

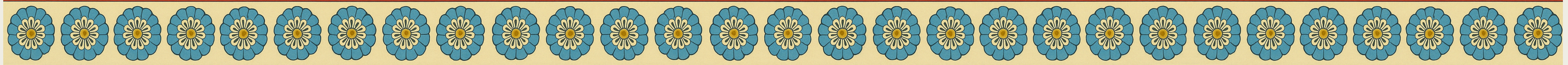
Beyond Sensory Effects: Can Directive Representations Account for Agentive Experiences?

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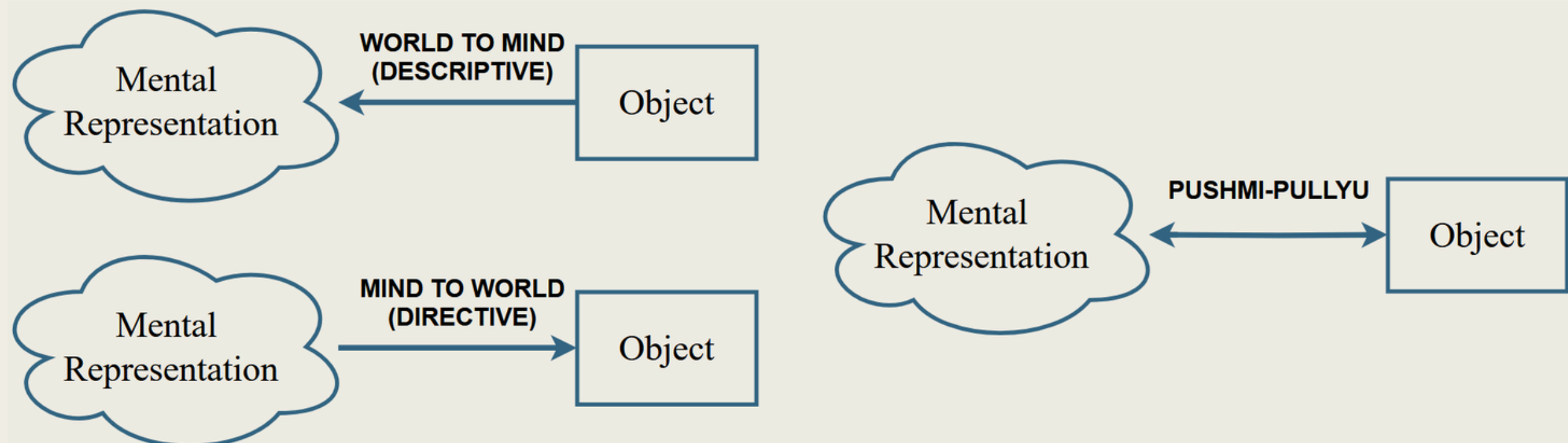


Agentive Experiences

- In philosophy of mind, it is argued that we experience our own actions differently from passive events (see [Bayne, 2008]).
- The two-step account of the sense of agency (SoA) separates the experience of agency from judgments about agency [Synofzik et al., 2008], though this view has faced criticism (e.g. [Grünbaum, 2015]).
- Describing the experience of action in mental terms is challenging, as it risks reducing it to sensory experience. It may be argued that agentive experiences are neither purely perceptual nor cognitive, though perspectives differ [Mylopoulos & Shepherd, 2020].
- The experience of effort – whether physical or cognitive – is a prime example of an inherently active experience. The feeling of effort is inseparable from the act of exertion itself; it is not merely a sensation one has and then attributes to oneself as its cause.

Directive Representations

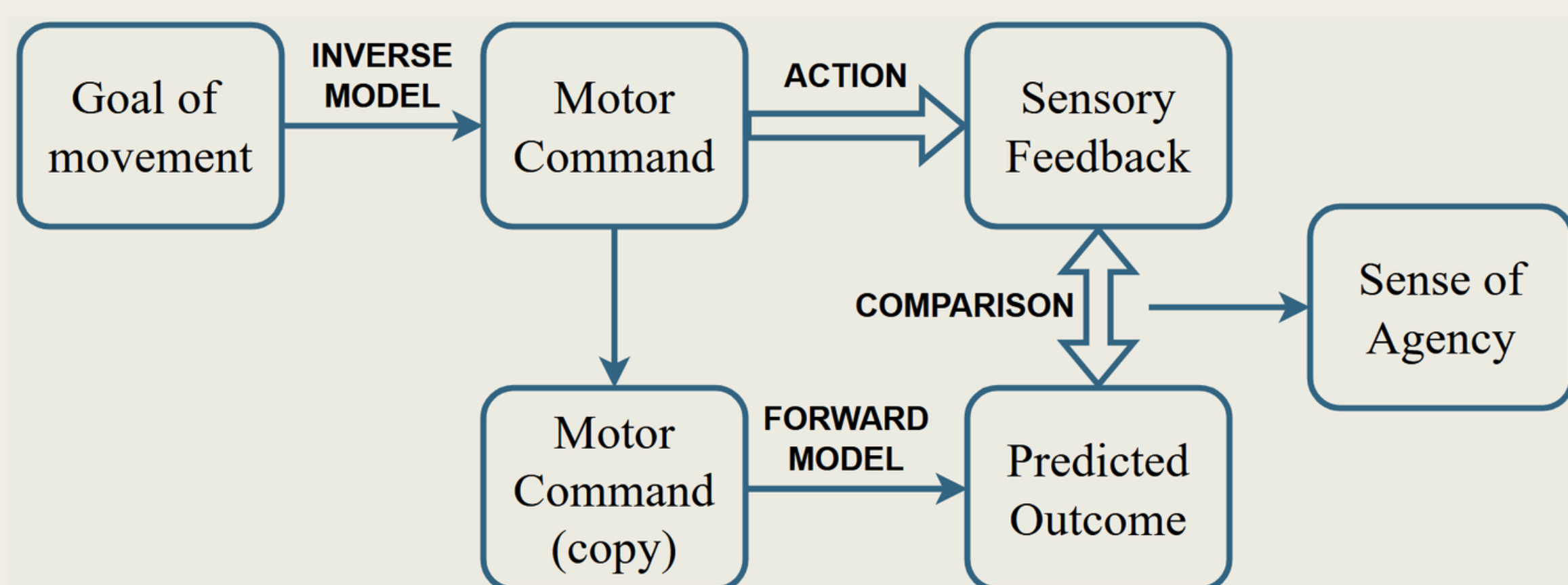
- The representational theory of mind remains a leading framework for understanding mental content [Favela & Machery, 2023], and may help clarify the experience of acting through directive representations (DRs) – output-oriented states with formats distinct from perceptual or cognitive descriptive codes [Shea, 2018].



- Pushmi-pullyu representations [Millikan, 1995] combine directive and descriptive functions, and can also be used to formalize agentive experiences [Bayne, 2011].
- In cognitive science, several phenomena invoke DRs to explain mental content in voluntary action. I will examine these cases and identify a characteristic pattern of DR involvement – one that, for now, precludes them from serving as vehicles of agentive experience.

Case 1 The Comparator Model

- DRs in the form of motor commands are thought to contribute to SoA. In the comparator model of SoA [Frith et al., 2000], the self-generated quality of movement experience depends on the match between predicted and actual sensory feedback.



- However, what is consciously experienced are the sensory consequences and the outcome of the comparison – while the efference copy remains unconscious. The comparator's output has a descriptive rather than directive format.

Case 2 Motor Imagery

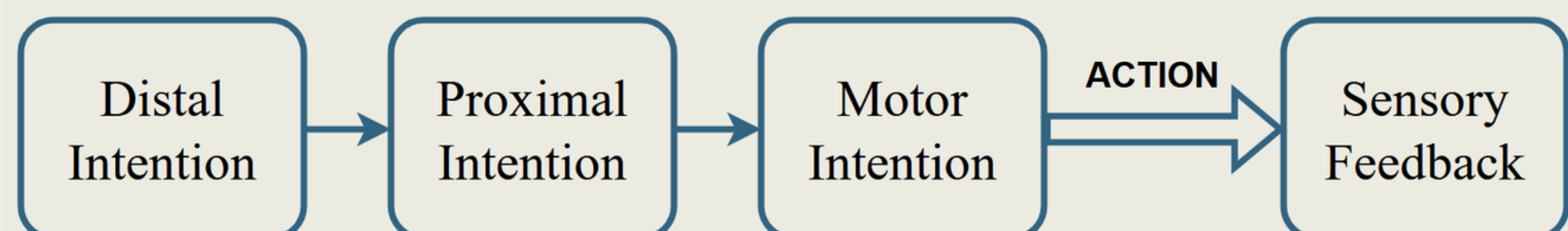
- The paradigm case of directive representation is motor representation. According to motor simulation theory [Jeannerod, 1994; 2006], these representations can become conscious during explicit motor imagery.



- However, even when motor content becomes accessible, the format is descriptive: motor imagery reenacts kinesthetic sensations, while motor representations – as active, directive units – remain unconscious.

Case 3 Motor and Proximal Intentions

- The dynamic hierarchical model of intentions [Pacherie, 2008; Mylopoulos & Pacherie, 2019] posits three levels of intentions.



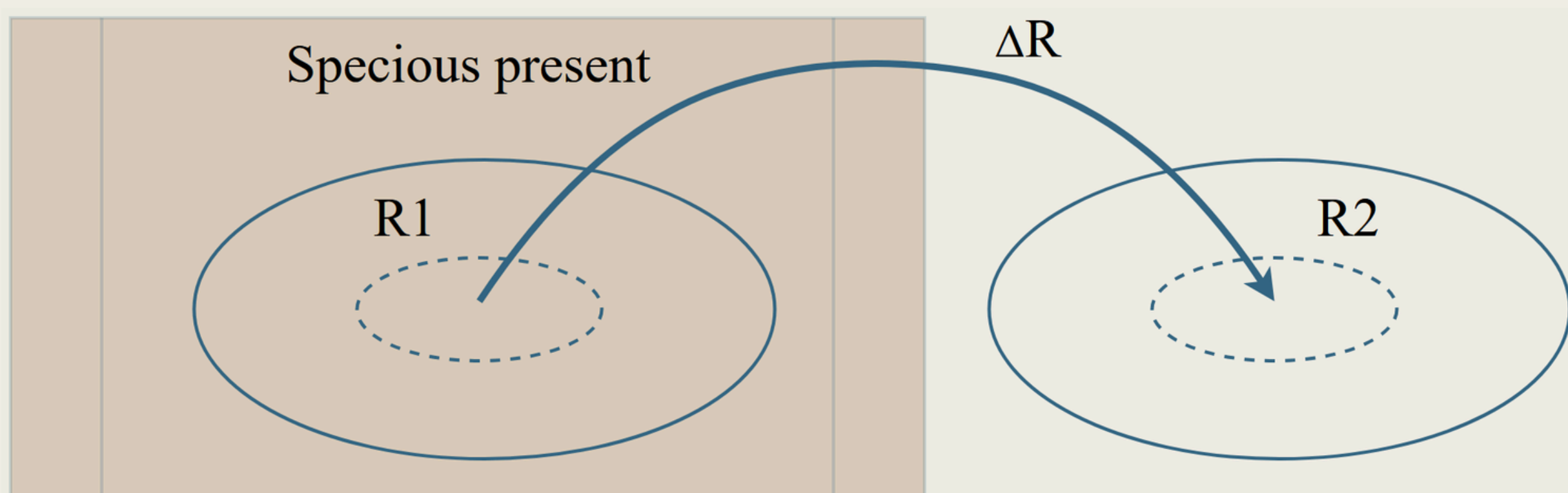
- Motor intention is unconscious. While it is sufficient to produce the sensation of movement [Grünbaum & Christensen, 2024], this sensation remains merely descriptive.
- Proximal intention appears more promising. However, apart from the decision to initiate an action A, its mental content remains puzzling. Intention is the paradigmatic example of an intentional state (pun not intended), rather than an experiential one.

Observations So Far

1. Directive representations are unconscious or experientially vague.
2. Experience risks being confined to perceptual-cognitive passivity.

Content Within the Change?

- Simply attributing a direction of fit to representations does not resolve the challenge of characterizing the experience of agency. Since descriptive content is relatively well-defined, it may be more productive to examine how such content is dynamically reshaped.
- Action – whether physical or mental – alters perceptual and cognitive content. Yet it is insufficient to describe this change as merely predictable. DRs mediate a distinctive mode of transition between representational states.



- The experience of agency is an experience of attended change, and it may be fruitful to align it with the transition process between regions of representational content—R1 and R2.

Conclusions

- Agentive experiences are elusive; theorizing in cognitive science demonstrates that conscious content tends to remain descriptive and does not adhere to DRs.
- New approaches to formalizing agentive experiences should be explored. For example, such experiences could be linked to the characteristic changes in descriptive content brought about by DRs.

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