

Being Aware

Encouraging differentiation for creativity in digital media

Susanne Grabowski, University of Bremen (Germany)

Undergraduate students of Digital Media at the University of Bremen must do a two-semester study project. Currently, a dozen of them have chosen project *CoMa*, which is about computers and painting. It runs from October, 2008, to July, 2009. Its goal are interfaces for artists wanting to use computers.

One thing students have to learn is to precisely define the purpose of a design task. They must present alternatives, justify, implement, and test them. We expect them to gain considerable experience in steps and levels of creative work. In particular, we want them to become aware of the balance between individual and group efforts that, we feel, are necessary during all stages of a complex design job.

In this paper, I describe a small case study of how to initiate such a process. The idea is to become aware of differences between painting and computing, and to turn these into creative acts of *imitation* and *inspiration* – basic forms of creation, both of specific merits. My approach is purely descriptive.

My general assumption is that learning is a constructive process conducted mainly by the student but fostered by context, situation, and environment („learning by doing“), and that in design work familiarity with materials of analog as well as digital kind is decisive. Without experiencing them in practice, design cannot be successful.

Preparation

In project *CoMa*, students start on simple tasks that should help them experience the different worlds of computability (algorithmics) and beauty (aesthetics). The tension between the two should make them aware of the importance, both of reflection and intuition. Both are homes of creative processes, however different they are.

In an early task, students could become aware of their favorite ideas. The task simply was: „Design, from a simple shape, a composition of your choice; use (a) acrylics on canvas, (b) software on screen“. Fig. 1 shows one student’s result.

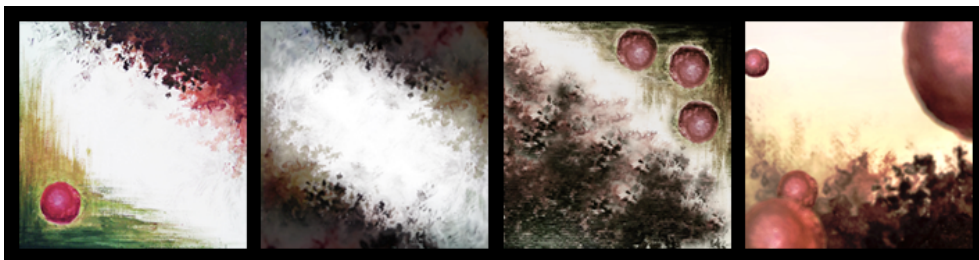


Fig. 1. Naive composition by using acrylics (left) or Photoshop (three to the right)

After students had finished their pieces, questions were discussed in the group like: What do we see? What could be the idea behind that? Why was this done in exactly this way? What was on your mind when you did it? How did you experience the two media? The discussion helped students become better aware of relations between ideas, materials, and compositions. A deeper feeling of the object, as a personal relationship (Dewey 1988:360), may emerge from this.

Students generally took questions up in a playful way. They freely offered ideas for, and reactions to, a work. Only after group discussion the originator was asked to give his or her view. Here are some observations:

- All the paintings started from vague ideas. The student responsible for the work of Fig. 1 said: „I wanted to do something with a circle. I also wanted to mix up colors. The rest was developing by itself. It is hard to describe what I did. I just did it.“
- On the computer, it is often easy to change details of an image. On canvas, there is virtually no way to achieve deep change before starting all over. Handling colors and trying painting techniques is, of course, totally different.
- The computer strongly supports continued development of an image. It is easy to precisely describe decisions.

After this preparation, we continued the exercise by trying to become aware of the difference between imitation and inspiration.

Step 1. Creation through Imitation

Imitation is not the same as copying. The goal of copying is to create a work indistinguishable from an original. Imitation is more open. It starts by identifying structural characteristics of an image. Lambert Wiesing (1997:224) calls this an „image about an image“. The features of structure are preserved in a visually different appearance. Similarly, Klaus Mollenhauer (1996:74) distinguishes the imitation of an idea, the imitation of individual motives, and the imitation of reactions caused by the original.

In an assignment, students were asked to extract material elements, structural aspects, and general ideas from works by artists and by computer scientists. They had to organize these into repertoires of elements and methods of structuring, that they were going to use for new creations. Careful observation and interpretation are required to get at the structure of a work, and, thus, to starting points of new works. Fig. 2 shows original pictures of this step.

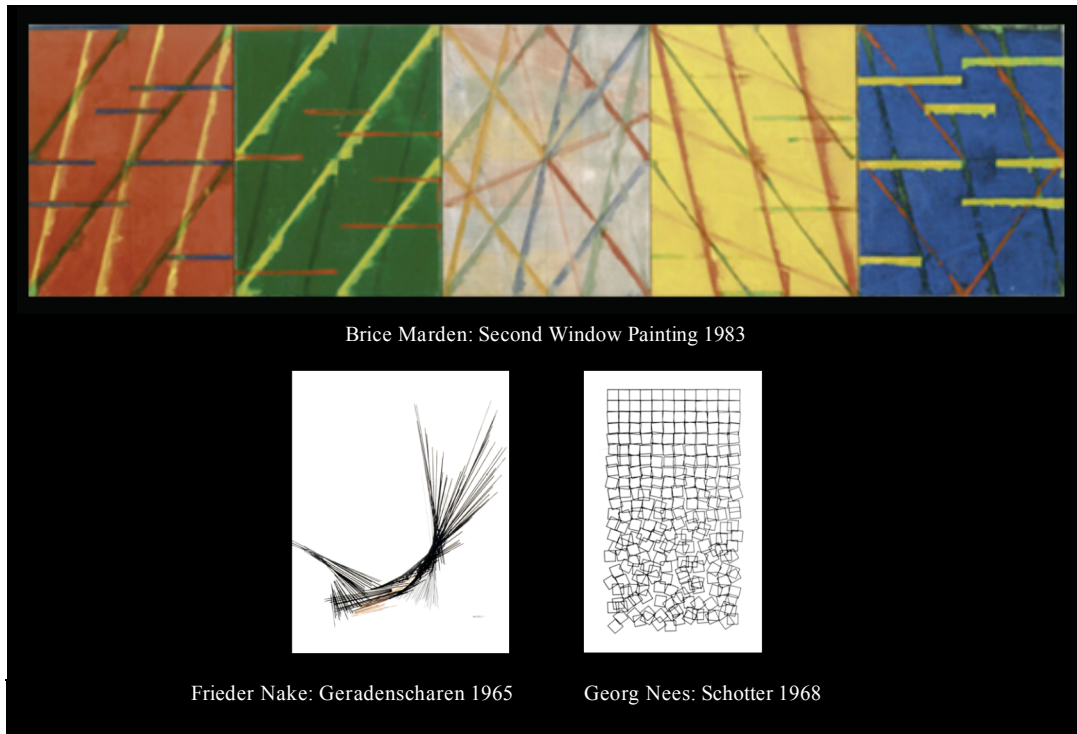


Fig. 2. Three originals used for imitations

In this exercise, students become acquainted with a small set from the world of art. They also become aware of possibilities of using mathematics for art. They see the use of progression, combination, rotation, geometric elements, visualizations of Fibonacci numbers, probability distributions, or randomness. They discover similarities and differences between the artists' work and their own work, as well as between their works and the works of other students.

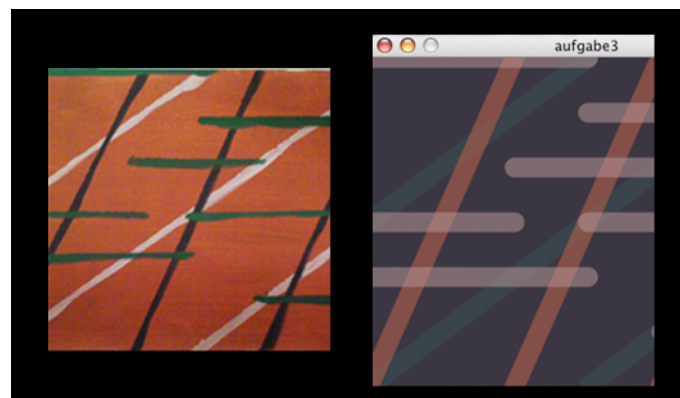


Fig. 3. Imitation in acrylics and on screen (Processing)

For the imitation study, students were given two tasks. Fig. 3 shows an example of the first. After having chosen a work of an artist, the student told the group what he thought was an important rule in the work. Next, he translated this into (a) a picture on canvas, and (b) into an interactive image(using Processing¹).

¹ Processing is a programming environment for artists and designers (Reas & Fry 2007).

The interpretation of results was a bit of a surprise. It seemed as if students had difficulties to start in the requested way, i.e. by identifying a rule in the original and use it as *rule*. Students changed formats, shapes or colors, but did not go further, as if a step of abstracting was hard for them to take. This happened even when it seemed that they had before successfully described essentials. The interactive images brought more in variation or combination, not in more central aspects.

For the second task, students were given three examples from early computer art (see Fig. 2). They had to find algorithms behind the visuals, which they implemented by adding interactive intervention. As they were working on this, I observed a change of atmosphere in the group. Those who had started from the same computer art original were curious to see the results of the others. Awareness appeared to shift to comparing peers' results. Fig. 4 shows a result.

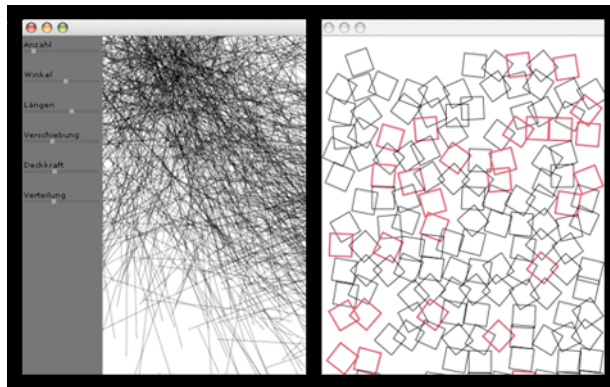


Fig. 4. Screenshot of interactive imitations of originals in Fig. 2

Step 2. Creation by Inspiration

Focus was then moved to an awareness of sources of inspiration. In *imitation*, students adapt to a given work: they appropriate an essential feature of the work to generate a new one of same structure. This experience is an awareness of the other as different from themselves.

In *inspiration*, a work is adapted to a student's design purpose. The experience is an awareness of one's own influence on the world. What inspired the student for her work? Was it some material, media, topic that sparked an idea for design? Another question was to observe how closely students followed the inspirational source, and where and how they deviated from it.

A student suggested this task: Run Google on some nonsense, and chose one of the hits as start for an interactive work. While the result was presented, the other students were asked to speculate on the trigger. Fig. 5 shows an example.

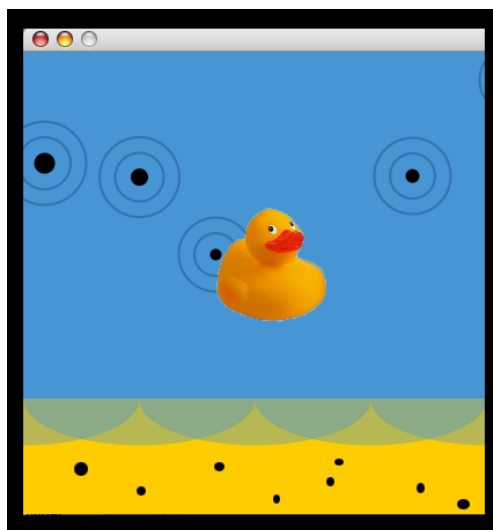


Fig. 5. Associative interactive work

The trigger here was „shore“. The student had drawn a shore line. She thought about human activities on a beach. So she provided stones to throw into the water. Later, a duck came to her mind. So she added it to the scene to be influenced interactively.

By and large, students clinged to concrete things, some thought of games. In a slightly different case, the student generated a map of Africa as response to a Google hit associated with Africa. Interactively, interior points could be colored as an indication of assumed statistical data. This may be interpreted as a first step a bit away from immediate association.

Summary

This short note reports an experience gained from assignments done by a group of students of digital media. The assignments were defined such that imitating and inspirational activities had to be performed in a way that awareness of different aspects could increase. In particular, the difference of painting and computing was of concern.

Results are of a case study nature only. We have reached a point from where we can start to more challenging jobs. Clearly, experimentation is always welcome when working with immaterial realm of digital means.

Awareness for both, the digital and analog materials must be experienced: while the volatility of digital media supports experimentation, the sensual peculiarities of analog materials support appreciation of the concreteness of the corporeal.

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Biographical Remark

Dr. Susanne Grabowski studied media pedagogy in Munich and Augsburg. She did her doctoral degree at the University of Bremen in 2007. There she is currently doing research in project compArt | Centre of Excellence Digital Art. The project is funded by Rudolf Augstein Stiftung.
<http://www.compart.informatik.uni-bremen.de>
sgrabowski@informatik.uni-bremen.de