AHRB/EPSRC Designing for the 21st Century Research Cluster: Embracing Complexity in Design (ECiD)

Art, Complexity and Design Workshop and Exhibition
7 October 2005, Thomas Lewis Room, Rockefeller Building, UCL

Co-ordinator: Eve Mitleton-Kelly, LSE
Participants: Chuthatip Achavasmit, UCL
Katerina Alexiou, UCL
Michael Batty, UCL
Jeffrey Johnson, The Open University
John Landis, University of California, Berkeley
Michael Petry, Artist
Alec Roberston, De Montfort University
George Rzevski, Brunel University
Necdet Teymur, Emeritus Professor
Gail Troth, Artist
Mateo Willis, Artist
Theodore Zamenopoulos, UCL

The Workshop on Art, Complexity and Design was organised as an opportunity to find out about a seminar organised in Turin earlier in the year, see some of the presentations and further discuss the relation between art and complexity from a design perspective. The day included two video-recorded presentations from John Frazer and Luc Steels, live presentations and discussion with a panel of artists consisting of Michael Petry, Mateo Willis and Gail Troth, and an exhibition of work by the artists.

John Frazer's presentation revolved around his work on generative and evolutionary computational techniques for architectural design. An interesting feature of this approach recognised by many was the physical character of the computational models presented, related to the general aim of merging digital information with the materials of the built environment. One of the main points raised however, was that it is difficult to transfer this approach to a large scale; in considering the wider built environment of cities many different parameters (social, economic and others) need to be taken into account, which cannot easily be reduced to generative methodologies. However, it was agreed that such techniques are very useful for discovery and for rapid production of prototypes. Another discussion on this presentation was about the elementary components in a complex system. For example, it was suggested that since complexity comes from the interaction among simple elements, the elements used to build up a system must be as simple as possible. On the other hand it was also suggested that choosing the right (complexity and scale of) elements for systems at different levels is of crucial importance.

Luc Steel's presentation focussed on a project developed to explore and communicate fundamental concepts of complex systems science through the medium of theatre. There was a lot of discussion around the idea of the self-organising theatre and it was agreed that although interaction and self-organisation are generally powerful tools, it is important that some form of structure exists that facilitates the emergence of a coherent whole. The unfortunate fact that Luc Steel's video did not capture the visual materials he

used in his presentation actually motivated an interesting discussion about the role or representation. It was felt that the development of internal representations is of crucial importance for understanding. It was also argued that representation is to a great extend coupled with interpretation. Different representations mean different things to different people. The same holds for artists and scientists: while they are both interested in modelling the world, they use different interpretations (different languages) and it is therefore important to explore how common understanding can be developed.

The second part of the workshop included presentations from Jeff Johnson and the three invited artists. The main focus of the discussion was on the relation between art and science and possible insights that one can bring to another. It was discussed that while traditional scientific practice was quite disparate from art, contemporary science is more similar as it accepts the role of uncertainty and encompasses (even requires) imaginative thinking. It was also suggested that both in art and science it is crucial to be able to keep a balance between allowing a system to evolve and self-organise and creating the appropriate environment for it (creating enabling infrastructures). Another important part of the discussion was dedicated to further exploring the role of interpretation. For example the question was raised as to whether there is a specific language one needs to know to be able to “read” an art piece, or whether art is made to continually be interpreted in different times and different contexts. What is the importance of knowing the information or the story behind an artefact? It was suggested that art is not about communicating the intentions of the artist, but about creating a dialogue between the artist and the viewer and providing a context where multiple interpretations can be developed. It was also discussed that both art and science are historically defined, but the difference is that in science evaluation is not only in the eye of the viewer as there exists an operational constraint.

Overall, the meeting was a very enjoyable opportunity for viewing some interesting pieces of art inspired by complexity concepts, and opening a dialogue on the possibility for establishing a constructive collaboration between artists and scientists.

Katerina Alexiou
Theodore Zamenopoulos
October 2005