

The Ontogeny of Gestural Communication in nonhuman Great Apes

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The aim of this ongoing study is to increase our understanding of nonvocal communication in nonhuman great apes by examining the acquisition of gestures across species. The goals of the project are (i) to systematically document individual signal repertoires, (ii) to study similarities and/or differences of the communicative repertoire within species as well as between species, and (iii) to investigate what mechanisms (i.e. genetic determination, ontogenetic ritualization, and social learning) underlie gesture acquisition. In this longitudinal study, the early communicational signals of 25 great ape infants (eight chimpanzees, six bonobos, three gorillas, and eight orangutans) between the age of 0 and 20 months are investigated. Preliminary findings reveal that chimpanzee, bonobo and gorilla infants performed gestures utilizing three different sensory modalities: visual, tactile and auditory. Overall, individuals showed an increasing number of gesture use with age, with visual and tactile gestures appearing at a very early stage. Auditory gestures appeared only around the age of one year in gorillas, and around 1.5 years of age in bonobos and chimpanzees. Orangutans did not show any auditory gestures during their first 20 months of life. The findings of the study will be compared with available data on gestural communication in nonhuman primates and will be discussed in terms of social organizational and cognitive development in different species. This comparative approach might help to show a trend in the evolution of communicative systems.