

# Creativity in design, arts and science

## Exploring everyday phenomena: a cross-pollination of approaches

Layda Gongora, Balder Onarheim & Stefan Wiltschnig

l.gongora@lancaster.ac.uk, bo.marktg@cbs.dk, sw.marktg@cbs.dk

**The 7th Creativity and Cognition Conference (CC09) was held on 27–29 October at the Berkeley Art Museum (CA, USA). The focus of the event was ‘everyday creativity’. A range of contributions from different scientific fields, as well as the arts, dealt with the varieties of experiences of creative processes and practices. We attended this gathering amongst an interdisciplinary group of five PhD fellows engaged in the EU FP7 Marie Curie young researchers network DESIRE, together with a neurobiologist researching creativity. We are all at an early stage in our PhD projects and the conference was an occasion to learn more about the various approaches to understanding, supporting and facilitating creativity from different perspectives.**

DESIRE is part of a European initiative to connect industry and universities interested in creative processes in science, technology and the arts, building networks in multidisciplinary projects. The Creativity and Cognition Conference has been converging around creativity with a committed group of organisers since at least the early 1990s. Originally the conference seemed more preoccupied with artistic output whereas it is now a venue for cross pollination from arts, design, psychology and industry as well as other disciplines.

Along with this type of open dialogue comes a need for common ground, and a search for validity in dealing with the results of research output. This report contains some of our reflections after the conference on observations and conversations during the conference about our PhD projects and the scientific approaches to creativity.

## Multiple views on creativity

We generally observed that the word ‘creativity’ is frequently used without a proper terminology or theoretical framing. Some of the work either included ‘creativity’ in the presentations just to fit in with the conference theme, or was included because of the popularity of the word creativity. It seems that the word itself still has a ‘buzz-word’ effect, and that it can be added as part of almost any study – no matter what results the research is hoping for. This is a challenge for anyone new to the field or perhaps working towards understanding creativity, since the word seems to be included, without proper framing, in many studies that are not focused on the phenomenon. One concern that seems to recur when approaching this type of research is: When studying creativity, how can one handle this ‘buzz-word’ effect?

Unfortunately there are very disparate views regarding creativity all of which are influenced by different external pressures. For example, because of industry pressures in innovation there is a drive to focus on creative methods and how to make them more effective and economical in their approach. As a result the emphasis is on facilitating innovation instead of perhaps understanding creative processes. A number of presentations focused on industrial examples of applied creativity instead of building an understanding of the underlying processes. In terms of novelty there was much discussion about whether what was observed were simply new combinations or genuinely new approaches and whether one could describe a redesign as something novel. Are we then discussing creativity or ingenuity?

Many of the studies presented focused

mainly on the contextual part of creativity. The research was directed towards creativity applied to real world problems, in contrast to creativity as a phenomenon that needs to be understood in studies in different contexts and at different levels of detail, such as a more holistic vs. a more cognitive approach. Another interesting theme was the role of playfulness in creativity and whether play is creativity or just a type of enquiry. Other themes included generative creativity, artificial intelligence and computational poetics as a form of creative output as well as research itself as a type of creative activity. There was some focus on collaborative aspects of creativity; however, it would have been interesting to see more of this type of work.

## Interdisciplinarity as an approach

We have observed a motivation in creativity research to approach it in an interdisciplinary as well as cross-disciplinary fashion. This applies not just to disciplines but also to methodology such as ethnographic or more quantitative methods. Our network of researchers also shares this motivation. As a result it becomes more and more common to focus not just on individual creativity but also on creativity within interdisciplinary teams and on how to organise these different perspectives. Here a ‘second order’ observation of the observers involved may be necessary: just as the topics and targets of research projects embrace multiple disciplines, the teams of researchers involved in these projects come from varied backgrounds.

All of this is reflected in our own work within the DESIRE network, and among the core group of people with whom we shared the conference experience. It is of vital importance



that we form a common ground in order to work together, with a shared language and increased mutual understanding of the epistemological and methodological foundations stemming from our different disciplinary 'upbringings'. With the attempt to bring together contrasting approaches come questions about the purpose of such efforts and the need to form new blends of methods to address the multiple perspectives involved.

It was interesting to observe the quite strong reactions we had towards the presentation of a project studying creativity in child play with programmable robots, which received one of the best paper awards at the conference. We had the impression that the application of fashionable methodology, expensive tools and rigorous quantitative analysis in a very controlled (if not restricted) environment was considered more important than the contribution to the deeper understanding of the topic of imaginative, creative and open play .

## Methods: tension between field vs. laboratory approaches

This discussion hinted at an even deeper level of tension regarding cross-disciplinary approaches. For example, which methods are considered as appropriate and favourable in terms of validity, rigour and generalisable results? The success of lab paradigms has inspired and influenced creativity research. At the same time the richness and nuances of the creative experience may be lost if the complexity of the phenomena studied is not met by the context and the constraints imposed by methodology. If we take interdisciplinarity seriously in that respect too, new relationships and new combinations between

approaches from natural and social sciences, and from artistic mastery, need to be found.

As more scientists enter the fields of design and art, and more academic programmes in design and creativity research are created, questions begin to arise about who should be doing the research? Is it the role of the creative or of the scientist? In the end one is left wondering who the expert is and who is studying whom and which perspective is the most valuable. It may be that research which contrasts laboratory studies and real world studies would be useful in an effort to access both worlds.

However, the biggest challenge is that in some cases the researcher may not set out with a clear hypothesis in mind, and with regard to creativity research it is not always the case that results can be reproducible. How do these standards fit into the study of open-ended processes and ill-defined problems like creative processes in design and the arts?

## Looking forward

The questions below summarise some of our reflections and starting points for our own research.

- 1 One of the main challenges for innovative research is the ability to accommodate opposing findings and polarities shaping the context for creative processes. How can we get from decisions between either/or to both, and structures of argumentation?
- 2 The buzz-word character of the term creativity currently creates a lot of attention for the field; but the ill-defined nature or breadth of meanings attributed to 'creativity' create difficulties in aligning efforts by researchers from different disciplinary and methodological backgrounds.

3 Interdisciplinary work is a key characteristic of creativity research. This is mirrored in the diversity of the people involved in our work contexts in the DESIRE network. We hope to contribute to a shared understanding that allows for bridging and combining approaches from various backgrounds.

4 A special challenge and excitement lies at the intersections between science, industrial practices and creative work. Perhaps these linkages are in themselves a type of research strategy whereby we are looking for patterns in the knowing and practices surrounding 'creativity'.

5 New topics and research questions constantly emerge from overlapping fields and methodologies, yet one must be careful not to assume that conducting research that is a collage of approaches from other areas will solve concerns regarding the complexity of the phenomena involved in creative experiences.

Finding passageways between state of the art scientific rigour and the flexibility of artistic work or 'designerly ways of knowing' will be an ongoing challenge when dealing with the unique and unpredictable aspects of creative processes in everyday life.

We thank the EU FP7 Marie Curie Programme for our funding, and our colleagues Erin Beatty, Emily Callaghan and Morten Friis-Olivarius for great conversations and an amazing time in Berkeley. We are all very much looking forward to continuing working with you.

Creativity and Cognition website:  
<http://www.creativityandcognition09.org/>  
DESIRE network: <http://desirenetwork.eu/>