

Why C(omp)ARE? Research across species and cultures to understand the human mind

6th Nov: Cross-species perspectives on the human mind

Freie Universität Berlin, Habelschwerdter Allee, Hörsaal 1b

- 09.30-10.00 **Welcome and Introduction**
Katja Liebal
- 10.00-11.00 **Why Psychology is incomplete without a comparative perspective**
Daniel Haun
- 11.00-11.30 **Coffee break**
- 11.30-12.30 **How far have we come in understanding the evolution of the language faculty?**
Julia Fischer
- 12.30-13.30 **Lunch break**
- 13.30-14.30 **Bargains that primates make**
Josep Call
- 14.30-15.00 **Coffee break**
- 15.00-16.00 **Cooperation and human cognition**
Michael Tomasello
- 16.00-16.30 **Coffee break**
- 16.30-17.30 **How cooperative breeding helped to shape human psychology**
Carel van Schaik
- 18.00-20.00 “Science to go” (with some snacks and soft drinks)
!!!Bus transfer to Leipzig – please make sure that you booked a seat!!!

7th Nov: Cross-cultural perspectives on the human mind

Universität Leipzig, Campus Jahnallee, Großer Hörsaal, Jahnallee 59

09.30-10.00 **Welcome and Introduction**

Daniel Haun

10.00-11.00 **The evolution of cultural evolution**

Carel van Schaik

11.00-11.30 **Coffee break**

11.30-12.30 **The cultural nature of human development**

Heidi Keller

12.30-14.00 **Lunch break**

14.00-15.00 **The cultural dimension of cognition**

Andrea Bender & Sieghard Beller

15.00-15.30 **Coffee break**

15.30-16.30 **The cultural evolution of human behavior**

Russell Gray

16.30-17.00 **Wine and snacks**

17.00-18.00 **Panel discussion: Why not C(omp)ARE?**

While the comparative perspective in psychology has regained prominence internationally, it is still a rarity at German universities, in both teaching and research. We will discuss reasons for and solutions to this mismatch.

Abstracts

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Why Psychology is incomplete without a comparative perspective

Daniel Haun

Department for Early Child Development and Culture, Leipzig University

Nico Tinbergen, the Dutch ethologist famously argued, that in order to describe any behavior, one must assume four different levels of analysis: the underlying mechanisms, the ontogeny, the phylogeny and the adaptive value of the behavior. When explaining *human* behavior, psychologists have traditionally largely based all accounts on the underlying mechanisms and their change across age only. Recently, however phylogenetic and evolutionary perspectives on human behavior have re-entered the psychologists' arena. With the renaissance of comparative studies have returned questions concerning human uniqueness, human evolutionary history and adaptive values. Still such questions remain exotic in the eyes of the psychological mainstream. In this talk I will demonstrate that comparative studies have added value even for those who are interested in proximate mechanisms and ontogeny only. Furthermore, I will argue that including all of Tinbergen's levels of analysis can bring new depth and detail to psychological theories of human behavior.

How far have we come in understanding the evolution of the language faculty?

Julia Fischer

Cognitive Ethology Lab, German Primate Center, Göttingen

The comparative approach has been the method of choice in the aim to identify the evolutionary precursors of the human language faculty. I will discuss studies that examined the semantic and syntactic properties of primate communication, with specific regard to differences and commonalities in different modalities. I will argue that the production of nonhuman primate communicative signals bears little resemblance to the symbolic and combinatorial features of human speech. However, there is ample evidence that recipients are able to integrate information from multiple sources, including signal and context. Studying the cognitive mechanisms underpinning the processing of signals, specifically with regard to meaning attribution and decision-making, appears to be a fruitful avenue for further research, while the understanding of signal production is still hampered by a lack of independent evidence to gauge the determinants of signal use and structure. I will conclude with a critical discussion of the pitfalls when applying linguistic concepts to nonhuman primate (or other animal) communication.

Bargains that primates make

Josep Call

School of Psychology and Neuroscience, University of St. Andrews, Department of Developmental and Comparative Psychology, Max Planck Institute for Evolutionary Anthropology, Leipzig

Social life is shaped by the interplay between cooperation and competition among individuals for limited resources. Decisions on whether to cooperate or defect in social games are often determined by the potential pay-offs of the various options. In this talk I will first present data on how great apes estimate probabilities when presented with two options with potentially different pay-offs. Such estimation appears not to be based on differential reinforcement during the task but on an intuitive assessment of the probability of netting the most profitable option. I will then move onto social problems in which subjects have to decide whether they cooperate with others or work alone. I will end by presenting studies in which apes have faced an Ultimatum Game and close with some implications of these results for the areas of comparative cognition and experimental economics.

Cooperation and human cognition

Michael Tomasello

Department of Developmental and Comparative Psychology, Max Planck Institute for Evolutionary Anthropology, Leipzig

Great apes cognitively represent and make inferences about their experience of the world. Humans, in addition, represent their experience perspectively and “objectively”, and they make inferences about it recursively and reflectively. The Shared Intentionality Hypothesis posits that these uniquely human forms of cognitive representation and inference emerged evolutionarily as cognitive adaptations for dealing with a distinctive form of social life, specifically, a form in which individuals had to coordinate their intentional states with others in cooperative, and ultimately cultural, activities. Within these cooperative and cultural activities, early humans created shared realities (joint attention, common ground), which then enabled them to direct the attention and imagination of one another in relevant ways in acts of cooperative, and ultimately conventional, communication. Learning to coordinate and communicate with others in these ways during ontogeny creates uniquely human objective-reflective-normative thinking.

How cooperative breeding helped to shape human psychology

Carel van Schaik

Anthropological Institute & Museum, Universität Zürich

True cooperative breeding, in which non-breeding individuals help others rear offspring, is relatively rare among mammals. Humans are cooperative breeders, whereas none of our great ape relatives is. Cooperative breeding is therefore derived in the human lineage. Here we ask what consequences the evolution of this rearing system has had on our species. There is enough variation in allomaternal care among mammals to estimate its correlations. Moreover, there is one family of Neotropical primates, the callitrichids, that are true cooperative breeders. We show that allomaternal care affects many aspects of life history, cognition, prosocial attitudes and behavior among mammals and birds in general, and show that many contrasts between humans and the other great apes fit this pattern. We also find some surprising features of humans that only make sense in light of cooperative breeding.

7th Nov: Cross-cultural perspectives on the human mind

The evolution of cultural evolution

Carel van Schaik

Anthropologisches Institut & Museum, Universität Zürich, Switzerland

Over the past two decades, behavioral biologists have assembled much evidence consistent with the idea that various animals have a variety of socially transmitted skills, knowledge or information, summarized by the term animal culture. This information has brought out more clearly which aspects of human culture are uniquely derived relative to that of the last common ancestors with chimpanzees and bonobos. Perhaps the most important difference is that human cultures are cumulative, whereas those of animals are (virtually) not. I will discuss an evolutionary model that helps us understand its origins and elaboration in the hominin lineage. After characterizing cultural evolution and contrasting it with organic evolution, I will ask whether it has enough constraints to make it predictable. Based on some historical examples, I will conclude that the core elements of human nature provide enough predictability to make this approach worthwhile.

The cultural nature of human development

Heidi Keller

Osnabrück University, Germany and Hebrew University, Jerusalem, Israel

Humans are equipped with a universal repertoire of behavioral dispositions to acquire and process environmental information. Thus adaptive minds and psyches are constructed and co-constructed as the foundation of environmental competence. Development integrates therefore necessarily universals with (culture) specifics. In this presentation different examples are discussed that demonstrate how cultural information molds universal predispositions to particular phenotypes. In particular, the two months shift, joint attention in one year old and pretend play in preschool children are addressed. It is concluded that differential developmental pathways must replace the monocultural view on developmental trajectories that is often falsely based in evolutionary origins.

The cultural dimension of cognition

Andrea Bender & Sieghard Beller

Department for Psychosocial Sciences University of Bergen

Three (implicit) assumptions have guided much of the previous theory-building in the cognitive sciences: that cognition is internal, processing can be distinguished from content, and processing is independent of cultural background. To demonstrate how culture may affect cognitive processes in various ways, instances from different cognitive domains will be presented. In conclusion, it will be discussed how essential the consideration of cultural diversity is for a comprehensive understanding of cognition, and how the disciplines involved can benefit from an intensified collaboration across fields in exploring these issues.

The cultural evolution of human behavior

Russell Gray

Max Planck Institute for the Science of Human History, Jena

Coming soon