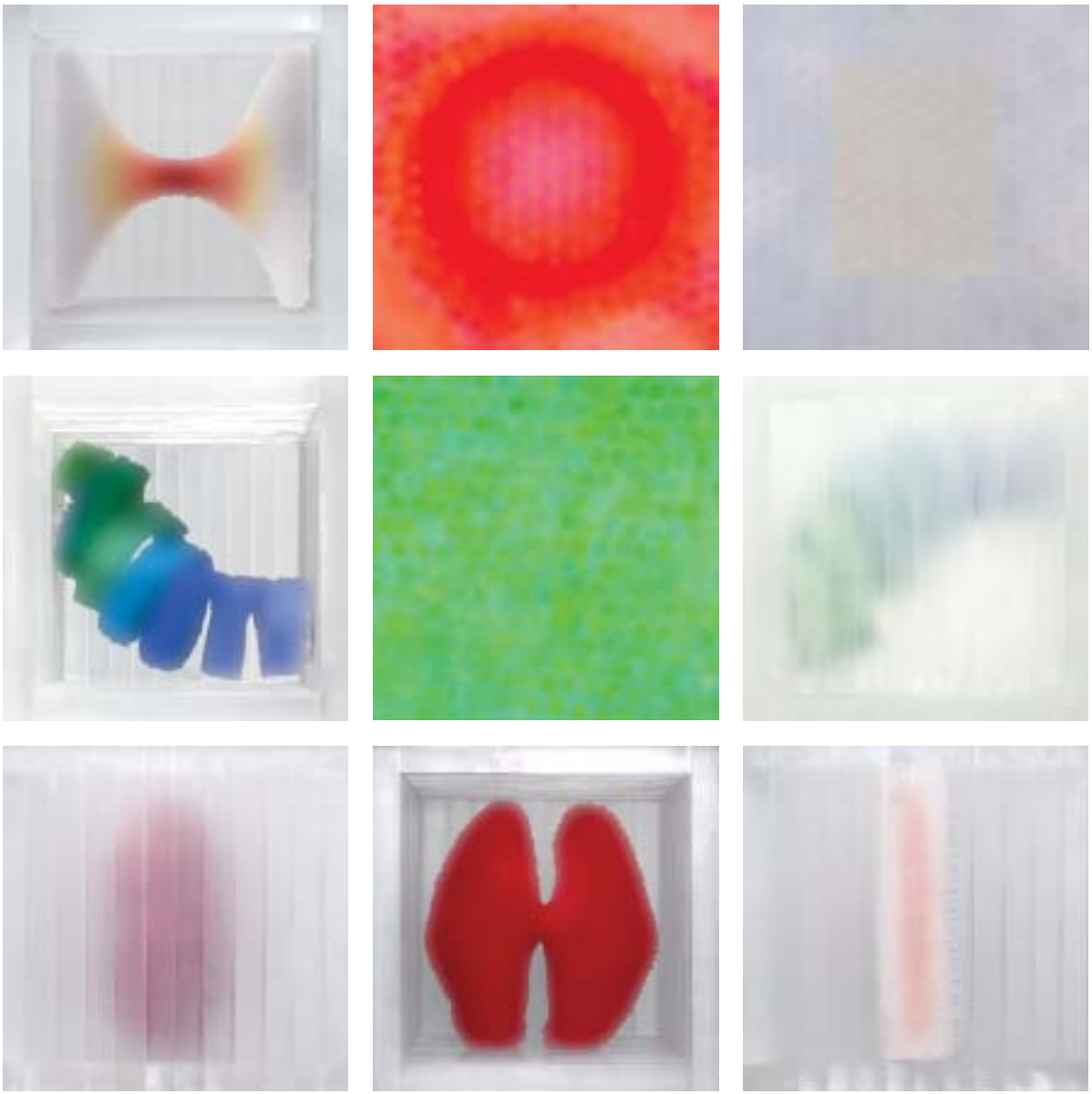
# Conclusion

Neither art nor science can exist without innovation. The past few decades have seen an enormous increase in varieties of artistic expression and in fields of scientific research. Each discipline has its own paradigms and although this makes truly significant collaborations unlikely, science and art have more in common than their contemporary alienation from each other would suggest. Science and art both depend on experimentation and exploration, and above all, the artist and the scientist both displace or extend the boundaries of the natural and the conceivable.

## Associated Reading


*Beukers, Adriaan & van Hinte, E. Lightness; 010 Publishers Rotterdam 1998*
*Bohm, David. On Creativity; Routledge Classics NY 2005*
*Kandinsky, Wassily. Point and Line to Plane; Solomon R. Guggenheim Foundation NY.1947*
*Kunstforderung. P.M. Formule 2.1; Kunstlerhaus Bethanien Berlin 1998*
*Lawlor, Robert. Sacred Geometry Philosophy and Practice; Thames and Hudson Lon. 2000*
*Stewart, Ian. Natures Numbers; Phoenix Science Masters series Lon. 1995*

*A set of nine digitally developed photographic images form the final stage of the Shimmer project. These works accentuate new and different characteristics of each image while respecting the essential link with its cellular origin. (each 50 x 50cm.)*



A special exhibition to aid Howard Florey Institute in association with Brain Awareness Week
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## Selected Solo Exhibitions since 2000

2006 Cross Sections, The Window Installation Space, Queensland Performing Arts Centre
2006 Survey Exhibition, The Directorate Art Spaces, QPAC
2005 Synapsis, Span Galleries, Melbourne
2005 Synapsis, Mayne Centre Museum, The University of Queensland
2002 An Architecture of the Body, Craft Queensland, Ivory Street Window Gallery
2001 The architecture of a bug, Brisbane Powerhouse, The Riverside Galleries I, II, III
2000 Mini-museum, Institute of Modern Art, Craft Queensland, Satellite Studio 17, Brisbane

## Selected Group Exhibitions

2006 Curated group exhibition, Ryan Renshaw Gallery, Brisbane
2004 Science meets Art, to facilitate dialogue between researchers and innovators, Parliament House, Brisbane
2003 Elemental one, Noosa Regional Gallery, Contemporary Showcase curated by Kevin Wilson
2002 Incepta, Metro Arts Exhibition and launch of Science Writers Festival, curated by Dusan Bojic & Emma Bendall
2001 Retail Therapy in collaboration with Conrad & Gargett Architects, Superfun5, Installations

## Selected Professional Projects

2006 Concept Design Commission, Brisbane Cricket Ground
2005 Book launch, Span Galleries Melbourne, Esa Jaske Sydney, Mayne Centre Museum, The University of Queensland, Glen Henderson 1995 - 2005
2004-05 Research project with the Queensland Brain Institute
2004 Curator Collectables, Craft Queensland, An Installation of innovative work from Queensland collections
Concept Design Team, Gregory Park Playground, City Design
2003 Concept design, 33 Charlotte Sreet, Department of Public Works
2001-03 Public art curator, Suncorp Stadium with Arcimix Project Management, HOK Sport Architects
2000 Public art concept design, Breakfast Creek Environs, Parks North, Brisbane City Council

## Selected Publications Reviews

2006 Alice Hampson, Synapsis Awakenings and Monograph, Monument No. 72, review
2005 Rhiannon Brown, Sunday Arts Program, The Synapsis Project, interview
2005 Leon van Schaik, Paul McGillick, Stephanie Lindquist, Glen Henderson 1995-2005, essays
2005 Paul McGillick, Making Connections, Glen Henderson, Indesign Vol.20, essay
2003 Compiled by Martha Liew Public Art+Practice East+West, Is Publishing / Pace Publishing, Hong Kong
Sarah Foley, An Architecture of the Body, Monument 54, review
2002 Paul McGillick, Metamorphosis Art & Architecture in the work of Glen Henderson, Eyeline 48, essay
2001 Dr. Helen Armstrong, A New Hybrid, Architectural Review Australia 077, essay
Donna McColm, Architecture of a Bug-A site of Symbolism, Art & Australia Vol 39 No.1, review
Elizabeth Ruinard, Mini-museum: Glen Henderson, Eyeline 44, review
Rhiannon Brown, The Architecture of a Bug, Arts Today ABC National radio, interview
2000 Timothy Morrell, Mini-museums Insect Architecture, Monument 38, review
Object - Fresh, Bugged Vol 4-2000, preview
Susan Ostling, Tekhne Collaborative, Object 2-2000, review
Dr. John Macarthur, Art Architecture, Architecture Australia Vol 89 no.1, essay
Bruce James, Mini-museums, Arts Today ABC National radio, interview

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