Direction of Research on Design Creativity
Design'10 Creativity SIG workshop

Groups' Individual Interests:
- The boundary between Product Design and Engineering Design
- TRIZ
- Cultural aspects
- Virtual teams
- Creativity in product service systems
- Creative decision making in media production
- Systematic creativity
- Procurement of information for Creative stimulation
- Cross disciplinary creativity
- Nature inspired creativity
- Design support systems
- Creativity between architects and engineering designers
- User complaints, emotion and motivation
- Teaching of engineering design theory
- Design theory for cross disciplinary design
- Design education
- Design Knowledge being used to make or understand
- Interdisciplinary aspects of design

Key Note 1: Systematic Procedures for Supporting Creativity: A Contradiction?
Udo Lindermann – *Technical University Munich*

Udo Lindermann pointed out the vast number of contextual factors influencing creativity in design. But to name a few: location, communication, organisation, team, history etc etc.

The motives for creativity were also bought into question. Do we need to do things creatively? You don't necessarily want a creative baker or dentist. Surely just doing things the best way or better than previously is more important.

An important questions is, how do we handle knowledge and systematics for creativity?
- In order to find the gaps in the current technology
- To eliminate dependencies of a design

There is a notable difference between Static design (the design of components) and Dynamic design (inter-component design). This was picked up as an important distinction.

Key Note 2: The Creative Customer
Shuichi Fukuda – *Stanford University*

What characterises a human?
Possibly making tools, putting engineering as a core human activity. We learn to survive in a changing world by "creative learning".

It was proposed that the feedback or analysis loop on a plan – do – act process is what distinguishes creative design from design.

The main thrust of the presentation is extracting as much value from our processes as possible. Customers customise and are therefore different from consumers. Can we add value to products by selling the manufacture and even repair of our products, for example training people to weld. Note repair is considered a creative activity but maintenance is not. Since all products will degrade, let's try to understand the degradation and build value into the service and repair.

Discussion:
The discussion started wit the usual topics trying to distinguish engineering from design from creativity. It was suggested that parametric manipulation is routine (non-creative) design activity). This being said at present all other design tasks are undistinguished from creativity.

It was then discussed how far creativity can be supported by computers. Nothing really new came up but it was stated that the current state of art are case base reasoning tools prompting creative insight though it is still the designer providing most of the creativity.

The roll of constraints in creativity was also debated. It was suggested that constraints are required for and often inspire creativity. It can also be argued that the addition/manipulation of constraints is the essence of the creative design activity.

I hope this is a fair representation.

Tom Howard