On the Rumored Takeover by the Genes and the Memes

There are rumors that contemporary theories based on biological models threaten to undermine more ordinary explanations of human psychological, social and historical phenomena in terms of human beliefs and intentions. On the one hand, sociobiology and evolutionary psychology seem to be trying to replace these ordinary explanations with explanations on the level of genetic evolution. On the other hand, biologically-based theories of cultural evolution seem to be trying to replace them with explanations on the level of "memes" (Dawkins 1976,Chapter 11). (Memes, for those who have not yet encountered them, are things that spread because people copy them, for example, ideas and beliefs, fads and fashions, tunes, proverbs, words and syntactic forms, values, techniques, and so forth.) In this lecture, I will summarize my own views on the relations among genes, memes, and ordinary human intentions and among the kinds of explanations that refer to these things. There are detailed arguments for the basic positions adopted here in other papers of mine (Millikan 1984, 1993, 2001). Here I merely outline my views and explore consequences.

First, a word about the relation of purely physicalistic explanations of behavior to explanations by reference to evolutionary history. The central job of the life sciences, as I see it, is to understand how organisms function when they are functioning "properly," by which I mean, in the manner they were designed to operate by natural selection. For a biological mechanism to function properly is for it to do whatever jobs it was selected for doing. Once we understand what these jobs are for a certain biological system, device, trait, or behavior, we can then go on to investigate exactly how these jobs have normally been performed. We advert then to ordinary physical explanation, such as physiological or neurological explanation, in turn grounded in chemical and physical explanation.

In giving explanations of this latter kind, we must inevitably make reference also to supporting environmental conditions, for example, to the presence and cooperation of surrounding bodily organs, or the presence of .certain external conditions. Finally, once we know what the proper function of a certain device is, and know how this function is performed, we may go on to ask about common departures from proper function. We may inquire what internal or external environmental absences characteristically cause departures, what further results they may lead to, and so forth. I don't mean that our knowledge always unfurls in exactly this temporal order. This is the order, rather, of logical dependence. The evolutionary history of an organism concerns why it has the traits it has, hence what their proper functions are. Physiological or neurological investigations, on the other hand, concern the mechanisms of proper performance. Clearly, there can be no conflict between these two kinds of explanation.

What about the relations among explanations by reference to genes, memes, and intentional attitudes (beliefs, desires, intentions and so forth)? What are the relations among explanations by reference the purposes of genes, by reference to the purposes of memes, and by references to your purposes. Explanations by reference to genes put forth by sociobiologists and evolutionary psychologists claim that we possess genes that were selected for because they