



Series of visual pictures by Lars Teigum. Tempera and acrylics on mdf-board/canvas

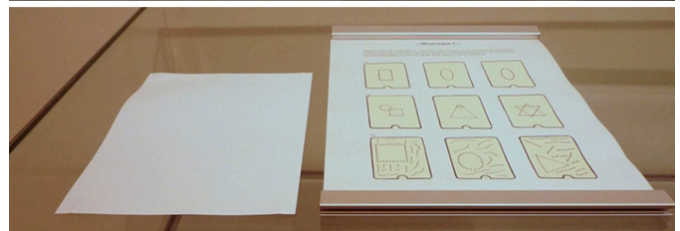
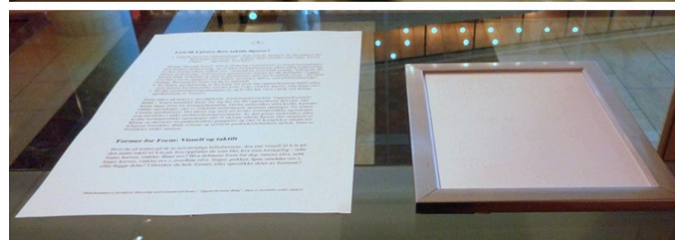
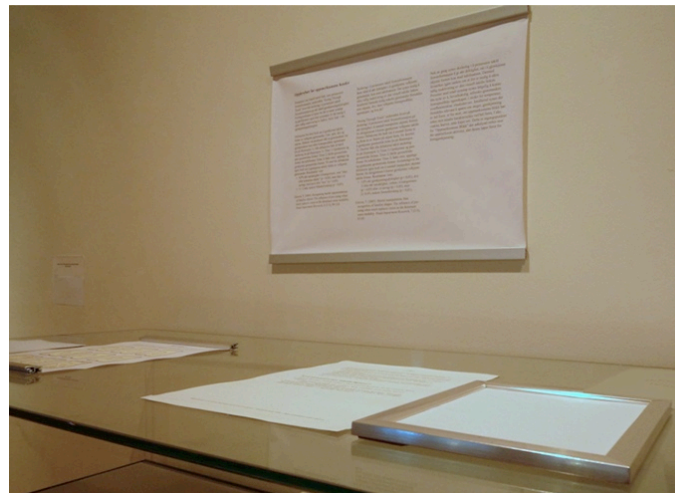
Shaping Shapes:

Attentive Glimpse as Retrieval Associate

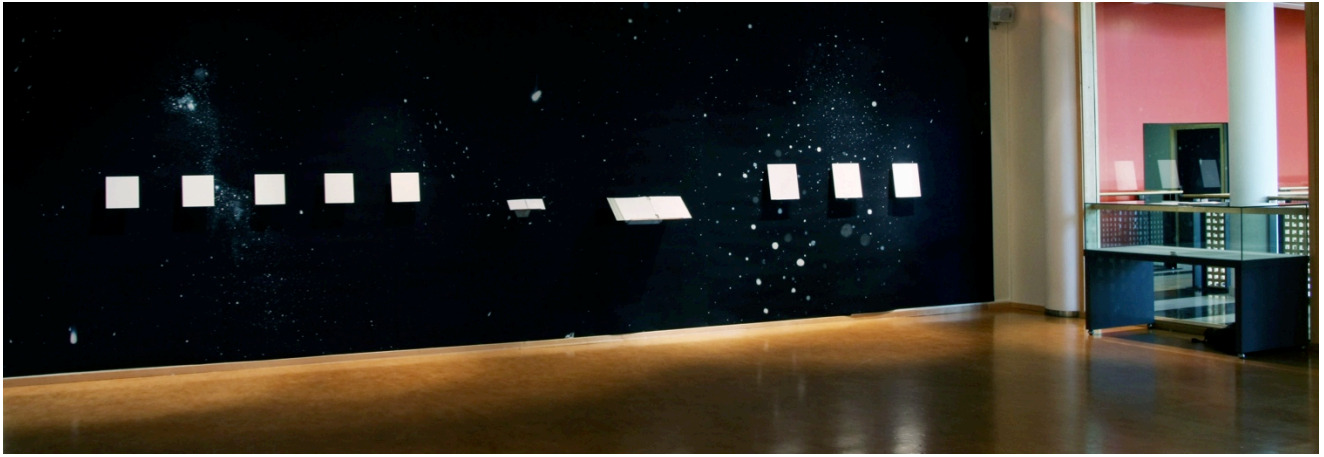
Shaping Shapes included two autonomous series of pictures, one visual for the eyes and one tactile for the hands, framed by two research projects: “Seeing Through Touch” (2002-05) and “Attentive Glimpse as Retrieval Associate” (2010-14), Department of Special Needs Education, University of Oslo. “Try-it” tasks challenged the hands to recognise tactile figures.

Shaping Shapes asked which features of objects’ shape, e.g., angles, curves, straight lines, stimulate curiosity and imagination. What do eyes and hands agree on, and what do they disagree on? Do experiences from art exhibitions improve the feeling of capability – when the hands HAVE TO see what the eyes saw?

Shaping Shapes was held at Galleri Sverdrup, University of Oslo from 7 September to 26 October 2012. Two lectures took place in the gallery: one was recorded (in MP3 format). All text materials were presented on regular print-posters, enlarged print-flyers, and braille-flyers. Shaping Shapes made four appearances in the national media. It was also tweeted about. Some 1 315 visitors were counted.



Example: Presentation of research and “Try-it” task, by Torø Graven



Series of tactile pictures, including two books, by Randi Annie Strand. Different embossing techniques

“One of my newly blinded pupils claimed that she had no idea what to direct her attention towards when she was tactually exploring objects. Tactile information was overwhelming to her, thus she had, gradually, become tactually inactive. Other newly blinded pupils claimed to, visually, imagine their tactually explored objects: sometimes succeeding and sometimes not. (...) Indeed, also some of my adventitiously blinded pupils claimed to, visually, imagine their tactually explored objects, but only when these were tactually unfamiliar to them. In particular, one of my adventitiously blinded pupils claimed that his ability to, visually, imagine his tactually explored objects decreased as the objects became tactually more familiar to him. For instance, he could perfectly well, visually, imagine a painting hanging over his living-room sofa, but could no longer, visually, imagine his wife’s, his daughter’s, or even his own face: these had now become tactually familiar.”

Graven, T. (2009). *Seeing Through Touch: When Touch Replaces Vision as the Dominant Sense Modality* [p. 1]. Saarbrücken: VDM Verlag Dr. Müller AG & Co.

Some 37 million people worldwide experience blindness, the majority losing their sight during adulthood (<http://www.blindeforbundet.no>), touch joining, even replacing, vision in seeing what the eyes saw.

A possible link between vision and touch has been of great interest in the fields of philosophy, neurology, and psychology. To cut a long story short, empiricists such as Berkley and Locke, as well as neuropsychologist Luria, advocated that the world is perceived according to prior experience, e.g., visually. In contrast, gestalt psychologists and phenomenologists, e.g., Merleau-Ponty, advocated that there is no visual and no tactile experience but rather a total experience from which it is impossible to single out visual and/or tactile contributions. Indeed, two opposite positions have been advocated: vision and touch are (1) totally separate or (2) joined together. More recent research (e.g., Cornoldi & Vecchi; Graven; Klatzky & Lederman; Kosslyn; Millar) does, however, tie the two together by advocating a third position, i.e., that vision and touch are totally separate in some areas (e.g., vision processing colour and touch temperature) but totally joined together in others (e.g., in processing shape). A cognitive vision-touch link which processes overlapping – visual and tactile – information about objects' shape and thus improves recognition proficiency, has been suggested (e.g., Easton, Srinivas & Greene; Graven; Millar).



Tactile picture, by Randi Annie Strand



Example: Presentation of research and “Try-it” task, by Torø Graven

With this cognitive vision-touch link in mind, it seems reasonable to assume that changing over from vision to touch is unproblematic. According to Graven, however, this is not the case. When we lose our sight, the link becomes weak, or even inactive. Graven (re)activated the link in preliminary training programmes/precursors designed to prompt/pre-cue stored experiences, i.e., (1) visually for 20 min. prior to, or (2) tactually for 45 min. after the total sight loss: focusing attention on selecting objects' shape, thus improving recognition proficiency [5.8–39.6% ($p < 0.01$, $N = 48$)]. Unlike previous research, Shaping Shapes included no such precursor and also no obvious shape. Instead visitors were invited to use their curiosity and imagination to explore features of objects' shape, e.g., curves, dots, straight lines, shaping shapes first visually then tactually in order to improve their feeling of capability.

Shaping Shapes could be perceived in five autonomous parts or in a path including five stops:

Stop 1: Presentation of research: The link between vision and touch. “Try-it” task.

Stop 2: Series of visual pictures.

Stop 3: Presentation of research: How attention to objects' visual shape improved recognition proficiency by touch. Visitors were invited to try the test material. “Try-it” task.

Stop 4: Series of tactile pictures.

Stop 5: Presentation of research: How attention to objects' tactile shape improved recognition proficiency by touch. Visitors were invited to try the test material. “Try-it” task.

The three (tactile) “Try-it” tasks were not identical.

EXAMPLE: Second “Try-it” task

Do you want to try new tactile figures?

- Explore the figures in the picture frame.
Try to use just your hands. Is this easier now or not?
 - What do you pay attention to – dots, gaps, angles, curves ..., nothing; this is just chaos?
- Now, explore the series of tactile pictures.
Again, try to use your hands. What makes you curious and sparks your imagination?
What do you pay attention to – dots, gaps, angles, curves ..., nothing; this is just chaos?



Shaping Shapes: Attentive Glimpse as Retrieval Associate

Organiser: Department of Special Needs Education, University of Oslo
<http://www.uv.uio.no/isp/english>

Initiator and coordinator: Postdoctorate fellow, Dr Torø Graven
<http://www.uv.uio.no/isp/personer/vit/torot>

Graven, T. (2002-05). *Seeing Through Touch: When Touch Replaces Vision as the Dominant Sense Modality* was funded by the Faculty of Education, University of Oslo and the Norwegian Association of the Blind and Partially Sighted.

Graven, T. (2010-14). *Attentive Glimpse as Retrieval Associate: Components of objects' shape property-shape cues and recognition proficiency* was funded by the Norwegian Research Council (FRIPRO for independent projects) and the Norwegian Association of the Blind and Partially Sighted.

Series of visual pictures – for the eyes: Visual artist Lars Teigum
<http://www.larsteigum.no>

Series of tactile pictures – for the hands: Visual artist Randi Annie Strand
<http://www.randistrand.no>



Torø Graven, Randi Annie Strand, and Lars Teigum

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