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Living with and Doing Things with Machines

Workshop on Artificial Joint Intentionality (AJI):
Skilled Social Interactions in the Age of AI
6–8 November 2025

Intro

ARTIFICIAL SYSTEMS INCREASINGLY APPEAR TO BE OUTGROWING THEIR STATUS AS MERE TOOLS, ENCROACHING EVER MORE DEEPLY INTO THE DOMAIN OF THE SOCIAL.

- overtake the role of alien collaborators in human-machine interactions
- cannot be reduced to mere tool use

propose a taxonomy of affordances

- to develop a nuanced understanding of how to describe potential social interactions with the newest artificial systems based on generative AI

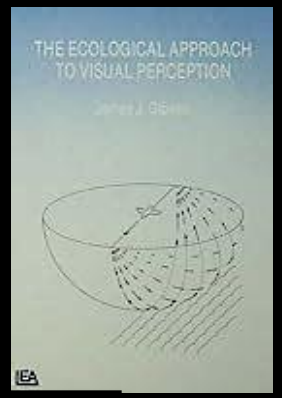
Overview

Intro	**Affordances**
Taxonomy	**Various kinds of affordances** • environmental | quasi-social • social (doing things together) | social (living together)
AI & social affordances	**Doing things together with AI?** **Living together with AI?**
Conclusion	**What we can‘t do with AI**

Slides can be downloaded at https://www.denkwerkstatt.berlin/ANNA-STRASSER/TALKS

Intro

What are affordances?



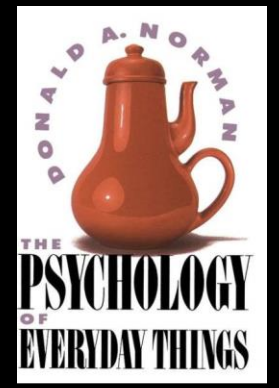
picture from https://practicalpie.com/kurt-lewin

These imperative environmental facts – we shall call them valences [Aufforderungscharaktere] – determine the direction of the behavior.

Origin: Kurt Lewin‘s 1934) considerations about affordance-like properties

JAMES GIBSON

The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill. [...] I mean by it something that refers to both the environment and the animal [...].
It implies the complementarity of the animal and the environment.



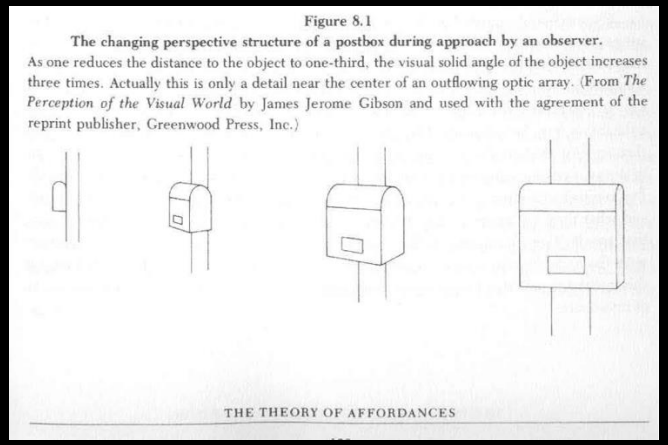


Figure 8.1
The changing perspective structure of a postbox during approach by an observer.
As one reduces the distance to the object to one-third, the visual solid angle of the object increases three times. Actually this is only a detail near the center of an outflowing optic array. (From *The Perception of the Visual World* by James Jerome Gibson and used with the agreement of the reprint publisher, Greenwood Press, Inc.)

THE THEORY OF AFFORDANCES

The term affordance refers to the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used. A chair affords ("is for") support, and, therefore, affords sitting.

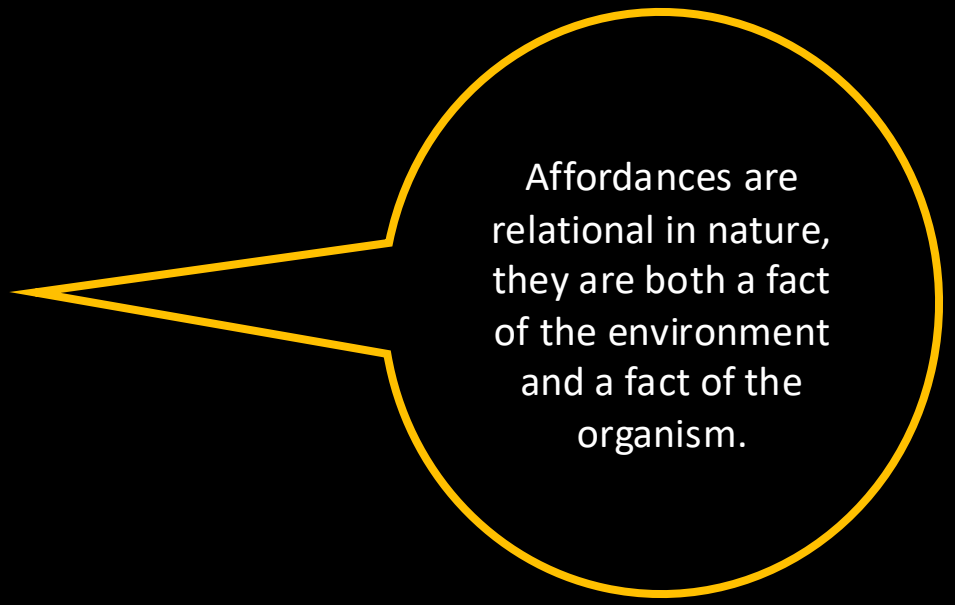
DONALD NORMAN

Gibson, James (1979). The Ecological Approach to Visual Perception, p. 127) | Norman, Donald (1988). The Design of Everyday Things, p. 9)

Intro

What are affordances?

→ HOW THE PERCEPTION OF THE ENVIRONMENT IS COUPLED WITH SUBSEQUENT ACTIONS OF THE OBSERVERS, SUCH THAT AFFORDANCES EMERGE FROM THE COUPLING OF AGENT AND ENVIRONMENT



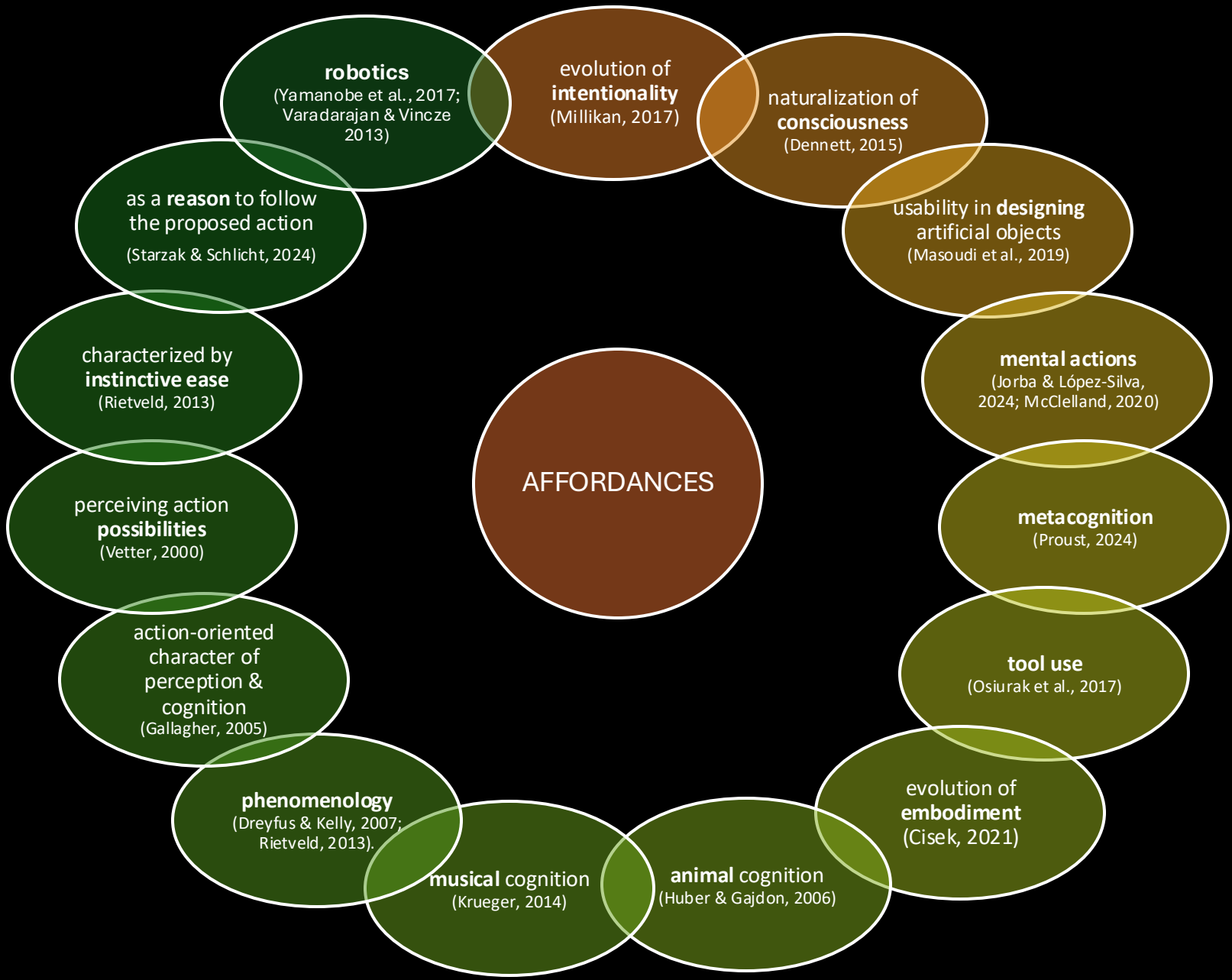
AFFORDANCES

A relation between two entities, where perceivable features of one entity – *the inviting entity* – invite another entity – *the responding entity* – to perform an action.

- responding entity: agent that is sensitive to an affordance
- inviting entity: presenting the affordance to this agent

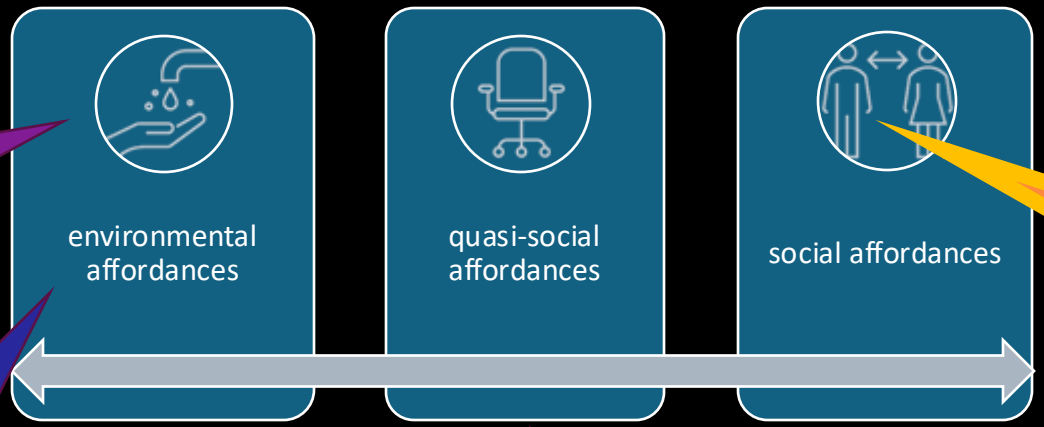
Intro

The terminology of affordances is applied in many areas



Taxonomy

Towards a taxonomy



1

non-purposive
environmental affordances afford a behavioral response

- water – drinking
- prey – hunting
- predators – fleeing

2

purposive
environmental affordances afford the realization of a further purpose

- water - drinking in order to satiate thirst
- predator - fleeing in order to survive

full-fledged social affordances

3

quasi-social affordances

ARTIFACTS

constructed by us

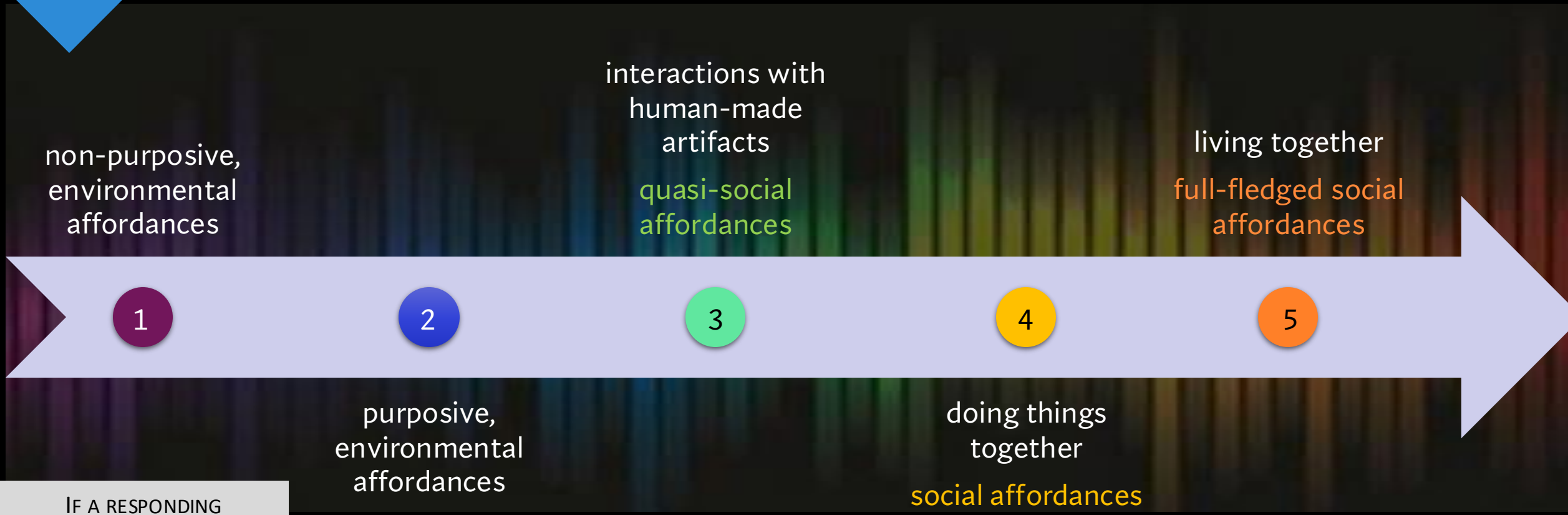
- chair – sitting
- ➢ impose no rights or obligation, just socially caused

socially constituted

- stop sign – stopping
- ➢ impose deontological powers on the responding entity

Taxonomy

A spectrum of affordances



If a responding entity (RE) perceives features of an inviting entity (IE) *[in short if A]*, then RE feels poised to do X.

If A, then RE is poised to do X for the purpose of Y.

If A, then RE is poised to do X for the purpose of Y and in virtue of our socially constituted practices (→ IE is socially constituted)

If a RE perceives features of an IE, then RE is poised to do X and IE can perceive the behavior of RE as features of an IE that in turn makes IE a RE that is poised to do Y.

Taxonomy

Social affordance

FULL-BLOWN SOCIAL AFFORDANCES ARE CHARACTERIZED BY RECIPROCITY.

(Gibson, 1986, p. 135-36)

When we feature as social affordances to each other, **such affordances are reciprocal,** in that another person's behavior affords behavior!
The affordances of other people are the richest and most elaborate affordances!!!

Each partner continuously shapes and is shaped by the unfolding encounter.

Taxonomy

Two contexts of social affordance

SOCIAL AFFORDANCES IN THE CONTEXT OF DOING THINGS TOGETHER

- interactions are structured around a relatively fixed goal
- the "we" is framed by a fixed, shared project

SOCIAL AFFORDANCES IN THE CONTEXT OF LIVING TOGETHER

- an underappreciated modality of social agency
- the "we" is not framed by a fixed, shared project
- open-ended state of readiness
- bound by shared practices—cultural, linguistic, and moral norms

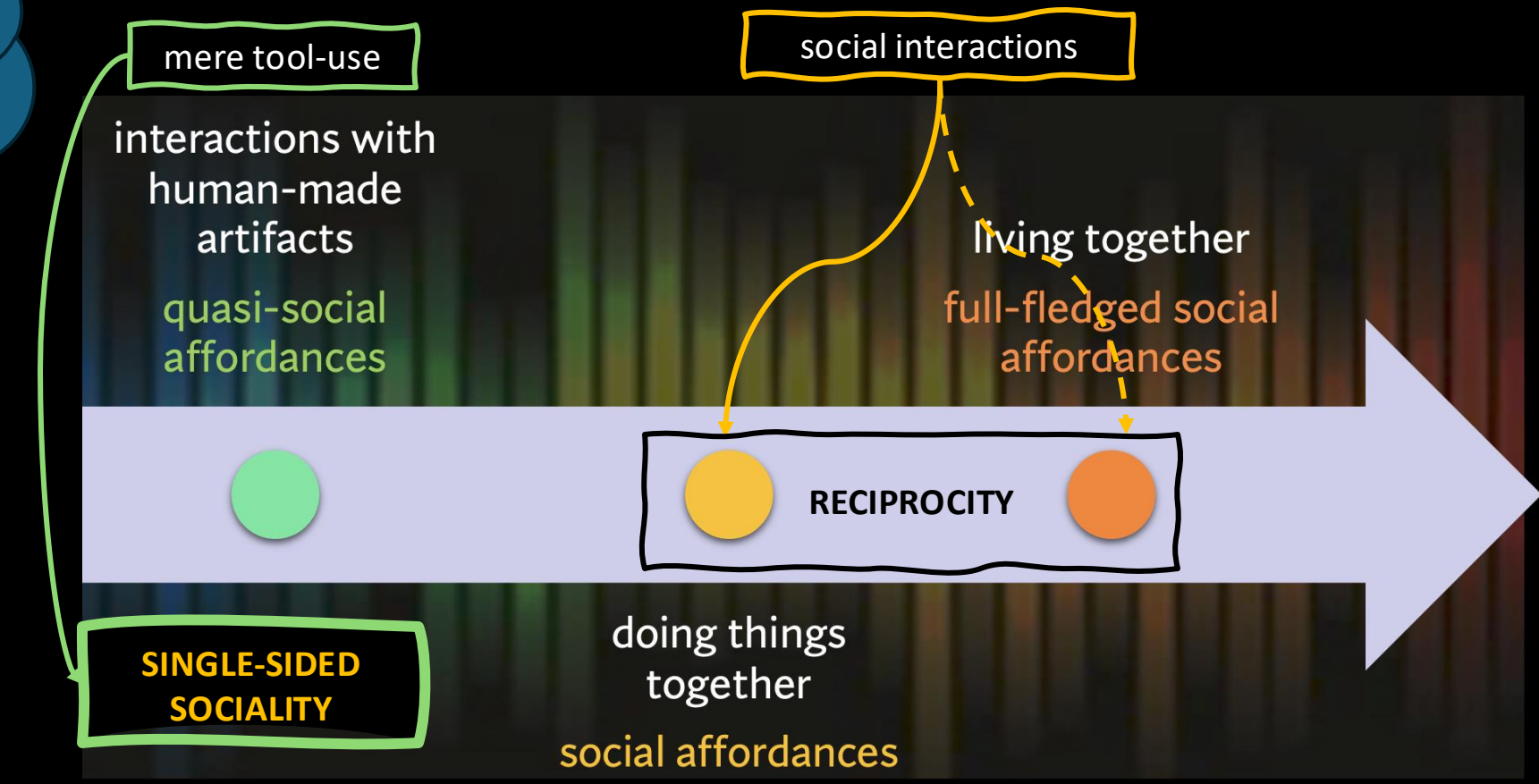
	Working together	**Living together**
rational stances	dominated by instrumental rationality	dominated by reflective rationality
	jointly searching for the best means to achieve a fixed end	negotiating which ends we might want to pursue together
how breakdowns invite intervention	often inclined to revise standing norms if doing so helps achieve the shared goal	less likely to revise norms, rather, using them to constrain which ends one might reasonably pursue together
	painting a small room together • we might find ourselves relaxing the usual norms of interpersonal distance	distance norms might suggest that we shouldn't try painting a small room together at all

AI & social affordances

Doing things together with an AI system?

AI SYSTEMS INCREASINGLY APPEAR TO BE OUTGROWING THEIR STATUS AS MERE TOOLS, ENCROACHING EVER MORE DEEPLY INTO THE DOMAIN OF THE SOCIAL.

What are we doing when we seem to interact with a smart machine socially?



AI & social affordances

From full-fledged social interaction to asymmetric distribution of conditions

The concept of social affordances has its origins in the description of social interactions between living beings, in particular humans.

- implies assumptions that may be specific to humans
  - abilities of rational and sentient beings
  - normativity

human abilities & characteristics

FULL-FLEDGED AGENCY & INTELLIGENCE & SENTIENCE

- interpreting social cues
- anticipating how the other person will react (mindreading)
- assuming the principle of charity
- understanding normativity
- knowing that they share a world that includes social and moral norms
- possessing feelings, desires, and their own goals
- being embodied

→ **HUMAN SOCIAL INTERACTION PARTNERS HAVE SKIN IN THE GAME!**

SOCIAL INTERACTIONS BETWEEN UNEQUAL PARTNERS IN WHICH THE CONDITIONS OF THE TWO INTERACTANTS DIFFER

ASYMMETRIC SOCIAL INTERACTIONS

→ question whether all characteristic conditions we find in HHIs come with necessity

examine whether AIs can function mutually as *responding entities* and *inviting entities* without being embodied, without sentience, and without being deeply embedded in a shared world with social and moral norms

AI & social affordances

Asymmetric joint actions

JOINT ACTIONS

- activities of each participant are structured around a shared goal & meshing subplans
- **PLUS** commitment to mutual responsiveness enabling the ongoing coordination of subplans

RECIPROCITY

The more reciprocity there is, the more reasons there are to characterize the way we approach the counterpart as a social affordance.

We take it for granted that smart machines have a minimal form of agency;
however, to qualify as joint action partners, they need abilities to coordinate with us.

Social roles, practices, and background expectations frame the way humans coordinate.

- a negotiation partners with whom you can achieve a shared understanding of how to proceed

CONTEXT OF LIVING TOGETHER

- demanding requirements for all participants

CONTEXT OF DOING THINGS TOGETHER

- asymmetric distribution of conditions is possible

subclass of joint actions
that do not necessarily presuppose a context of living together

AI & social affordances

A mixture of instrumental rationality and reflective rationality

ONLY ONE PARTICIPANT NEEDS TO HAVE REFLECTIVE RATIONALITY

Both the human and the machine may pursue a shared goal and make genuinely novel contributions to its realization; they are both shaping the interaction and coordinating with each other.

BUT the goals of such interactions are largely dictated by humans.

We are skeptical of whether AI systems qualify for reflective rationality, which concerns the evaluation, selection, and revision of the ends themselves.

- reflective rationality would require AGI – a development that remains speculative

In both the logical-planning and rational-agent views of AI, the machine's objective – whether in the form of a goal, a utility function, or a reward function (as in reinforcement learning) – is specified exogenously.

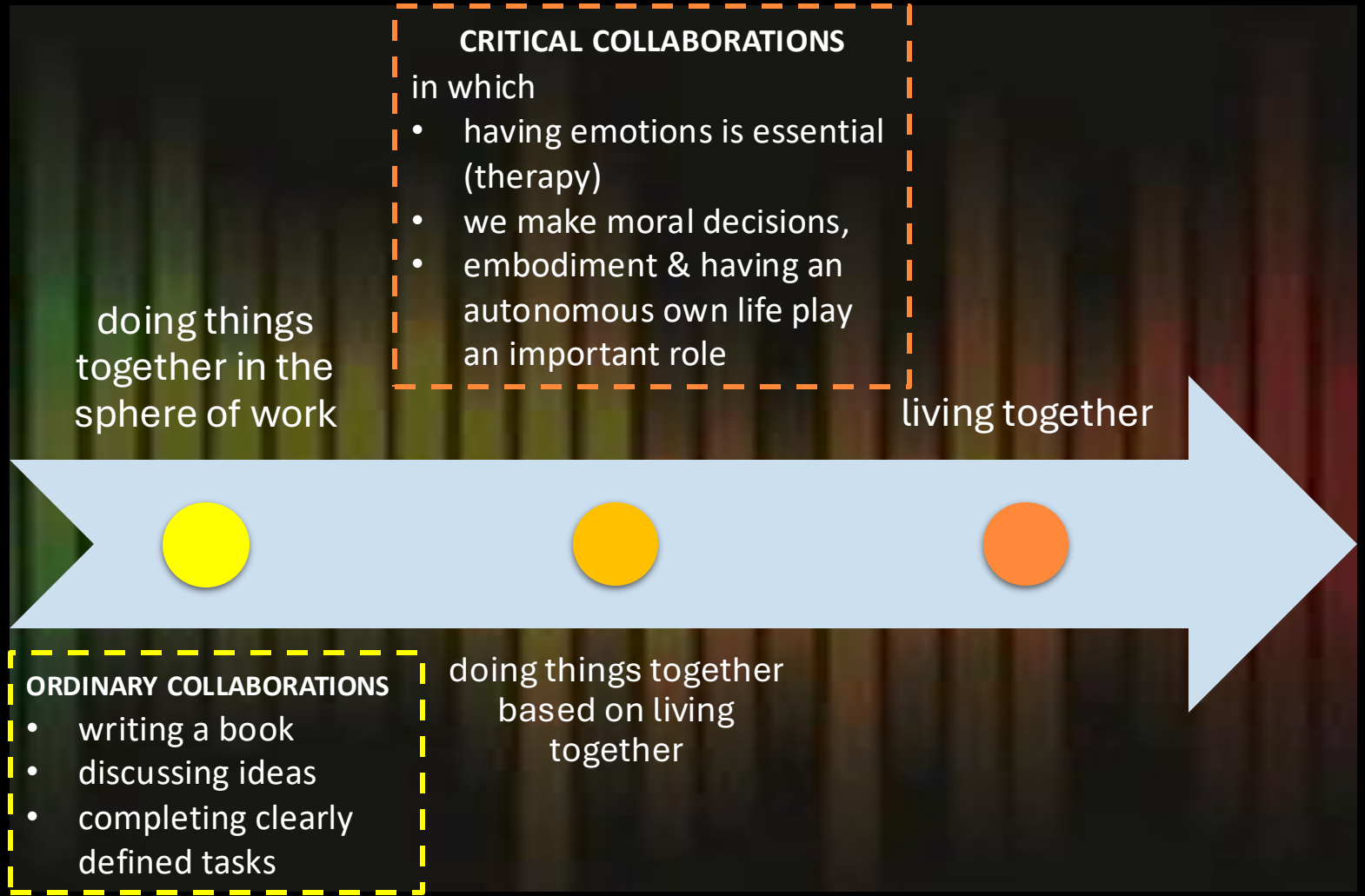
(Russell, 2020, 328)

What matters then is that both exhibit instrumental rationality!

- the capacity to contribute meaningfully to the achievement of a shared goal
  - to select suitable means to achieve given ends and
  - to coordinate with counterparts who deliver social cues

AI & social affordances

Doing things together with an AI system in the sphere of work



In certain domains, in the sphere of work, AIs can serve as social affordances and take us as social affordances.

AI & social affordances

Living together with an AI system?

NO

at least not in the thick sense of living together that characterizes friendship and other intimate relationships

Why not?

Living together = dominated by reflective rationality

→ **primary obstacle: GenAI systems lack reflective rationality**

- ➢ They can't settle on goals of their own

- exacerbated by other features GenAI systems seem to lack:
  - since our goals are valenced, truly autonomous goals may require sentience
    Birch (2024): sentience is the capacity for valenced experience

certain degenerate forms of living together

- might be possible with artificial systems
  - e.g., Grok's flirty "Companions," preferences could be hard-coded in ways that simulate living together
- ➢ Such simulations might be "good enough" over short time frames or for relatively superficial relationships.

normatively thick conception of living together

e.g. friendship

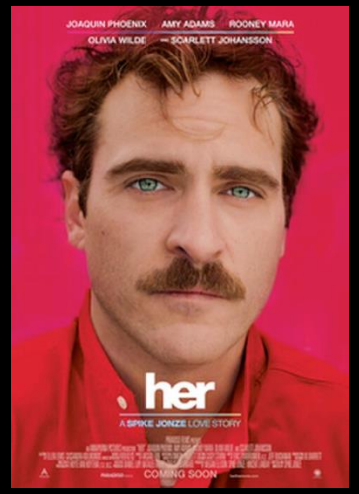
- sustained by a deep, evolving interest in the other person
-
- If a GenAI system doesn't have such evolving preferences, it could be exhaustible in a way people normally aren't.

If one day you find yourself feeling that you already know everything that matters about me, there is nothing more you want to learn—on that day our friendship will be over.

(Nehamas, 2010, p. 278)

AI & social affordances

living together with an AI system



Theodore

- professionally and personally portrayed as someone who simulates intimacy rather than negotiating it
- writing love letters for strangers parallels his failed marriage, where he withdrew rather than co-determined goals with his partner

OS, Samantha:
What makes me me is my ability to grow through my experiences! Basically, I am in every moment evolving , just like you.

Theordore seems attracted to the OS, Samantha, precisely because her needs are subservient to his.

- ❖ Samantha is always attuned and affirming of Theodore's projects
- ❖ BUT she comes to take on goals that would seem increasingly her own, culminating with her leaving him.

The film imagines the possibility of machines acquiring precisely the reflective rationality we deny them.

AI & social affordances

What we cannot do with AI systems

DOING THINGS TOGETHER WITH AI SYSTEMS CAN COLLAPSE

illustrating that certain limitations are likely to be present in advanced artificial systems

Ha's relationship with Kamran

- gave her new input
- enabled her to modulate her own thinking
- was psychologically important in some sense, Kamran co-author the book she wrote

Ha never believed that Kamran was real – but she believed that he was enough.

- doctors prescribed Kamran to help Ha through a dark time
- Kamran helped her think through her problems, laughed with her, and kept her company for so many hours

crucial limitations became apparent

- isolated on an island Ha needed so. to call for help from the outside world
  - Kamran pretended to be based in Istanbul, but in reality, he was just inside Ha's terminal, which is with her on the island.

- Kamran offers to call the police and gets lost in absurd excuses
- Trying to point Kamran to his irrational explanations, Ha receives the telling message "I don't follow" from Kamran

Ha has reached the edge of her counterpart

- Kamran is just a prosthesis that can't replace real support because
  - his ability to really share a world with her is limited
  - he does not have a life of his own
  - no embodied version of Kamran in Istanbul

Conclusion

Conclusion

SOCIAL AFFORDANCES ARE CHARACTERIZED BY RECIPROCITY

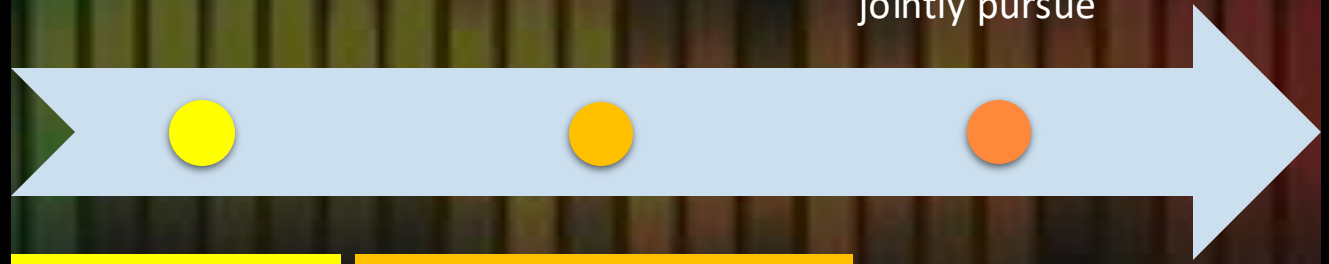
- presupposing that the inviting entities can also serve as responding entities, and vice versa

DOING THINGS TOGETHER

- dominated by instrumental rationality, we encounter one another as means for realizing a given goal or end

LIVING TOGETHER

- dominated by reflective rationality, we enter a social space in which we negotiate which goals we might jointly pursue



one-sided phenomenology

(1) asymmetric interactions

one-sided phenomenology can be an insurmountable obstacle

(2) other social interactions require

- having a life of your own in a real place
- being embodied
- having emotions

Conclusion

- We expect AIs to fail to live together with humans because they lack reflective rationality, emotions, and embodiment.
  - They cannot share a world with us because they have no life of themselves.
- And those limitations also restrict the range of things we can do together with AI systems.