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Is communication governed by the same goals & inferences across cultures?
We (w/ Miguel Salinas, @spiantado, @LanguageMIT) aim to shed light on this w/ referential comm. & eye-tracking data from the Tsimane', a non-industrialized Amazonian group: bit.ly/41F6yI1🧵
1/

10:50 PM · Apr 28, 2023 · **10.7K** Views

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Speakers have a lot of options to choose from, when producing an expression to refer to something they see (e.g., the cup, that cup over there, the big cup, etc...). Per Grice (1975), speakers intend to be informative, unambiguous, and non-redundant when selecting an utterance.
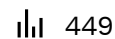2/

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Pple tend to avoid using adjectives unless their utterance would be ambiguous without one (e.g., "Hand me the big cup" when there is a big cup and a small cup). Though this depends on adjective type (color more likely to be used redundantly than size; e.g., Degen et al. 2020).
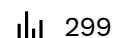3/

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Sedivy et al. (1999) showed listeners are aware of speakers' goals and make rational, incremental inferences. E.g., when they hear "the big..." they look more at a big cup in a contrast than one by itself, presumably inferring they wouldn't have said "big" if it wasn't needed.
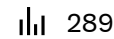4/

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There is one major caveat to all this: the assumptions about speakers' communicative intentions and listeners' corresponding inferences have primarily been tested in so-called WEIRD (western, educated, industrialized, rich, and democratic) populations (Henrich et al., 2010).
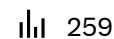5/

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Many aspects of language are profoundly shaped by culture (and possibly vice versa). Industrialization in particular impacts how humans carve up the world into categories and what they see as dimensions of similarity/contrast (Luria, 1975; Atran & Medin, 2008).
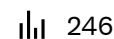6/

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Similarly, Givón & Young (2002) proposed that in "societies of intimates" (e.g., small, kin-based grouping, foraging-based economies, restricted territory) the goals of speech acts differ from the Gricean norms of "societies of strangers."
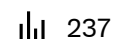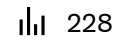7/

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Individuals in a "society of intimates" interact primarily with a small number of other people and
share much prior knowledge with each conversation partner, with whom their lives are often deeply intertwined (e.g., via kinship).
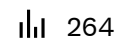8/

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They may often wish to exchange information while maintaining some ambiguity: the potential cost of being redundant or uninformative is less than the potential cost of alienating any of the other intimates (e.g., by being identified as the source of negative information)
9/

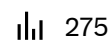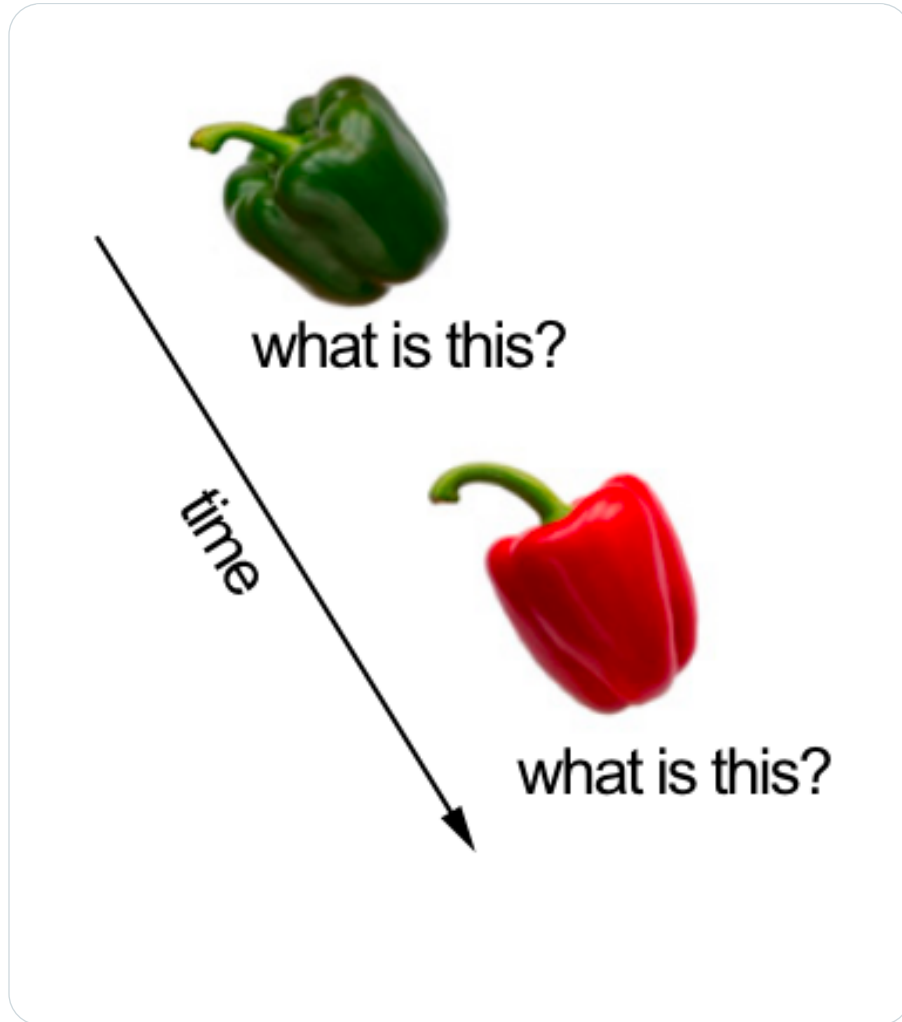🗨 1   ⇄   ♡ 2   ᵢₗᵢ 264   ↥

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The Tsimane' live in a "society of intimates" and their productions may not conform to Gricean norms: they omit the color adjective both when labeling e.g., the green bell pepper and when they see the red bell pepper immediately after (Gibson et al., 2017)
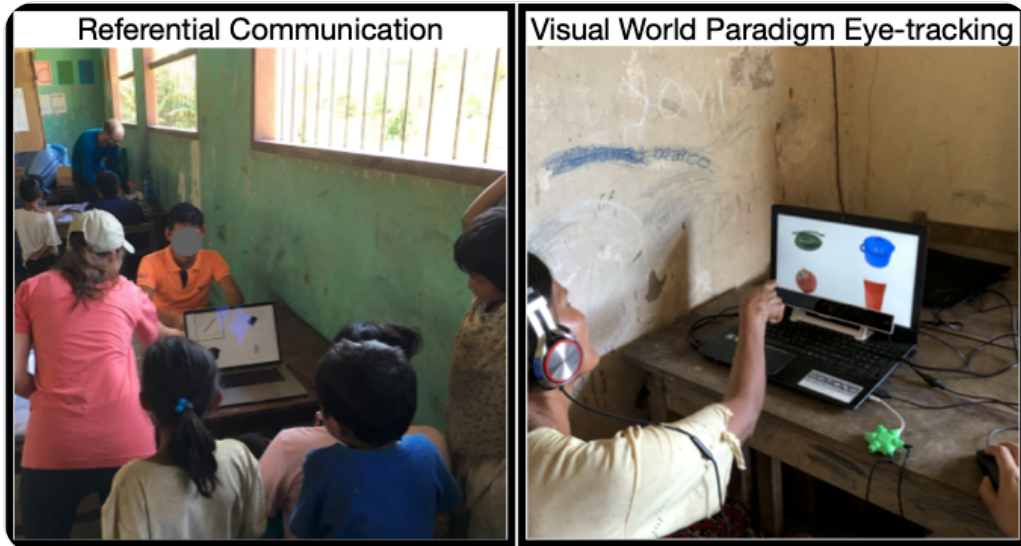10/

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We set out to probe the communicative goals and inferences of Tsimane' speakers and listeners in the setting of simple referring expressions using 1) a referential communication task, and 2) visual world paradigm eye-tracking.
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Referential Communication | Visual World Paradigm Eye-tracking
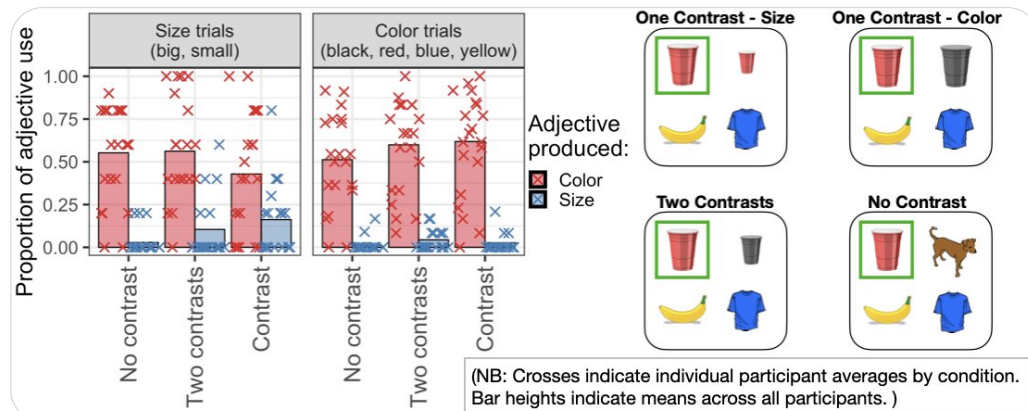
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In the referential communication task, Tsimane' speakers were more likely to produce both size and color adjectives when the target (in green square) was in a contrast set, similar to previous findings in English. (But English speakers produce more adj of both types overall.)
12/

(NB: Crosses indicate individual participant averages by condition. Bar heights indicate means across all participants.)
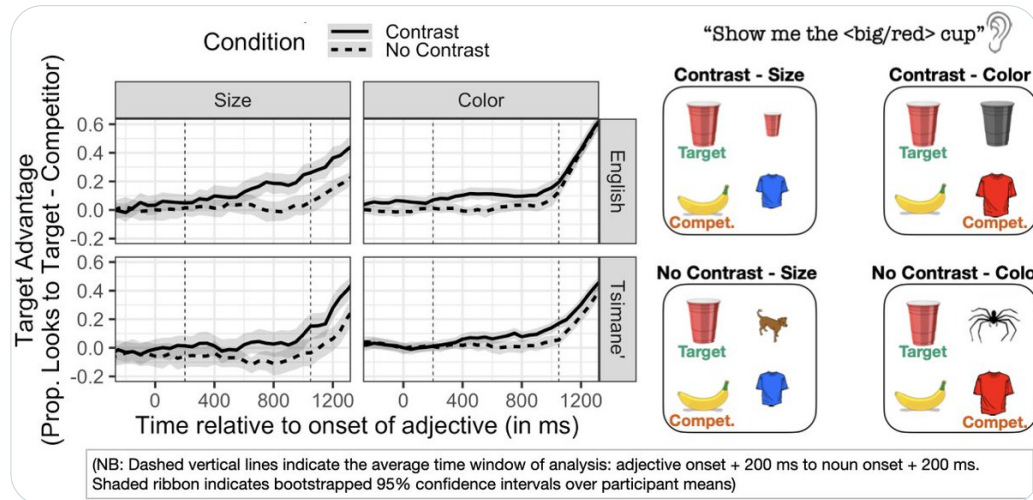
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In the eye-tracking task, English and Tsimane' listeners made more anticipatory looks to the target (and fewer to the competitor) in a contrast, replicating prior findings w/ multiple languages (Sedivy et al., 1999; Ryskin et al., 2019; Rubio-Fernandez & Jara-Ettinger, 2020)
13/

(NB: Dashed vertical lines indicate the average time window of analysis: adjective onset + 200 ms to noun onset + 200 ms. Shaded ribbon indicates bootstrapped 95% confidence intervals over participant means)

💬 1   🔁   ♡ 5   📊 423   ⬆

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In sum, simplified communication tasks reveal similar patterns between Tsimane' and English speakers, suggesting that, for simple referring expressions, communicative goals and inferences may be shared across cultures. (More deets, including breakdown by adj type, in paper!)
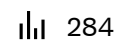14/

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Are these tasks too simple to capture cultural differences? Our goal was to start with the simplest building blocks of communication–how we produce and understand references to what we see around us–but we hope future work will involve more complex conversational exchanges!
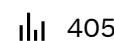15/

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p.s. Preprint is available here: psyarxiv.com/ga83j

end/

psyarxiv.com
Real-time inference in communication across cult...
In everyday communication, speakers and listeners
make sophisticated inferences about their ...