Evolution of Emotional Communication: From Sounds in Nonhuman Mammals to Speech and Music in Man

April 28th – May 1st, 2010

Reisensburg

Günzburg, Germany

Imprint:

Editors: Prof. Dr. Elke Zimmermann, Prof. Dr. Eckart Altenmüller

Layout: Sönke von den Berg, Dr. Marina Scheumann

Graphic design: Sönke von den Berg, Dr. Simone Janßen, Rüdiger Brüning

University of Veterinary Medicine Hannover
Bünteweg 17
30559 Hannover
Germany

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Local organisers:
Sönke von den Berg, Dr. Michael Großbach, Ursula Seifert, Prof. Dr. Günter Ehret

Scientific committee:
Prof. Dr. Elke Zimmermann, Prof. Dr. Eckart Altenmüller

Technical support:
Sönke von den Berg, Dr. Michael Großbach

nonlinearities may be individual specific, and may signal emotional content of the sender. We have provided the first evidence in amphibians of ultrasonic (US) communication coupled with vocalisations containing highly nonlinear phenomena (NLP), including subharmonics, biphonation, fast frequency transitions, chaotic regimes, etc. This extraordinary upward extension into the ultrasonic range of both the advertisement calls and the frog's hearing sensitivity has likely coevolved in response to the intense ambient noise from local streams. Vocalisations containing NLP are highly variable from one utterance to the next, and therefore may serve as a substrate for individual recognition as well as an adaption against habituation. Examples from several amphibian species will be discussed. Supported by NIH, UCLA and the Veneklasen Foundation.

Friday, April 30th

Non-verbal emotional vocalizations across cultures

D.A. Sauter[1,2]
[1]Department of Psychology, University College London, London, UK
[2]Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands
Email: disa.sauter@mpi.nl

Despite differences in language, culture, and ecology, some human characteristics are similar in people all over the world, while other features vary from one group to the next. These similarities and differences can inform arguments about what aspects of the human mind are part of our shared biological heritage and which are predominantly products of culture and language.
I will present data from a cross-cultural project investigating the recognition of non-verbal vocalizations of emotions, such as screams and laughs, across two highly different cultural groups. English participants were compared to individuals from remote, culturally isolated Namibian villages. Vocalizations communicating the so-called "basic emotions" (anger, disgust, fear, joy, sadness, and surprise) were bidirectionally recognised. In contrast, a set of additional positive emotions was only recognised within, but not across, cultural boundaries. These results indicate that a number of primarily negative emotions are associated with vocalizations that can be recognised across cultures, while at least some positive emotions are communicated with culture-specific signals. I will discuss these findings in the context of accounts of emotions at differing levels of analysis, with an emphasis on the often-neglected positive emotions.