

Art in a science institute?

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Abstract

When scientists and /or communicators of science interact with different social actors, many prejudices and misunderstandings arise. One of them has to do with the fact that there are epistemic asymmetries between the participants in these communication of science actions. Usually, those scientists who are willing to communicate their work during fairs or public lectures are convinced that people will not understand them. Even more worrying is the fact that the members of those audiences do not trust their capability to understand scientific knowledge or to participate in the debates about scientific information. One of the main problems that arise between members of the scientific community and other communities is the distrust of the participants about their own knowledge. This mistrust can even stop the dialogue between scientists and other communities. But, what happens when two communities belonging to professional areas that seem very different have horizontal dialogues to create new proposals both in communication of science and art?

In this paper I will discuss the experience of the Communication of Science Unit of the Nuclear Sciences Institute of the National Autonomous University of Mexico, which promoted several encounters between a group of contemporary artists from the Laboratorio Arte Alameda Cultural Center and a group of scientists expert in the nuclear sciences. In particular, I will talk about the difficulties in the interaction that arise from

the nature of the different disciplines and the products of this interaction, which consisted of sculptures, performances and new ways of communicating science.

Introduction

The journey taken by scientific information, which travels from within the institutes where it is generated to the members of general audiences, can be tortuous. When scientists and /or communicators of science interact with different social actors, many prejudices and misunderstandings arise. One of them has to do with the fact that there are epistemic asymmetries between the participants in these communication of science actions. Usually, those scientists who are willing to communicate their work during fairs or public lectures are convinced that people will not understand them. Even more worrying is the fact that the members of those audiences do not trust their capability to understand scientific knowledge or to participate in the debates about scientific information.

Hence, one of the main problems that arise between members of the scientific community and other communities is the distrust of the participants about their own knowledge. This mistrust can even stop the dialogue between scientists and other communities. But, what happens when two communities belonging to professional areas that seem very different have horizontal dialogues to create new proposals both in communication of science and art?

In this paper I will discuss the projects, which arose from a series of encounters between a group of recognized contemporary artists and a group of scientists expert in nuclear sciences.

Representations of society from the scientific communities

Whenever two agents meet, there are series of representations that guide the interactions between them. Many of these representations are full of misconceptions and prejudices.

Even if scientists are part of society, their representation of the latter is often as a group of people who are not interested in the advances of science, especially if they believe that science does not bring any benefits to their life. Hence, some scientists are

convinced that it is a “waste of time” to create dialogues with cultural groups who are completely unaware of the latest scientific discoveries.

Some scientists are reluctant to share the results of their work with journalists who work for mass media, arguing that they can make scientific work look superficial. On the other hand, the members of a scientific community need public support to carry out their projects, particularly if they require a lot of resources.

Representations of the scientific communities from society

Those members of society who are non-scientists usually think that science is something incomprehensible and alien to them. Many of them think scientists are strange people who work in difficult and boring things in a laboratory, and that they are dangerous because of their knowledge.

A normal recurrent worry of the members of the public is derived from a correct perception of a high degree of vulnerability of the place he occupies when he realizes “his incapability of judging in an autonomous way the epistemic value of the scientific proposition or of the reasons presented on his behalf. In such circumstances, the asymmetry would reduce its options in believing or not believing the things that experts assert. [...] However, recognizing that the conditions are not symmetrical implies that the only option the public has is that of blind trust” (Cortassa 2010, p. 161). Hence, one of the main problems between members of the scientific community and other communities is the distrust of the participants about their own knowledge.

Representations of “target audiences” among communicators of science

When communicators of science plan an activity, they usually have a “target audience” in mind. These target audiences consist of people that belong to different age groups or different communities, but that have in common their lack of “scientific culture”. They usually dislike science and they have to be “seduced” or “convinced” to attend a lecture or an exhibition in a museum with a scientific subject. The language used in the communication of science books or pieces in magazines has to be simple, accessible and entertaining. The desired outcome of these activities is a transformation in the practices or ideas of the target audiences. Moreover, communicators of science expect

target audiences to attend communication of science events after they accept an invitation and not by their own initiative.

An encounter that broke all the molds

As we can see, all the representations mentioned above are generalizations that do not necessarily fit reality. This is the case with the encounter between a meeting of elite scientists and elite artists in the Nuclear Sciences Institute of the National Autonomous University of Mexico, that took place during 2013.

At the beginning of this year, a group of contemporary artists, which belong to the Laboratorio Arte Alameda (LAA) Cultural Centre and to the Multimedia Centre (MC) of the National Centre for the Arts approached the members of the Communication of Science Unit (UCC) of the Nuclear Sciences Institute (ICN) of the National Autonomous University of Mexico, to have a collaboration. LAA, which is located in building that used to be a convent, is a place “dedicated to the exhibition, documentation, production and research of artistic practices that use and make dialogues with the relationship between art and technology”, whereas the MC is a place “dedicated to the experimentation, formation and research of the artistic and cultural practices which involve the use of new technologies”. The visitors presented themselves as “contemporary artists”, who worked with different media, techniques and ideas, and who were extremely interested in science. According to Arthur C. Danto, with contemporary art “artists liberated themselves from the burden of history and became free to create art in any possible way, with any purpose or without any purpose at all” (Danto 2010: 42). This group of artists expected to create art actions using science as a source of inspiration.

The artists proposed the members of the UCC a collaboration in which a dialogue between two apparently different disciplines played a crucial role. They wanted to incorporate ideas from science in their work, so they asked to take courses about different scientific subjects. In turn, they offered to collaborate with the members of the Communication of Science Unit in their actions and to make scientists interested in contemporary art.

The collaboration started when a group of about twenty artists attended a communication of science course, specially designed for them, called “The cosmic recipe” given by Professor Alberto Güijosa, researcher of ICN and expert in particle physics and string theory. In this course, which consisted of six lectures of four hours each, the artists could learn about the standard model of particles, the Large Hadron Collider, the Higgs boson and the Big Bang. The members of the UCC acted as mediators to organize the course, explaining Alberto the implications of the project and the ideas that he should stress in his course.

Despite of the fact that the artists who attended the course did not have any previous background in nuclear sciences, they did not feel that they were in a vulnerable position towards scientists: they consider themselves experts in a different area of knowledge and they were very willing to learn new things. Alberto Güijosa commented that he had never had an audience, which was more interested in his work. After this experience, there was a transformation in the ideas of the artists, which was incorporated to their work.

The first product of this collaboration was presented in an art gallery by the conceptual artist Ale de la Puente. According to Robertson, “In the wake of Conceptual art, art became increasingly theoretical and idea-driven” (Robertson, 2013: 25). “The development of Conceptual arte [...] resulted in a rapid proliferation in the number of artworks incorporating language as a medium and in the purposeful dematerialization of the artwork (Robertson, 2013: 247). Hence, in conceptual art ideas play a crucial role.

The ideas presented in the “Cosmic recipe course” took form in the sculpture “Sometimes is her shadow” where Ale de la Puente evoked the idea of empty space between elementary particles. The shadow of the elements of the sculpture represented the traces of particles that can be “seen” by the particle detectors, such as ALICE in the LHC.



Figure 1

While artists learned about particle physics, the members of the UCC started attending contemporary art galleries, and organized a colloquium where Tania Aedo, Head of LAA and Ale de la Puente explained some of the ideas behind contemporary art to ICN's scientific community. This talk boosted dialogues between scientists, artists and communicators of science.

In August 2013, the contemporary artist Nahum, who attended the course "The cosmic recipe", organized Kosmica, a space art interdisciplinary encounter that had LAA as its main venue. This event gathered artists, scientists and performers of different kinds. Mexican scientist Miguel Alcubierre, Director of the ICN, was invited to give a talk called "Faster than light" about relativity and his Warp Drive theory. This talk gave a boost on the discussions about the subject among artists.

In the same event, Ale de la Puente presented a performance called "The Universe and the Kitchen". In this performance she evoked once more the "Cosmic recipe". The presentation consisted of a group of several cooks who were making mole, a sauce made out of many ingredients, which is one of the most traditional Mexican recipes. During the performance, images of the food that was cooked were projected in the walls.

Ale was taking turns with the main chef to talk in the microphone. While Ale was narrating the theory of the Big Bang and some details about the standard model of physics, the chef was narrating how the ingredients to cook mole had to be mixed. Hence there was a ludic analogy between the creation of the Universe and the creation of mole. The images were an integral part of this performance. As an example, while the Chef was talking about how sesame seeds have to be roused in a big hot pan to create the basis of the sauce, Ale was talking about the plasma of quarks and gluons in the first instants of the Universe. Meanwhile, the cameras showed the image of the sesame seeds jumping in the pan while being roused, which gave the audience a visual representation that could correspond to the first particles of the Universe. Even though this performance did not have the intention to communicate science, it manage to do it in a powerful way. It also showed that Ale de la Puente incorporated the ideas that she learned in the “Cosmic recipe” into her work.



Figure 2

In November of 2013, the UCC of the Nuclear Sciences Institute organized an interdisciplinary event called “Science-Fiction-Science” where artists, writers, performers and scientists were invited to discuss how science has influenced literature, art and

cinema, and also to discuss how these arts have influenced science. For two days, the guests talked about subjects such as time traveling, submarine explorations, search of life in other planets, etc. The closing ceremony was the first contemporary art action in ICN, where the contemporary artist Gilberto Esparza, expert in sound art, presented a “musical” instrument made out of petri boxes full with algae and bacteria. The metabolic processes of bacteria create electric energy that can be detected by electrical devices in the instrument, which in turn creates sound, or even music. The reaction of ICN scientists to this performance was very interesting. When they saw the device, they thought it was an instrument from a chemistry lab. When they realized that it was a sound art artefact, they were curios, and pleasantly surprised.



Figure 3

Conclusions

Taking as an example the encounter between scientists and artists, which was mediated by communicators of science, it is clear that there are groups of non-scientists who are very interested in science. It is possible to have encounters in which scientists and members of other cultural groups have horizontal discussions in which none of the members feel vulnerable due to epistemic asymmetries. Hence, I agree with Mexican philosopher of science León Olivé when he states that “it is possible that the world views of different cultures are incompatible and that the members of those cultures live in different worlds. However, they can still act in a rational way and reach an agreement” (Olivé, 2000, p. 77). It is important to point out that after these encounters, there was a transformation in the artist’s ideas, since they appropriated scientific information to incorporate it into their work. However, it was not only the artists but also the scientist’s thought which suffered an axiological, linguistic and conceptual transformation, when learning about the interests, the work and the ideas of a different cultural group.

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