

Open Research for Diffusion of Open Digital Memories at Web 2.0/3.0

Pedro Andrade

Abstract

This paper suggests an experimental perspective of *Open Research*, understood as a process of deconstruction of knowledge about society that leads to its reconstruction, archiving and dissemination in the form of *Open Digital Memories*. This posture was developed within the Project Public Communication of Art: the Case of Global / Local Art Museums, at the University of Lisbon. The project was funded by Foundation for Science and Technology, and produced 6 books and 8 sites, among other final results.

Researching and memorizing may be pursued through an open style that includes the production and reception of investigation by both the researcher and the common citizen. This may involve multiple shared tasks: questioning the social, organization and critique of sources and data, co-participation in the use of methods, public discussions on work in progress and on research results.

For this aim, Open Research must articulate Social Sciences and Humanities to New Media, specially across digital social networks, both at Web 2.0 (the Reading/Writing Internet) and at Web 3.0 (the so-called Semantic Web).

Two strategies contributing to this posture will be exemplified, within the optics of Semantic-Logic Sociology: *Experimental Books* and *Social Semantic-Logic Sites*. They use the following instruments for producing/writing and receiving/reading social and semantic knowledge, some of these shown in the present paper: Visual Ontologies built from Social Hybridologies, GeoNeoLogic Methods (Multitouch Questionnaire, Trichotomies Game, etc.), Conceptual Abstracts, Present Books, Author-Actor Maps, GeoNeoLogic Novels, Visual Social Ontologies, Knowledge Interactive Windows, Visual Socio-Semantic Indexes, Visual Meta-Semantic Indexes.

In short, Open Research and Open Digital Memories may constitute some of the fundamental pillars of emergent Research Society. This means a social paradigm where common citizens may become a sort of 'lay researchers' and, in the process, reformulate contemporary expert's knowledge and power.

Key words:

Open Research; Open Digital Memories; Web 2.0/3.0; Semantic-Logic Sociology; Public Communication of Art; Experimental Books; Social Semantic-Logic Sites; Visual Social Ontologies; Visual Meta-Semantic Indexes, Research Society

1. Introduction: Researching (in) an Open Research

Public dissemination of scientific research often plays a secondary role within the research agenda. However, findings and participative presentation of work in progress are fundamental steps of any research.

Our approach aims not to omit such diffusion and debate evaluated by citizens and not restricted to specialists. This posture was applied in the context of a research project named *Public Communication of Art: the case of global/local art museums* (Cf. Final Note). In particular, the project tried to articulate Social Sciences to New Media, through digital devices and archiving databases as means for the production, analysis and reception of information/knowledge that may constitute and diffuse social memories.

For this purpose, the project was included within an epistemological paradigm named *Open Research*, to be used for the deconstruction/reconstruction of *Open Digital Memories*. Open Research can be defined as a critical and participative way of doing scientific research, concerning multiple dimensions of social reality, as the following ones:

- (a) an heuristic frame regarding several *knowledge areas* that are collateral but complementary to a central theme, e.g. ‘public communication of art’ in the case of the above mentioned project;
- (b) knowledge sharing between researchers and *ordinary citizens* around the world;
- (c) discussion of various theories, *ontologies* and *common conceptualizations* made by common citizens, as tags in a blog;
- (d) development of innovative *methodologies*;
- (e) excursion to a maximum of *empirical fields* in the world, even if by digital and virtual means;
- (f) interactive constitution, conservation and public dissemination of *intermedia archives of social memories*, to be named Open Digital Memories;
- (g) mobilization for all possible *debates* for sharing and discussing different dimensions of memories: economic, ecological, political, cultural, etc..

This problematics of archiving social memories, within their conceptual, material and virtual dimensions, was undertaken by several authors. For instance, philosopher Michel Foucault (1972: 129) considers the archive as a institutional system though which something can be (or not to be) said. Jacques Derrida (1996) has a close position, defining the archive as a preivilged and private place wher the *archons* or magistrates govern. However, Foucault and Derrida reflected essentially on textual media.

Nowadays, it is crucial to consider as well new media. Anthropologist Arjun Appadurai (2003: 18) refers already multiple forms of ‘electronic archiving’ that allow the constitution of (a) a ‘popular memory’ produced by ‘non-official authors’; (b) and a ‘collective memory’ that guarantees the ethical value of the archive itself. Such internet based archives may be considered ‘prosthesis’ that

extend individual private lives to public space. In a similar perspective, sociologist Mike Featherstone (2000: 165) understands this new media archive as a 'city of data' including databases that are accesible by everyone, and form a new model of memory based in links and not just in hierarchies.

As for our project, two examples of scientific instruments to archive memories and memorizing archives (and specifically within the strategy of implementing Open Research for edifying Open Memories), are Experimental Books and Social Semantic Sites, that will be presented below.

2. Experimental Books.

Innovation is an important trait of Open Research for reconstructing Open Digital Memories. Some possible instruments/dispositifs for this aim are experimental books. Three prototypes were already published in the Collection 'Experimental Books', from Edições Caleidoscópico (see Bibliography: Sites: Caleidoscópico), as some final results of project *Public Communication of Art*¹

Experimental books are a mode of *remediation* (Bolter, 2000) that intends to contribute to the necessary transformation of the *writing and reading rules* in our contemporaneity. In fact, we are immersed in a 'network society' as Manuel Castells (1996) puts it. In particular, *Web 2.0* (the reading / writing Internet) is just around the corner and is changing not only the contents but also the nature and archiving modes of many of the public or private texts and new media content now circulating within blogs, wikis or mobile social networks.

The first case of Experimental Book (Andrade, 2011) is entitled *Semantic-Logic Sociology of Web 2.0 / Web 3.0 in Research Society: everyday meanings and discourses within blogs, wikis, virtual worlds / museums and social semantic logic networks* [4]. It experiments across two plans, both in content and form.

a. As for its substantive plan, the book discusses the emergent *Research Society*, a mode of existence and experience associated with Web 2.0, but as well and mainly with Web 3.0. Such new societal paradigm may be better understood in the complexity of its frames of production, archiving and distribution, i.e. within contemporary knowledge revolution. This change can be characterized as global and reticular, that is, deployed across planetary networks presenting different complementary types.

In other words, according to sociologist Georg Simmel [5], human societies have always been organized around *social networks*. Such pre-digital networks constituted, since the dawn of humanity, huge archives of social memories. E.g., public art, in terms of its production/reception and as a vehicule of registration and sedimentation of collective memories, nowadays emerges often from alterities that maintain strong social networks within the postcolonial city (Andrade, 2009: 155).

However, in present times, inside Web 2.0 the term 'social network' has taken the following specific connotation: the *digital social webs* that are based on constellations of users who exchange information with one another in a reciprocal

way and not in just one direction, across cyberspace associated to *cyber time*. Therefore, we need to articulate both these types of networks, predigital and digital webs, to better understand Web 2.0, also called 'reading/ writing internet.' In other words, it is necessary to write the *Sociology of Web 2.0*.

Nevertheless, another urgent task is to understand the *semantic-logical social networks* that proliferate recently in the Internet, that inaugurate still another type of memories archiving. This search for meaning shared among the nodes of the contemporary and future Internet, is *Sociology of Web 3.0's* central objective. Such Sociologies of Web 2.0 and Web 3.0 are particular cases of *Semantic-Logical Sociology*, a Sociology paradigm which deals with the semantic-logical processes and social relations that constitute our contemporary societies.

Therefore, the reflection path inherent to this experimental book is founded on the following directions:

a1. First of all, it is urgent to consider the *social contexts of Web 2.0* and their sociological reflection on the following aspects:

- definition of the profound nature of contemporary societies where Web 2.0 is being developed.

- understanding of Web 2.0 and its most relevant phenomena, such as *blogosphere* or the phenomenon of *wikis*.

a2. Secondly, it is necessary to rethink *culture* and *arts* within Web 2.0 in these terms:

- Web 2.0's links to recent and unprecedented socio-cultural institutions like virtual museums and virtual libraries/archives of memories;

- comprehension of the status of art in its connection to Web 2.0, in terms of social image in general and in specific cases of visual arts, like photographic image and design.

For this purpose, in this book a *methodological perspective*, a survey was carried out, based, among other methods and techniques, on a *content and discourse analysis* regarding specific memories archives, e.g. a sample of *web pages* containing the issues involved.

a3. Besides that, we need to interpret *Web 3.0*, and its undelying social scene. Web 3.0 may be defined as a set of places in the internet that:

(a) undertake the *sharing of information* within digital social networks;

(b) but also explains the structure of the circulating *information's meaning*, and organizes it in *Ontologies*. An Ontology is simply a dispositif to manage knowledge, which is divided in several semantic fields, that in turn structure a set of concepts and their relations, within a given knowledge area.

Web 3.0 may be better understood through new hermeneutics approaches as *Semantic-Logical Sociology*, *Hybridological Ontology* and *Social Hibridology*, where interculturality and inter-knowledge constitute some of their founding pillars.

Some elements of this 3rd age of networks for archiving social memories are already subjacent to Web 2.0. For example, the networks of concepts that

structure the content or the discourse of sites and wikis, are semantic elements very characteristic of Web 3.0 or *Semantic Web*. Some concrete applications of Semantic Logic Sociology, present in this experimental book, reflect on the following questions: science and art museums; current political/cultural situation, where democracies face and confront fundamentalisms not just through the production and sharing of archived information, but as well by means of the exchange of networked knowledge that form collective intercultural memories.

Such new ways of archiving memories, inherent to Web 2.0 and Web 3.0, produce a new social scene and arena where the difference between experts and common people may fade, i.e. the '*Society of Research and Journalism*'. In fact, more and more lay people is seaching and researching news and other content using the instruments and methods above mentioned, within an hybrid web or *Hybridosphere* that includes and blends both the Social Web(2.0) and the Semantic Web(3.0).



Fig.1 Social Semantic-Logical Site including Art Interactive Windows

b. In addition to the previous substantive experimentation, this *Experimental Book #1*, in formal and communicative terms, suggests a structural innovation of the medium 'book' itself: the '*Conceptual Abstract*'. This is an illustration of 'paratext', ie, in the words of Gerard Genette, a part of the book that serves as a sort of introduction, an 'appetizer' or a 'business card' to the main text, like an Abstract or an Index. In so doing, this book makes the reading of memories archived much more accessible and interesting, in the form of summaries, clarifications, conceptual or factual plot progressions, etc. But the book also motivates the reader to writing, encouraging him to take notes, comments or criticism, etc.

social networks, news sites about art, social activism, etc..

(d) The precedent instruments, exemplified in the next paragraphs, constitute pretexts for *social semantic virtual agorae*. In fact, across these virtual locations at cyberspace and *cybertime*, debates occur on various subjects, in the Web 2.0 reading /writing way, but also explanations are suggested on the content meaning regarding the points discussed, using the semantic style that characterizes Web 3.0.

A. Art Interactive Windows

Among other tools, *Social Semantic Sites* use *Art Interactive Windows*. E.g, in Project *Public Communication of Art's- PCA* site (see Fig.1), several widgets or videos are available for consulting art news, see Museum collections, finding art concepts, see photos in social networks, etc. At Google's *Art Project Site*, linked from the PCA site, any virtual visitor may virtually explore the major museums of the world in rooms viewable in 3D, *observe art works* from multiple perspectives and even build your own *art collection* and share it in *social digital networks*. *Art Interactive Windows* contents are continuously renewed, either at regular intervals, either at the time the visitor accesses a particular page of Project *PCA* site, associated with a specific content.



Fig.3 Visual Social Ontology presenting the content and ficcional structure of Web 3 novel

In terms of *empirical research*, and in order to get to know some of the fieldwork carried out by project *Public Communication of Art*, along with theoretical reflection, for example see the exploratory video 'The Visit', held at Serralves Museum (Oporto, Portugal), some months before the beginning of this project in

2007. This video is hosted at *University of Austin, Texas, USA* (See *References, Sites, 2. Interactive Documentary Workshop*).

B. Social Semantic Index

Social Semantic Index (Fig.2) is an experimental tool to search for information and to construct *Ontologies*, developed seminally within the project referred *supra*. On the one hand, this type of experimental index transports the user from the concepts and words presented in the index page to the pages where these ideas are developed, as it happens with a traditional index ordered alphabetically (onomastic, geographical, ideological indexes, etc.).

Both of these indexes paradigms are *paratexts*. As seen before, a paratext, according to Gerard Genette, is a synthetic text, a set of words or phrases or other codes that serves as introduction, 'visiting card' or 'aperitive' in the reading of a text page.

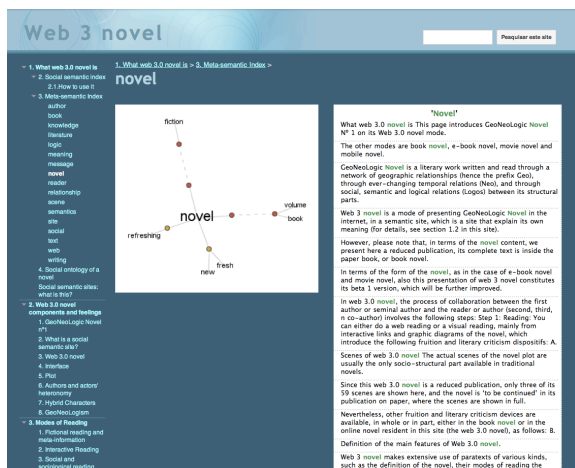


Fig.4. Visual Meta-Semantic Index showing a visual Ontology and citations associated with concept 'novel' (at site *Web 3 novel*)

However, unlike the alphabetical index, the semantic index:

- (a) organizes its terms in various *semantic fields* (each rectangle in Fig.2);
- (b) within these fields, the terms are not ordered alphabetically, but
 - (b1) by the *order of arguments* and the corresponding sequential order of several paragraphs and pages in the text, or
 - (b2) by *hypertextual order* underlying navigation through links.
- (c) The terms' classes of meaning are organized by a *semantic colour coding system*. Although it is possible to define multiple *semantic dimensions*, this site uses mainly the following notation (see examples in the 1st semantic field

entitled 'Welcome to a Project on Cultural Citizenship').

(e) Also note that the *compound concepts* (those comprising 2 or more words) are connected by a *_*. In fact, reducing all concepts to a single word, as some less exigent 'tag clouds' do, also reduces these concepts' clarity, both regarding their substantive meaning and their contextual meaning within a text; and, ultimately, this reduction diminish the semantic, logical and social value of these ideas.

Social phenomena in general (in this study the *contextual processes to the museum*), are coded in light yellow, eg: 'City';

common social actors, their *practises* and *ordinary knowledge* are shown in dark yellow, eg: *Museum publics*;

Media, techniques, new technologies and other *commniciation processes and languages*, appear in light orange, eg *Visit_to_virtual_museum*;

scientific knowledge and methods is associated with dark orange, eg *Field_Sociology*;

culture and ART are represented in red, eg *Art_interactive_windows*.

sub-titles of sections in Table of Contents, *links* and *sub-titles* in the text, are marked in light blue, eg. Site's Social Semantic Index.

(d) the font size of words that represent concepts within the semantic fields, corresponds to the *semantic relevance* that each idea takes for this specific research project.

In the Index's page, to access the page for a given term, click on this word. For example, clicking on *Open_research*, the user navigates to the home page of this site where this idea is explained. Within each page, search terms are marked with their semantic dimension's color, and capitalized, for easier location in the text of the respective page.

C. Meta Semantic Index

One of the project's final products is Web 3 novel, which may be defined as a sociological novel that includes semantic explanations of its own content, that is often associated with its social contexts (see References, Semantic Sites, 4. *Web 3 Novel* site). This site 's home page includes an introduction to the various meanings of a web 3.0 novel. A visual organization of this novel can be seen at Fig.3 and at the site's section 2.. Section 1.3 is entitled *Meta-semantic index* (see Fig.4), i.e., a search/research instrument that semantically analyze (through several semantic fields) the concepts already explained in a introductory way, by textual sentences, within a given source. In this case, the analized source is the home page of this site. In other words, the Meta-Semantic Index is a Index of second level that augments the semantic deepness of another index, in this case the Social Semantic Index showed at Section 1.2., understood as a first level index.

Such meta-semantic index can be edificated through multiple ways, but we'll show here just the following one, applied to the concept 'novel':

1. In Web 3.0 novel site's home page, you can find a *tag cloud* that shows this

page's main keywords, the more frequent appearing in a bigger size; and an web 3 novel *abstract*, including several *concepts* capitalized and highlighted with *semantic colour codes*.

2. The site's next pages (from 'author' to 'writing') are a *list* of some of these *concepts*. Each term is situated centrally in its own page presenting:

A. A *semantic map* of the concept and its related general ideas, as they exist in a national language *Thesaurus* or in other semantic instrument.

B. *citations* of each term, that is, pieces of text that can be found at their textual context within this site's home page.

4. Conclusion

The strategy and the research style represented by Open Research, for archiving and disseminating Open Digital Memories, are still being developed as a prototypical form. However, we believe that this approach (a) constitutes a central pillar to deconstruct/reconstruct research activities in present times, and (b) is a necessary conditions to achieve excellence in research undertaken by members of the global scientific community.

Notes

¹ Project *Public Communication of Art* was carried out from 2007 to 2011, at Center for the Study of Communication and Languages - CECL, Faculty of Social and Human Sciences of the New University of Lisbon-UNL, in collaboration with Centre for Computing and Information Technology, CITI, at Faculty of Science and Technology / UNL. The project received financial support from the Foundation for Science and Technology-FCT (PTDC/CCI/68595/2006).

Bibliography

Andrade, Pedro. 'Arte Pública e Alteridades Artísticas Urbanas: os outros Espaços de Memória, Escrita e Arquivo', *Revista de Comunicação e Linguagens* 49 (2009): 155-167.

—, 'A sociedade da investigação e do jornalismo: boas práticas de cidadania participativa através da internet móvel e do social bookmarking', In *Anuário Internacional de Comunicação Lusófona*, 307-312. SOPCOM, 2008.

—, 'Sociologia (Interdimensional) da Internet', In *Actas do 3º Congresso Português de Sociologia*, 7-9 Fev. APS, 1996.

—, *Sociologia Semântico-Lógica da Web 2.0 / Web 3.0 na Sociedade da Investigação: significados e discursos quotidianos dos blogues, wikis, mundos / museus virtuais e redes sociais semântico-lógicas*. Caleidoscópico, 2011.

Appadurai, Arjun. 'Archive and inspiration', In *Information is Alive*, edited by J. Brouwer and A. Mulde, V2/Nai, 2003.

-
- Bolter, Jay. and Richard Grusin, *Remediation: Understanding New Media*. The MIT Press, 2000.
- Castells, Manuel. *The Rise of the Network Society: The Information Age: Economy, Society, and Culture*. Volume I. Wiley-Blackwell, 1996.
- Derrida, Jacques. *Archive Fever: A Freudian Impression*. Univ. of Chicago Press, 1996.
- Featherstone, Mike. 2000, 'Archiving Cultures', *British Journal of Sociology*, 1 (1972):161-84.
- Foucault, Michel. *The Archeology of Knowledge*. Routledge, 1972.
- Genette, Gerard. *Paratexts: Thresholds of Interpretation*. Cambridge University Press, 1997.
- Simmel, Georg. *Conflict / The Web Of Group Affiliations*. Free Press, 1964.

Sites:

1. *Caleidoscópico* Publishing House:
<http://www.caleidoscopio.pt/pt/autores/940-pedro-andrade>
2. *Interactive Documentary Workshop*, University of Austin, USA:
http://colab.ic2.utexas.edu/idporto2007/index_en.html

Social Semantic Sites:

1. *Public Communication of Art* (area: Sociology of Communication, Culture and Arts):
<https://sites.google.com/site/compubartenglish/>
2. *Wars for Peace* (area: Sociology of power in the research society)
<https://sites.google.com/site/peacewarsenglish>
3. *Experimental Books* (area: Sociological and artistic writing/reading)
<https://sites.google.com/site/livroexperimentaisenglish/>
4. *Web 3 Novel* (area: Literature and New Media)
<https://sites.google.com/site/web3novelenglish/>

Pedro Andrade is Professor at University of Lisbon and Researcher at University of Minho, Portugal. He coordinated several funded research projects, e.g. *Scientific-Technological Literacy and Public Opinion: the case of science museums* and *Public Communication of Arts: the case of local/global art museums*.