

## **Symposium “Joining forces: The nature and norms of collective efforts”**

12<sup>th</sup> Collective Intentionality conference, Neuchâtel, July 13-22, 2020

### *Convenor:*

Juan Pablo Bermúdez (U. Neuchâtel)

### *Speakers:*

Wayne Christensen (U Barcelona)

Marcell Székely (CEU)

Third speaker TBA

## **General presentation**

As individual agents we are constantly making efforts. We make efforts to lift heavy weights, to concentrate, to overcome temptation, to stay calm, to convince others, etc. We also make efforts to contribute to joint actions: as part of a sports team we make efforts to win the game; as part of a couple we make efforts to raise children; as members of an institution we make efforts to follow its norms.

Research suggests that at the individual level the feeling of effort is a part of the sense of agency, and is used to calibrate how successfully the action is going, or to what extent it is worth continuing with the action. Research is emerging on the feeling of effort at the collective level, which raises novel questions. This symposium’s goal is to assess whether, and in which way, the feeling of effort and perceptions of others’ efforts, guides and structures joint action performance.

When we act together, we have to find a way to ‘share the load’ of the task. Since the joint action’s outcome depends on the multiple agents, each individual must factor this into the decision how much effort to put into the action. It often makes sense to stay committed to a joint action only if others do the same – it makes sense to do our part as long as we see others are making the corresponding effort; otherwise we risk being exploited by slackers or making efforts in vain. Thus agents capable of acting together must be capable of perceiving others’ efforts and match their own efforts to those of others. But how do we sense the efforts of others? How accurate is this perception of effort, compared to the feeling of our own effort? And how do we match our own level of effort and commitment to theirs in contributing to joint actions, from sports and music to team work and home building?

## **Marcell Székely: Social Effort Calibration. Why, when and how do we match joint action partners’ effort investments?**

### **Abstract**

As humans, we have unique skills and motivations for cooperation not possessed by other species (Tomasello et al., 2012). One may speculate that comparing effort levels in joint action is crucial for evaluating the feasibility of interaction, for calibrating our own energy expenditure and for making decisions about partner selection. Indeed, there is some initial evidence that the perception of a partner’s effort may under some circumstances lead us to increase our own effort level in a joint task (Székely & Michael, 2018; Chennells & Michael, 2018). This raises the possibility that people may have a tendency to calibrate their effort level in joint actions by matching their partner’s effort level. If so, it may help to stabilize people’s motivation to contribute to mutually beneficial

joint actions. First, I will provide an analysis of the functions potentially subserved by effort matching. Building upon this, I will spell out distinct hypotheses about why and when agents may calibrate their effort level to match that of a partner, and formulate testable predictions to differentiate among these hypotheses. Finally, I will present a series of experiments designed to test these predictions.

### **Wayne Christensen: Sense of Effort, Joint Action, and the Evolution of Flexible Skill**

#### **Abstract**

Understanding effort allocation in joint action will require an account of the mechanisms and functions of effort awareness. From an architectural perspective I suggest that sense of effort should be understood as one of a cluster of high level ‘senses’ that play an action-guiding role and which include senses of agency and control. These senses lie at the boundary between perception and cognition, and I propose that we can fruitfully use the sense of direction as comparatively well-understood model for understanding their nature. Notably, the sense of direction incorporates specialised machinery and integrates perceptual and conceptual information. Sense of effort is likely to similarly integrate perceptual and motor information with conceptual task information. I suggest that the core function of sense of effort is to guide the allocation of effort in an ecologically optimal way. This implies that effort is not always aversive, contrary to common views. Indeed, expending too little effort can also be aversive. Thus, the conative significance of effort signals will be context-sensitive. Sense of effort is likely to have been greatly elaborated during hominid and human evolution as the capacity for flexible skilled action was dramatically enhanced. As such, it will have played a role in increasingly sophisticated evaluative action awareness during skill acquisition and execution. Capacities for skill and flexible cooperativity evolved together in humans, and effort allocation should be sensitive to the kinds of adaptive demands faced by human ancestors in flexible cooperation. These will have included requirements for individual and joint benefit, collective efficiency, and effort allocation that is sensitive to dissimilarities in partner abilities and motivation, such as when a partner is young, old, sick, injured, a novice, experienced-but-incompetent, unmotivated, and so on.