

Do you just see the Mug Handle? Let's take a look at Affective Affordances too!



Poster
A05

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In brief

Can physical objects instantiate "affective affordances"? Under which conditions? By combining philosophy and embodied cognitive science we

- offer a new definition of the concept of "affective affordance";
- propose a feasible operationalization for its empirical testing.

1. Introduction

Affordances are perceived opportunities for beneficial or harmful action arising out of the interaction between an embodied agent and her environment (Gibson, 1966). Although this definition may suggest a valence-based approach, affordances have been usually interpreted as invariant properties (Gibson, 1979). This is one of the reasons why philosophical research has started investigating the subjective dimension (e.g., affective) of affordances only in recent years (Rietveld, 2008; Gallagher, 2017; Dings, 2018; Colombetti, 2014). Yet, there is a body of experimental literature encouraging an inquiry into the subjective contextual features of motor affordances. It includes, e.g., research on variable affordances deriving from temporary objects characteristics (Borghi and Riggio 2015), the modulation of affordances based on the actual object reachability (Costantini et al. 2011) and the actual functional capabilities of one's body (Ambrosini et al., 2012), the impact of action and observation verbs on affordance perception (Borghi, 2012), and the influence of the stimulus-evaluation and the reference-frame (self/object) on approach-avoid behavior (Saraiva et al., 2013).

Consistently, we believe that an investigation on the role of subjective-affective components for the emergence of affordances is badly needed.

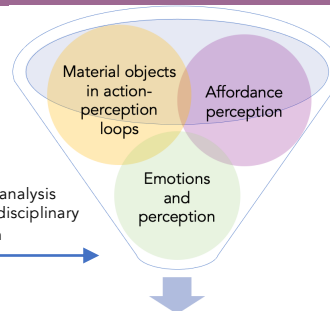
2. Method

Empirically informed philosophy

(Prinz, 2008)



Critical analysis of interdisciplinary work on



- contextualization of the reviewed empirical results into the embodied and enactive approach (Varela, Thompson and Rosch 1991);
- critical comparison of affective affordances in philosophy and experimental approaches to emotional affordances (Schutte and al., 2008);
- identification of the core problem: too broad philosophical concept of affective affordance (Krueger and Colombetti, 2018).

3. Results

(Re)definition of affective affordances:

- environmental items of various kinds (i.e., cultural artifacts, material objects and tools);
- integrated in a human agent's everyday habitual practice;
- can solicit emotional states and behaviors in a consistent and reliable manner.

Investigation of two temporal dimensions: diachronic and synchronic.

3.1. Diachronic dimension

Likelihood of affective activation of an item: defining aspect of affective affordances. The item's integration in the agent's practices at a diachronic level: predictor of this likelihood.

Integration

Level of integration	Modality of integration
Quantitative aspect	Qualitative aspect
Frequency of exposure and the familiarity effect	Affective modality
It positively influences the agent's trust in that object	It fosters the recognition of the object's affective-regulative effects in the present
It enhances the potential for action with the object	It situates the object into the agent's broader memory-informed affective practices

Twofold definition of integration:

- ruling out cases in which the agent interacts with the object in a mere functional or casual way;
- identifying what makes an object a proper affective affordance in an agent-environment coupled system;
- specifying affective affordances as affordance-relations characterized by a high level of affective integration.

3.2. Synchronic dimension

Context-sensitiveness of motor affordances in intersubjective settings (Gianelli et al., 2013; Scorolli et al., 2014): making predictions on the temporal dynamics of affective activation in individual interactions with affective affordances.

Future testing through kinematic analysis: affective affordance effect in the early kinematic events (roughly 35% of movement duration), since they reflect the relatively slow process of planning (Glover 2004) more than on-line control.

4. Discussion

- A novel empirically testable concept at the crossroad of philosophy and cognitive science.
- Future research should include complex sets of objects and the role of normative, linguistic and social aspects to bridge the gap between individual affective affordances and socio-cultural affective affordances.

