

Making objects float: How the perceptual space surrounding objects structures the perception of levitation

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Levitation in art



Evoking experience of levitation in art by referring to known concepts and symbols (Exner, 1882).



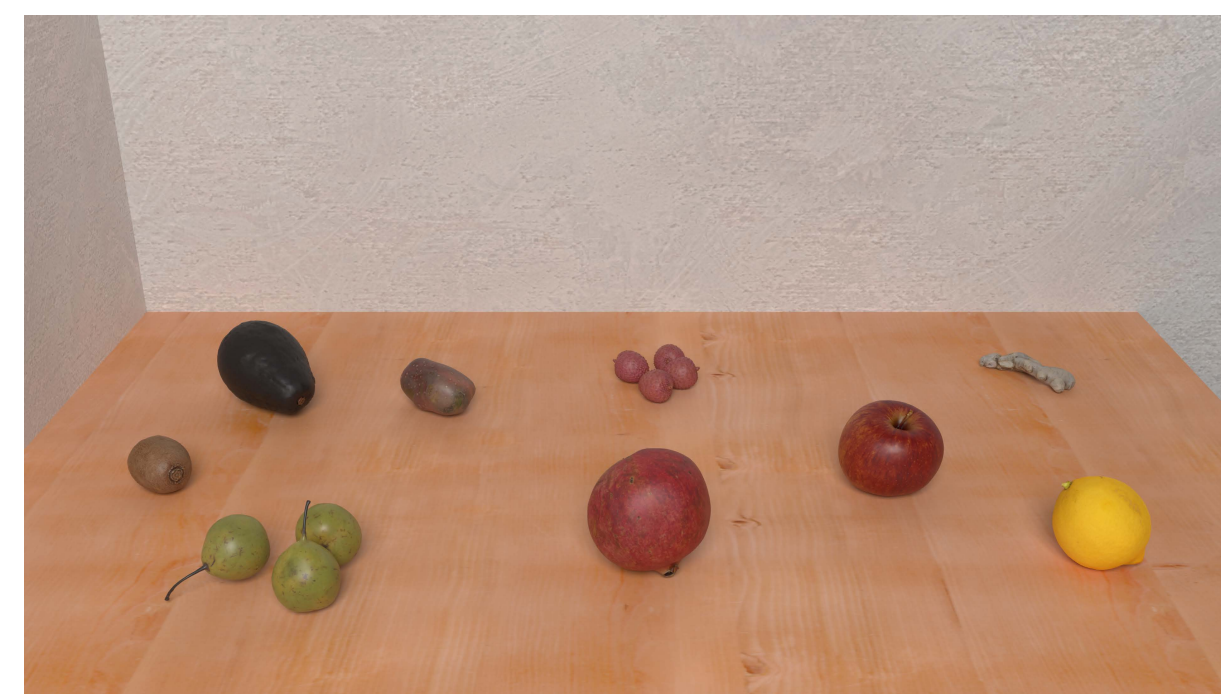
Shadows as a perceptual cue to depth and spatial arrangement can also evoke illusory levitation (Mamassian et al., 1998).

Left: San Giuseppe da Copertino (18th c.).

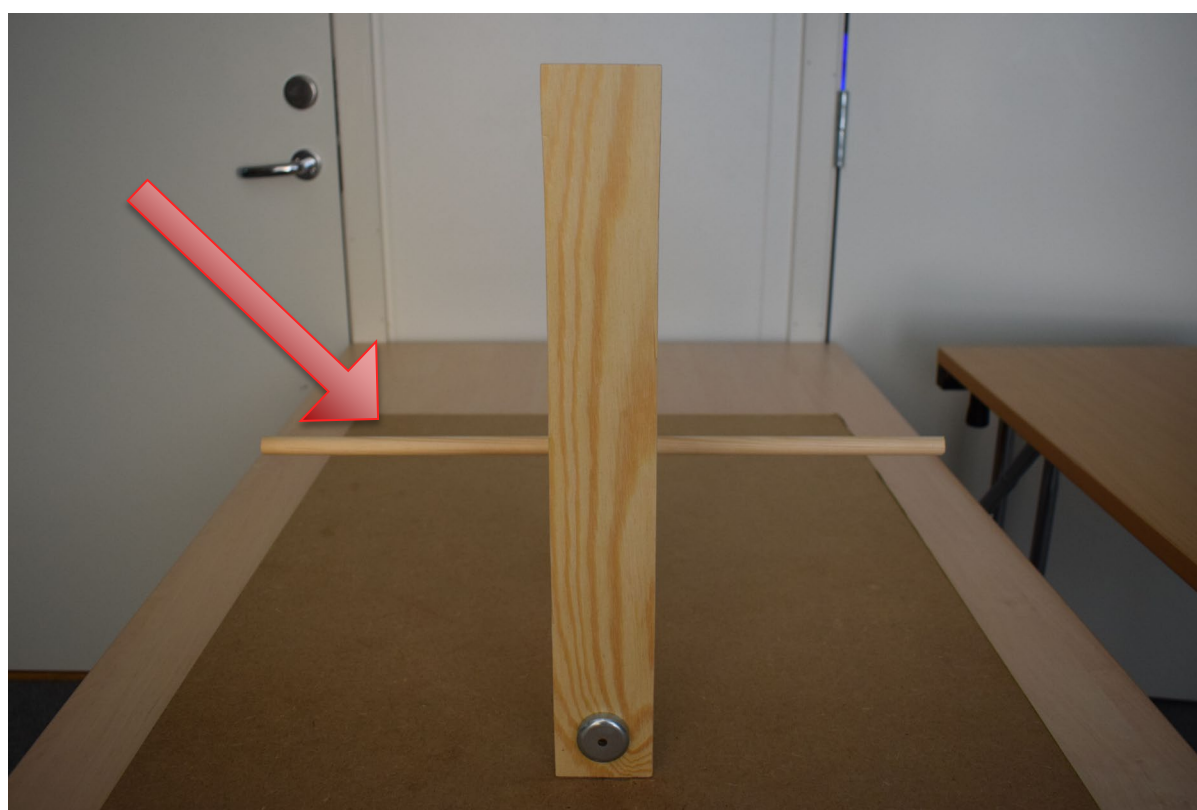
Right: Jusepe de Ribera (17th c.). A levitation of St. Francis.

Nick Hannes. Magic carpet.

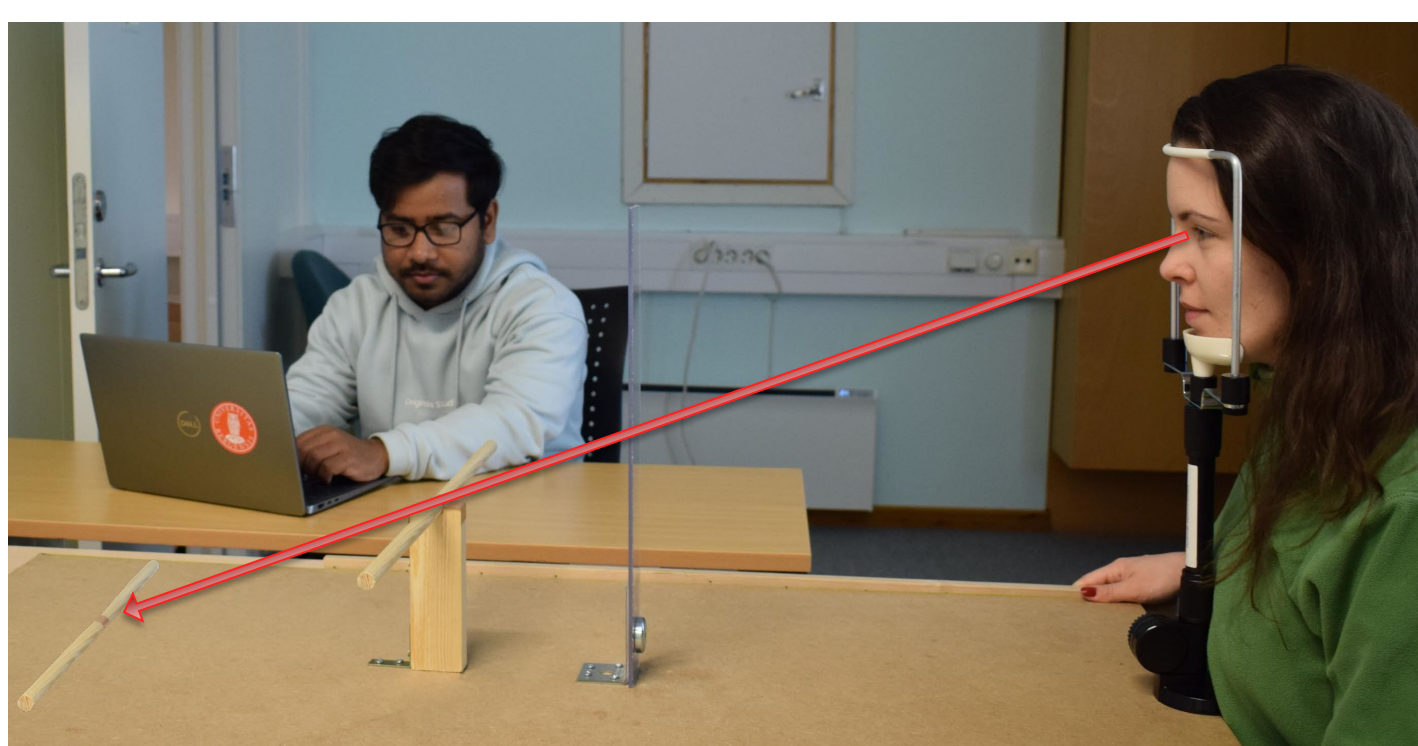
Levitation implies empty space around the object. Can the perception of empty space induce illusory floating?



In the Illusion of absence, the space behind thin occluders looks empty (Ekroll et al, 2021).

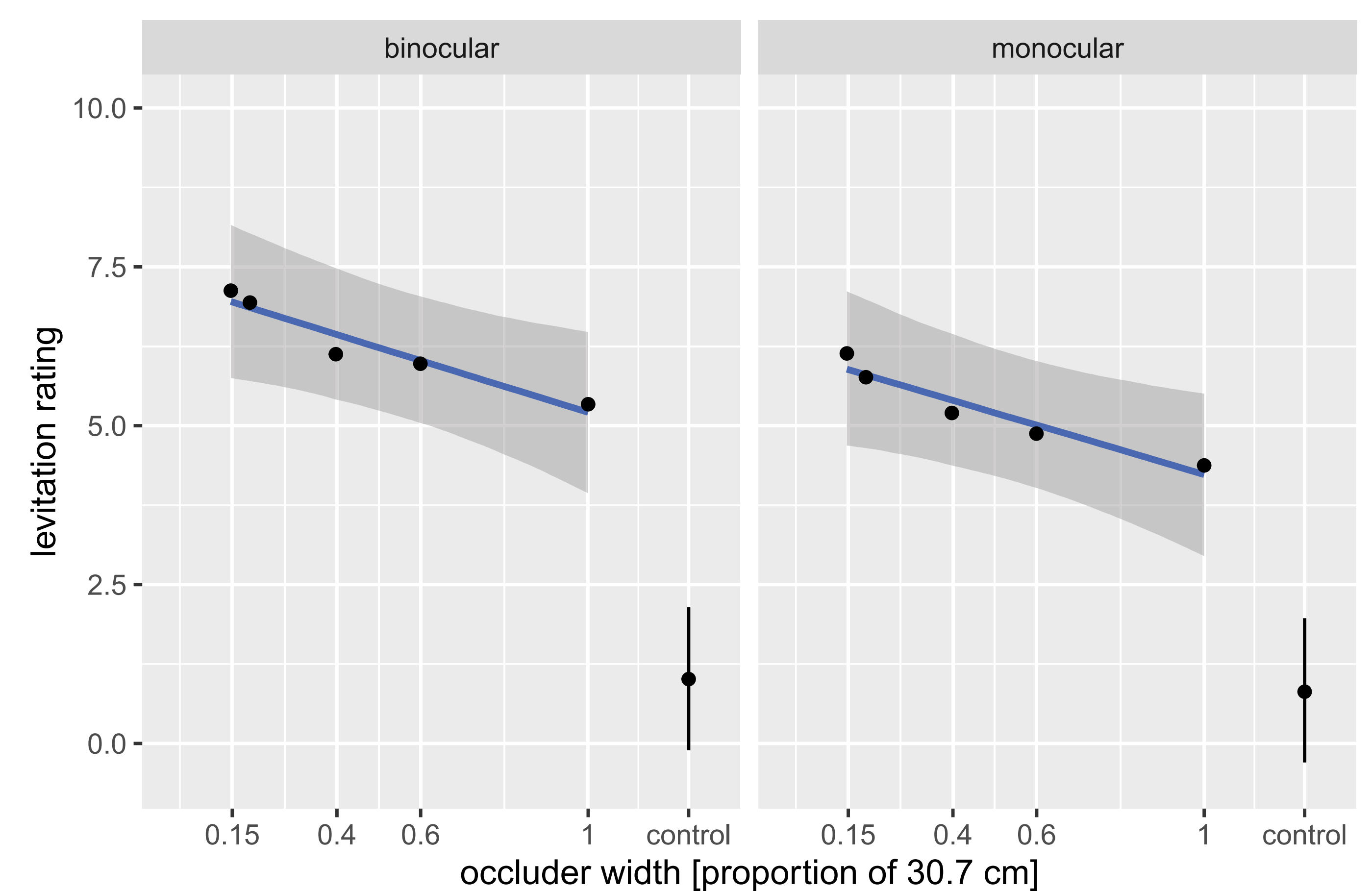


The stick appears to float when the pedestal is hidden behind thin occluders, in line with the generic view principle (Albert, 2001).



Does impaired distance estimation lead participants to see the stick as resting on the ground, thereby preventing the impression of levitation? (Gibson, 1950).

Levitation ratings by occluder width and viewing condition across participants.



The floating impression is stronger with binocular vision, but still evident with monocular vision and limited depth perception.

Enhancing the perception of empty space in art

The hedge occludes the pedestal, illustrating how coincidental alignment creates an impression of levitation (Øhrn et al., 2019).



Koosg (2011). Zwevende Maagden by Elisabet Stienstra.



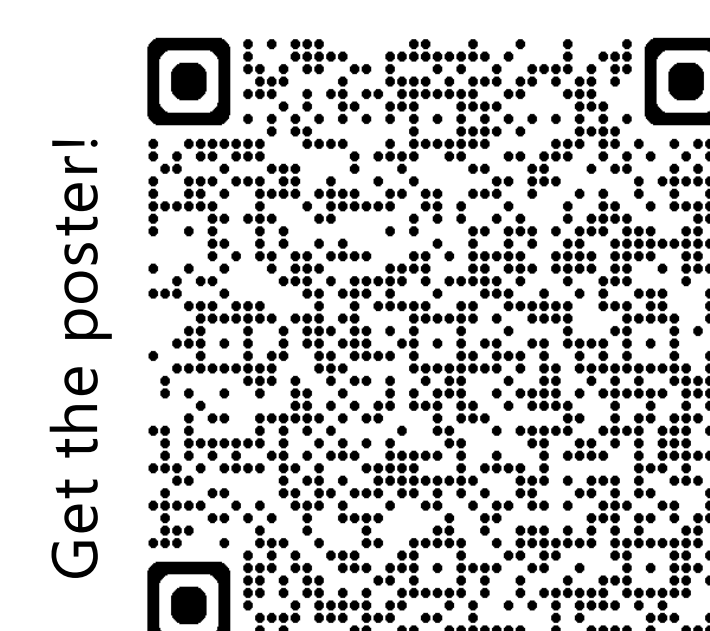
Philippe Halsman (1948). Dalí Atomicus.

Monocular viewing increases depth perception by resolving cue conflict in pictorial space (Ciuffreda & Engber, 2002).

→ Monocular viewing strengthens perceived levitation in pictorial space.

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