Machine Art and their influences for the entertainment industry

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ABSTRACT

This article explores the autonomous evolution in painting to machine art. Photography has influenced this evolution as one of the first machine-based art tools, which are able to create a picture. In this context the text dealt with the role of the artist in machine-based art. The examples of the Video Synthesizer and the Software Art project Sketchmaker shows up this relationship between the artwork, the machine and the artist. After that we explores the influences, which some artworks had for the entertainment industry. Sometimes these connections and influences are more or less obvious.

Keywords

machine-based Art video art software art technology interfaces Video Synthesizer History Generative Art Algorthim

1. Machine Art

Peter Weibel wrote in his text "The Apparatus World- A world unto itself" about autonomous values in the modern art world. At the beginning of the 20th century the painter used firstly color as an autonomous value and then it evolved more and more to abstract painting. In this notion of abstraction the object lost the main focus in painting. These autonomous development in painting are amplified by photography, because photo camera is able to capture a very realistic picture of an object or a scene. Such a high degree of a realism is almost impossible to reach by a painting. This situation emerge the questions:

- Who is the real artist?
- The machine, which creates the picture?
- Or the human,who chose the best picture detail?
- Is a machine able to create art?

Peter Weibel defined five stages of the machine art, which differentiate the degree of machine-based artwork.

1. The machine generates a image
2. Transmission of a generated image
3. Machine-moved images (illusion of the moving image → film)
4. The recording process of an image or sound
5. The machine generated a image by itself (calculable image of the computer)

For every stage exist an art movement. The 1st stage belongs to to domain of Photography. Net Art and telematic art can be assigned to the 2nd stage. The 3rd stage is everything with video and film cameras. The 4th stage belongs partly to the domain of electro-magnetic mediums. For 5th stage it is not possible to assign any media or art movement, because no machine is able to create art completely by itself.

2. The Video Synthesizer on Peter Weibels stages of machine-based art

The Video Synthesizer by Paik and Abe can not be assigned directly to a special stage of machine-based art defined by Peter Weibel. In my opinion the Video Synthesizer is somewhere between the 3rd and 4th stage. It is obviously not the 5th stage, because we need a person, who operate the video synthesizer. The Video Synthesizer is not able to create artworks or a picture by itself. It needs somebody, who connects the different inputs signals with the synthesizer and the output devices. This operation activity shows up that their has to be done a creative work. Normally a human does this operation work on the synthesizer. That is the reason why a machine like the Video Synthesizer is not able to produce art at all. It is still the human who creates the art. The Video Synthesizer is just a tool like a pencil or a paint brush.

3. Is a machine able to create art by itself?

The question "Is a machine able to create art" belongs to the 5th stage of Peter Weibel's definition. Mario Klingemann, a German Computer Scientist and Artist tried to answer these question with his Software Sketchmaker. This Sketchmaker Software is an generative and evolutionary algorithm based on seven steps:

1. Teach the computer (or the machine) how to see
2. Shows the visuals that are "art" and "not art"
3. Let it classify what it sees
4. Write an additional algorithm, which evolves visuals
5. Let it classify those visuals
6. Those that are closer to "art" than to "not art"will survive and evolve
7. Learn: branches that work will thrive, branches that don't will wither

His software creates patterns and structures, which looks very similar to abstract paintings. But is these machine-based output really art? And did the machine create the art by itself? In my opinion the results are very impressive, but not the machine creates these pictures. The Computer Scientists, who creates these seven steps and the more defined rule set is the real artist. The machine or the computer is still not able to create such a kind of rule set and concept by itself. The artist used again the machine as

tool. The machine is just able to understand the artist concept and rule set. The computer execute this rule set as commands and produces an output within the terms. The big creative activity is defining a very good rule set or concept. The machine doesn't do it. It is the artist who did this big initial activity. In my opinion it is impossible to reach the 5th stage of machine-based art by Peter Weibel. Because every produced artwork needs some intellectual activity and this initial intellectual activity is always coming from a human → the artist. The only thing what continuous changed is the tool, which the artists used.

4. Does Machine-based art influence the entertainment industry?

The Video Synthesizer by Paik and Abe had a big influence in special effects industry for films and music videos. There exist a relation between artworks and entertainment products, but mostly these relationships are not so obviously as the Video Synthesizer example.

For instance, the artwork Very Nervous System by David Rokeby from 1991 used already camera based interactions for controlling different sounds without any controllers. Compared to this artwork the project Natal from Microsoft is using almost the same principles for their games. The player can interact with the game without any controller. I can not surely confirm that there exist a relation between these two projects. But the big time gap and the very similar interaction gestures pointed out that there might exist some inspiration connections between these two projects at least.

The relationship between an artwork and a special effect techniques is in my second example more obvious. The very well known special effect technique "Bullet-Time" from the Matrix Movie was firstly introduced by Tim McMillan in 1990s. He used a couple of cameras, which are arranged on circle-based path. The object is placed inside this circle-based path. The artist can take simultaneously pictures from all the different cameras and perspectives. In the post production all the pictures are arranged one after the other. After the arrangement of the pictures we got small movie clip, which delivers us an impression like a tracking shot around the object without the factor time.

5. Conclusion

Artworks are still having influence in the entertainment industry and I think we will have the same situation in next few years. Especially, in the media industry exists a strong relationship between the art world, computer science and entertainment industry. These relationships based mainly on the digitalisation of information, that combines these different discipline on a technical level. I hope the entertainment industry recognize this relationship for next years and starts supporting the art world more in financial issues. So that the artists can create more sophisticated artworks in the future.

6. REFERENCES

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