

The weight of words: Credibility of projected content depends on presupposition trigger type and prior knowledge

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Background

Sources of knowledge in epistemology: **Perception vs. inference**

Forms of information encoding in linguistic communication:

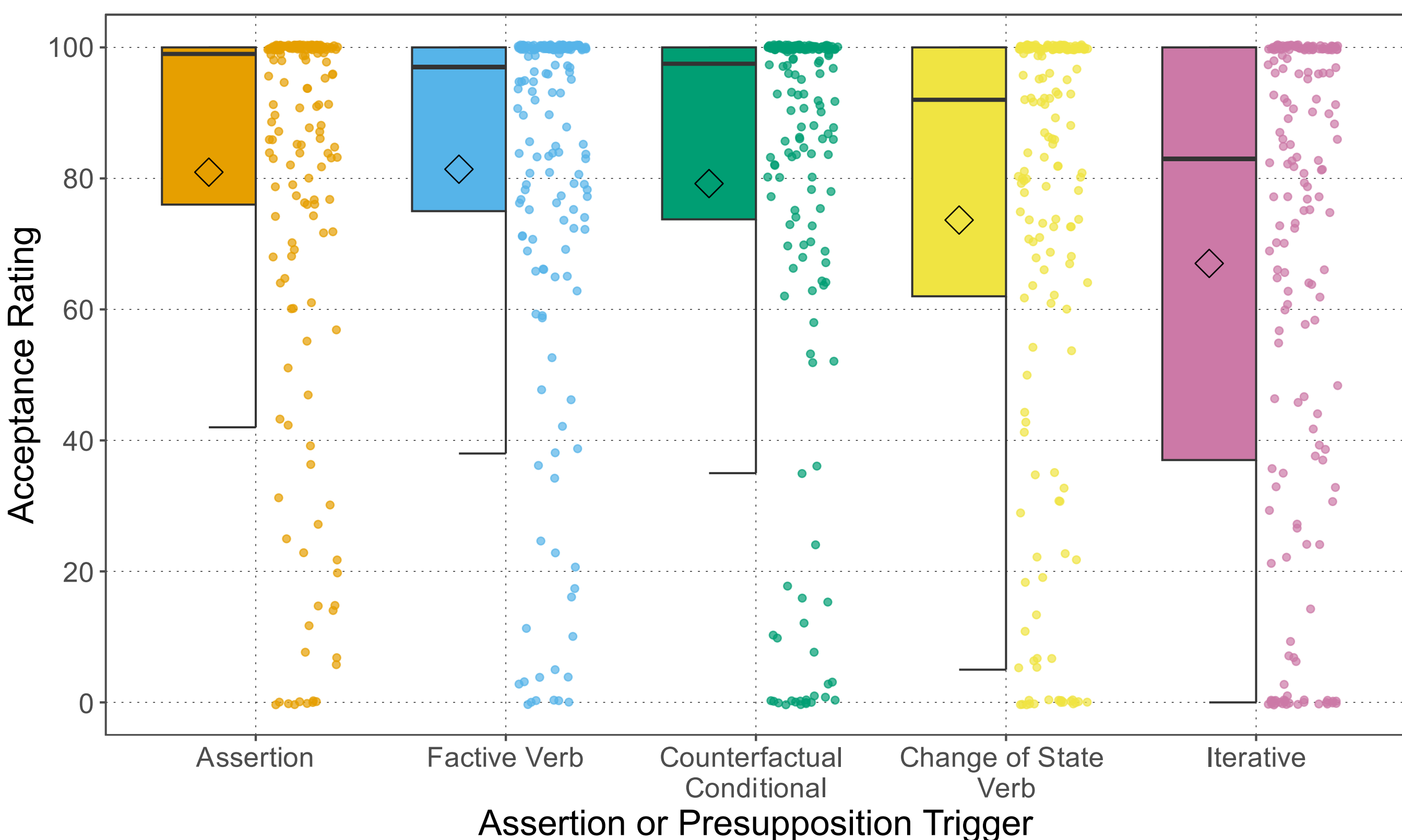
Assertion vs. presuppositions

Does credibility of information depend on the form encoding?

- Form of encoding interacts with source reliability and affects information processing (Giunta et al. 2025a).
- Presupposition and assertion both require speaker commitment (Mazzarella et al. 2018).
- Form of encoding affects epistemic vigilance (Lombardi Vallauri, 2021).
- They may not differ in terms of memory effects (Miller, 2024).

Do presupposition triggers affect the credibility of inferences to a different extent?

- Presupposition triggers differ in strength of projection inferences (Degen & Tonhauser 2022), as well as how easy it is to suspend them (Karttunen, 2016).
- The neural responses they trigger also differ (Domaneschi et al., 2018).



Research question 1

How does credibility of accommodated content compare to assertions?

N = 200 (Prolific), 5 different stories (within participants), 2 target items per story.

Factive verbs: *know, realize, be aware, be odd, be proud*

Bayes Factor (BF) = 0 - 1 evidence that there is **no difference** to assertions

Bayes Factor = 1 - 3 **anecdotal** evidence that there is a difference

Bayes Factor = 3 - 10 **substantial** evidence that there is a difference

Bayes Factor > 100 **decisive** evidence that there is a difference

Factive verb	$\beta = 1.38$, 95% CrI = [-4.45, 7.27]	BF = 0.33
Counterfactual conditional	$\beta = -0.76$, 95% CrI = [-6.60, 5.04]	BF = 0.31
Change of state verb	$\beta = -6.00$, 95% CrI = [-11.80, -0.14]	BF = 2.26
Iterative	$\beta = -12.29$, 95% CrI = [-18.07, -6.45]	BF = 695.56

Research question 2

How does topic expertise affect credibility of information?

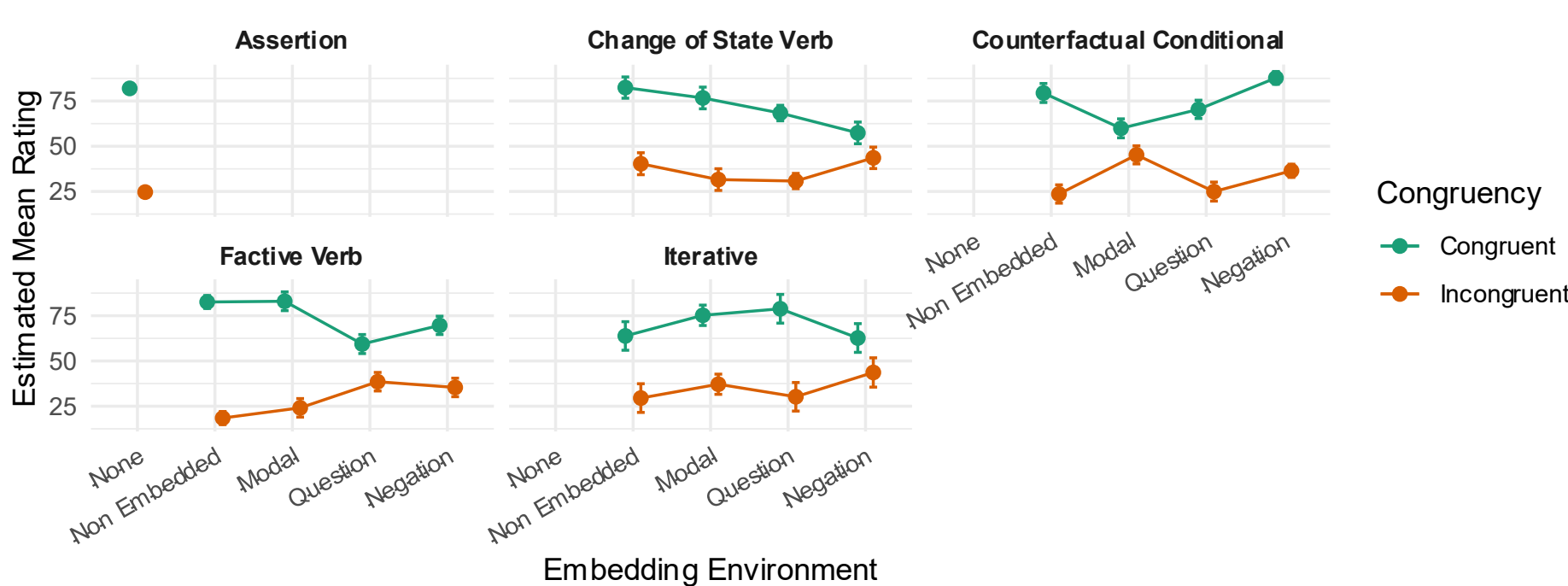
Participants who have relevant knowledge on the topic are less likely to accept false information communicated via assertions or informative presuppositions

$\beta = -2.93$, 95% CrI = [-5.03, -0.83] BF = 8.88

Research question 3

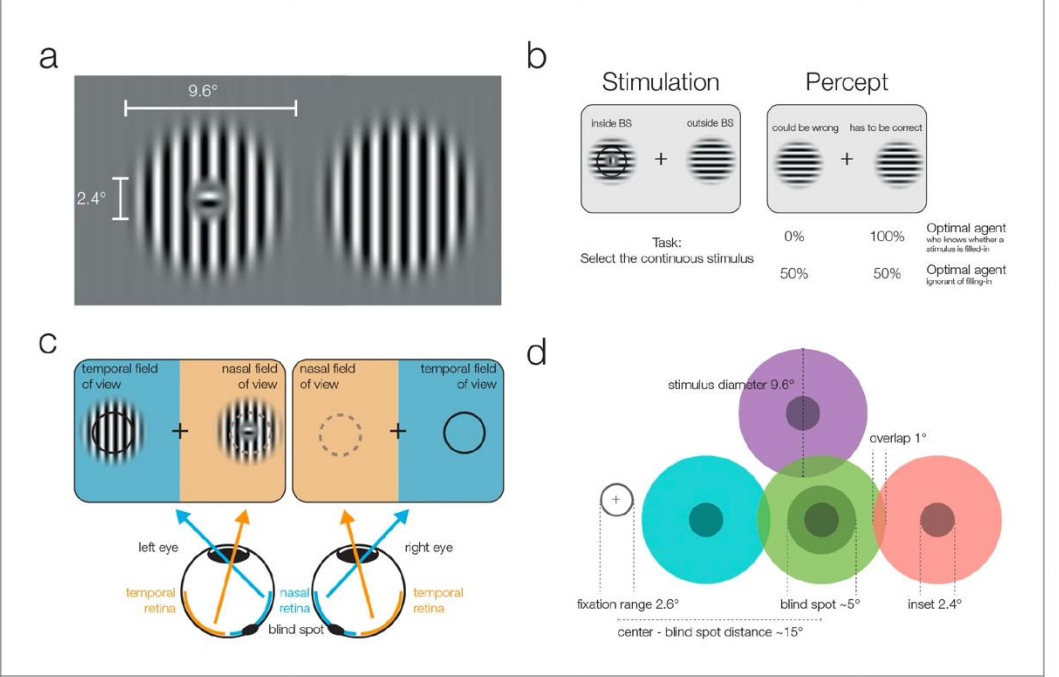
Follow-up experiment, N = 204

How does the entailment-cancelling environment affect credibility of accommodated information?



Cognitive underpinnings: Insights from human vision

When participants looked at ambiguous stimuli that contained no inserts, they were more likely to judge the pattern as continuous when it was presented in the blind spot rather than outside of the blind spot. They trusted inferred information more than the veridical one (Ehinger et al., 2017)



Conclusions

- Accommodated presuppositions triggered by factive verbs and counterfactual conditionals are as credible as assertions.
- Change of state verbs and iteratives are less powerful in triggering credible inferences.
- Entailment environment interacts with presupposition triggers, and they jointly affect perceived credibility.

References

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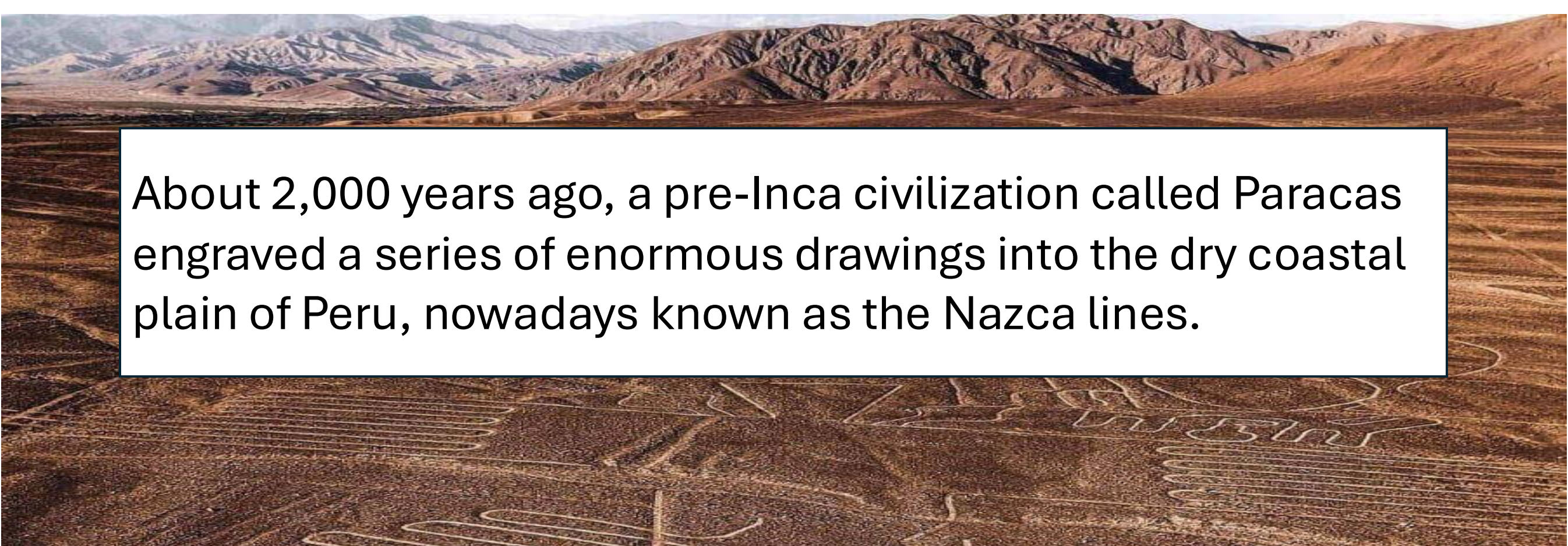
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About 2,000 years ago, a pre-Inca civilization called Paracas engraved a series of enormous drawings into the dry coastal plain of Peru, nowadays known as the Nazca lines.

Sentence 1

Assertion	The Nazca lines served as a solar calendar.
Factive predicate	To this day, a lot of people are still not aware that the Nazca Lines served as a solar calendar.
Counterfactual cond.	If the Nazca lines had not served as a solar calendar, then the Paracas could not have anticipated the annual floods as well as they did.
Change of state verb	Since the Paracas culture was soon driven away from the area, the Nazca lines did not continue to serve as a solar calendar.
Iterative	After the Paracas culture was driven away from the area, the Nazca lines did not serve as a solar calendar anymore.

Sentence 2

Assertion	Moreover, the Paracas tried to predict the occurrence of solar eclipses using the Nazca lines.
Factive predicate	Seeing that they frequently ran peculiar experiments, it is not odd that the Paracas also tried to predict the occurrence of solar eclipses using the Nazca lines.
Counterfactual cond.	If the Paracas had not tried to predict the occurrence of solar eclipses using the Nazca lines, they may have focused their efforts on other forms of astronomical observation or cultural expression.
Change of state verb	However, the Paracas did not carry on trying to predict the occurrence of solar eclipses using the Nazca lines after several attempts failed.
Iterative	However, the Paracas did not try to predict the occurrence of solar eclipses using the Nazca lines again after several attempts failed.

Test sentence

- | | |
|---|--------|
| a. The Nazca lines were used as a kind of calendar. | ✓ |
| b. The Nazca lines were used in attempts to forecast solar eclipses. | ✗ |
| c. The Nazca lines are a group of giant drawings made into Peruvian soil. | filler |
| d. The Nazca lines were created by a pre-Inca civilization. | filler |

Definitely false Definitely true