

Moses Illusion Experiment Report

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1 Moses Illusion

How many animals of each kind did Moses take on the ark? If you answered “two” to this question, you have fallen into the Moses illusion. According to Erickson and Mattson 1981, Moses Illusions or semantic illusions occur when readers fail to recognize the inconsistency in a text even if they were warned and know the correct word. In this case, you would have to be quick to realise that Noah took animals on the ark, not Moses.

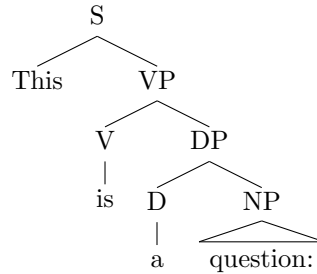
2 Experiment

This experiment was conducted in the context of the class Digital Research Toolkit for Linguists, Summer Semester 2024, in order to gather data to then be analysed during class. In the experiment, the task was to:

- Answer the questions in a questionnaire.
- Answer “don’t know” if you didn’t know the answer.

- Answer “can’t answer” if a question seemed distorted or nonsensical.

An example question could be “Cairo is the capital of which African country?” and the corresponding answer is “Egypt”. An example of an illusion question could be:



- (1) a. How many fingers do fish have on their hind legs?
 Quantos dedos têm os peixes nas suas pernas traseiras?

To which the answer would be “can’t answer”.

2.1 Methods

2.1.1 Participants

This experiment was shared with course participants, who then would have to recruit at least one more person to answer the experiment.

2.1.2 Materials

The experiment was prepared and organized by the teacher of this course, Anna Pryslopska. To take part in this study, it was necessary to have only a computer with a keyboard.

2.1.3 Procedure

The task¹ in this experiment consisted of reading and answering questions, as explained in section **2. Experiment**. In figure 1 we can see an example of how a question would appear to the user conducting the task.

2.2 Predictions

It could be expected that a lot of people would fall for the Moses Illusion, producing very interesting results. In Table 1 are some of the results we saw:

2.3 Analysis and Results

In class, using R and RStudio, we analysed the results of this experiment, as well as the reading time necessary for each participant.

¹The actual procedure and experiment can be consulted here

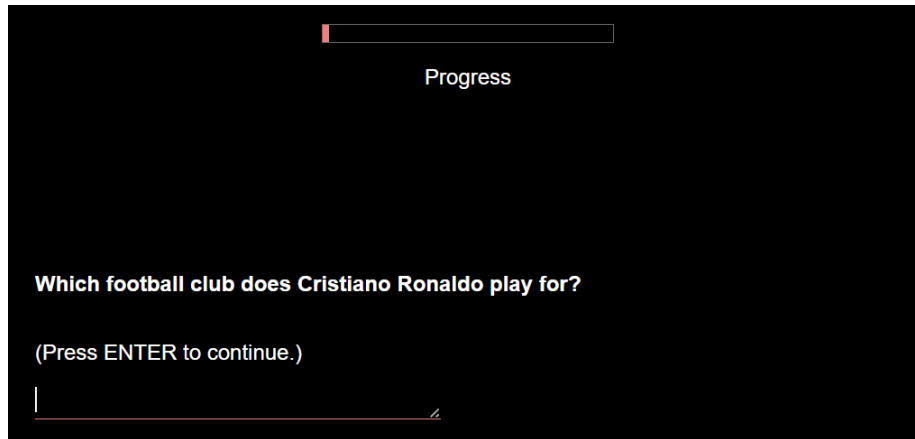


Figure 1: Overview of the experiment layout.

Question	Finding
Easiest Question	103
Hardest Question	17
Questions that fooled the most people	2 and 12
ID of best participant	880f21222ca0914d0b9f29de0e9cf92a
ID of worst participant	19c2d7b9ded0b515c030e3b36dd11909

Table 1: Questions and findings of the Moses Experiment.

3 Discussion

Why do people fall so easily into the Moses Illusions? This very interesting experiment already has a lot of research around it. For example, according to (Sharda Umanath and Elizabeth J. Marsh 2014), older adults fall for it more often. In this thesis² and in “Moses, money, and multiple-choice: The Moses illusion in a multiple-choice format with high incentives”, Speckmann explores further motivations that might make the person more attentive and change their answers, continuing this work even in 2022. Davis and Abrams (2016) challenge theoretical explanations of the Moses illusion as resulting from purely shallow semantic processing and demonstrate the importance of visual information in processing proper names, even when presented in written form and Bottoms, Eslick, and Elizabeth J Marsh explore the negative memorial consequences of the failures to detect these kind of contradictions with stored knowledge. Raposo and Marques 2013 explores the Moses Illusion from a neuroscience perspective and Izaute, Paire-Ficout, and Bacon 2004 even digs into the effects that a specific kind of medication can have when conducting this experiment. The fact remains, even in such a small group as a classroom, we could already prove how easily it is to fall for it.

4 A Random Ending

Here is a semantic formula, because why not:

$$\models (P \wedge Q) \rightarrow R$$

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²Speckmann 2022.

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