

### Book Review

*Why Men Won't Ask for Directions: The Seductions of Sociobiology* by Richard C. Francis. Princeton: Princeton University Press, 2004.

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This book is a testimonial to the fact that sociobiology continues to go against the grain of many behavioral scientists, long after the ideological debates of the previous century have subsided, and at a time when a more measured approach to the contribution of this strain of biological and social theory is plainly available. The novelty of this book is that it counterposes sociobiology to developmental biology rather than its traditional foe, anti-biological approaches to human sociality. This counterposition is particularly curious, since many developmental biologists consider this the age of "evo-devo", where the synergistic interaction of evolutionary and developmental modeling are increasingly recognized. Despite Francis' concerted and repeated attempt to portray sociobiology and behavioral developmental biology as alternative approaches to understanding social behavior, I remain completely unconvinced.

Francis writing style and mode of reasoning are profoundly distasteful to me, though others might enjoy it. Francis relishes in contrasting ideas that are in principle mutually consistent and even reinforcing. He draws the intellectual landscape in stark black and white/good and evil, where I generally see the textured grays of creatively contrasting and equally plausible ideas just waiting for some insightful researcher to draw them together into a satisfying explanatory framework. For instance, he depicts the search for the evolutionary origins of social behavior as the "paranoiac" search for "teleological explanations." Metaphors relating to psychological illness when speaking of "adaptationist theory" recur incessantly throughout this distinctly intemperate book. Evolutionary psychology, for instance, is flippantly referred to as "evo-psycho."

Even substantively, Francis' method of dealing approaches alternative to his own is, to my mind, shallow and distasteful. I was taught that when disagreeing with a theory, one must first present the theory in as strong and coherent manner as possible, and critique only the most shining and forceful of the theory's ostensible successes. Francis, by contrast, is a bottom-feeder who will launch his missiles against any

random representative of the opposing school. Indeed, despite that fact that more than one-third of this book is devoted to notes, index, and bibliography, Francis rarely deigns to cite directly his opponent, rather being content to provide a broad description of the field in question. Typical is the argument relating to the title of book. I don't know of a serious sociobiological argument as to why men don't ask for directions. I don't even know if it's a true fact in search of an explanation. Francis, nevertheless, treats the issue as though it had some intrinsic scientific value.

Francis is smart enough, however, to recognize that he is no match for the greats of the field, so when George Williams, Ronald Fisher, John Maynard Smith, Edward Wilson, or Niko Tinbergen is mentioned, Francis abandons the derogatory bravado and accurately describes the eminently reasonable positions they have taken on the issue of the relationship between evolution and development, adaptation and developmental constraints, and the other topics treated in this book.

The stance taken by Francis is a shame, because there are super-adaptationists that tend to consider just-so stories as adequate explanations, and are loathe to deploy any non-adaptationist argument. Francis' chapter on the mimicking capacity of mockingbirds, perhaps the best in the book, is a case in point. Francis defends the sensory exploitation hypothesis ably against the classical runaway selection and costly signaling approaches to modeling mate choice, and effectively defends the theory that the mockingbird's mimicking capacity is simply a by-product of its song-learning versatility. This versatility may itself have adaptive value, but the fact that many bird species that occupy ecological niches similar to that of the mockingbird lack its versatility calls this into question. Indeed, Francis presents a welcome argument to the effect that exotic animal characteristics are unlikely to be adaptations, or they would be more widely shared among species that share the exotic species' life style and ecological niche. The female hyena's hypertrophied clitoris, the elephant's trunk, hermaphroditism fish, the giraffe's neck, and the human brain may all be examples of characteristics that occurred despite, rather than because of, adaptationist dynamics.

Francis is insistent that sociobiology can only countenance causal forces from physiology and genetic constitution to social constitution, and not vice versa. He contrasts this view, which he calls "misguided materialism" with the developmental view that social organization can affect brain physiology in the short run and genetic structure in the long run. Presumably he has never heard of the Baldwin Effect (the term does not appear in his index), despite its centarian age, or the gene-culture coevolutionary models of Cavalli-Sforza and Feldman, Boyd and Richerson, and a host of related analyses that have populated the biology, anthropology, and even economics journals for the past quarter century.

Perhaps the most egregious chapter in the book is "Sex without SEX," in which he critiques the adaptationist theory of sexual reproduction. Sexual reproduction is not an adaptation in vertebrates. Rather, he argues, there is a developmental constraint against hermaphroditism, and adaptationists are too blind to see this shining truth. Francis' argument is shabby and incorrect. First, sexual reproduction is extremely

costly and could not persist if it did not provide offsetting advantages. Second, as he notes, there are many hermaphrodite fish species, and lizard species as well, but they appear to be evolutionary dead ends. This could be because there are development constraints in vertebrates (there certainly are, in the form of gene imprinting, in mammals), but this remains to be determined. Third, there is no general non-adaptationist theory of sexual reproduction, to my knowledge. He certainly presents none.

Historically, developmentalists have been indifferent or hostile to evolutionary modeling because they do not see how such dynamic historical models help them develop the structural and developmental mechanisms characteristic of living organisms. This stance is no longer fruitful. We now understand that evolutionary models do not prove anything. Rather, they suggest hypotheses to be explored and substantiated. Adaptationist arguments are essential because they suggest the function of homologous and analogous physiological structures. Charting the development of behaviorally-relevant characteristics, such as brain size and social organization, the structure of brains and vocal apparatus, using the paleographic evidence, sheds critical light on the path to successfully modeling biological development from the level of cell to that of the complex animal or human society. We increasingly need researchers to explore the synergy between development and evolution. This ill-tempered book could have been written in that spirit, but it was not.