

# NETWORK THEORY AND ART

THESIS OF DLA DISSERTATION

# INTRODUCTION

Often I found myself in the situation of having to speak about my profession. In these instances I was always in a dilemma because it is difficult - even for myself - to define it exactly. So, whenever somebody asks me what I do I say that I work with the Image. Then come the explanations: that it is mainly technical image and within this sometimes photography (analogue and digital technique) other times images created with computer, which can be still or motion picture.

Most of the time the Image I create is for myself, sometimes it is for others. I also try to get others to create the Image.

I couldn't and didn't want to avoid Digitalia swallowing me, so for most of my works, especially lately, I use digital techniques, and my interest is also directed this way. Accordingly, my DLA research targeted in the beginning the whole of digital art. But, soon enough I realised that even a small segment of digital art is gigantic. Thus I felt that I must refocus my attention to a topic which is not exclusively about digital art even though it often crosses paths with it.

In order to determine the final theme of my research many strands needed to converge. The most important was Albert-László Barabási's book „Linked" which raised questions in me and resulted in some revelations. The network theory analysed in the book became the central theme of my work. On one hand, I tried to summarize research results of this new discipline on the other hand I tried to look at the theory from a different point of view - that of an artist.

The network theory is a relatively new interdisciplinary science. So far in my studies I have never come across this association of network theory and art - it is a unique and personal one and I hope - and let me use a concept which fits the topic- it will enrich the network formed around this theory.

# THESIS

- I. EVERYTHING IS LINKED TO EVERYTHING – „*we are hopelessly enmeshed*”  
(Barabási Albert-László)

The world works as a network, more precisely as a mix of an infinite number of networks. Although it was always so, it was only realised in the 20th century when new technologies discovered permitted it. Until the formulation of network theory there were different ideas about the structure of the universe, but these were only descriptions of phenomena and gave an allegorical image of the world. The Barabasi theory is universal, applicable both to the whole and the detail, and has an important advantage - it can be represented by maps.

Any two randomly chosen points of the world (and here I do not necessarily mean a physical point, but I think of one element of the net - the node) can be related as the world can be easily navigated thanks to the complicated weave of the net. This leads to the idea that everything is related to everything.

I believe that network theory and arts cross paths on several levels. In my DLA research I tried to discover the edges between two nodes - arts and network theory, in order to see which are the intersections and relations between the two domains.

## II. THE NET I IN PLACE – transdisciplinary ubiquity

On tendency of our times - maybe because of technical possibilities - is the navigation between disciplines that makes it possible for information to flow from one to the other. This interdisciplinarity resulted in new branches of science, such as the network theory formulated by Barabási Albert-László, which appeals to many domains such as sociology, mathematics, medicine and geography. Network theory emerged as star-science especially due to its general applicability. The new discipline can be used to map a specific status and also can offer solutions to certain problems.

Network theory not only quotes certain disciplines but goes back to them and adds something to them. This two way relation works in all cases because it can be extended to everything: finance, healthcare, communication, transport, etc. My vision is that art is just as suitable to this association as any other discipline.

### III. SOMETHING FOR SOMETHING – interactions of arts and network theory

Many simple interactions can result in surprising phenomena. Art gets many of its elements from network theory, the most spectacular being graphs, fractals and maps. Also the different nets such as nets of acquaintances for instance are at the origin of several works of art. (e.g. the multimedia work of Tamás Waliczky called "Focus", the giant poster of Péter Hegyi or the essay of Jochen Gerz "The anthology of art"). Perhaps the most important element of network theory that is in relation with art is the internet.

The internet is not only the carrier of expressions of art but it is also part of art. To make it clearer: there are works of art which can be found on the internet and there are works of art which come to existence through internet, in this case the internet is an artistic tool.

Art has also something to give to network theory: due to its visuality art can give means of representation to the science of networks which adds a touch aesthetical pleasure to it.

One of the most important achievement of network theory is that it can make turn invisible into visible and can map facts which until now were only theoretically proven.

#### IV. THE PROMISE OF A BRAVE NEW WORLD – dual existence and hybrids

There is no doubt that the most important discovery of the 20th century is digital technology which has influenced and changed every corner of our world. Perhaps the most valuable achievement of digital technology is virtuality, and virtual existence is a sort of "brave new world". We are prisoners of it whether we want it or not.

Without wanting to qualify let me mention some of the promises of the "brave new world". One of the most exciting promise is the "new body", the virtual body with high efficiency. In this body we can redefine ourselves using an arbitrary coding, we can try body configurations that we have always dreamed of. In the world of physics we can go to impossible places, we can do impossible or dangerous things without being hurt. We can attempt immortality. There is no impossible for the virtual body, it has no physical limits.

We created robots to help ourselves. But now we have to "update" ourselves to be able to keep up with robots evolved into cyborgs. So we invented digital gadgets - I call them prosthesis - which makes us able to compete with digital beings.

Last but not least, on the Net all are equal. The World Wide Web is the symbol of this new democracy. All who enter here is equal. There is however a question left open: can this possibility create a new consciousness?