P. THOMAS SCHOENEMANN
Department of Anthropology, University of Pennsylvania, 3260 South St., Philadelphia, Pa. 19104, U.S.A. (*ptschoen@sas.upenn.edu*). 9 X 02

Ehrlich and Feldman disdain attempts to understand human behavior from an evolutionary biological perspective, even while acknowledging that genetic evolution has meaningfully influenced behavior. Fundamentally, it makes no sense to argue that human behavior was not subject to biological evolution. The question is really just how to characterize the relationship between genes and behavior. Their suggestion that there aren't enough genes to code for all possible behavioral responses is irrelevant; the argument has never been that there is total genetic control of every aspect of behavior. This kind of slippery mischaracterization of explanations that include genetic influences is quite common (Dawkins 1982) and suggests that humans generally have trouble understanding the concept of multiple causality. The focus by evolutionary psychologists on genetic influences does not constitute evidence that they believe culture is irrelevant any more than the converse is true for those emphasizing cultural influences.

Ehrlich and Feldman state that "geneticists know that a large portion of the behavioral phenome must be programmed into the brain by factors in the environment," but geneticists also know that if some environmental factor has a specific behavioral effect it is only by virtue of its interaction with biology. If rape has a specific psychological effect that is qualitatively different from that of other equally brutal forms of assault, it is because our brains are biologically biased towards this (unless we want to argue that the psychological trauma of rape is also just a cultural response).

Ehrlich and Feldman repeat the criticism that evolutionary psychology consists solely of "just-so" stories even though such stories are just as rampant among social scientists espousing environmental explanations. The reason they object so strongly specifically to genetic evolutionary hypotheses must be that they consider social policy driven by social science "just-so" stories inherently less dangerous. This is a common but fundamental mistake. In fact, the belief that there is no biological basis of behavior that defines "human nature" is a very dangerous position. As Robin Fox (1973: 13) pointed out,

> If there is no human nature, any social system is as good as any other, since there is no base line of human needs by which to judge them. If, indeed, everything is learned, then surely men can be taught to live in any kind of society. Man is at the mercy of all the tyrants—be they fascists or liberals—who think they know what is best for him. And how can he plead that they are being inhuman if he doesn't know what being human is in the first place?

Ehrlich and Feldman themselves allude to the horrible atrocities committed in the name of the infinite malleability of human behavior. Removing hypotheses about the genetic influences on behavior from serious consideration simply will not inoculate policy makers against doing harm to us all.

That said, there certainly are cases in which the degree of genetic specificity has likely been overstated, one example being in discussions of "grammar genes" (Pinker 1995), for which simpler models with less specificity have been proposed (e.g., Bates and Goodman 1999, Deacon 1997, Kirby 2000, Schoenemann 1999, Schoenemann and Wang 1996). It is also true that Thompson et al.'s (2001) data suggest much less genetic "control" of brain structure than a few of their comments imply. Furthermore, the brain/*g* correlation had previously been found to be very small within families (which suggests between-family confounds [Schoenemann et al. 2000]).

However, any single influence (whether it is genetic or environmental) can have wide-ranging, complicated effects (e.g., think of socioeconomic status). A claim that such effects are the result of either environmental or genetic influences is not a claim that the underlying causal forces must be highly specific. Ehrlich and Feldman confuse "These behaviors have a genetic influence" with "Each of these behaviors is individually specified by different genes."

Ehrlich and Feldman acknowledge that "we really know very little about what environmental factors can modify behavior." While they disparage behavioral genetics, in fact it provides the best method for demonstrating that environment likely plays an important role. Just showing that culture *could* have some effect does not prove that it actually does. Neither does simply showing that some environmental influence is correlated with some behavioral trait. A great deal of effort has in fact been expended by behavioral geneticists on testing environmental influences (Plomin et al. 1997).

Ehrlich and Feldman correctly point out that evolutionary genetic explanations have no obvious policy implications. If Thornhill and Palmer (2000) are right that rape is an evolved strategy, for example, this says nothing about whether rape should be accepted behavior. It is crucial that evolutionary psychologists take pains to discredit naturalistic fallacies deriving from their work, and by and large they have. However, it certainly must make a difference in dealing with social problems whether or not there are evolved biases in behavior. Rather than dismissing certain types of casual explanations out of hand, accepting that a variety of causal influences (genetic, environmental, and their complex interactions) are possible is the first step in thinking clearly about how to develop policies that would improve the lives of all people.