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Multimodal mental imagery

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## MULTIMODAL MENTAL IMAGERY

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When I am looking at my coffee machine that makes funny noises, this is an instance of multisensory perception – I perceive this event by means of both vision and audition. But very often we only receive sensory stimulation from a multisensory event by means of one sense modality. If I hear the noisy coffee machine in the next room, that is, without seeing it. The aim of this paper is to bring together empirical findings about multimodal perception and empirical findings about (visual, auditory, tactile) mental imagery and argue that on occasions like this, we have *multimodal mental imagery*: perceptual processing in one sense modality (here: vision) that is triggered by sensory stimulation in another sense modality (here: audition). Multimodal mental imagery is not a rare and obscure phenomenon. The vast majority of what we perceive are multisensory events: events that can be perceived in more than one sense modality – like the noisy coffee machine. And most of the time we are only acquainted with these multisensory events via a subset of the sense modalities involved – all the other aspects of these multisensory events are represented by means of multisensory mental imagery. This means that multisensory mental imagery is a crucial element of almost all instances of everyday perception.

Keywords: Mental imagery, Multimodality, Multisensory perception, Synaesthesia, Sensory substitution, Implicit bias

## Introduction

When I am looking at my coffee machine that makes funny noises, this is an instance of multisensory perception – I perceive this event by means of both vision and audition. But very often we only receive sensory stimulation from a multisensory event by means of one sense modality. If I hear the noisy coffee machine in the next room, that is, without seeing it, then the question arises: how do I represent the visual aspects of this multisensory event? Do I represent them at all?

The aim of this paper is to bring together empirical findings about multimodal perception and empirical findings about (visual, auditory, tactile) mental imagery and argue that on occasions like the one described in the last paragraph, we have multimodal mental imagery: perceptual processing in one sense modality (here: vision) that is triggered by sensory stimulation in another sense modality (here: audition).

Multimodal mental imagery is not a rare and obscure phenomenon. The vast majority of what we perceive are multisensory events: events that can be perceived in more than one sense modality – like the noisy coffee machine. In fact, there are very few events that are not multisensory in this sense. And most of the time we are only acquainted with these multisensory events via a subset of the sense modalities involved – all the other aspects of

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