Bodily obstacles in mental imagery. Specific perspective-dependent effects of the apparent motion perception of an actors' body parts.

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The implicit knowledge of bodily biomechanical constraints and the physical notion of impenetrability of two solid objects affect the apparent motion of human body parts (AMP - the perceptual completion of an actor's movements from two static pictures). This is only true when the brain is given enough time to allow top-down influences (TBs) to occur, i.e. at a *slow* flash-rate between the two depicted limb postures. However, it remains unclear whether these TBs rely on visual or somatosensory representations of plausible movement trajectories. To address this issue 20 subjects underwent an AMP paradigm. AMPs consisted of body parts moving through or around other body parts, fixed objects, and body parts rotating around different angles. Actor's movements were observed from a 1st person (egocentric) perspective which is thought to trigger motoric simulation of the actor's movements and from a

3rd person (allocentric) point of view which is associated with encoding processes in the observer's visual system. We found a specific dissociation between 1st and 3rd perspective with reference to the timing at which Top-down influences occur. These view-dependent effects speak against the notion that TPs would rely on visual motion information. Apparently, a crossmodal activation of limb sensorimotor and visual representations is exclusively triggered by a 1st person perspective, which speaks for a crucial role of sensorimotor representations in the the visual perception of AMP.