

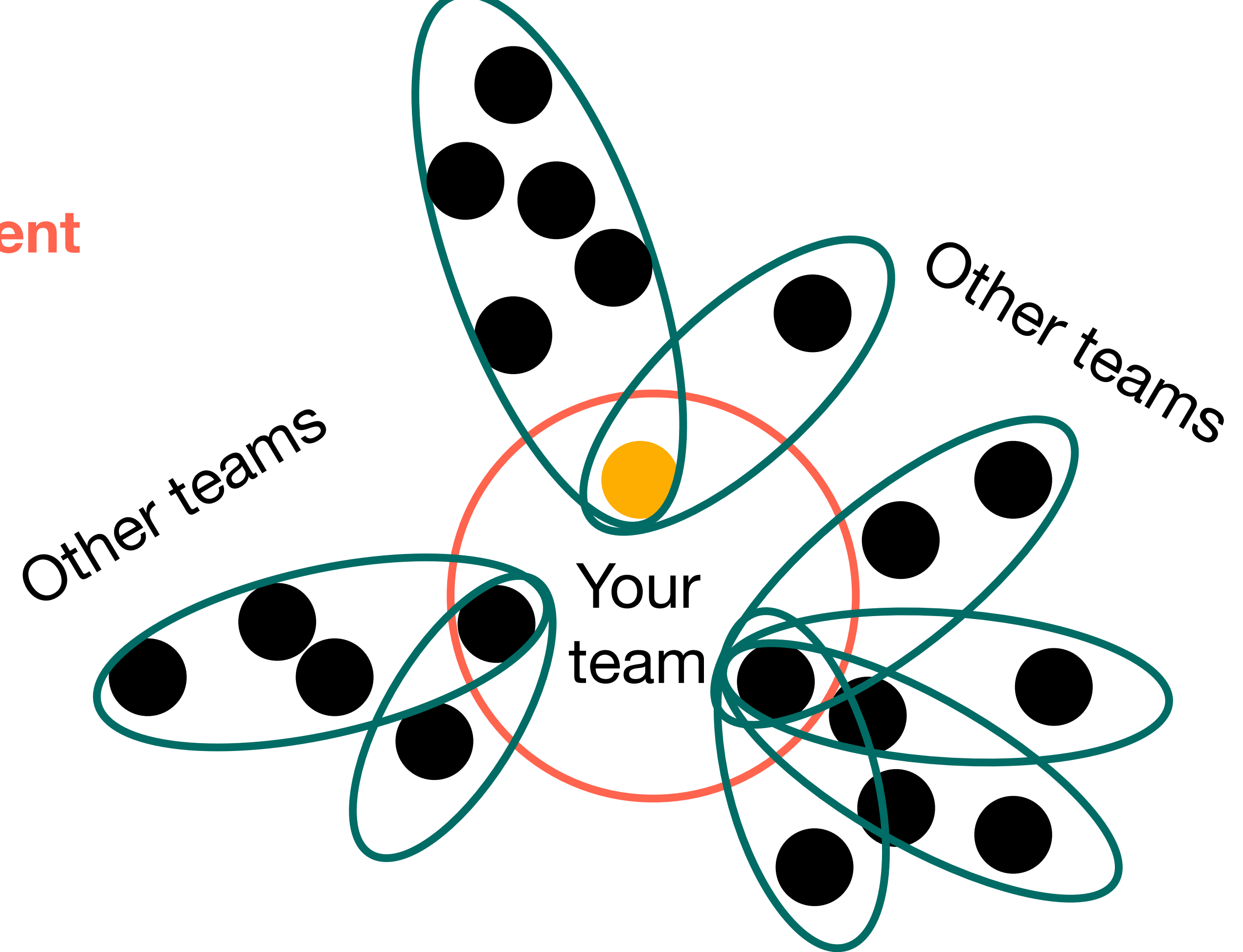
Creativity in research through ArtScience integration

Ulrike Kuchner
University of Nottingham



SEADS: Mimikry: Exomoon.
An immersive Space Experience
Theatre Neumarkt Zurich, Sept. 2023

Our complex learning environment



Multi-team systems: Researchers are part of many teams tackling the same problem or pursuing the same goal - often in hybrid collaborations (often virtual).

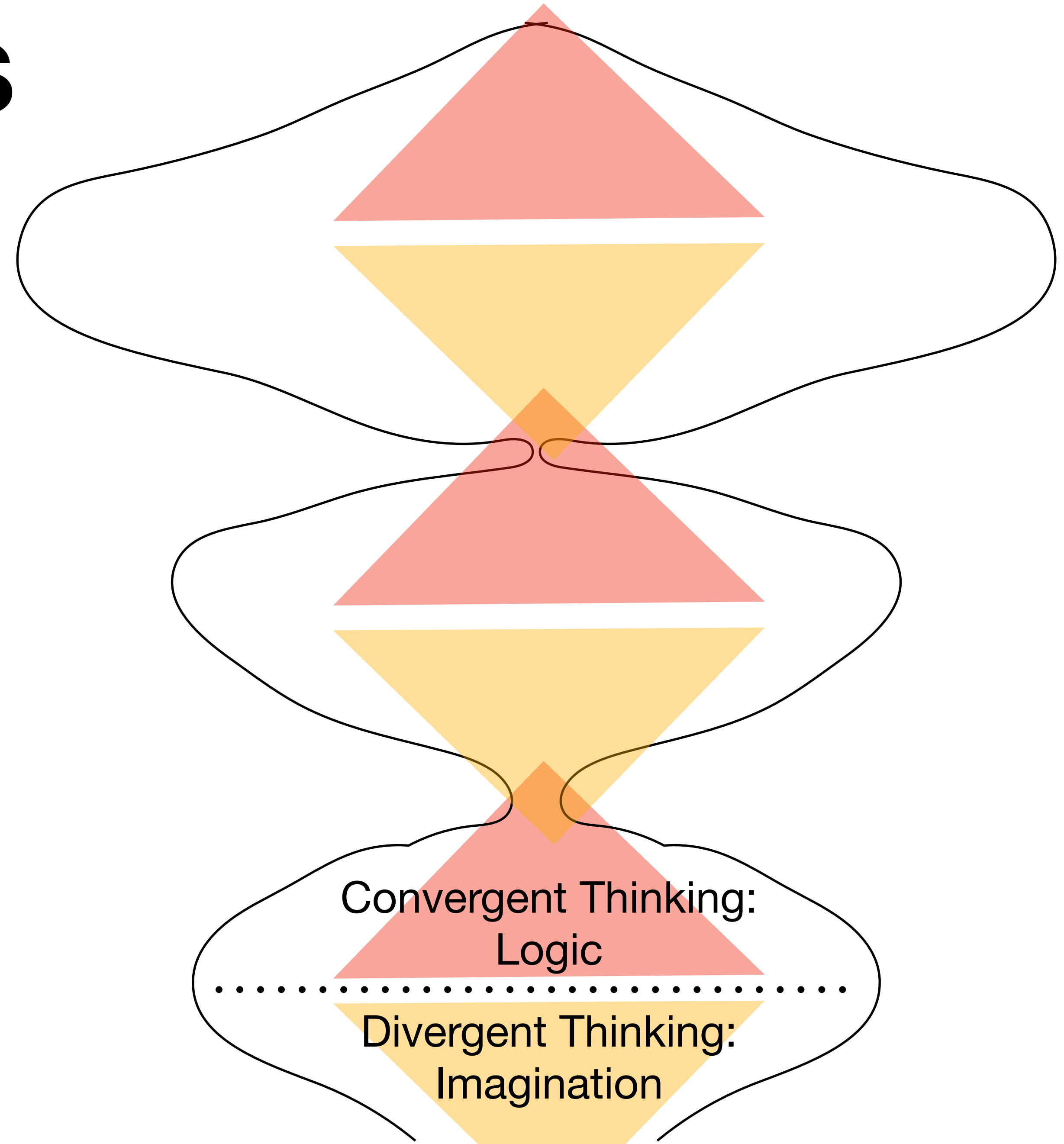
The research on scientific teams show us that teams often underperform, especially when there is a lack of team cohesion.

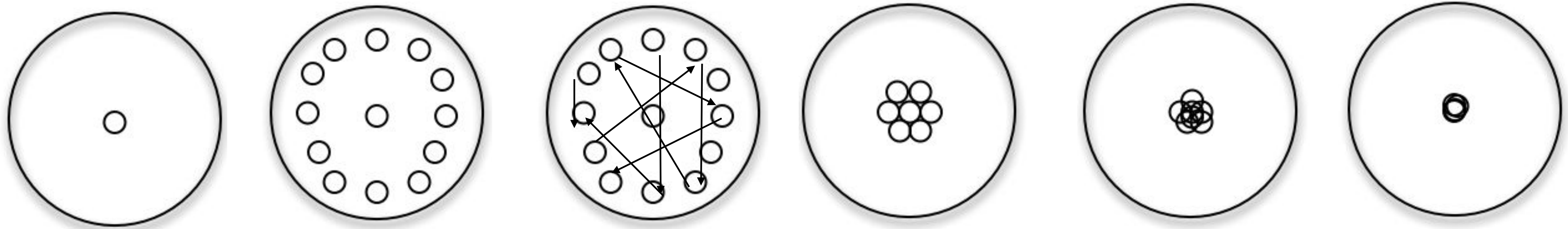
e.g. Shuffler, M.L., Salas, E., & Rico, R. (2014). Pushing the boundaries: Multiteam systems in research & practice. Research on Managing Groups and Teams Book Series, Emerald Publishing.

Creativity: What is it, anyway?

Creativity is embedded in and influenced by social interactions with others and *the Other* (e.g., Amabile, 1983, Woodman et al. 1993).

New ideas & Innovation





Intradisciplinary

▶ Multidisciplinary

▶ Pluridisciplinary

▶ Crossdisciplinary

▶ Interdisciplinary

▶ Transdisciplinary

Common subject matter

Common subject matter

Common subject matter

Common subject matter

Common subject matter

Relate different disciplines and enhance the relationship between them

Transfer and usage of subject-external knowledge and methods

Awareness of relevance of other discipline

Collaboration/ cooperation

Adequate problem solving for respective discipline for common goals

Permanent change

Integration of different knowledge systems including non-academic stakeholders



Focusing
Concentrating
Analysing
Segmenting

Juxtaposing
Sequencing
Coordinating

Integrating
Interacting
Linking
Blending
Hybridising
Synthesising

Transcending
Transgressing
Transforming
Overarching

e.g., see Kuchner, U. 2022 for a summary applied to ArtScience— Writing Visual Culture Vol 10; Klein J. T. and Roessner D., Committee on Key Challenge Areas for Convergence and Health. Definition Document 2013

ART SCIENCE
 ← A → ← B →
 ← !!! B →

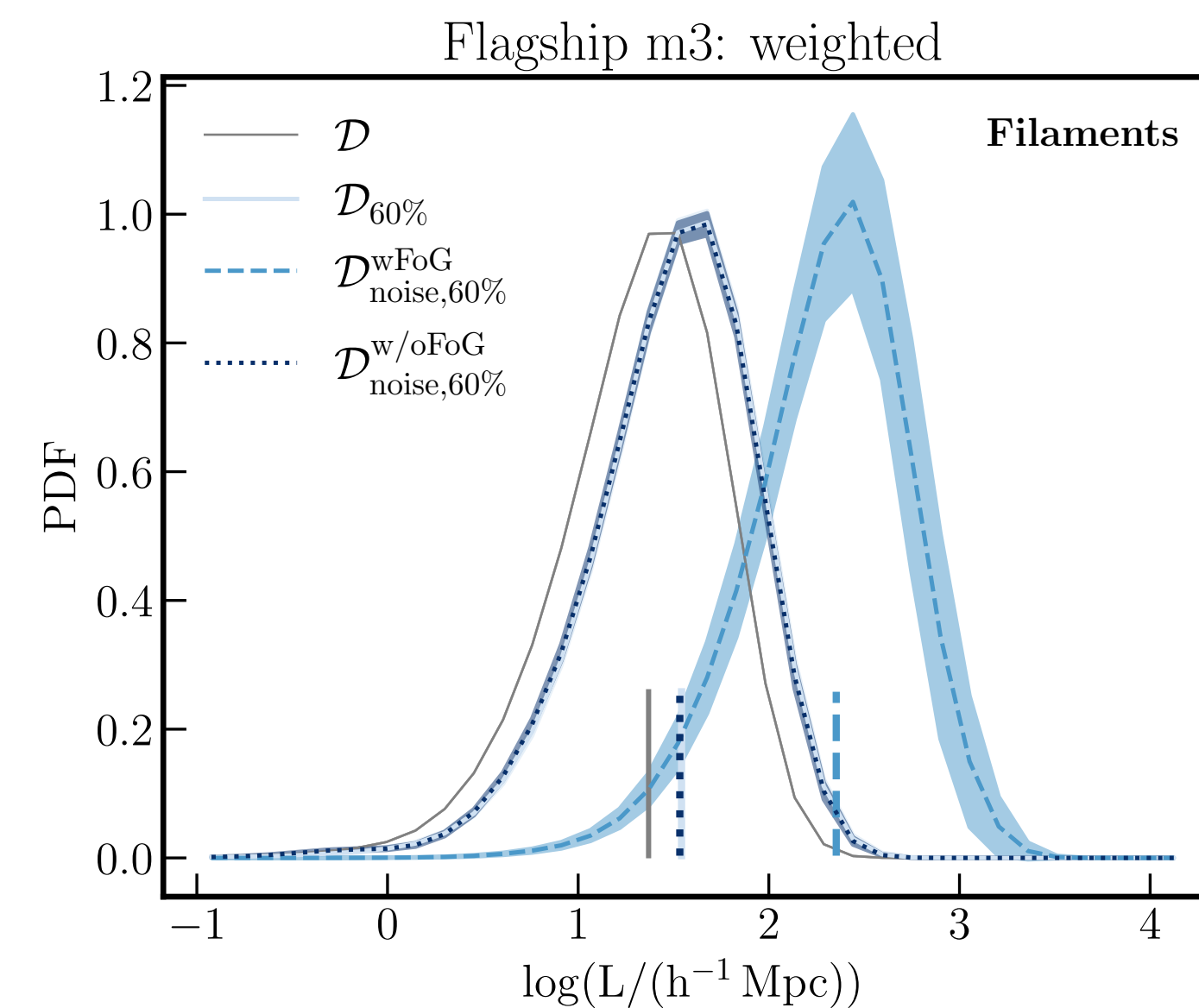


ART



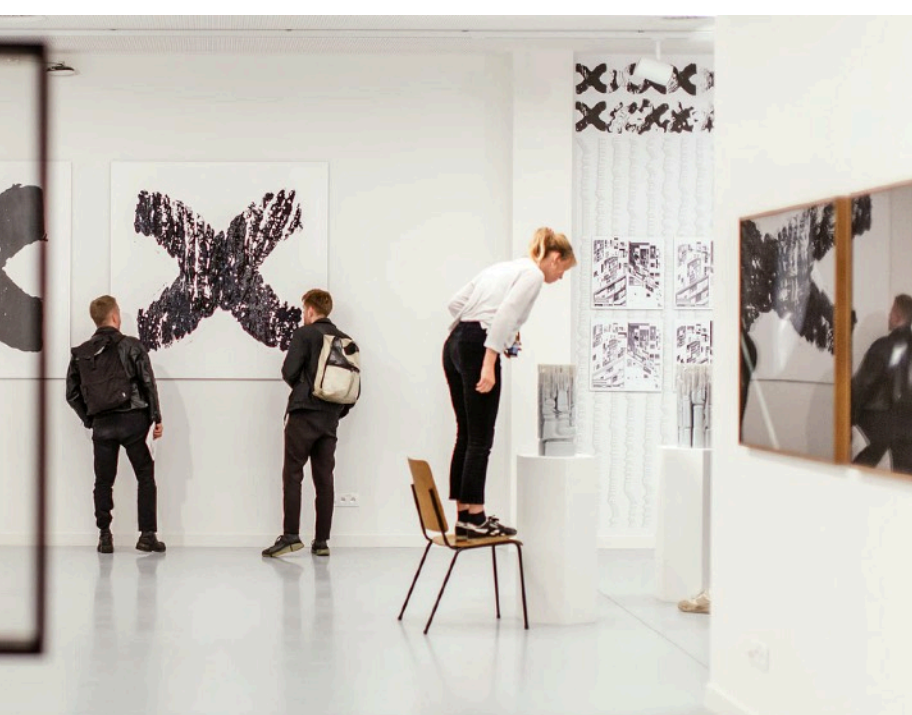
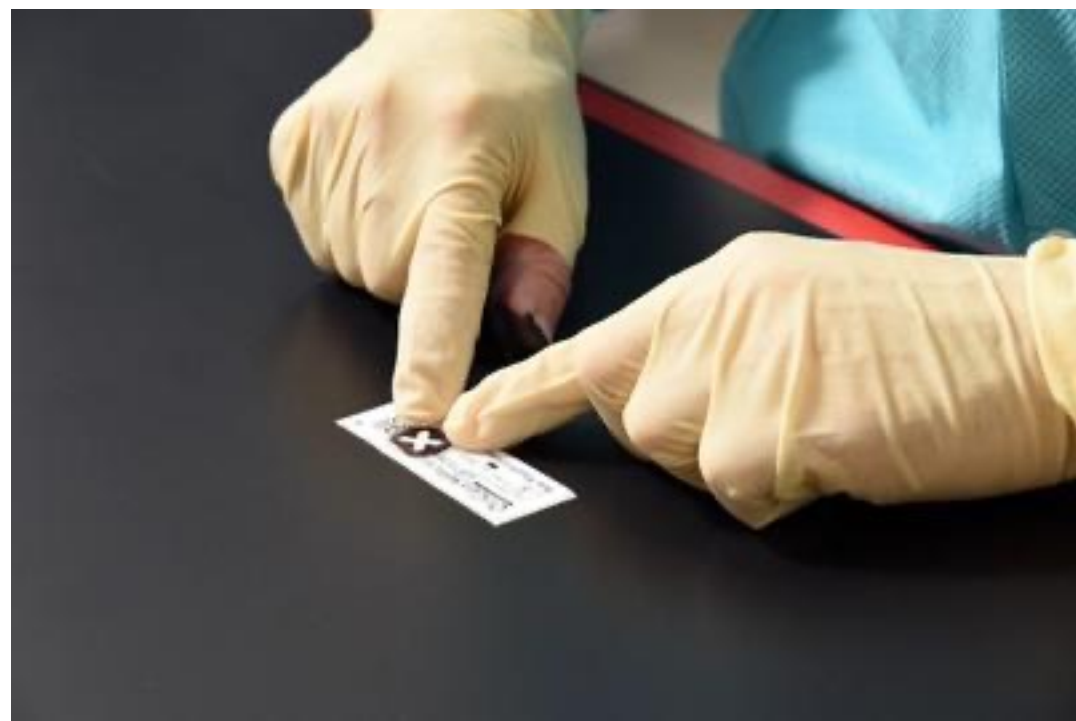
THEORY: SOCIAL SCIENCE

**PRACTICE: ENABLING
STRUCTURES**



SCIENCE

collective of several hundred artists, scientists, engineers and educators: co-creation and hacking ethos



**SPACE
ECOLOGIES
ART AND
DESIGN**

www.seads.network



CO-CREATION

Storytelling · reiterate

Seek out diversity · craft it

Start straightaway · no endless talking

Radical equality · guard it

Culture of trust · no fear of failure

Leadership · fluid



Who is doing inter- and transdisciplinary research, and why? An empirical study of motivations, attitudes, skills, and behaviours

[Maria Helena Guimarães^a](#)  , [Christian Pohl^b](#) , [Olivia Bina^{c d}](#) ,
[Marta Varanda^e](#) 

Review of the behaviours and the challenges of inter- and transdisciplinary individuals.

Topics	Title
Behaviors	RISK TAKERS
	TRANGRESSION
	PRACTICAL
Challenges	SOLID DISCIPLINARY BACKGROUND
	RECOGNITION FIRST

Review of the characterization of inter- and transdisciplinary individuals.

Topics	Title
Motivation	ETHIC
	REWARDS
	REAL-WORLD PROBLEMS
	FULFILMENT
Attitudes and skills of individuals	OPENNESS
	TOLERANCE
	REFLEXIVITY
	MODEST POSITIONALITY
	CREATIVITY
	CURIOSITY
	FACILITATOR
	INTEGRATION AND COMPLEXITY
	AWARE
	CRITICAL THINKING
Attitudes and skills of teams	TEAM MANAGEMENT
	FACILITATE COMMON LEARNING
	SOCIABILITY
	LEVEL HEADED
	CONFLICT RESOLUTION

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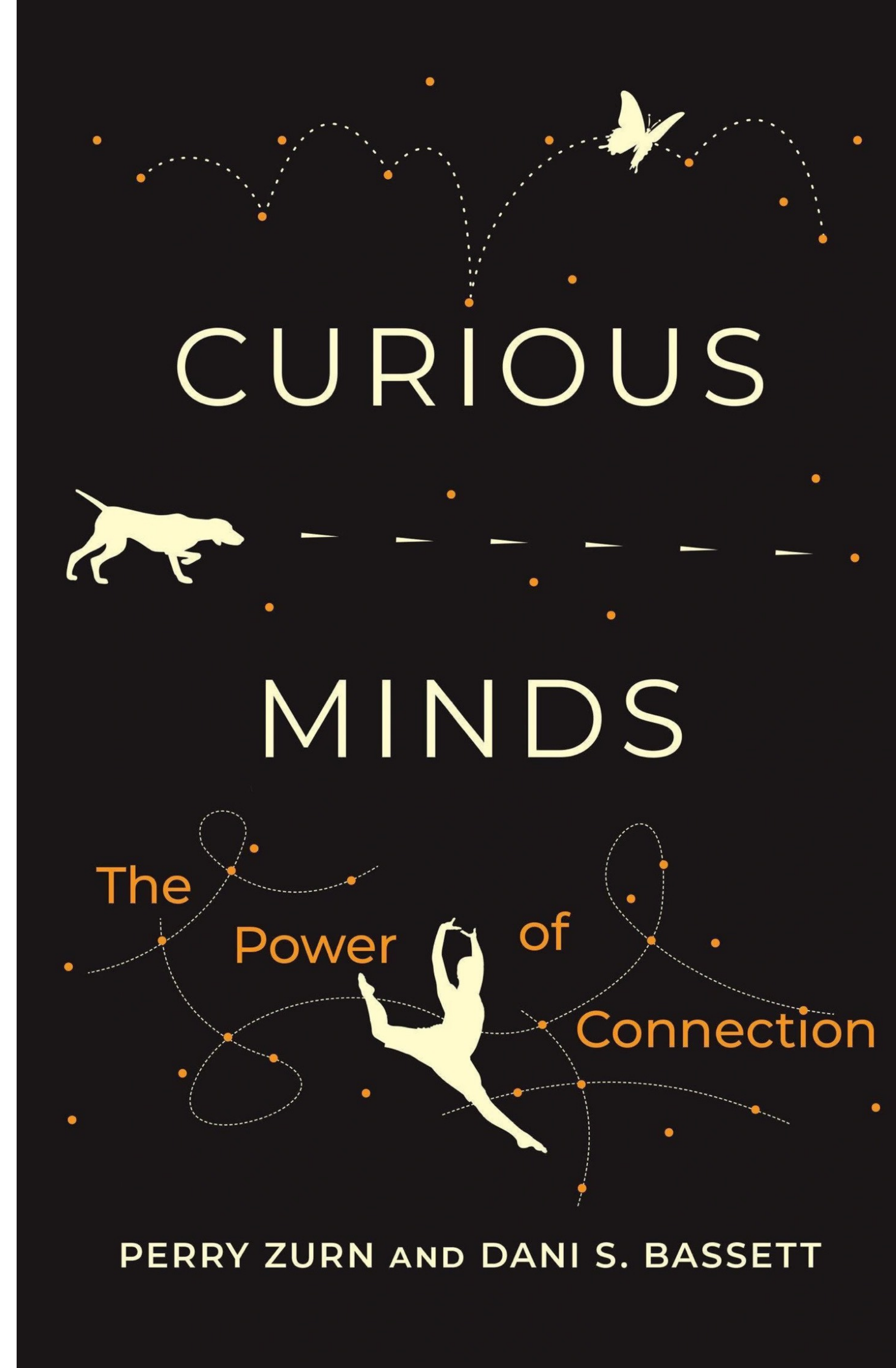
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Curiosity: What is it, anyway?

Historical definition: desire or motivation to acquire new information. In contemporary psychology: Motivation to fill an information gap.

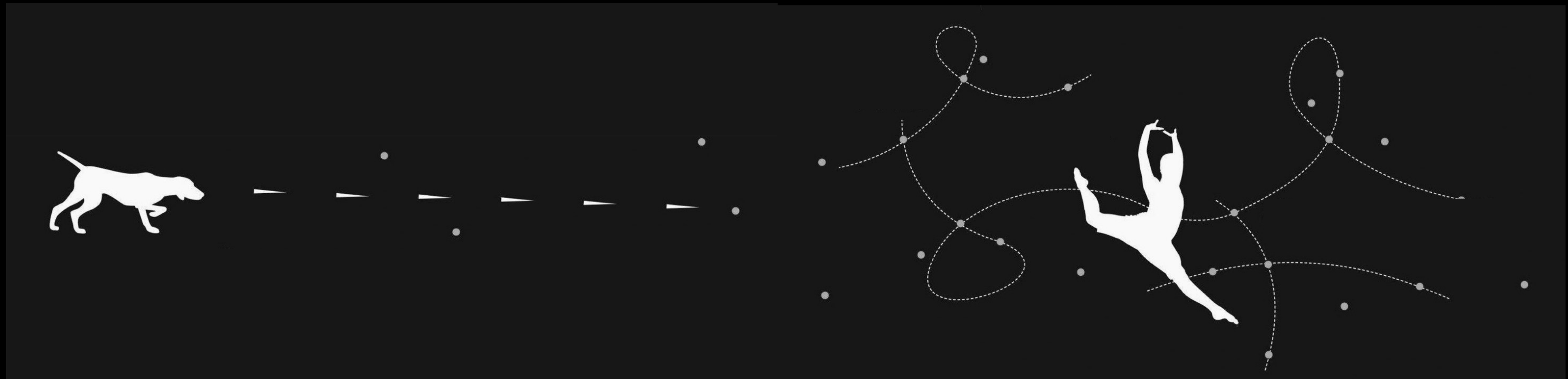
Curiosity as a phenomenon of networks - as a type of "edgework" (generative, creating new connections) rather than "acquisition" (of individuals gathering facts).

Types of curiosity, three different ways people navigate knowledge networks: Butterfly, Hunter, Dancer



THE ARTSCIENCE PROCESS

hunter & dancer



HOW CAN ART AND SCIENCE CO-STIMULATE PROGRESS?

When your only tool is a hammer, everything looks like a nail.

INVEST IN YOUR SPECULATIVE LONG-TERM ACTIVITY.

You often don't know for a long time whether it is working.

But it can be hard to tell in the moment if something is not working or not working yet.

Don't get distracted by the deception phase.

Fail fast. The door rarely closes.

What is your learning edge? Where are you growing?

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CURATOR, ARTIST, TRANSDISCIPLINARY RESEARCHER

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