

Book Reviews

Francis Crick. Discoverer of the Genetic Code. By Matt Ridley; HarperCollins Publishers, New York, New York; 2006; ISBN -13: 978-0-06082333-7; \$19.95 (hardcover); 213 pp.

The discovery of the DNA structure and the genetic code is considered one of biology's greatest discoveries of the last century. It revolutionized the fields of biology and genetics, and probably the field of medicine as well. To whom do we "owe" this discovery? Certainly to many known and unknown researchers. However, the final discovery and clarification of the DNA structure is associated with the names of James Watson and Francis Crick, as every high school student hopefully knows. Of those two, Francis Crick (1916–2004) seemed to be the primary mover and shaker of this and other discoveries, as illustrated in his biography by Matt Ridley.

Francis Crick's biography is a fascinating story of a man who rose from a mediocre middle-class background, mediocre "second-class" education in the field of physics, and work or employment at the British Admiralty, where he was designing magnetic mines (though this was probably the first flash of his brilliance) to become the most prominent biologist of the last century, if not the entire history. At the age of thirty-one, Crick totally changed the direction of his career, from physics to biology, and decided to solve "the problem of life." After "discovering" the structure of DNA, Crick continued to work on the "secrets of life," making other seminal discoveries such as the nature of the genetic code and the role of RNA in protein synthesis. Interestingly, at a later stage of his life he turned to another scientific problem—human consciousness.

Many wonder what made this gregarious extrovert, who considered himself a rather sloppy thinker at his scientific beginnings, into a scientist some consider on par with Galileo, Darwin, and Einstein? And what kept him going in his scientific endeavors till a fairly late age? As Matt Ridley points out (based on observation of others), "Crick's mind was capable of abstraction ... but it was always to be anchored in empirical facts" (p. 19). Also, "Crick's intellectual technique, throughout his life, was a dyadic pairing, a long-running two-way conversation with a chosen friend, somewhere between an interrogation and a Socratic dialogue" (p. 17). James Watson was just one of Crick's intellectual sounding boards, though as "both Crick and Watson later recognized ... there was something fraternal in their friendship, with Watson eager to play the role of the younger brother—admiring, but also competitive" (p. 49). Another of Crick's interesting qualities was his ability to be an

"incredible cross-examiner" (p. 103), and his "ravenous reading of others' results, from even the most obscure publications" (p. 103). When asked why he is wasting time reading an obviously useless paper, Crick replied, "There might be a clue in it" (p. 103). Interestingly, his systematic approach was very useful and profitable even in "ordinary life." He supervised a real estate business venture of his own with such a business sense that Cambridge's largest real estate agent offered him a job.

As noted earlier, Crick's scientific career did not end with the discovery of the DNA structure (probably more popularized in James Watson's *The Double Helix*), his best-known discovery. The existence of the digital cipher code which could be automatically copied led Crick to further questions, such as "How is the code used? What is it a code for?" (p. 78). He spent another 13 years of his life trying to figure out how to answer these questions. As Ridley points out, "For although the double helix made Crick, to a large degree Crick made the genetic code. He set the terms and shaped the debate; he also guessed much of the answer (mine: he was much better in postulating theories than anything else). Though the result was less of a surprise, it was in many ways a greater scientific achievement than the double helix" (p. 78).

Unfortunately, Ridley's biography shortcuts the last area of Crick's scientific interest, the human consciousness, the area of greatest interest for psychiatry. It is probably because Crick did not make any breakthrough discovery in this area. As in the area of molecular biology, before the end of his life, Crick prepared what "would be, if not the answer, his final framing of the question." (p. 202). In a paper called "A Framework for Consciousness" published with Christof Koch, he called for "neuroscience to get itself a framework before it could get a detailed theory, just as molecular biology needed a sequence hypothesis before it could crack the code" (p. 202). Crick's late life interest in neurosciences and human consciousness suggests that neurosciences are moving into the forefront of biological sciences, and underscores the importance of neuroscience, basic or clinical.

James Crick was certainly one of the greatest scientists in the best meaning of this word. Not obsessed with power, uninterested in administration (he actually detested it), interested only in science and answering scientific questions. As Jacques Monod, a man Crick admired and whose many skills he envied, said, "No man discovered or created molecular biology. But one man dominates intellectually the whole field, because he knows the most and understands the most. Francis Crick."

Ridley's biography of Francis Crick is a fairly small and readable volume. It gets across the substance of Crick's discoveries and the main points of his career without getting into minute details. It is succinct and well written. It portrays an important period of scientific discoveries, with Crick's life providing the framework for this portrait. It skillfully illustrates one of the greatest scientific minds and how it possibly worked.

Last but not least, it beats many other good bedtime readings.

Richard Balon, M.D.
Wayne State University
Detroit, Michigan

HIV and Psychiatry. A Training and Resource Manual. Second Edition. Edited by Kenneth Citron, Marie-Josée Brouillette, and Alexandra Beckett; Cambridge University Press, New York, New York; 2005; ISBN 0-521-00918-9; \$65 (paperback); 346 pp.

Since the first reports of acquired immunodeficiency syndrome (AIDS) and identification of human immunodeficiency virus (HIV) over two decades ago, the care of HIV or AIDS patients has become a fairly complex affair, and psychiatry has played a major role in it. Numerous issues, such as depression, cognitive decline, stress, adherence to a complex and frequently inconvenient treatment regimen, and uncertain prognosis need to be addressed all the time. Psychopharmacology of HIV related mental disorders became complicated by the fact that several medications used in HIV care have the potential of significant interaction with various psychotropic medications (xiii). With the rapid progress in this field, a well-organized, easy-to-survey, and practical volume is practically a necessity. Such a volume, *HIV and Psychiatry. A Training and Resource Manual*, was published for the first time almost a decade ago. With all the developments, it seems that a second, updated edition was sorely needed.

The editors of this volume, Drs. Citron, Brouillette, and Beckett, put together an international team of experts (mostly from the United States). The book consists of a Preface, nineteen chapters, and an Appendix. The chapters cover a wide array of issues, such as general principles of pharmacotherapy; general principles of psychotherapy; HIV and substance use disorders; cognitive disorders in people living with HIV; mood disorders; psychosis; anxiety disorders; suicidal behavior and HIV infection; psychiatric issues in pediatric HIV/AIDS; women and HIV; uninfected children of parents with HIV; psychological issues faced by gay men; couples; HIV and cultural diversity (African Americans, Latinos, and Native Americans and HIV); HIV in prison populations; legal and ethical issues; and many others. The chapters are well organized, well written in an easy to understand style, and consistent across the entire volume (partially due to the help of a professional writer). Whenever appropriate, chapters include interesting case studies. The text is well referenced and chapters are frequently accompanied by suggested reading and even website addresses.

After an introduction to the topic, the text of the chapters is usually arranged to answer numerous questions related to the

topic the chapter covers. For instance, the chapter on pharmacotherapy answers, among others, questions such as: How are anti-retrovirals metabolized and how can they influence the bioavailability of psychotropic medication? What medications used in HIV care (other than antiretrovirals) can have an impact on the metabolism of psychotropic medications? How does one choose a psychopharmacological agent for a patient with HIV infection? The chapter on depression and HIV emphasizes the complexity of elucidating the cause of depression in HIV treated patients, as depression could be associated with various medications used in the treatment of this disease, and could also be mimicked by numerous opportunistic infections. Some other interesting topics covered in the question/answer fashion include issues such as: What can psychiatrists do when asked to assist with suicide? What types of psychotherapy are useful in the treatment of people with HIV? What are some of the expected countertransference issues that might emerge in a dynamic therapy? (Answer: Homophobia, existential concerns, rescue fantasies, and others). What concerns arise for the psychiatrist in the face of impending death? The book is clearly quite comprehensive in its coverage of usual and unusual issues.

I found some of the chapters reviewing issues not covered in standard texts very useful, such as the discussion of uninfected children of parents with HIV ("Children whose parents have HIV must cope, often in silence, with emotional, economic, social, and physical sequelae of this disease. These children lose their parents, their communities, and other important sources of support. ... In most parts of the world, the societal infrastructure for dealing with HIV is compromised and overwhelmed" p. 196), discussion of couples (What impact can HIV infection have on sexuality in a couple? What impact does caregiving have on the couple?), or discussion of HIV in Latinos and in the people of the First nations, the Native Americans. A lot of the information in this book is staggering, e.g., that there are more than 2.7 million children under the age of 15 afflicted with HIV; or that the AIDS case rate in prisons is more than five times the rate in the general population in the United States and that HIV prevalence among prisoners ranges from 3% based on a cross-sectional seroprevalence study in Senegal to 47% among a subpopulation of injecting drug-using prisoners in Spain (p. 283).

The last chapter discusses important issues facing the psychiatrist as a caregiver, providing some advice on how to take care of oneself as a stressed-out caregiver. The brief Appendix provides "HIV guidelines for physicians."

This is clearly a very useful book that would be highly appreciated by all psychiatrists specialized in the care of HIV patients, but also by all consultation-liaison and hospital psychiatrists. In addition, residents and psychosomatic medicine fellows should also find this book useful, and it could be easily used as a teaching text in didactics and seminars on psychiatric aspects of HIV and AIDS.

Richard Balon, M.D.
Wayne State University
Detroit, Michigan