

## NATURE VERSUS NURTURE

***Nature Via Nurture: Genes, Experience, and What Makes Us Human***, by Matt Ridley. New York, HarperCollins, 2003, 326 pp., \$25.95.

Matt Ridley is a science journalist with a penchant for evolutionary theorizing. This book comes with recommendations from three major wordsmiths of popular scientific journalism who describe it as “bracingly intelligent” (Oliver Sacks), “written with insight, wisdom and style” (Steven Pinker), and “a real page turner” (Richard Dawkins). But is it science, and does it relate to evolutionary theory?

My suspicion was aroused by the chapter on schizophrenia. Here the author plays with a number of themes that he has picked up from the literature or from conversations with diverse characters in and around the field. I think he too readily accepts what he reads or hears at face value without regard for the inconsistency or banality of the conclusions that it leads him into. On page 107 he pokes fun at those who have claimed to find linkage for psychosis somewhere on each of all but six human chromosomes: “But few links proved durable, and every study finds a different link.” Here I happen to agree with him, although we reached the conclusion on the basis of a grueling study of 382 sibling pairs (1). But then he concludes that there is something highly heritable about the syndrome and that “many genes clearly influence susceptibility to schizophrenia.” But which genes and why is there no consistent linkage? At this stage it seems not to matter because he has already concluded that schizophrenia is sometimes attributable to prenatal exposure to influenza (p. 112) (I thought that I had finally nailed that one on the basis of the U.K. National Child Development cohort [2, 3]) but sometimes also caused by (correctable!) deficits in arachidonic acid in the cell membrane (p. 119). Any theory is equal grist to the verbal mill.

Ridley is particularly vague on epidemiology. On page 99 he writes, “The balance of the evidence suggests that...there was a real increase in mental illness during the course of the nineteenth century and that schizophrenia in particular had been a rare disease before the middle of the century” (Hare’s thesis), but on page 121 he writes that “schizophrenia is about equally common all over the world and in all ethnic groups, occurring at the rate of about one case per hundred people” (a poor man’s version of the conclusions of a WHO 10-country study) and, “It takes much the same form in Australian Aborigines and the Inuit” (unreferenced to the original studies of Bryan Mowry and Jane Murphy).

There is a discrepancy here, and it matters. If one takes the first view one is quickly lost in speculation about diverse and elusive environmental causes. If one takes the second (in my view correct), uniformitarian interpretation one encounters the central paradox (identified but not solved by the evolutionary theorists Julian Huxley and Ernst Mayr in 1964) that schizophrenia is a genetic condition that persists in the face of a fecundity disadvantage. There must be a balancing advantage. If one asks the further question of how old is the genetic predisposition, one is drawn to the conclusion that the genetic predisposition is a pointer to the speciation event and

that schizophrenia is “the price that Homo sapiens pays for language” (4).

Now that evolutionary theory may be wrong, but Ridley does not contemplate it, because, in my view, he has got lost in erroneous sidetracks and amusing anecdotes along the way. Moreover, the genetic mechanism (the Xq21.3-to-Yp translocation and subsequent paracentric inversion [5]) and its proposed association with cerebral asymmetry are relevant to the evolution of language and the theme of Ridley’s subtitle, *What Makes Us Human*. To my mind, Ridley has buried the real evolutionary problem of the nature of the speciation event together with the clues provided by the phenomena of psychosis and its relationship to language in a wordy and sometimes entertaining but ultimately nonchallenging (i.e., nonheuristic) thesis that nature and nurture interact in humans in diverse ways.

I see on page 281 that I am acknowledged as contributing something to this book. I can’t remember this, but if I did I regret I failed to have any impact on what I regard as important lessons from psychosis for evolutionary theory. The book represents opportunistic journalism, not a serious inquiry into the origins of psychosis or humanity.

### References

1. DeLisi LE, Shaw SH, Crow TJ, Shields G, Smith AB, Larach VW, Wellman N, Loftus J, Nanthakumar B, Razi K, Stewart J, Comazzi M, Vita A, Heffner T, Sherrington R: A genome-wide scan for linkage to chromosomal regions in 382 sibling pairs with schizophrenia or schizoaffective disorder. *Am J Psychiatry* 2002; 159:803–812
2. Crow TJ: Influenza and schizophrenia (letter). *Br J Psychiatry* 1996; 169:790–792
3. Crow TJ: Influenza and schizophrenia (letter). *Br J Psychiatry* 1997; 170:578–579
4. Crow TJ: Schizophrenia as the price that Homo sapiens pays for language: a resolution of the central paradox in the origin of the species. *Brain Res Brain Res Rev* 2000; 31:118–129
5. Crow TJ (ed): *The Speciation of Modern Homo Sapiens*. London, British Academy, 2002

T.J. CROW, M.D.  
Oxford, U.K.

***The Development of Psychopathology: Nature and Nurture***, by Bruce F. Pennington. New York, Guilford Publications, 2002, 380 pp., \$48.00.

Psychology has undergone the type of evolutionary change described by Thomas Kuhn in his seminal work *The Structure of Scientific Revolutions* (1). Like other paradigm shifts, this has been a radical change. We have moved from introspection, speculation, and observation to experiment, neurophysiology, and imaging. From the classical Greek era onward, the dualism between mind and body has existed as the constant dilemma, either implicitly, as in Plato, more mechanically, as in Aristotle, or, most notably, in the philosophy of Descartes. As eloquently described by Michael Stone in *Healing the Mind* (2), there was a transition from earlier thinkers’ emphasis on introspection and the “body-mind problem” to biological psychiatry. This emphasis on biology and chemistry, however, neglects the human personality itself and the entire question of consciousness. Early investigators were like the physicist described by Albert Einstein in his analogy of the watch: