BERNARD JEUNE AND JAMES W. VAUPEL (EDS.)
Validation of Exceptional Longevity
Odense: Odense University Press, 1999. Odense Monographs on Population Aging 6. 249 p. $25.00.

This collection of 15 chapters offers a wide scope of studies on human longevity conducted by 23 contributors from Europe and North America. Among the international team of authors are such established scholars as Michel Allard (France), Bertrand Desjardins (Canada), Bernard Jeune (Denmark), Väinö Kannisto (Portugal), Peter Laslett (UK), Thomas T. Perls (USA), Michel Poulain (Belgium), Jean-Marie Robine (France), A. Roger Thatcher (UK), James W. Vaupel (Germany), and John R. Wilmoth (USA).

The main intent of the authors is to develop rigorous scientific methods for validating claims of exceptional human longevity and to apply them systematically to both historical and contemporary data. Millions of people are fascinated with the *Guinness Book of Records*, which claims to provide verified information on longevity records, more accurate than the sensational claims made in newspapers and on television. The authors demonstrate that public opinion on human longevity issues is misled by the *Guinness Book* and that even the most "irrefutable" cases simply do not hold water. For example, Pierre Joubert, who appeared in the *Guinness Book* as a 113-year-old man, in reality died at age 65, whereas his namesake—his son—died 48 years later. After careful age verification, the average lifespan of most of the alleged "centenarians" proved to be 88 years.

The authors argue that even such leading scholars and eminent skeptics of the past as Bacon, Locke, Harvey, Haller, Temple, and Quételet were astonishingly gullible about claims of exceptional longevity. Laslett, for example, refers to "the cult of centenarians" to describe the complete loss of critical perception in the face of the emotional fascination with such claims. The authors concur that the history of human longevity is a history of myths. Moreover, they make the provocative claim that genuine centenarians probably never existed at any time in human history until the end of the nineteenth century.

It is not surprising that this provocative hypothesis has initiated intensive discussion among other researchers. These discussions about the book reveal two related aspects of the problem: (1) it may be true that there is no sufficient evidence for exceptional longevity in the past, but (2) there is also no sufficient evidence to claim that centenarians never existed before the nineteenth century—we simply do not know that to be the case.

One of the paradoxes of this book is that the authors, being critical of the previous claims of exceptional longevity, are at the same time rather defensive for their own examples of centenarians. The volume contains extensive documentation intended to prove the following three cases of exceptional human longevity: (1) Jeanne Calment, a French woman from Arles in southern France. She was born on 21 February 1875 and died on 4 August 1997 at the age of 122 years. Her case is described in a chapter by Robine and Allard. (2) Marie Louise Meilleur (née Chassé), who was born on 29 August 1880 in Kamouraska, French Canada, and died on 16 April 1998 at the age of 117 years. Her case is described in a chapter by Desjardins. (3) Christian Mortensen, a Danish-born American citizen, who

was born on 16 August 1882 and died on 25 April 1998 at the age of 115 years. His case is described in a chapter by Skytthe, Jeune, and Wilmoth.

The 122-year lifespan of Jeanne Calment is particularly provocative because it stands so far apart from the previous validated longevity record (117 years, for Marie Louise Meilleur). It is known that, with the extensive systematic collection of any kind of records, every new record is typically very close to the previous ones. Moreover, the increment between progressive records is continuously decreasing with growing numbers of accumulated records. This empirical observation is supported by the mathematical theory of extreme value distributions, known as statistics of extremes (Gumbel 1958). The outstanding case of Jeanne Calment is a clear violation both of previous experience in record registration and of the predictions of probability theory.

The problem with the Calment case does not lie in her extreme longevity per se, since there seems to be no fixed theoretical limit to the duration of human life (Gavrilov and Gavrilova 1991). The real problem is the absence of a previous history of validated longevity records in the range of 118–121 years that should be expected in abundance if we accept the veracity of Calment's age of 122 years. One hopes that further studies will help to resolve this controversy.

This book should be of interest not only to specialists in longevity and genealogical studies, but also to the general reader. Demographers may particularly enjoy reading the chapter by Kannisto on assessing the information on age at death of very old persons in official vital statistics of various countries.

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