Chapter XI

Are We Genetically Maladapted for E-Collaboration?

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Abstract

Do we have e-collaboration genes, that is, genes that code for biological adaptations that are well aligned with the demands posed by e-collaboration? A look at our ancestral past through an evolutionary psychology lens generally suggests a negative answer to this question. It seems that our biological communication apparatus, which includes several brain modules, is in fact designed to excel in co-located communication involving face-to-face interaction. Our biological apparatus appears to be ill adapted for e-collaboration, especially in situations where text-intensive and asynchronous interaction technologies (e.g., e-mail) are used for communication. Implications for research and practice of these conclusions are discussed, particularly as they refer to the explanatory and predictive power of the conclusions.
Evolutionary Psychology

Long before Darwin (1859) proposed his theory of evolution by natural selection there has been debate about how much of our behavior is influenced by our “nature” (or our genes), and what types of behavior are particularly affected by our genetic makeup. Behaviors that are strongly influenced by our genes, and that thus are assumed to be more closely related to our biological structure than our cultural backgrounds, are often referred to as “instinctive” behaviors. Thus, from this perspective it makes sense to say that the compulsion that many of us feel to eat more candy than we need is in fact an instinct, most likely motivated by the scarcity of food containing high-calorie sugars in the ancestral environments in which we evolved, from Australopithecus to Homo sapiens.

On one extreme of the debate of how much of our behavior is influenced by our genes are those sometimes referred to as biological determinists, who believe that nearly all of our behavior is determined by our genes, often ignoring evidence to the contrary. On the other extreme, are those who subscribe to the notion that our genetic makeup influences virtually none of our behavior, ignoring the many striking similarities in behavior across markedly different cultures, as well as the many studies that show key similarities between identical twins raised separately.

Most serious human evolution researchers today adopt a more balanced view than the ones that characterize the extremes discussed above. There is a general belief, among most human evolution researchers, that behavioral traits are defined in part by “nature” and in part by “nurture.” Moreover, most human evolution researchers today subscribe to the epigenetic view (see, e.g., Kuper, 1994; Lickliter & Honeycutt, 2003; Wilson, 2000) that most biological traits, even those believed to be largely inherited through our genes, are the result from an intricate interplay between genetic and environmental influences. This view essentially assumes that only a few biological traits are innate (e.g., blood type), with the majority of those traits being defined by both the genetic structure of the individual and environmental circumstances surrounding that individual (e.g., height, body fat percentage).

Research on the evolution of human instincts is one of the primary subjects of the field of evolutionary psychology (Buss, 1999; Miller, 2000; Tooby & Cosmides, 1992). Two of the general assumptions underlying the current work of evolutionary psychologists are that: (a) the human brain is functionally identical across different individuals, and (b) the current human brain is made up of functional modules that incorporate adaptations that maximized survival and/or reproductive capacity in our ancestral past. In other words, even though it is undeniable that different individuals have different brains, evolutionary psychologists generally assume that all human brains have essentially the same functional modules. And, it is also assumed that the human brain incorporates a number of adaptations to survival and mating problems that hominids have faced in the evolutionary path that led to Homosapiens.
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