

The Forces of Cultural Evolution: Why Meaning Matters

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“Cultural evolution” refers to descent with modification in the shared conceptual systems of human populations. The topic has received increasing attention in recent years as scholars have tried to elucidate the main mechanisms (“forces”) of modification. In this paper I review some of the leading candidates and compare them in the context of a demanding case study. The case is not randomly chosen, but serves to emphasize the importance of meaning and values to the evolutionary dynamics of culture. The paper suggests that locally evolved cultural values can and do play a major role in the descent with modification of human cultures.

Breeding Structure of Ancient Human Populations

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Distributions of sequence differences of mitochondrial DNAs within and between populations bear signatures of ancient population events. Important features of our species are that (1) the total effective size of our ancestors was only about 10–30,000 individuals, but perhaps for a short time, and (2) populations ancestral to major racial groups today were separated from each other in the later pleistocene, exchanging no more than 1 migrant per generation.

These patterns are consistent with the multiregional model with a bottleneck, perhaps as a consequence of a global disaster like the Toba super-eruption. They are also consistent with a weak form of the Garden of Eden hypothesis in which an early minor expansion of AMH around 100,000 years bp was followed by major population expansions around 40,000 years ago coincident with the spread of technologies associated with modern humans.

In either case the implied rates of gene exchange were so low that local adaptive evolution would be unhindered by gene flow, so there was plenty of opportunity for evolution of regional differences by selection.

Linking Our Evolutionary Past and Our Ecological Future: A Behavioral Ecological Approach

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Our evolutionary past and our ecological future are linked, as human populations influence, and are influenced by, environmental conditions—yielding theoretically important patterns in demography, life history, and ecology. Today, critical issues are of more than theoretical importance: population growth, resource depletion, and habitat destruction. Yet our institutional ap-

proaches to solving these problems largely ignore what we know about how we humans evolved to get and use resources. We often ask for some current individual sacrifice for the sake of later global benefit. Yet, if we evolved (as seems likely) to get and use resources for our individual and familial success in environments we could not control well, it will be difficult to ask for such behaviors. Fortunately, we can adapt a number of current strategies to play on our evolved tendencies.

Cinderella Revisited

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The menacing stepparent is a ubiquitous figure in folklore, and it is immediately plausible to the Darwinian imagination that stepparenthood entails genuine risk to children. Nevertheless, this hypothesis was unexplored until Wilson, Daly, and Weghorst (1980) showed that American children incur vastly greater risk of mistreatment by stepparents than by genetic parents. We and others have since shown that excess risk to stepchildren is cross-nationally widespread, is especially large with respect to assaults and lethality, and is independent of excess risk associated with poverty, maternal youth, brood size, and a possible overrepresentation of violent personalities among remarried persons. New analyses of Canadian and British homicides elucidate risk from stepmothers vs stepfathers, as well as some qualitative differences between genetic parent-offspring and stepparent-offspring antagonisms.