Introduction to Part B

Senescence is quintessentially defined as an increased probability of dying with age. Already 180 years ago Benjamin Gompertz noted that mortality rates of human populations increase exponentially for most age ranges. When the Gompertz equation is transformed semi-logarithmically, it conforms to a straight line, the slope of which has classically been defined as the species-specific senescence rate. Classic inference from the Gompertz law has lead to the conclusion that the rate of senescence is unaffected by environmental conditions. The second part of this thesis offers a critical appraisal of the definition of the rate of senescence. In chapter twelve we propose an alternative approach for assessment of the rate of senescence. In chapter thirteen we will empirically test this novel method as compared to the common approach in a population of renal patients, a population known to experience accelerated aging.