

TREES

*A symbol for humankind
and a model for design*

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Foreword

This research has been made for a Master Degree in Applied Arts, specializing in Product Design and sustainability. I have always been fascinated by trees. I can keep on observing them for hours, drawing them, trying to figure out what is so graceful in their structure. One might find this connexion to trees rather odd, although am definitely not the only one to worry about the humankind's detachment from other living beings. The French botanist Francis Hallé says that regarding the different crisis we are going through, we need to cling to something solid such as trees, which are precisely a symbol of immutability, resilience and wisdom. Could it be, also, a model for sustainable design?

Trees are important in every culture, but every culture is unique. Besides, each individual can have slightly different experiences with trees. It has a rich potentiality for the designer who can explore all these various angles, taking inspiration from our relationship with trees throughout time and borders. This abstract allows me to present the examples I find the most relevant intimately, which are going to be guidelines for this research. The practice of English helps me "squeeze out" what they have in common: their ability to question our beliefs, knowledges, priorities. With humility and wonderment.

Introduction

Human beings, throughout history, have always aimed to feel different from other living beings on earth. The distinction between nature and culture has been studied by the anthropologist Philippe Descola (2005), who analyzed different relationships between people and their *oikos* over the world. He found out that occidental culture is the only one making a difference between the self and the others. Consequently, the western world is based on a domestication scheme leading to devastating behaviors, such as deforestation : in two decades, the world forest area lost 100 million hectares for crops. Furthermore, in the last century, industrialization improved the capacity to produce high quantities of artificial artefacts, contributing to isolating humans from the rest of the biosphere. That's why the environmental crisis is also social and philosophical: we need to open our minds to other ways of thinking creation and we definitely need new models.

How can designers deal with this? Partially responsible for over-consumption, they now have the duty to develop sustainable production cycles. They also have the capacity to convey, throughout shapes, new imaginaries of relationship with nature. Designers can highlight how beliefs and affects forge our interactions with the wild world. They should try to erase differences between the artificial and natural world. One has to find a good way to raise awareness about nature without talking like a guru, though. The main constraint for designers is that consumers might refuse such rewilding

in their lives, and without public agreement, the product will not be diffused and the designer will miss his or her point. Fortunately, a lot of disciplines over the world currently work on bio-inspiration and reestablishing links with the living world. Some scientists have discovered a lot about plant communication in the last decades. Anthropologists are studying the symbiotic philosophy of primitive civilizations. Artists are questioning materiality. Movies develop fictional worlds in which nature is both magnificent and dangerous. Fashion is facing new trends with organic materials.

All of the examples in this abstract have a common focus: Trees. It is a very topical subject, especially since the publication of "Hidden life of trees" by Peter Wholeben in 2015. Indeed, trees are very well designed for life on earth. Every culture and individual has a specific history with trees, that's why it could be a good model for a product design research.

How can we experience deeper contact with nature?
What kind of relationship do we already have with trees over the world, and to what extent can they inspire designers?

I/ The Yanomami, an Amazonian tribe in the primary forest

For designers, the main stake is not only to create forms according to how a society sees the world, but also to allow a different interpretation of the world thanks to the forms they create. Consequently, making design is taking in consideration different kinds of ontology. Then, analyzing how other prosperous populations manage to live in symbiosis with nature can give clues to challenge anthropocentric occidental societies. Because this research is focusing on

trees, let's take the example of the Yanomamis, one of the last Indian groups in Amazonia nowadays. They were around 2700 individuals twenty years ago. Until 1960, they had had no relation with the colonials, and they had preserved their culture and knowledge from the western world modernism. They live in the middle of the wild forest under a big circular canopy/awning (shabanos) which shelters every family of each community. Food is provided by horticulture,



Claudia Andujar is an anthropologist defending the Yanomami since 1970. Her photographs about their lifestyle is not only a report, but try to materialize their beliefs in spirits and shamanism practices by some camera effects.



hunting and harvesting. Indeed, everyday, most of them have to walk for hours in the forest to find what they need to eat, build their houses, make tools and weapons, fires, poisons, towels, perfumes, or drugs. Their way of life implies a daily connexion with trees, and when they cut one down, they use its fruits, wood, bark and leaves – as if it was an animal, nothing is wasted. Their millennial knowledge is tremendous. They know a lot about botanical practices forgotten by modernism: edible mushrooms, worms living in trunks of rotting trees, natural remedies for all their diseases, which specific flower would

provide good honey. Furthermore, the Yanomamis have spiritual guides among them, also called shamans. They believe in spirits, invisible entities, which can be a kind of animism. Some magical practices are linked with trees, for example picking the fruits of the peach palm is a funeral ritual. As a conclusion, their material and spiritual life is rooted in the forest, which is their home -needless to say that it would be crazy for them to destroy it. Their nomadic way of life allows the forest to regenerate. All their system has been thought so that they will never be short of resources.

On the contrary, in modern occidental cultures, people have lost the necessity to learn about wild plants. Sedentary life and global share of the work provide individuals with food, so that one can drive to the supermarket within a second. It's much more efficient, but is this life as thriving as the Yanomami's? Why not transpose some of their cultural habits to ours? To achieve this, designers should create new objects, with other aesthetics and functions. It could be a technical issue:

what if we had to walk several kilometers in the forest to get our food? But it could also be spiritual: what kind of rituals could we imagine with trees in our modern world...?





2019, exhibition «Nous les Arbres» at la Fondation Cartier in Paris. Several drawings of trees by Yanomami artists, on demand of Claudia Andujar, anthropologist studying this population since 1970.

II/ Arte Povera, physicality and spirituality

“The value and function of Art is to reproduce the world’s mystery”. Giuseppe Penone

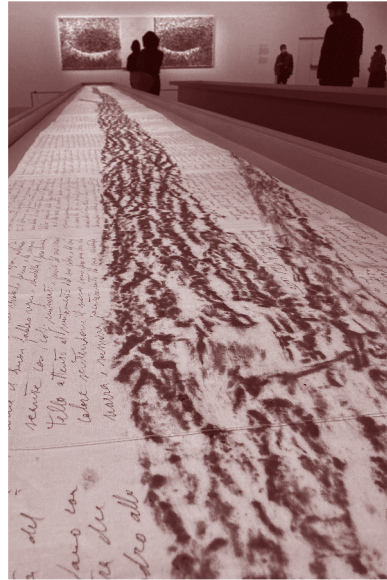
Products are considered as mediators between individuals and the rest of the world. So, in order to facilitate humans’ connexion to nature, design might be a key and should erase the borders between the two. This question has often been raised by artistic movements. Arte Povera for instance - an Italian artistic movement from the 1960s - is mainly fighting against modernism, industrialization, and selective art dedicated to some social classes. They question the symbolism of poor and raw materials such as wood, clay, stone. One of them, Giuseppe Penone, focuses on the relationship between humans and trees in a very sensitive way. Interested in living beings’ passage on Earth, he became well-known for his piece *It will continue to grow except at that point* (1968-2003). He fastened a bronze cast of a hand on a young tree, which kept growing in time around the sculpture as a metaphor

of man’s domination over nature. Besides, Penone also experienced intimacy with nature in *Sofio di foglie* (1979) in which he lay down on leaves, so that his own body impacted their arrangement, and left the trace of its silhouette into the mass. This kind of tactile experience leads to question the dualism Humans/ Nature and could help to change an individual point of view about the



Continua a crescere tranne che in quel punto - It will continue to grow except at this point, Bronze and Tree, 1968. 40x9,8x12 cm

Self and the Others. Fluidity is therefore the notion he uses to express the continuum between our body and other earth matters or the rest of the world, but also between our spiritual mind and invisible forces. That is the main point of his latest exhibition at La Fondation Cartier in Paris: for his installation *Sap and Thoughts*, he reproduced a tree trunk pattern on a 30-meter-long piece of fabric. It represents the sap flow between the bottom and top of the tree. The artist also wrote a text alongside the trunk— his thoughts. Eventually, the comparison between the flux of both sap and thoughts is the central issue of Penone's work. Indeed, his productions offer tangible ...



Pienseri et Linfa, Sap and Thoughts, BNF, Paris 2021. Imprint of a 3 meters long acacia trunk and text written by the artist.

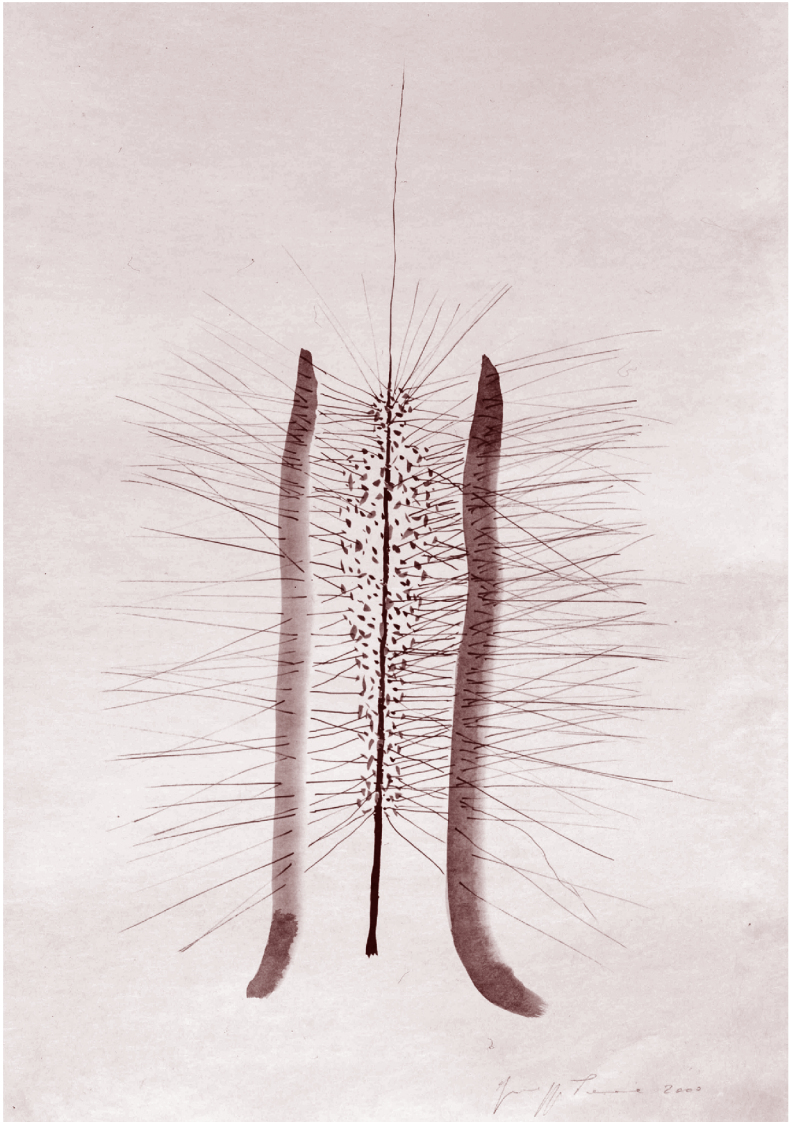


Soffio di Foglie, Giuseppe Penone, 1979. Body imprint on dead leaves

... sensations to the spectator on the one hand, and mental abstractions on the other hand. That is to say that his work aims to establish a physical and spiritual link between individuals and, in this case, trees. By analyzing the artist's process and transferring it to design, the designer could offer such experiences to the user. Needless to say that it is also the whole point of this design research, which will draw inspiration from Arte Povera.



Alberi de 12 metri. Penone wanted to reveal, by the sculptor's gestures, the beautiful inner shape of a tree hidden inside a timber from the wood industry.



Drawing: Penone sometimes makes the analogy between human beings and trees.

III/ Above knowledge and beliefs

In both examples we have just seen, the relationship with nature is conditioned by spirituality and beliefs. The Yanomamis communicate with invisible forces thanks to shamanism, and Penone's art questions the common points between humans and vegetables. But occidental cultures, because of their philosophical tradition, have faith in science. Is the tension between rationality and irrationality in modern societies responsible for a disconnection with nature? Certainly. Even though spiritual enlightenment is an emerging trend, it is welcomed by skepticism by many people and sometimes accused of conveying subversive ideas. Some practices such as Forest Bathing - a Japanese method that mainly consists in walking through the forest and embracing trees in order to enhance physical and mental health – are still a source of derision and mockery. Nonetheless, regarding trees, some scientific studies recently discovered that what was considered as superstitions is actually a reality. For example, the Swiss botanist Ernst Zurcher has been claiming for many years that

the moon's influence over a tree's growth. The first time he presented his work, the assembly laughed and some of his peers left the room in disagreement. But later, more results confirmed what he said and the scientific community all over the world is now interested in his theory. In the same vein, in America, Peter Wohlleben published in 2015 *The Secret Life of Trees*. His readers all over the globe discovered that trees could communicate with each other thanks to electric stimulations conveyed in the soil by a network made of roots and mushrooms. For people, the fact that he was a scientist gave credit to what he said. That was a turning point for the public concern toward trees, and the number of books and documentaries about this topic raised consequently. Of course, the lost is that the consumer is now overwhelmed in a huge wave of information that does not help him to distinguish the truth from the false, which reinforces skeptical positions. Nonetheless, do we really live in a rational society? Are beliefs, faith and mystery necessarily not part of who we are?

Forest bathing, a scientific and esoteric practice

Let us go back to the example of Forest Bathing (shinrin-yoku), a Japanese healing practice officially developed in the 1980s to address a national stress crisis. It is now becoming popular in European countries and in the USA, for both individual and professional concerns. However, people have very different opinions about it, and sometimes feel vain and ridiculous to pretend to communicate and love trees. It is totally understandable, and good to raise such questions in order not to fall victim to dangerous practices. On one hand, some facts have been scientifically proved. Trees spray volatile oils in the air with antibacterial and antifungal properties, called phytoncides. Our body reacts with these chemicals which helps over the long term to fight diseases such as tumors. On the other hand, forest bathing sometimes leads to other activities than walking in the forest, such as creating land art with leaves, or embracing trees. It might be totally irrational to do that. It may have no result we can calculate. Does it mean it doesn't trigger anything in people's mind? That is forgetting all the

complexity of our brain and emotional system. In relation to that, a surprising study disclosed that watching trees through a window may improve recovery from surgery:

«Records on recovery after cholecystectomy of patients in a suburban Pennsylvania hospital between 1972 and 1981 were examined to determine whether assignment to a room with a window view of a natural setting might have restorative influences. Twenty-three surgical patients assigned to rooms with windows looking out on a natural scene had shorter postoperative hospital stays, received fewer negative evaluative comments in nurses' notes, and took fewer potent analgesics than 23 matched patients in similar rooms with windows facing a brick building wall.»

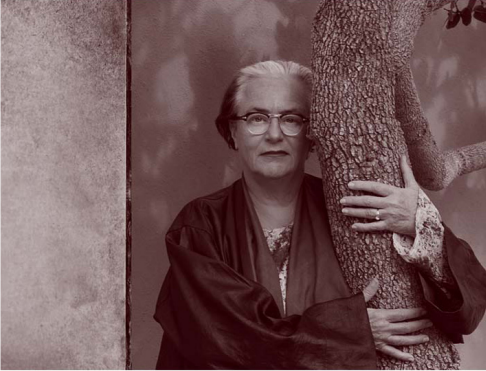
(www.science.org)

Furthermore, looking at trees increases stress-related hormones like cortisol or adrenaline in our bodies. With that in mind, we have to wonder what part of rational and irrational can influence our temper and behavior, and to what extent making up stories is important for us.

Conclusion

The following research will deal with transposing tree's formal and functional aspects to product design. More than getting inspired by nature to innovate, we will ask why rewilding our domestic spaces might help humankind to connect with the rest of the environment. We will study trees focusing on experience, sensations and imaginary throughout many disciplines: anthropology (to raise awareness about psychological links, historical practices) botanic (to understand the metabolism of a sylvan tree) or modern art (to identify how we already put in shapes our links with Nature). To begin with, our first statement is that trees can provide humans with tangible and intangible goods. In fact, nowadays, occidental culture would rather think of a tree for its wood. But for some populations such as the Yanomamis, a tree is a living being taking part of something bigger, invisible, connected with the whole rainforest.

Thus, their life is punctuated by magic rituals and respectful practices. Of course, such considerations are highly questionable for occidental people. Nonetheless, does it mean we have no magical thoughts about trees? Not any irrational habit, inexplicable attraction? The Italian artist Giuseppe Penone tells us how symbolical can be a shape, how significant can be a material, and how many visions of the world they can convey. In the end, all is about finding a balance between our percepts and concepts. And it is the role of each of us to ask ourselves what we want to believe in. In that respect, here is what the trend forecaster Lidewij Edelkoort says about design's future:



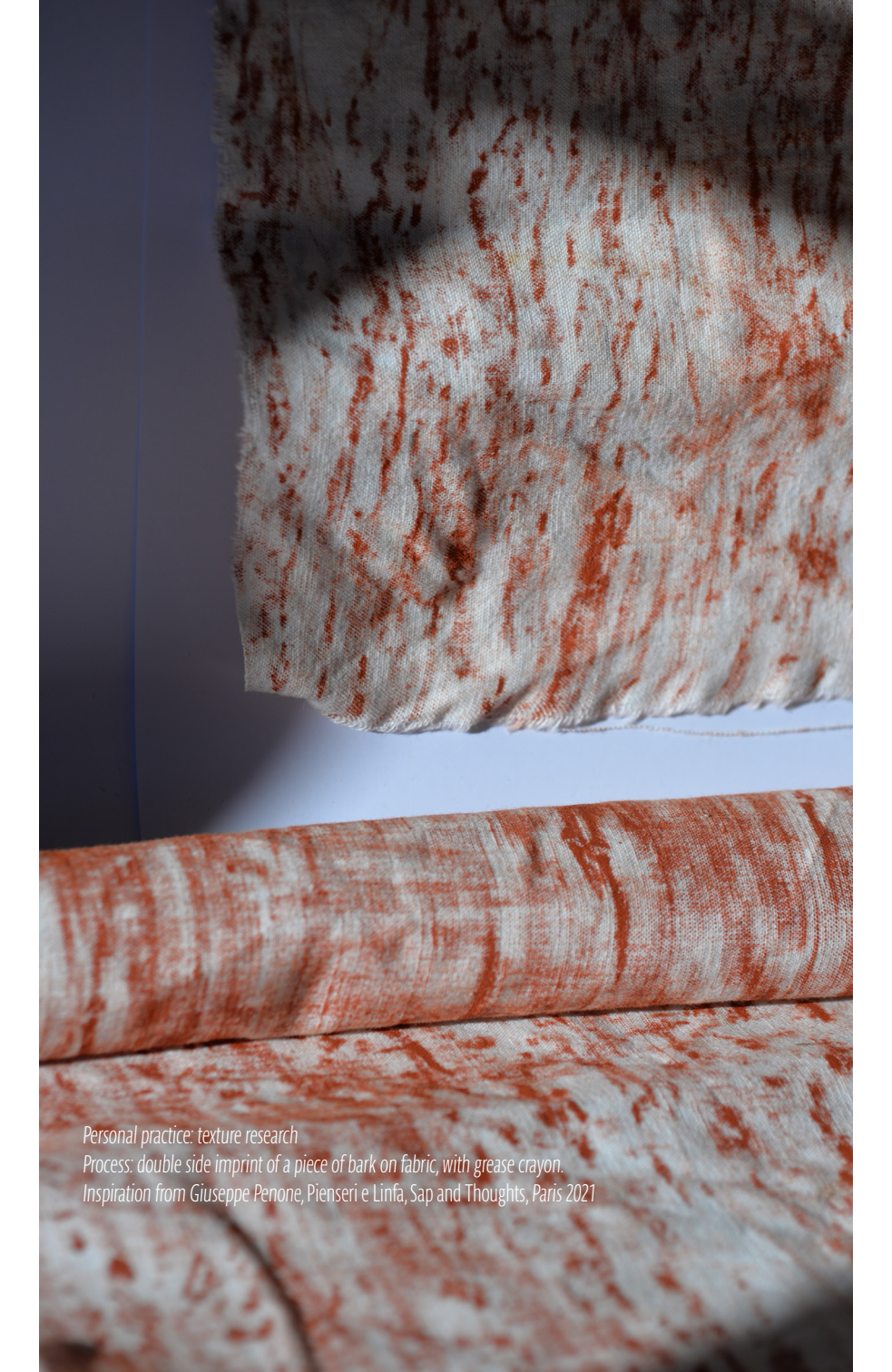
Lidewij Edelkoort. Source: coulisse.com

“A new generation of designers retrace their roots, refine their earth and research their history, sometimes going back to the beginning of time. [They] conceptualize archaic rituals for a more modest, contented and contained way of life. (...) A more intimate and intuitive relationship will be the result, based on primitive emotions, ancient rituals and archaic systems, reinventing animism.”

ANNEXES

Analysis of Giuseppe Penone's production in order to transfer it to design:

Techniques	Drawing, molding, sculpting, printing
materials	Wood, bronze, marble, fabric, stone
Gestures	Slow, fluid, repetitive
Stylistic devices	Analogy (drawings), metaphor, comparison,
Tree elements	Sap, bark, branches, rings of growth, spines
Artistic process	Promoting touch and feeling. Trees implied in the process. Small elements for huge installations. Natural colors. Formal transfers. Long time process.



Personal practice: texture research

Process: double side imprint of a piece of bark on fabric, with grease crayon.

Inspiration from Giuseppe Penone, Pienseri e Linfa, Sap and Thoughts, Paris 2021



*Personal practice: questioning tree's sleeve.
Moldings of a piece of pine tree's bark with latex, plaster and bee wax.
For our imaginary, natural materials such as bee wax seems to be the most richfull choice.
Inspiration from Giuseppe Penone.*

A photograph of a forest in autumn. The trees are tall and thin, with some leaves still green and many others turned yellow and orange. The ground is covered in a thick layer of fallen leaves, with a path of yellow leaves leading through the forest. The sky is overcast and grey.

Personal practice: Yellow circle

Land Art representing the invisible links between trees
In every culture, trees are considered as mysterious
living beings. Circles symbolize both the earth and
the divine. This could be a ritual for some people to
draw circles with leaves on the ground; for some
spiritual reasons.

Aknowledgements

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SUMMARY

**How can we experience a deeper contact with nature?
What kind of affinity do we already have with trees
all over the world?**

**From anthropologists to scientists, from woodcutters
to novelists, everyone talks about trees. Can we change
our behavior toward them, in order to imagine another
future? It's time to understand what our relationship with
trees was, is and could be in the future - and what lesson
we can learn from different points of view like
an Amazonian tribe, an Italian artist, a Swiss scientist
and Dutch trend forecaster.**