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Stream B: Cultural Change and Evolutionary Theory

Title: Extended phenotypes via life history theory, behavioral ecology, and ecological stoichiometry: An updated theoretical framework for human sexual selection

Abstract: Mate choice consists of an evaluation of multiple traits over various sensory and cognitive modalities. Sexual traits typically pivot on the phenotype, yet non-bodily traits ranging from housing and vehicles through art to social media can be appraised even in absence of the phenotype proper. The theoretical framework of human sexual selection is updated in this article by unifying five theoretical approaches and conceptualizing non-bodily traits as *extended phenotypic traits*. They require investments in skills and bioenergetic resources, but they can improve survival in high latitudes and/or further facilitate the extraction of resources from the environment. The evolutionary pathways of extended phenotypes frequently undergo a categorical broadening from providing functional benefits to carrying signalling value—an *exaptation* of their original function. By amplifying the scope of organismal signalling capacity as in nonhuman animals, traits that manifest outside the body boundary have an important role in human sexual selection. Bioenergetic investments in extended phenotypic trait expression create trade-offs with competing life history processes at the level of individuals and populations. The merits of the present model include a more systematic classification of sexual traits, a clearer articulation of their evolutionary-developmental hierarchy, and a consideration of their roles in ecological stoichiometry.

Bio: Currently working on his PhD at the University of Auckland, Severi's research encompasses diverse topics in evolutionary-developmental psychology, cultural evolution, cognitive psychology, psycholinguistics, behavioral neuroscience, evolutionary biology, and evolutionary-developmental origins of health and disease.