The Influence of Perspective of an Inanimate Object on the Boundary Extension Phenomena [abstract only]

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The Influence of Perspective of an Inanimate Object on the Boundary Extension Phenomena

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Introduction

One of the most compelling phenomenon in visual memory is the Boundary Extension (BE) which is the tendency to remember close-up scenes as if they include more information than that was seen. For example, if a participant was to be shown an image of a half a house, the participant will remember the full house (Intraub and Richardson, 1989).

This project will investigate whether the BE is affected by the presence of an "Other". Taking into account the Theory of Mind, it is plausible that when we remember a visual scene we also incorporate what other people have seen. It is therefore hypothesised that the tendency to remember more information may be biased towards where the Other is looking. In addition, this project will consider the mental state attribution to the "Other". Samson et al. (2010) suggested that the Other has an influence on our cognitive processes only when we attribute to the Other a mental state. To manipulate the mental state attribution, we will compare the effects of the Other as a human (e.g. having a mental state) versus a camera (e.g. not having a mental state).

Boundary Extension and mental state attribution

Intraub (2002), suggests that BE is due to a filling in process: we fill the scene with information around the boundaries based on our knowledge. For the BE to occur, the scene must be perceived as part of a continuous environment; if there is no continuous environment, the BE does not occur (Fig.2).

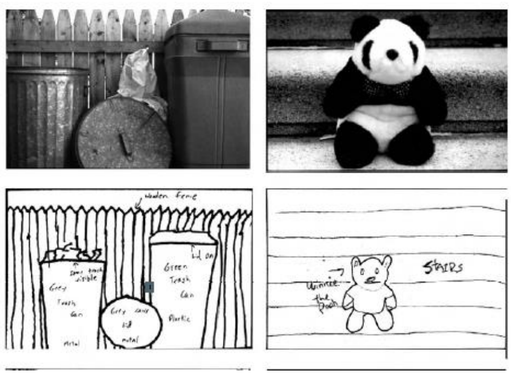

Fig 1. Examples of images that elicit BE. Top panels, shows stimuli, bottom panels show subject drawings after 48 hours. (Intraub, 2002)

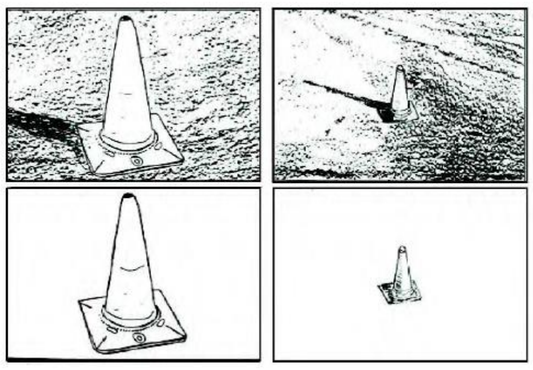

Fig 2. Road cone on scene contest and on a blank background. Cone on a blank background did not elicit BE. (Intraub, 2002)

It has never been tested whether this phenomenon is influenced by the theory of mind. Samson et al.(2010) found that the computation of what someone else (the "Other") see interferes with what we see. It is still unknown whether the presence of the "Other" interferes with the BE. In addition, it is still unknown weather it is important for the "Other" to have social characteristics in order for the BE to occur:

- according to the **social position,** social factors, such as mental state of the other are important for the "Other" to have an effect on our cognition (Baker, Levin & Saylor, 2016).
- according to the **perceptual position,** perceptual factors of the "Other" (i.e. orientation) are sufficient (Cole, Smith and Atkinson, 2015; Wilson, Soranzo and Bertamini, 2017).

Aim of the project:

The aim of the project is to test the hypothesis that BE is biased by the presence of an "Other".

Specific Research questions are:

- Does the presence of another point of view affect BE?

- If so, is it due to a mental attribution process?

To accomplish this, we will compare the effects of the presence during the experiment of the "Other" as a Camera and as a Human and the "Other" can be pointing to the left or to the right of the tested scenes.

Experiment

Stimuli and Procedure:

In a first phase, three pictures of a room will be presented (Figure 3). After the presentation, one of the three rooms will be randomly selected and showed again to the participants. In this second presentation, however, in comparison to the first one, the view of the room will be extended either i) both sides, ii) only to the right or iii) only to the left. Participants' task will be to say whether the view of the room was the same as in the first presentation.

Fig 3. Showing an example of pictures presented in the study, including 'normal' view, cropped left or cropped right

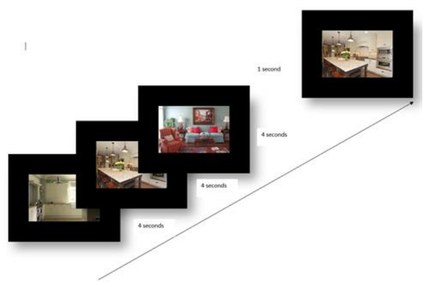

Fig 4. The procedure used to present images and the break between the re-presentation of the fourth image.

To study whether the presence of the "Other" affects the BE, during the experiment there will be an "Other" that will be sitting either to the right or left of the participant.

Furthermore, to test the importance of the mental state attribution, the "Other" will be either a human (with mental state) or a camera (without mental state).Fig 5.

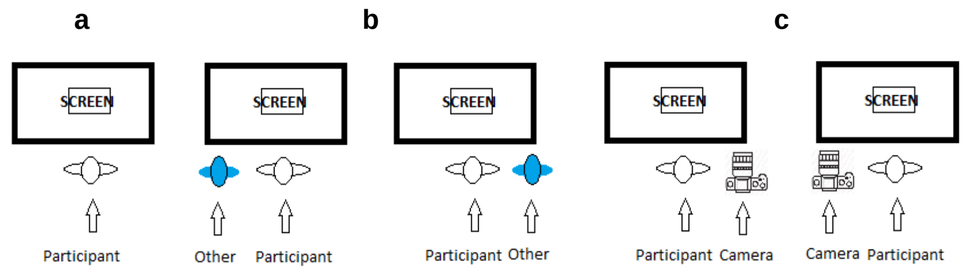

Fig 5. a) Control condition (no Other); b) Other as a human; c) Other as camera

Predictions:

1) It is expected that BE is influenced by the presence of the Other. In particular, it is expected that if the Other is on the left, BE is biased to the left, vice-versa if the Other is on the right.

2) If there will be a difference between the Other as a human or as a camera, it will be concluded that the mental state attribution plays an important role in BE.

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