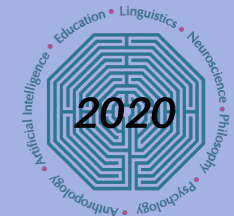




Implicit questions shape information preferences

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Background

People sometimes like **teleological** explanations



"The baking tool is full of holes so that it can hook onto an oven rack."

"The mononykus has a long tail so that it can keep its balance." (Kelemen, 1999)



Studies on explanation often use ambiguous **'why'** questions

Why does the tree have leaves?



How did the leaves grow on the tree?

OR

What's the purpose of the tree having leaves?

Our question

'Why' is *semantically* ambiguous. But is it *pragmatically* ambiguous?

Might known explanation preferences result from differences in **implicit questions**?

"What did they really want to know?"

We adapt 'why' questions from work on explanation preferences (about animals, non-living natural kinds, and artifacts).

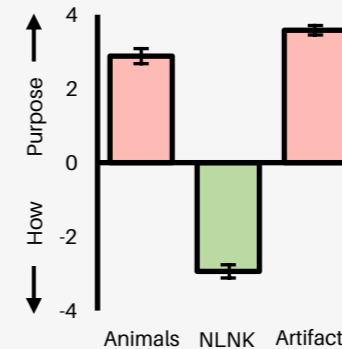
Instead of answers, participants see possible *implied* questions.

Their task: **Choose the implicit question that the agent "really wanted to know."**

Do people assume that **'why'** questions imply more specific questions?

Yes!

Where people prefer **teleo** explanations (established in prior research), they expect that someone is asking a **'purpose'** question, and where they prefer **mech** explanations, they expect that someone is asking a **'how'** question.



'Jeopardy': Getting questions from answers

We adapt both teleo and mech explanations from prior work.

Participants see *answers*, but not questions that prompted them.

Their task: **Generate the question.**

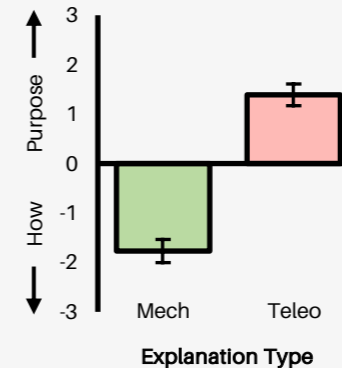
Participants are instructed not to use the word 'why.'

Do people assume explanations were prompted by different implicit questions?

Yes!

People think teleo explanations result from 'purpose' questions, and that mech explanations result from 'how' questions.

In other words, they think that each type of explanation is answering a specific question—one which may have already been implied in "Why?"



"Which question do you prefer?"

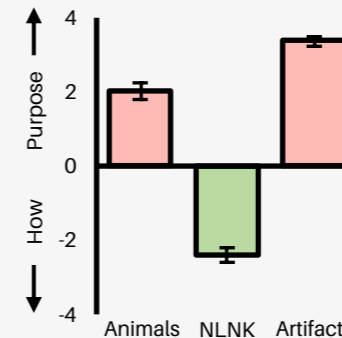
Participants see 'purpose' and 'how' questions.

Their task: **Choose the question that they would rather have answered for them.**

Do people have a preference for one implicit question over the other?

Yes!

Not only do people have specific expectations regarding implicit questions, but they also prefer to learn the same specific kind of information. Where they prefer **teleo** explanations, they already want answers to **'purpose'** questions (even when not thinking about or shown an explanation).



Conclusions

'Why' questions are *not* (pragmatically) ambiguous!

People think that 'why' questions imply 'purpose' questions for animals and artifacts, but 'how' questions for non-living natural kinds. In other words, even though 'why' is *semantically* ambiguous, people have specific expectations about what kind of question is implied.

'Purpose' and **'how'** questions are implied in explanations.

People also have specific assumptions about implicit questions in explanations. They think that teleological explanations result from 'purpose' questions and mechanistic explanations result from 'how' questions.

A preference for **information**, rather than **explanation**?

When people do prefer one type of explanation over the other, they may do so *not* because they think that explanation is better at *explaining*, but simply because they think it **addresses the (implicit) question that was likely being asked**—and which they would rather learn about. On this view, the allure of teleological explanations may not be unscientific or irrational.

To find out more...

You can find a copy of this poster linked here: <https://bit.ly/2WFhHJ5>

Or email for a preprint: sehrang.joo@yale.edu