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Nota di contenuto	THE BIOSTATISTICS OF AGING: From Gompertzian Mortality to an Index of Aging-Relatedness; Copyright; CONTENTS; PREFACE AND ACKNOWLEDGMENT; 1 Introduction; 2 An Account of Gompertzian Mortality through Statistical and Evolutionary Arguments; 2.1 The Statistical Theory of Extreme Values; 2.1.1 Background to Results; 2.1.2 Original Results; 2.2 The Evolutionary Theory of Aging; 2.2.1 The Argument for Gompertzian Mortality; 2.2.2 Boundaries of the Argument; 3 The Argument against Gompertzian Mortality; 3.1 Departures from the Gompertz Model; 3.2 An Evolution-Based Model of Causation 4 The Index of Aging-Relatedness 4.1 A Survival Mixture Model of the Gompertz and Weibull Distributions; 4.2 Definition and Interpretation of the Index of Aging-Relatedness; 4.3 The Survival Mixture Model and Competing Risks; 4.4 Estimation of the Model Parameters; 4.5 Illustrative Application: The Israeli Ischemic Heart Disease Study; 4.6 Precision of Estimation; 5 Discussion: Implications; 5.1 The Meaning of the Gompertz Parameter; 5.2 Age as a Risk Factor for Disease; 5.3 Are Aging-Related Diseases an Integral Part of Aging?; 5.4 Biological versus Chronological Aging

5.5 The Public Health Notion of Compression of Morbidity 5.6 A Picture of Aging for the Twenty-First Century; APPENDIX A: PROOFS OF RESULTS IN SECTION 2.1.2 WITH SOME EXTENSIONS; APPENDIX B: DERIVATION OF HAMILTON'S EQUATION FOR THE FORCE OF NATURAL SELECTION ON MORTALITY; APPENDIX C: SOME PROPERTIES OF THE GOMPERTZ AND WEIBULL DISTRIBUTIONS; APPENDIX D: FIRST AND SECOND PARTIAL DERIVATIVES OF THE MIXTURE LOG-LIKELIHOOD FUNCTION; APPENDIX E: EXPECTATION-CONDITIONAL MAXIMIZATION (ECM) ALGORITHM; APPENDIX F: R PROGRAM; REFERENCES; AUTHOR INDEX; SUBJECT INDEX

Sommario/riassunto

A practical and clarifying approach to aging and aging-related diseases Providing a thorough and extensive theoretical framework, *The Biostatistics of Aging: From Gompertzian Mortality to an Index of Aging-Relatedness* addresses the surprisingly subtle notion-with consequential biomedical and public health relevance-of what it means for a condition to be related to aging. In this pursuit, the book presents a new quantitative method to examine the relative contributions of genetic and environmental factors to mortality and disease incidence in a population. With input fr
