

Some Reactions to Presentations at the 2007 Computational Creativity Workshop

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1. Introduction

This short paper presents a collection of after-the-event reactions raised by attending the 4th International Joint Workshop on Computational Creativity (Cardoso & Wiggins, 2007). Not currently actively working in computational creativity myself, and not having attended any of these workshops recently, I viewed these presentations as an “outsider”, despite being a member of the Program Committee. The following comments are in no particular order. Any biases, misapprehensions and confusions are my own. Reactions are welcome.

2. No Reference to “Standard” Model

From the discussions at the workshop, it appears that Boden’s model of creative reasoning is adopted as a sort of “standard” for the field [Boden, 1994]. As a consequence, it strikes me as very odd that workshop presentations made no explicit comparison of their theories or systems with the Boden model (or any other well developed and accepted model for that matter).

It’s clear that such comparisons encourage potentially beneficial reflection. If we consider the model to be complete and correct, then if a system does not match the model, then perhaps it shouldn’t be considered to be demonstrating creativity? Conversely, if the system is a well accepted example of creativity, and there isn’t a match, then perhaps the model needs refinement.

3. Results are Evaluated by Artistic Standards

As creativity is often associated with the arts, it isn’t surprising to find that many of the systems presented in the workshop produced artistic artifacts, such as pictures or music. Such results are evaluated by artistic standards and by the perceiver’s “taste”. This means that there less chance of a generated artifact being judged in an absolute fashion: if someone says it is novel and has artistic value then that’s enough. It is a much *softer* standard and therefore easier to satisfy.

4. Results do not Exhibit Usefulness

It's a common claim that to be judged as creative an artifact must be novel and have value, where novelty is judged relative to the scope currently being used (e.g., the person's generated artifacts; a peer groups'; all past artifacts), and value is judged in the context of the type of artifact. But until creative systems produce objects that have intended functionality, and genuine utility, results from creative systems will not exhibit usefulness. You need to be able to take the teapot that has the handle on the same side as the spout, and while acknowledging its novelty, criticize its functionality.

5. Processes Rely on Powerful General Purpose Mechanisms

Far too many of the systems presented at the workshop use powerful general purpose mechanisms as the processes that drive them. For example, whether or not you consider a system based on Genetic Algorithms to be an appropriate model of creativity, its use provides a very limited explanation of creative processes, even if the results can often be judged as very creative.

6. No Possibility of Explanation

Many of the systems presented provided no possibility of explanation of how the creative artifact was generated. While creative people can't always tell you what decisions they made and why during a creative process, it doesn't mean that they *never* can. You'd expect explanations such as "I was influenced by ...", "I was trying not to...", or "I had a goal to ...". Systems that could be instrumented to say such things, because the reasoning used supports these explanations, should advance the computational creativity field. My hypothesis is that powerful general purpose mechanisms will not be helpful for this.

7. Unclear Where Systems are Doing Explicit Evaluation

It's unclear where the systems presented are doing evaluation. Surely if they are delivering artifacts that are *intended* to be judged as creative, then there are built-in, maybe implicit, evaluations being carried out; i.e., is it novel, and does it have value? It would be nice if such systems provided an evaluation of their results, making the final evaluation explicit; i.e., "I, the system, consider this result to be very creative, and here's why...". If evaluations are being made throughout the system, then a credit assignment could be made that indicated just where the key decisions were that led to a good result.

8. Only Synthesis Systems

The workshop focused on synthesis systems; i.e., systems that synthesize some artifact that can then be judged as being creative. However, it is certainly possible to do creative analysis. This view with only two types in it, synthesis and analysis, is much too simple to be interesting. Other models exist, such as Clancey's (1985) for example, that propose analysis tasks such as prediction, recognition, and diagnosis. One could look at creative

prediction by itself, for example. Or, less unusually, the observation that many design systems (i.e., synthesis) include such analysis tasks, leads to the possibility that doing those tasks in interesting ways might produce creative synthesis.

9. Concentrating on Result, not the Process

Judging by the workshop, there is a strong concentration on a system's result being creative, not the system's process. It is perfectly reasonable for a person to have result that isn't judged as creative, but then have the process that produced it be judged as very creative. For example, I could reinvent a 'garden spade' by analogy between a 'garden fork' and a 'fork' from the eating utensils 'knife & fork', leading to a 'garden knife' (i.e., a spade). The spade isn't novel, but that process is. Any system that could do that would produce high expectations for more creative results than that. The field should celebrate the process, not just the product.

10. References

A. Cardoso & G. A. Wiggins (Eds.) (2007) *Proceedings of the 4th International Joint Workshop on Computational Creativity*. Goldsmiths College, London, 17-19 June.

W. J. Clancey (1985). Heuristic classification. *Artificial Intelligence*, 27:289-350.

M. A. Boden (1994) *Dimensions of Creativity*. The MIT Press.
