Abstract

Humans are unique among all species of terrestrial history in both ecological dominance and individual properties. Many, or perhaps all, of the unique elements of this nonpareil status can be plausibly interpreted as evolutionary and strategic elements and consequences of the unprecedented intensity and scale of our social cooperation. Convincing explanation of this unique human social adaptation remains a central, unmet challenge to the scientific enterprise.

We develop a hypothesis for the ancestral origin of expanded cooperative social behavior. Specifically, we present a game theoretic analysis demonstrating that a specific pattern of expanded social cooperation between conspecific individuals with conflicts of interest (including non-kin) can be strategically viable, but only in animals that possess a highly unusual capacity for conspecific violence (credible threat) having very specific properties that dramatically reduce the costs of coercive violence. The resulting reduced costs allow preemptive or compensated coercion to be an instantaneously self-interested behavior under diverse circumstances rather than in rare, idiosyncratic circumstances as inactors (animals) who do not have access to inexpensive coercive threat.

Humans are apparently unique among terrestrial organisms in having evolved conspecific coercive capabilities that fulfill these stringent requirements. Thus, our results support the proposal that access to a novel capacity for projection of coercive threat might represent the essential initiating event for the evolution of a human-like pattern of social cooperation and the subsequent evolution of the diverse features of human uniqueness. Empirical evidence indicates that these constraints were, in fact, met only in our evolutionary lineage. The logic for the emergence of uniquely human cooperation suggested by our analysis apparently accounts simply for the human fossil record.