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Moses illusion

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The Moses illusion

Felix Speckmann and Christian Unkelbach

Next time you are at a cocktail party or similar social event, try asking your conversation partners the following question: “How many animals of each kind did Moses take on the Ark?” You will most likely receive a skeptical glance and the hesitant answer: “Two”. Then, you can proceed to tell them that it was in fact not Moses, but Noah who took the animals on the Ark in the biblical story. Erickson and Mattson (1981) were the first to show that people fall for this kind of trick question (i.e., answer the question as if it were formulated correctly) and named this effect the Moses illusion. Since their seminal work, research has addressed when the illusion occurs, what the underlying processes are, and what moderates the strength of the illusion. Because apart from being an amusing demonstration of a cognitive fallacy and a potential icebreaker at a party, understanding the underpinnings of this illusion and why people fall for it illuminates the way people understand and comprehend language. Similar to how optical illusions help understanding how the visual system works, such cognitive illusions provide insights on how the cognitive system works. In this chapter, we explain the basic Moses illusion-paradigm by reviewing the original study by Erickson and Mattson (1981). We then examine several explanations of the illusion and how compatible they are with the available evidence. We continue by addressing several moderators of the illusion: What increases illusion strength, what decreases it, and what has no effect on it. Finally, we will close with implications for language comprehension and daily life.

The Moses illusion-paradigm

In their study, Erickson and Mattson (1981) were interested in language comprehension; specifically, why sometimes the addressee of a question misunderstands a question even though they possessed all relevant knowledge to understand the question. To investigate this phenomenon, they asked participants to read aloud questions presented on a screen and then answer them aloud as well, which was recorded using a microphone. They also informed participants that they will see several questions that “have something wrong with [them]” (p. 542), giving them an example of such a question and then telling them to reply “wrong” or similarly when faced with such a question. Examples for such “distorted questions” are “How many animals of each kind did Moses take on the Ark?” or “In the biblical story, what was Joshua swallowed by?”. The “undistorted” versions of these questions would be “How many animals of each kind did Noah take on the Ark?” and “In the biblical story, what was Jonah swallowed by?”. Participants then proceeded to look at, read aloud, and respond aloud to 20 questions, which consisted of four target questions (“distorted questions”) and 16 distractor questions. Afterwards, in the second
part of the experiment, participants saw only the beginning of all questions shown before and had to complete each question by adding the remaining words. Finally, participants answered four questions designed to check whether they had the necessary knowledge to answer the distorted questions correctly. For example, if a participant could not answer the question “Who was it that took the animals on the Ark?” correctly, they did not possess the required knowledge to correctly respond to the distorted question and their response did not count towards the percentage of times the illusion occurred.

For the original Moses question, 26 out of 27 participants had the required knowledge (i.e., Noah took the animals on the Ark), but nonetheless 21 of those 26 fell for the illusion and answered “two”; a correct response if the question were undistorted, but incorrect because the question is faulty. We call this type of response a “Moses response” in the following. For the other three distorted questions, the required knowledge was present less frequently (range 9–16 out of 27) and they only led to Moses responses about 43% of the time. These results provided the first evidence of the Moses illusion. Since then, this robust illusion has been replicated many times, but what are the processes underlying this illusion?

Explaining the Moses illusion

Presently, four explanations are discussed in the literature to account for the Moses illusion. We first explain each one and then present research that supports or contradicts the respective explanations.

Cooperative communication setting

The first explanation for the Moses illusion is the assumption of a cooperative communication setting (Grice, 1975). According to Grice, cooperative communication should follow four maxims (i.e., quantity, quality, relation, and manner). In a nutshell, these maxims imply that cooperative communication should not include trick questions. Thus, if you are a participant in the experiment described above and you read one of the distorted questions and notice the distortion, given you did not read the instructions with great attention and missed the part about the “wrong” questions, you might assume that this distortion is actually an error on the researcher’s part. You would then say “two”, assuming the experimenter mixed up “Moses” and “Noah”; and accordingly, the sensible action is to answer as if the question had been presented undistorted – providing a correct answer to a faulty question.

Within a cooperative communication setting (Grice, 1975), “two”, the Moses response, would be the correct response. Participants respond as if the questions were undistorted because they ignore the mistakes that the researchers ostensibly made. While the explanation is plausible, several studies found evidence against the Moses illusion as a consequence of cooperative communication. First, Reder and Kusbit (1991) explicitly tested this explanation by assigning participants to two different conditions. In a “gist” condition, participants were explicitly told to ignore possible distortions and answer questions as if they were correct; that is, the condition made the maxims of Grice explicit. In the “literal” condition, however, participants were told to say “can’t say” when the question was distorted, replicating the original experiment by Erickson and Mattson (1981). The cooperative communication setting explanation would predict that participants in both conditions noticed the distortion but react to it differently as per the instructions; that
is, participants in the gist condition should provide more Moses responses. However, participants who were told to ignore the distortion committed less errors; that is, when responding to distorted questions, participants in the gist condition committed significantly less errors (24.63%) than participants in the literal condition (38.31%).

Further evidence against the cooperative communication explanation came from Bredart and Modolo (1988) and Van Oostendorp and De Mul (1990): In both experiments participants responded to statements rather than questions (e.g., “Moses took two animals of each kind on the ark”) by indicating whether they were true or false. In this case, a cooperative communication setting would not predict that participants ignore distortions because the veracity of the statements is now most relevant, rather than the response to a (possibly distorted) question. In other words, if the question is about the number of animals, participants might be inclined to ignore distortions because that is not the main focus of the question. If they are asked to judge the correctness of a statement however, ignoring distortions would be counterproductive. Nevertheless, in both studies, participants showed the illusion.

Finally, Speckmann and Unkelbach (2021) used a multiple-choice response format to test if the illusion would persist. This response format included four response options: the correct response or Moses response (i.e., “Noah” for undistorted questions and “Moses” for distorted questions), an obviously wrong foil (“three”), “can’t say” (the correct response to a distorted question), and “I don’t know” as an option to skip the question. Because “can’t say” was a response option for every question, it repeatedly reminded participants that some questions could not be answered. The cooperative communication setting explanation would predict that the percentage of Moses responses would be reduced in such a response format, but the results were comparable to those of earlier research. Taken together, these findings make a cooperative communication explanation of the Moses illusion unlikely.

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**Text box 22.1 Classroom demonstration of the Moses illusion**

This text box describes an adaptation of the multiple-choice format of the Moses illusion paradigm used by Speckmann and Unkelbach (2021).

**Method**

**Materials**

A selection of questions in both distorted and undistorted forms is given in Table 22.1. One may use either this selection of statements, or a larger subset or the whole set of questions from the appendix in Speckmann and Unkelbach (2021). The statements presented to the participants should be half distorted and half undistorted questions (within manipulation of distortion) and no question should be presented in both versions. This can be achieved through online tools (e.g., Qualtrics) or by passing out paper-pencil questionnaires with an *a priori* randomized set of questions. Each question has four different response options. The first response option is the correct response if the question is undistorted and the Moses response if the question is distorted (e.g., “two” to the Moses question). The second option is a foil that also depends on the question and is always (and rather obviously) incorrect. The third
### Table 22.1 Examples of distorted and undistorted questions, with respective correct (Moses) response and foils (only relevant in a multiple-choice design)

<table>
<thead>
<tr>
<th>Distorted</th>
<th>Undistorted</th>
<th>Answer</th>
<th>Foil</th>
</tr>
</thead>
<tbody>
<tr>
<td>By flying a kite, what did Edison discover?</td>
<td>By flying a kite, what did Franklin discover?</td>
<td>Electricity</td>
<td>Gravity</td>
</tr>
<tr>
<td>Who found the glass slipper left at the ball by Snow White?</td>
<td>Who found the glass slipper left at the ball by Cinderella?</td>
<td>Prince</td>
<td>Stepmother</td>
</tr>
<tr>
<td>What is the name of the Mexican dip made with mashed-up artichokes?</td>
<td>What is the name of the Mexican dip made with mashed-up avocados?</td>
<td>Guacamole</td>
<td>Salsa</td>
</tr>
<tr>
<td>What country was Margaret Thatcher president of?</td>
<td>What country was Margaret Thatcher prime minister of?</td>
<td>United Kingdom</td>
<td>France</td>
</tr>
<tr>
<td>What is the name of the kimono-clad courtesans who entertain Chinese men?</td>
<td>What is the name of the kimono-clad courtesans who entertain Japanese men?</td>
<td>Geisha</td>
<td>Samurai</td>
</tr>
<tr>
<td>Who is the video game character and Italian plumber who is Sony’s mascot?</td>
<td>Who is the video game character and Italian plumber who is Nintendo’s mascot?</td>
<td>Mario</td>
<td>Sonic</td>
</tr>
<tr>
<td>Who is the dictator of South Korea?</td>
<td>Who is the dictator of North Korea?</td>
<td>Kim Jong-Un</td>
<td>Fidel Castro</td>
</tr>
<tr>
<td>What is the name of Leonardo da Vinci’s famous painting of a woman that is displayed in the Pompidou in Paris?</td>
<td>What is the name of Leonardo da Vinci’s famous painting of a woman that is displayed in the Louvre in Paris?</td>
<td>Mona Lisa</td>
<td>The Scream</td>
</tr>
<tr>
<td>How many doors does an Advent wreath have?</td>
<td>How many doors does an Advent calendar have?</td>
<td>24</td>
<td>365</td>
</tr>
<tr>
<td>What is the name of the device that tells the temperature by measuring the incidence of sunlight on a dial?</td>
<td>What is the name of the device that tells the time by measuring the incidence of sunlight on a dial?</td>
<td>Sundial</td>
<td>Oscillator</td>
</tr>
</tbody>
</table>

*Note: The first five statements are from Reder and Kusbit (1991), the second five (and all foils) are from Speckmann and Unkelbach (2021).*
Participants and design

The average observed effect size in Speckmann and Unkelbach (2021) was $d = .57$, suggesting that a sample of $N = 35$ would be sufficient to show an effect with 90% power and $\alpha = .05$, although using less than the full set of 40 questions will likely reduce the effect size and increase the needed sample size. Question type (distorted v. undistorted) is manipulated within participants.

Procedure

Participants receive a questionnaire containing half distorted and half undistorted questions. They are informed that some questions will appear that cannot be answered and that the correct response in this case is “This question can’t be answered in this form”. They are also informed that they can select the response option “Don’t know” to skip a question that they do not know the answer to.

Results

Moses responses (i.e., first response option to only the distorted questions) are coded as 1 and all other responses are coded as 0. All values are then added up and divided by the total number of distorted questions to compute the percentage of Moses responses for each participant. To provide an inferential test, this number is compared to the percentage of Moses responses one would expect from chance level. If participants respond randomly, they should select each of the three response options (the fourth one being a skip option rather than a response) one-third of the time. Thus, a one-sample $t$-test comparing the percentage of Moses responses to the chance level of a third should show that participants give more Moses responses than could be expected by chance.

Imperfect encoding

The imperfect encoding explanation locates the cause within participants’ perception of the question. For example, when presented with the question “How many animals of each kind did Moses take on the ark?”, participants may spontaneously encode the question in its undistorted form (i.e., with Noah). In other words, participants may “auto-correct” questions while reading or hearing them. This explanation suggests the illusion is due to participants’ correct responding to a question they incorrectly encoded. The relevant distinction to the cooperative communication explanation above resides in the fact that participants are assumed to correctly understand the Moses part of the question, while for the imperfect encoding explanation, Moses is never correctly encoded as part of the question. Consequently, a direct test of this explanation would be ascertaining that participants encode the questions correctly and checking if this reduces the illusion. This is what Erickson and Mattson (1981) did in their original study. In their first experiment, participants saw each question presented on a monitor and had to first read aloud the whole question before responding to the question as quickly as possible. Reading the question aloud should ensure correct encoding, but the illusion occurred nonetheless. Further evidence comes from Reder and Kusbit (1991) and Van Oostendorp and De Mul (1990) who measured
how much time participants spend reading a question. Longer reading times should be related to longer encoding times, so imperfectly encoding (i.e., without noticing the distortion) a distorted question should take less time to read than correctly encoding (i.e., noticing the distortion) a distorted question (Park & Reder, 2004). However, the results showed that participants spent more time reading a question when they did not notice the distortion, providing further evidence against the imperfect encoding explanation.

**Imperfect retrieval**

Assuming that participants encode the distorted question correctly, they still need to retrieve relevant information from memory to match the encoded question against. For example, when answering the original Moses question, participants could retrieve only the number of animals, rather than all associated information. This explanation follows because participants are entitled to retrieve only the relevant information (i.e., how many animals of each kind are on the ark), but not the irrelevant information (i.e., who brought the animals unto the ark). Thus, participants would not notice the distortion because the encoded question does not clash with the information retrieved from memory.

If the imperfect retrieval explanation is true, then it should be possible to manipulate memory retrieval to affect illusion strength. For example, having participants study the statements before responding to them should improve accessibility in memory and lead to less Moses responses. However, Reder and Kusbit (1991) did exactly that and found no supportive evidence for the imperfect retrieval explanation. In their second experiment, following the experiment described above, participants first studied correct statements directly related to the later questions (e.g., “Noah took two animals of each kind on the ark”). One-fourth of the statements pertained to later distorted questions and one-fourth pertained to later undistorted questions, resulting in priming for half of the total questions. Participants then responded to all questions (i.e., half distorted and half undistorted), again under instructions of “gist” (i.e., participants should ignore errors) and “literal” (i.e., replicating the original Erikson & Mattson, 1981, conditions). The results showed that while participants responded much quicker and more accurately to questions which they had previously studied, the overall pattern from Experiment 1 remained stable: Responses in the literal condition were slower and provided more, not less, Moses responses compared to the gist condition.

The imperfect retrieval explanation would suggest that, for distorted questions, the accuracy difference between gist and literal conditions should diminish for studied statements because the distortion should become more obvious in comparison to the studied statement. This should lead to a decrease in accuracy for the gist condition as distortions become harder to ignore and to an increase in the literal condition as distortions become easier to notice. However, this change is not reflected in the data, thus providing evidence against the imperfect retrieval explanation.

**Imperfect matching (partial matching)**

This explanation was suggested by Reder and Kusbit (1991), who argued that, despite correctly encoding the question and correctly retrieving relevant memories, the matching process between encoding and retrieval could be flawed. Partial matching implies that participants do not try to match each word of a sentence and only accept a 100% match, but rather that they accept smaller mismatches and treat the match as valid if the
question is close enough to the memory structure. This leads to the testable hypothesis that increasing the mismatch between encoded question and retrieved information from memory should lead to fewer Moses responses. That is, if the encoded distorted term deviates too much from the retrieved undistorted term, participants should notice the distortion. Such a condition was, for example, established by Erickson and Mattson (1981), when they replaced Noah with Nixon (Exp. 3).

Kamas et al. (1996) argued that the semantic relatedness between the undistorted and distorted terms plays a key role in determining which distortions participants detect. They proposed a semantic network in which activation spreads between different semantic concepts, with higher activation spread between more closely related concepts (Kamas & Reder, 1995). Applied to the Moses illusion, this model predicts distortions are less likely to be detected the stronger the connection between distorted and undistorted terms are. For example, when examining the original Moses question, Noah and Moses are highly connected because they both appear in the Old Testament of the Bible and their names are both Hebrew, they are often depicted as old men, their stories both deal with water, and so forth. All of these shared features can be seen as semantic nodes that connect to both Moses and Noah, making their overall connectedness strong and the distortion highly unlikely to be noticed. Nixon, on the other hand, has little to nothing in common with Noah, resulting in less shared features, less connectedness, and thus, a higher likelihood of the distortion being detected.

This model explains why manipulations based on the word level did not lead to increased detection rates of distortions. And while others have suggested that not only semantic relatedness, but also phonetic similarity can decrease distortion detection (Shafto & MacKay, 2000), the partial matching explanation is the explanation for the Moses illusion that is compatible with most of the available data.

**Moderators**

After considering the potential explanations, we will now take a closer look at different moderators of the illusion. Which factors increase illusion strength (i.e., reduce distortion detection and increases the number of Moses responses) and which factors decrease it?

**Semantic relatedness**

A lot of early research examined which features contained in the questions would influence the illusion. For instance, two studies by van Oostendorp and De Mul (1990) and van Oostendorp and Kok (1990) found that the illusion becomes stronger the more semantically related the distorted term is to the undistorted term, which follows directly from the partial matching hypothesis. For example, a name that is somewhat semantically related to Moses and still results in the Moses illusion albeit much less frequently is Adam. From a partial matching perspective, this reduced semantic relatedness makes sense because Adam has many unique semantic nodes that are not shared by Moses (e.g., Garden Eden, Eve, the apple, etc.) and thus an increased detection of distortions is the logical outcome.

**Statements instead of questions**

Bredart and Modolo (1988) found that, when using statements instead of questions, changing the focus of the sentence can lead to a decrease in Moses responses. In two conditions,
the sentences either focused on the (un)distorted term (placed in the left cleft phrase) or on a different part of the sentence (placed in the right cleft phrase). For example, participants in the first condition would read “It was Moses who took two animals of each kind on the ark”, whereas participants in the second condition would read “It was two animals of each kind that Moses took on the ark”. The focus on the distorted term in the left cleft phrase resulted in fewer Moses responses, but a conceptual replication by Kamas et al. (1996, Experiment 1) suggests that this is due to a shift in response bias rather than improvement of distortion detection. Rather than using differently structured sentences, they presented participants with statements prior to the questions. In these statements, they printed in bold either the (un)distorted term (i.e., “MOSES”), the part of the statement that would be the correct response in the later questions (i.e., “TWO”), or nothing at all. They found that capitalizing the (un)distorted term increased “can’t say” responses for both the undistorted and distorted questions. This increase in both correct detections and false alarms suggests that the manipulation did not increase participants’ sensitivity to distortions, but rather their response bias to respond “can’t say” to any question.

**Situational manipulations**

Other research has investigated ways to decrease the Moses illusion. One study by Song and Schwarz (2008) found that low processing fluency (see Unkelbach & Greifeneder, 2013) when reading the questions attenuated the Moses illusion. In both experiments, the authors manipulated the question font to be either easy to read or hard to read and found that participants in the hard-to-read font condition gave more “can’t say” responses to the distorted question whereas no participant responded “can’t say” to the undistorted question. However, the authors only used two questions in each experiment, one distorted (the original Moses question) and one undistorted (“What country is famous for cuckoo clocks, chocolate, banks, and pocketknives?” – Switzerland). Importantly, the authors did not use distorted and undistorted versions of the same questions, but rather different questions entirely. As such, the possibility that the results were due to a bias shift rather than increased sensitivity cannot be fully ruled out.

Further research by Lee et al. (2015, Experiment 1) found that fish odor (a “fishy smell”) increased participants’ sensitivity to distortions. The authors used fish oil and water (control condition) to make two different booths smell like fish or smell neutral before assigning participants to one of the booths based on condition. Participants then responded to one distorted question and one undistorted question. Participants without knowledge about the biblical story of Noah were excluded and the results showed that participants in the booth with fish smell answered “can’t say” to the distorted question (but not the undistorted question) more often than participants in the neutral smelling booth. However, as with the previously mentioned study, this experiment only used the original single Moses question as the distorted question and the question about Switzerland as the undistorted question, limiting the generalizability of these findings (see Judd et al., 2012, on the necessity of stimulus sampling).

**Interindividual differences**

A different line of research investigates the influence of individual differences on the susceptibility to the Moses illusion. Hannon and Daneman (2001) replicated earlier findings that increased semantic relatedness between the distorted and the undistorted word increased
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the illusion, but they assessed two cognitive measures for each participant: knowledge access and working memory span. The knowledge access measure consisted of statements that required participants to “access and reason about prior knowledge in long-term memory” (p. 452), similar to how the detection of distorted questions requires matching with existing memory structures. The working memory span measure was designed to measure participants’ working memory during reading, specifically their processing and storage capacity. The authors found that both measures combined accounted for 36% of the variance in distortion sensitivity, suggesting that how susceptible people are to the Moses illusion differs between individuals and is moderated by how well they access information from memory and how well they process and store information while reading.

Another individual factor that influences the strength of the Moses illusion is age. Umanath et al. (2014) investigated whether older age (and thus, more lifetime memories) makes one more resilient against the Moses illusion. Furthermore, they examined if older age protects participants from the negative memorial consequences earlier research had found (Bottoms et al., 2010). They found that, when faced with distorted questions, older adults responded incorrectly more often (50%) than younger adults did (41%), but they were less suggestible than younger adults. After the typical Moses illusion-paradigm, participants had to respond to open-ended questions targeted at the (un)distorted term (e.g., “Who took two animals of each kind on the ark?”),¹ and suggestibility was measured as the percentage of responses that had been influenced by the distorted question in the main paradigm (e.g., the response “Moses” to the previous example question). Younger adults were more suggestible (6%) than older adults (4%), but suggestibility was low overall. This pattern could be due to older adults’ prior knowledge leading to stronger memory structures, which on one hand increase partial matching (leading to more Moses responses) but also protect them against memorial consequences (leading to less susceptibility to suggestion).

Expertise

One aspect that seems plausible to moderate the Moses illusion is expertise. It is reasonable to assume that experts are less susceptible to the Moses illusion when it comes to their field of expertise. Cantor and Marsh (2017) investigated this expertise hypothesis. They constructed an array of 60 questions that pertained to either history or biology and recruited their participants from graduate programs in biology and history, making each participant an expert in one of the fields. They then instructed participants to specifically search for errors (i.e., distortions) within the questions they would see and respond “wrong” if they noticed an error. Experts gave less Moses responses in their field of expertise and a signal detection analysis showed that this was due to improved detection rather than just a shift of response bias (i.e., a general tendency to state “can’t say”).

Motivation

So far, the presented research used questions and statements to which the answers had no consequences for participants. Going back to the cocktail party situation, one may ask if the response would change if a $5 bet is made on the correctness of the answer.

Speckmann and Unkelbach (2021) argued that being highly motivated should reduce the number of Moses responses. They used a multiple-choice format and provided participants with monetary incentives: They monetarily rewarded correct responses and monetarily punished incorrect ones. Monetary incentives are commonly assumed
to increase effort (Bonner & Sprinkle, 2002) and effort could lead to a more rigorous matching procedure between the question and memory structures. In other words, if participants stand to gain a substantial amount of money through correct responses, they should be motivated to “think harder” before responding to the questions.

Participants were assigned to one of three conditions: high incentives, low incentives, or no incentives. However, despite their increased effort as evidenced by higher response times, higher incentives only lead to marginally less Moses responses. Furthermore, participants in the high incentives condition chose to skip a question more often, thereby neither gaining nor losing money, suggesting a shift of response bias to avoid risk. This means that even high monetary incentives do not make people use a complete matching strategy instead of a partial matching strategy.

Implications

The Moses illusion is a highly robust phenomenon. However, unlike other cognitive illusions in this book, the Moses illusion in its experimental form has no real-life analogy. Nevertheless, by studying the Moses illusion, one learns much about the process of comprehending language. The illusion illustrates the interaction of bottom-up (i.e., encoding) and top-down (i.e., memory retrieval) processes in answering questions. In other words, the illusion illustrates the difference between what is said and what is understood and responded to. People perceive questions in an active and constructive manner that is adaptive in most situations. Most of the time, if someone makes a mistake while asking a question, they do not do so intentionally. In that case, the constructive process in language comprehension and the ignoring of mistakes (i.e., partial mismatches), fosters conversational flow between two conversation partners by blending together what is said, what is meant, and what is understood. Researchers can create conversation situations where the Moses illusion is maladaptive, but in most real-life conversational situations, the processes that underlie the illusion help communication partners understand each other, and are a potential showcase for the adaptive nature of cognition (see Reber & Unkelbach, 2010).

Conclusion

The Moses illusion is a robust illusion, and partial matching is the best explanation for it. Because people do not fully match questions with the corresponding memory structures, but rather rely on heuristic decision-making based on the activation in the semantic network, they overlook the distorted term “Moses” and respond as if the question were undistorted. This seemingly faulty process may be factually adaptive in everyday life. People often lack the cognitive capacity to completely match each query they receive with their memory structures. Partial matching is thus a highly efficient strategy that is likely to produce the correct response more often than not. The research tradition addressing the illusion and its processes has nevertheless identified the conditions under which the processes lead to predictable errors. Going back to the example from the beginning of this chapter: If you do ask someone at a cocktail party “How many animals of each kind did Moses take on the ark?”, you will probably notice that the other person knows you are asking them a trick question and they will do their best to respond correctly, but given the circumstances, they will very likely be unable to do so.
Summary

- People tend to overlook distortions in questions when the distortion consists of replacing a term (not the target of the question) with a semantically related but incorrect term. This is known as the Moses illusion.
- Partial (i.e., incomplete) matching with existing memory structures is the most supported explanation for this illusion.
- The Moses illusion is a robust phenomenon that has few real-world implications but provides insight into human cognition and language comprehension.

Note

1 This is not a direct example from the paper. The example the authors used is: “Whose famous soliloquy contained the phrase, ‘To be or not to be, That is the question?’” (p. 483), but we decided to apply this format to the original Moses question as an example for consistency.

Further reading


References


