【Grant-in-Aid for Transformative Research Areas（B）】

Hybrid Primatological Linguistics: Unraveling Communication Dynamics in Interlingual Convergence

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Project Information	Project Number : 26B102　Project Period (FY) : 2026-2028 Keywords : Language evolution, Diversification of communication, Primatology, Animal behavior, Neuroscience

Purpose and Background of the Research

●Outline of the Research

Smooth communication through language requires efficient mutual understanding and the maintenance of appropriate social relationships. However, mismatches often arise because knowledge of language use differs across individuals, even among native speakers. This research area aims to clarify, at a biologically grounded level, how mutual understanding is achieved between individuals with different linguistic knowledge. We approach language communication from the perspective of contact and fusion between different languages, using this framework to connect linguistics with primatology and neuroscience. In particular, we use pidgin languages that emerge through language contact as a simplified model of communication between individuals with different linguistic systems.

We focus on “tolerance” in communication and test the “tolerance-based language circuit hypothesis,” which proposes that neural mechanisms enabling the acceptance of variation support flexible and ambiguous human language. To address this, we compare social structure and communication diversity in primates and examine how exposure to different communication styles influences behavior and cognition. We combine comparative studies in primates with experimental approaches, including behavioral manipulation and neural intervention, to test these mechanisms.

Furthermore, we extend this work to a comparative neuroscience framework by focusing on brain regions shared between humans and monkeys. In particular, the anterior cingulate cortex (ACC) has been implicated in both semantic ambiguity and individual differences in tolerance. By manipulating neural activity in this region, we aim to reveal the causal relationship between tolerance and the diversification of communication.

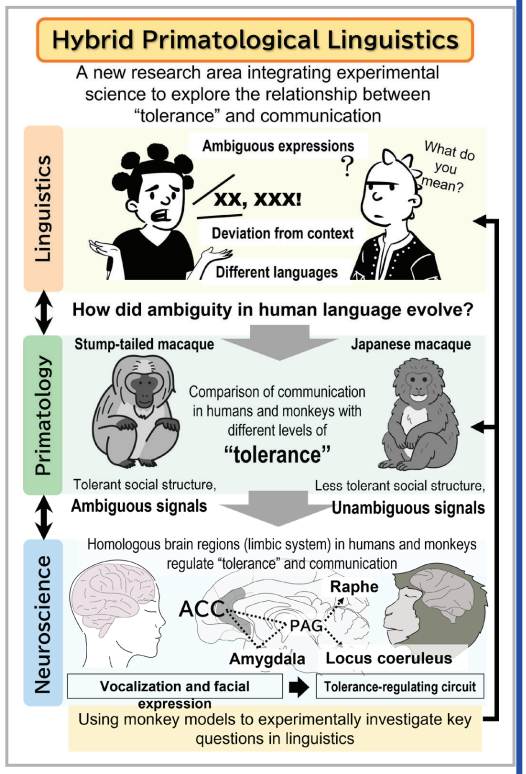

Fig.1 Overview of this new research area

Expected Research Achievements

●Achievements from Each Group

The three teams integrate approaches from behavior to neural circuits to test the “tolerance-based language circuit hypothesis,” proposing the co-evolution of tolerance and flexible communication.

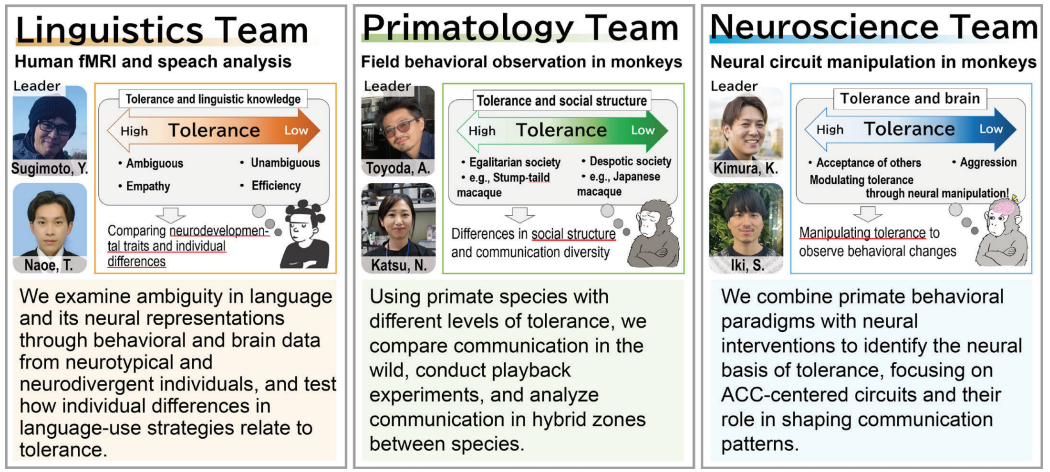

Fig.2 Organization of Research Teams and Project Overview

●Broader Implications of the Research

Our goal is to advance a “tolerant hybrid society” in which diverse individuals interact and integrate. Building on our findings, we propose the hypothesis that human communication always occurs in hybrid zones and aim to establish a long-term interdisciplinary research field. By applying experimental approaches from the life sciences to linguistic models such as pidgin and creole, we seek to overcome key challenges in linguistics and develop a new cross-disciplinary framework. This work will clarify the co-evolution of tolerance and communication across cultural and developmental diversity, and expand into broader studies of cultural evolution. Led by an interdisciplinary team of early-career researchers, the project will also foster a dynamic research environment that promotes innovative thinking beyond traditional disciplinary boundaries.

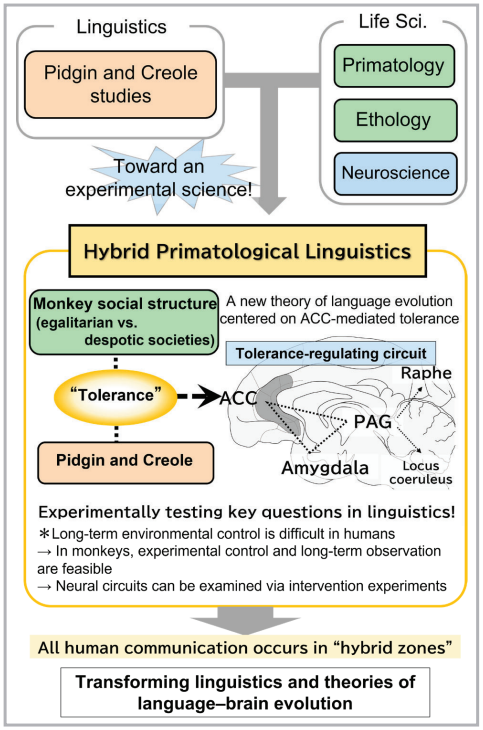

Fig.3 The integrative field of Hybrid Primatological Linguistics

Website(s)	https://www.primaling2026.com