

## Comment

### TRAINED TO INTERACT

# The human body on Exhibit: promoting socio-cultural mediations in a science museum<sup>1</sup>

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*ABSTRACT: This paper discusses three mediation concept approaches and, consequently, three facets of mediator action. The approaches presented start with a bibliographical review of the concept of mediation present in education and scientific communication studies. These approaches serve as a basis for interpreting a semi-directive interview with the director of the Museum of Morphological Sciences of the Federal University of Minas Gerais (UFMG). They also help us reflect on the complexity of organizing the objectives of a museum action that takes into account the transformational role of the meaning of objects in interaction with different socio-cultural subjects. In conclusion, the museum's purpose in organizing a museum action using socio-cultural mediation approach and with the mediator as a passeur libre among exhibit objects and visitors is highlighted.*

### From mediation to mediator

Research developed in museums and science centers is intimately linked to the reflections present in the context of scientific education. In recent years this has privileged socio-cultural theory approaches. According to these approaches, one of the keys in understanding human action is the concept of mediation.

Mediation is a concept whose origin is nomadic, coming from the Greek *mesou* and the Latin *mediatio*. Yves Lenoir,<sup>2</sup> through a philosophical approach to the concept of mediation, states that Aristotle turned to this idea to establish the syllogism, being that mediation is a static relationship between one piece of data and another. Thus, it represents a bridge between objects that guarantees a demonstrative intermediary role.

In Roman times, mediation involved the presence of someone who facilitated communication among those disputing or between the world of the gods and the world of the mortals. Thus a second way of understanding mediation appears: the establishment of an intermediary element between universes of objects with different hierarchies.

The socio-cultural approach proposes a third way of understanding mediation. It is the result of man's action with regard to the world: a process of producing socially elaborated objects that act as mediators between human beings and nature.<sup>3</sup> This concept of mediation, which inherits qualities from Marxism, establishes a new relationship between subject and object. In other words, the subject capable of causing a productive, reflexive and finalized action of creating objects that describe the world. However, new exteriorized objects transform the constitution of the socio-historic subject.

Scwebel, Maher and Fagley<sup>4</sup> (1990, p. 297 apud Lenoir, 1996, p. 241) defined that mediation, according to this third approach, can be considered “the social function that consists of aiding the individual to notice and interpret his or her environment. A person – the mediator – aides the other in recognizing certain important physical and social characteristics of his or her present or past experience [...]”. In general, it is in this way that the mediator appears – in other words, in a socio-cultural perspective, in which a subject interferes between the object of knowledge and the apprentice, aiding the latter in the intrapsychic and interpsychic process of creating objects that describe the world.

Davallon points out that the term mediation has become widespread in recent years, taking on strategic, legal, educational and political roles for the mediator. He suggests discussing the function of mediators through their functional aspect. For Davallon, the mediator “seeks to allow a public access to works (or

knowledge) and his or her action consists of building an interface between these two universes which are strange to each other (or to the public and to, let's say, the cultural object) with the specific objective of allowing for an appropriation of the second by the first" (Davallon, <sup>5</sup> p.3). The author, upon examining a set of texts on information science and communication science, points out three types of use of the term mediation. The first is "media mediation", which is in operation within the media and places the journalist in the position of a third party – the mediator. Evidently, this role of mediator implies a set of specific writing procedures and *mise en scène*. Van Praet et al., <sup>6</sup> while discussing the paradigm of the "third man" in science communication, also introduce the adjective "mediating". For them, the efforts of the media to broaden its reach of science and technique in the 1950s collaborate with the appearance of this new category of actor: the mediating journalist. In Brazil, this journalist is often associated with so-called scientific journalism. In this context they consider that the "mediator" translates specialist jargon into common language, which is spoken by everyone.

"Pedagogical mediation" highlights the educator's position as mediator, for he or she is also in the position of a third person. His or her action allows for a relational component, but it also implies regulating educational interactions in order for the relationship between apprentice and knowledge to be effective and lead to learning.

Lastly, in "cultural mediation", the approach by both mediator and mediation is present in a quite broadened form. It presents an approach that is more theoretical than operational, and it can include aesthetics, arts, and cultures among other dimensions of society's knowledge. In this case, the mediator plays more of a role of transformer of meanings.

But in our context, speaking of mediators is generally to make reference to museum or heritage mediating professionals, for example. A definition of mediators as social actors does not eliminate the term's diverse use that is associated with professional practices in museums or in cultural actions, as opposed to cultural animation, which occurs in more limited <sup>7</sup> Caillet, <sup>8</sup> upon presenting a study seeking to trace a panorama of questions and actions with regard to public assistance in museums, points out that socio-cultural mediation is well anchored in museum activities. She comments that, in seeking cultural democratization, the mediator is a *passeur libre* that is different from other professionals working in museums, such as conference presenters; associative animators; scientific animators; artistic, circus and sports activity animators; conservators; workshop monitors; tour guides; consultants; researchers; museologists; educators; professors... Guichard and Martinand, <sup>9</sup> on studying the processes of science mediation, highlight that the mediator's social role is different from that of the teacher, mainly because the former has a mission in relation to democratizing access to a scientific culture, whereas the latter, in school, has an institutional responsibility in relation to the subject knowledge of the sciences.

We can thus consider three roles of mediation: 1) a connection, in a static way, between subject and objects; 2) a transformation of the meaning that is attributed by subjects to objects of differing hierarchies; and 3) a transformation of meanings through the socio-historic subject's actions on the objects of the cultures. In this brief review of the concept of mediation, I dare to say that the practice of the mediator, seen here as a socio-historic subject, also needs to be analyzed in its complexity, considering these three roles as facets of his or her action.

Below I discuss some aspects of the practice of mediator when he or she seeks to exercise mediation in a morphological science museum that has a human focus. In this case, the object on exhibit is the human body. I concentrate my analysis on a small segment that deals with the purposes of museum action as expressed in the speech of the museum's director. My interpretation is global and, as a form of discussion, I present it alternating with the speech of the director of the museum in question. This speech is within the context of a semi-directive interview that was given as a complementary instrument for analyzing the origins and purposes of the museum's creation.

### **The UFMG Museum of Morphological Sciences**

The Museum of Morphological Sciences<sup>10</sup> (MCM) was open to the public in 1997 as a pioneer project in education and science communication in this field. It seeks to broaden and spread knowledge about the structure and workings of the human organism as a way of bringing about awareness in each person of the need and importance of caring for and preserving life with quality. In an interview museum director Professor Maria das Graças Ribeiro states that the museum's creation comes from the teaching and research institution's recognition of the public demand for a space for communicating this scientific content.<sup>11</sup>

*“The museum [...] came about through a research project, after regularly recording the demand of the UFMG external public for knowledge about the human body. Because our health and biology students already gained knowledge about the organism here – taught in a fragmented way through several curricular subjects, which continues to happen within our educational system. But the external public, represented by a large contingent of elementary and high school teachers, professionals from different fields, housewives, children, youth, the elderly, and stimulated by need, curiosity or other motives and feeling the need for knowledge about the human organism, this public, as broad as it is diverse, began to seek this knowledge at ICB (Institute of Biological Sciences) [...]”*

The creation of the Museum of Morphological Sciences was the result of an experimental project that began in 1989 and was carried out by a team made up of the Laboratory of Animal Histology, the Department of Morphology, and the Institute of Biological Sciences of the Federal University of Minas Gerais (UFMG). Its creation came about after computing and analyzing data regarding public demand. The museum staff point out this different origin in relation to other science museums. In other words, it is a museum that developed from an experimental museum project of museum archives, rather than from a founding patrimonial collection. The museum has a long running didactic-scientific exhibit that displays human anatomical parts (preserved by different preservation techniques in 10% formaldehyde), plaster and resin sculptures, cell and tissue photomicrographs, batteries of techniques for preparing material for study in light and electronic microscopes, embryos and fetuses in different stages of development.<sup>12</sup> This collection makes up the didactic-scientific material used in the human morphology course and is open to academic and scholastic communities as well as to the general public. In addition to the exhibit galleries, there is the Research and Inclusive Education Laboratory, which also houses a gallery and training center. The essence of this space is the work in a new didactic collection, elaborated by the MCM team, within a proposal of inclusive education. However, the use of this collection in order to teach science/biology is not limited to groups with special needs, thus making it possible to be explored by diverse audiences. The main end of the museum, and the main argument for its long-running exhibit, is to communicate to society, mainly the scholastic community, the notion that the human body is complex and integrated, leading also to the understanding of the importance and the responsibility of each individual in the preservation of health and of life with quality. This objective represents an updating of the project's first objectives, which comes from the team's constant reflection on serving the public. As the museum director puts it:

*“[...] at the beginning, the objective was to make the archive available, open up dialog with the community with regard to the human organism and the importance of knowing about it, dialog about their questions, be they questions about general knowledge, about health, about family problems, be they questions from teachers about the distance that they felt existed between research and the classroom – many had graduated 20 or 30 years ago, the lack of teaching materials, the need for innovation and many other motives. For all of these reasons, the museum needed to be a space which would always be open to the community [...]”*

The museum's team is quite cohesive and maintains a permanent reflection group about museum action and a discussion group about the human body and quality of life. The director talks about this dynamic in the following way:

*“[...] The museum today is an educational center that seeks to train for science and for life – for the preservation of life in all senses of the word. In all areas through which the team passed, the broadening of the work came about in this regard and continues to be the basic objective of our work. Other objectives have been added and represent an expansion of the work throughout these years and go much beyond the exhibits today...”*

The museum receives from 22,000 to 25,000 visitors per year, but there is demand from 30,000 students per year who are on a waiting list. The school community represents 82% of museumgoers. The majority comes from public schools, both from the state capital and from other regions of Minas Gerais. The visit lasts up to two hours and is always accompanied by monitors, even though there are self-explanatory signs that also allow visitor autonomy. For the director, the school community seeks to complement science subjects in the space of the museum.

*“What does the school community come looking for at MCM? Continuous education for the teachers, improvement in the teaching of sciences, experiential classes, motivation and even a certain revitalization or re-defining the meaning of teaching sciences within the school setting.”*

The visit is divided into two parts. First, the students attend a lecture, which includes slides and film and introduces the topic. They are then free to visit the exhibit. Despite having didactic guidelines for the visit that follows the systemic exhibition of the organism, there is no obligation to follow a set path. Students can begin their visit wherever they want or wherever they best interact with the content. The monitors, as they are called, are at their assistance to respond to questions, doubts and curiosities. The museum's team is made up of six university professors, seven technicians and sixteen monitors. According to the team<sup>13</sup>, interactive moments occur among the students in their discussions, in debates with the team and subjectively (between the visitor and internalized knowledge). The instrumentalization of direct interactivity occurs through light microscopes and stereoscopes, which allow for a microscopic and mesoscopic view of cells and other structures. At this point a presentation is given on technical procedures for using the equipment, its importance for science and material preparation techniques for study and research.

Monitors are recruited through postings and partnerships with institutions of higher learning, with the museum team's university professors doing the selection. Most monitors receive academic scholarships, but there are also students from different degree programs, from UFMG as well as from other institutions, who volunteer. Monitor training takes place in a course that lasts approximately one school semester. It is divided into stages: theoretical-practical study of morphological content, which has an oral evaluation; study of the public and preparations for working with the public, with fifteen days of practical, hands-on observation. Through work with the public, the monitor slowly enters into the museum's work routine. This takes place after they have attended seminars and read texts on museology, museography, science communication and the museum's history and dynamics. The training is similar to the model used for scientific animators, who are monitors trained in associative settings in French-speaking countries, and is called *sur le tas* training. In other words, a part of the theoretical-practical training on the subject is given by museum staff and invited professionals and through observing the actions of the *chevronné* or *expert* animator.<sup>14</sup>

Mediation, in a broader approach, is a concept that appeared while serving the public, as the director states:

*“[...] An aspect of our work that has grown through practice is the recognition of the importance of mediation. Our archive is one that has an attributed value, made up of dead parts, of human organs. However, such material is used with educational and attitude-changing objectives and with surprising results. At one point it was suggested that the museum be digitalized in order to allow greater access to the public. The MCM would thus only serve as the main branch. Since we were already doing research about our public at this time, evaluating not only the level of demands being met but also the degree of public satisfaction, the path taken was to research this aspect. “Don't even think of it,” was the response of those visitors polled. Nothing substitutes the real thing. Increasing the size of the organs, the color (...), any way you want, can already be done on the Internet. And nothing can take the place of the real thing [...].”*

It is certain that concepts of media and pedagogical mediation were present in the process of organizing the collection into a museum. The mediator's role in making the link between the subject's knowledge and the exhibited object, as well as the role taken on in the process of developing a specific language and a scenario for establishing the process of mediation were also present, as we can observe in the next excerpt from the director:

*“One of the big problems that we faced while setting up the museum was making the museographic language adequate for the collection. According to some specialists, captions should contain basic information for the public. In an experimental evaluation the results proved to be anti-didactic. At a later moment, we chose to reduce to telegraphic language, which did not resolve the problem either. Then came a third option – that the captions be the necessary information and that the complementing and/or in-depth information regarding content be provided by the mediators. All of the collection's pieces are labeled as a complement to the captions, thus contributing to the visitor's being able to identify the constant structure of the corresponding captions. In this way, even though the visits are guided, the visitor has a certain autonomy because of the museographic language. Even though the morphological content – the study of the human body – is difficult for the majority of the public, the constant presence of a*

*trained mediator is fundamental in meeting the visitors' differing demands, related to study as well as to other questions. Many visitors who come to the museum first come for a "recognition" visit and then return in order to study and/or delve deeper into knowledge about the different organs, systems and respective functions and dysfunctions of the human body. The museum's interdisciplinary team includes people from the fields of morphological sciences, physiology, pathology, scientific communication, chemistry, physics, fine arts; museum researchers; and educators, among other professionals. And even though public demand continues to grow and few human body museums are created, it continues to be a challenge to inform individuals about themselves, meeting the needs of their own searches. We have managed to maintain the MCM within a reasonable start, according to evaluation data. With regard to documentation, the museum has complete and up-to-date museological documentation."*

The museum team is also involved in museum actions that meet the demands of different publics, mainly the visually handicapped. According to the director, this project became a bridge between university, schools and other institutions that have inclusive proposals for this community.

*"[...] Through the museum, with its long-running exhibits, we also began to house temporary and itinerant exhibits, helping other communities in the study of the human organism. The museum thus began to go where other publics were. A collection of didactic models of the human body in its macro and microscopic dimensions was created, initially for the visually handicapped and later expanded for other students with limitations and then to the general public. A plaster and plastic resin replica of the human body with differing textures allows for the study of the human body, mainly by the visually handicapped, with concrete material, making it easier to create mental images and assisting in the teaching and learning process. This material, even though it has specific characteristics in order to meet the needs of the visually handicapped, is for the use of everyone in the teaching of the human body, meeting the demands of all the students and the community at large. This has made it possible for UFMG to strengthen its ties with other universities and with schools that work with special education and inclusive education. It has also been possible to build bridges between schools that receive the itinerant collection of the human body and surrounding communities in a health and life education project, having concrete social implications, including against drug use and the decreasing of violence. In this way, many schools from marginalized areas, mainly in big cities, have taken on the role of educational leader in the community where they are located. Naturally, the main focus continues to be the museum's greater objective: education for science, the promotion of health and the preservation of life, our main heritage."*

In conclusion, in this small aspect of museum actions proposed by the UFMG Museum of Morphological Sciences, we can highlight the deep commitment that is present in the speech of the director with regard to mediation's transformational facet of meanings. There is a strong presence of a proposal to transform the exhibit object's meaning in interaction with a diversity of socio-historic subjects. The objective of the *passer libre* mediator's posture is equally clear, supporting the visitor's action on the object and being a negotiator – not a translator – in the production of meanings.

### **Final considerations**

In the museum director's speech, I sought to bring the mediation between visitors and a singular museum object, which is the human body, to the forefront. My option was to highlight some elements in the director's speech in order to characterize mediation as contextualized in that museum space. This aspect of analyzing mediation within the context of the action where it occurs was not problematized by the researchers who deal with the subject. The action's context is still seen as a neutral scenery that houses mediation. Nonetheless, when we analyze it in its discursive nature, this context transcends the denotation of the objects on exhibit and goes on to make up a discursive *mise en scène*. Therefore, the mediator's action is developed on this stage, which consists of the scenery and the audience of visitors. I thus feel that we need to think in facets other than those previously described in order to better understand mediation in museums. This is a challenge that remains present in our reflections.

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## Notes and references

- <sup>1</sup> Sponsors: CNPq (National Council of Scientific and Technological Development) and Fapemig (State of Minas Gerais Foundation for Research Support)
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- <sup>10</sup> The museum is located at the UFMG Institute of Biological Sciences, at the Pampulha campus. Website: <http://www.ufmg.br/rededemuseus/mcm>.
- <sup>11</sup> Interview given in February, 2008, for the project "Origins and purposes of the city of Belo Horizonte's Science Museum" COEP 66/07. Financing from CNPq.
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- <sup>13</sup> Testimony gathered by Lana Mara de Castro Siman and Flaviana Patrícia Ferreira Marcelino during the project "Museum and school: a double look at educational action in museums in Minas Gerais". COEP 534/07. Financing from Fapemig (2007-2009).
- <sup>14</sup> S.S. Nascimento, *Ibid*.

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