

ELECTRONIC ART: SCIENCE, NETWORKS AND INTERACTIVITY

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In its most varied forms—video art, infography, interactive installations, net art, virtual reality, etc.—so-called electronic or media art as a whole has brought about various changes in artistic practice, perception and aesthetics. Perhaps one of its most outstanding features is its inter-medial nature. Nowadays you don't have to be a specialist or an expert on contemporary art to be aware of the considerable overlapping of different art disciplines, and of these with science and technology. The word most used in the context of art these days is almost certainly '*interdisciplinary*'.

Nonetheless, from my point of view, the meaning of 'interdisciplinary' in the field of media art includes a far wider range of topics than the familiar—and occasionally somewhat unwieldy—theoretical statements about the relationship between art and technology. When we talk of an overlapping of the arts, technology and the sciences, we are referring to a process of gradual approach, contiguity, interference, appropriation and intersection which is leading to the creation of contact networks and multi-directional influences. It is precisely in these 'networks' that we might be able to find a wider approach to the concept of *interdisciplinarity*. Without a doubt, a large part of the public would immediately associate this term with the internet or telemetric networks. Clearly, this is 'one' of its meanings, and probably one of the most frequent ones at present. But it is not the only one.

Perhaps the best way of not losing the broader range of meanings contained in the word '**network**' is to use a metaphor which comes precisely from the world of science, and which to some extent lays out guidelines that are reflected in

cultural practice today. To clarify this idea of 'generalised linking', I will use an example borrowed from the world of biology.

It is still common today to consider the human body to be an organism divided into three differentiated systems: the nervous system, with the brain as the seat of thought and memory; the endocrine system, whose task is to regulate bodily functions; and the immunological system, which acts as the body's defence system. These three systems are still studied as three separate disciplines: neuro-science, endocrinology and immunology.

Nonetheless, the early 1980s saw the beginning of a change in such perceptions which gave rise to considerable controversy: scientists discovered a group of molecules called **peptides**, which work as messengers: that is, they facilitate contact between the three systems, which they link up into a single network. Using this as a starting point, scientists have since discovered other peptide receptors and have arrived at the astonishing conclusion that “it is no longer possible to establish a clear distinction between the brain and other parts of the body” (Candace Pert).

Today, this system is known as the *psychosomatic network*, which has also led to another fascinating discovery: peptides are a biochemical manifestation of the emotions, which were considered up until then to be derived exclusively from the brain. In other words, cognition is **a phenomenon, which spreads throughout the body by means of an intricate network which is made up of all our mental, emotional and biological activity**. In fact, this new interconnective vision of the human body implies - according to some scientists - that the brain can no longer be allowed to maintain its hierarchically defined position as a centre, but rather that parts of it are “**floating through the whole of the body**”. So, subjects as conscience or feelings, before reserved to philosophy or art, become scientific subjects as well.

Fascinating though this subject is, I mustn't go on for too long about it. To sum up: this concept of a network, of a **non-hierarchical overlapping** of the most varied elements, of dispersion and yet also of nexus, is at the heart of the

significance which should be given to the overlapping and the networking which take place in the field of media art. An art which does not limit itself to the mere use of certain technologies and is not characterised exclusively by its use of machines - as many would like to have us believe - and which certainly does not consider the technology in question as an end in itself. On the contrary. This is an art form, which seeks a path leading to a gradual widening of its borders and increased links with other vital, creative manifestations.

A radical broadening of our conceptual frameworks, of the type brought about by media art, also implies important changes in the way in which artwork is perceived, exhibited and structured. This becomes very clear when we take interactive projects as an example. Interaction that uses a human-machine interface as a base marks - on the one hand – a qualitative change in the forms of communication, using technological means. On the other hand, it bears witness to the transformation of a culture based on writing and logocentric narrative structures, into one which is 'digitally' orientated in visual, sensorial, retroactive and non-linear directions. The fact that the observer of the work of art is transformed into a participant within the interactive system leads to a questioning of the way in which his or her synchronic activity takes place within the system, and to questions concerning his or her relationship with the immediate environment (the real audience environment) and the context of the system (the virtual context of the work of art). Interactive work needs to react to human behaviour, but there must also be an awareness - from the point of view of the observer participant - of the way in which the work might react to the activity of the audience. This means that a new dimension is thus created both for the machine and the spectator.

As a result, when we talk about interaction, about audience participation, we are also dealing ineluctably with one other basic aspect: the new structure of the work of art in question. In the end we are talking here about the setting up of an interactive **channel** of information between the work, the spectator and the environment which leads to the formation of a **network** that is sufficiently broad, and which permits not merely a flow of data, but can also be used to achieve

genuine **communication**. Thus we have the second meaning of the term 'network' in the context of electronic art.

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