

05: What Is the Mark That Distinguishes Actions?

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1. Intentions and Goals

What is the relation between a purposive joint action and the outcome or outcomes to which it is directed? One way of answering this question appeals to intentions. On any standard view, an intention represents an outcome, causes an action, and does so in a way that would normally facilitate the outcome's occurrence.

2. Motor Representation

Markers of motor representation

1. are unaffected by variations in kinematic features but not goals (e.g. Cattaneo et al. 2010; Umiltà et al. 2008; Cattaneo et al. 2009; Rochat et al. 2010)
2. are affected by variations in goals but not kinematic features (e.g. Fogassi et al. 2005; Bonini et al. 2010; Cattaneo et al. 2007; Umiltà et al. 2001; Villiger et al. 2010; Koch et al. 2010)

So:

3. carry information about goals (from 1,2)

Also

4. Information about outcomes guides planning-like processes (consider Grafton & Hamilton 2007; Jeannerod 1998; Wolpert et al. 1995; Miall & Wolpert 1996; Arbib 1985; Mason et al. 2001; Santello et al. 2002).

'a given motor act may change both as a function of what motor act will follow it—a sign of planning—and as a function of what motor act preceded it—a sign of memory' (Cohen & Rosenbaum 2004, p. 294).

3. Motor Representations Ground the Directedness of Actions to Goals

Like intentions, motor representations (i) represent outcomes, (ii) coordinate actions and (iii) do so in ways that would normally facilitate the occurrence of the represented outcomes.

4. Motor Representations Aren't Intentions

Imagining seeing an object move and actually seeing an object move have similarities in characteristic performance profile (Kosslyn 1978; Kosslyn 1996, p. 99ff; Kosslyn et al. 1978)

The way imagining performing an action unfolds in time is similar in some respects to the

way actually performing an action of the same type would unfold (Decety et al. 1989; Decety 1996; Jeannerod 1994; Parsons 1994; Frak et al. 2001)

Judging the laterality of a hand vs of a letter. For ordinary subjects, the tasks differ: they are less accurate when the hand's position is biomechanically awkward. But Fiori et al. (2013) show that the tasks do not so differ for subjects suffering Amyotrophic Lateral Sclerosis (ALS), which impairs motor representation (Parsons et al. 1998).

1. Only representations with a common format can be inferentially integrated.
2. Any two intentions can be inferentially integrated in practical reasoning.
3. My intention that I visit the ZiF is a propositional attitude.

Therefore:

4. All intentions are propositional attitudes

But:

5. No motor representations are propositional attitudes.

So:

6. No motor representations are intentions.

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