

UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

Bounded Rationality Limits Pragmatic Optimization in Politeness

Permalink

<https://escholarship.org/uc/item/27g497xt>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 48(0)

Authors

Chen, Tianfang

Tang, Liping

Publication Date

2026

Copyright Information

This work is made available under the terms of a Creative Commons Attribution License, available at <https://creativecommons.org/licenses/by/4.0/>

Peer reviewed

Bounded Rationality Limits Pragmatic Optimization in Politeness

Tianfang Chen¹ & Liping Tang (tanglp3@mail.sysu.edu.cn)²

¹Faculty of Linguistics, Philology and Phonetics, University of Oxford

²Institute of Logic and Cognition, Department of Philosophy, Sun Yat-sen University

Abstract

Linguistic politeness reflects strategic reasoning and conventionalized patterns, yet most accounts emphasize only one influence. We develop a probabilistic model that combines instrumental utility with community-based expectations, modeling polite production as a weighted integration of individual decision-making and social alignment. In an artificial language experiment that dissociated payoff and frequencies, we manipulated participants' orientation toward task success versus social alignment and found that in the baseline condition, speakers favored the form that increased success but still drifted toward recently observed usage. When large language models are tested in the same task, they instead exhibit a single strategy that relies almost entirely on instructions, showing one-sided utility maximization rather than combining the two cues. We suggest this provides evidence that human politeness behavior is best understood through a bounded rationality lens, where expected utilities are flexibly weighted under cognitive constraints, not necessarily maximized.