# Overly Human: the Espaço do Conhecimento UFMG experience

Bernardo Jefferson de Oliveira
Universidade Federal de Minas Gerais
be@fae.ufmg.br

Débora D'Avila Reis
Universidade Federal de Minas Gerais
debsdavila@gmail.com

Verona Campos Segantini
Universidade Federal de Minas Gerais
veronasegantini@yahoo.com.br

Brunah Schall e Pinto
Espaço do Conhecimento UFMG
brunah.schall@gmail.com

## Abstract

One of the great difficulties for science museums is to avoid mythicizing science and to stimulate a critical view on the scientific practice and its trends. The need to impress visitors, presenting them the wide range and the spectacular advances of science usually tends to reinforce scientificism in spite of a realistic view on its limits and challenges.

This work presents and evaluates the attempts which have been conducted in Espaço do Conhecimento UFMG in order to promote a critical view of science through exhibition. (1) The first is the emphasis on the limited human dimension of knowledge, taking ideas from the German philosopher Friedrich Nietzsche as title and thread of the exhibition; (2) Questioning the limits of knowledge, the exhibition begins with a kaleidoscope which

was inspired by the short story "the Aleph" by the Argentine writer Jorge Luis Borges. It intends to portray a perspective which seeks to reach all knowledge as a Vertigo; (3) Exploring cultural diversity, it brings the cosmogonies of different people in paper scenarios inside which sacred narratives can be heard in their original languages, while translations of passages dealing with the birth of men are read in the following cosmogonies: Yorùbá, Maxakali, Mayan-Quiché, Greek and Judeo-Christian. (4) As a counterpoint to the mythical perspective, a scenario has been set up with a proto-scientific explanation about the emergence of mankind. Cosmology is represented by the atomistic explanation of Lucretius, with which it is intended to present science as a cultural expression and a historical belief among others and not the absolute truth. (5) In addition to the exhibits, the Museum promotes the "controversial coffee", in which two experts are invited to discuss controversial issues, highlighting the hypothetical and interpretive character of the scientific discourse; (6) Finally, an exhibit not yet implemented: the overlaying of caricature posters in the shape of students' notes, questioning the scientific explanations presented by the museum in its main exhibition.

**Introduction**

Pedagogical tendencies in science museums have changed a lot over time, influenced by educational trends, studies about the relationship between science and society and transformations in the field of museums. Gruzman and Siqueira (2007) report how some museums moved from a focus on accounts of the past to a modern approach using technology and communication resources that privileged visitor's perceptions more than historical information. However, the spectacular way science is depicted in modern science centers tends to put this kind of knowledge in a pedestal, in a place where it cannot be questioned, as an absolute truth. As Bragança Gil (1998) discuss, the ideal is to combine what is best in each museum's strategy, integrating historical aspects of science with the participation of visitors in order to enable them to comprehend the processes involved in the construction of knowledge, instead of the mere memorization of concepts.

The exhibition "Overly Human" of the museum Espaço do Conhecimento UFMG does not have much of "hands on interactivity", typical of modern science centers. It has technological apparatus, but few are interactive in a constructive way. However, the

exhibition has a philosophical approach that invites visitors to reflect about the construction of knowledge, especially that called scientific, and its relations to other classifications of knowledge, such as the cultural or traditional ones. The role of the museum mediators, who are undergraduate students from different fields, is essential in this interaction, since they are the ones who answer or propose questions and tell stories that lead visitors to reflect about the information disposed in each panel of the exhibition. Therefore, much of this work was based in the mediator's dialogs with visitors, which were registered by themselves and shared in the weekly reunion of the educational sector.

**The exhibition and its mediation**

The guided visit to the Overly Human starts with a general presentation of the exhibition, its title and overall theme and the specific subject of each floor. "What does overly means?" This is a common question when the name of the exhibition is mentioned. The reference to the work "Human, Overly Human", of the German philosopher Friedrich Nietzsche, usually does not say much to visitors. But what could Nietzsche mean by that? What makes us humans, *very* humans? Are we different from other animals? Our knowledge is usually mentioned as the main difference, and this cue leads to dialogs all along the exhibition. For example, this question is brought again in the tree of life located in the fourth floor, where humans are shown to have the same origin of all beings, including plants and bacteria. Do animals have some kind of knowledge of their own? Anthropocentric views of the world are therefore questioned and this also leads to reflections about the reality of our knowledge. No knowledge is universal; the way we know the world is always influenced by our culture, our specific position in time and space, as well as our physical apparatus that allow us to know things, which is specific of our species. Other living beings and people from different places and times live in different realities, and part of this diversity of contexts and world views are shown in the exhibition. There is no right or wrong answer for the questions presented by the mediators; their purpose is to promote reflective and critical thinking, raising more doubts than certainties.

After the general introduction, mediators start the visit in the last floor of the museum (the fifth), where there is a long staircase in perspective, with a kaleidoscope

inside, made by mirrors that reflect each other and a video with images in the center. The installation is called “the Aleph” (Figure 1), in reference to a short story by the Argentine writer Jorge Luis Borges. The staircase is used to discuss how our knowledge is built, step by step, and the infinite perspective shows how we are always learning, because it is impossible to reach an absolute wisdom about the whole world. The kaleidoscope inside represents the vision the character from Borges’s story had when he saw all knowledge from one point. Mediators use that story to talk about the thrill of learning new things and how we are driven by our necessity of investigating ourselves and the universe, trying to understand our origins and our destiny. The character from Borges’s story gets depressed when he doesn’t have anything new to learn, because there are no more expectations, no more curiosity. Then, the main questions of the exhibition are presented: ‘Where do we come from?’, ‘Who are we?’, and ‘Where are we going?’ The educational goal of the museum is not to transmit information about these topics, but to inspire visitor’s curiosity about the mysteries that involve our lives. They may leave without knowing the estimated age of the universe presented in a panel on the fourth floor of the exhibition, but we hope that they leave intrigued about how the universe came to be and how we search for this kind of knowledge.

Figure 1

The questioning about the origins of the world is typically human; people from all over the world and which live in the most different contexts and cultures ask themselves the same thing, and they all have their own sacred narratives and interpretations of where we came from. Mediators have many interesting dialogs in the exhibition section where cosmogonies from 5 different traditions ( Yorùbá, Maxakali, Mayan-Quiché, Greek and Judeo-Christian) are represented in paper scenarios constructed by an artist (Figure 2). The scenes are part of the stories transmitted through generations mainly by oral traditions, and they can be heard in the original language, which sounds like music that inspire our imagination, and can be read in translations printed on the floor. In the space of cosmogonies mediators commonly observe visitors comments about the lack of logic in the stories. People generally ask questions about how the universe of the cosmogony would work, trying to test the validity of that narrative, with the goal of proving that it does not make sense. The interest thing to notice is that this kind of marvel and questioning usually is not so common in the cosmogony of Adam and Eve or in the fourth floor, where scientific views about origins are presented. When it comes to the world vision of their own context, visitors accept the knowledge they are exposed to without so many doubts about its validity. Mediators try to deconstruct a little bit of these certainties, but of course respecting each ones religious believes and values. At a side of the Judeo-Christian cosmogony there is another window displaying the backstage, where priests are climbing a stair with books in their hands, as if they were building the scene of Adam and Eve (Figure 3). This showcase tries to draw attention to how discourses are maintained, showing how different people, institutions, rituals and apparatuses operate in the cultivation and dissemination of traditions and discourses.

Visitors tend to naturalize the knowledge they are familiar with, the one they often see at school or with their families. In the museum we try to stimulate new ways of looking to this day-to-day knowledge we face in our context, as if we were looking to it from outside our culture. In the same way, mediators try to explain the point of view from people inside the cultures that produce the cosmogonies; if we look at them with the eyes of someone from the places where they were created, it is easier to understand why for them those stories are as truthful as the ones we believe. Therefore, visitors are invited to

exercise changes of perceptions, looking to what is familiar as if it was strange and vice-versa.

Figure 2

Figure 3

In the same place where the cosmogonies are displayed there is a cosmology, a proto-scientific explanation about the emergence of mankind, inspired by the atomistic explanation of Lucretius. The intention of displaying it along with the mythical narratives is to present science as a cultural expression and a historical belief among others, and not as the absolute truth. Comparing the cosmology with the cosmogonies, mediators discuss how all knowledge we have, being it called scientific or traditional, is a human construction, and, therefore, it can be manipulated and it can change over time.

**Strategies beyond the exhibition**

The Controversial Coffees are debates in which the public is invited to take part. Unlike academic lectures and conferences, these debates are also an attempt to break the endorsement of the holder of the true explanation, by showing the great value of the contrasts between different approaches and points of view. It is often difficult to obtain representatives with antagonist views. But the contrast between experts with divergent visions reveal how science is not based on absolute truths, and how controversies stimulate the search for new knowledge .

These Controversial Coffees take place at the Espaço do Conhecimento UFMG cafeteria on Saturday mornings and then are edited and retransmitted by the university radio. The topics are broad, but among the debaters there is always a scientist and professor from the university. Some of the most contentious disputes have been: 'Attention deficit: mental health or a school problem?'; 'Scientific Productivism in focus'; 'What is written in the stars? Astrology versus astronomy'; 'Is it right to talk wrong?'; 'Which is the best way to give birth?'; 'Compulsory internalization of crack addicts', 'Confidential data: the control and the right to information'.

Finally, the last item that we want to present as an attempt to promote a critical vision of science, is the superposition of cartoons over the current exhibition. The idea is to raise doubts in a humoristic way, that encourages the reflection about other explanatory hypotheses and the questioning that could be done by visitors and non-specialists. For instance, next to the map that represents the pre historic migration of the first South America population it was shown a post of an alternative scheme, with datas that contradict the accepted explanation, revealing pieces of the puzzle difficult to fit.

The proposal is to highlight that the accepted explanation, can be the best, but is not the only explanatory hypothesis, neither a conclusive one. And the others, although less accepted, are intriguing and generate questions about the data and the process of accepting theories.

Cartoons can lead to questioning some blind spots, and help to make public the process of building science, which is generally forgotten in the presentation of scientific knowledge. This is an easy and inexpensive intervention in museums and science exhibitions to try to minimize the mythologizing of science that usually goes along with its spectacle.

## Conclusion

In a museum visit unfortunately there is no time to explore all sides of the scientific knowledge. Schools and spontaneous visitors usually don't stay in the exhibition for more than one hour. Therefore, mediators have to choose what approach they are going to emphasize. If we take Barros'(1992) classification of five kinds of museum approach -utilitarian communication, method communication, impact communication, communication of the advances or cultural communication –, one can say that the Espaço do Conhecimento UFMG mediator's practice could be classified in last category, which is the one that reinforces the comprehension of science as a culture.

Even unintentionally, some sections of the exposition, as many other science museums, reinforce the impression of science as the absolute truth. Apart from being creative and efficient to attract the visitors and show surprising information, these sections promote a representation witch attends to the goal of science education, but simultaneously reinforce the unwanted scientificism.

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