Ranulph Glanville[1]

A Cybernetic Serendipity

I first came across that delicious word, serendipity (the occurrence and development of events by chance in a happy or beneficial way),[2] at the Cybernetic Serendipity Exhibition curated by Jascia Reichardt at the ICA in 1968.[3] This exhibition is the stuff of legend: art and cybernetics, artists and cyberneticians, meeting together in a symbiotic feast. It marked both the high point and, contrarily, the beginning of the rapid descent of cybernetics in the arts, for virtualy from that date cybernetics began to be an almost unusable term, much of its thinking being appropriated by other subjects that had more attraction though, I could argue, less coherence and less honour. That particularly specific and limited cybernetic machine, the computer and its theoretical adjuncts artificial intelligence, cognitive science and artificial life, took over and the generous generality of cybernetics vanished from view. It was far from dead (as some claimed), but it went through an internal revolution and has still not managed to return itself to even a bit part on stage!

Roll on nearly 40 years and something strange is happening: Leviathan, it seems, may be emerging from the deep. Over the past couple of years there has been a resurgence in interest in cybernetics by artists. Not, it must be admitted, cybernetics in its current state, but right back, where Cybernetic Serendipity marked its progress as that progress turned into almost freefall.

So how appropriate, how warming and how timely it is to be able to present this exhibition, "Pask Present" in the Atelier Färbergasse in Vienna. This exhibition, a development from the Maverick Machines Exhibition curated by Richard Brown in Edinburgh in August 2007, has been grown (sometimes literally) out of one of the seminal figures of cybernetics, Gordon Pask. Pask was an extraordinary and exceptional man who, although he liked to call himself a cybernetician, was active in many fields including drawing, writing lyrics, and the construction of performative art machines, many of which were so radically advanced that it is perhaps not surprising that his work is becoming current so long after he did it.

For the Cybernetic Serendipity Exhibition he constructed Colloquy of Mobiles,[4] a collection of five large, fibre-glass robots that danced with each other and any member of the public who entered their space. Many years before that (1953), he constructed MusiColour,[5] a light system to accompany the combos of the day. Unlike the light shows since, however, MusiColour joined the combo as if one of the players, modelling the performance of the others and joining in until it became bored and suggested variations of its own (which the musicians would respond to). In a later book ("Calculator Saturnalia", written with Mike Robinson and myself[6]) Pask wrote a fantasy story set in Vienna around a collection of games explicating cybernetic principles, illustrated with his fantastic drawings. He was responsible for the naming and defining of the Maverick Machine.

But the work of Pask's that is most relevant, as far as Pask Present is concerned, comes from two sources. The first is his experimentation with chemical computers and with the way that you could grow computations as crystalline (quasi-dendritic) forms in solutions, influenced by varying electrical charges. This thread is perhaps best presented in our exhibition by Richard Brown's Electrochemical Glasses, showing three glasses (Paskian chemical computers) powered by currents from electrodes that are wired together and so that the dendrites which appear in the crystalline solution compete for the available electrical resource. What is bizarre is that Brown did not, when he made this piece, know of Pask's work. The work of Roman Kirschner, show on video, is also built on Paskian chemical themes (this time knowingly), with a different embodying medium that includes sound. Equally amazingly (and bringing to mind Goldfinger's statement to James Bond "One is happenstance. Twice is coincidence. Three times is enemy action."), Axon Technologies has been developing Paskian chemical computational elements (for use as computer memory) at the nano scale, also without, they say, having heard of Pask at all: a wonderful example of the serendipitous leakage of ideas through the community – and of how cybernetic work so often appears, unacknowledged, in other fields.

The second source is demonstrated in more architectural work that derives from Pask's notion of interactivity and of conversation as the archetypical vehicle of interaction – which may be seen embodied in Colloquy and Musicolour. It is important to note, here, that Pask's interaction was not the trivialised interaction made such a fuss of by the computer industry but involves the generation of novelty which moves the relationship of the participants to new areas, as happens in (everyday) conversation. Pask's main theoretical work was called "Conversation Theory" and developed around concepts of learning

that are still considerably ahead of the field, today. Pask's views of interaction are drivers behind the work of The Bartlett Interactive Architecture Workshop which has been developing its programme over the past 15 years under the direction of Stephen Gage, and Usman Haque, formerly student and now one of the tutors in the Workshop.[7]

The work of Usman Haque with Robert Davis, is a sample of a sound installation in which analogue oscillators interact not only with each other, but are affected in this interaction by the acoustics of the space they are in, and the presence and movement of people. It plays very consciously on the active participation of the observer in the performance, a central concept of the more recent form of cybernetics that developed following the Cybernetic Serendipity Exhibition, generally called second order cybernetics. The work of the Bartlett Interactive Architecture Workshop is represented by two pieces of computational hardware by Ruiari Glynn and Richard Roberts (who are currently studying for higher degrees) and videos of 3 current projects by students working on their thesis projects, Paula Friar, Harry Parr and Rion Willard, as well as research work by the director of the Workshop, Stephen Gage, in colaboration with Chris Leung. The work shows a wide range of objects that respond to the presence of humans and a physical environment, often playfully, in a manner that helps change our understanding of what architecture might be.

An important aspect of this work is the quality of craftsmanship in making the objects: these are polished and finished items, cared for by their makers, sometimes almost furniture, and they contrast nicely with many of the other exhibits that have about them the Heath

Robinson aesthetic of space travel in the Edwardian era – itself appropriate given Pask's personal style, often likened to an Edwardian Dandy's, such as the Time Machine that switches on only in the presence of an observer (raising the sort of philosophical question about what exists when not observed that perhaps inspires Haque and even Pask, himself, in Colloquy); and the Framed Static Machine, which flutters like butterflies and cascades upwards with flickering lights. Both these are works by Richard Brown.

Also in the interactive camp is the work of Omar Khan. Khan spent some time working in association with Gordon Pask, as a student at the Architectural Association in London. On show in Pask Present is a model of a large physical interactive environment, his Open Columns Homeostat.

A bridge is built between the two sources (chemical and interactive) by the work of ArtStation. These are the only artists (apart from the author) to have worked with Pask. They built animated visualisations of Pask's concepts, and, learning from that, an unfolding program and robot in support of a collective plant generation processes.

Finally, there is my own piece, Slow. This piece changes at such a slow rate that the observer is left questioning wether and when it changes, and, in making the decision, becomes, explicitly, not only the involved observer of second order cybernetics, but also, because the decision is unpredictable, in, I would argue, an interactive manner.

There remain, I believe, two questions that need at least to be raised even if I cannot answer them.

The first is the familiar one of what exactly constitutes a piece of art? Ever since Duchamp exhibited his urinal as a "Fountain" we have been

able to argue that something is art because someone who claims the title artist says so. This exhibition, like many others involved in the making of machines and computing environments, brings this question to the fore. How do these exhibits differ from the records a scientist might produce? And does this matter? Some will argue the job of art is to raise, time and again, the question as to whether this is art: that raising the question qualifies the work as art work. Isn't this the basis of much work since cubism?

The second is, does this take us forward? Here I would like to write of cybernetics rather than art. With the supposed death of cybernetics shortly after the Cybernetic Serendipity Exhibition, it seems that cybernetics is caught in a timewarp. Even those who work in that approach to cybernetics which has been developed since 1968, so called "second order cybernetics"[8] are inclined to look backwards, eulogising the dead old men (including Pask). These men made wonderful contributions, but it is surely time to seek out the workers who are creating new understandings. We are fighting the danger, in an exhibition such as this, of becoming nostalgic: and, indeed, some of the pieces do hark back in their form, and sometimes their mechanism and technologies, to earlier times. This looking backwards is a serious matter, but fortunately, in this exhibition, as well as the nostalgia there is a sense of extension that moves the thinking, at least at the junction of cybernetics and art, onwards. In this respect, the show is, we believe, a cybernetic serendipity and serendipitously cybernetic.

1 Developed from a review of the the predecessor of this exhibition, the *Maverick Machines Exhibition*, http://maverickmachines.com/WordPress/

2 The origin of the word lies with Horace Walpole, who coined it in 1754 from the fairy tale "*The Three Princes of Serendip*".
See: http://livingheritage.org/three_princes.htm

3 See: http://www.medienkunstnetz.de/exhibitions/serendipity/

4 See: http://www.medienkunstnetz.de/works/colloquy-of-mobiles/

5 Pask, G. (1971) A Comment, a Case History and a Plan, in Reichardt, J. (ed.), *Cybernetics, Art and Ideas*, London, Studio Vista

6 Pask, G, Glanville, R and Robinson, M (1980) Calculator Saturnalia, London, Wildwood House

7 For more information on the *Bartlett Interactive Architecture Workshop* see Stephen Gage's introduction to the Workshop in this section of the catalogue

8 Second order cybernetics is the outcome of a cybernetic critique of cybernetics. In 1968 Margaret Mead (in her paper, Mead, M. (1968) The Cybernetics of Cybernetics, in von Foerster, H. et al (eds) *Purposive Systems*, New York, Spartan Books) wondered why a cybernetic society (the American Society for Cybernetics) did not try to organise itself according to the principles the subject espoused. In cybernetic systems, the sensor (observer) is within the system, for the system is circular. One inconsistency that comes to mind is the manner in which, in classical (first order) cybernetics we talk about the systems we examine as though we were divorced from them, without the circularity of feedback. Second order cybernetics is, thus, concerned with the cybernetics of observing (as opposed to observed) systems, or with observers IN a system rather than observers OF a system.