Course Proposal: Non-Human Primates and Communication

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Course Description

This course offers an introduction to the evolution of language and primate communication systems using the framework of biological anthropology. Lectures are structured to gradually introduce students to possible parallels and differences between non-human primate and human communication over the course of the term, culminating in a discussion of contemporary topics and future directions of research.

Course Aims

The aim of this course is to provide students with a theoretical foundation for understanding the evolution of human language, as well as practical knowledge of the complexity of non-human primate communication. My approach is hands-on, and students will engage with course material via exercises on research design and data analysis. At the end of the course, students will be familiar with the dominant theories regarding the origins of language, and how non-human primates have informed these theories.

Course Outline

Part I: What is communication? We will begin with an introduction to the forms and functions of animal communication as well as the dominant theories that have shaped the direction of research in non-human primates. What is language, and what is not? Topics include olfaction, facial expression, vocalization, gesture, and a discussion of which may inform us about the evolution of human communication. This section will familiarize students with the themes and terminology used throughout the remainder of the course.

Part II: Origins of language. Organized as a series of lectures covering the different sensory modalities used by non-human primates, as well as the available evidence for communication in hominins, these lectures will touch on the major topics of language research: functional reference, intentionality, syntax, and ape language studies, concluding with possible language universals. Class readings will consist of journal articles that introduce the variety of research methods used to study communication, including observational, experimental, captive, wild, and comparative studies; discussion will encourage students to recognize the limitations of various methods.

To promote engaged learning, there will be two practical components analysing monkey and ape communication. Students will learn to produce spectrograms in Praat and use them to distinguish between different acoustic call types in monkeys, primarily as an exercise to encourage an understanding of graded vocalizations. Students will also learn a basic coding system for great ape gestures as a means of introducing the criteria for intentional communication in non-human primates.

Part III: Development and Human Parallels. This section will integrate the aforementioned topics in order to tackle broader research questions. We will examine ontogenetic development for each type of communication, with an emphasis on whether aspects of communication are innate or learned. We will consider how life histories, especially social relationships, might influence communication using a comparative approach between non-

human primates and non-verbal language learning in human infants. To explore the cognitive aspects of language learning, we will explore pointing behaviour and its neurological components in both humans and non-human primates.

Part IV: Current Directions. The class will conclude by discussing contemporary research on communication, including communication during recruitment/cooperation, multimodal communication, and novel methods such as modelling, eye-tracking and facial expression coding. In the third practical, students will use newly developed facial coding system (ChimpFACS) to encourage their understanding of avenues for future research. Concluding, we will review the possible parallels between human communication and non-human primate communication by returning to the question, what is language – and where do non-human primates fit into the picture?

Sample Reading Material

Corballis, M. (1999). *The Gestural Origins of Language: Human language may have evolved from manual gestures, which survive today as a" behavioral fossil" coupled to speech*. American Scientist, 87(2), 138-146.

Coye, C., Ouattara, K., Zuberbühler, K., & Lemasson, A. (2015). *Suffixation influences receivers' behaviour in non-human primates*. Proceedings of the Royal Society of London B: Biological Sciences, 282(1807), 20150265.

Fitch, T. *The Evolution of Language*

King, B. *The Dynamic Dance* (select chapters)

Seyfarth, R. M. 1987. *Vocal communication and its relation to language*. In Primate societies, ed. B. Smuts, D. L. Cheney, R. Seyfarth, R. Wrangham, and T. Struhsaker, 440–51. Chicago: University of Chicago Press.

Slocombe, K. E., Waller, B. M., & Liebal, K. (2011). *The language void: the need for multimodality in primate communication research*. Animal Behaviour, 81(5), 919-924.

Smet, A. F., & Byrne, R. W. (2013). *African elephants can use human pointing cues to find hidden food*. Current Biology, 23(20), 2033-2037.

Tomasello, M. *The Origins of Human Communication*