



Brain, language, and the evolution of human behavioral complexity

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The complexity of human behavior is ultimately the result of an increase in the number of individuals in our social groups over our evolutionary history. Because of the nature of social relationships, this has led to an increase in the flexibility of human learning. This flexibility has been made possible by evolutionary changes in our brains that allow us to better learn from, and adapt to, complex changing contingencies. Empirically, larger brained primates spend more total time in social play during development than do smaller brained primates. In fact, human body growth slows down for a particularly extended period of time prior to maturity, even though brain development continues. All of this suggests that our brains require extensive environmental input for us to become fully mature adults. Language is a central part of our social environment, of course, and is consequently deeply dependent on brain circuitry involved with detecting and assessing changing patterns and contingencies in the environment. Evolutionary changes in the human brain that support these abilities will be reviewed, and it will be argued that the co-evolution of language and brain led to the enhancement of this circuitry during our evolutionary history.