

## Evo-devo & the evolution of language

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Among living primates, only humans evolved highly complex grammatical language. Once the neurological substrates for language emerged prehistorically, they likely formed the backbone for the subsequent evolution of other unique human abilities such as those involved in mathematics and music. As an alternative to the well-known hypotheses that “Man the Hunter” or, more recently, “Woman the Gatherer” were the primary movers of human evolution, this talk proposes a gender-neutral hypothesis that “Baby the Trendsetter” had a starring role via the emergence of three sequential “evo-devo” trends that were, ultimately, responsible for making our species cognitively distinct. In chronological order, these trends entailed (1) delayed locomotor development in infants that occurred millions of years ago in association with the origin of bipedalism, (2) infants seeking contact comfort from separated caregivers using body language and new ways of crying, and (3) acceleration of prenatal brain growth continuing through the first postnatal year in association with selection for motherese and, eventually, grammatical language. Delayed development made it impossible for infants to cling to their mothers without support and, thus, necessitated periodic physical separations of mothers and infants that are not experienced by any of the living monkeys or apes. The resulting trend for seeking contact comfort led to reciprocal and habitual vocal communication between mothers and infants that seeded the emergence of motherese. The third trend sparked additional evolution in hominin brain size and neurological organization, which contributed to the subsequent emergence of other higher-order cognitive abilities. As noted, an evolutionary focus on these three evo-devo trends in babies is inclusive with respect to sex/gender, rather than exclusively crediting just men or women as the prime movers of human evolution.