

Crossmodal effects on texture perception and processing

Citation for published version (APA):

Eck, J. (2014). *Crossmodal effects on texture perception and processing*. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20140221je>

Document status and date:

Published: 01/01/2014

DOI:

[10.26481/dis.20140221je](https://doi.org/10.26481/dis.20140221je)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

www.umlib.nl/taverne-license

Take down policy

If you believe that this document breaches copyright please contact us at:

repository@maastrichtuniversity.nl

providing details and we will investigate your claim.

Propositions of the thesis

Crossmodal effects on texture perception and processing

1. Roughness perception of unfamiliar dot pattern textures is influenced by the sensory modality used to explore the texture.
2. Visual roughness estimation of unfamiliar dot pattern textures depends on the task demands and the sensory familiarity with the stimulus material.
3. Crossmodal interactions of visual-haptic texture information can be found in early sensory cortices (even without an explicit texture judgment task).
4. Information about perceived spatial density of a texture can already be derived from early somatosensory and visual regions, while information about perceived roughness is primarily available in higher-order cortices.
5. Avoidance of head motion is a crucial factor and an unrealistic wish in a haptic fMRI experiment when dealing with ‘normal’ human participants.
6. Ecological validity of the stimulus material is important, but we need to start by understanding a simplified version of the tactile environment before we can grasp the complex reality.
7. The tactile sense, held in such low esteem, becomes so precious when vision is unavailable.
8. If there were a database or journal for well-conceived experiments that produced no significant results, science would be closer to the truth.
9. No amount of experimentation can ever prove me right; a single experiment can prove me wrong. *Albert Einstein*

Judith Eck
Maastricht, January 2014