The Interaction of Cybernetics and Contemporary Economic Graphic Art as "Interactive Graphics"

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Abstract— **According to the thesis, which is related to the interaction between cybernetics and contemporary graphic art (Interactive graphics), at first a brief explanation about the meaning of interaction is defined and then tried to determine the relationship between science and art and also their impacts to each other are analyzed. The interaction terms implicitly defined as the relationship between the individual and artificially intelligent system and try to convey emotions and ideas of the artist to the audience. Origin of the work is the essence of art and the artists is the interfaces between holiness and the people of his Contemporary time. Indeed, the interactive art is the arrangement artistic which use the presence and audience interaction to achieve its purpose. Internet and electronic art are the two kinds of this art. To sum up, the activities of the audience play a very significant role in this kind of art. Although both science and art reflect reality, Science is basically the concept and entities, while art is the aesthetic images. Scientific concepts and artistic images both generalized perceptions of reality. But due to the rational nature of science, the overall dialectical difference of science is more than art. Cybernetics (the science of animal-human and physical information and control systems) is a new important science which is produced by the combinations of other science such as Psychological Science, biology, economics, engineering, linguistics, etc. The purpose of this study is to analyze the effects and consequences of new technologies and modes of communication which causes to increase the interaction between scientists and artists in the best possible way which is useful for both groups. This is mainly because, the cybernetics represent an ideal medium for such interaction. The mentality and Artistic thinking are the most important part of creation which the digital technology alone does not have this feature. Always, the interaction, communication and the creation of a mutual cultural is considered as one of the most important concerns of artists. On the other hand, simultaneously with electronic advance in the field of satellite communications and computer, art is also having an impressive progress.**

Keywords-Art, Cybernetic Art; Contemporary Graphic, Digital Art; Vitual medium;Interactive Arts, Biology Art.

I. INTRODUCTION

In the recent years, the interactive between sciences and art is reviewed by many researches as one of the most interested area in art and technology. Indeed, the artists trying to make a connection between science and art as an interesting graphic design to have an advance progress in the art history and science at the same time.

Many aspects of the interactive graphic is reviewed before. For instance, the cyberculture which is tried to make a connection between science and culture of the people is reviewed in [1].Thus paper tried to present the culture of the society by art. Also, by progressing into the Internet world, the connection between art and cybernetic is reviewed and analyzed in [2]. This kind of aspect was in a more attention because all the artist can improve and advertise their work very fast. Also, by increasing the role of the computer in the modern world, the communication between the society and computer science as is reviewed in [3]. Moreover, the interaction between culture and visual art is reviewed [4]. Furthermore, the interconnection between the societies attitude and art is reviewed and analyzed in [5]. The interactive between the human and cyber space is reviewed in [6]. Finally, many researchers in their papers used an art attitude for their simulations and results such as [7], [8]. As a result, in this paper tried to define a new approached between art and science and related this approach to the biology and enviouronemt. In fact, by extracting the signals from the environment sounds, tried to convert them to a virtual art. For this case, many interactive arts such as digital art, sound art, combination art, animation and movie makers and voestalpine art should be analysis and review. In the next section, digital art will explain and introduce. The third section will introduce the cybernetic art. Finally, the last section is the conclusion.

II. DIGITAL ART

Recently, digital arts take into account as one of the most and beautiful part of the art science and many researchers tried to make a connection between art science and engineering science by the concept of digital art. For instance, fig. 1 is and extracting signal from the ocean sound when the ocean is peace in the day.
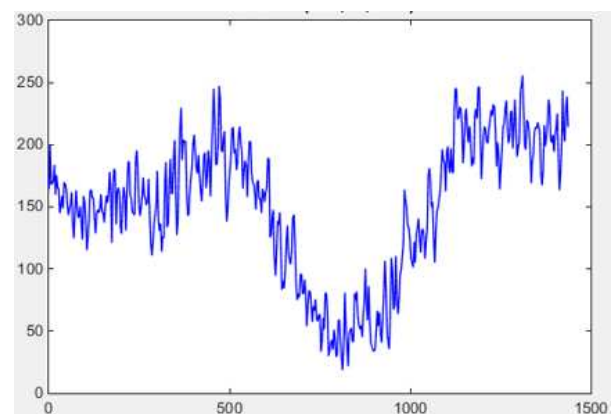

Fig 1: Signal extraction when the ocean is peace in day

It is clear that the signal is very normal based like the hart. In this situation the up/down signal will be appear and can see the variety of up/down sound. In the normal situation, the weather is sunny and the ocean in its best situation.

Moreover, the fig. 2 is show the signal extraction of the ocean when it is stormy. Based on the figure, the ocean sound is constantly stormy and it is in the unmoral status. It is clear that the weather is not sunny and the up/down signal is not predictable.
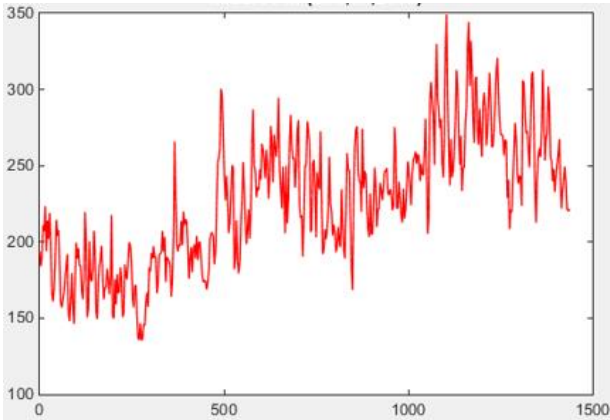

Fig 2: Signal extraction when the ocean is stormy

The difference between these two signals is shown in the fig. 3. In fact fig. 3 represented the beauty of the signal processing based on the art science. It means the interaction between the digital science and art. It should be mention that to compare both figures, the start point is shifted to the same point. Moreover, it should be noted that all the simulation and results has been done in MATLAB software environments.
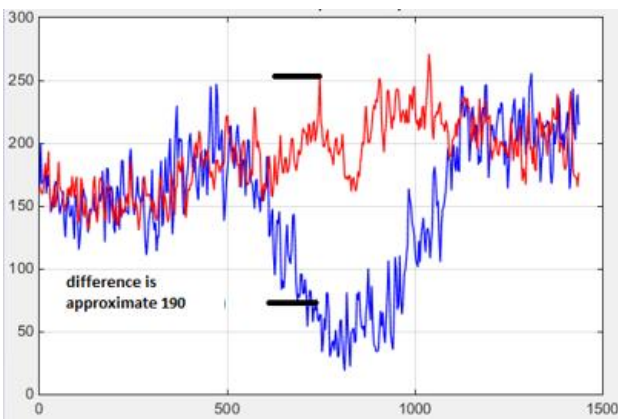

Fig 3: Diffrence between extraction signals when the ocean are peace and stormy conditions.

On the other hand, digital art has an advance progress in the paint and printing of the world. In this scitation, the artist tries to use the digital art to creat his/her objective. This kind of art is very common in the current years as well. For instance, fig 4 shown the role of the digital arts in the paints and vitual arts.
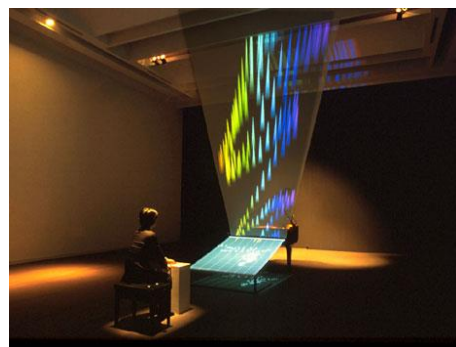

Fig 5: Interactive of digital art and visual art.

Furthermore, no one can ever deny the significance role of the digital arts in medium in the recent centuries. Fig. 6, shown the interactive of digital art and medium.

(a)

(b)

(c)

Based on the figure 5, the medium tried to have a deep insight by using this kind of art. The verities of the figure shows the verities advantage of this kind of approach. It is clear that this approach can be useful in many kind of situation and purpose.

III. CYBERNETIC ART

Cybernetic art is the kind of art which is trying to use the Internet and cyber space to produce the art for many kinds of applications such as animations, movies and combination arts. For example, fig 6 shown the interactive between cybernetic space and art science.

Fig 6: Interactive of cybernetic and art.

In this figure, the art science tries to use the computer science as a cybernetic place to produce the animation or any kinds of related movies. Many big animation making companies such as Hollywood used this technology in the best possible ways. Fig 7 shown more examples of the cybernetics art.
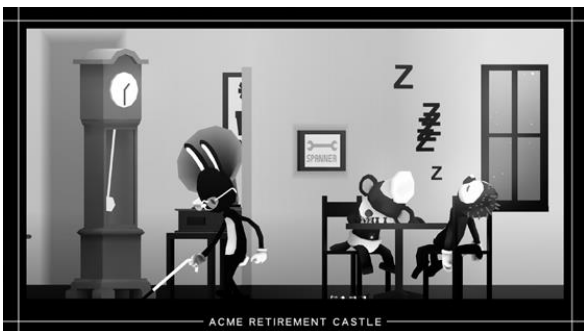

Fig 7:Cybernetic art.

IV. COMBINATION ART

In this kind of the art try to combine art with other sciences such as robotic, environment nature, biology etc. many research is done based on this combination such as [9] which is used the combination of art and electrical engineering in its analysis or others in [11-14]. Also, fig 8, shown the combination of the art and robotic science.

(a)
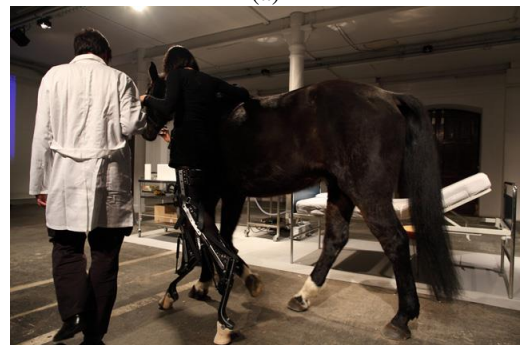
(b)

Fig 8: Combination of art and robotic.

Moreover, fig 9 shown the combination of the art and communication science.

Fig 9: Combination of art and communication systems

Furthermore, fig 10 shown the combination of the art and architecture engineering.

Fig 9: Combination of art and architecture engineering

V. CONCLUSION

The modern days are contribution of two important key factors as convert the world to the image and convert the human to the objective. Both of these scenarios is done by the combination of the art and other sciences. Indeed, the interactive between art and sciences can expand to the huge dimensions in the different sciences such as engineering, medical, biology, geographical etc.

Artists usually should be update so that can improve him/herself to understanding the relationship between art and other science to produce many interested situation for other people. They used their potential to produce many kinds of animation, movies and playing. The last but not least is that usually combination of art and other sciences increased the knowledge of the people very fast. This is mainly because, people can learn the visual and touch environment rather than rigid place and science such as math, physics and engineering. On the other hand, by increasing the uses of the Internet technology and cyber space, art play a key factor in this space for enormous application such as advertising, medium etc. In fact, by increased the uses of the cyber space the demand for art increased rapidly. Moreover, no one can ever deny the significant role of the cybernetic in the interactive between the art and cyber facilities. By this combination, can improve and expand the novel idea communication and make a friendly environment easily.

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