STARTS Residency Public Report
Light Matter / Janus 2155

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Art/science, craft/science, meta-language, optomecanic, science-fiction

I.INTRODUCTION

Janus is a video installation which retraces part of the questioning that I set up during the exchanges that I had during the STARTS residency and that took place between André Xuereb from the Hot laboratory at the University of Maltes and Rémy Braive of the CN2 / CNRS of Saclay in France.

Both are part of the European HOT (Hybrid optomechanical technologies) project, which aims to lay the foundations for a new generation of devices that connect or contain multiple nanoscale platforms in a single "hybrid" system.

More specifically, Rémy Braive's laboratory works around optomechanical systems, which will lay the foundation for a new generation of devices that connect or contain several nanoscale platforms in a single ‘hybrid’ system.

The residency was a real moment of sharing between me and the scientists, it gave me time to deepen my subject and to propose Janus 2155, which would never have been possible without this collaboration.

II.ARTWORK

Janus 2155 is an audio, multi-channel video installation of approximately 8 minutes. This video is a scientific fiction that uses images from a real scientific experiment based on a very small optomechanical object. It invites the viewer to follow the production of such an object until its laboratory experience. The narrator's point of view (voice over in the film) is in the distant future, as if the images we are looking at are the last traces or the scientific archives of the 21st century. One of the main questions of this video is based on the status of the scientist seen as the craftsman of a new world. The question is not what the scientist is producing, rather to understand the place and role of science in the 21st century.

My work is inspired by the research of the American philosopher Fredric Jameson, who theorised in 2005 *Archeologies of the Future: The Desire Called Utopia and Other Science Fictions*. And that boils down to looking into the future in order to see more clearly in the present and study the role of science fiction in this theoretical framework.

III.METHODOLOGY

The challenges during the residency gradually evolved to give birth to the final project. My first intention was to show how light interacts with matter. As I interacted with the researchers, I realised that the vibrations of matter with the interaction of light in optomechanical objects were tiny and that nothing could be distinguished with the naked eye. We first tried to enlarge the scale of the materials and amplify the vibrations. None of this has been very successful. Above all, I did not want to divert the original experience in order to make it a false or a « pseudo experience ». Then I started to reflect on making a movie. Laboratory machines, production complexity, the work of the scientist himself seemed to me to be the most interesting subject.

In talking with Rémy Braive about his experiences, I glimpsed both the ambivalent role of light in scientific research (particle / wave), but also the dual role of the scientist in research. The scientist who makes his experimental objects, and the one who analyzes them.

Janus in Greek mythology is a two-faced being with one head turned to the past and the other to the future. The narrator of the film looks at the scientist of a distant future so that the contemporary spectator can detect there something other than the epic image that we have of him today.

It is in the same direction that the film is projected with two concomitant images on the same screen and in multichannel.

IV.CO-CREATION PROCESS

We had to work through successive interviews with Rémy Braive who described his in-depth research work to me with all the complex operations that lead to the manufacturing of an optomechanical object. We did a series of scouting operations in the clean room of the C2N and I asked Rémy to stage his experience in a more spacious room for filming.

I then created a synopsis with a storyboard to stage my turn two scientists in the laboratory. I called on a film crew, Zabriskie prod, with whom we prepared the filming. We have chosen a light material in order to be as mobile as possible in the spaces.

The idea of shooting with two cameras is simple: one camera films a succession of tracking shots from a distance and in an objective way, and the other camera is close to the materials and characters and in a subjective way. The shooting lasted three days in the C2N premises.

The team of researchers were there throughout the shooting, both to provide the roles that I had given to each and to give their technical advice on the operation of the machines in the laboratory. Without their active participation, this film would obviously never have taken place.

Then there is the editing, and the writing of the text. I exchanged a multitude of emails and phone calls with Rémy Braive in order to communicate as well as possible what I was doing. But the last part of editing, and co-writing with the dramatic author Eli Commins, I did it in isolation.

The idea being to show an archive seen from a distant future, I had to get into the shoes of an anthropologist of the future, without any influence.

V.IMPACT

A.Research Impact

This project has not advanced the world of science in a technical way, that's for sure. From my point of view, if an artist is to contribute something to research, it is essentially an opening to the world and not necessarily to technical innovation.

By cutter Rémy Braive, during discussions with the HOT laboratories in Maltes, introduced the teams to other research opportunities on his experience with the optomechanical object with cavity. In fact Rémy Braive realized that the measures they were taking during the experience were becoming chaotic. As I was particularly interested in this aspect, the two laboratories were able to communicate on the subject thanks to the residency.

B.Artistic Impact

This Art & Sciences residency is the fourth I have done. In this one I really appreciated the freedom that I had to come and go in the laboratories, and the time that I had to make her project. I never thought when I started that I would end up making a film, it’s also my first shoot. I never imagined that the project would have evolved so much, which is what makes the richness of the residence in my opinion.

VI.ART-SCIENCE INTER-RELATIONSHIPS

I imagine that the most important thing in this residency was the openness and listening to each of the parties. This is what I try to reveal in the film in a certain way. What we learn in everyday science is essentially the Nobel Prizes and spectacular experiences. Most scientists advance in the shadows, with an obstinacy and perseverance very close to that of certain artists or craftsmen.

VII.FUTURE DIRECTION AND ACTIONS

The next stage of the project is first to finalize the film by finalizing the editing and the text, then the final mixing.
Then we are going to show Malta the project not far from the university that hosted me.
I am in to speak so that the video installation is put in a perennial way in the entrance hall of the C2N in Sacclay, I will find this legitimate because it is really where it all started.

VIII.CONCLUSION

I think that this resistance despite doubts, changes and questioning was a real experience for both sides, art and science.

I’m sure Rémy and I will be able to talk about other projects in the coming years.

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