Lecture 09: Joint Action

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1. Motor Representation

A *goal* is an outcome to which an action is directed.

Motor representations represent goals such as the grasping of an egg or the pressing of a switch. These are outcomes which might, on different occasions, involve very different bodily configurations and joint displacements (see Rizzolatti & Sinigaglia 2010 for a selective review).

Motor representations trigger processes which are planning-like insofar as they involve (a) computing means from representations of ends; and (b) satisfying relational constraints on actions (e.g. Jeannerod 2006; Zhang & Rosenbaum 2007).

Motor processes concerning actions others will perform occur in observing others act (Gangitano et al. 2001)—and even in observing several others act jointly (Manera et al. 2013)—and enable us to anticipate their actions (Ambrosini et al. 2011; Aglioti et al. 2008).

A *very small scale action* is one that is typically distantly related as a descendent by the means-end relation to the actions which are sometimes described as 'small scale' actions, such as playing a sonata, cooking a meal or painting a house (e.g. Bratman 2014, p. 8).

2. Collective Goals and Motor Representations

An outcome is a *collective goal* of two or more actions involving multiple agents if it is an outcome to which those actions are directed where this is not, or not only, a matter of each action being directed to the outcome.

In virtue of what are very small scale joint actions collectively directed to outcomes?

In joint action, motor processes concerning actions another will perform can occur (Kourtis et al. 2013; Meyer et al. 2011), and can inform planning for one's own actions (Vesper et al. 2013; Novembre et al. 2014; Loehr & Palmer 2011).

Conjecture : collective goals are represented motorically (della Gatta et al. 2017).

An interagential structure of motor representation:

1. There is one outcome which each agent represents motorically, and
2. in each agent this representation triggers planning-like processes
3. concerning all the agents' actions, with the result that
4. coordination of their actions is facilitated.

(See also Tsai et al. 2011; Loehr et al. 2013; Ménoret et al. 2014; Meyer et al. 2013; Kourtis et al. 2014).

Where we each represent a collective goal motorically and these representations are appropriately related to our actions, our actions will normally be trade-off cooperative.

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