

Claire Richards

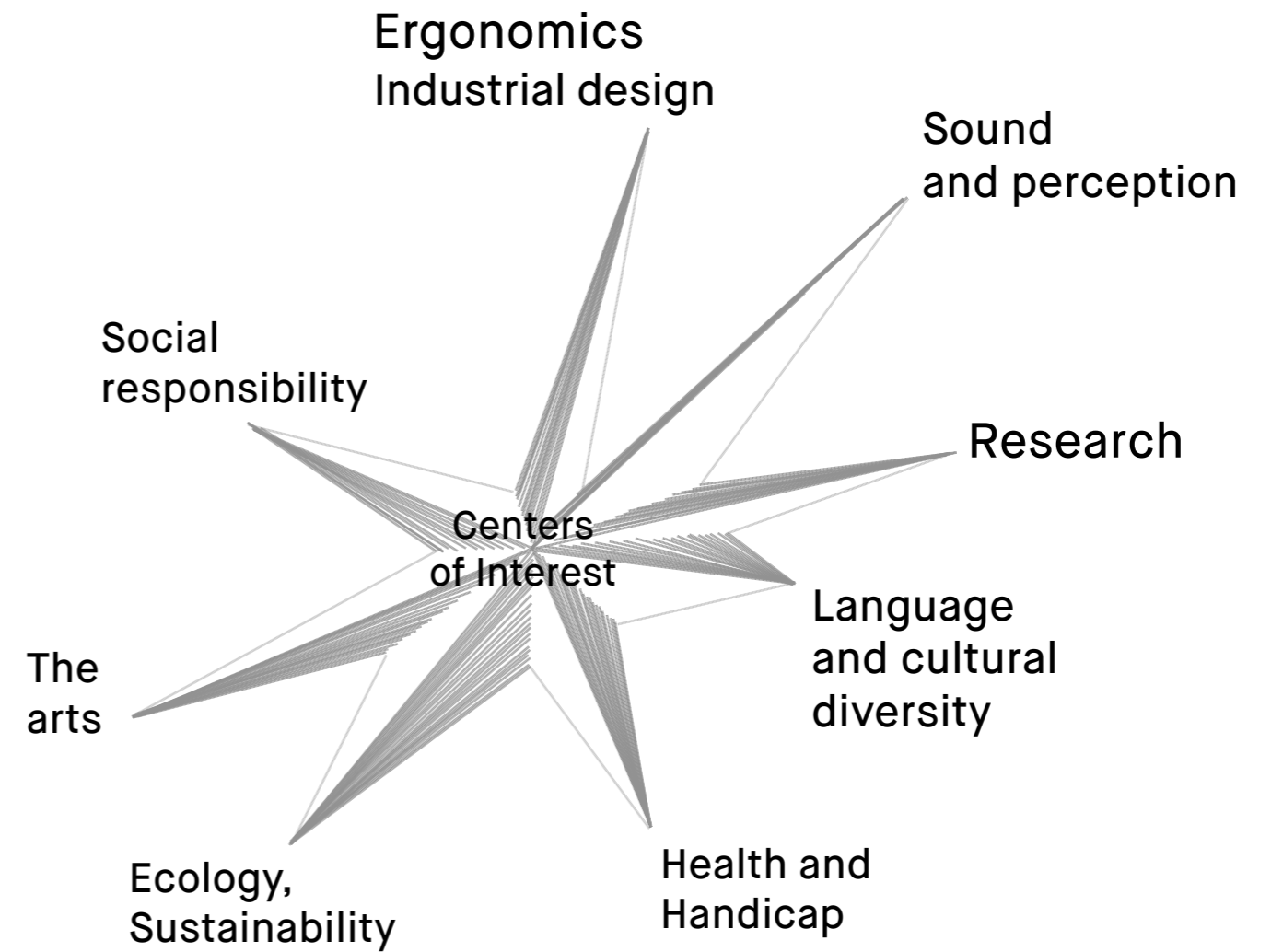
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ABOUT ME

Beyond aesthetics,
the design of a service, an object, a space
must first consider the user,
in all their diversity,
as the project's hearth of inspiration.



ARCHITECTURAL WORKS

The Intag Project Intag, Ecuador 2013-14

Collaborative Leadership

Social Responsibility

Ecology and Sustainability

Co-creation

The project :

A partnership connecting a group of women artisans in Intag, Ecuador with a group of students at Cornell.

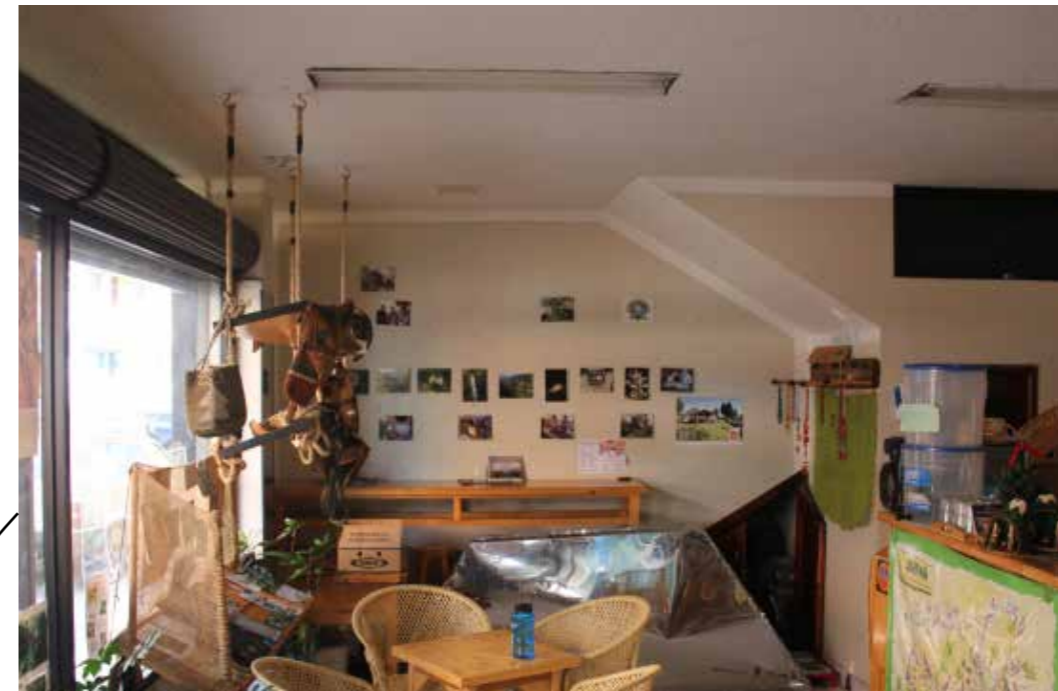
This project's goal was not to impose our privileged points of view on this region's community, but rather to learn as much as possible from the inspiring people living there, and to become more conscious of humanity's effect on our only planet.

My role :

All according to the needs of the artisans :
Mural/boutique design,
web design, logo design, communications,
Exposition design at Cornell

I organized and led the re-evaluation of the interior design of the boutique in Otavalo, where the artisans sold all of their products in this nearby city. After a discussion with the store owners, we consolidated the products, re-worked the representation of the eco-social context in the store, and re-worked the layout of the sales points and the sitting area.

In Intag, I stayed for two weeks with a family. I had the time to discover the natural environment and better understand the story of these people living in a region which is threatened by their own government.



PHOTOGRAPHY

User research

Observation, appreciation

Be a listener



Workshops with the artisans on new weaving methods

Sisal plant fiber, used for handicrafts





A profound appreciation for the intrinsic value of the nature surrounding us... more than 10% of the world's orchid species are present in Intag.



A spirit of sharing and collaboration between the student groups



Right after sunset, the high altitude brought down the clouds.

Our guide told a story of how he once found a baby jaguar sleeping in a hollow of this massive tree.

ARCHITECTURAL WORKS

Architectural Research 2013-14

Procedural tests: Design

Metalworking

Safety testing

Prototyping

The project :

Under the guidance and instruction of Prof Jack Elliott, we built a structure specially designed to be functionally resistant to the natural forces which would threaten its integrity. Its construction was completed for a community center in the Dominican Republic.

My role :

Construction of structural segments: metalworking, woodworking, testing procedures.

Contributions and acquired skills

Concerning metal working, I worked mostly on the construction of the metal rods which are inserted into the reinforced concrete, joining the connective geometric unit with the structural piece made of Guadua bamboo. I first shaped and sized the rods, then threaded them so that they would fit correctly into the central geometric units.

The photo on the bottom of the page shows the test procedures we used for the completed structural parts. I placed the concrete-filled bamboo into the Universal testing machine, a machine for testing the tensile and compressive strength of the material.

The photo to the right of the bottom of the page shows how we proceeded. We had to break open the bamboo to then remove the central, round pieces within the bamboo which kept the concrete from entering. Based on the measures we took using the testing machine, we modified the number of units to crush in order to fill the bamboo with more or less concrete.



INDEPENDENT WORKS

Adobe Suite

HTML

Web development

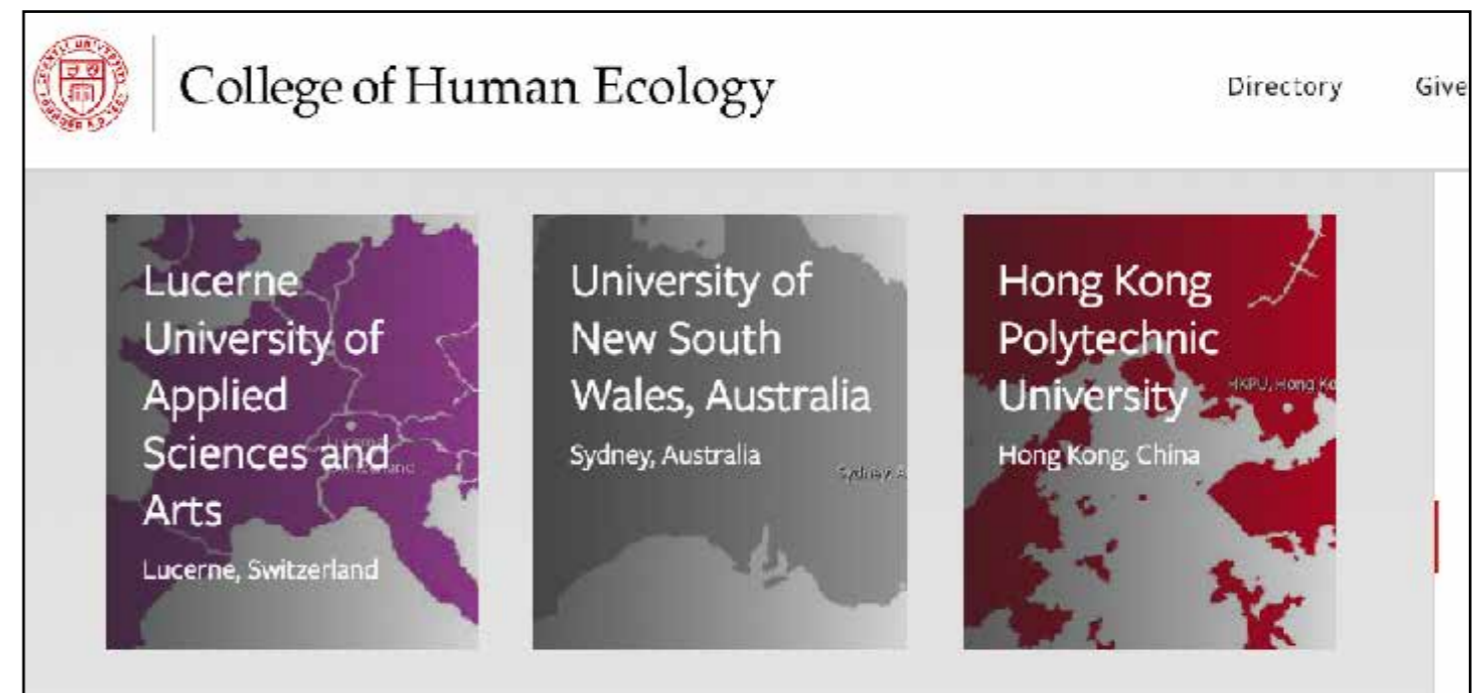
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My personal site. Developed using Wordpress.

<https://www.human.cornell.edu/academics/offcampus/exchange/deaprograms>

The website for Cornell's College of Human Ecology's exchange program options.

I helped the exchange programs manager to construct informational images and icons, organise information, and create links to access other parts of the site. I used HTML to code the site layout, and Photoshop and InDesign to build the images.



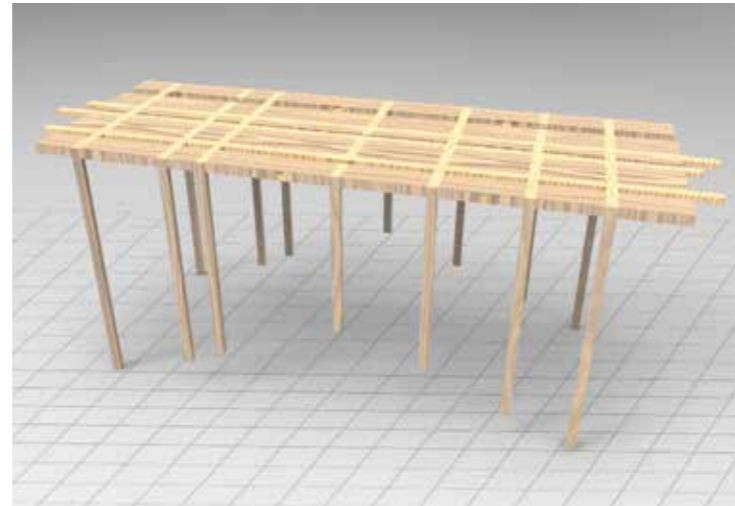
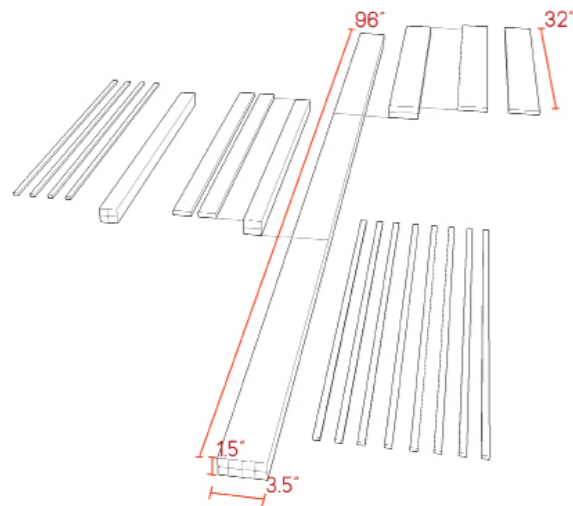
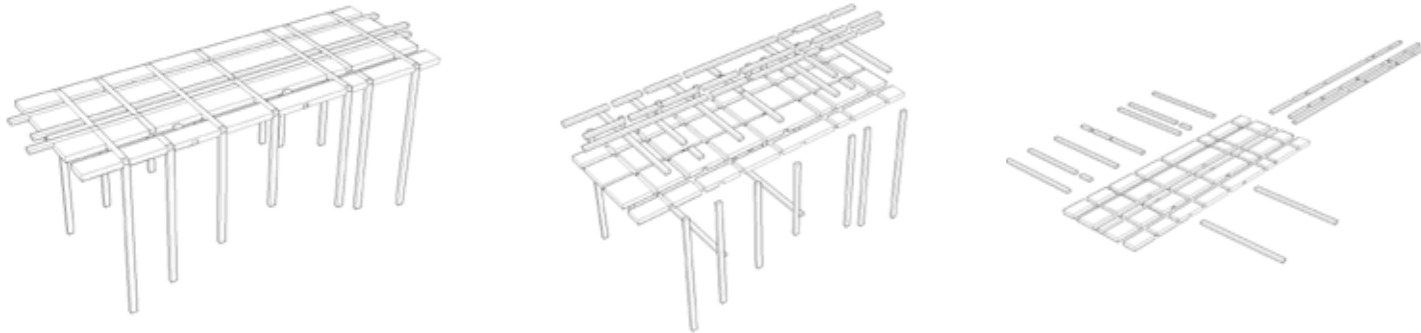
INDEPENDENT WORKS

Design: Furniture

CAD

Constraints = inspiration

Furniture Design 2016



Rhino 3D

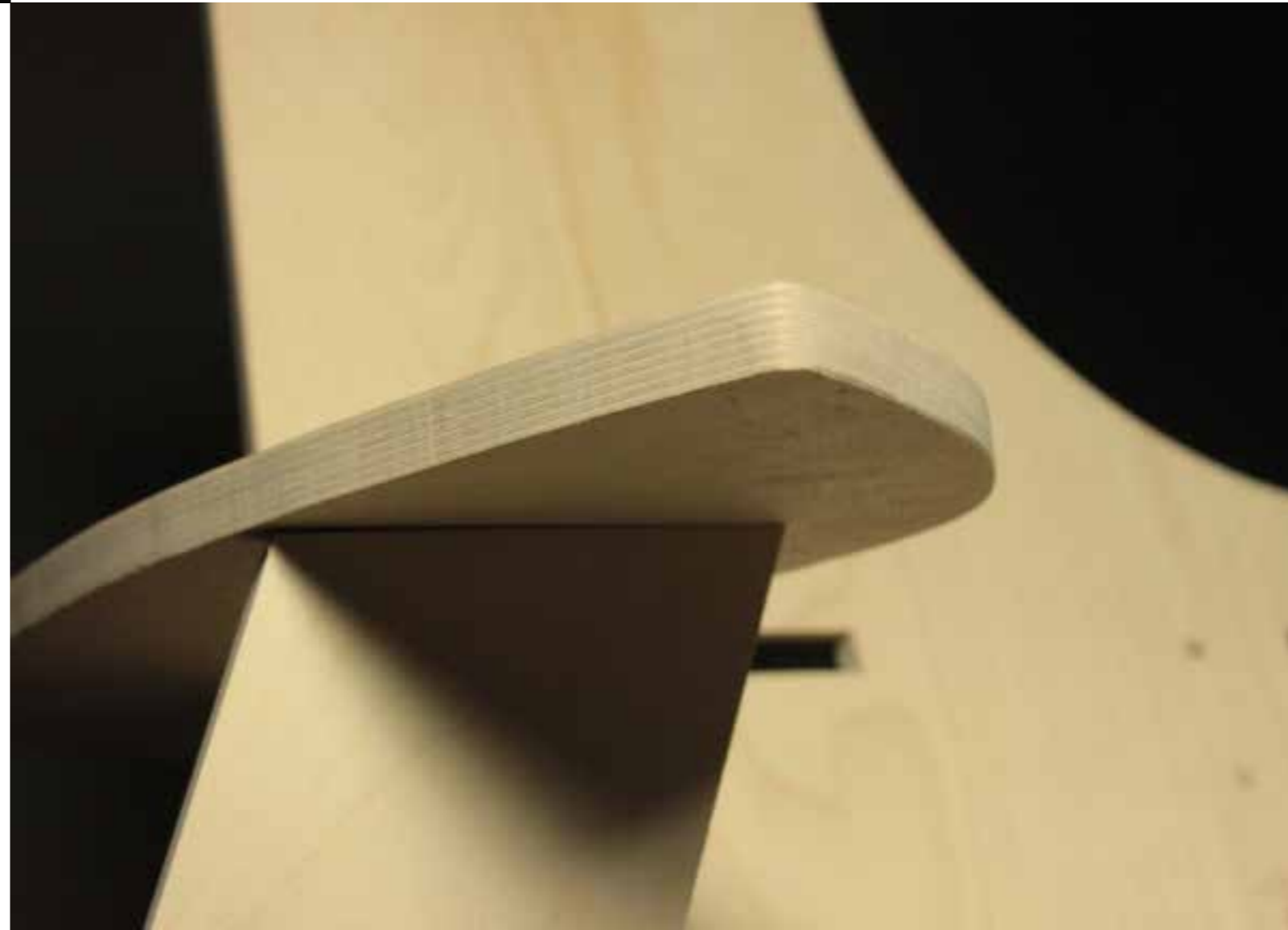
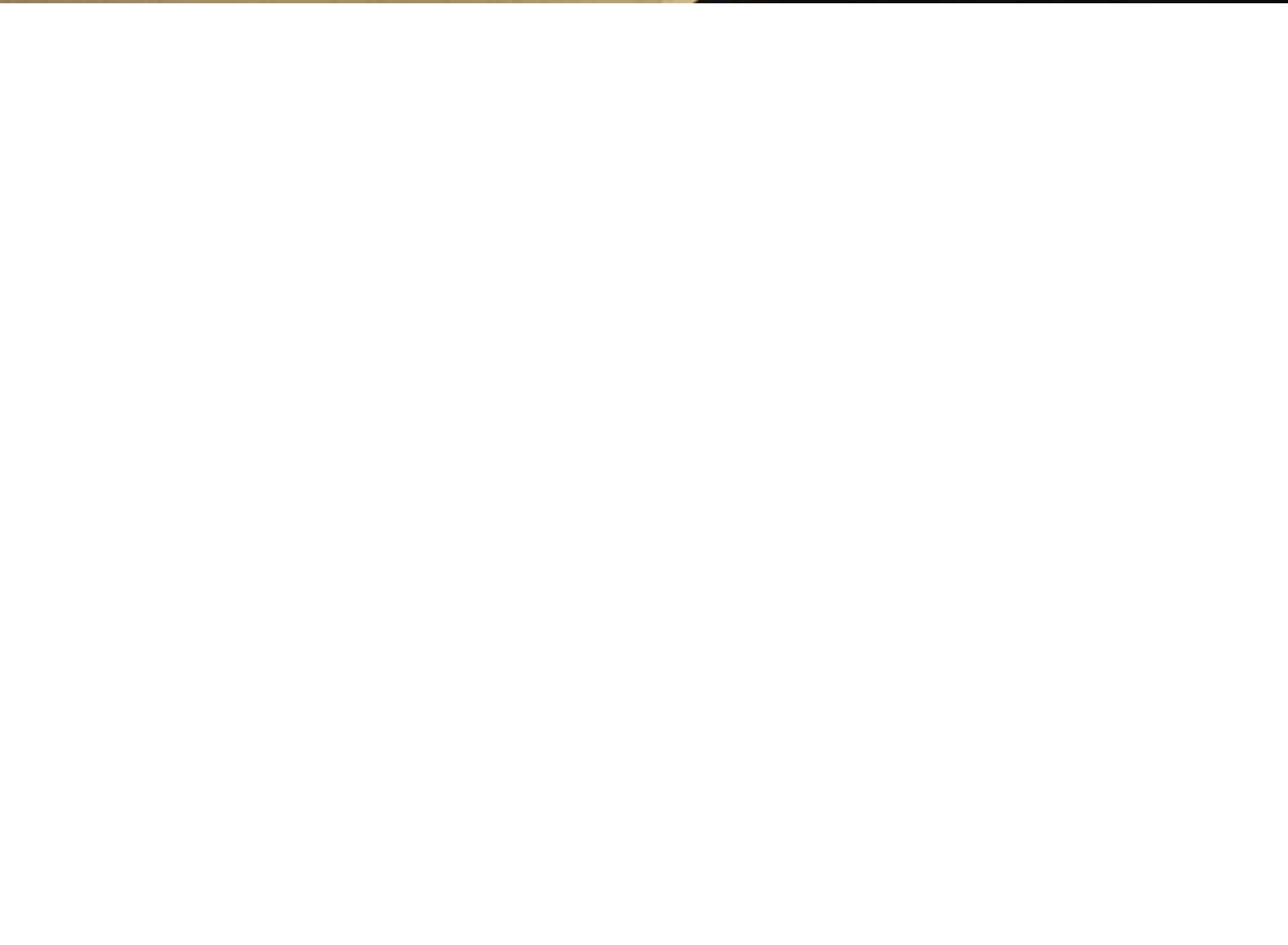
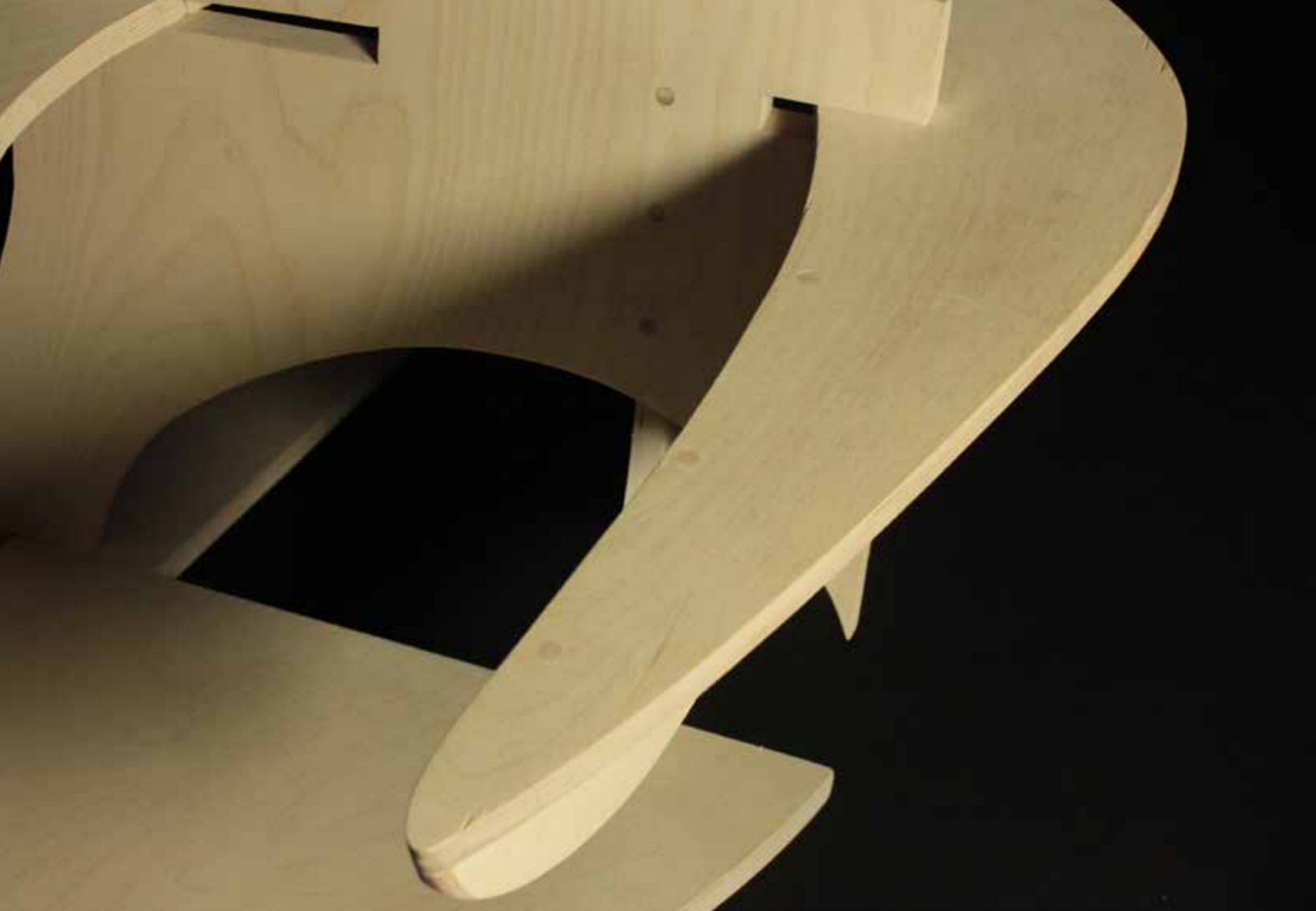
On the right: I designed and built this chair during a furniture design course at Cornell's school of architecture. Our assignment was to design a chair inspired by the classic American Adirondack chair, and the Constructivist practice. After a critical evaluation at the end of the course, the chair was confirmed to be able to support the weight of a 180 pound man.

To the left, images of a coffee table that I designed and constructed. I used Rhinoceros to determine the correct dimensions. This was a particularly crucial step in this project - for this assignment, we only had an 8-foot 2x4 piece of wood, and we were instructed to use all of it.

Tools used: Circular saw, jigsaw, power drill, sanding belt, (hammer, measuring tools, sandpaper...)







INDEPENDENT WORKS

Participative Research

Multisensory Design

Ergonomics

Prototyping

Master's Project
INSOUND
2016-17

A portable haptic technology that allows its user to have a unique sensory experience of sound, transmitted to the body via bone conduction and mapped spatialization of vibrations.

The potential applications are numerous. Whether the context concerns music, speech, or ambient sound, the user will discover and feel for themselves a tactile understanding of the audible world around us.

<https://claire-richards.com/insound-english/>



□ pour le prototype final, peut-être juste 2 vibreurs connecté via bluetooth pour démontrer

□ les autres sur un autre prototype pré-reglé (représentations déjà faites/préparées)

99 The Sonification Handbook

"the act of identifying sound sources, spoken words, and melodies, even under noisy conditions, is a supreme pattern recognition task that most modern computers are incapable of reproducing."

I first began with participative experimentation. I wanted to better understand how people react to a tangible stimulation of sound... whether or not they liked it, what they prefer for stimulation points on the body, if they could imagine wearing a 'wearable' like this in certain scenarios related to the project...

I explained the concept of bone conduction of sound: sonorous vibration which stimulates the ear by passing through bones which connect to the skull. For sound sources, I used different genres of music, taking into account personal preferences, and I tested sensitivity to different frequencies of sound.

Overall, the responses were positive and curious, surprised by a new sensation.

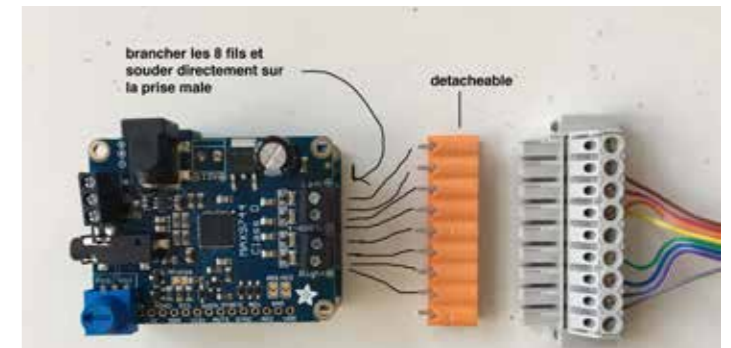
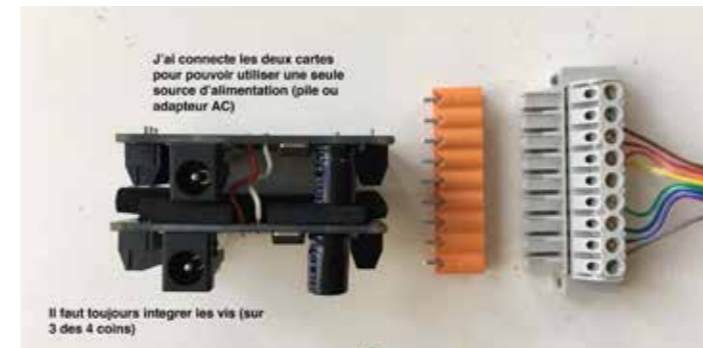


I then began the 'conception' part of the project. I designed and fabricated several models, showing a variety of options of how to wear the technology. I chose to move forward with a 'vest' style, intended to suggest an under-clothing use.



I assembled all of the electronic parts necessary to build the technological system that I integrated into the vest.
I connected and soldered the vibrating units (actuators) to the wires connected to the amplifier, which receives the sonorous information from the sound card connected to the computer.

The sonorous information was designed by me, spatialized to the actuators according to a characteristic of the diffused sound (frequency, amplitude). I used Max MSP and Logic Pro for the sound design.



I built two functioning models - one step before a true prototype. One model has four integrated vibrating units - on each clavicle, on the upper back, and on the lower back.

The model with eight vibrating units proposes a vertical organisation, all along the spinal column. These placements were specially chosen in order to conduct the sound all the way to the skull through the bones of the spinal column or clavicles. They favorise a diverse spatialization of the sound and vibration on the user's body.



4-actuator model



8-actuator model

COLLABORATIVE WORKS

Research Study *Modulation Sonore de l'Anxiété* 2018-19

Participative research

Multisensory Design

Synthesis and presentation

Report writing

Objective : Create an acoustic device, modular and multiform, which can adapt to the needs of each patient along the evolution of their psychiatric illness.

The creation of this device and its user interface concerns every professional and academic actor, along with its final users, who are the patients of the Centre Hospitalier Sainte-Anne, and their caretakers. This project was made possible by the Perception and Sound Design team of IRCAM, the Laboratoire d'accueil et d'hospitalité of CH Sainte-Anne, and a team of two sound/designers, Claire Richards and Pierre Navarron.

This initial part of work is necessary for the advancement of the project development. We co-wrote a document which details the current state of literature on the associated subjects, and detailed accounts of all existing devices we found which aim to help users better manager their anxiety. This research allows us and future researchers to develop our own, informed conclusions about the development of our future acoustic device in a psychiatric care environment.

Do musical characteristics exist which are proven to help achieve a state of relaxation ?

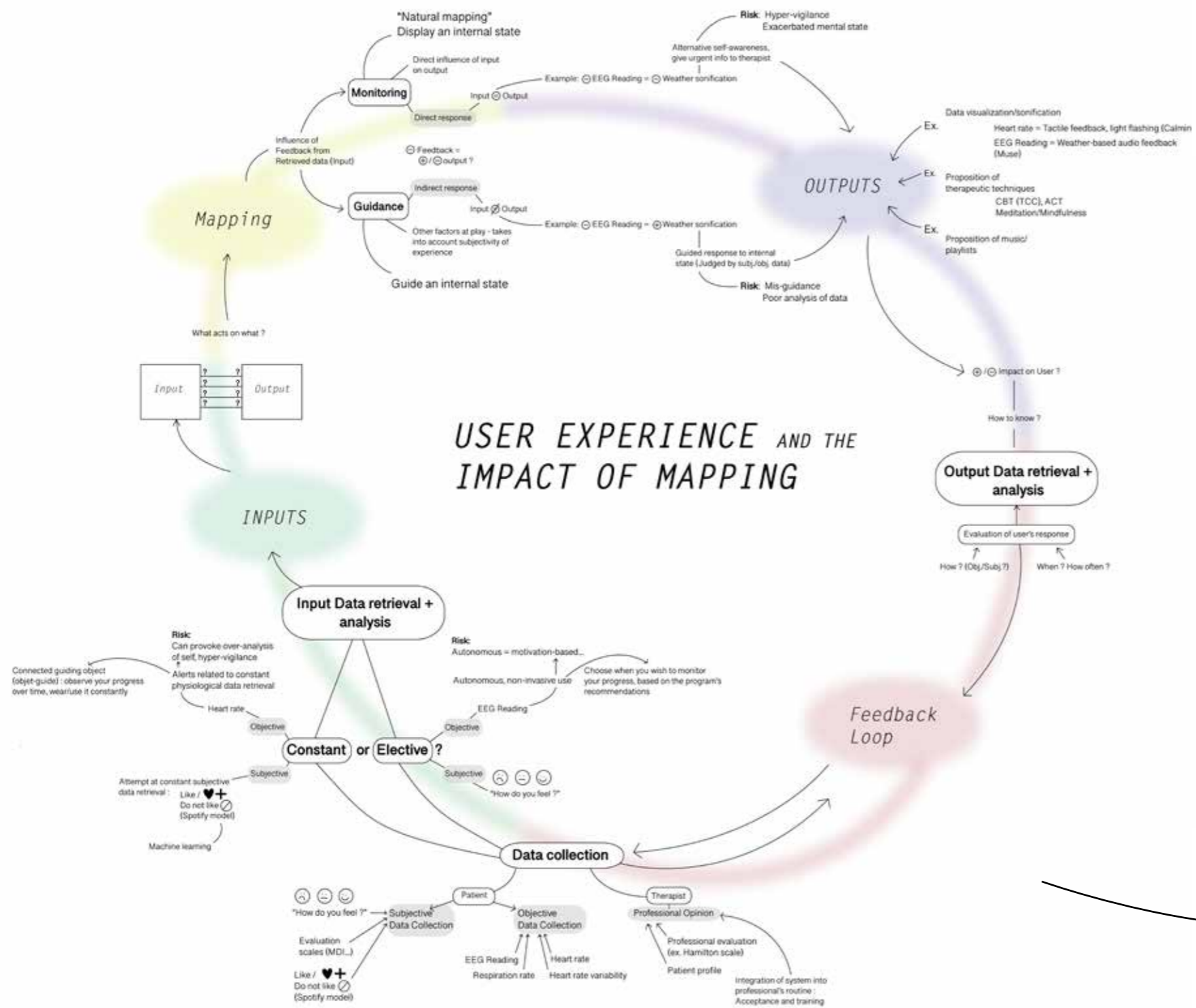
How can we conceive a therapeutic aid device that does not assume an ability to replace a caretaker's role and expertise ?

How does the mapping of user interaction produce positive or negative effects on the user ?

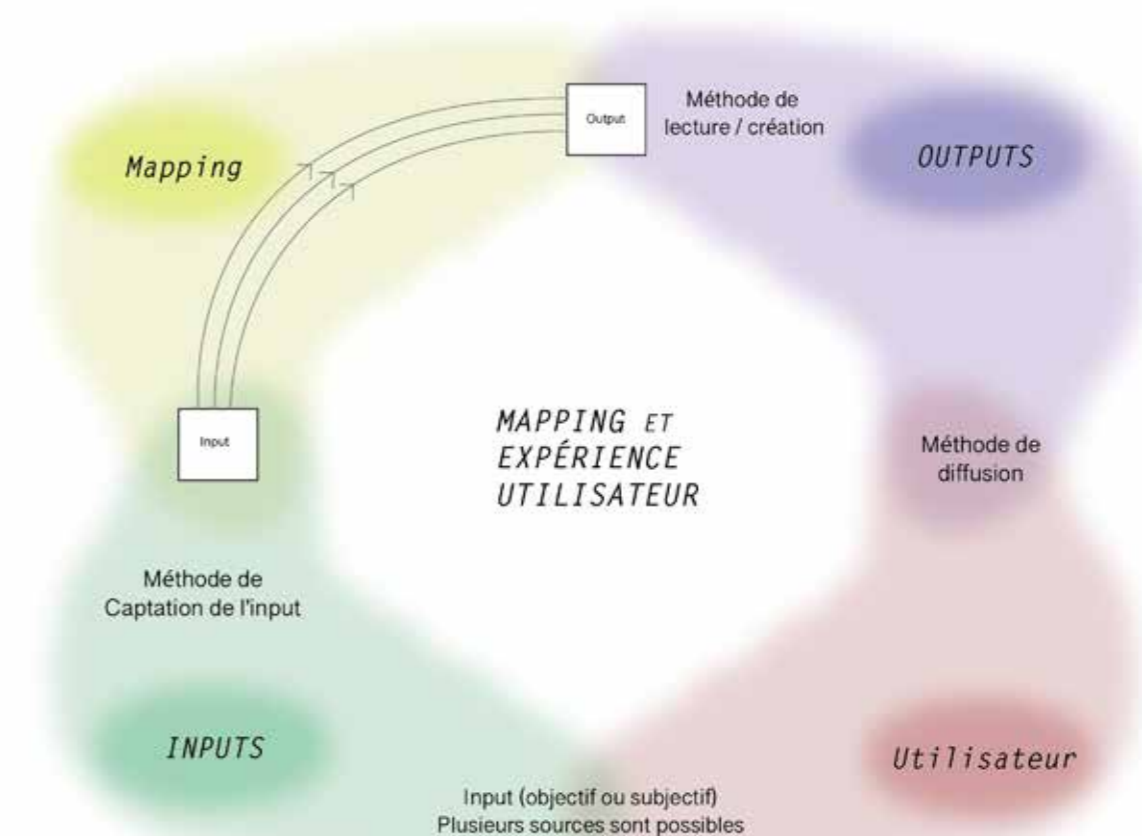
Research Study
 “Modulation Sonore
 de l’Anxiété”
 2018-19

Representation Methods

General Schema (*mindmap*)



Simplified Schema



Thank you !



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