

## **ART/SCIENCE/TECHNOLOGY: E-ART IN VIRTUAL MUSEUMS MEASURED BY INTERDIMENSIONAL NETWORKING METHOD**

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### **Introduction**

In our both global and differentiated actuality, which are the frontiers being connected and disconnected between science, technology and art? Inspiration and creativity aren't necessarily exclusive of art. Rationality does not remain a discursive prerogative of science. And practical knowledge is not more wired with technological processes than it is associated with other social processes. In fact, these three forms of experience and knowledge are deeply merged today. Within this context, can an object of art be constructed, in a more profound way, with scientific-technological instruments and resources? Or is artistic interpretation useful to demonstrate scientific hypothesis? How is the science-art alliance disseminated by technology to a public of non-experts?

Some answers to these questions may reside in digital art, which is one of socio-cultural processes where these three areas are blended. Digital art is irreversibly circulating inside cyberspace, in intimate connexion with cybertime. Cybertime is the set of different temporalities that a network user experiments across a cyberspace navigation. In this time-space shell, e-art is more and more binded, in peculiar ways, to science and technology. This becomes evident when we observe e-art exhibitions, digital art museums and other ways of global diffusion of visualizations and of mixed media in the Internet.

This paper aims to show some of the results of a broader research where the links between science, art and technology are analyzed through digital art and by some reflections about it. The case study presented refers to a web site untitled «Digital Art Museum», located at [www.dam.org](http://www.dam.org).

For such a purpose, we will use the Interdimensional Networking Method. This methodological device study the web forms of our everyday life. For instance, the social visibilities immersed in digital art propositions exposed in global and local networks, like the visual concepts used by the e-artist or the organization of society itself expressed by interdimensional web forms or cyberimages. It operates, among other strategies, by situating the different social dimensions inside concept webs or other visual net representations. The social dimensions used are: 1] the social spheres. The socio-economic sphere is exemplified by technology and the cultural sphere is illustrated by science and art. These social areas are articulated with: 2] the social levels (the macro-social or structural level, the micro-social or interaction level and the mediating level between the two precedents, that is, the social realm where institutions, organisations, associations and groups develop their activity). In other words, the social spheres will be represented in the analysis by some empirical indicators, that is, the language terms that appear in the text of the site around the main themes «science», «technology» and «art». Each one of these 3 substantive areas is crossed with ideas expressing the several social levels in the text of the web pages sampled.

**Brief analysis of some web pages**

In the mentioned site, supported by the Arts and Humanities Research Board of Great Britain (AHRB), the web page «Introduction to the Digital Art Museum», points to the site’s main goals: «Digital Art Museum (DAM) aims to become the world’s leading online resource for the history and practice of digital fine art. (...) DAM is an on-line museum with a comprehensive exhibition of Digital Art supported by a wide range of background information including biographies, articles, a bibliography and interviews», «for the enjoyment of all visitors, curators and collectors, scholars of art », etc.

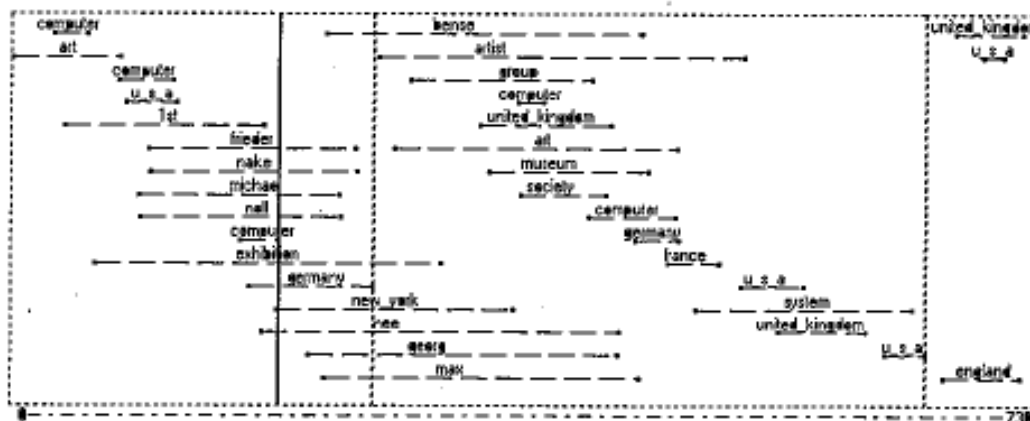


Fig. 1 – Episodes and main themes sequence in a web page

Moreover, in the web page «Technology Timeline», we can extract some main themes in the sequence of the text (see Fig. 1). The relation of technology and art is placed right in the beginning of the text and in its middle part. The other main content of this timeline refers to the countries where the principal digital art works took place, which are U.S.A., Germany, United Kingdom and France.

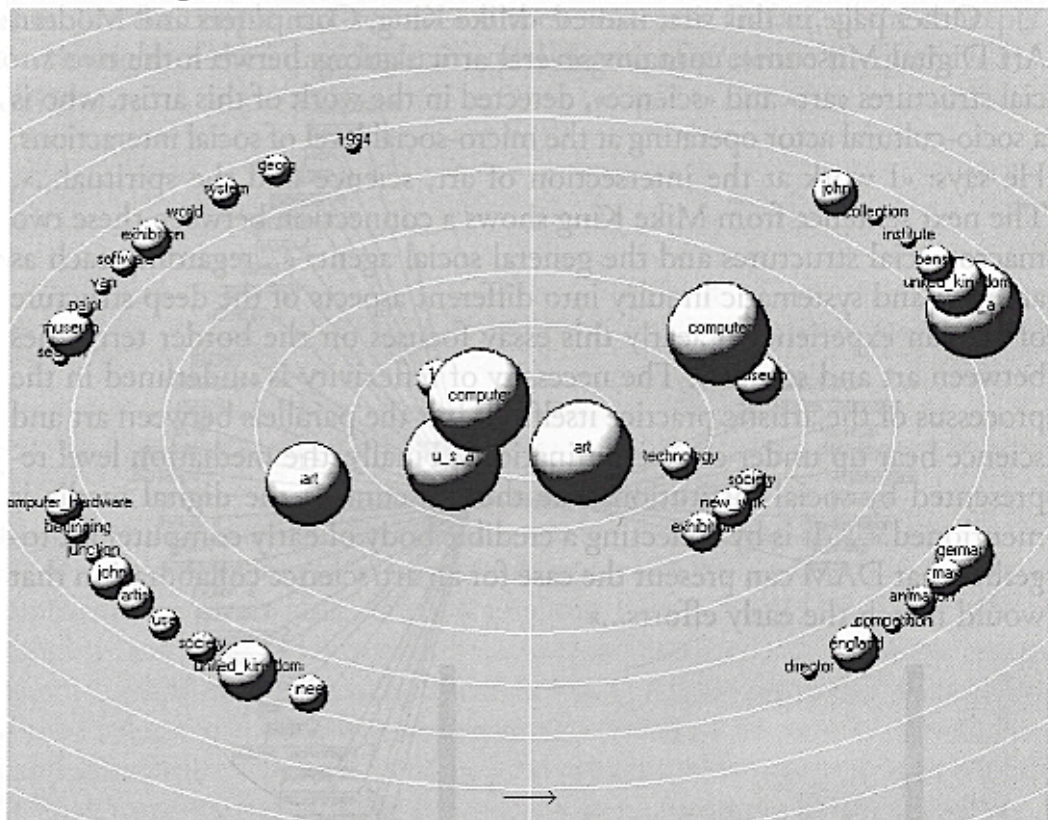


Fig. 2 – Relations between object «computer» (micro social) as actant and structure «art» (macro social) as acted

On another web page, untitled «Mike King, Computers and Modern Art Digital Museum», it is possible to observe some relations between the social structure «art», which is situated at the macro-social level, and the object «computer», located at the micro social level (Fig. 2). At the left side of the image are situated the antecedent concepts, that is, the ones which play a conditional or causal role, in the analyzed sentences of the web page text. At the right side, the ideas determined or working as effects are visible. For instance, USA is the main country where art may condition the object «computer» or is associated with it. Art is also deeply connected with technology and New York society, where numerous exhibitions take place. Near this constellation of sense is placed the object «computer» and the

institution «museum». In this text, collections are connected mainly with the United Kingdom.

If we pass to Fig. 3, we will note the relative position of the sentences containing both computer and art, inside the sequential order of this web page. There is plainly an incidence of these themes in the beginning and at the end of the web page discourse.

Other page in this site, named «Mike King, Computers and Modern Art Digital Museum», contains several articulations between the two social structures «art» and «science», detected in the work of this artist, who is a socio-cultural actor operating at the micro-social level of social interactions. He says: «I work at the intersection of art, science and the spiritual...». The next sentence from Mike King shows a connection between these two macro-social structures and the general social agent: «...regarding each as an open and systematic inquiry into different aspects of the deep structure of human experience. Clearly this essay focuses on the border territories between art and science». The necessity of reflexivity is underlined in the process of the artistic practice itself: «... but the parallels between art and science bear up under close examination.» Finally, the mediation level represented by social institutions like the museum or the digital media is mentioned. «... It is by collecting a credible body of early computer art together that DAM can present the case for an art/science collaboration that would match the early efforts...»

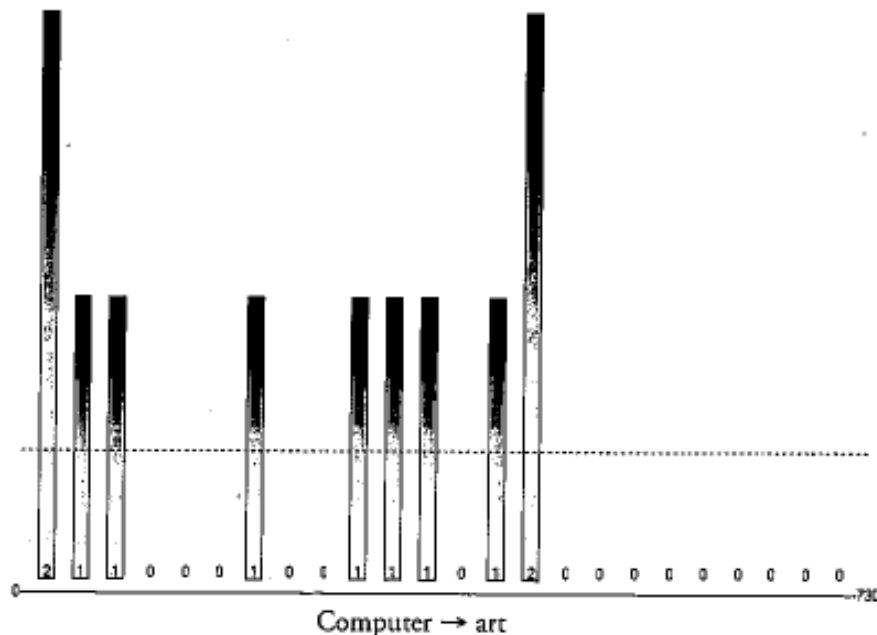


Fig. 3 – Relative positions of sentences in the text, containing both object «computer» (as actant) and social structure «art» (as acted)

This connection between art and science is summarized in Fig. 4. As a conditional or antecedent term in a sentence, the object «computer» is the most wired with the relation «art-science», that is, inside all the sentences of the text considered where the term «art» is associated with the concept «science» (frequency= 36). As a conditioned or consequent term in a sentence, there is no protagonist idea related (meaning in a quantitative sense) to the couple «art-science» in these sentences. In fact, all the concepts on the right of the image have an equal degree of presence (frequency=1).

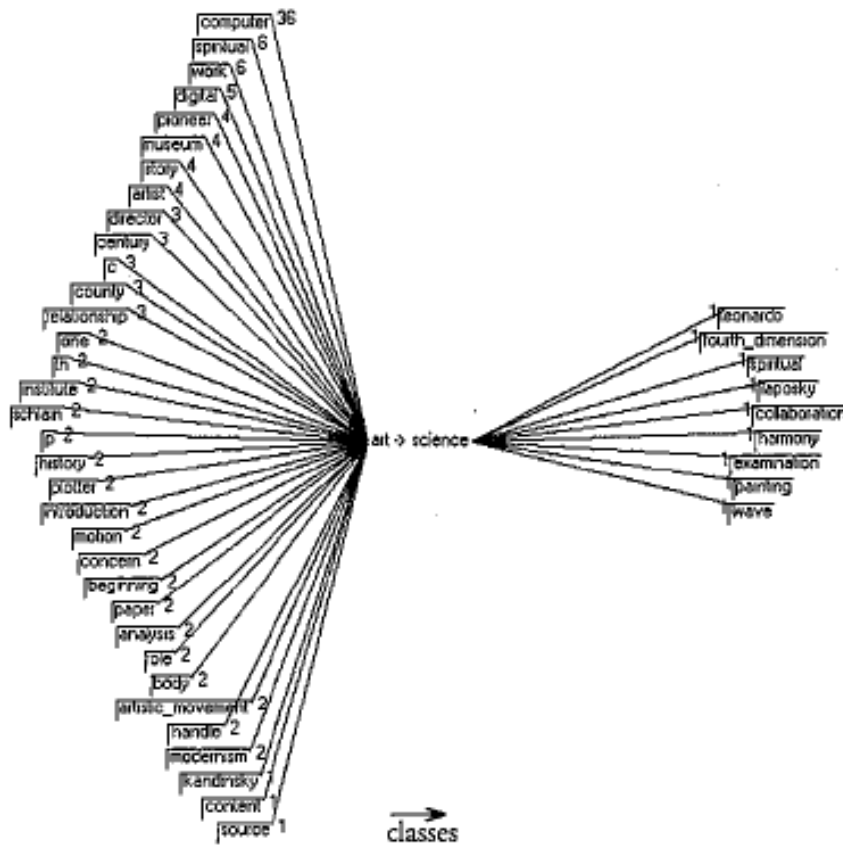


Fig. 4 – Relations frequency between structure «art» (macro social) as actant and structure «science» (macro social) as acted

### Conclusion

In short, inside our global society, digital art processes emerge as some of the best social indicators for understanding the frontiers and dialogs between science, technology and art. Indeed, it activates, at the same time, the forms of experience and reflection inherent to these social discourses. If nowadays the e-artist uses visual concepts extensively, it is urgent that the social scientist would apply, more often, aesthetics or hybrid strategies merging those three kinds of knowledge, as a way of interpreting visual social processes.

## References

For a general view of digital art and hypermedia, consult: Rush, Michael, 1999, *New Media in Late 20<sup>th</sup>-Century Art.*, New York, Thames and Hudson.

For a contextualization of the research presented partly in this paper, see the following bibliography:

A critical vision of global information webs, inside democracy, characterizing a new type of knowledge derived from information technologies, *knowledge-data*, can be found at: Andrade, Pedro, 1985, «Para uma Sociologia da Documentação: sensibilização à necessidade da sua construção», In *Actas do 1º Congresso Nacional de Bibliotecários, Arquivistas e Documentalistas 'A informação em tempo de mudança'*, Porto, 19-21/6/85, pp. 421-450.

A proposition of a *Interdimensional Sociology of Internet*, constructed from both concepts *cyberspace* and *cybertime*, is presented at: Andrade, Pedro, 1996, «Sociologia (Interdimensional) da Internet», In *Actas do 3º Congresso Português de Sociologia, 7-9 Fev.* [In CD-ROM].

Some reflections on the concept *cybertime* and the definition of *cybervoyage* is included at: Andrade, Pedro, 1997, «Navegações no cibertempo: viagens virtuais e virtualidades da ciberviagem», *Atalaia* (3), pp. 111-124.

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