



Designing the emergence of creativity in multidisciplinary contexts

Andrea Cattabriga, Ami Licaj, Elena Formia, Andreas Sicklinger

Andrea Cattabriga

Department of Architecture / Advanced Design Unit
Alma Mater Studiorum - Università di Bologna

**today I'm going to talk about
how design processes
creativity to exasperate
multidisciplinarity, defining
project outputs as temporary
states of a system**

Designing the emergence of creativity in multidisciplinary contexts

Andrea Cattabriga, Ami Licaj, Elena Formia, Andreas Sicklinger

creativity
design
design theory
design for health



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI ARCHITETTURA
DIPARTIMENTO DI ECCELLENZA MIUR
(L. 232 DEL 1/12/2016)



Advanced
Design Unit

Emergences

Designing the emergence of creativity in multidisciplinary contexts

Andrea Cattabriga, Ami Licaj, Elena Formia, Andreas Sicklinger

creativity
design
design theory
design for health

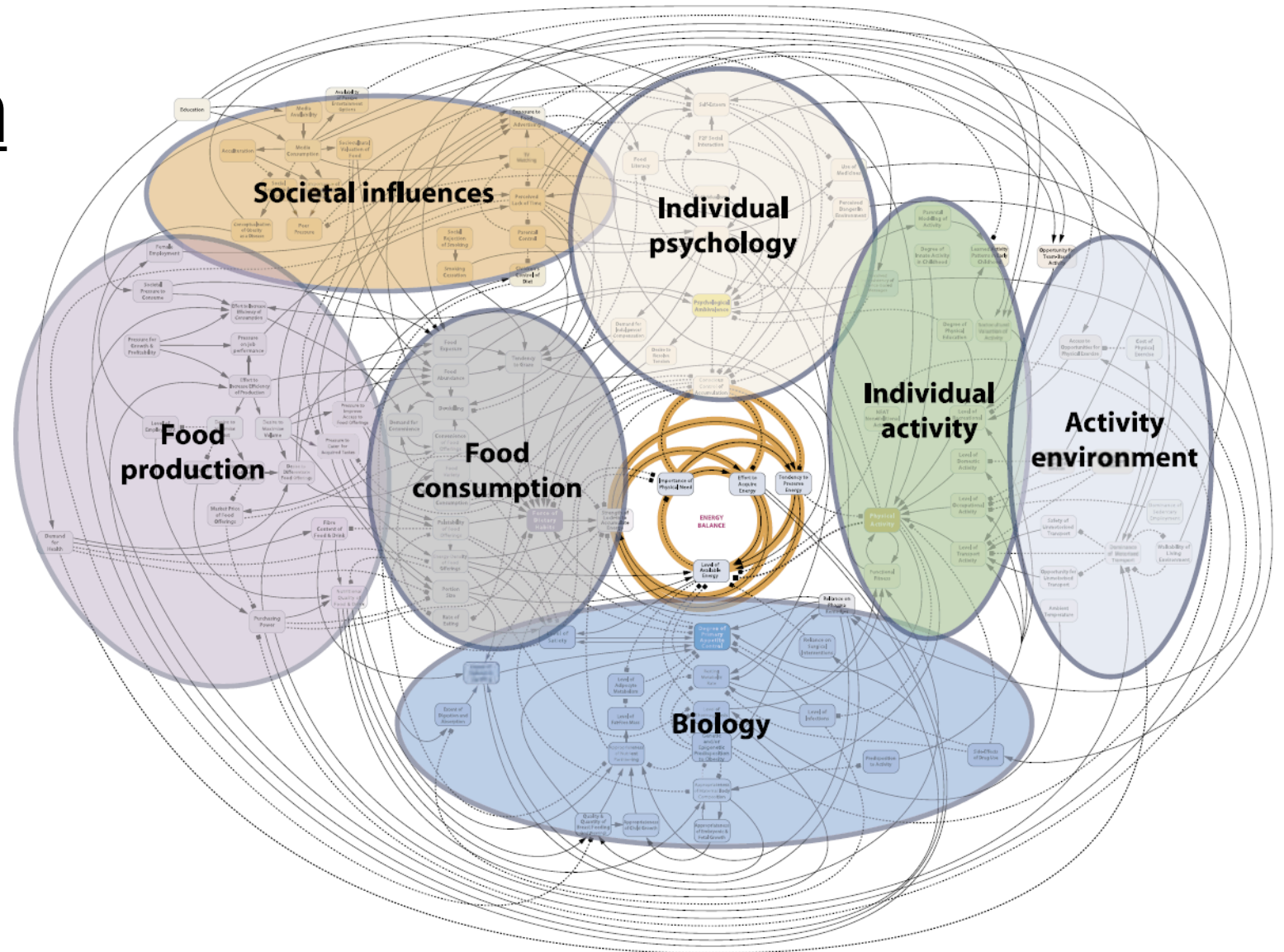


ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI ARCHITETTURA
DIPARTIMENTO DI ECCELLENZA MIUR
(L. 232 DEL 1/12/2016)



Advanced
Design Unit

emergences in complexity



Butland, B. et al. (2007). *Tackling obesities: Future choices - project report (2nd edition)*

Designing the emergence of creativity in multidisciplinary contexts

Andrea Cattabriga, Ami Licaj, Elena Formia, Andreas Sicklinger

creativity
design
design theory
design for health



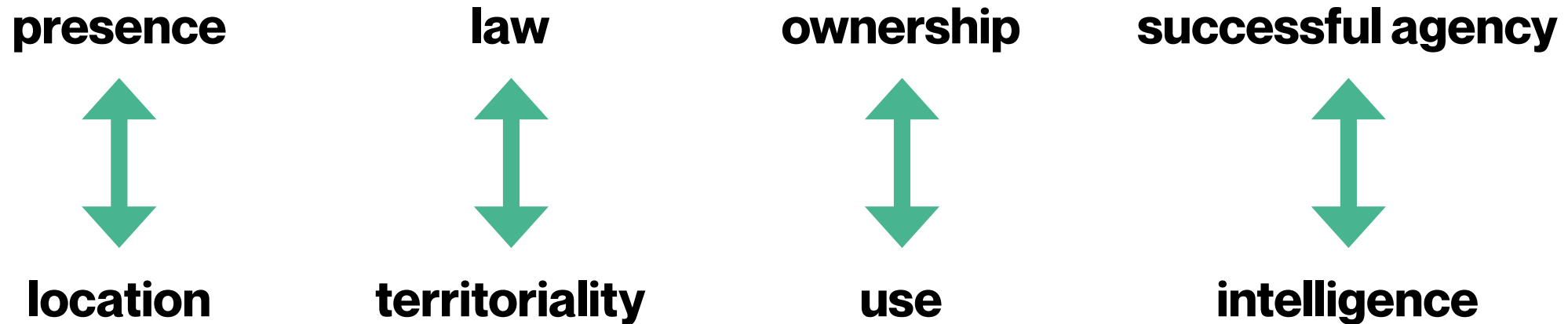
ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI ARCHITETTURA
DIPARTIMENTO DI ECCELLENZA MIUR
(L. 232 DEL 1/12/2016)



Advanced
Design Unit

the digital re-ontologises our reality

**making single-disciplinary perspective less effective and
disconnecting previously coupled elements such as:**



Floridi, L. (2014). The 4th revolution: How the infosphere is reshaping human reality

Floridi, L. (2017). The Logic of Design as a Conceptual Logic of Information

Designing the emergence of creativity in multidisciplinary contexts

Andrea Cattabriga, Ami Licaj, Elena Formia, Andreas Sicklinger

creativity
design
design theory
design for health



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI ARCHITETTURA
DIPARTIMENTO DI ECCELLENZA MIUR
(L. 232 DEL 1/12/2016)



Advanced
Design Unit

Solving non-simple problems is an activity that requires the synthesis of knowledge from (at least) multiple disciplines and different time frames

Designing the emergence of creativity in multidisciplinary contexts

Andrea Cattabriga, Ami Licaj, Elena Formia, Andreas Sicklinger

creativity
design
design theory
design for health



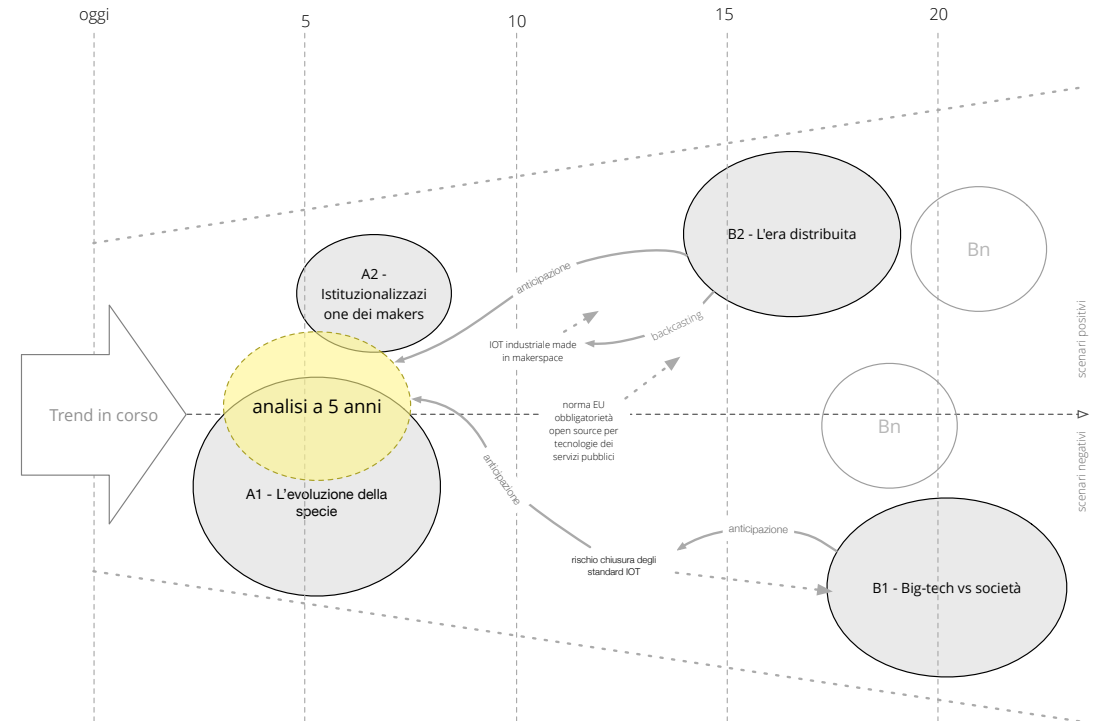
ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI ARCHITETTURA
DIPARTIMENTO DI ECCELLENZA MIUR
(L. 232 DEL 1/12/2016)



Advanced
Design Unit

anticipatory design delivers creative responses through imagination, knotting past, present, and future into a complex network of creative acts

design as connector across TIME



Brassett, J. (2021). Creativity. In Designing in dark times: An Arendtian Lexicon

Poli, R. (Ed.). (2019). Handbook of Anticipation: Theoretical and Applied Aspects of the Use of Future in Decision Making.

Corazza, G. E. (2019). The Dynamic Universal Creativity Process.

Designing the emergence of creativity in multidisciplinary contexts

Andrea Cattabriga, Ami Licaj, Elena Formia, Andreas Sicklinger

creativity
design
design theory
design for health



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI ARCHITETTURA
DIPARTIMENTO DI ECCELLENZA MIUR
(L. 232 DEL 1/12/2016)

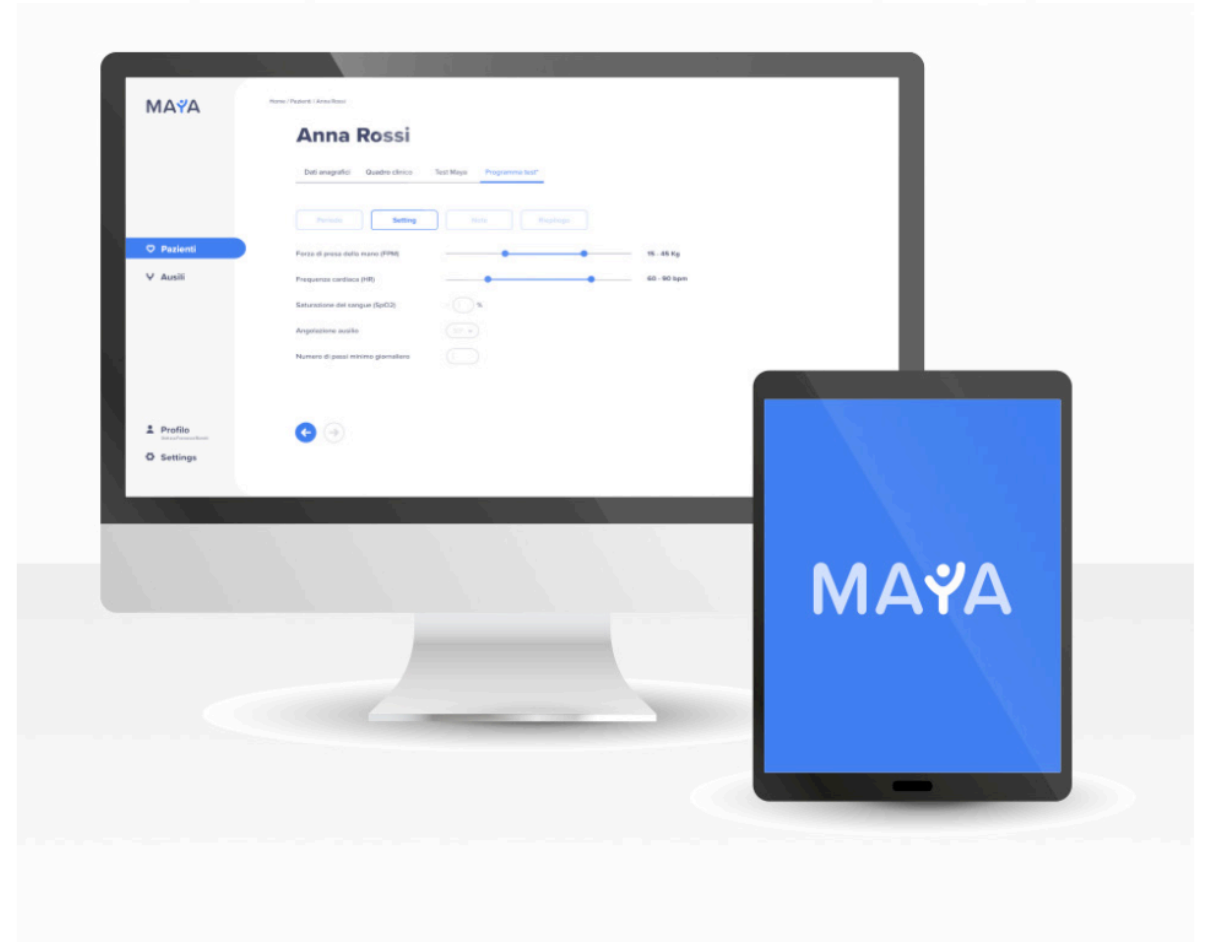


Advanced
Design Unit

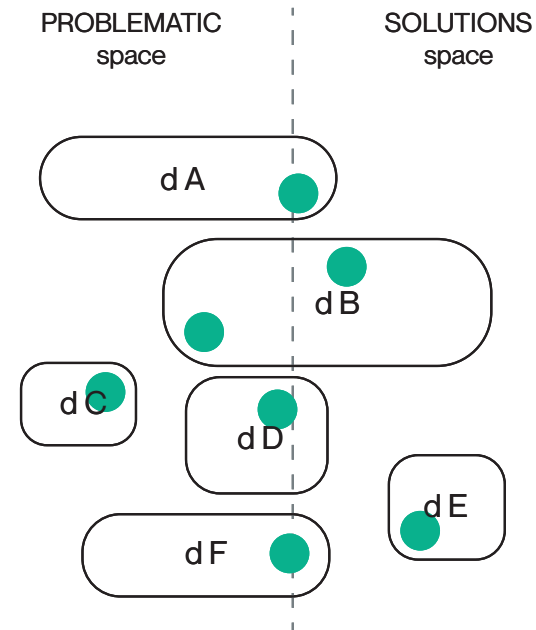
Maya - Emma Varotti
graduation project, MA Advanced Design
University of Bologna

industrial design

multidisciplinarity



systems here are intended as temporary configurations of complex assemblages of knowledge, human/nonhuman agents, socioeconomical issues and technologies across problem/solution fields

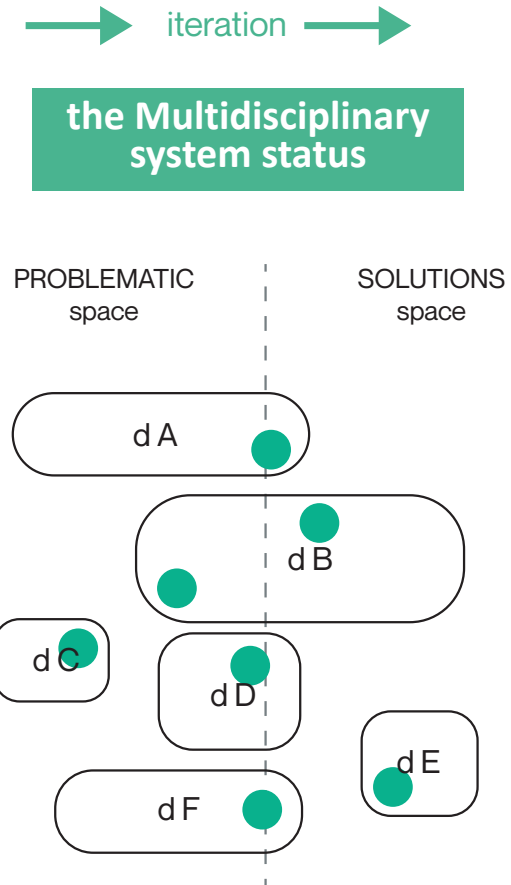


**This iterative co-evolution of problem/
solution spaces
plus the interaction between designers,
stakeholders and adopters
forces the reframing of systems's
requirements and let multiple knowledge
instances emerge**

multidisciplinarity
(atomic nature)

design process as connector across
KNOWLEDGE FIELDS

Dorst, K., & Cross, N. (2001). Creativity in the design
process: Co-evolution of problem–solution
Gurukkal, R. (2018). Interdisciplinary Approach



Designing the emergence of creativity in multidisciplinary contexts

Andrea Cattabriga, Ami Licaj, Elena Formia, Andreas Sicklinger

creativity
design
design theory
design for health



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI ARCHITETTURA
DIPARTIMENTO DI ECCELLENZA MIUR
(L. 232 DEL 1/12/2016)



Advanced
Design Unit

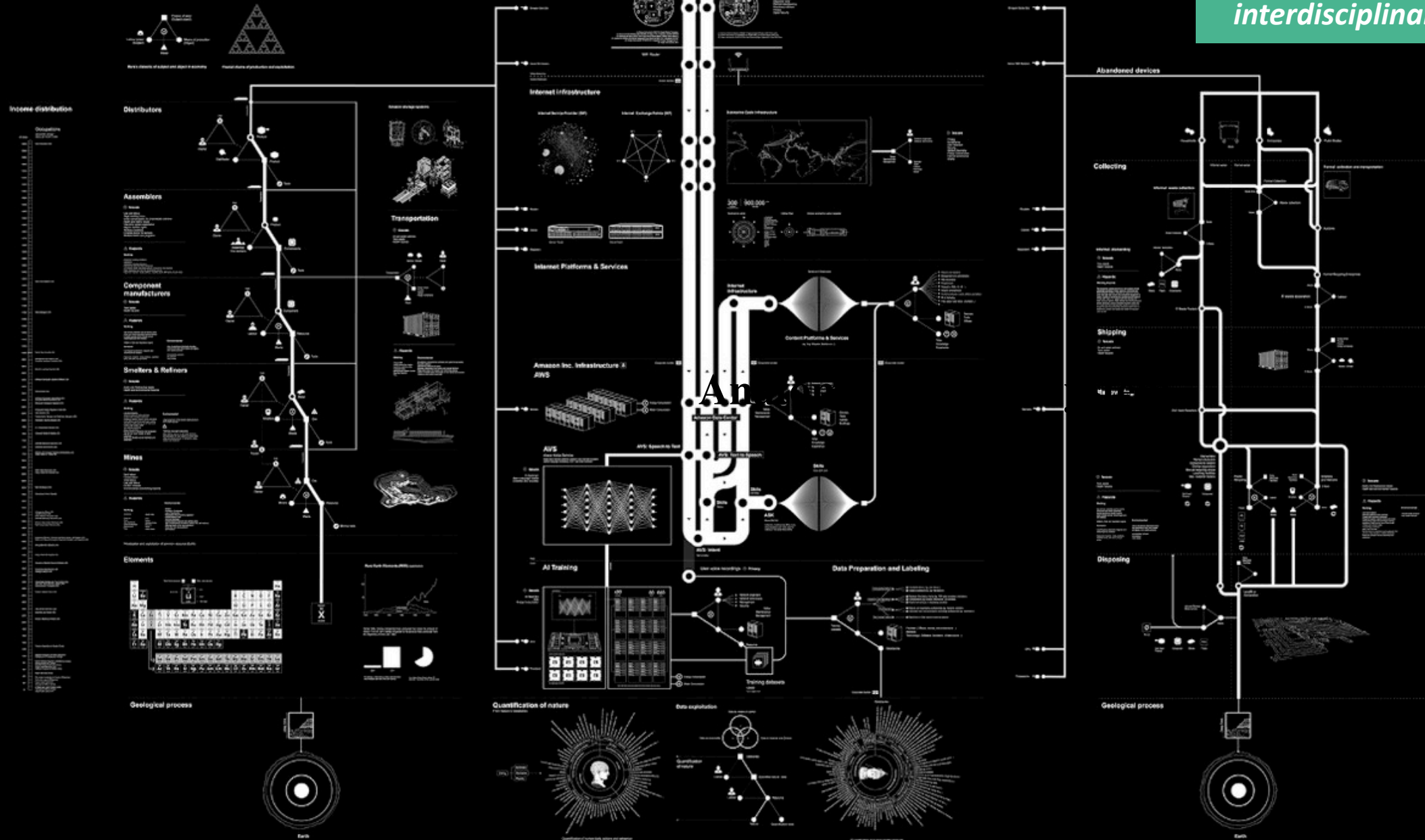
Anatomy of an AI system

An anatomical case study of the Amazon echo as a artificial intelligence system made of human labor

Kate Crawford, Vladan Joler

PSS design

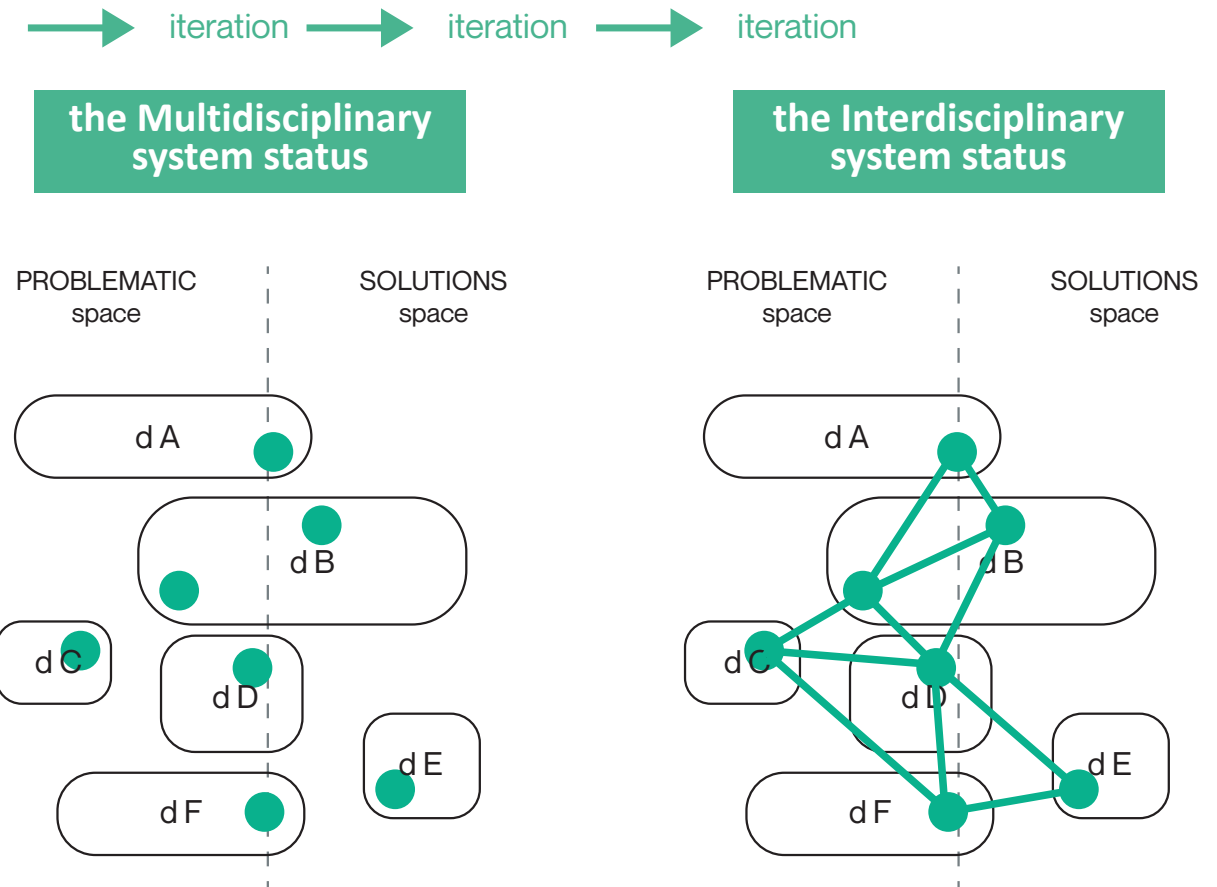
interdisciplinarity



the design process building ties between knowledge instances makes **creativity** to emerge as a system property

forcing the system to evolve from **multidisciplinarity** to **interdisciplinarity** (relational nature)

design process as connector across KNOWLEDGE FIELDS



La Cura - Salvatore Iaconesi, Oriana Persico
an open source process to reimagine our relation
with illness, bodies, culture, society

systemic design

antidisciplinarity

LA CURA



IL CANCRO È
UNA METAFORA
E TU SEI LA CURA

cancer is a metaphor and you are the cure



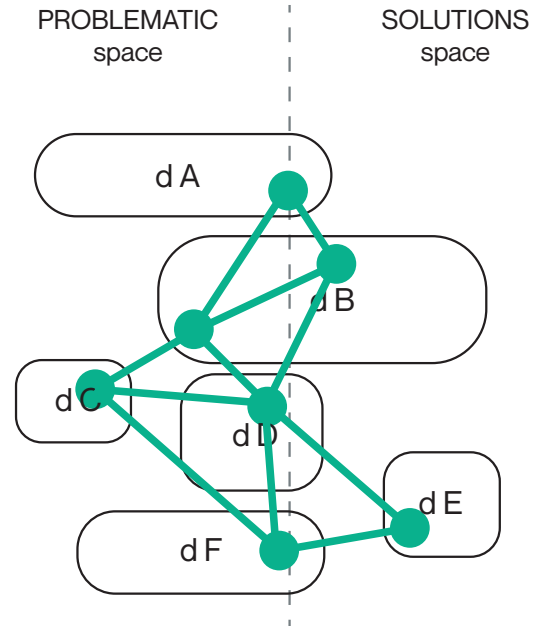
disciplinary perspectives disappear and a specific cloud of system configurations takes shape

**evolving the system
from interdisciplinarity to
anti-disciplinarity**
(relational nature)

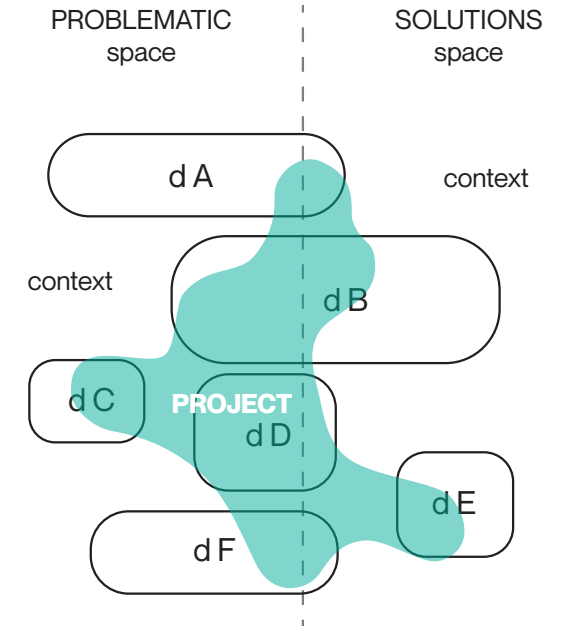
design process as system configurator

iteration → iteration → iteration → iteration

**the Interdisciplinary
system status**



**the Antidisciplinary
system status**



Oxman, N. (2016). Age of Entanglement. Journal of Design and Science

Designing the emergence of creativity in multidisciplinary contexts

Andrea Cattabriga, Ami Licaj, Elena Formia, Andreas Sicklinger

creativity
design
design theory
design for health



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI ARCHITETTURA
DIPARTIMENTO DI ECCELLENZA MIUR
(L. 232 DEL 1/12/2016)



Advanced
Design Unit

Life Support

Revital Cohen and Tuur Van Balen

design fiction

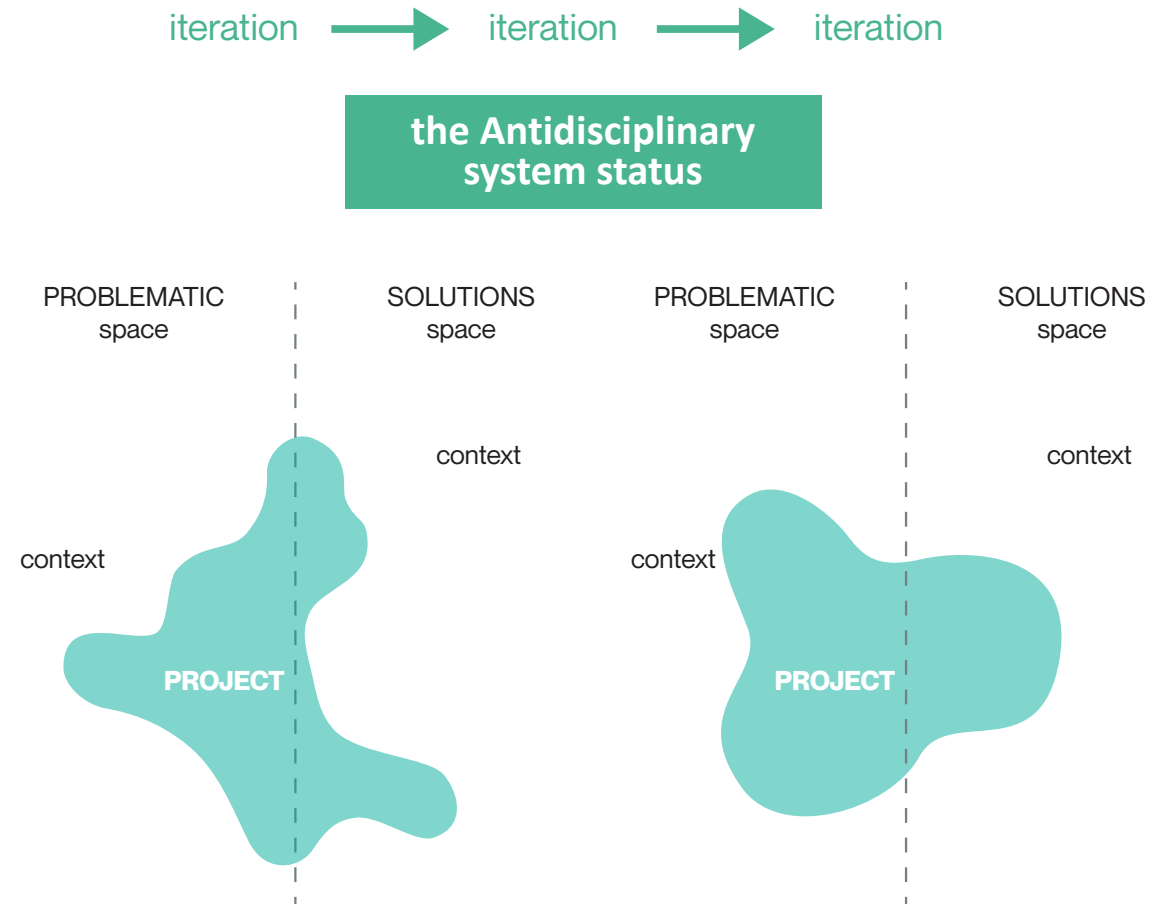
antidisciplinarity



every *design iteration* is a block of empirical, creative actions

creativity acts as a system property that support the performing of those actions;

***projects* as unstable system configurations**

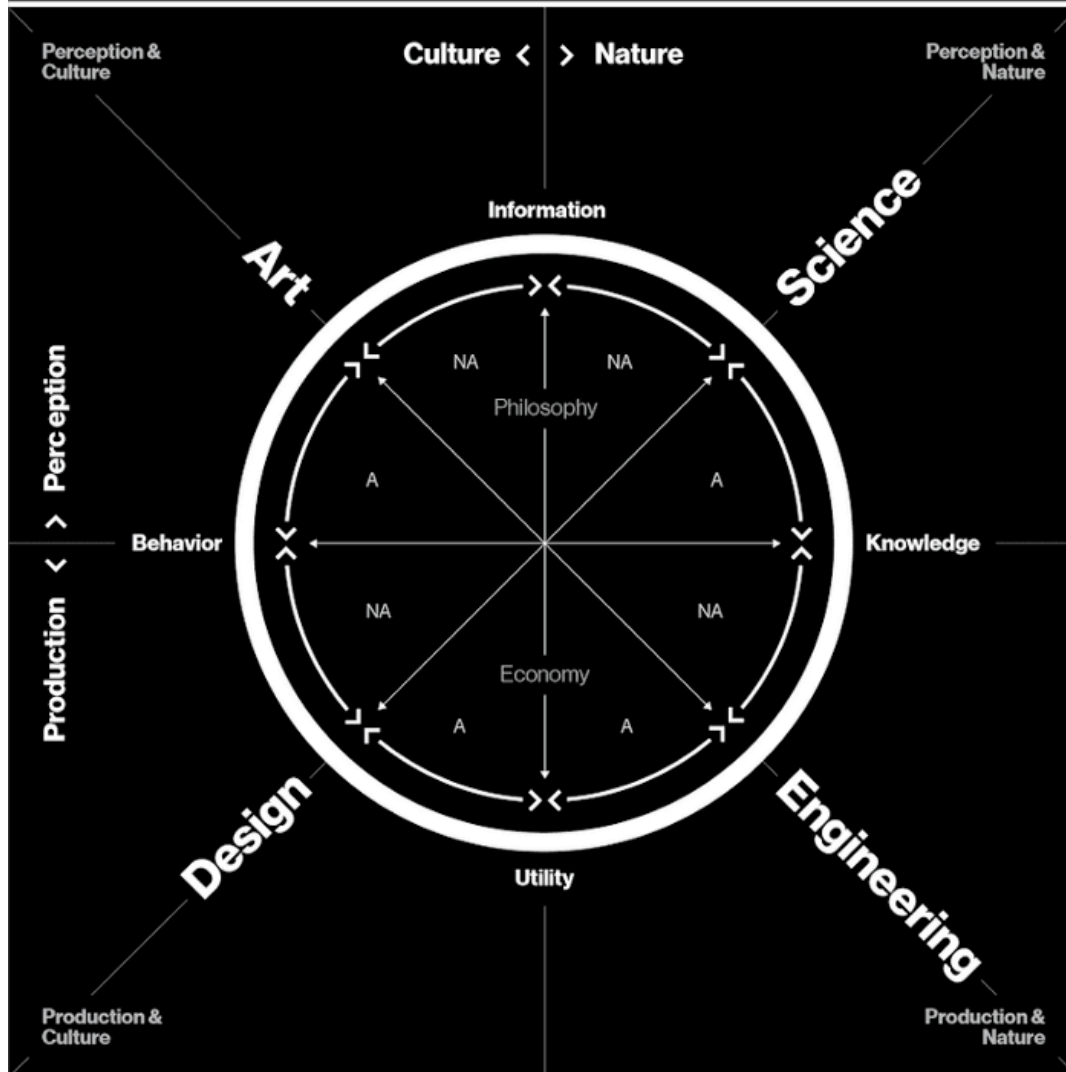


Krebs Cycle of Creativity

Neri Oxman, January 2016

Key

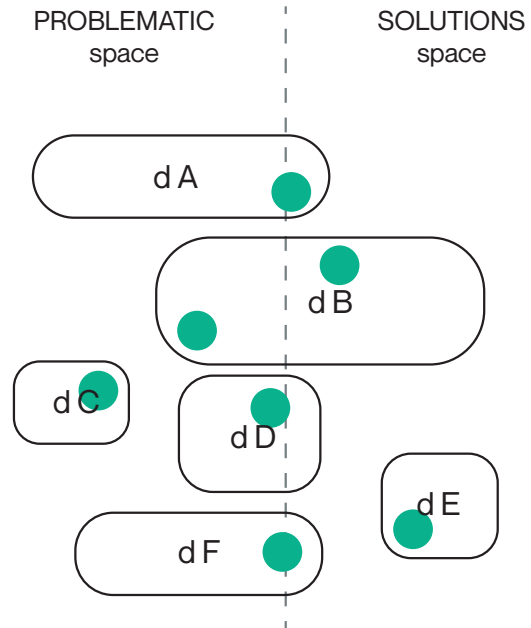
A Applied
NA Non-Applied



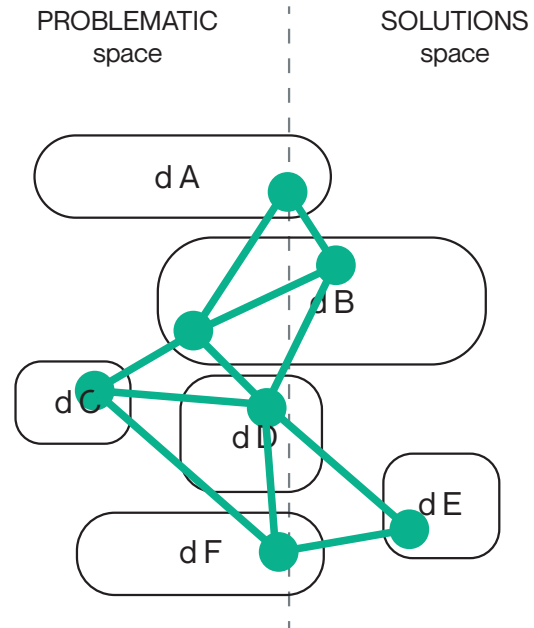
As in biology, in the Krebs Cycle, ATP can be considered a molecular unit of currency for metabolic energy transfer, in The Krebs Cycle of Creativity the system first generates, then consumes, then regenerates currency over time

is a map that describes the perpetuation of creative energy (creative ATP or 'CreATP') across the four domains of creative exploration representing the antidisciplinary hypothesis

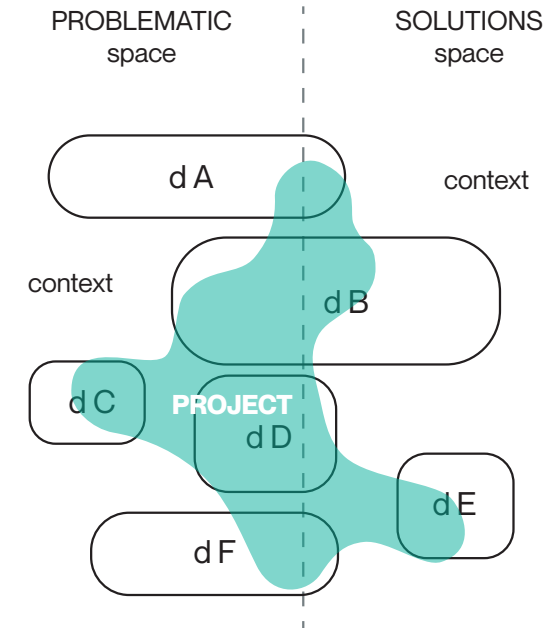
the Multidisciplinary system status



the Interdisciplinary system status



the Antidisciplinary system status



Designing the emergence of creativity in multidisciplinary contexts

Andrea Cattabriga, Ami Licaj, Elena Formia, Andreas Sicklinger

creativity
design
design theory
design for health

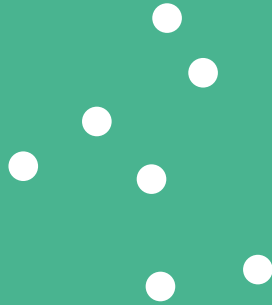


ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA
DIPARTIMENTO DI ARCHITETTURA
DIPARTIMENTO DI ECCELLENZA MIUR
(L. 232 DEL 1/12/2016)

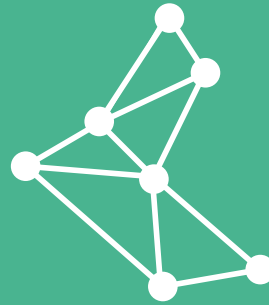


Advanced
Design Unit

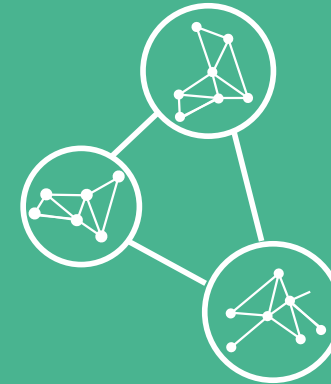
Multidisciplinary



Interdisciplinary



Antidisciplinary



**the re-iteration of the design process moves systems from
a multidisciplinary dimension to an antidisciplinary one;
in the continuous synthesis and linking of knowledge
instances, creativity emerges and renews itself**

Thank you!

Andrea Cattabriga

👉 connect at **[linkedin.com/in/andreacattabriga/](https://www.linkedin.com/in/andreacattabriga/)**

andrea.cattabriga@unibo.it

visit <https://adu.unibo.it/>