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Book Review

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Supercentenarians

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Supercentenarians is a book from the series *Demographic Research Monographs* published by Springer under the supervision of the Max Planck Institute for Demographic Research (MPIDR) of Rostock, Germany. The first supercentenarians, i.e. people living longer than 110 years, appeared during the last century and the first 'true' one died in 1932 when she was 111-years-old, as explained by Roger Thatcher in his chapter. Previous claims of exceptional longevity have been exaggerated and, even today, newspapers give credence to such claims. For instance, in June 2010, newspapers reported that a 157-year-old woman was discovered in Indonesia during the census of the population. One may thus understand why the validation of exact ages is so important in demography.

The two chapters making up the first part of the book, written by Michel Poulain and Cournil et al., respectively, describe the process for validating the age of supercentenarians and the International Database on Longevity, which is hosted by the MPIDR and contains reliable data on supercentenarians.

The second part (ten chapters) describes the emergence of supercentenarians in various countries. Some chapters are mainly concerned with the validation process, which is an important issue in the USA, where birth registration was not required prior to 1933 (see also the chapter by Robert Young in the third part of the book), and in Japan, where a 125-year-old was reported in 1943. The chapter by the late Roger Thatcher on supercentenarians in the UK is quite different, as the author shows that in the UK the probability of dying within 12 months does not exceed 0.5 in centenarians. This chapter is, thus, concerned with the limits of life and the author argues that the longevity record of 122 years held by Jeanne Calment could be broken: if the number of centenarians strongly increases and mortality rates at these ages are approx. 0.5, some persons could live beyond 122 years of age. Chapters on the USA by Bert Kestenbaum and Renee Ferguson, Australia by John McCormack, and Spain by Rosa Gómez-Redondo and Juan Garcia-González also try to estimate death rates at very old ages.

The last four chapters in the third part of the book are not concerned with the description of supercentenarians, except the last one which gives vivid pictures of some supercentenarians. Robert Young focuses on the quality of longevity records in the USA. Meslé et al. show that life expectancy at 110 years in France is close to 2 years and how it is difficult to estimate life expectancy and mortality rates at these ages. Jutta Gampe shows that mortality rates after 100 years of age do not increase with age but, rather, that they are close to 0.5. This conclusion is of the utmost importance, as Jim Vaupel and his colleagues forecast that median longevity could exceed 100 years in 2100 in developed countries [1–4]; however, they did not really study what could be the consequences regarding maximal longevity. Some years ago, Vallin and Caselli [5] published survival curves: with a life expectancy of 105 years, the oldest survivors would die at more than 140 years of age. By contrast, assuming mortality rates are close to 0.5, as shown by Jutta Gampe in her chapter, a simple computation shows that if one half of the approx. 800,000 persons of the 2007 French birth cohort reached 104 years of age, as expected by Christensen et al. [3], there would be no survivor of this cohort beyond 122–123 years of age. This has provoked a debate on the value of mortality rates at very old ages. This debate is not futile because with the same median longevity of 105 years (if it were indeed possible), the maximal longevity could vary between ca. 120 and 140 years. The first value seems to be compatible with what has been observed for several decades, while the latter implies that we are far from approaching the limit of human life. One may regret that this book on supercentenarians did not go beyond the beginning of this debate on maximal longevity.

Despite this imperfection, this book is an invaluable source of information on supercentenarians, as this information is sometimes distorted by wrong claims of superlongevity in countries often loaded with a less than perfect registration system. It shows that the time for knowing the exact maximal longevity of human beings has come and that the era of wrong claims is over. This is good news.

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