



Apr 17th, 1:15 PM - 2:30 PM

Interplay Between Social Cognition, Tool Use, Language Development, and Neuronal Plasticity as an Avenue for the Development of the Human Brain

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Norris, Jacob and Springwood, Faculty Advisor, Charles, "Interplay Between Social Cognition, Tool Use, Language Development, and Neuronal Plasticity as an Avenue for the Development of the Human Brain" (2004). *John Wesley Powell Student Research Conference*. 17.

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Poster Presentation P34

INTERPLAY BETWEEN SOCIAL COGNITION, TOOL USE, LANGUAGE DEVELOPMENT, AND NEURONAL PLASTICITY AS AN AVENUE FOR THE DEVELOPMENT OF THE HUMAN BRAIN

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The Human brain is a versatile, dynamic “structure” that is the product of natural selection pressures that are becoming well understood. More specifically, a prime selective pressure that governed the development of the human brain was the sensitivity to social situations that gave rise to a theory of mind, defined as, “The ability to self-reflect and think about the mental states of others. ... This is a trait considered unique to the human species,” (Gazzaniga, Ivry, Mangun, 2002). The evolved ability to predict what others understand, and behave in situations, co-evolved with factors such as fine motor control and language development to produce a social and technological situation that further promoted the evolution of the Human Brain. The brain evolution was therefore a product of “runaway” selection, or a positive feedback loop; governed and facilitated by the rules of neuronal plasticity. Therefore, the Human brain is a product of itself, transforming itself through interactions with the environment that it creates. This has led some authors, such as Ehrlich to argue that humans are one of the few species that acts as its own trainer (2000). The current research will summarize the applicable neuroscientific, anthropological, and psychological literature and debate the merits of such an argument..