



Faculty of Design

2022

Toward an Eco-Social perspective: How to design in time of trouble

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Toward an Eco-Social perspective

*How to design
in times of trouble*



Relating Systems Thinking and Design
2022 Symposium
University of Brighton, Brighton, UK,
October 13-16, 2022

Margherita Vacca
Francesco Cantini
Alessio Tanzini
Fabio Ballerini

Laboratory of Design for Sustainability |
DIDA-UNIFI



UNIVERSITÀ
DEGLI STUDI
FIRENZE

DIDA
DIPARTIMENTO DI
ARCHITETTURA

The image shows a bright, modern design laboratory. The most prominent feature is a large wall of white shelving units, each containing a small, square sample of various materials, colors, and textures. In the foreground, a long, light-colored table is set with several chairs, some of which are red and others grey. On the table, there are several books and a large sheet of paper with a grid of small images. In the background, there are more shelves with books and a ladder. The ceiling is a standard grid with recessed lighting. The overall atmosphere is clean, organized, and creative.

Laboratory of Design for Sustainability
Design Campus UNIFI, Calenzano (Florence)



λ 43.8597021
 φ 11.1644971



Design in a
New context

An aerial photograph of a highly terraced and eroded landscape, likely a mountainous region. The terrain is characterized by numerous winding paths, terraces, and small structures, suggesting a long history of human habitation and agricultural activity. The colors range from dark brown to light tan, indicating different soil types and vegetation. The word "Anthropocene" is overlaid in white text at the bottom of the image.

Anthropocene

An aerial photograph of a rugged, brown landscape characterized by extensive erosion. The terrain is marked by numerous winding, light-colored paths and terraced fields, suggesting significant soil loss and human agricultural activity. The overall color palette is dominated by various shades of brown and tan, with some darker patches of vegetation or water visible in the lower right.

Capitalocene

Anthropocene

An aerial photograph of a heavily eroded, brown landscape. The terrain is characterized by numerous winding paths, terraced fields, and deep, narrow gullies. The overall appearance is one of significant soil erosion and land degradation. The colors are primarily shades of brown and tan, with some darker patches of soil or vegetation.

Anthropocene

Capitalocene

Cthulucene

An aerial photograph of a massive open-pit mine, showing a complex network of terraced levels, winding roads, and various mining structures. The terrain is rugged and brownish, with some blue and green areas indicating water or vegetation. The text is overlaid on the right side of the image.

Capitalocene

Anthropocene

Chthulucene

Novacene



Cthulucene

Capitalocene

Plantationcene

Novacene

Anthropocene



Wastocene

Chthulucene

Capitalocene

Plantationcene

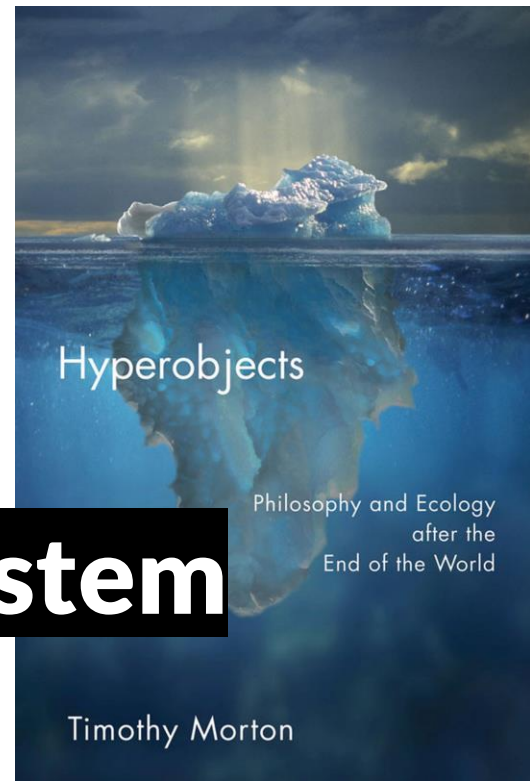
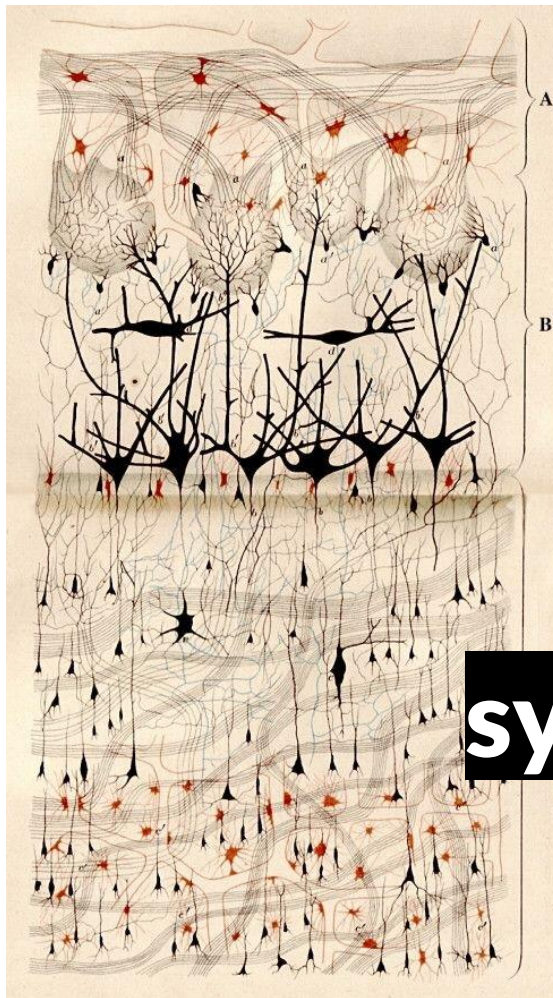
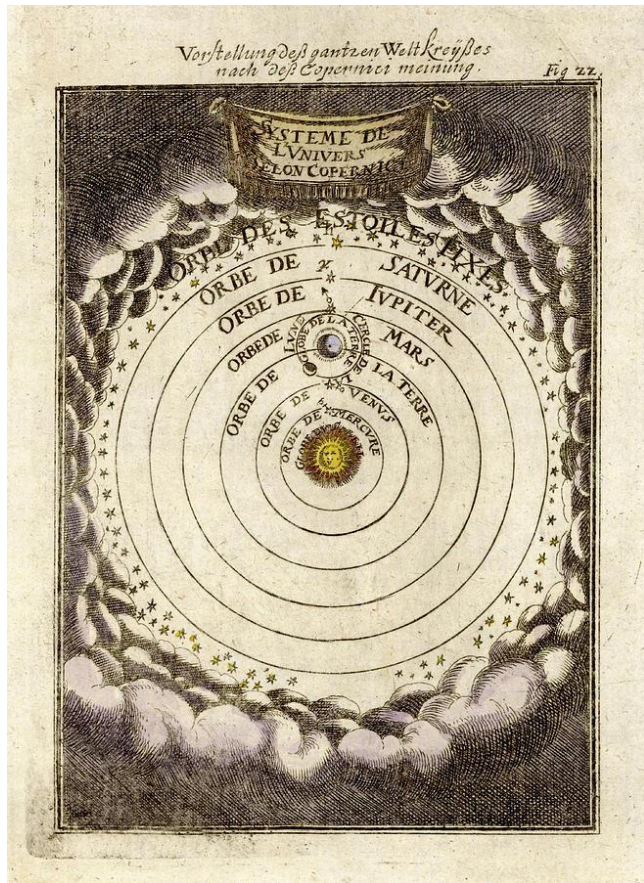
Novacene

Anthropocene

How can we **design** in
this **time of trouble**?

How can we **design** in
this **time of trouble?**

We started using *language*
as a design tool

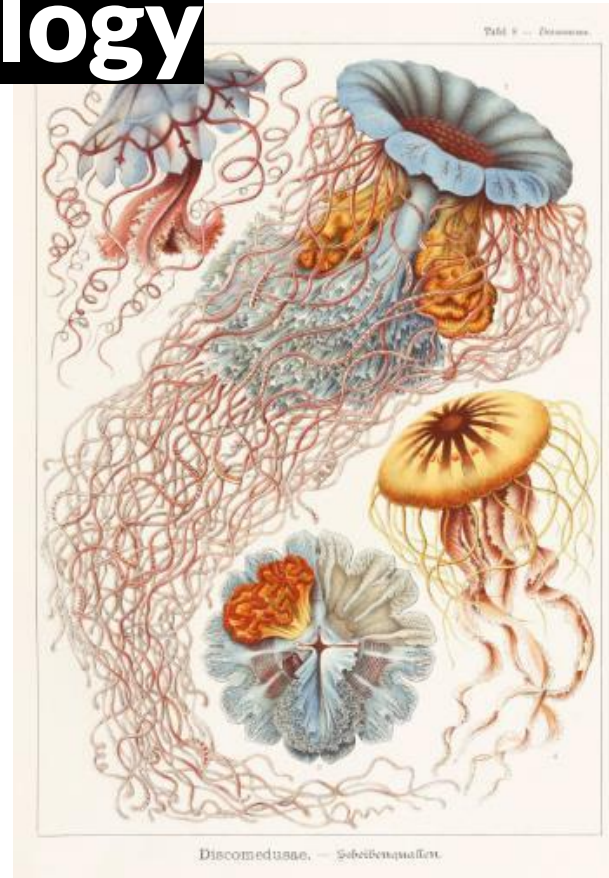
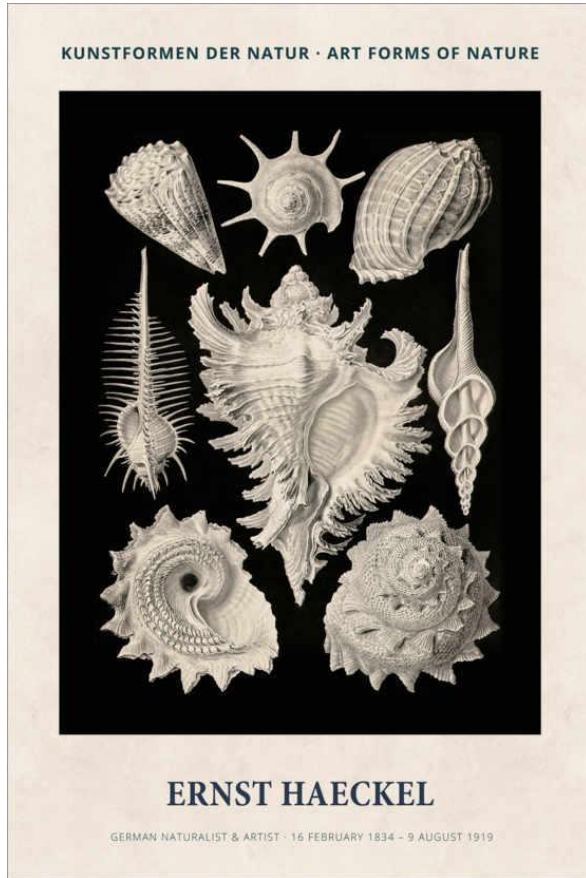


multiplicity

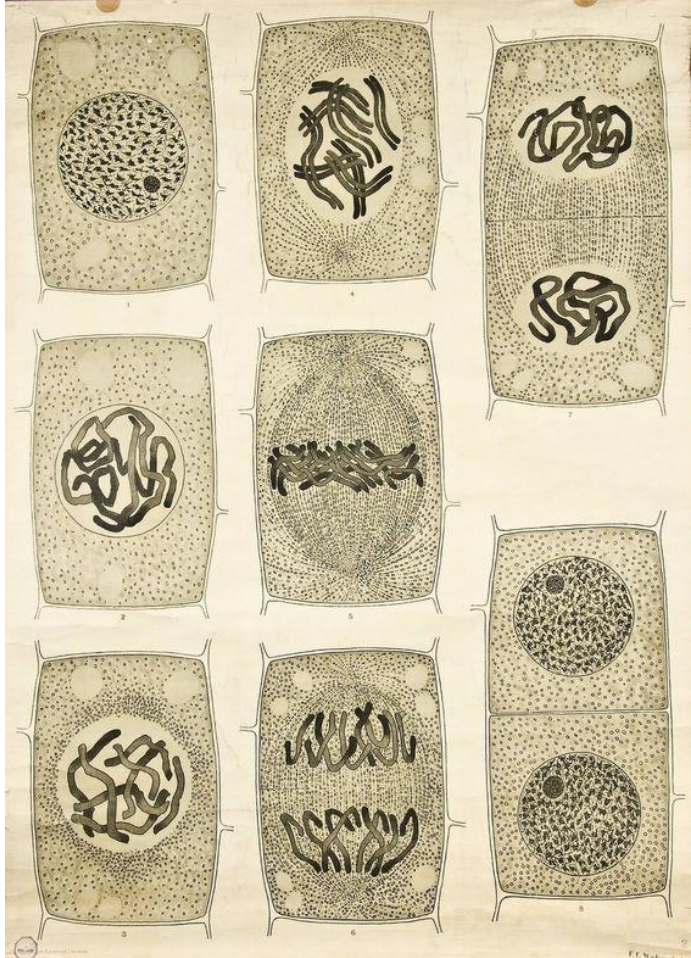


scalability

ecology



Art forms of nature
Ernst Haeckel, *Kunstformen der Natur*, 1904



AUTOPOIESIS

The Organization of the Living

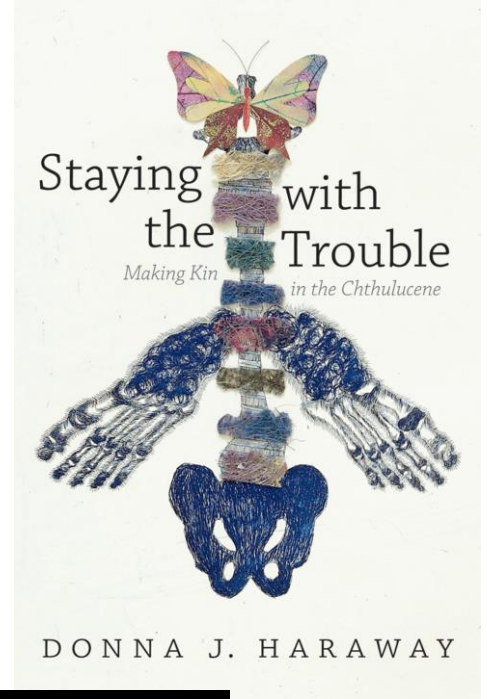
1973

by

HUMBERTO R. MATURANA

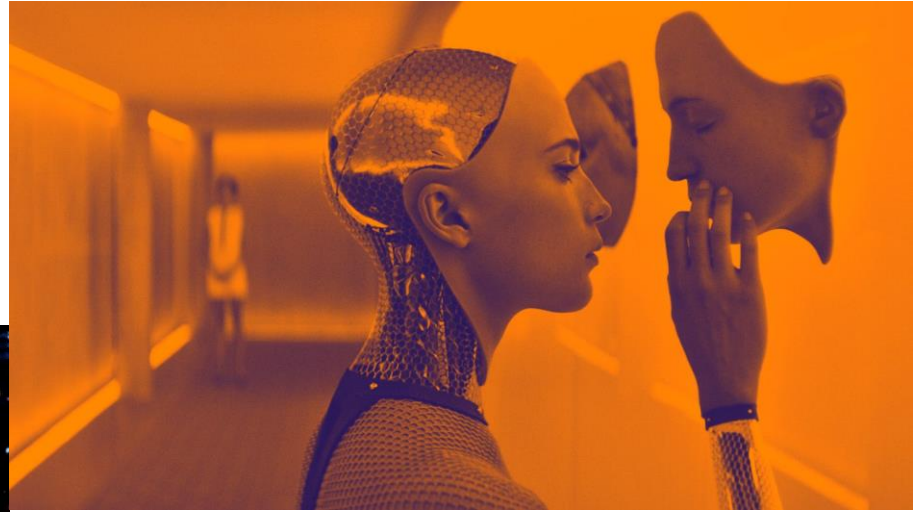
and

FRANCISCO J. VARELA

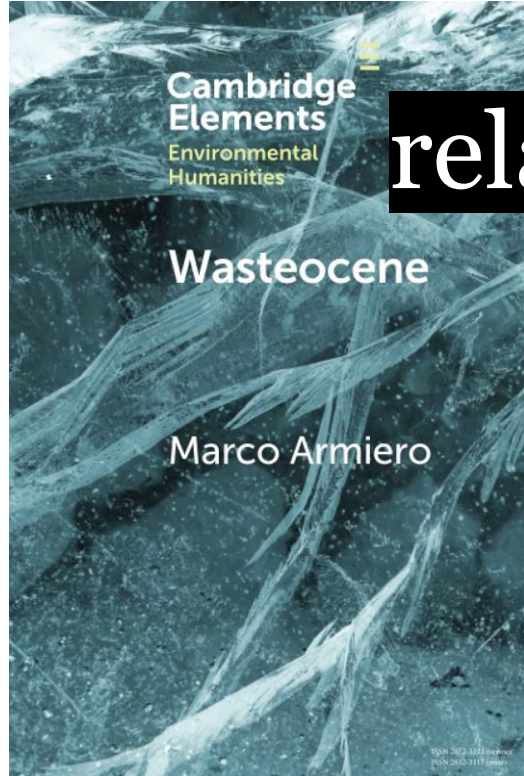


autopoiesis
symptoiesis

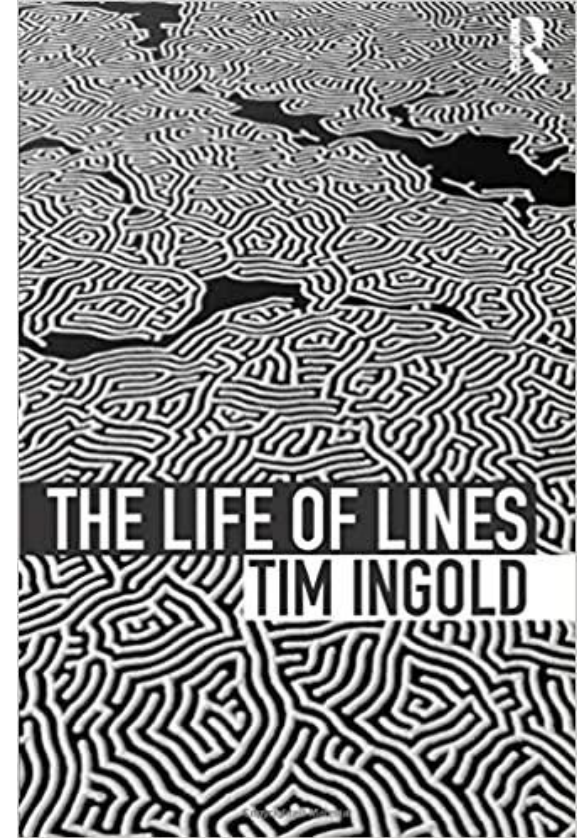
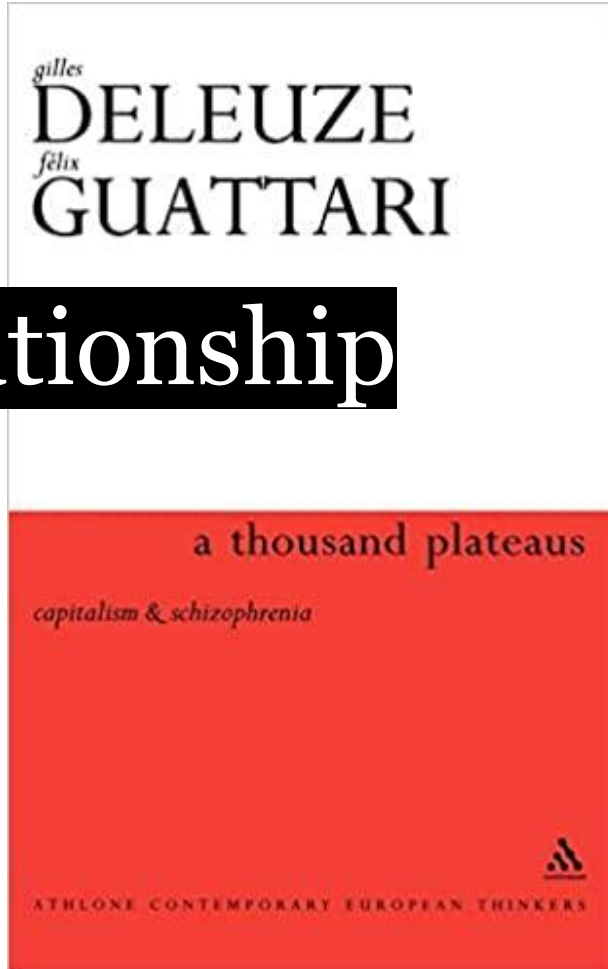
innovation



5.0 scenario



relationship





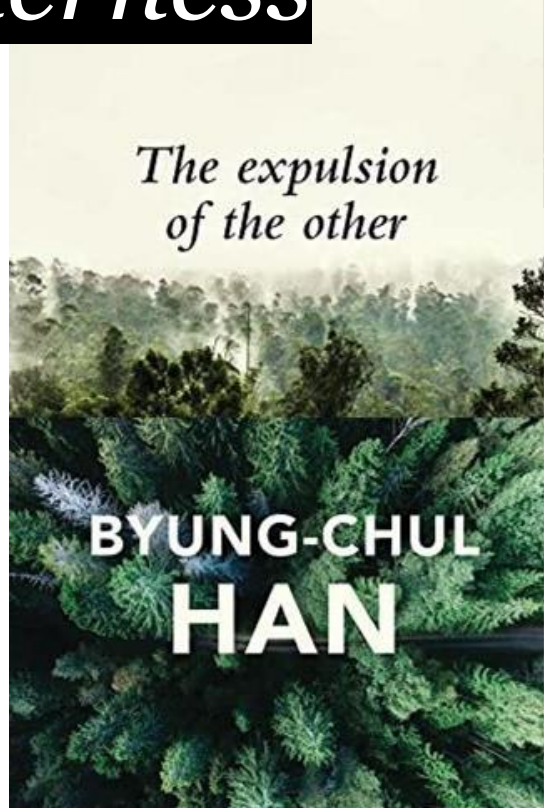
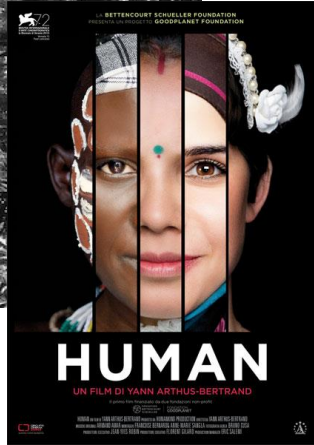
togetherness



HOW FORESTS THINK

Toward an Anthropology beyond the Human

Eduardo Kohn



*The expulsion
of the other*

BYUNG-CHUL HAN

a common pattern

cooperation as
mutual aid

MUTUAL AID

A FACTOR OF EVOLUTION

BY
P. KROPOTKIN

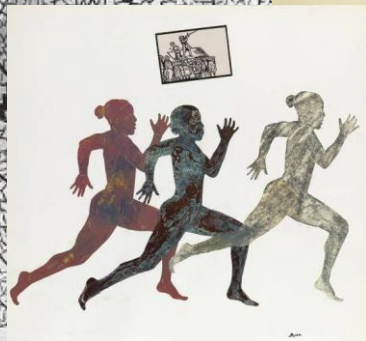
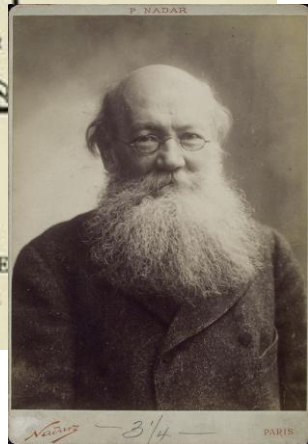
AUTHOR OF
"THE GREAT FRENCH REVOLUTION," ETC.

Revised and Cheaper Edition



LONDON
WILLIAM HEINEMANN

GREAT BRITAIN



The Formulas

$$\frac{H+H}{Ma}$$

$$\frac{(H+H)^n <}{Ma}$$

$$\frac{H+Nh}{Ma}$$

Legend

H= Human

Ma= mutual aid

Nh= non-human

<= Augmented

The Formula

$$\frac{H+H}{Ma}$$

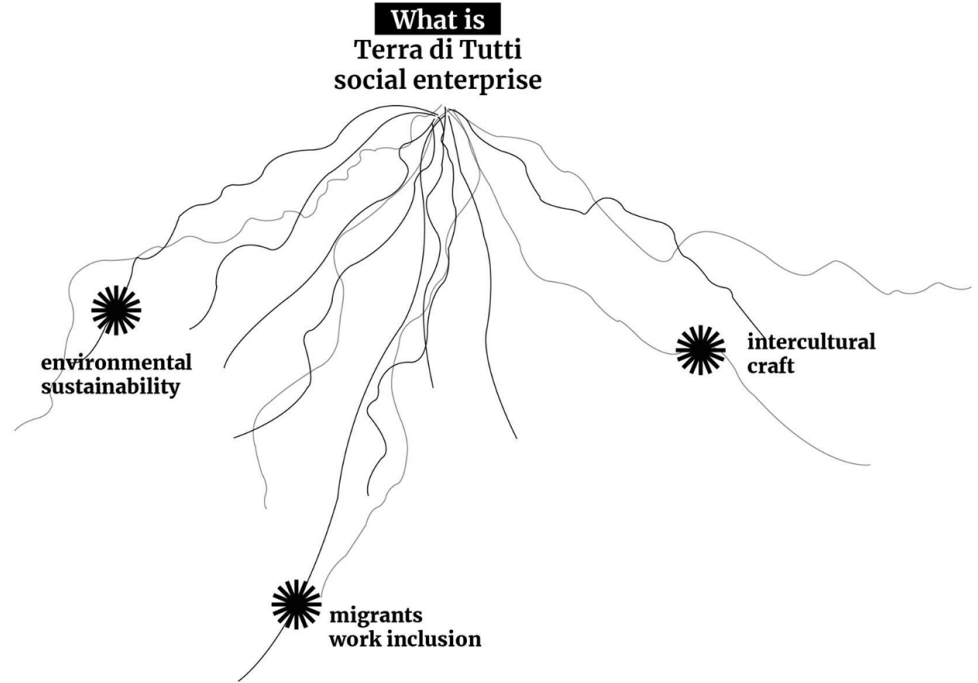
Legend

H= Human
Ma= mutual aid



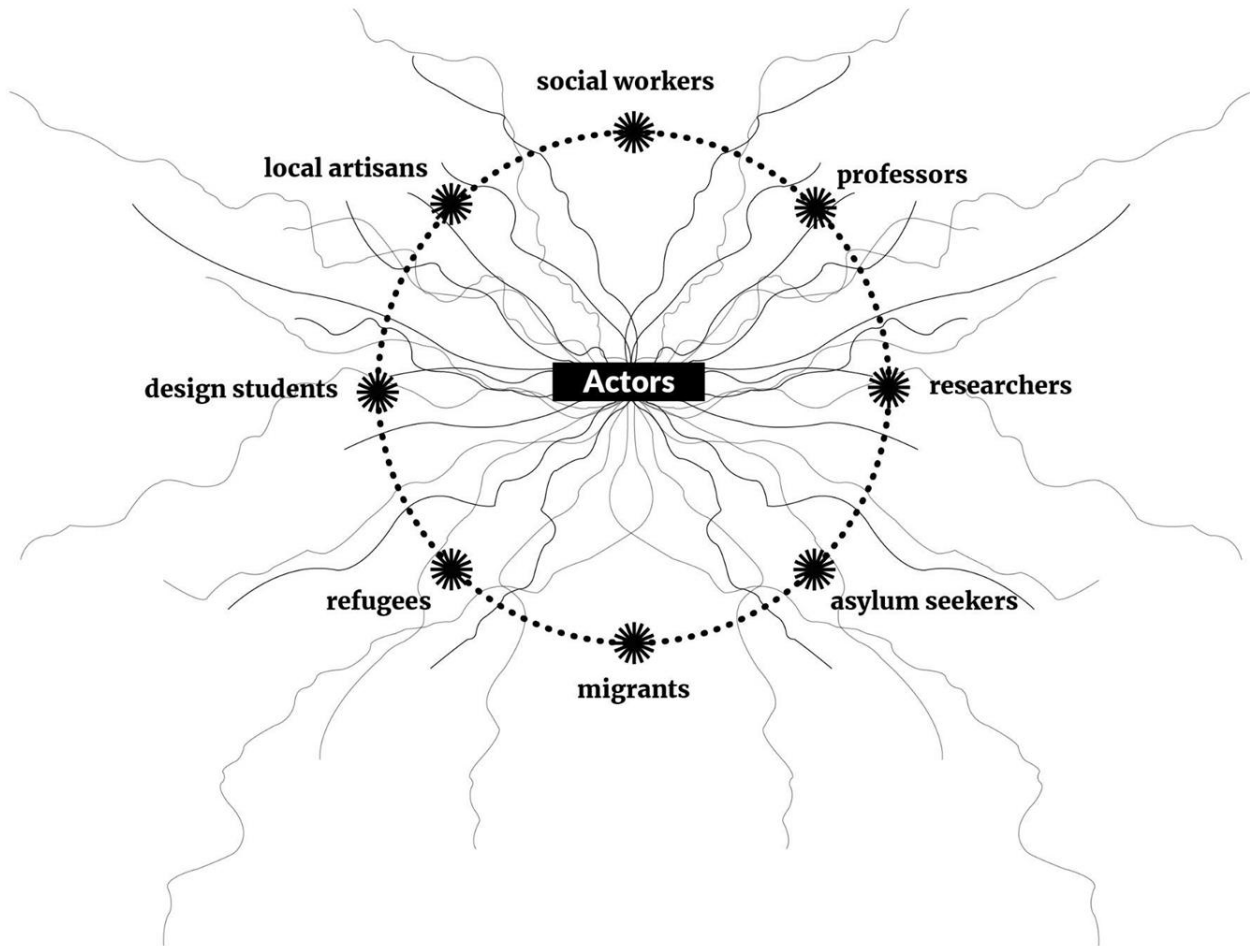
Master Degree in Design
Lab Design for Sustainability
A.A. 2019-20

#Design for social innovation and inclusion



**Design with,
not design for**







participation

cooperation

relationship

doing together

friendship

**knowing myself
through you**





collect and write
down first
impressions and
emotions ...

bring together
keywords and
pictures

...

What emerges from dealing
with **Human + Human**
design issues?

*problem
framing*



MIGRANTS EMPOWERMENT

MIGRANTS EMPOWERMENT

job issues *identity process*

MIGRANTS EMPOWERMENT

job issues *identity process*

enhancing skills

developing new ones

MIGRANTS EMPOWERMENT

job issues *identity process*

enhancing skills

developing new ones

*problem
solving*



INTERCULTURAL CRAFT

MIGRANTS EMPOWERMENT

job issues *identity process*

enhancing skills

developing new ones

INTERCULTURAL CRAFT

social sustainability

active participation design activism

MIGRANTS EMPOWERMENT

job issues *identity process*

enhancing skills

developing new ones

INTERCULTURAL CRAFT

social sustainability

active participation design activism

to do with, not to do for

The Formula

$$\frac{(H+H)^n <}{Ma}$$

Legend

H= Human
Ma= mutual aid
<= Augmented

ROBOCOOP

Augmented Reality,
Advanced Storytelling,
Blockchain in the Circular
and Technological
Innovation process of
Social Cooperatives

**NEEDS and
DREAMS**

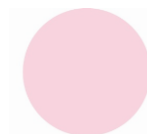
PROTOTYPES

**TECHNOLOGY and
CIRCULAR solutions**

ROBOCOOP

**TESTING with
STAKEHOLDERS**

**DESIGN
STRATEGY**



OBJECTIVES

SOCIAL COOPERATIVES EMPOWERMENT

solidarity *territories and community*
expanding opportunities
autopoietic social innovation

AUGMENTED REALITY

empathic communication

ADVANCED STORYTELLING

digital narratives

BLOCKCHAIN *transparency*

circularity

sustainable production

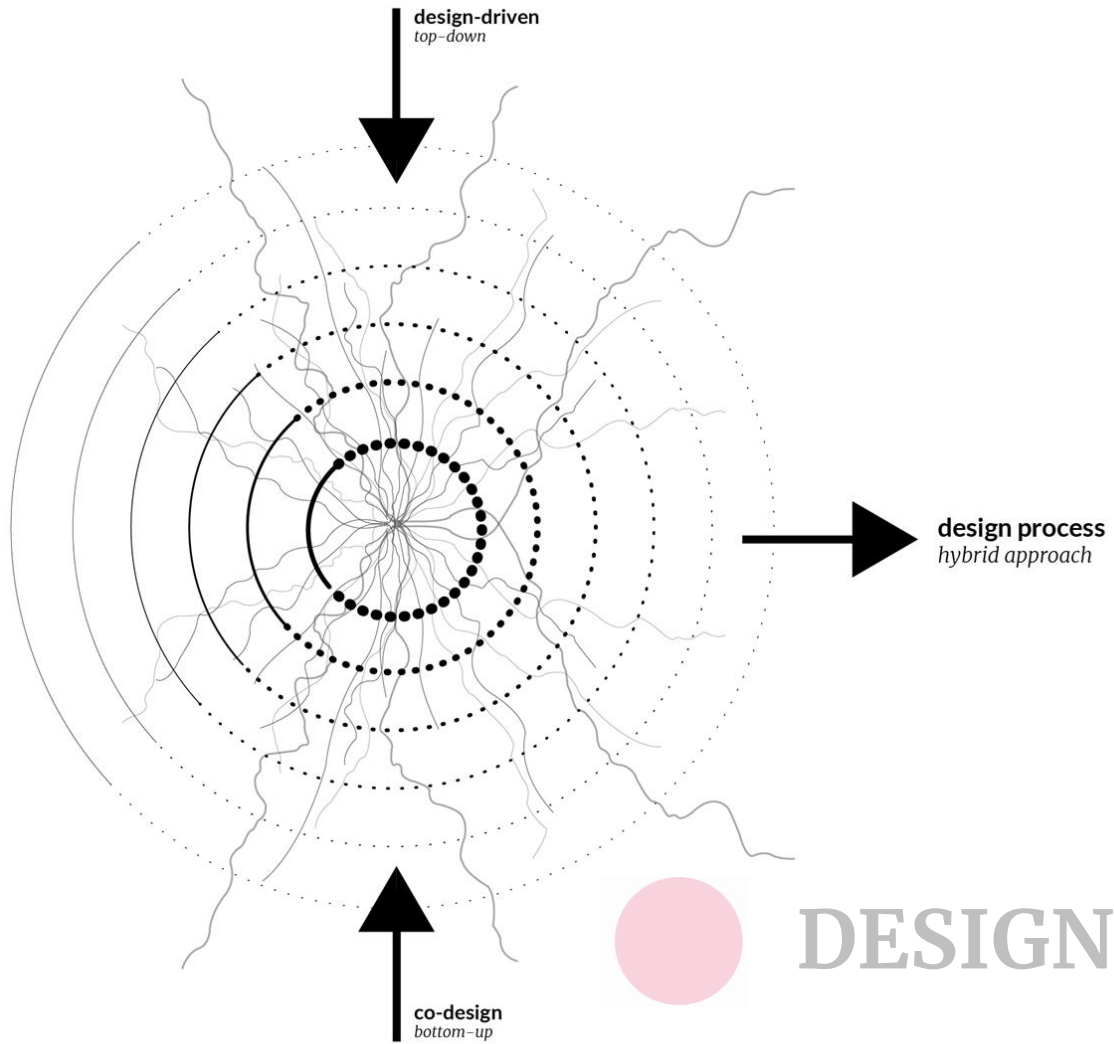
SHIFTING THE PARADIGM

KEYWORDS

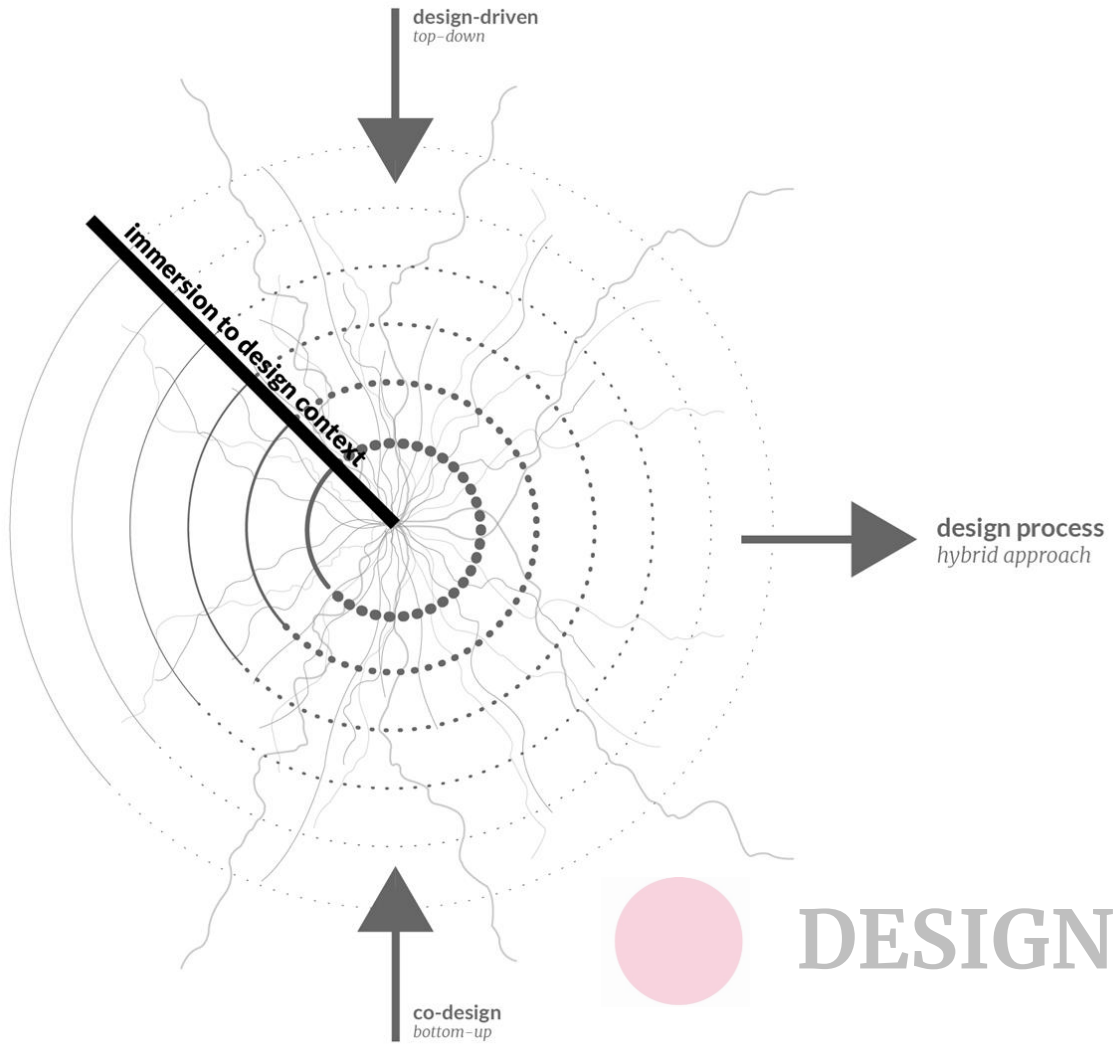


DESIGN APPROACH

methodology



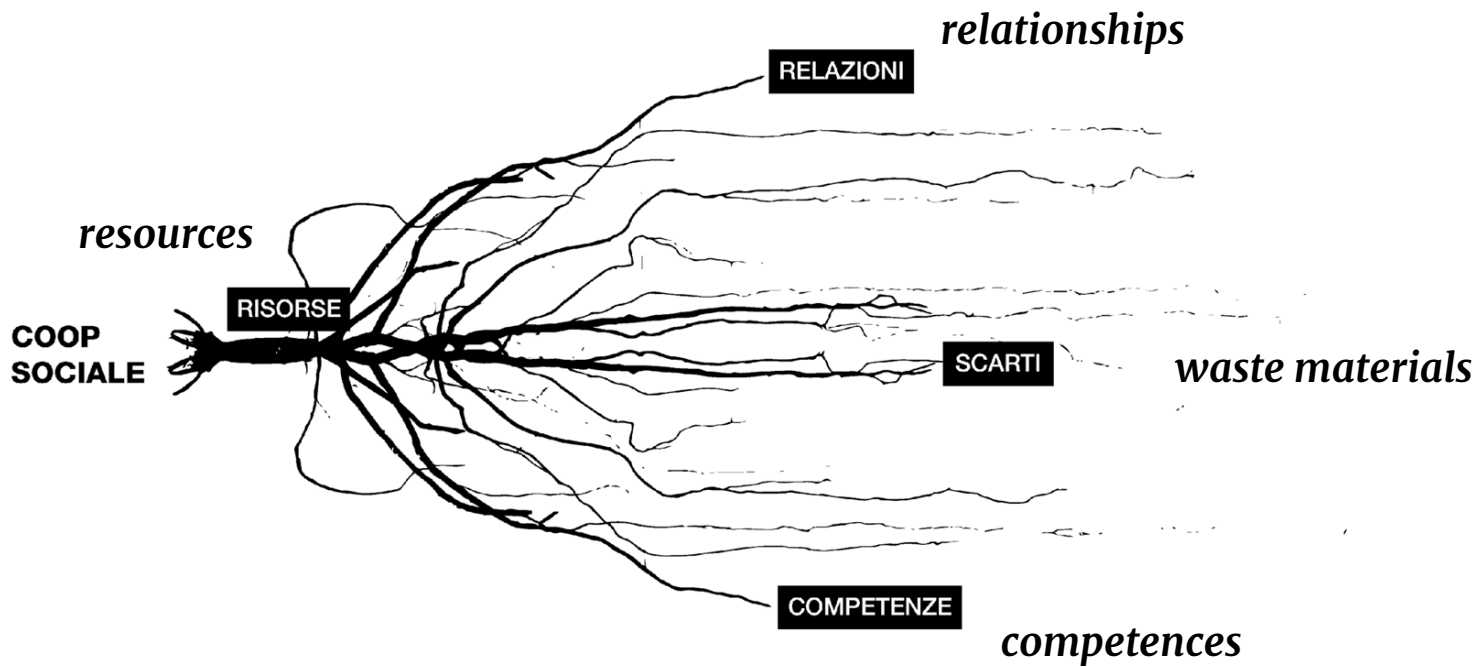
DESIGN APPROACH



DESIGN APPROACH

Territorial analysis

[material + immaterial flows]



Then...Why *augmented*?

Then... Why *augmented*?

$$\frac{(H+H)^n}{Ma} <$$

Social Change

Green transition

Digital transformation

systemic approach

Legend

H= Human
Ma= mutual aid
<= Augmented

The Formula

$$\frac{H+Nh}{Ma}$$

Legend

H= Human
Ma= mutual aid
Nh= non-human

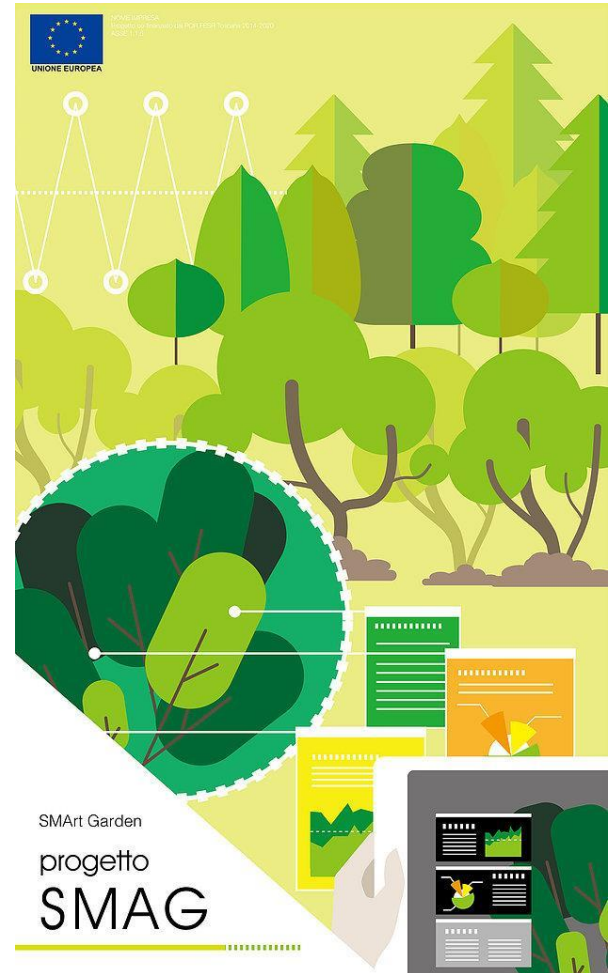
SMAG

SMArt Garden

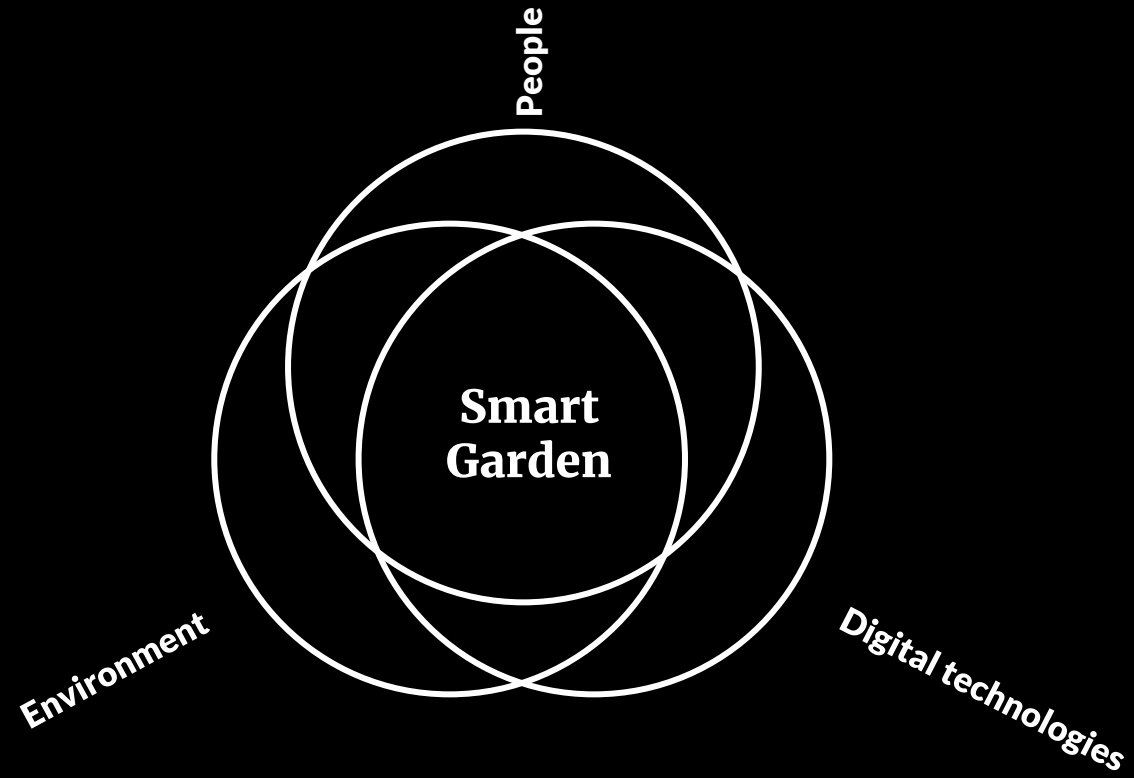
Hybrid systems of human | technological | biological products.

Prototypes developed based on the concept of

Alessandra Galli (Water Value)
Jonathan Lagrimino e Mirko Romanelli (Litus)
Giacomo Da Re (I sette Nani)
Ideati nell'ambito del corso di
Design for Sustainability (LM12)
Prof. Giuseppe Lotti, Prof. Marco Fioravanti.



Single
hybrid
system

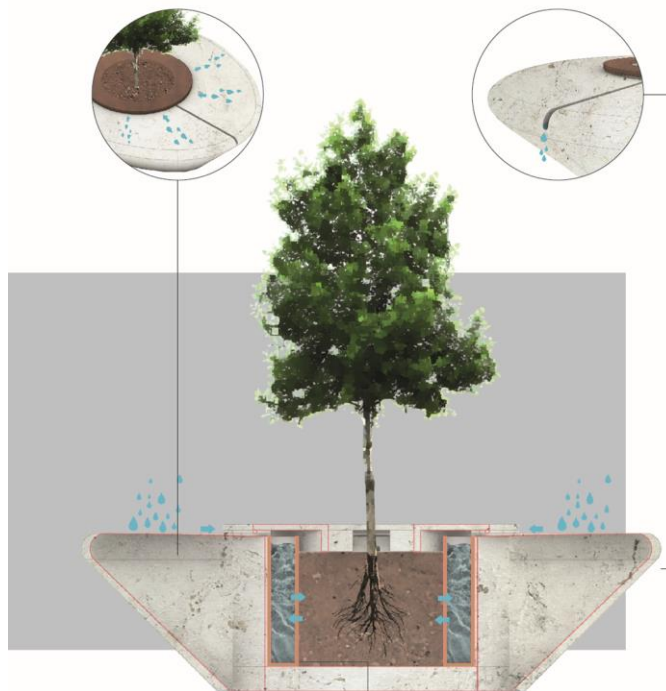




Interdependence between man and plant:
a **mutual relationship** to be (re)built



WATER VALUE



TERRACOTA CONTAINER

Resuming an ancient irrigation technique, with the aim of making water management more sustainable, terracotta containers were made and inserted in the travertine vase. The vessel partially manages to recover rainwater and release it slowly thanks to the porosity of the material. With this system the plants regulate themselves according to their needs.

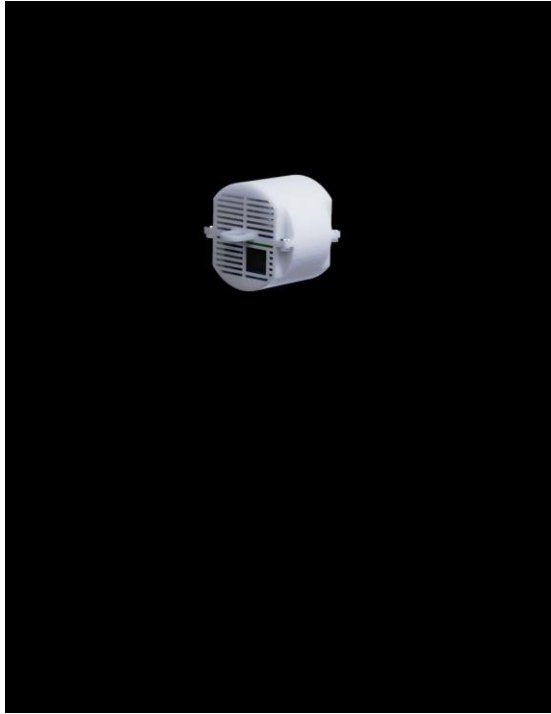






SETTE NANI
(SEVEN DWARFS)

WATER VALUE - STRADESIGN 2019, FIRENZE MURATE



UNIT CONTROL ELEMENTS



S MAG perspective

$$\frac{H + Nh}{Ma}$$

Build a bridge between H + nH.

Restructuring the bond.

More awareness about the inter-
relations between H + nH and
Mutual Aid.

Hybrid systemic

Legend

H= Human
Ma= mutual aid
<= Augmented

The Formulas

An *Osmotic process*

$$\frac{H+H}{Ma}$$

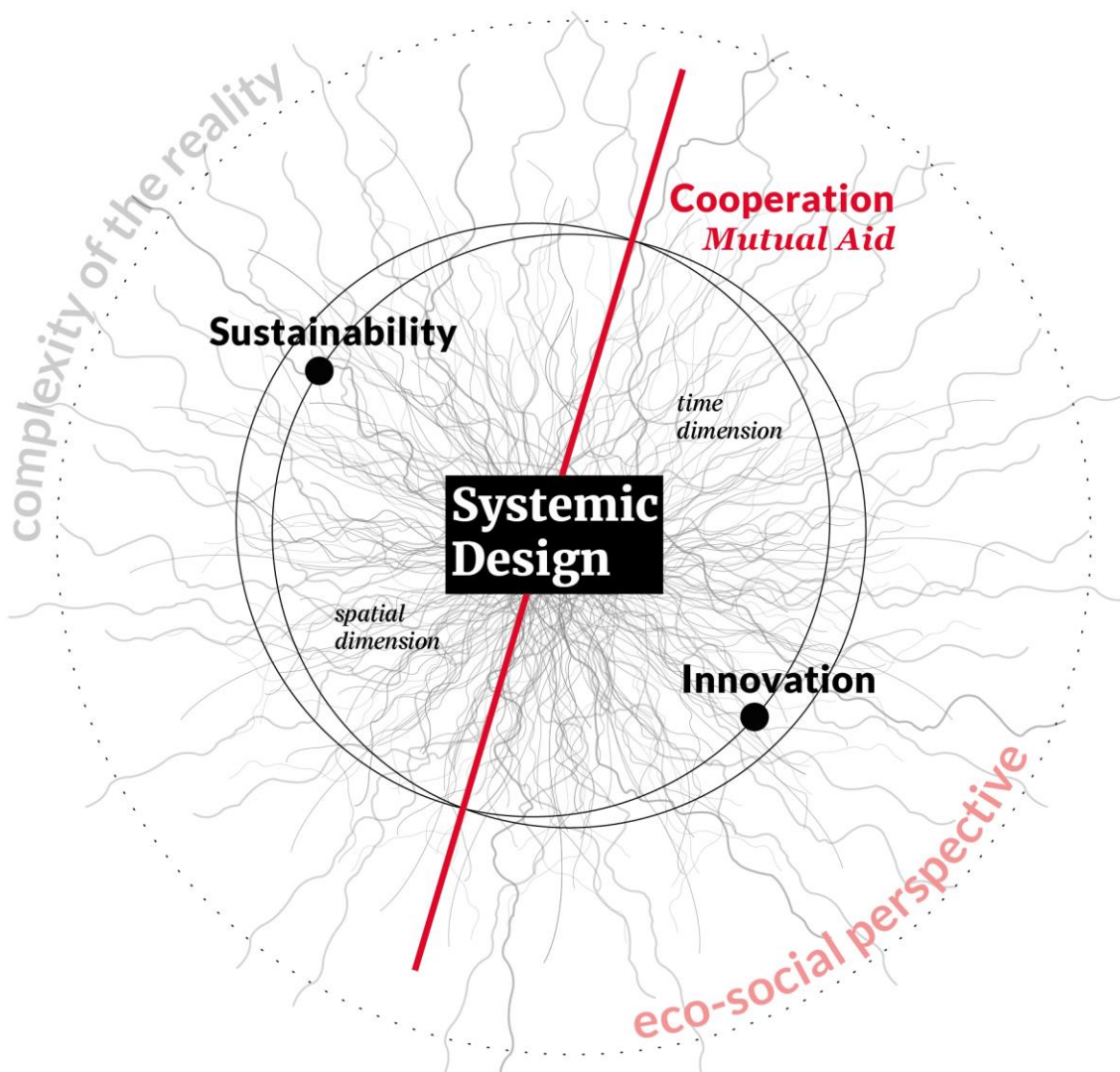
$$\frac{(H+H)^n <}{Ma}$$

$$\frac{H+Nh}{Ma}$$

Legend

H= Human
Ma= mutual aid
Nh= non-human
<= Augmented

from Micro to Macro contexts
and interacting with heterogeneous disciplines



Cooperation
as a pattern and
approach that
Design must adopt
for its more
strategic, systemic
and sustainable
action over time.

The Formulas

An Eco-Social Design Framework

$$\frac{H+H}{Ma}$$

$$\frac{(H+H)^n <}{Ma}$$

$$\frac{H+Nh}{Ma}$$

Legend

H= Human
Ma= mutual aid
Nh= non-human
<= Augmented

A possible direction for design research and practice which
deal with complex issues
and transdisciplinary connections

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[@design_sustainability_lab](https://www.instagram.com/design_sustainability_lab)

Contact us

Thanks for your attention! 😊