

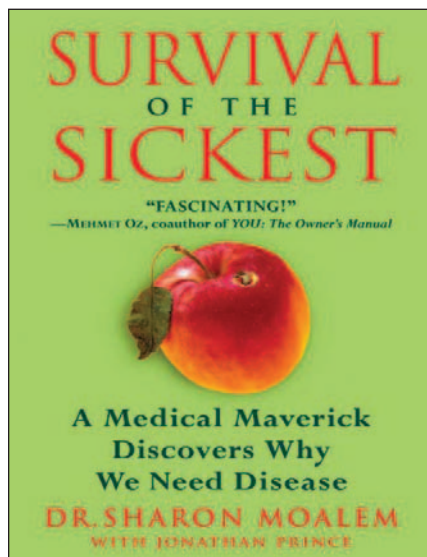
THE LEFT ATRIUM

Holiday reading

From a thriller set in South America, to notions about the genetic purpose of disease, to the plastic nature of the brain, this Holiday Review issue of The Left Atrium endeavours to entice readers with reviews of a diverse selection of recent books.



The purpose of illness



Survival of the Sickest: A Medical Maverick Discovers Why We Need Disease

Sharon Moalem, with Jonathon Prince
William Morrow, an imprint of
HarperCollins Publishers; 2007
267 pp. \$32.95 ISBN: 978-0-06-088965-4

I was fortunate to have had science instructors who delighted not only in teaching their subject matter, but also revelled in relating how it accounted for such day-to-day phenomena as eggs cooking, salted ice melting, permed hair curling. I have great respect for those who can impart knowledge, connect it to how our lives are lived and do it with an infectious enthusiasm. “Physics is phun,” Mr. Khan was known to scrawl on the grade 11 chalkboard.

Sharon Moalem is such an educator, and in *Survival of the Sickest* his thesis is that illnesses are not — or at least not necessarily — random strikes of fate or God. Rather, there is evidence that diseases can be orchestrated adaptations that improve survival in some way. The participants include a combination of genetics, an environmental agent (e.g., a micro-organism), and the sick person him- or herself. Consider, for example, hemochromatosis, and how it may have come about by improving the survival of its sufferers to the dreaded bubonic plague. Less iron means fewer *Yersinia*, with positive results for the medieval peasant watching friends and family dying.

Even more fascinating examples include discussions of host manipulation, the concept that some micro-organisms modify their victims’ behaviour to their own advantage. Attributing human behaviours to infectious agents, like schizophrenia to *Toxoplasmosis*, would be a significant paradigm shift. Thought-provoking observations and connections abound in the book, and give a broader perspective on the need to understand why someone is ill now, not just by the day of the week but in a historical and evolutionary context.

Also broached are the more recent fields of epigenetics and “jumping genes,” evolutionary pathways that can occur without the grindingly slow process of random mutation and natural selection. In fact, for a book that conveys so much information about genetic change and adaptation, the phrase “natural selection” gets used very infrequently.

And, even more surprisingly to the classically educated Darwinist, early 19th-century researcher Jean-Baptiste Lamarck (remember giraffes stretching their necks and supposedly passing the stretched-neck trait to offspring?) is to some extent credited with predicting this form of adaptation by relative leaps and bounds.

The one downside to reading this book is the writing style. It is co-authored by Moalem, who has a doctorate in human physiology and is in the midst of completing his medical training, while Prince is a political adviser and speech writer: a doctor and a spin doctor, if you will. At times the text reads like a fairly sensationalistic newscast, with punchy 3-word paragraphs and jingoistic expressions. The stories are engaging in themselves, and do not benefit from the injection of talk-show host turns of phrase. As well, typos (macrophages become “microphages,” among other errors) cause confusion and lessen the content’s credibility.

Despite this, I commend *Survival of the Sickest* because it is important to get this information, accurately, into the wider public domain. We live in an age of Darwinist denial, when un-intellectual is one of the hippest things you can be. Yet important decisions need to be made based on good science at many levels of society. The authors have done a laudable job of taking complex ideas and making them palatable, delectable even, for anyone wanting to fill their plate.

Ann Loewen MD
Family physician
Morris, Man.