This is one of the most thought provoking books I have read in a long time. It aims—and succeeds—in providing an easily accessible link between the disciplines of evolutionary biology and medicine. This is a paradigm shift for those treating individual patients, but perhaps a more natural development for those used to think about populations.

Although we think of evolution taking aeons, this book makes you realize that natural selection on the grounds of reproductive fitness is a powerful force—and one that may not take as long as you think. Applying evolutionary principles to rapidly dividing bacterial cells, for example, makes it obvious how administration of antibiotics to animals as growth promoters will be in ensuring rapid selection and evolution of resistant bacteria. Similar principles apply to cells within bodies, as well as whole organisms, providing thought-provoking explanations as to why generally cancer rates rise with age and tumours are not homogeneous.

Other well-known exemplars vividly discussed pertain to the rapid spread of the sickle cell and thalassaemia genes due to the survival advantages conferred by these genes in malaria infection. Other less well-known areas explored are why worm extracts may help treat patients with multiple sclerosis, and why black Americans are more at risk of hypertension.

This book is a beautifully written primer—and one that also offers a bridge into why how and why the study of evolutionary biology and the genetics that underpins this may offer new insights into the health of populations.

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This text has been substantially re-organized since the previous edition to reflect the changing world of public health, with a greater emphasis on evidence-based medicine and a less NHS-centred approach. All the material is very clearly presented, with helpful examples and summary boxes. The three sections (Epidemiology, Evidence-Based Medicine, Public Health) are broken down into easily digestible, cross-referenced, chapters. There are new chapters on genetic epidemiology, evaluating public health interventions and global health. Each section concludes with self-assessment exercises so that students can assess their learning. There is also a very comprehensive glossary.

The aim of the Lecture Notes series is to provide the core knowledge required by medical students and junior doctors. This aim is achieved, but the editors have gone a step further by including the more detailed explanations, practical advice and suggestions for further reading that make this book a useful reference text for postgraduate students and qualified practitioners.

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