Turn-taking and Reproductive Success

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What is the adaptive function of turn-taking? Is there an evolutionary explanation for turn- taking behavior? Mitani and Watts (1997) showed in primates that alloparental care leads to greater reproductive success in females through shorter interbirth intervals and increased fecundity. In surveys of turn taking across primates (Levinson, 2016) and a broader taxonomic range (Pika et al. 2018) turn-taking is common among cooperative breeding (marmosets, tamarins and naked mole rats) and biparental species (gibbons, titi monkeys, singing mice, vampire bats (which share blood meals and baby sitting with each other), duetting songbirds and other biparental birds). A key feature of alloparental care is close coordination between mothers and others to ensure that infants are cared for and not neglected. Thus, behavioral-turn taking can be important for infant survival and maternal reproductive success Communication involving turn-taking can facilitate this behavior. In addition, pair bonding between mates has been shown as a necessary precursor to the evolution of male parental care (Lukas and Clutton-Brock, 2013). Some forms of vocal turn-taking may have evolved not to allocate infant care, but to strengthen pair bonds and/or to exclude potential competitors from breeding access. By serving to promote and maintain a pair bond that may then lead to paternal contributions to infant care turn-taking also increases reproductive success. However, there remain other species that exhibit turn-taking without noticeable alloparental care, for example squirrel monkeys and dolphins. In squirrel monkeys turn-taking occurs mainly between females who are social partners and likely allies against others. In dolphins turn-taking occurs between closely affiliated males, and successful mating requires cooperation between two or more males. Thus, turn-taking in communication may increase reproductive success in multiple ways: allocating infant care resources to increase infant survival and female fecundity, supporting cooperative relationships among families in cooperative breeders and between pair mates, and to strengthen same sex affiliative relationships. These hypotheses about the value of turn-taking in reproductive success can be extended to evaluate the function of turn-taking in other species, and can explain why turn-taking in humans has made us the most reproductively successful great ape.

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