

On *Nanocosm*

Gordon Monro, April 2017

The great adventure of the last two hundred years or more is science, and it has led to profound changes in our view of the world and of ourselves. Physical science has opened up to us the reality and significance of things beyond our perception, of the extraordinarily large and the extraordinarily small, of timespans of billions of years and of very small fractions of a second, and of forces that could crush the entire Earth in a moment. The Universe shown to us by physics is indifferent to human needs and concerns; *pace* Protagoras, *Homo sapiens* is not the measure of all things. Again, evolutionary biology has shown us our origins, not as a being specially created to have dominion over the earth, but as a product of impersonal forces that do not guarantee our continued existence as a species.

A further disturbance of our self-image has come from the development of computers, machines capable of carrying out very complex activities autonomously, including activities that have traditionally been regarded as requiring uniquely human abilities such as intelligence and judgement. The computer, with its complexity, power and autonomy, stands in an oblique relationship to both the world of usual human artefacts and the natural world.

Gordon's work is situated against these developments in science and technology and their transformative effects on our view of the world and our place in it. Gordon brings to his work a background in mathematics and science, skills in computer programming, and an engagement with abstract and minimal art. He places his work within the genre of *generative art*: art that is at least partly derived from a system that the artist has devised and that works with some degree of autonomy. In short, the artist makes the system and the system makes the art. In Gordon's case the system is a computer program.

The works in the exhibition derive from Gordon's *Nanocosm* project, which was the centrepiece of his recent PhD in Fine Art at Monash University. (The name is formed on the analogy of "microcosm".) In the geometric world of *Nanocosm*, hexagonal entities spawn, move, and fuse together to make larger entities. The work combines inspirations from mathematics and biology. The hexagonal entities are symmetric, with at least six-fold rotational symmetry, and live on a strict multi-level hexagonal grid. But the world of *Nanocosm* is also a kind of ecosystem, in which the larger entities provide the environment for the smaller ones. There is a miniature evolutionary process at work: each entity has "DNA", which controls the shape and colour of the entity, and when an entity spawns, its "children" inherit mutated DNA. An entity also has "affinity" for its surroundings, which affects its movement and its chances of spawning. The system evolves over time in the computer without external intervention.

Nanocosm is a world with its own laws and imperatives, a world that goes its own way in indifference to human concerns. In this it reflects the Universe that science has revealed to us. But *Nanocosm* is not modelled on real physics or real biology; rather it uses the autonomous generative power of the computer to show us a new, imaginary world.