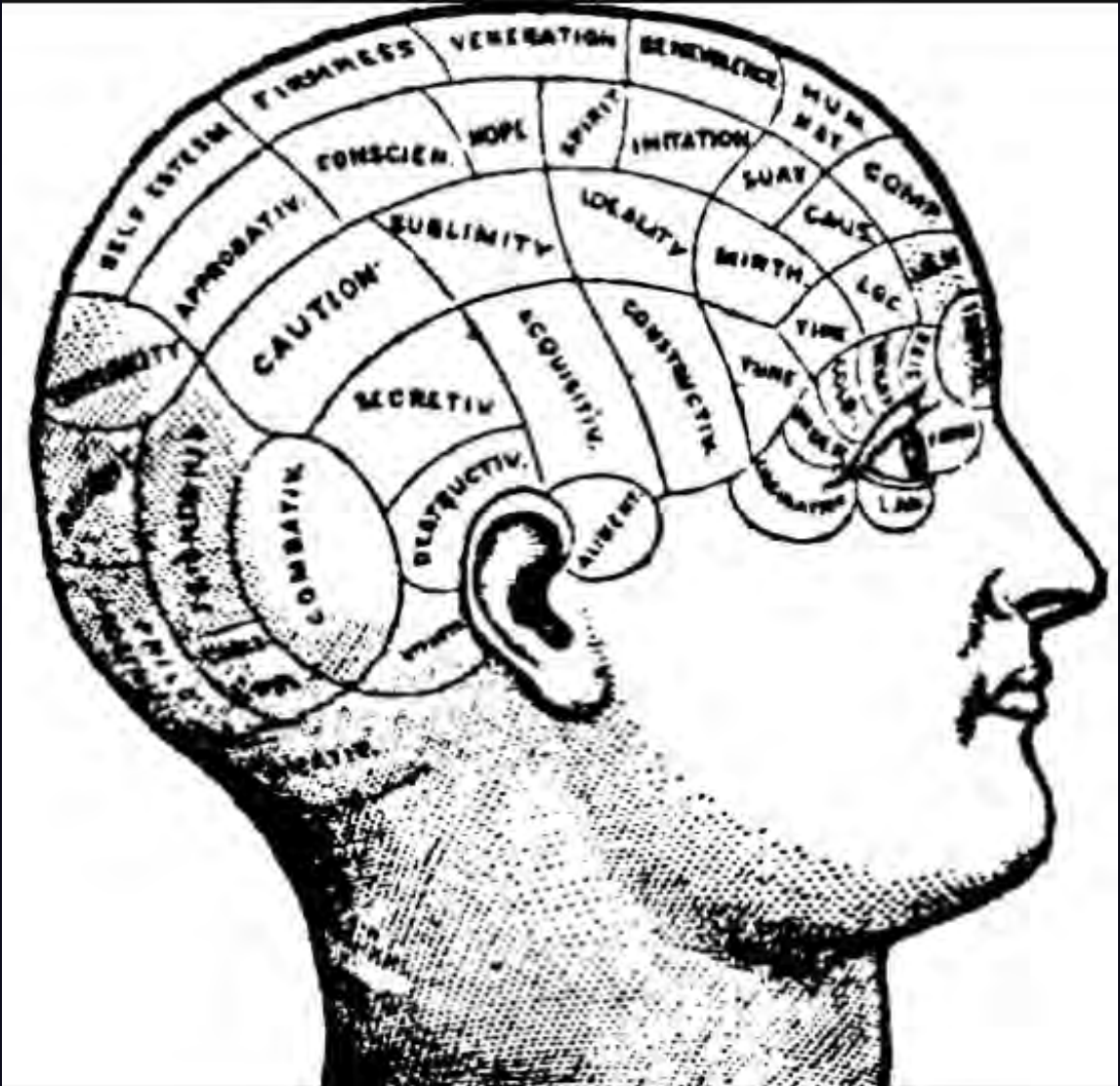




**Arnaud LAFFOND
Grotte**



Abraham Poincheval



Synopsis

«Grotte» is an inner exploration, a journey that I thought up and created during the first confinement following the appearance of Covid 19. It proposes to enter the meanders of my brain, a labyrinth made up of my thoughts, research since this period from which I still find it difficult today to get out. Like a hermit crab, I sometimes feel stuck in my shell of mental isolation. The idea of this project is therefore to explore these different galleries of the brain, which could be likened to elements that could be found in a cave, whether underground passages, galleries, chasms, stalagmites, water tables etc.... This journey illustrates the traces of the

upheavals that forced isolation can cause and shows a pattern of thought that can be described as unusual, with a desire to go elsewhere, to escape on this condition. There are speleologists who shut themselves up there on purpose in caves, this experience aims to allow them to get out.

Intentions

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Résultats de traduction

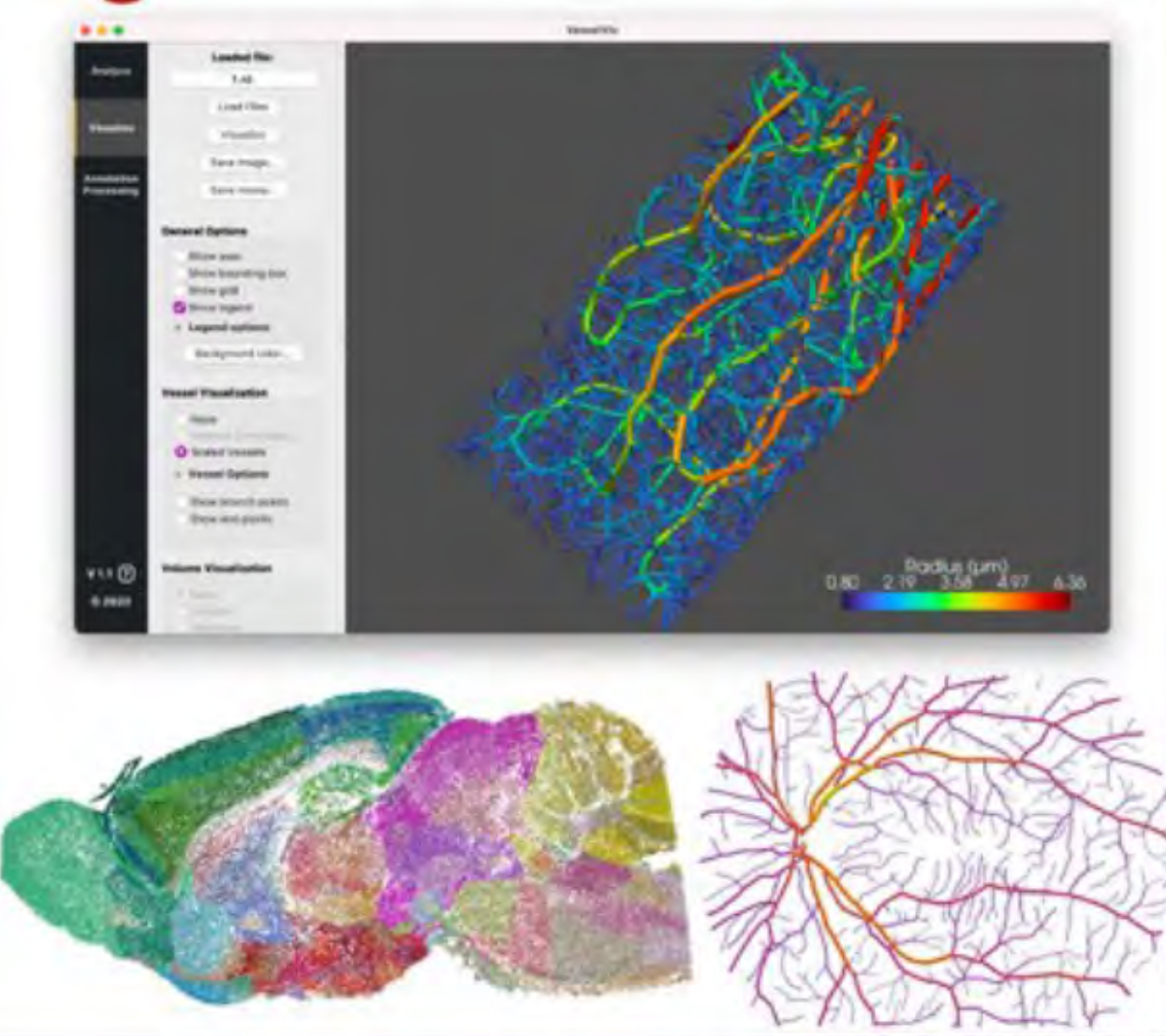
During the first confinement, I made a series of videos, like a graphic logbook, to express my feelings about this confinement. This experience lasted 55 days and allowed me to question myself, my work, the environment in which I evolve and the one in which I want to evolve. From these videos, I made a montage entitled "Stay Home" which was shown in many festivals. Despite the time that has passed, I still feel today that this period of forced isolation made me lose a lot of bearings that I have not yet completely found.

It is this general state of mind that I wish to explore with this virtual "Cave" experience. This cave is the image of the thoughts that I dug, each gallery an idea, a concept, a project that I thought of. Because thinking about different projects, being creative, allowed me to get through this confinement period by being productive. These works have been nourished by the thoughts that I may have had for my family, colleagues, friends, girlfriends, who are also represented by the different galleries that make up this cave.

So how do we represent these particular moments of life? Do we have the right methods to analyze these events? What are these representations and how can we analyze them?



<https://vimeo.com/419948571> ←



prohelvetia

Embassy of
Foreign Artists



Résidence EOFA

<https://www.eofa.ch/category/actuels/> ←

The Embassy Of Foreign Artist residence is an artistic residence located in Geneva, in collaboration with the Flux Laboratory and the Campus Biotech of Geneva. Following a selection on file, I was chosen to participate in this program which offered me a complete space to focus on the project, as well as a follow-up with time for discussions with my director, Mr Richard Le Quellec who gave me access to all their documentation and artistic network. Over the course of the exchanges, I was put in touch with various Genevan but also international artists to discuss our respective projects and our artistic points of view. The residence was a place of exchange with the two other residents, Magda Stanova and Kathleen Heil, with whom we shared research and development of our respective projects. We were offered access to various cultural events and places in Geneva such as the Mamco, the Commun, the Abris, the Bernasconi villa, etc... A meeting at EPFL was organized with Giulia Bini, curator of the Art and Science residence and the pavilion, to compare our methods with his residence. This was materialized by a time of exchange between curators and artists, followed by the Deep Fake exhibition at the EPFL pavilion. The residency also allowed me to welcome various directors of festivals or museums to show and discuss my project in course for future dissemination, acquisition (Mapping Festival, Giff, Geneva Lux, La Grange, etc.) But also people in other fields, whether people from CERN, HEM, as well as Mr Christian Clot, who is the organizer of the Deep Time project (20 scientists locked up for 40 days in a cave) with whom we discussed our projects, with the idea of monitoring and seeing collaboration for his next expedition. This residence was a privileged place to concentrate on his project while remaining open to meetings and exchanges. The end of the residency was materialized by a return to the Flux for a week.



Campus Biotech

<https://campusbiotech.ch/> ←

Campus Biotech is a Swiss center of excellence in biotechnology and life sciences focusing on three areas: neuroscience and neurotechnology, digital health and global health. Campus Biotech brings together 19 platforms composed of different groups of students, researchers and scientists who all work in the field of neuroscience. Thanks to my residency, I was able to access all the different levels of the campus.

/ Presentations of the project and its evolution during meetings (Learn & Lunch) in front of the whole campus, or presentations in front of classes of different professors and researchers.

/ Individual meetings with researchers, psychologists, neuroscientists, psychiatrists, Team VR, neuroimaging, scientific data, philosophers, all accompanied by personal follow-up.

/ Recovery of scientific data MRI, EEG, psychological sessions, psychiatric sessions / Interpretation of the results of the various experiments carried out / Learning new Mri Com, Dsi Studio and DTI images software



Campus Biotech



Présentation du projet lors d'un Learn & Lunch



To sum up, the Biotech campus represented a huge opportunity to develop my project thanks to the use of their state-of-the-art technology, even unique in the world (WYSS neuroimaging) but also the support and accompaniment of the various technical teams. All this technical part, the recovery of data (MRI, EEG, Neuroimaging), their use as well as their meaning, made it possible to consolidate solid bases for the GROTTÉ project. The second part of the exchange with the Biotech campus is more in depth and interpretation with psychological, psychiatric and philosophical studies of post traumatic symptoms mainly after forced isolation. Over the course of the exchanges with the various researchers and professors, I was able to have access to their various research and theses, which gave me keys for the writing of my screenplay. The vision of researchers in cognitive psychology (CISA) is very similar to the vision of the artist.

Suivis RDV Chercheurs Campus

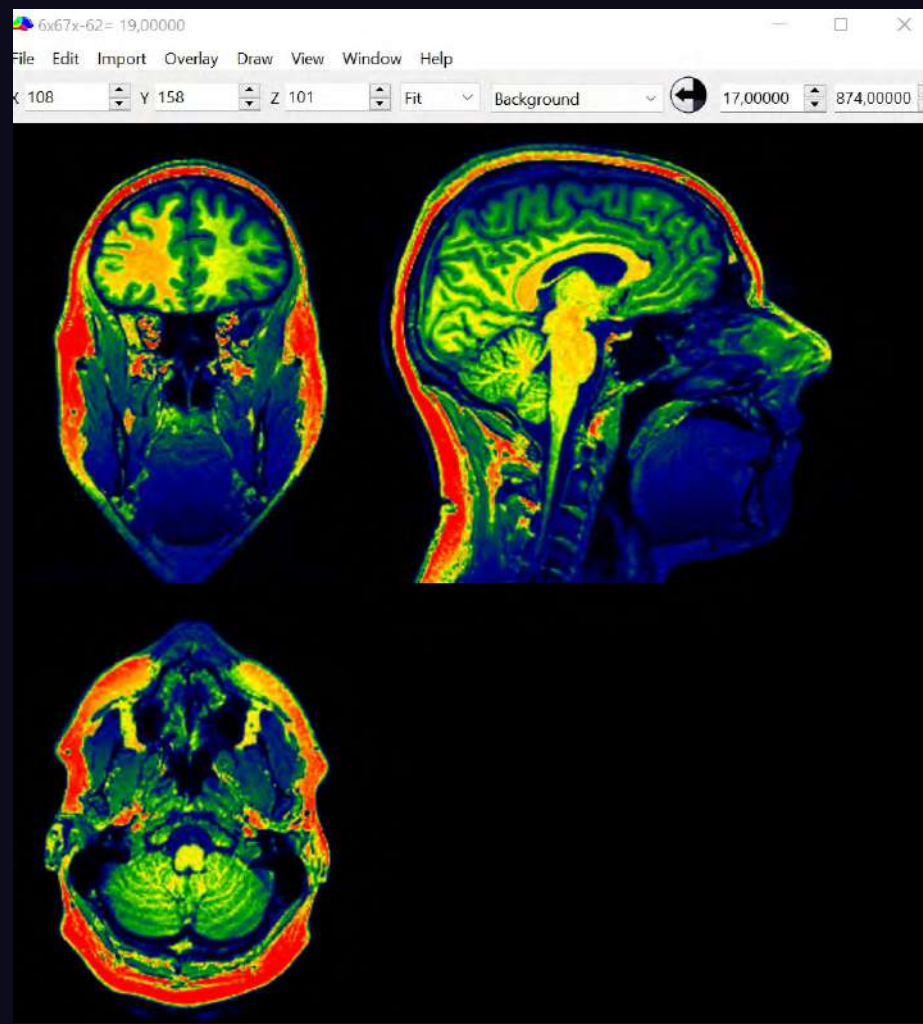
TEAMS	NOM	PROFESSION / Team	mail	MAJ
	Garance Soless	Etudiant Psycho	garance.soless@unige.ch	Point tous les mois
	Didier Grandjean	Department of Psychology	Didier.Grandjean@unige.ch	Attente
	Ceschi, G	Prof de Garance		attente de Garance Solene
CISA	Sander David	Psycho	David.Sander@unige.ch	demande de protocol
	Carole Varone	intermediaire	Carole.Varone@unige.ch	Rappel debut mai
	Alison Montagnin		alison.montagnin@unige.ch	rdv Vendredi dans la journée
	Sophie SCHWARTZ	prof	Sophie.Schwartz@unige.ch	attente de retour depuis le 30/04
	Gwenael Birot	EEG	Gwenael.Birot@fcbg.ch	Protocole avec gguri du Cisa
WYSS	Pages Stephane	WYSS, neuroimagerie	stephane.pages@wysscenter.ch	Mercredi 11 à 11H
	Jules Scholler	wyss, etudiant		imagerie fonctionelle, comment extraire
	Roberto Martuzzi	IRM	roberto.martuzzi@fcbg.ch	trouver CISA protocole
	Michael Dayan	IRM	michael.dayan@fcbg.ch	protocole
	Guillaume Chanel	Jeux video empathie application	guillaume.chanel@unige.ch	2 points tous les mois
FAPS	D Bavelier	psycho	daphne.bavelier@unige.ch	en attente
	B Bediou		Benot.Bediou@unige.ch	en attente
LNCO	Arthur Trivier		arthur.trivier@epfl.ch	attente
	Agnes Baehni		Agnes.Baehni@unige.ch	attente
	Julien Deonna	professeur ordinaire de philosophie des émotions	julien.deonna@unige.ch	
	Fabrice Teroni			
	Florian Cova		florian.cova@gmail.com	
EPFL	Dimitri Van De Ville	neuroscientifique	dimitri.vandeville@epfl.ch	Suivi avec ses étudiants / Livre

Table for monitoring appointments with the various people working at the Biotech campus

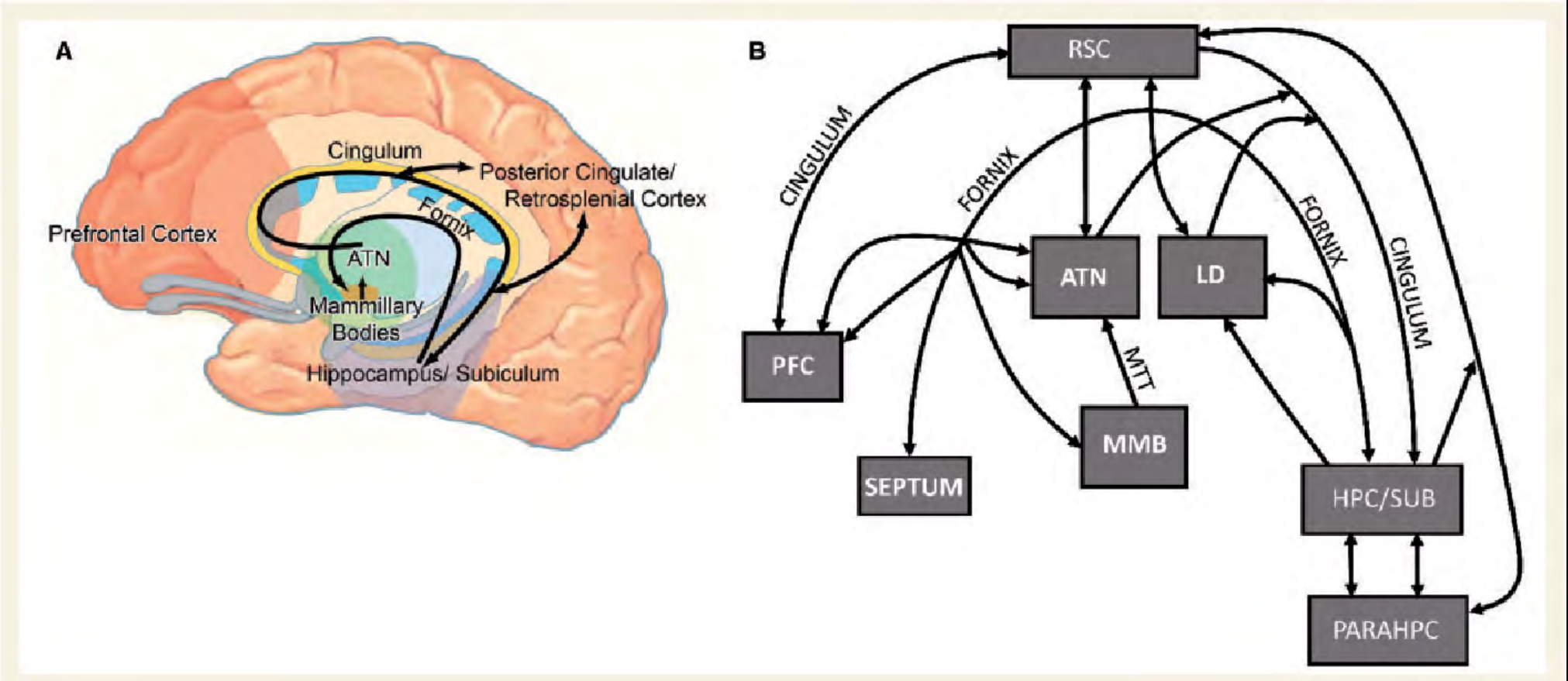
Campus Biotech



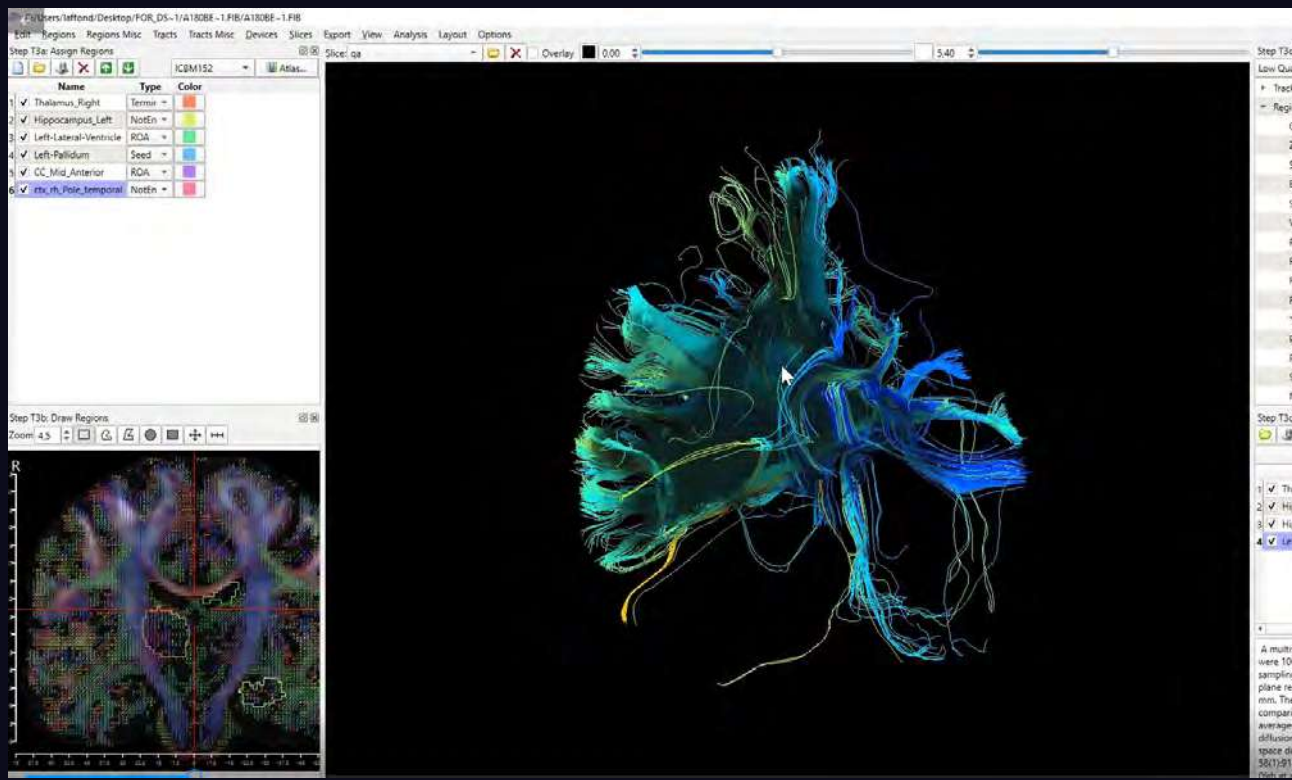
Session in an MRI to recover data.



MRIcom software



Representation of the Circuit de Papez, which is the path taken used for memory, memories



Logiciel DsiStudio



Team Vr du Campus Biotech

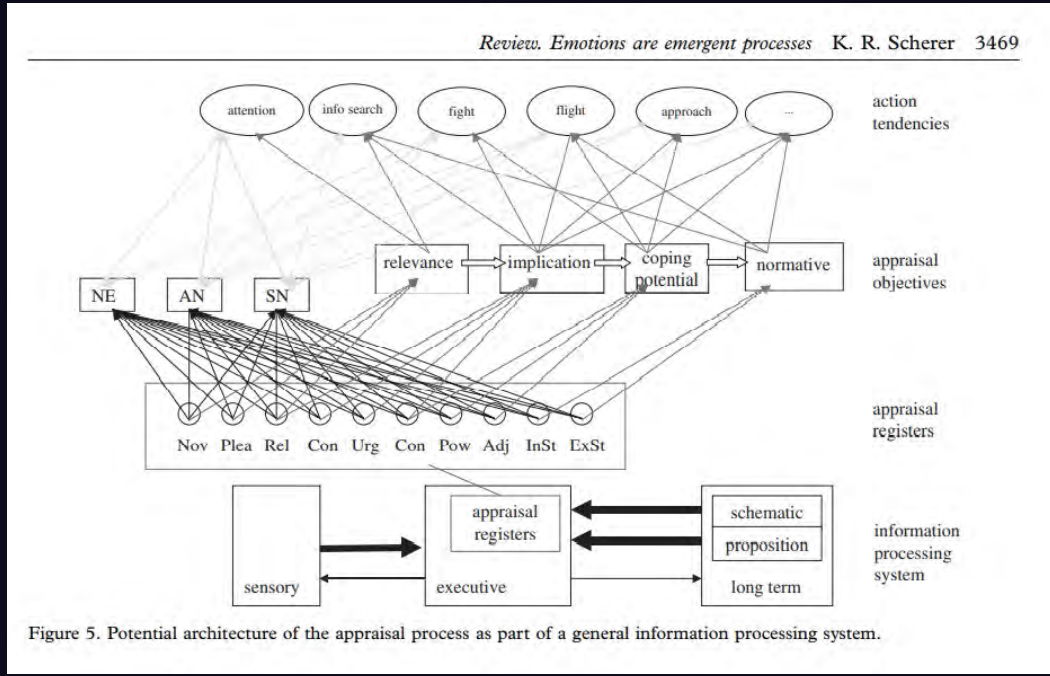


Figure 5. Potential architecture of the appraisal process as part of a general information processing system.

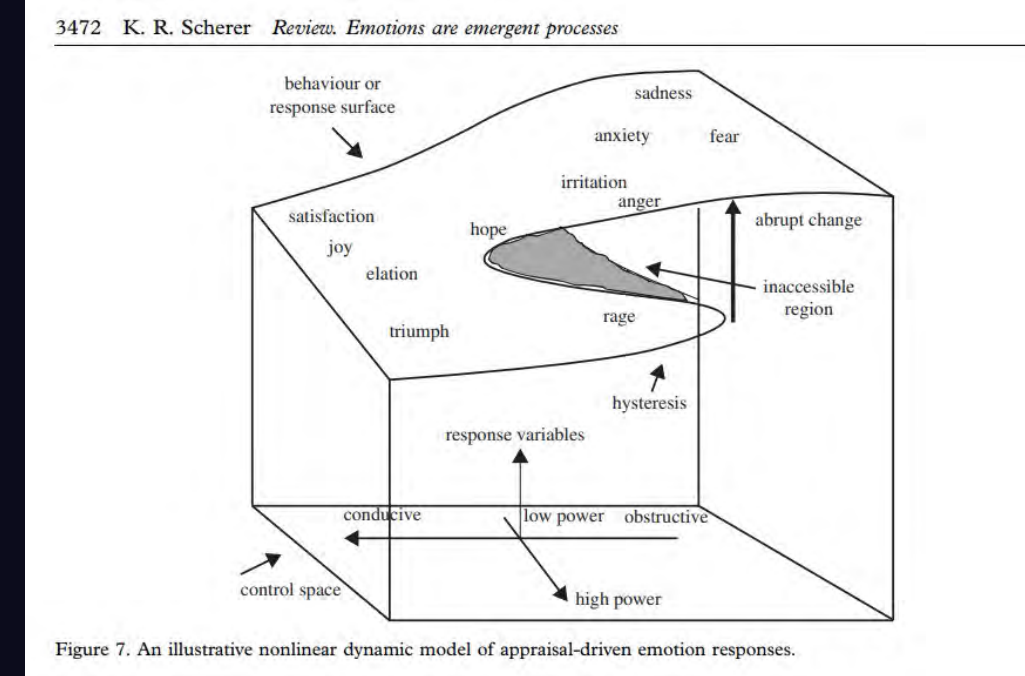


Figure 7. An illustrative nonlinear dynamic model of appraisal-driven emotion responses.

Studies by the researcher Scherer on the borrowed pattern of emotions in the face of a new event

Flux Laboratory

<https://fluxum.ch/events/458/residences-art-science-2022>

FLUX Laboratory is an experimental space for encounters, performances and exhibitions which functions as a network of members and shares the missions and objectives of the Fluxum Foundation.

A multi-faceted place, FLUX Laboratory fuels creative work and reflection through quality encounters with art, dance, science and health, technology, media, style and business
The Flux Laboratory also provided me with follow-up during the 3 months of residency:

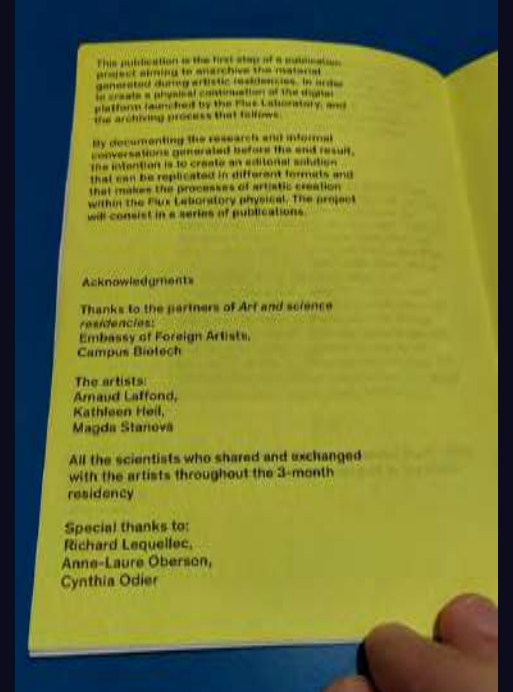
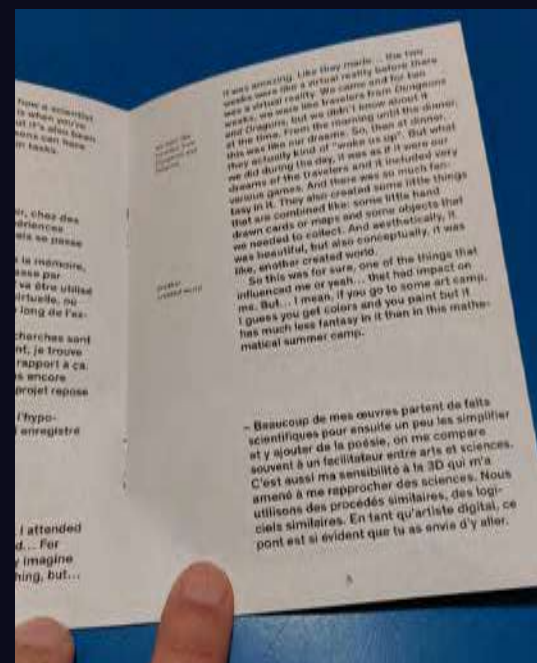
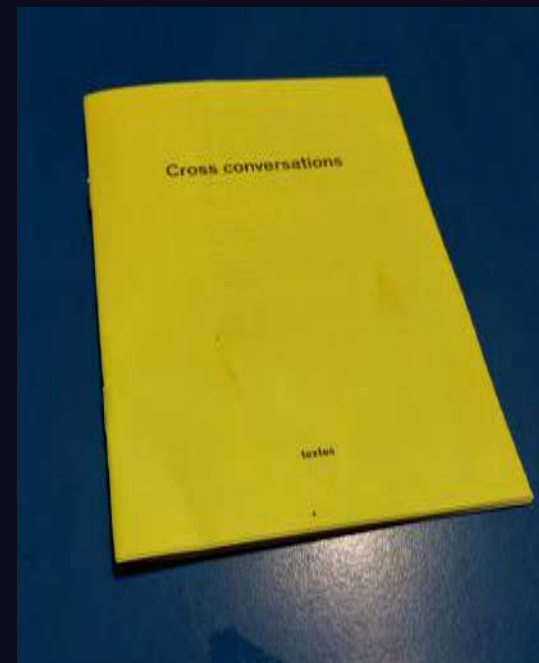
- / Presentation at the Geneva stage
- / Meeting with Blanca Li for her Bal de Paris
- / Documentation on the use of space
- / Round table on the use of new technologies in the stage space
- / Oral interview and filmed interview for the archives of the Flow
- / Time of exposure which materialized for a week in their premises in Geneva
- / Restitution of the interview in the form of a written transcription



Affiche de la restitution de résidence du Flux



Présentation du Bal de Paris de Blanca Li

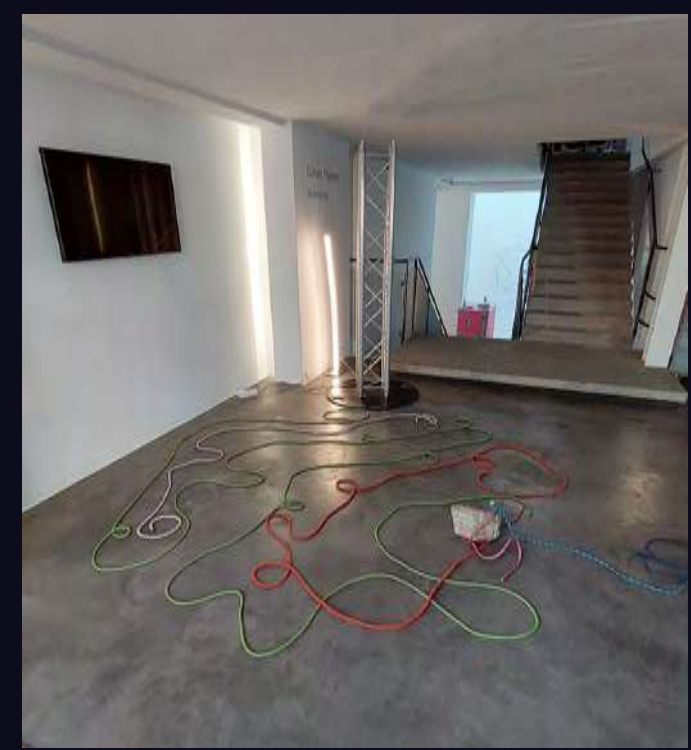


Restitution of the interview in the form of a written transcript



Restitution of Art and Science Residence 2022 at Flux in Geneva

<https://vimeo.com/726846419/6ebab7eb4e>



Travail sur la scénographie pour la restitution de résidence au Flux.

The concept

Grotte is an immersive experience where I invite the viewer to explore a singular world. This mental cave symbolizes my isolation during the first confinement, from which I have trouble getting out. A 3D experience that makes the connection between art and science.

From using the latest precision tools to extensive documentation of neuroscience to my artistic interpretation,

this is how I got there:

3D / Photogrammétrie

As said before, I offer the viewer an exploration of my mental cave. I decided to take as a base, a real cave which will serve as a base for my 3D model. Starting from reality will allow the spectator a better scenario, and for me an excellent basis for developing the environment of the experience that I modify with my artistic interpretation. I went to scout the cave of La Balme, in Isère, which gave me a day to study, photograph, record and scan the entire place. The scan was done in collaboration with INSA Lyon, with FARO scan technology, which is a LIDAR type laser scan. Once the scan has been recovered and processed, the use of 3D elements imported into Blender or C4D allows perfect use of the scans to create the VR experience while integrating the 3D elements recovered at Campus Bio-tech. I will be able to superimpose the scans of my brain with those of the cave.

The production day was also used to recover HD photos of materials and shapes that are unique to this cave and will serve as my inventory. But also, we were able to record mineral sounds that the cave produces by its environment.

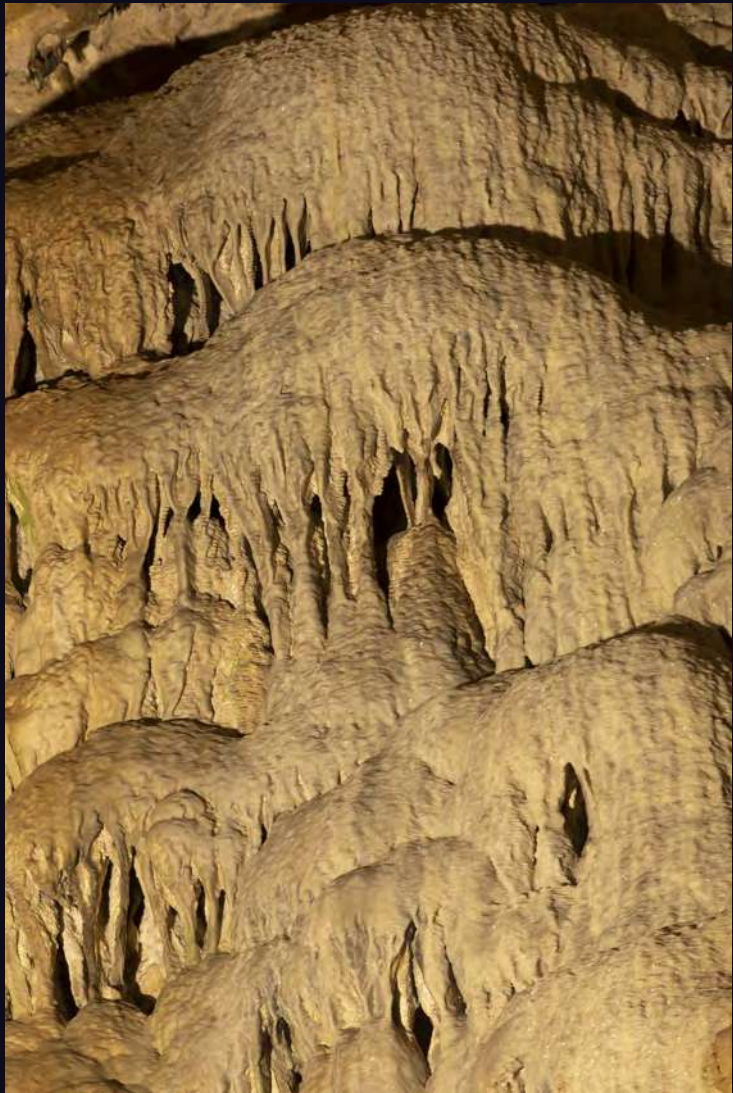


**LES GROTTES
DE LA BALME**

<https://www.grotteslabalme.com/>



The photographer Ghislain Mirat recovers materials and details.



Use of Scan Faro by an INSA technician, Grotte de la Balme, March 2022



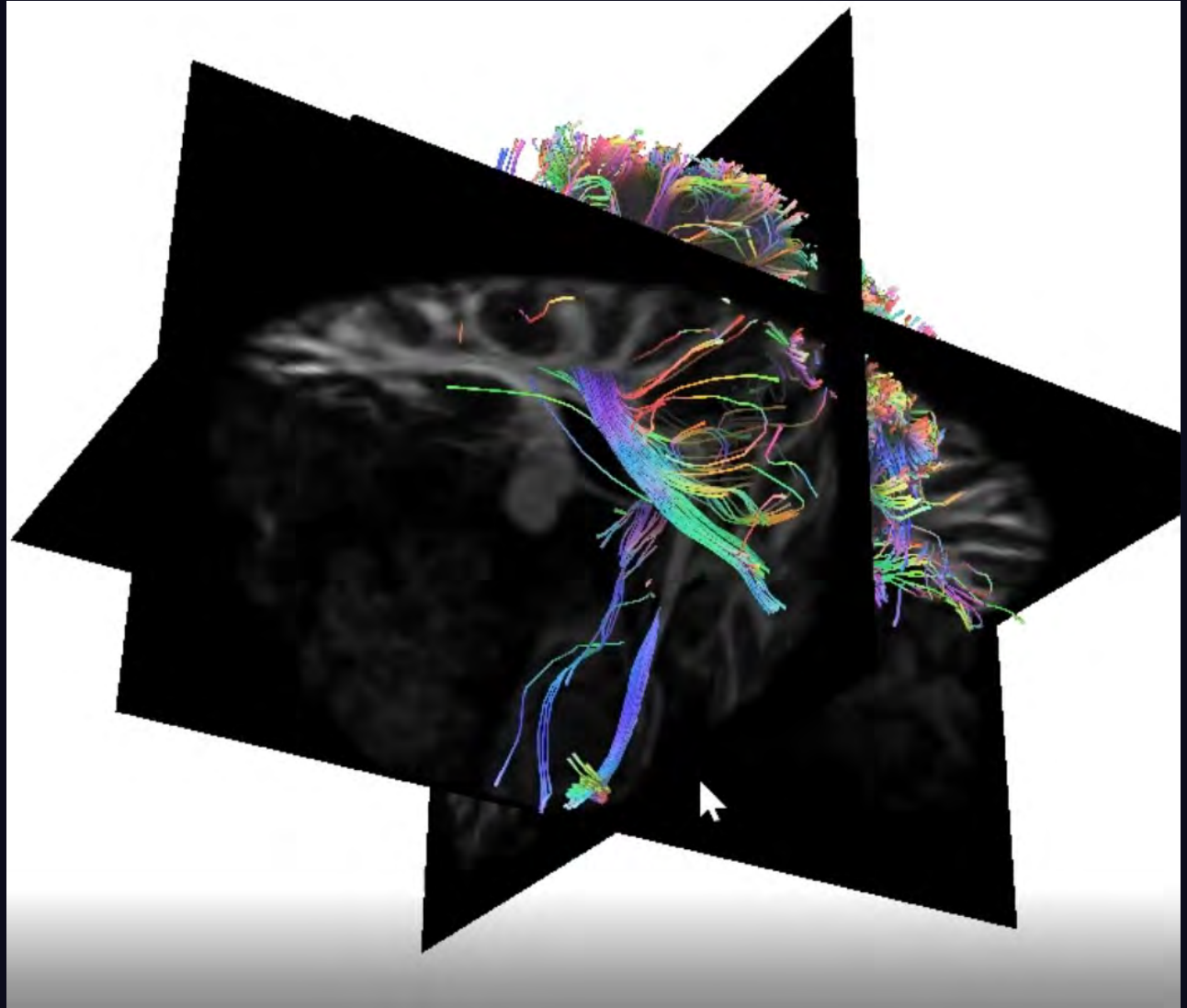
Different stages of reconstruction of a scan of the Balme cave, going from the cloud of points to a complete mesh.

<https://vimeo.com/714463009/5b6f3897ee>

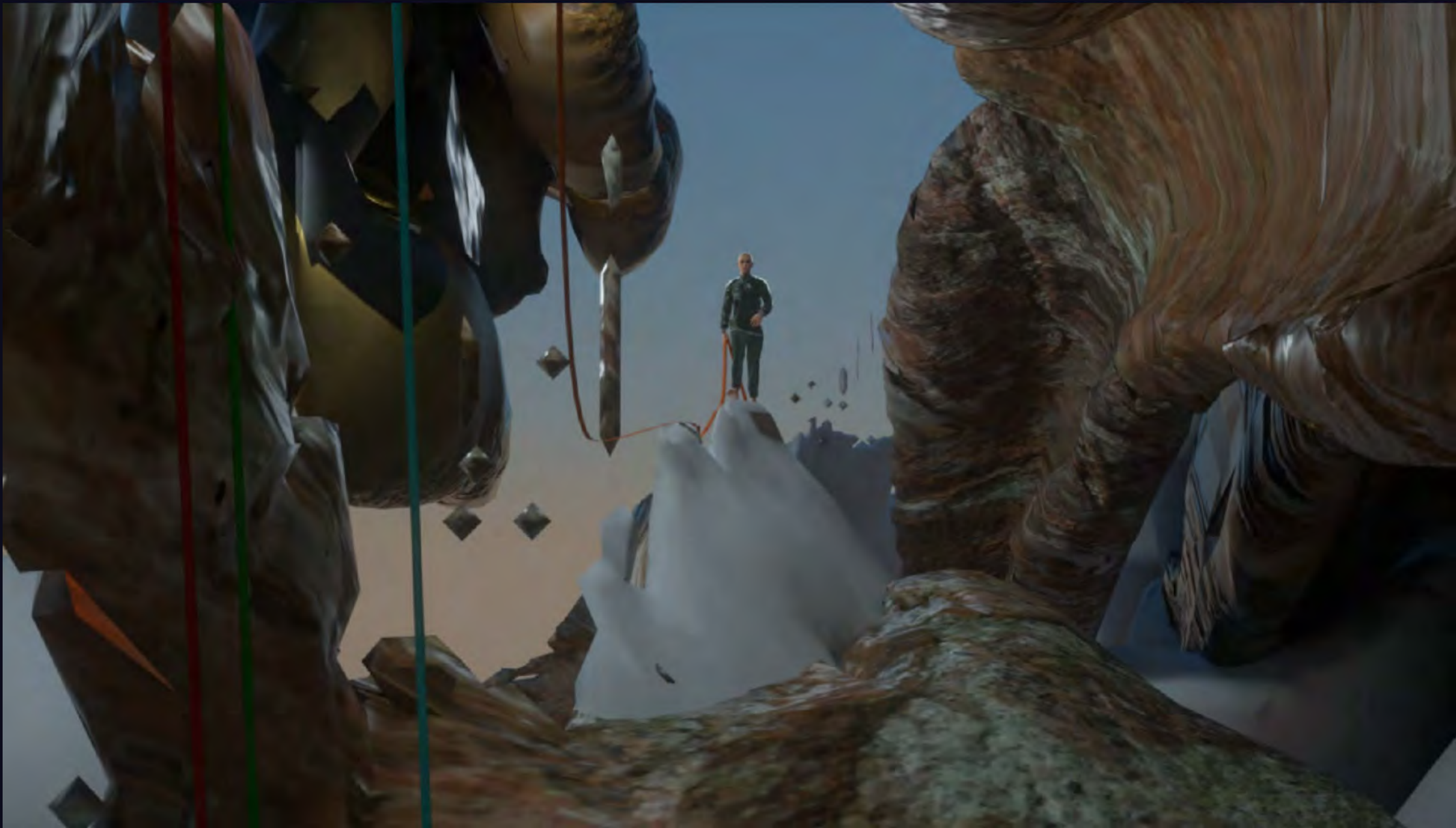


VR experience

To develop my project, VR is the obvious way to illustrate and embody what is happening inside a brain. The VR headset itself has similarities with a cave, it's a ready-made metaphor at the time of metaverses and new virtual refuges. Beyond that, VR is also a fertile ground for the immersion, as well as better use of 3D elements like brain scans than cave ones.



DTI image



Représentation de l'exploration dans la grotte



Scan grotte de la Balme

First version

Below are images of the project for my residency restitution, which is a “work in progress” of the final project. We find there as elements, scans of the Balme cave, the idea of the neural network imaged by the strings. the integration of DTI images, as well as mythological elements related to the labyrinth, theses, ariane and the minotaur. The images are different moments of the experience which are accompanied by a voice-over, reading a passage from Michel Tournier's book "Friday or the Limbo of the Pacific" This passage which is in Chapter V, relates the discovery of Robinson of a cave, then at the bottom of this cave, another cave, and sinks deeper and deeper through increasingly narrow passages. Until discovering at the bottom, a mold informs where he tries to settle there to realize that the contours of his body perfectly fit the edges of this hole. Time expands, he no longer has any notion of time, he has blocked his clepsydra. It is this passage, where for him the clepsydra stopped, which sends me back to the first confinement.

Below is a youtube link of V1, to use VR 360, open the link in the youtube app from your phone.

https://www.youtube.com/watch?v=RdxRIVN-N7M&ab_channel=arnaudlaffond



A statue of Theseus, in front of a DTI scan image of my neural system



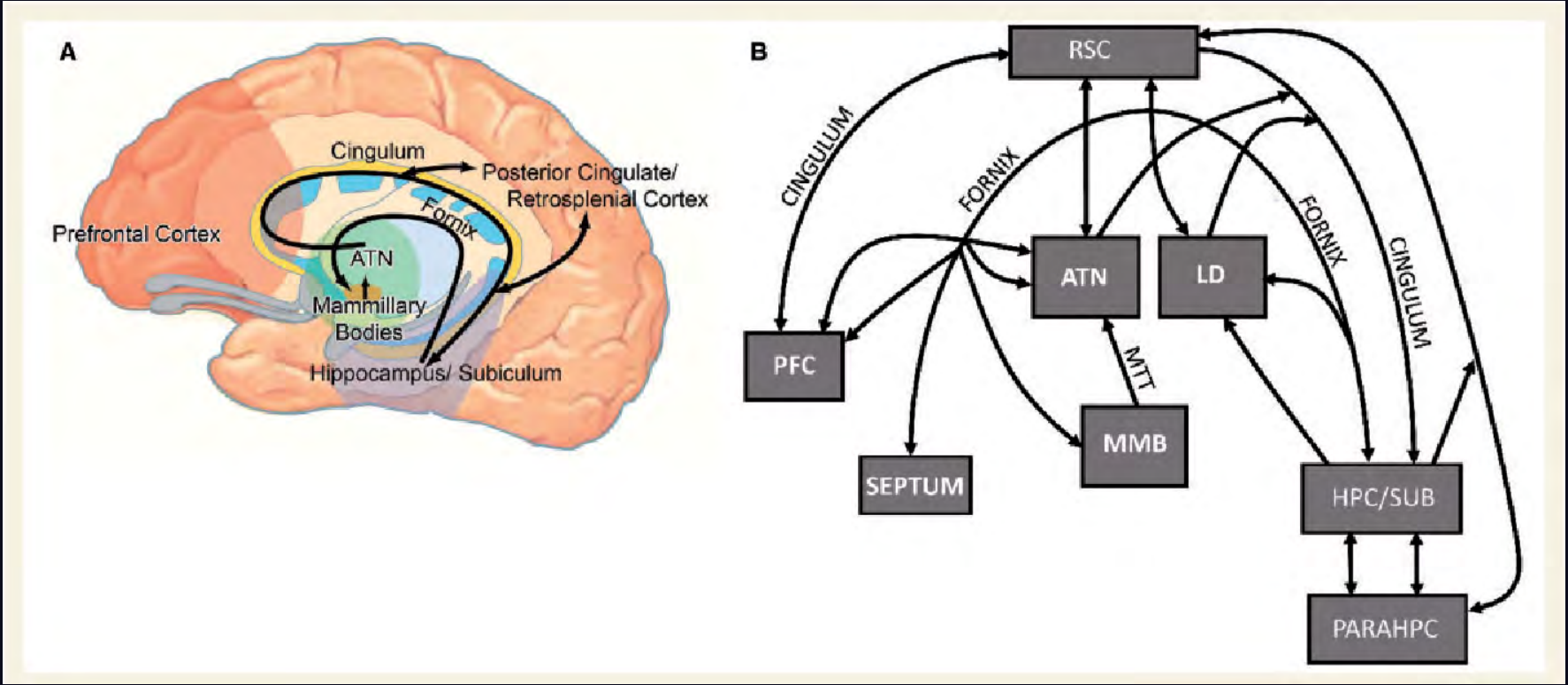
Lors du confinement, le bureau recrée dans mon appartement à était très présent.

Scenario and evolutionary decor

To extend the work started during the first version of the work, the idea is to develop a work in real time thanks to Unity during which the possibilities of actions of the spectator will be increased. memory circuit, a pulse sensor will be placed on the user which will lead to a change in the scenario and scenery where the spectator evolves. The more a state of stress will be visible thanks to the sensor, the more the decor will be oppressive and labyrinthine, remaining blocked from a vague scenario that keeps repeating itself by degrading the rendering. Whereas, on the contrary, if the spectator remains calm with a normal pulse, the setting will undergo little or no change and the scenario will follow its smooth course.



The strings represent different emotions which will be multiple choices of the scenario



Representation of the Papez Circuit, which is the path filled with different connections, used for memory, memories

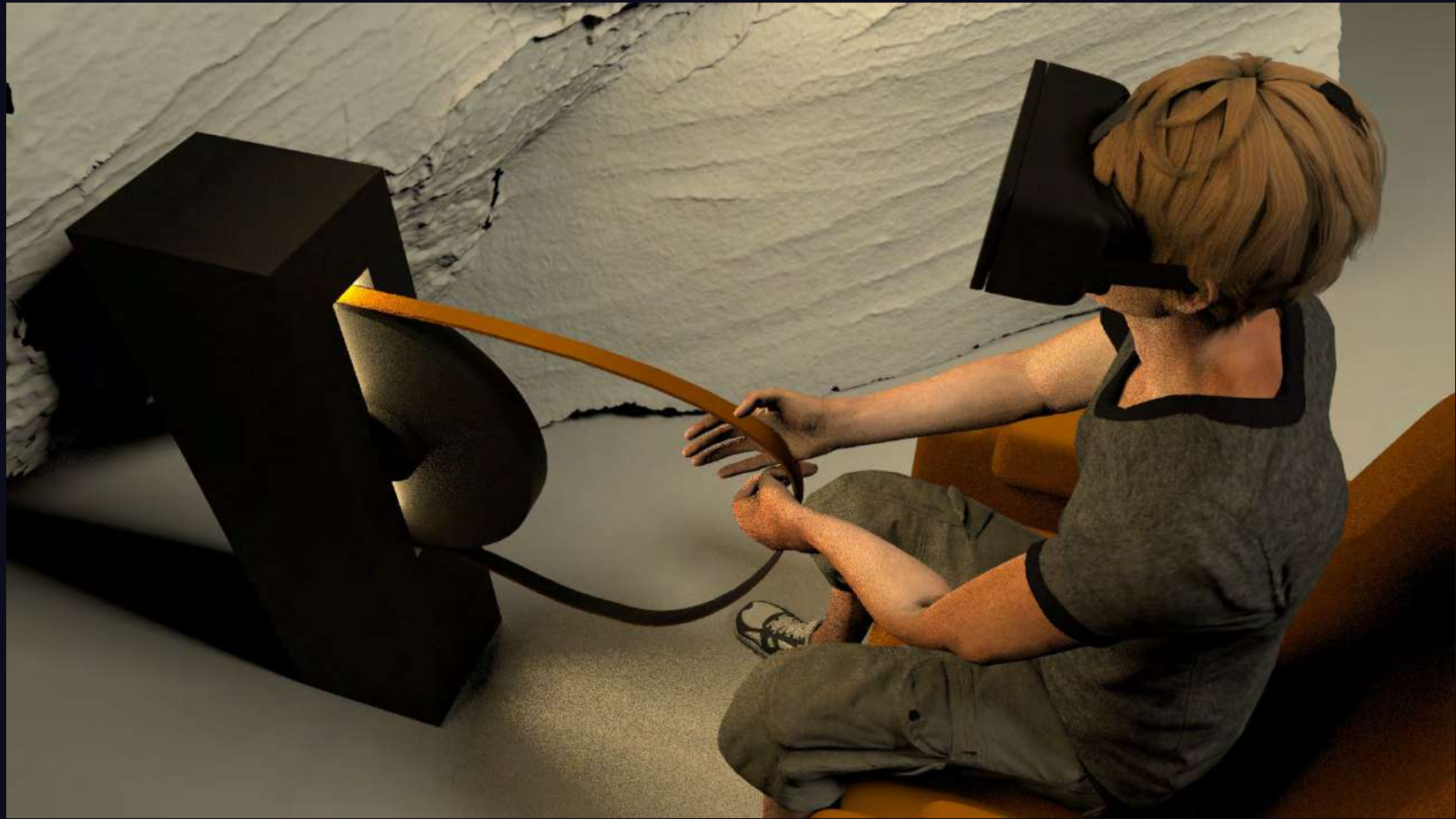
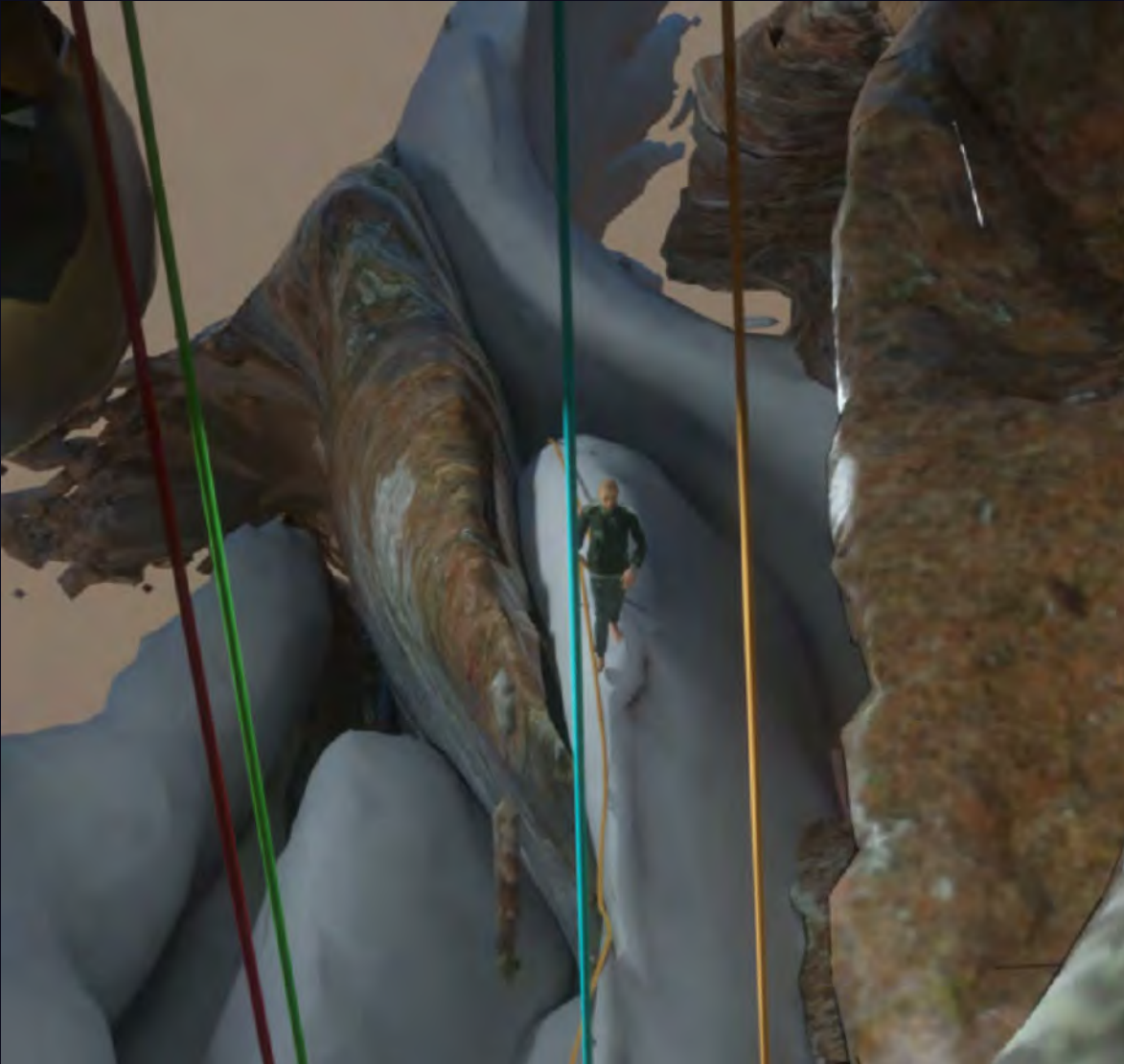


Lorem ipsum

Interactive Installation

For the user to be in a greater immersion, I plan to use a real rope as breadcrumb trail. To be able to move at the whim of the spectator, a rope system around a pulley will be at his disposal. By pulling on the rope, it will move forward in the scenario and thus move through the cave in VR. Once in hand, the user will easily understand how to activate the scenario by pulling the rope, he can feel involved in the story, in the character.

And thus know what is at the end of this rope?



Images pour illustrer l'installation interactive avec la corde.

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