

Contents

- 1 Applying Evolutionary Thinking in Medicine: An Introduction . . . 1**
Prof. Gillian R. Bentley, Ph.D.

Part I Obstetrics

- 2 “Foetal–Maternal Conflicts” and Adverse Outcomes
in Human Pregnancies 19**
Jimmy Espinoza, M.D., M.Sc., FACOG
- 3 Obstructed Labour: The Classic Obstetric Dilemma
and Beyond 33**
Emma Pomeroy, Ph.D., Prof. Jonathan C.K. Wells, Ph.D.
and Jay T. Stock, Ph.D.
- 4 Bottle Feeding: The Impact on Post-partum Depression, Birth
Spacing and Autism 47**
Gordon G. Gallup, Jr., Ph.D., Kristina N. Spaulding, Ph.D.
and Fatima Aboul-Seoud, B.A.

Part II Paediatrics

- 5 Sudden Infant Death Syndrome 61**
Charlotte K. Russell, Ph.D., Lane E. Volpe, Ph.D.
and Prof. Helen L. Ball, Ph.D.
- 6 The Developmental Origins of Health and Disease:
Adaptation Reconsidered 75**
Ian J. Rickard, Ph.D.
- 7 Is Calculus Relevant to Survival? Managing the Evolutionary
Novelty of Modern Education 89**
P. Douglas Sellers II, Ph.D., Karin Machluf, Ph.D.
and Prof. David F. Bjorklund, Ph.D.

Part III Nutrition

- 8 Binge Eating, Disinhibition and Obesity** 105
Prof. Stanley Ulijaszek, Ph.D. and Eleanor Bryant, Ph.D.
- 9 Evolutionary Aspects of the Dietary Omega-6/Omega-3 Fatty Acid Ratio: Medical Implications** 119
Artemis P. Simopoulos, M.D.

Part IV Cardiology

- 10 Evolutionary Paradigms in Cardiology: The Case of Chronic Heart Failure** 137
Prof. emeritus Bernard Swynghedauw, M.D.
- 11 Evolutionary Imprints on Cardiovascular Physiology and Pathophysiology** 155
Robert S. Danziger, M.D.

Part V Oncology

- 12 Darwinian Strategies to Avoid the Evolution of Drug Resistance During Cancer Treatment** 167
John W. Pepper
- 13 Why Chemotherapy Does Not Work: Cancer Genome Evolution and the Illusion of Oncogene Addiction** 177
Aleksei Stepanenko, Ph.D. and Prof. Vadym Kavsan, Ph.D.
- 14 Evolution, Infection, and Cancer** 191
Prof. Paul W. Ewald, Ph.D. and Holly A. Swain Ewald, Ph.D.

Part VI Immunology

- 15 Microbes, Parasites and Immune Diseases** 211
Gabriele Sorci, Ph.D., Emanuel Guivier, Ph.D., Cédric Lippens, M.Sc. and Bruno Faivre, Ph.D.
- 16 Evolutionary Principles and Host Defense** 225
Prof. Neil Greenspan, M.D., Ph.D.
- 17 Helminth Immunoregulation and Multiple Sclerosis Treatment** . . . 241
Jorge Correale, M.D.

Part VII Geriatrics

- 18 Inflammaging and Its Role in Ageing and Age-Related Diseases** 259
Prof. Claudio Franceschi, Ph.D., Zeldia Alice Franceschi, Ph.D., Paolo Garagnani, Ph.D. and Cristina Giuliani, Ph.D.

19 Dementias of the Alzheimer Type: Views Through the Lens of Evolutionary Biology Suggest Amyloid-Driven Brain Aging Is Balanced Against Host Defense 277
Prof. Caleb E. Finch, Ph.D. and George M. Martin, M.D.

Part VIII Psychology and Psychiatry

20 The Evolutionary Etiologies of Autism Spectrum and Psychotic Affective Spectrum Disorders 299
Prof. Bernard J. Crespi, Ph.D.

21 Why Are Humans Vulnerable to Alzheimer’s Disease? 329
Daniel J. Glass, M.A. and Prof. Steven E. Arnold, M.D.

22 Evolutionary Approaches to Depression: Prospects and Limitations 347
Somogy Varga, Ph.D.

23 The Ups and Downs of Placebos 357
Pete C. Trimmer, Ph.D. and Prof. Alasdair I. Houston, Ph.D.

Index 371

Evolutionary Thinking in Medicine

From Research to Policy and Practice

Alvergne, A.; Jenkinson, C.; Faurie, C. (Eds.)

2016, XIV, 382 p. 37 illus., 17 illus. in color., Hardcover

ISBN: 978-3-319-29714-9