

**THE SCIENTIFIC MEMORY OF THE BRAZILIAN  
NATIONAL INSTITUTE OF TECHNOLOGY  
(INT/BRAZIL) PUBLIC LIBRARY UNDER THE  
PERSPECTIVES OF CONTROL DEVICES AND  
INFORMATION POLICY REGIME**

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The theme of this research is the analysis of the scientific memory of the public library in the Brazilian National Institute of Technology (INT/Brazil), under the perspective of control devices and information policy regime. As main research issue, it is presumed that the storage and preservation of physical and digital documents supported by the library are links for the formation and consolidation of memories, such as individual, collective, social and scientific. A technical library would be responsible in part for the development and maintenance of scientific memory, and furthermore the development of knowledge. Its importance is justified by the human need to counteract scientific and technological events, to accumulate traces of facts and feelings experienced by representations, materialized by artifacts and relics, such as written documents and supporting materials as films, photographs and sound recordings. The library is responsible for scientific communication and also has a physical infrastructure and provides supporting facilities, such as internet accessibility, and the availability of web platforms and applications to search for digital documents. Society holds informational capital and scientific memory, whereas it controls or limits access to the technical and scientific collection of libraries through control devices. Therefore, as a research objective, this thesis studies the maintenance of informational power through technological artifacts as it is presumed that scientific memory is not free from contamination by these control devices and technical objects. Another objective of the study is the analysis of the social control exercised by the public administration that reaches the publication of the act of storage and retrieval of public information, in which the information policy regime and the law on access to information (LAI) n.12,527/2011 commit the availability, authenticity, integrity and firstness of public information. This presenting contribution belongs to a PhD research in the middle stage of development.

## **1. Research Proposal**

### ***1.1. Theme of Research***

The dissertation analyzes the scientific memory of the Brazilian National Institute of Technology (INT/Brazil) public library, under the perspective of control devices and information policy regime. Developing this scientific memory, initially, feedstock is considered as physical and digital documents about science and technology. Intermediate goods are represented by documents and information stored, preserved and available in libraries. Lastly, scientific memory is seen as the end product of this information production chain.

## 1.2. *Main Research Issue*

As main research issue, it is presumed that the storage and preservation of physical and digital documents under the responsibility of a library are links for formation and consolidation of memories, such as collective, social and scientific. It concerns about the survival and accessibility of memory collections and memory supports, which is related to science and technology documents in the digital age. Pimenta (2013, p.148-149) argues:

"Indeed, the increasing means of producing and propagating information within the digital age will affect ways of understanding and representing the past; influencing not only the knowledge produced, but the memory in constant construction. Thus, it is necessary to reflect on singularities regarding the issue of information as object of study and of dispute in its social and political manifestations. Moreover, it is – as well as memory, which we will discuss later - the indefectible element to the construction of knowledge and capacities; because it is from the control of preservation, circulation and even of interdiction and destruction of the information that we construct the knowledge through the human history; just as we institute memories or erase them from the collective plane".

Hence, memory would be a primordial element in the construction of knowledge and capacities, and its act not only isolates events and empties them of duration, but schematizes them "as a rational outline, a development plan for the narrative of our past" (Candau, 2011, p.88). Dodebei & Orrico (2012, p.11-12) use a conceptual discursive model (metaphors) to present that "social memory is culture", since it allows authors and theoretical currents to unite and intertwine:

"(...) Although syntagmatic relations can only be inferred from the representation of the presented discursive-conceptual model, we perceive that the category 'Culture-context and scenario' would allow us to relate, for example, the concepts of 'institution' to 'documents' or 'monuments'. As we said earlier, the metaphor 'memory is culture' becomes a circumstantial synthesis operator to aid in the formulation of informational search strategies in databases.

As we continue with the observation of our object, we intend to present in the future the network of authors and their socio-historical contexts for the production of their texts and thus expand the network of meanings that social memory establishes between the authors and the theoretical currents affiliated".

## 2. **Memory studies and library**

Scientific memory is studied as result of storage, preservation, recovery and destruction of information found in collections and memory supports of a memory place, a scientific and technological library. Huysen (2000) comments on memory culture as social obsession in storing space-time traces of lived events, and therefore places of memory – memorials, monuments, museums and libraries – emerge as materialized past:

"One of the permanent lamentations of modernity is the loss of a better past, of memory living in a securely circumscribed place, with a sense of stable boundaries, and of a culture built locally with its regular flow of time and a nucleus of relationships. (...) memory culture may well be, at least partly, its contemporary incarnation. The issue, however, is not the loss of some golden age of stability and permanence. It is more about the attempt, as we face the actual process of space-time compression, ensuring some continuity within time, to provide some extension of the lived space within which we can breathe and move (p.30)

(...) Our misfortune seems to flow an informational and perceptual overload combined with cultural acceleration, which neither our psyche nor senses are well equipped to deal with. The faster we are pushed into the global future that does not inspire us confidence, the stronger our desire to go slower and more we turn to memory for comfort (p.32).

Some have accepted the idea of archiving, as a counterbalance to the ever-increasing pace of change, a place of spatial and temporal preservation (...) (p.33)".

Regarding technical and scientific collection, libraries, whether public or private, are partly responsible for the development and maintenance of scientific memory, whether at unconscious or conscious stage, and still materialized by artifacts and relics: represented by written documents, and supporting materials such as films, photographs and sound recordings. Considering the art of memory and the development of the scientific method, Yates (2007, p.460-461) proposes:

“The importance Bacon attributed to the art of memory is evidenced by the prominence it acquires in Advancement of Learning as one of the arts and sciences that must be reformulated both in its methods and in its goals. (...) The general orientation of Advancement, of improving the arts and sciences and transforming them for practical purposes, it is driven to memory.

(...) But among the new uses proposed for it was the memorization of different subjects in certain order, so that they were fixed in the mind and could be used in some later investigation. This would aid scientific research, because retrieving details of our indistinct mass of natural history, and ordering them, judgment upon them would be more easily attained. Here the art of memory is used in the investigation of natural history, and its principles of order and disposition are transformed into something like a classification (...).”

This exercise of the library in the construction of scientific memory is due to the human need to counteract events and discoveries of scientific and technological nature, to accumulate traces of facts and feelings experienced by representations, such as physical and digital documents (verbal, visual or sound). About creating representations that represent the materiality and temporality of an event, Benjamin (2012, p.119) corroborates that "imitation by man, that is, the mimetic faculty that he possesses, must be considered, for the moment, as the only instance capable of conferring on astrology its experimental character (*Erfahrungscharakter*)". Benjamin argues (p.118):

"But these natural correspondences assume their decisive meaning only when we consider that fundamentally all of them stimulate and awaken the mimetic faculty that corresponds to them in man. It should further be reflected that neither the mimetic forces nor the mimetic things, their object, remained the same, unaltered in the course of time; that in the course of centuries mimetic force, and with it the gift of mimetic apprehension, abandoned certain fields, perhaps to pour into others. Perhaps it is not too bold to suppose that there is in the whole a unitary direction in the historical development of this mimetic faculty".

### 3. Scientific communication

Furthermore, library still carries responsibility of scientific communication, for storing technical and scientific collection, and for providing an infrastructure composed of physical space, furniture, and information resources such as computers with Internet accessibility, and availability for electronic platforms that store and dispose digital documents produced from several national and international scientific institutes.

Document production on science and technology researches and discoveries is an inherent need for survival, and therefore we develop our history in physical and digital archives stored and preserved in places such as public libraries. On the development of science, considering its exponential growth, Solla Price (1976, p.9) portrays the need to "tell the history of science" for remaining alive:

"(...) We have already seen that the current 80-90% of science is a direct result of exponential growth, which has been steadily and consistently maintained for a long period. It

follows that this result must also be considered valid for the whole past, extending to the eighteenth century and perhaps to the end of the seventeenth century. In 1900, in the 1800s, and perhaps even in the 1700s, it could be said that most of the scientists born until then were still alive, and that most of the knowledge had been obtained in that same period. Therefore, today's scientific world does not differ from what it has always been since the seventeenth century. Science has always been modern; always exploding on individuals, continuing on the threshold of their expansive revolution. Scientists have always felt submerged in a sea of specialized literature that increases in every decade as much as in all previous eras".

Finally, the scientific communication also includes the exchange between other research institutes, other scientific and technological libraries and also with potential interested public, as: researchers, teachers and university students. Indeed, digital era and its virtual communication facilities narrow the relations among actors involved, unrolling movements such as free access to information. Pinheiro (2014, p.156) comments:

"If we think that the expression access to information meant initially getting document whose reference was retrieved in a conventional library catalog or in a database, in the collection of this library or by means of a copy, we can measure the technologies of information and communication technologies (ICT) advances provided to scientific communities and users, in general. That stage, full-text databases were rare, which today has become natural with digital libraries and repositories. It integrates this terminological chain with accessibility, both regarding the physical accessibility of the disabled in general, specifically information units, and the availability of a friendly human-machine system based on ergonomic principles".

#### 4. Control devices

It is noticed that society holds informational capital, since it holds physical and digital documents stored and available in research centers and public and private libraries. This society still owns information and scientific memory, since it controls or limits access through control devices. Therefore, one of the research objectives is to study the maintenance of informational power.

Stiegler (1998, p.146-147) criticizes techniques or control devices by artificiality, and also associates the concepts of "who" and "what" with equivalent definitions of "being" (man) and "staying" (technique), of authenticity or inauthenticity. This can be symbiotic and still change roles, the human being would be compared to a specific psychological organization - the "who" of authenticity - while the technique "what" would be endowed with epistemological perspectives on cognitive endowments or of the psychological systems of man.

About artificiality, on one hand maintains the informational power through technological artifacts, but on the other offers subsidies or technical objects for the existence of escape lines for creations and innovations. Thus, we have as research problem the assumption that scientific memory produced is not free from contamination by control devices and technical objects. However, automatic machinery production devices constitute a true transformation, the real qualitative leap, and Simondon *apud* Neves (2007, p.73-74) argues:

"(...) the real transformation was that these machines are sensitive to the operation of other machines, that they have self-regulation systems in order to manage the indeterminacy produced by other individualized technical objects. Its degree of automatism is, indeed, one of the least important aspects of technical improvement (...)".

#### 5. Information policy regime

Moreover, under the question of accessibility of public information, another objective is the analysis of social control exercised by the government that reaches the publicity of

the act of storage and retrieval of public information. The Brazilian information policy, information policy regime and Law of Access to Information (LAI) n°12,527/2011 also compromise availability, authenticity and integrity of public information, fundamental precepts for information reconstruction.

From political decision making perspective, information is seen as social constitutive force, in which emphasizes forms and phases of state power. Braman (2006) comments:

“Ideas about the nature of power inform all policy, whether those ideas are well or poorly formed, explicit or implicit, and conscious or not. Though the concept of power has long been important in the social sciences, many who use the notion treat it as if it referred to something simple and singular, as if power always came in the same size and flavor. This is not the case. Political scientists typically discuss power in three forms (instrumental, structural and symbolic), but the informatization of society has brought to our attention and vastly increased the importance of a fourth form of power: the informational (p.23-24).

(...) Informational power can be described as "genetic," because it appears in Genesis - the informational origin - of materials, social structures, and symbols that are things of power in their other forms (...) (p.26)”.

Moreover, informational power “shapes human behavior by manipulating the informational bases of instrumental, structural, and symbolic power (p.25)”.

Particularly, information system in equilibrium with public actors (government) involves a political system supported by legislation (rules and laws). Gomez (2012, p.43) firstly conceptualizes the information policy regime:

“(...) the dominant informational mode in a social formation, which defines who are the subjects, the organizations, the rules and the informational authorities, the means and preferred resources of information, the standards of excellence and the models of their organization, interaction and distribution, while at a given time, place and circumstance”.

Regarding the regime of access to public information, Malin (2013, p.6-7) discusses some global pressures as the Universal Declaration of Human Rights for the increasing acceptance of this right, combining democracy and technology which culminates in "the right to the truth". She discusses (p.9-10):

"In the analysis carried out here on the context of LAI's approval, the federal executive appears as a protagonist actor, and its approval is seen as expressing, above all, the country's adhesion to the legal and global regime of access to information, in compliance with international conventions and at the political cost of staying out of this globalized pattern as it posits a world-leading position.

It also identifies that, in the observed period, the movements organized by the right of access in Brazil present motives and interests in line with what we find in the international scenario: access to information as human right, as fight against corruption, as administrative and political governance”.

Therefore, this dissertation sought some references that culminated in the construction of the scientific memory of INT's public library, under the perspective of control devices and information policy regime.

## References

- Benjamin, Walter (2012). *Magia e técnica, arte e política: ensaios sobre literatura e história da cultura – 8ª edição revista*. São Paulo:Brasiliense, – obras escolhidas v.I, p.117-122.
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Braman, Sandra (2006). Forms and Phases of Power: The Bias of the Informational State. In: \_\_\_\_\_ *Change of State: Information, policy, and power*. Cambridge,MA:MIT Press, cap. 2, p.9-38.
- Candau, Joël (2011), *Memória e identidade*. São Paulo:Contexto.
- Dodebei, Vera; Orrico, Evelyn Goyannes Dill (2012). Informação e memória: um modelo conceitual possível. In: *Encontro Nacional de Pesquisa em Ciência da Informação,13.*, Rio de Janeiro. Anais eletrônicos... Rio de Janeiro:ANCIB/ICICT-FIOCRUZ, v. 1. p.1-15.
- Huysen, Andreas (2000). *Seduzidos pela Memória: arquitetura, monumentos, mídia*. Rio de Janeiro:Aeroplano.
- Gómez, Maria Nélide González de (2012). Regime de Informação: construção de um conceito. *Informação e sociedade*, v.22, n.3.
- Malin, Ana Maria Barcellos (2013). Interessados e interesses no regime de acesso à informação pública no Brasil. Coleção de Estudos da Informação 3. *Gestão do conhecimento, da informação e de documentos em contextos informacionais*. Niterói:PPGCI/UFF.
- Neves, José Pinheiro (2007). *Seres Humanos e Objectos Técnicos: a noção de concretização, em Gilbert Simondon, comunicação e sociedade*, vol12, p.67-82.
- Pimenta, Ricardo Medeiros (2013). “O futuro do passado: desafios entre a informação e a memória na sociedade digital”. In: Albagli Sarita (Org.). *Fronteiras da Ciência da Informação*. Brasília:IBICT, p.146-171.
- Pinheiro, Lena Vania Ribeiro (2014). Do acesso livre à ciência aberta: conceitos e implicações na comunicação científica. *Revista Eletrônica de Comunicação, Informação e Inovação em Saúde-RECIIS*. Rio de Janeiro, v.8, n.2, p.153-165.
- Solla Price, Derek J. de (1976). *O desenvolvimento da ciência: análise histórica, filosófica, sociológica e econômica*. Rio de Janeiro:Livros Técnicos e Científicos, p.1-73.
- Stiegler, Bernard (1998). *Technics and Time, 1: – The Fault of Epimetheus*, Stanford, California:the Board of Trustees of the Leland Stanford Junior University, p.21-276.
- Yates, Francis (2007). *A arte da memória*. Campinas:Unicamp, p.17-45