

The Body beyond the body

ABSTRACT:

Background

More than 100 papers have been published on the rubber hand illusion since its discovery 14 years ago. The illusion has been proposed as a demonstration that the body is distinguished from other objects by its participation in specific forms of intermodal perceptual correlation. Here, we radically challenge this view by claiming that actual perceptual correlation is not necessary to produce the experience of this body as mine, as expectations about what could be my body are sufficient.

Aim of the study

The aim of this project was to empirically provide support to the idea that peripersonal space (PPS) is not a region surrounding the body that acts as an interface between the body and the environment; rather it is actually a part of our body. To this aim we proposed to test whether it is possible to induce a sense of body ownership over a rubber hand when tactile stimuli were neither delivered over a seen rubber hand nor over the hidden participants' hand.

Method

Participants were submitted to an experimental set-up similar to that employed during the standard Rubber Hand Illusion (RHI). In our case, however, instead of receiving congruent visuo-tactile stimulation, participants observe an object merely entering their own PPS and approaching the rubber hand.

Results

The Project was successful in demonstrating that participants did experience a full-blown illusion. At the neural level we demonstrated that the parietal lobe, a cortical region encoding PPS, is activated by the sight of an object entering participants' PPS.

Conclusion

Our results suggest that expectations about forthcoming sensory events are sufficient to induce a sense of body ownership

Keywords

Body ownership, Rubber hand illusion, Expectation, Bodily self

Published Work:

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