19th Annual Meeting of REVES
St Petersburg, Florida, May 15-17, 2007

Lengthening of adult life durations

Between compression of mortality and shifting mortality

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M-Project

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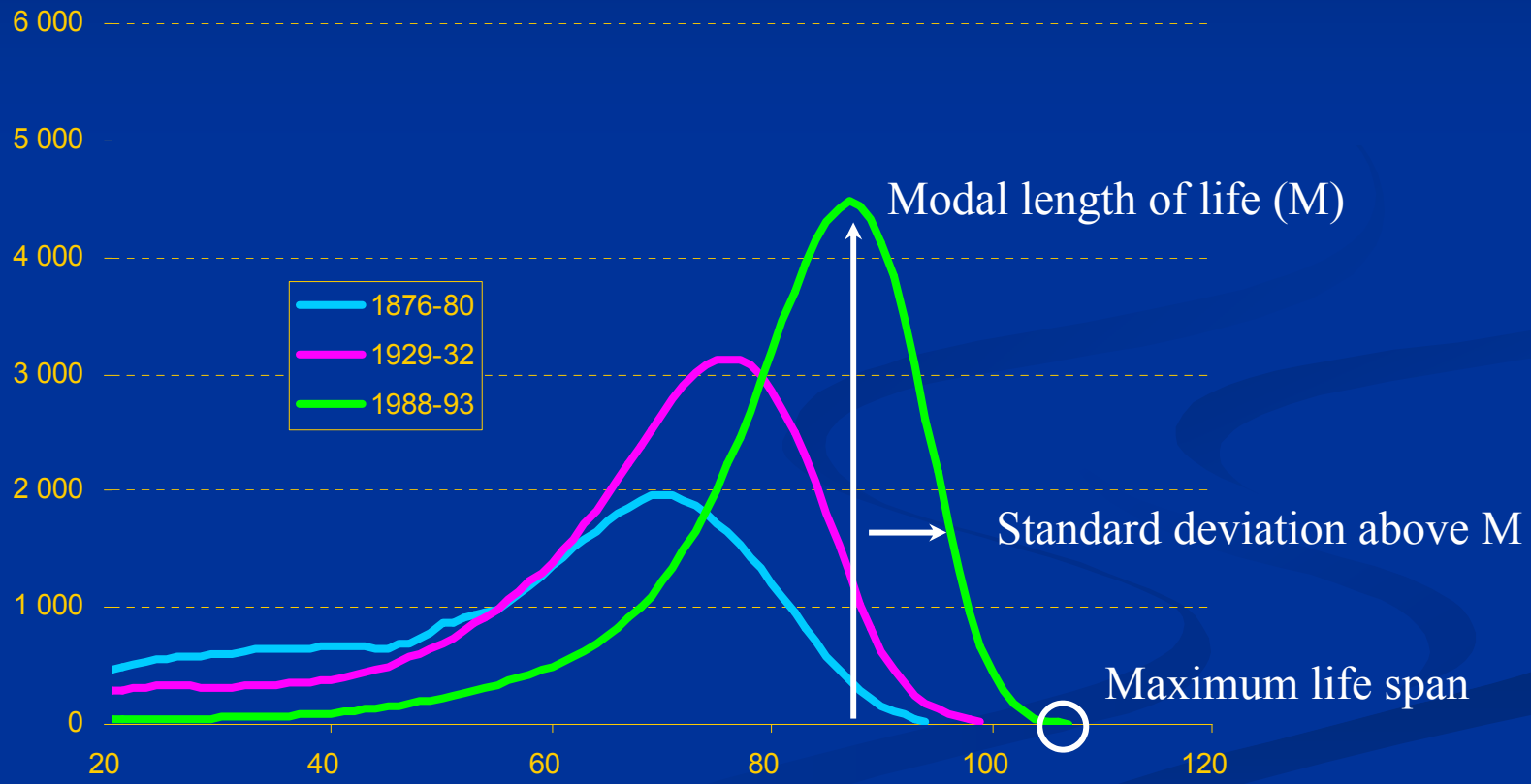
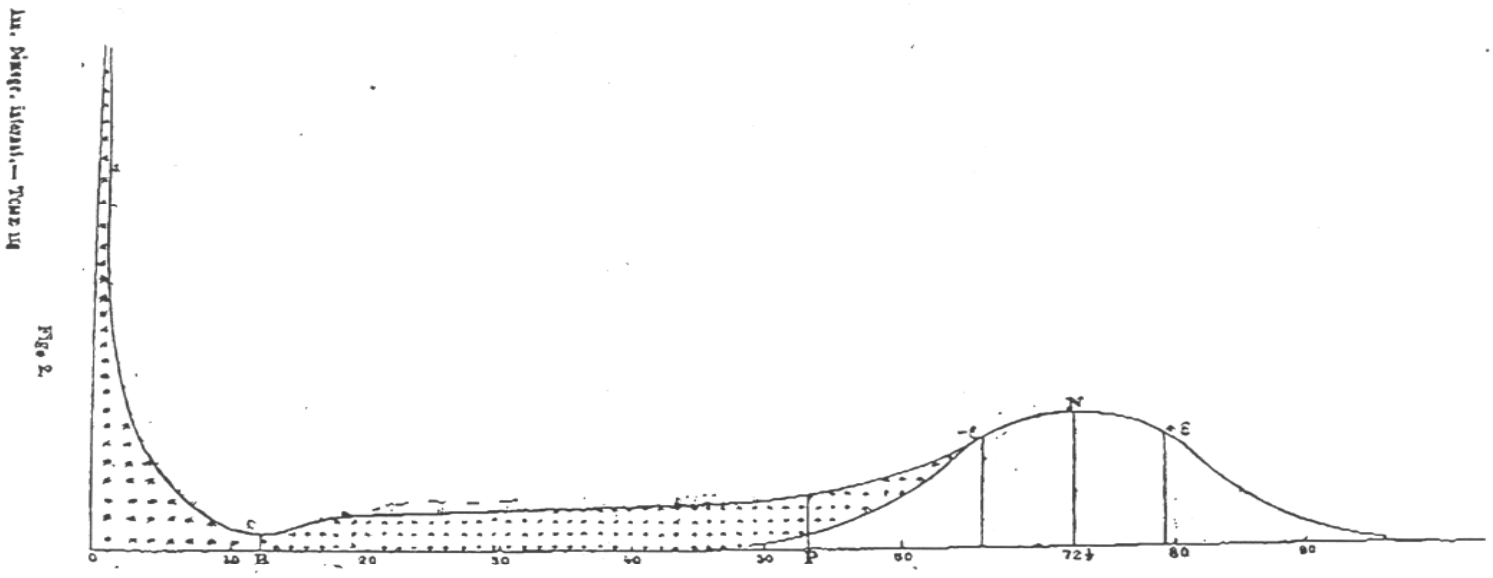
Shiro Horiuchi, Japan
Roger Thatcher, UK
Jean-Marie Robine, France

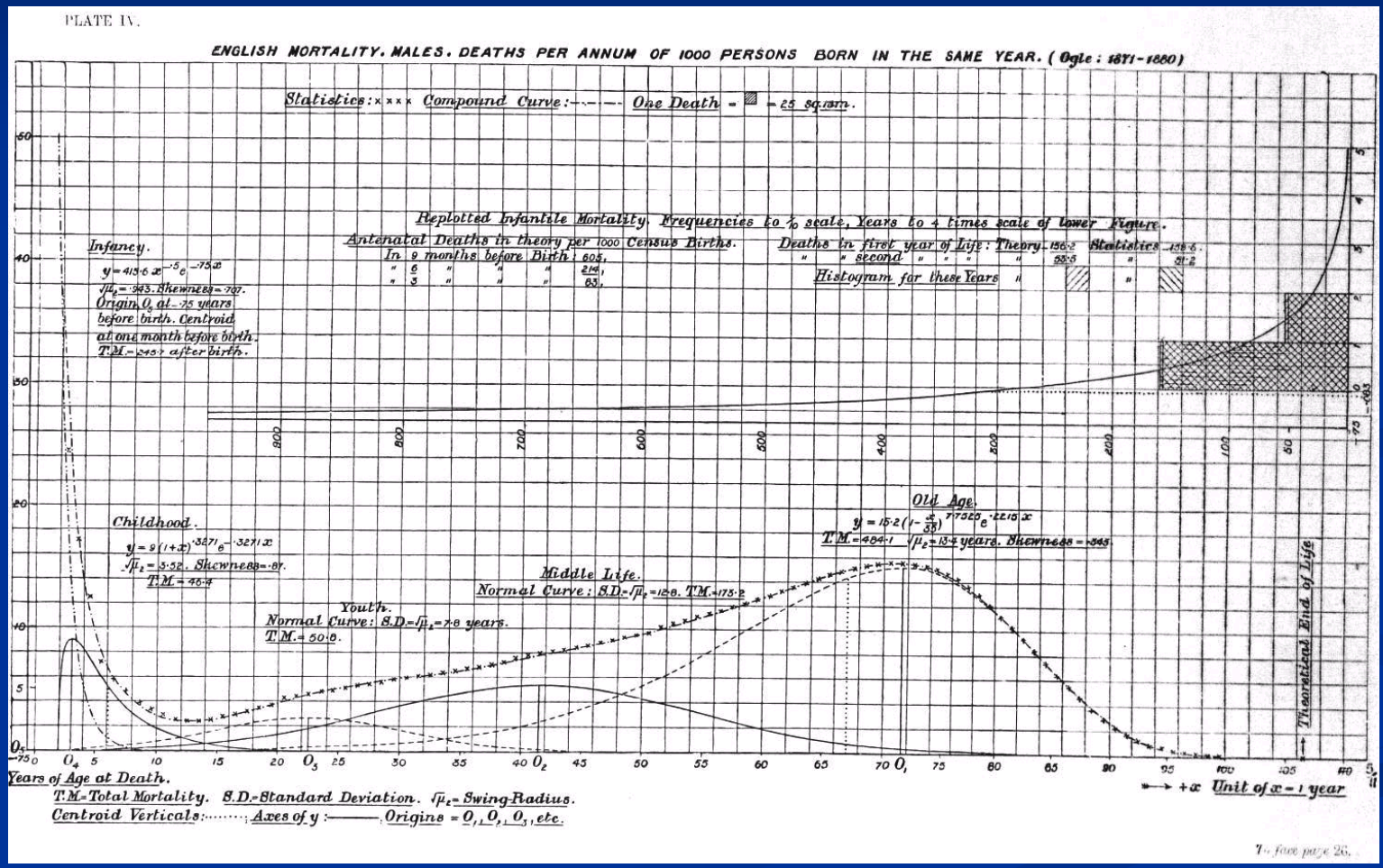
Distribution of the ages at death in Switzerland 1876-1880, 1929-1932, 1988-1993



LEXIS'S NORMAL LIFE DURATIONS



PEARSON'S FIVE COMPONENTS OF A CHANCE DISTRIBUTION AT DEATH AND THE THEORETICAL END OF LIFE



BENJAMIN'S THE LATER MODE AND THE RIGHT-HAND SIDE OF THE DISTRIBUTION OF "SENESCENT" DEATHS

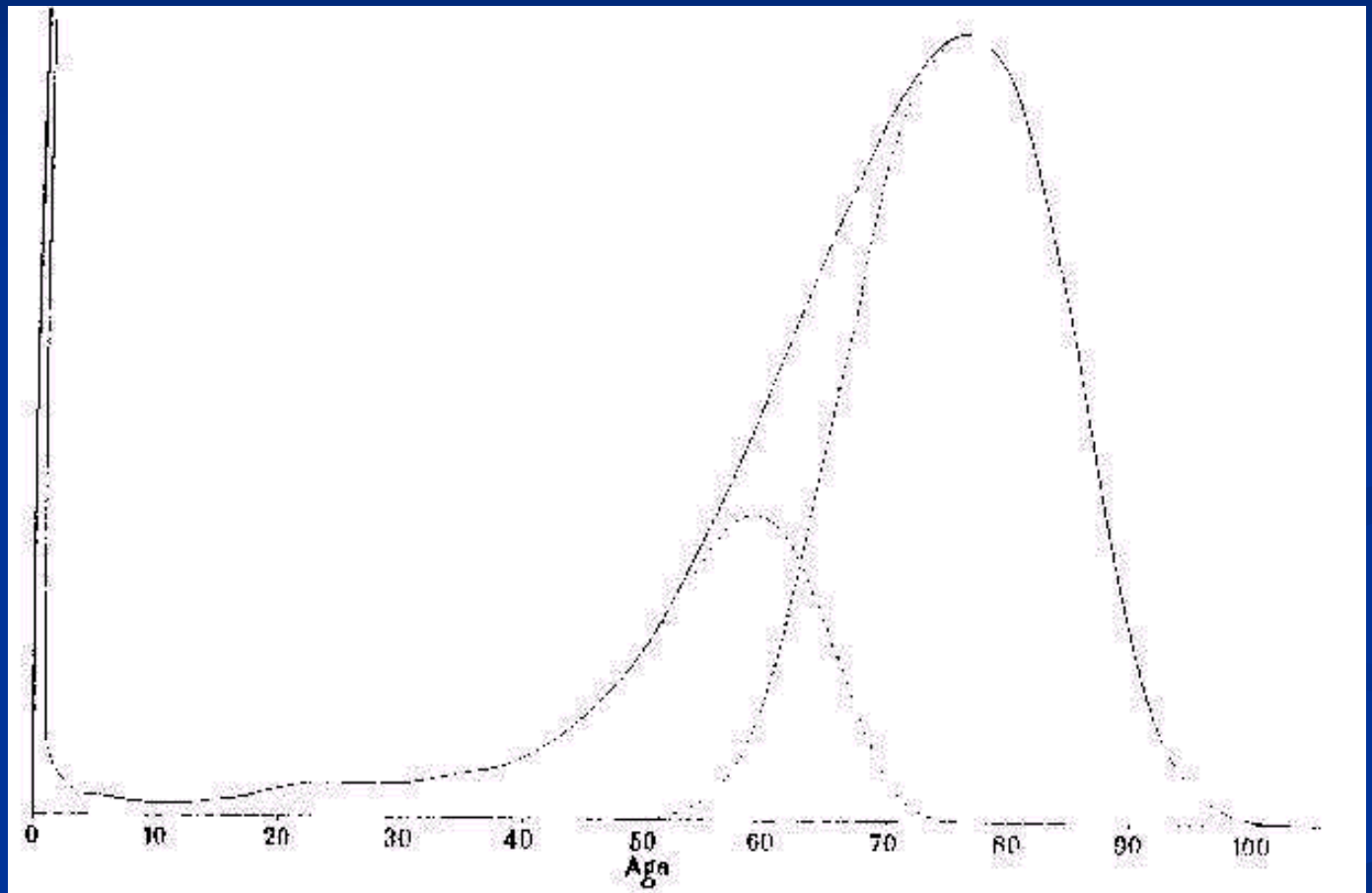


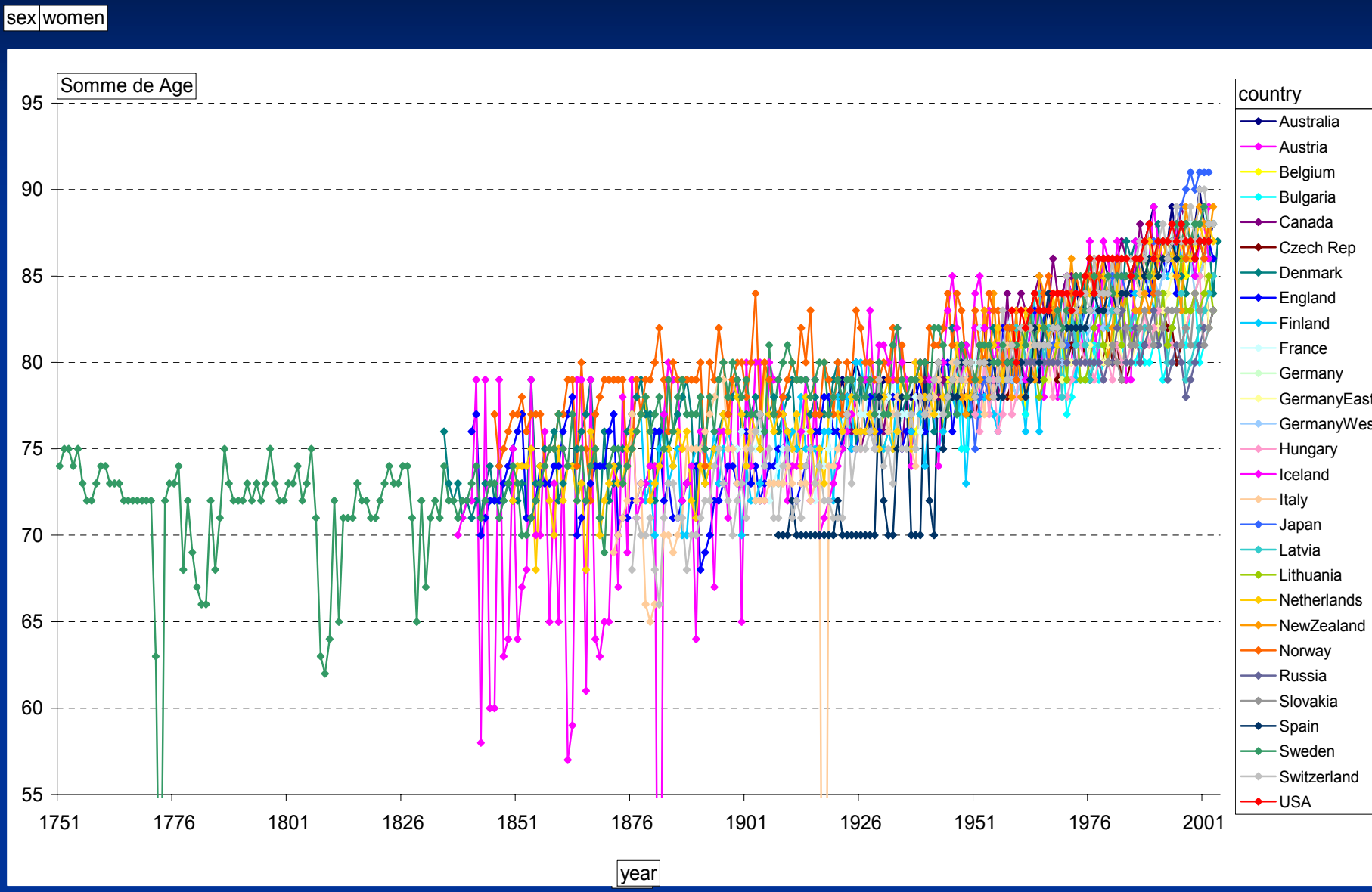
FIG. 3. Curve of deaths. English Life-Table No. 11. 1950–1952. Males.

..... total deaths

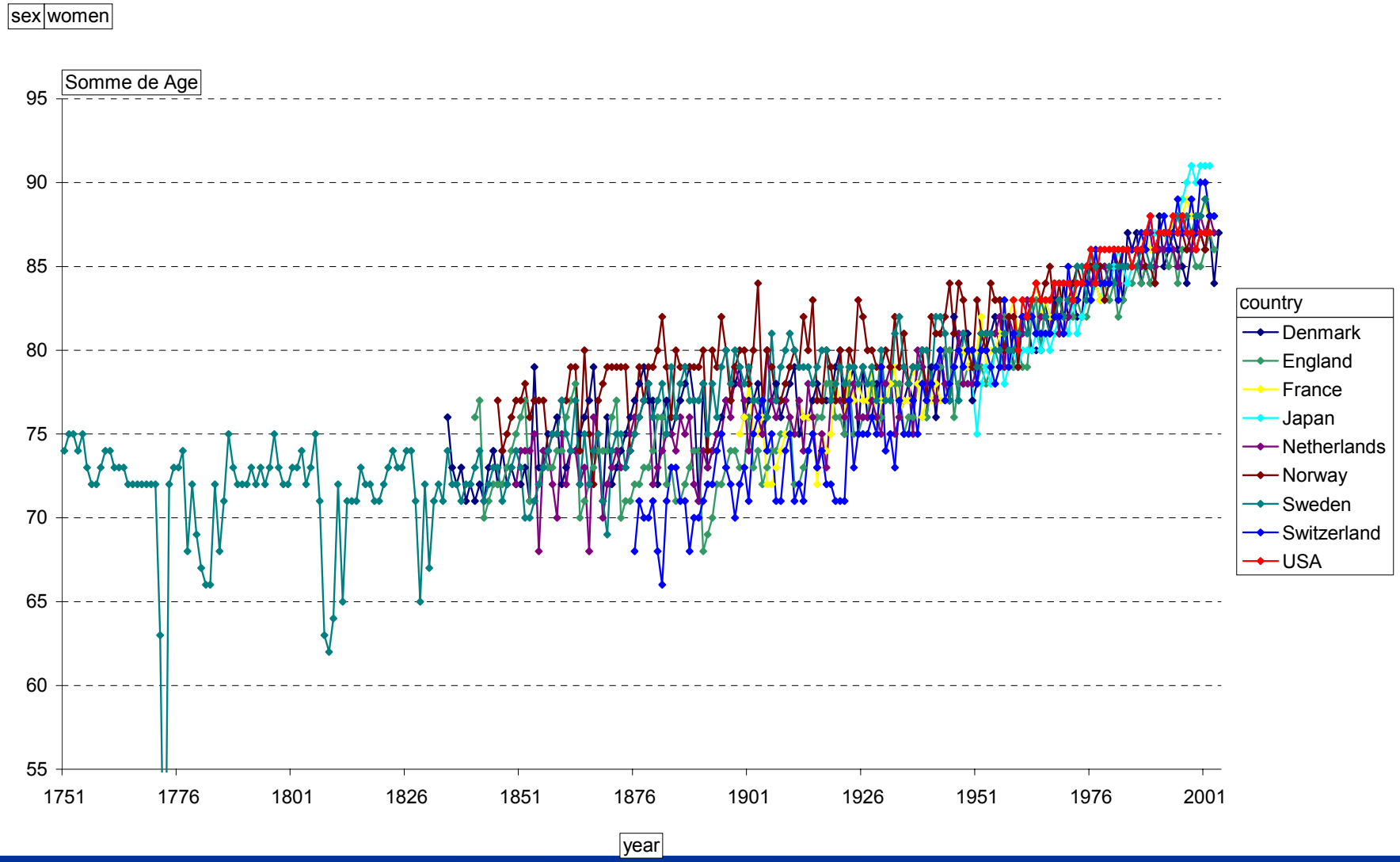
. . . . . senescent deaths

DATA USED - all the data available in the Human Mortality Database (HMD) by February 2006 ; i.e. 5032 period life tables for 26 countries, starting with Sweden in 1751 (2516 life tables for each sex).

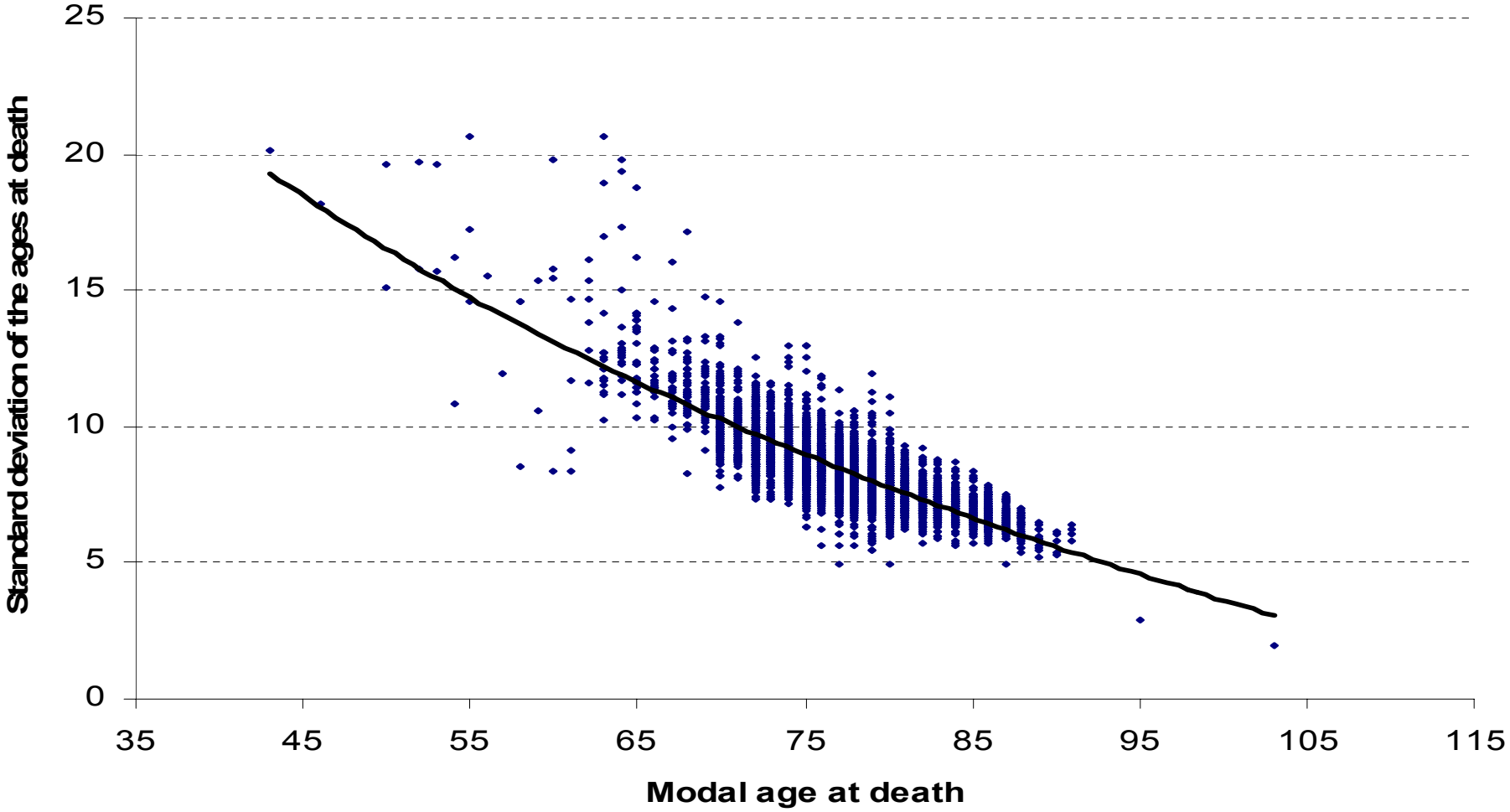
Increase in the modal length of life (M), since 1751, Females:



Increase in the modal length of life (M), since 1751: a selection of 9 countries

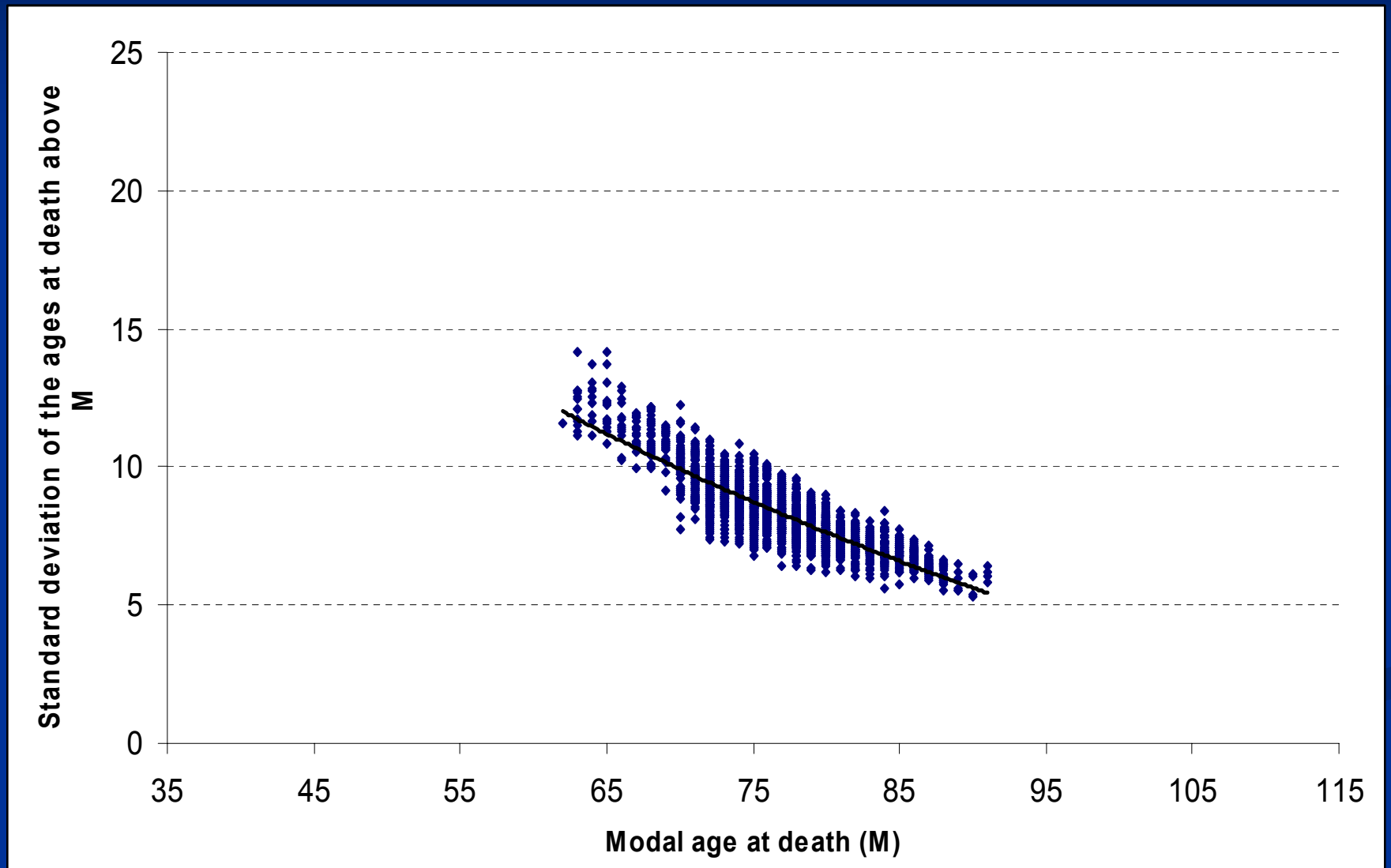


CORRELATION BETWEEN M AND SD(M+), SINCE 1751: 5003 MALE AND FEMALE LIFE TABLES

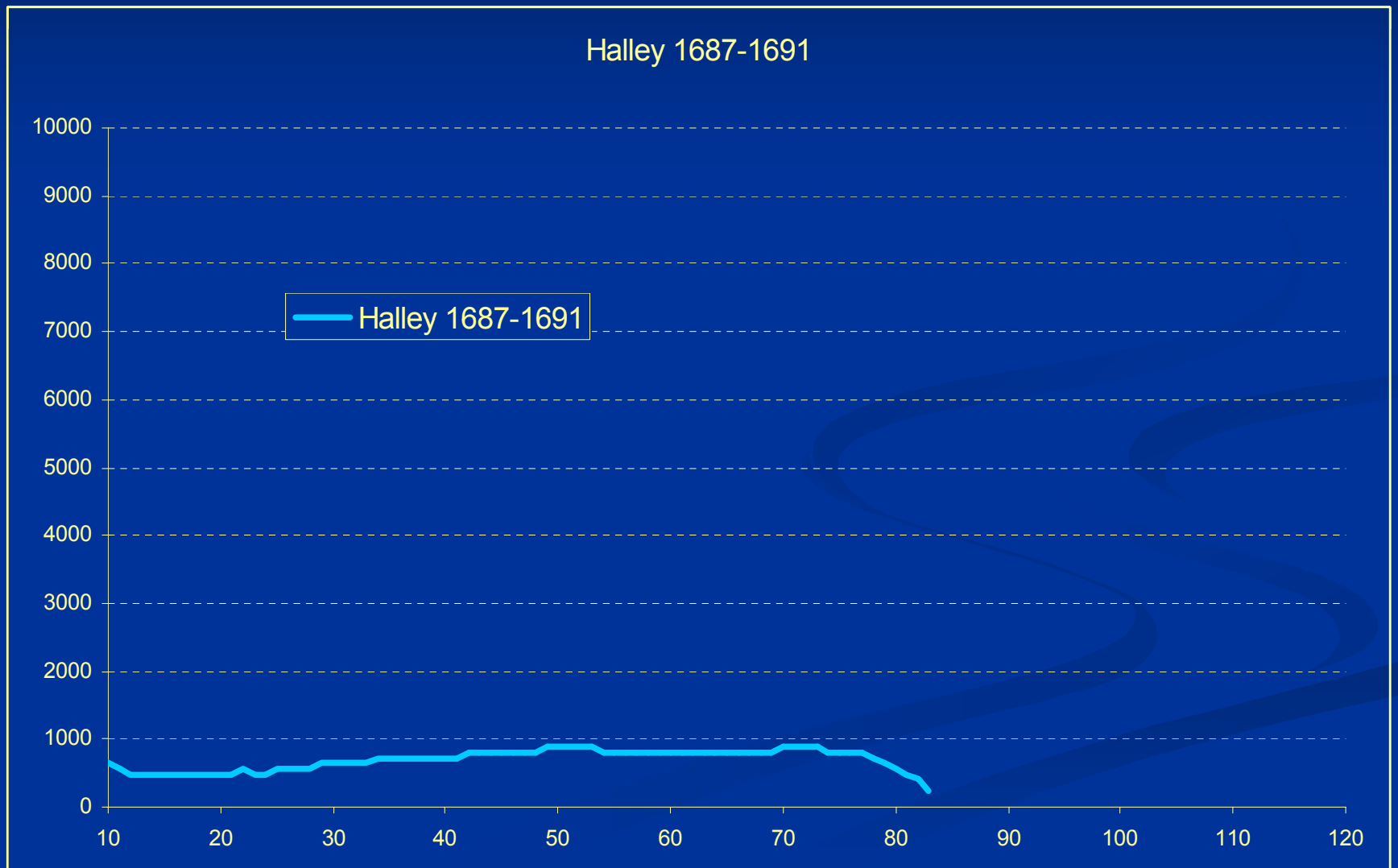


CORRELATION BETWEEN M AND SD(M+)

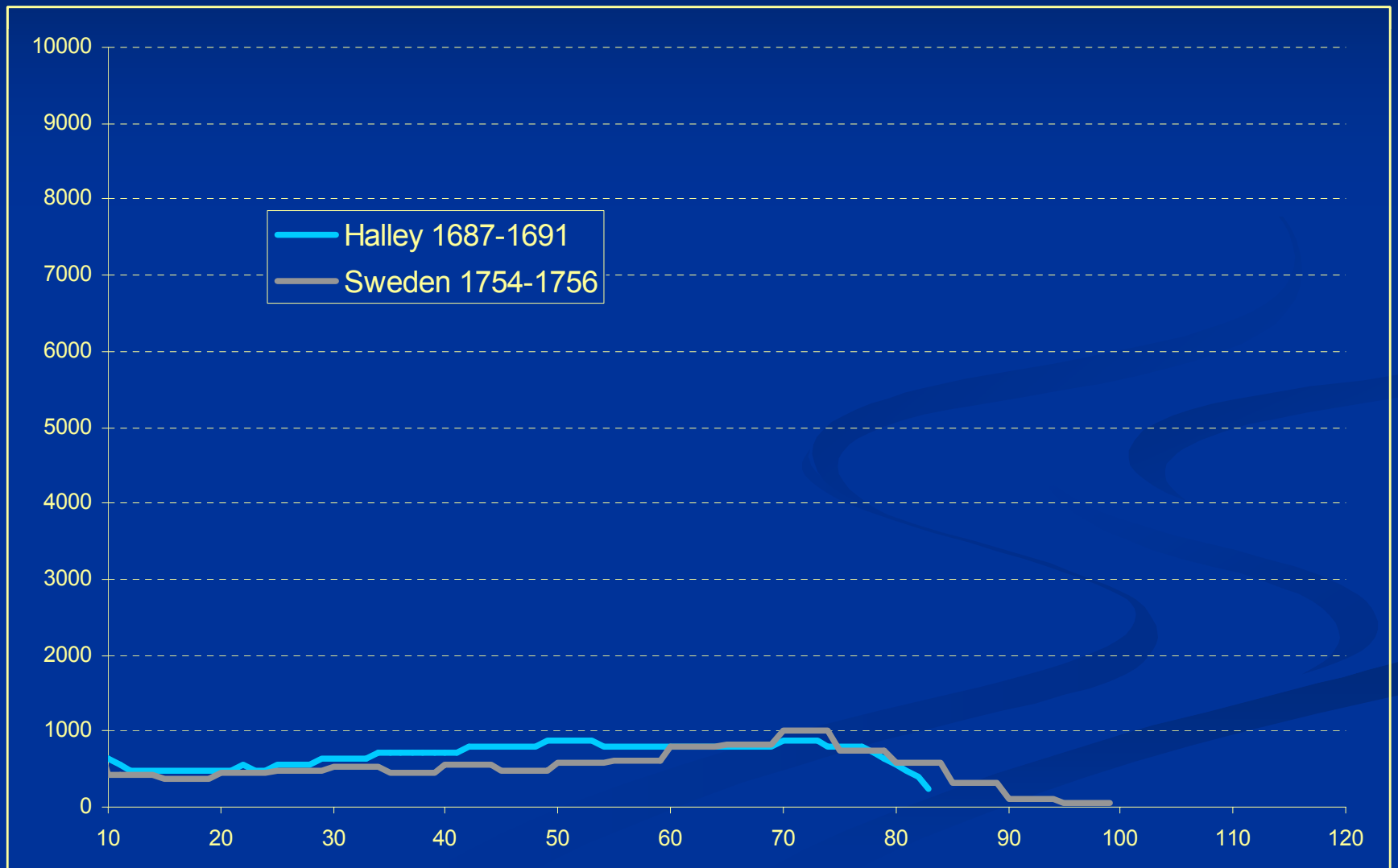
SINCE 1751: 2346 MALE AND FEMALE LIFE TABLES, A SELECTION OF 8 COUNTRIES



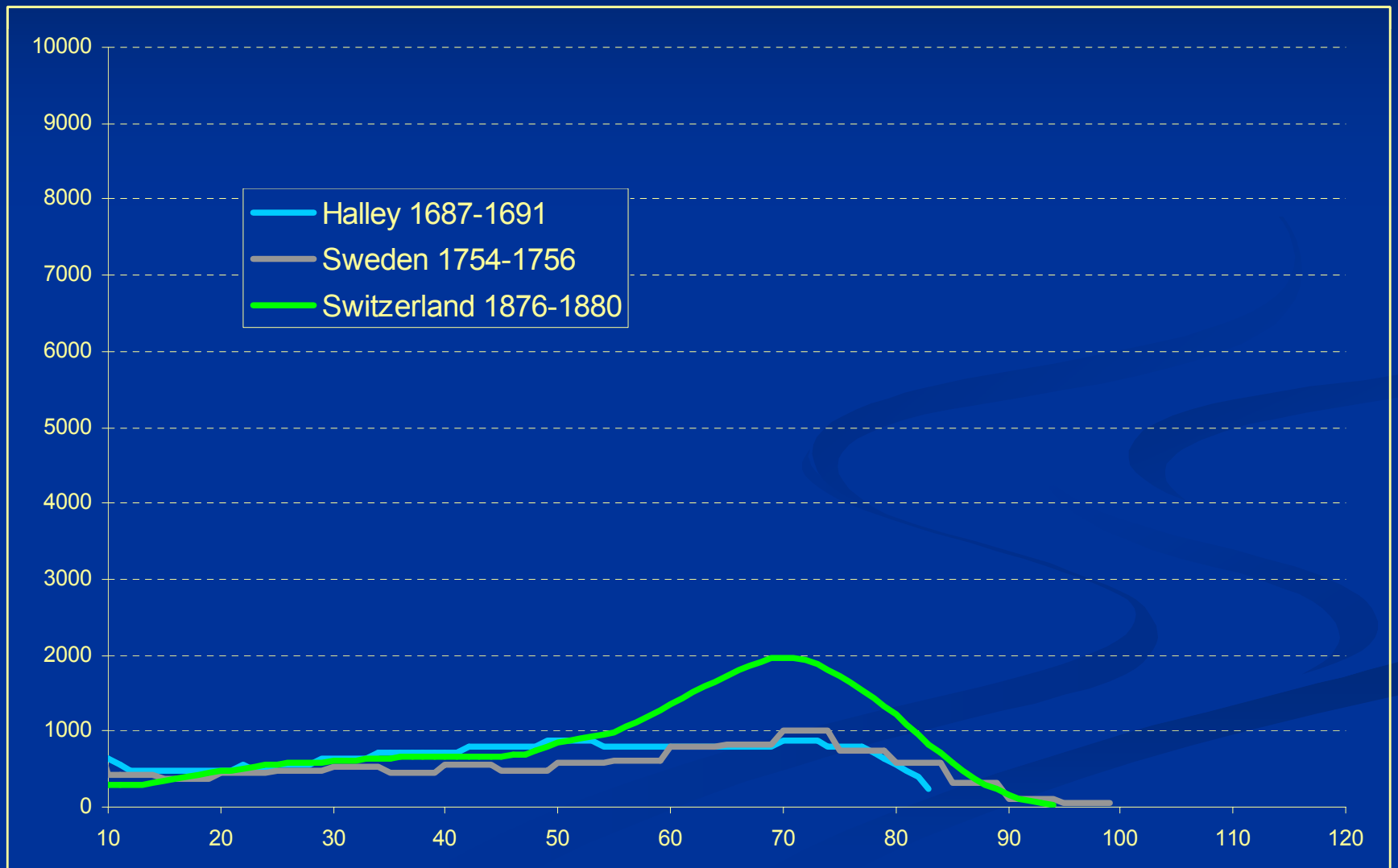
Halley, first life table, 1693



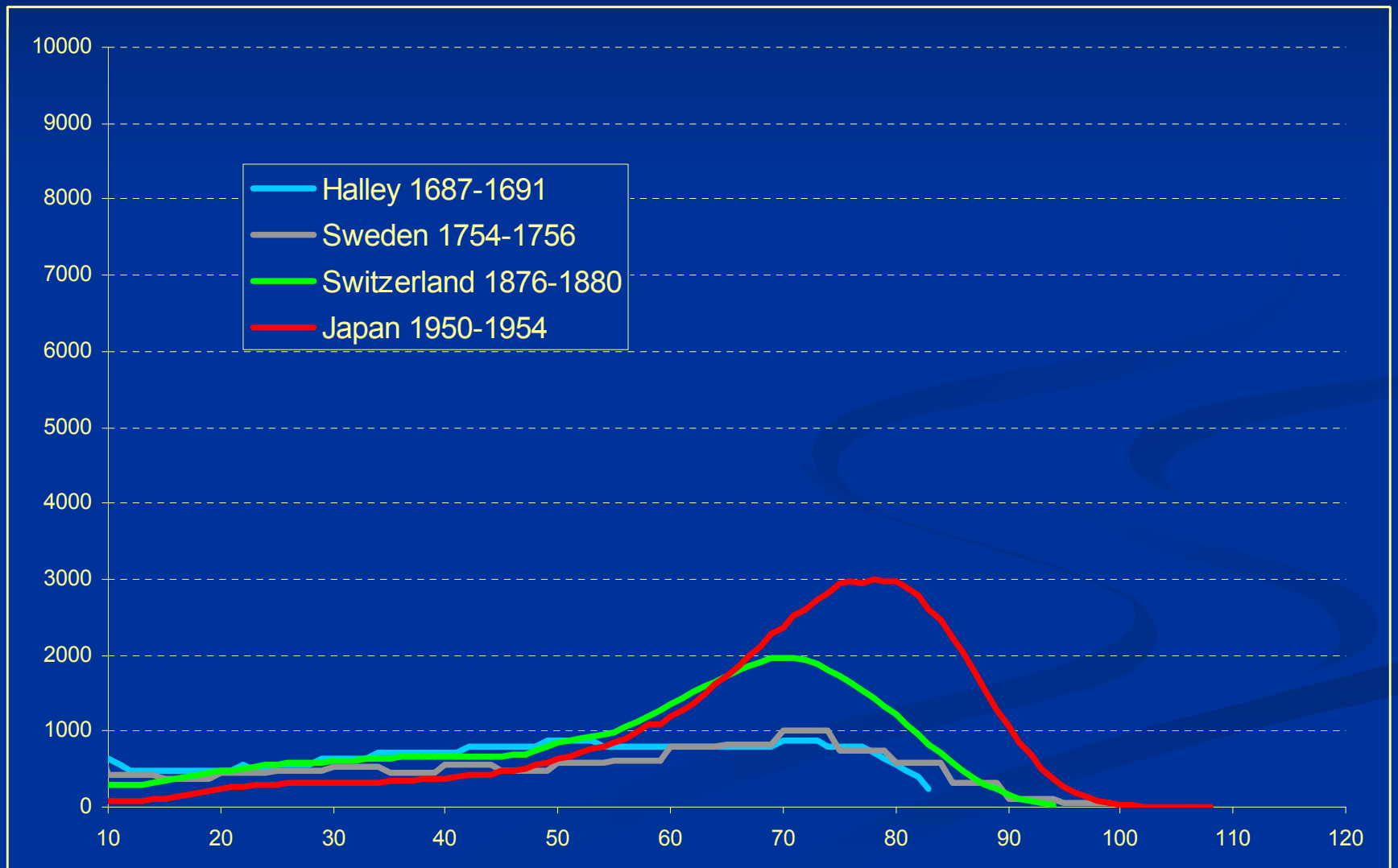
Sweden, 1754-1756,
data sent by Wargentin to Deparcieux



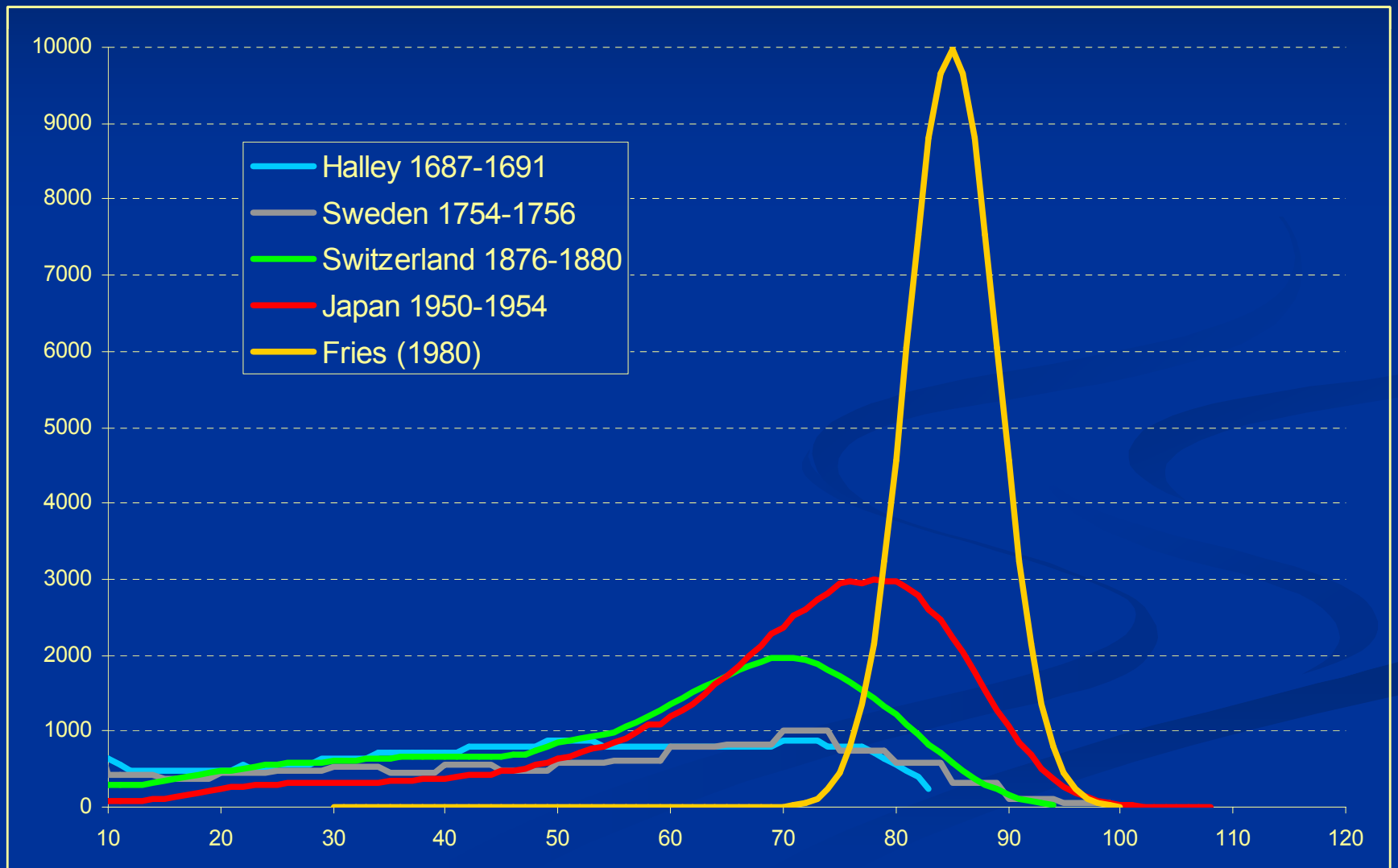
Switzerland, 1876-1880



Japon, 1950-1954



Fries (1980)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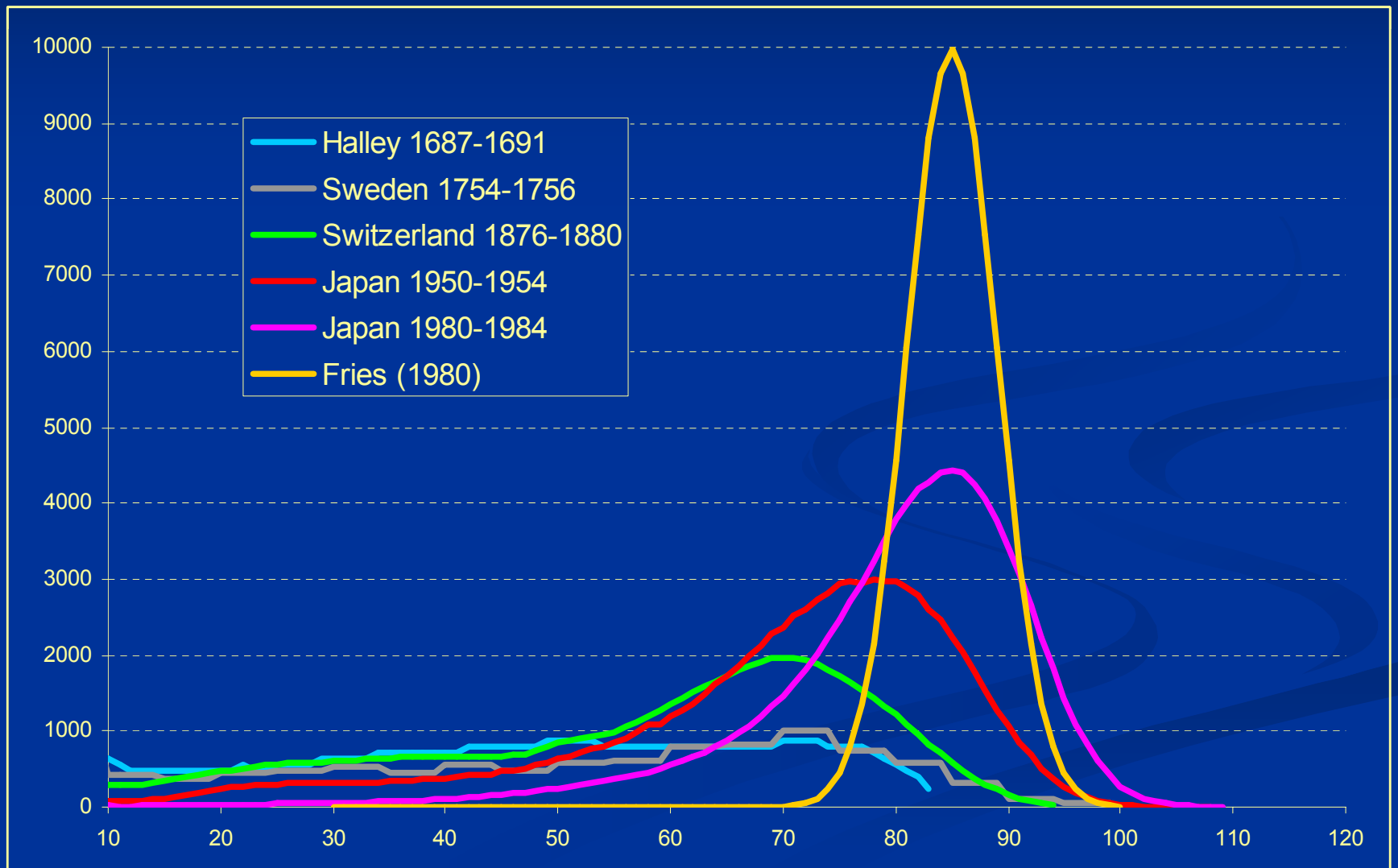
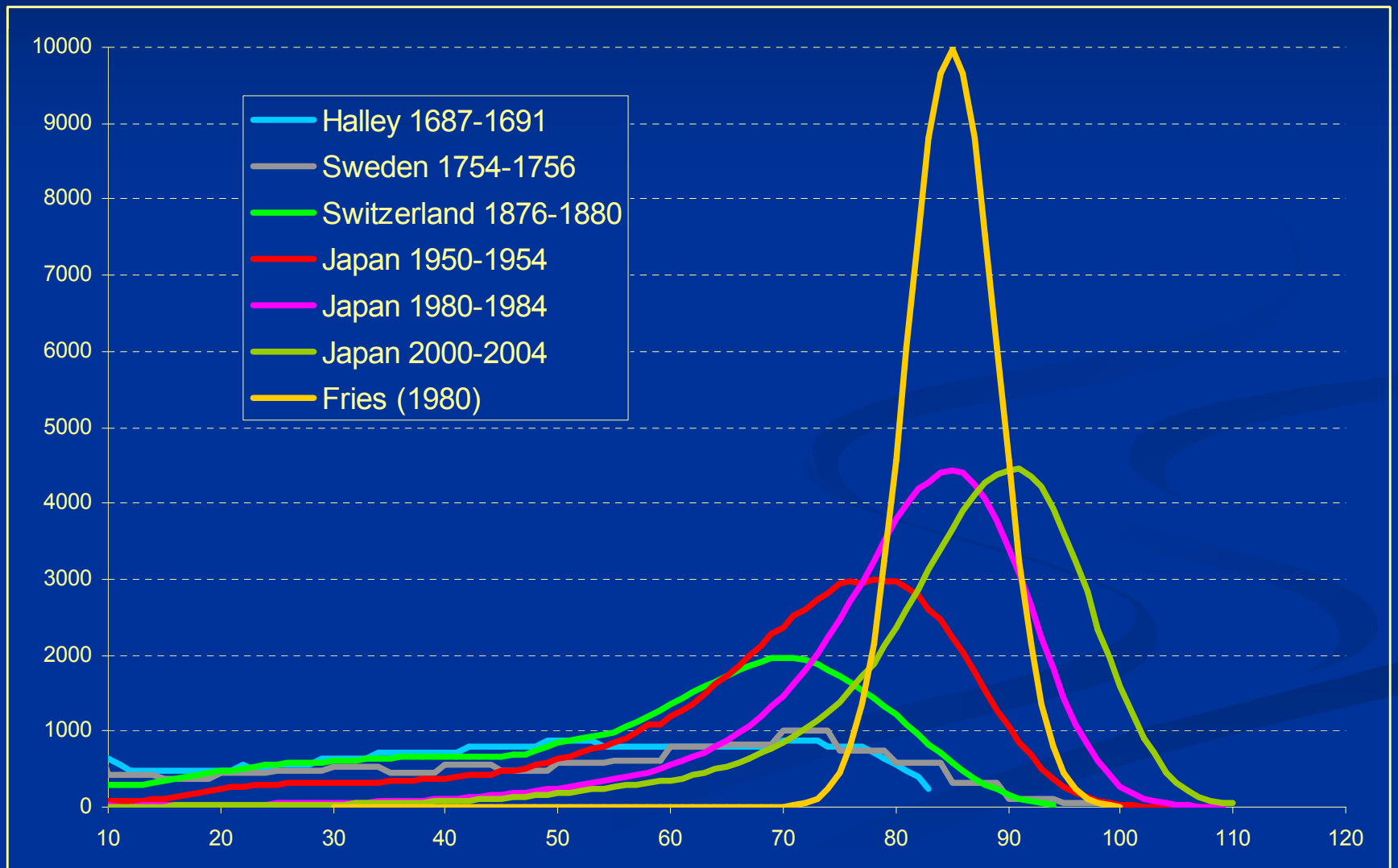
Halley 1687-1691
Sweden 1754-1756
Switzerland 1876-1880
Japan 1950-1954
Fries (1980)

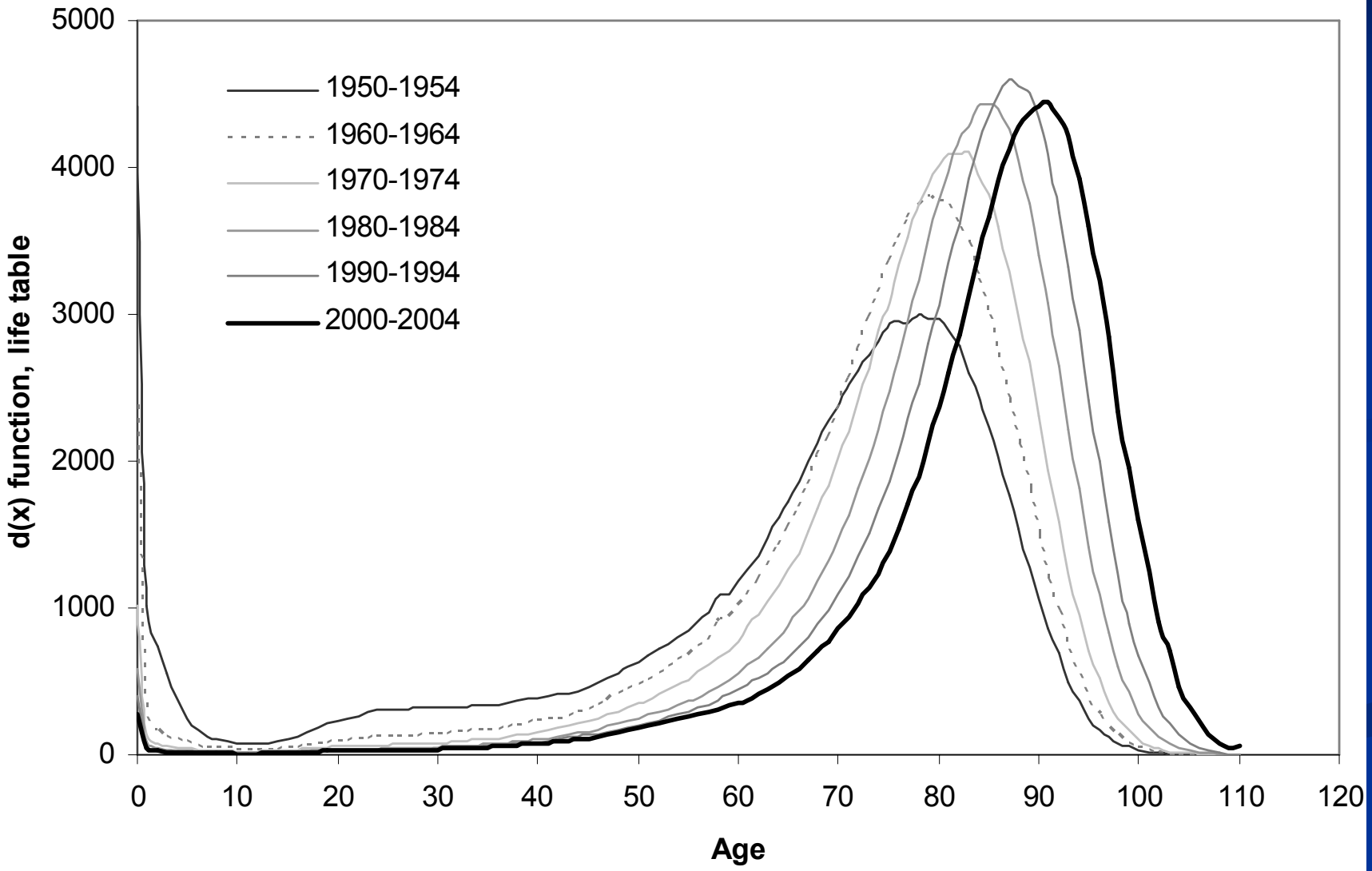
Japan 1980-1984



Japan 2000-2004

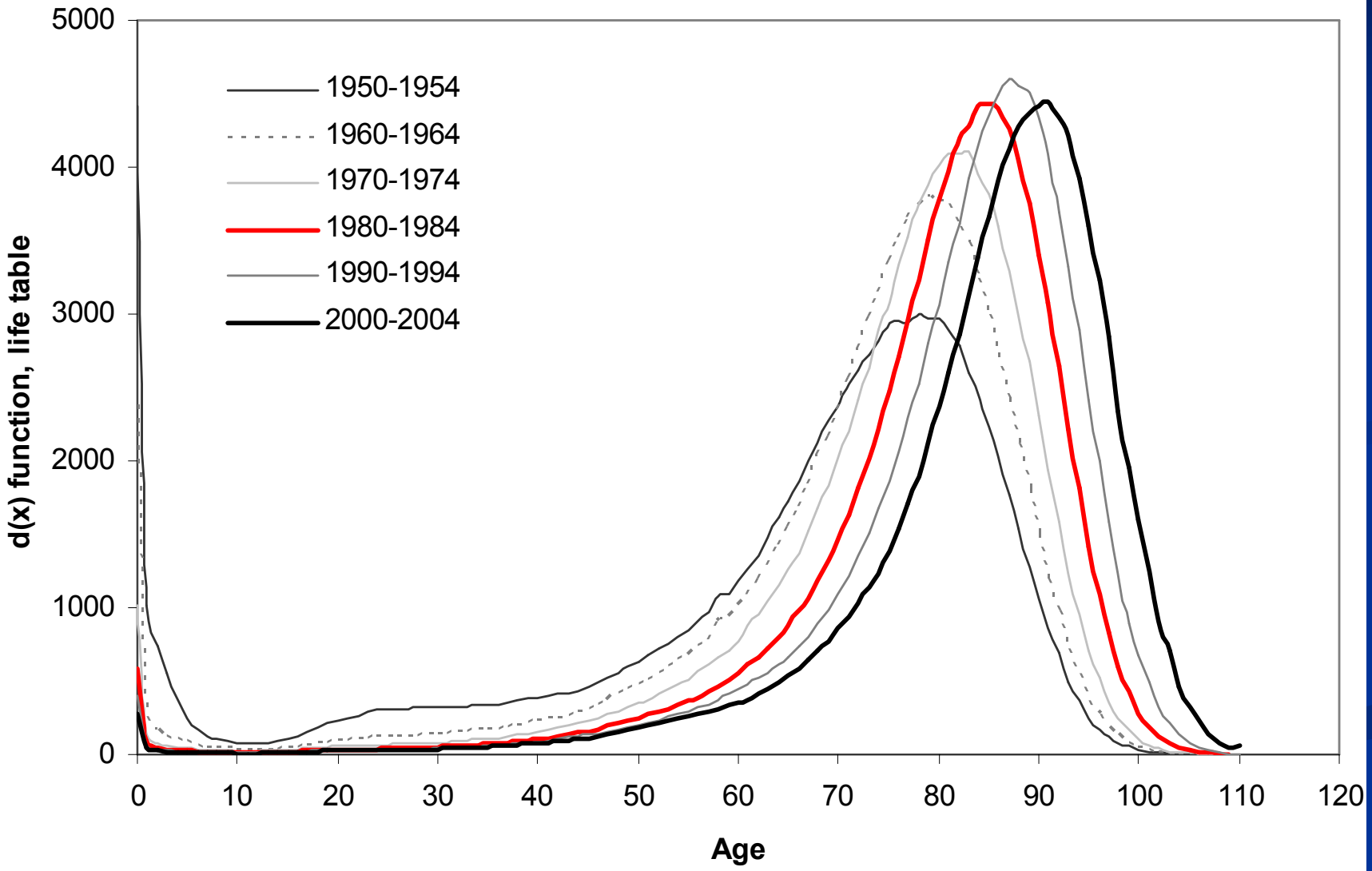


Change in the distribution of ages at death for women in Japan from 1950-54 to 2000-2004



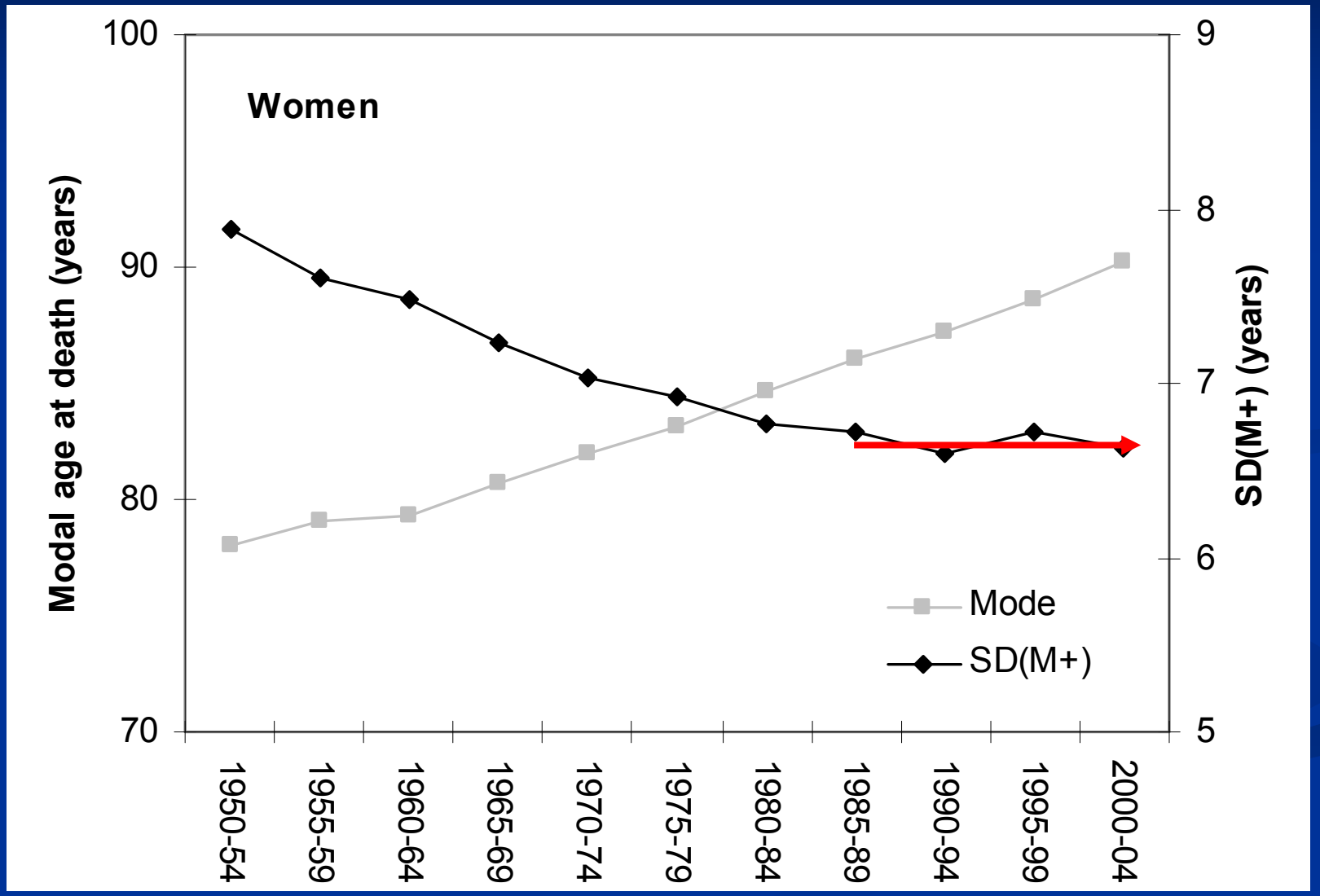
Cheung and Robine, Population Studies, 2007

Change in the distribution of ages at death for women in Japan from 1950-54 to 2000-2004



Cheung and Robine, Population Studies, 2007

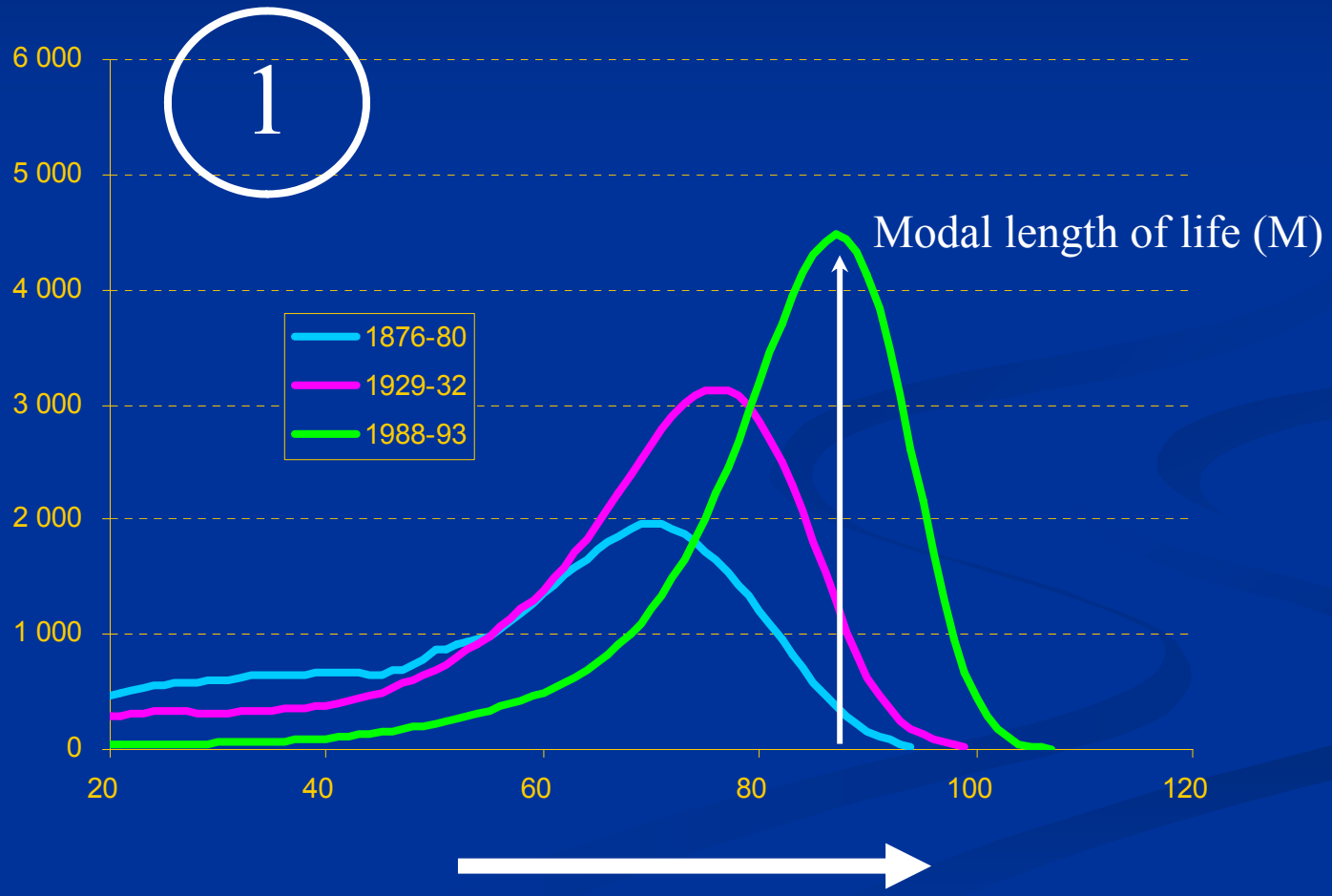
Change in the modal length of life and in SDM+ for women in Japan from 1950-54 to 2000-2004



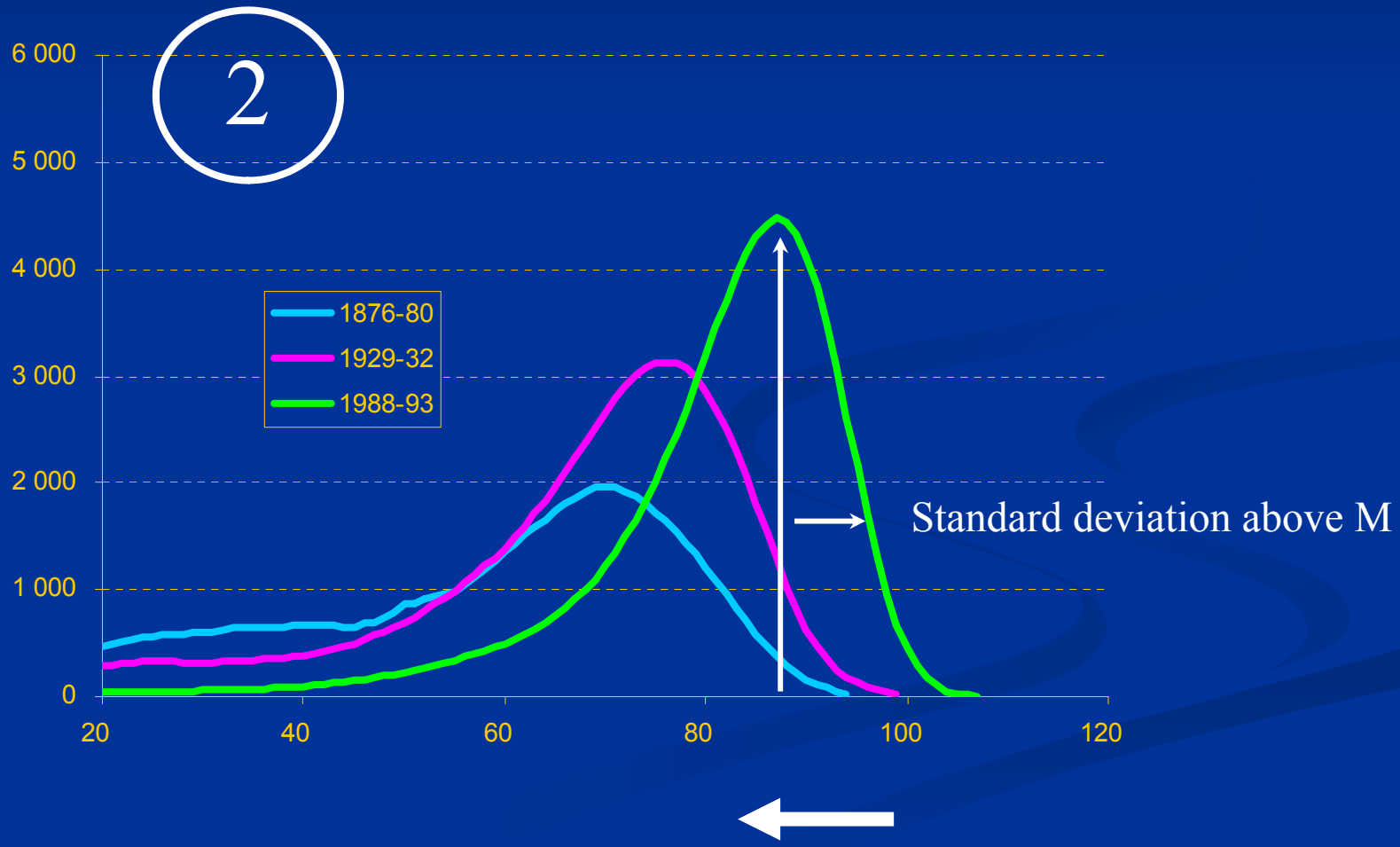
Cheung and Robine, Population Studies, 2007

Thank you!

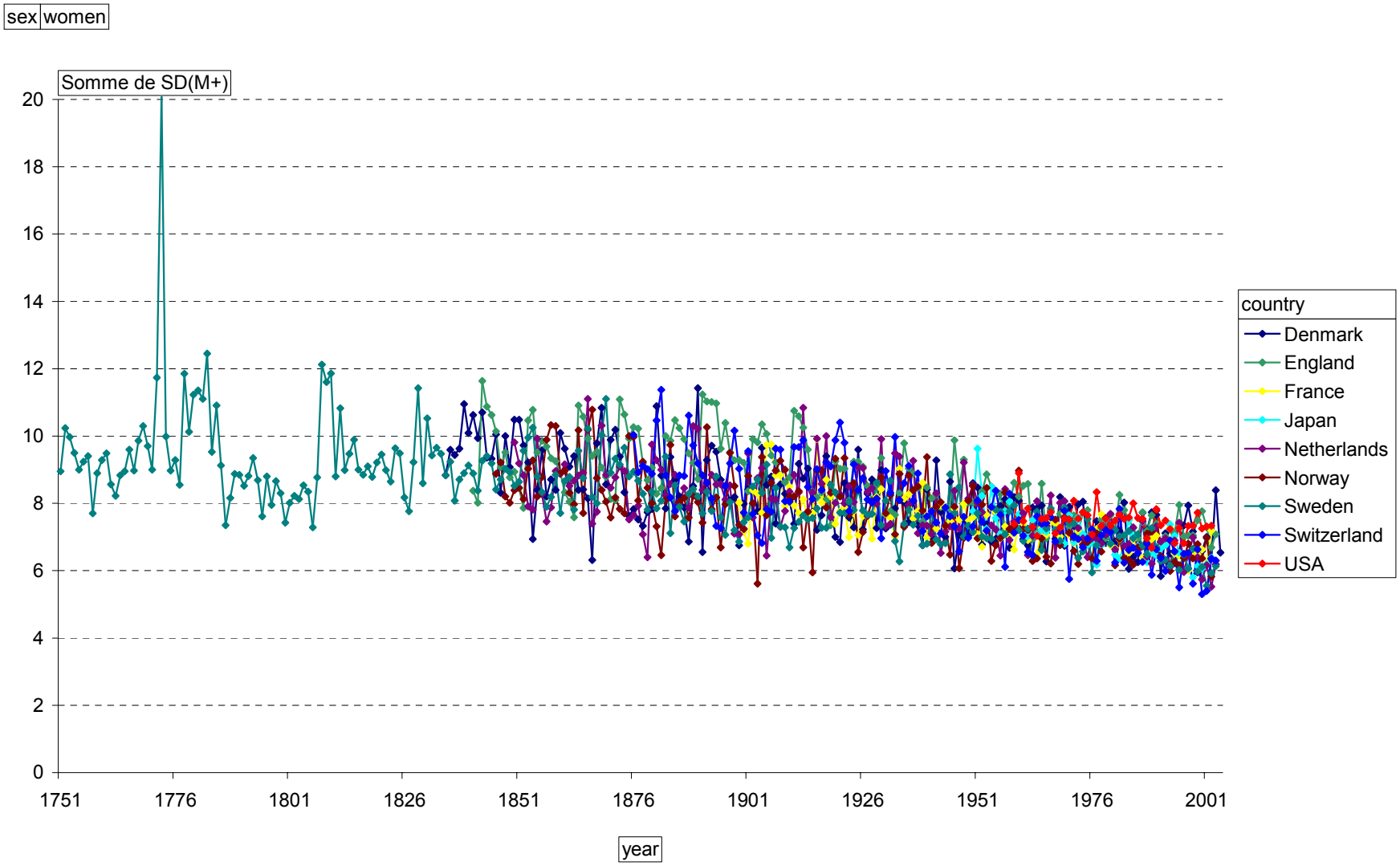
Distribution of the ages at death in Switzerland 1876-1880, 1929-1932, 1988-1993



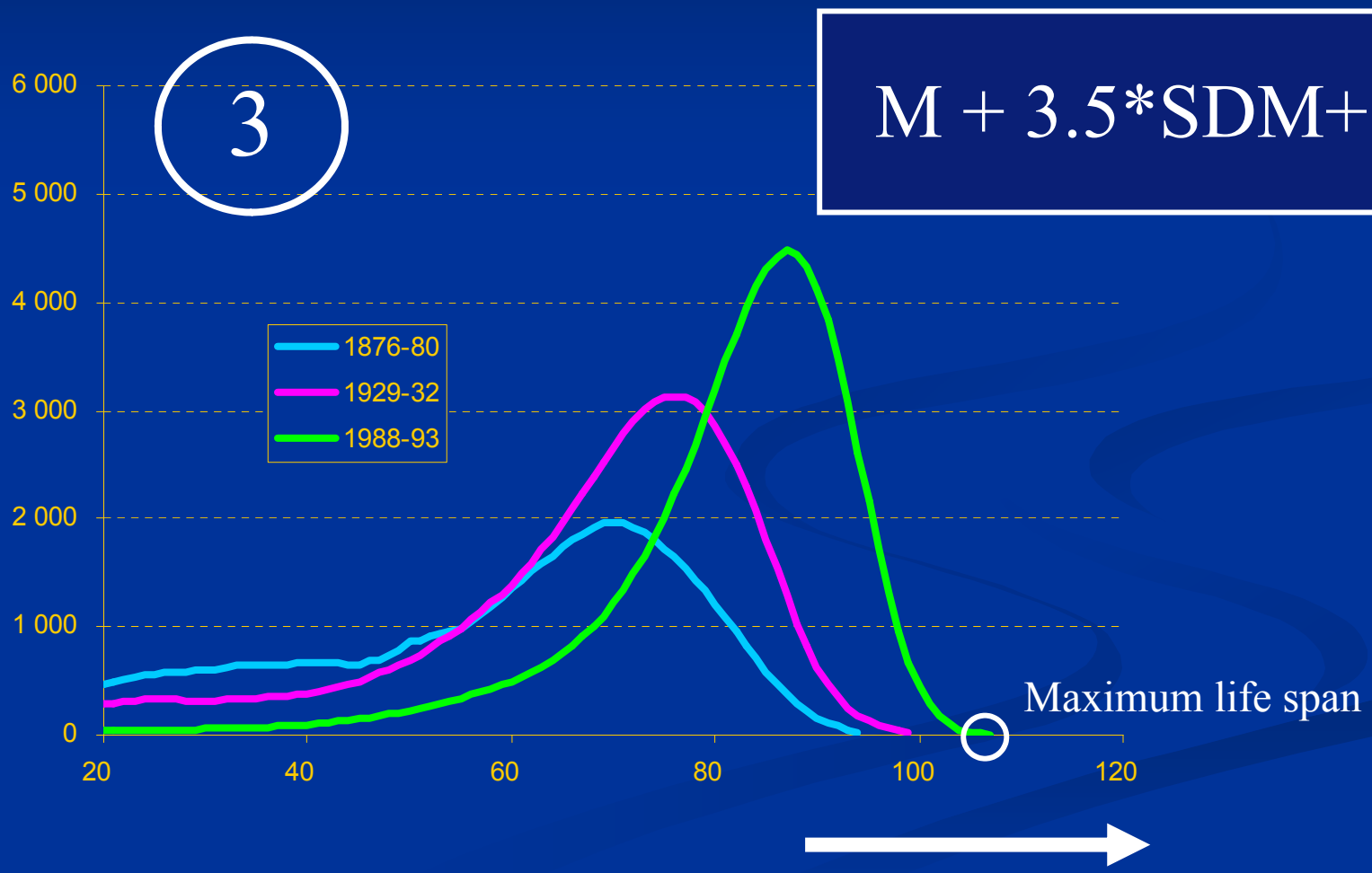
Distribution of the ages at death in Switzerland 1876-1880, 1929-1932, 1988-1993



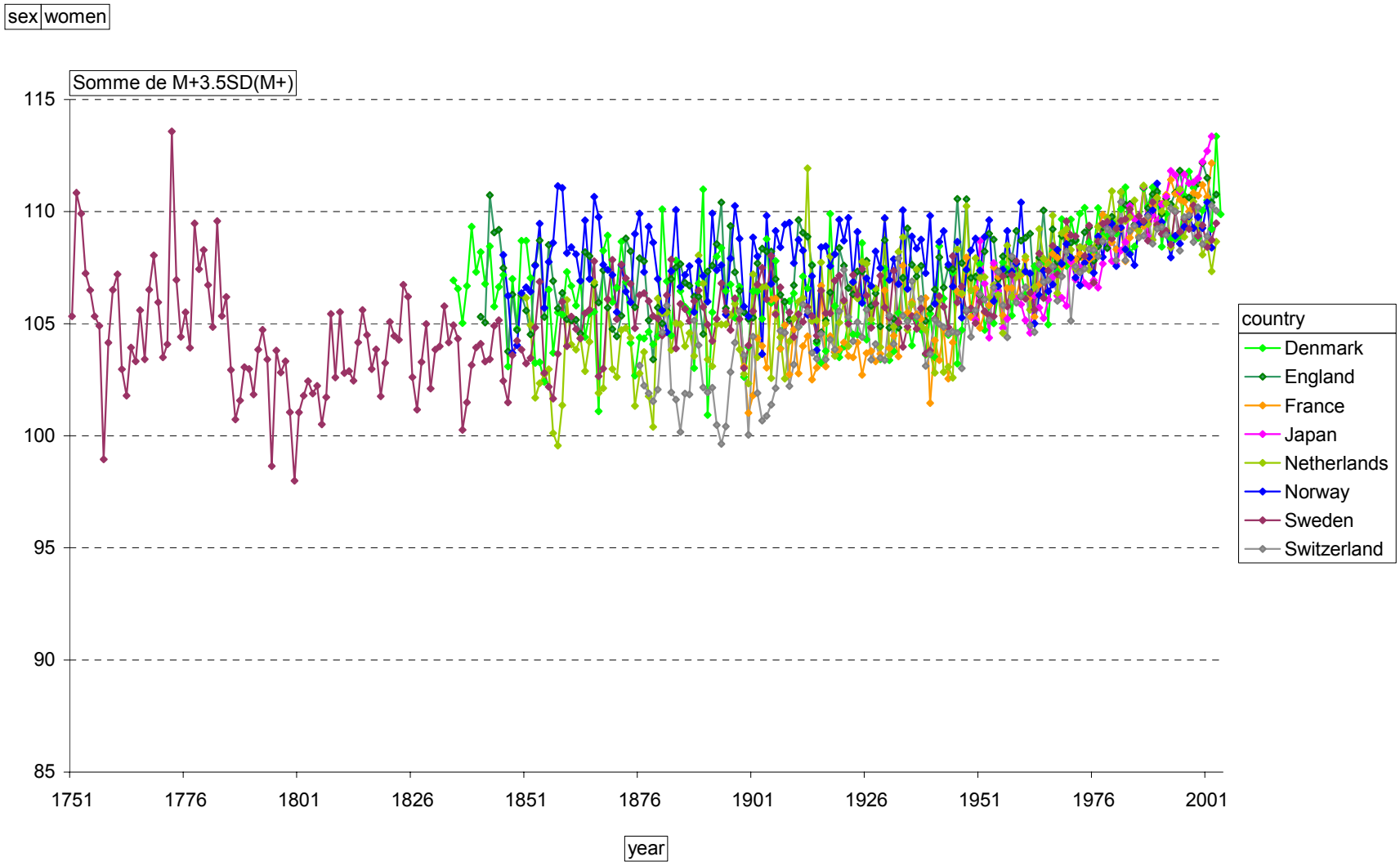
Decrease in the standard deviation of the ages at death above M (SDM+), since 1751: a selection of 9 countries



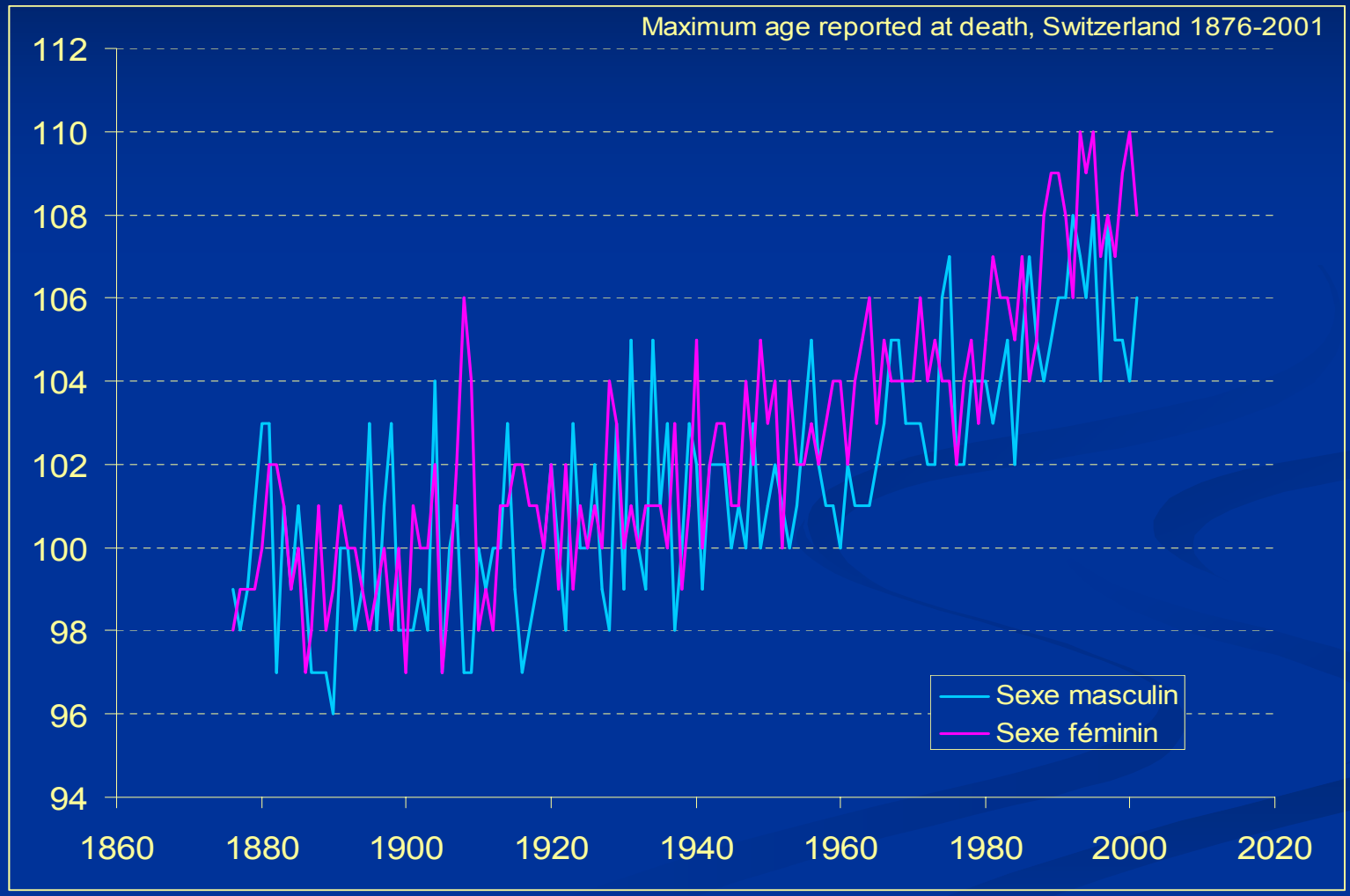
Distribution of the ages at death in Switzerland 1876-1880, 1929-1932, 1988-1993



Increase in M + (3.5*SDM+), since 1751: a selection of 9 countries



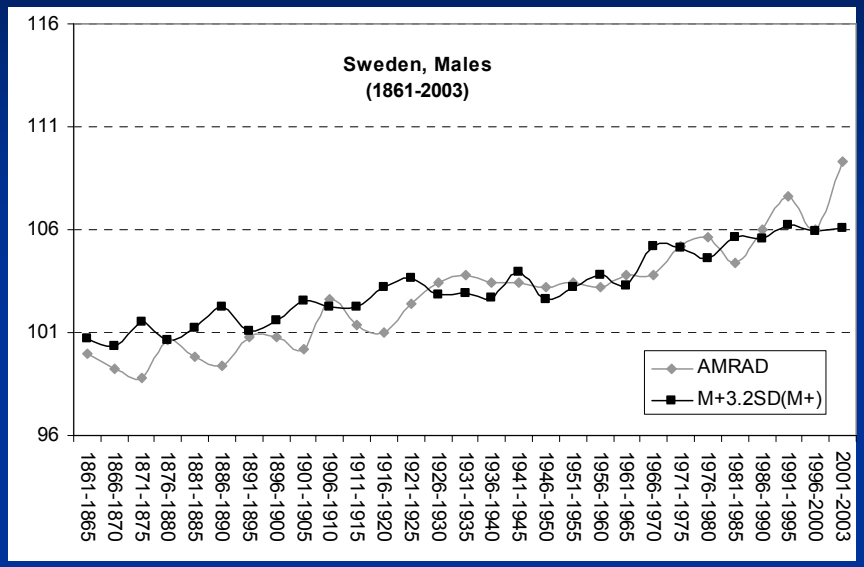
Maximum age reported at death, Switzerland

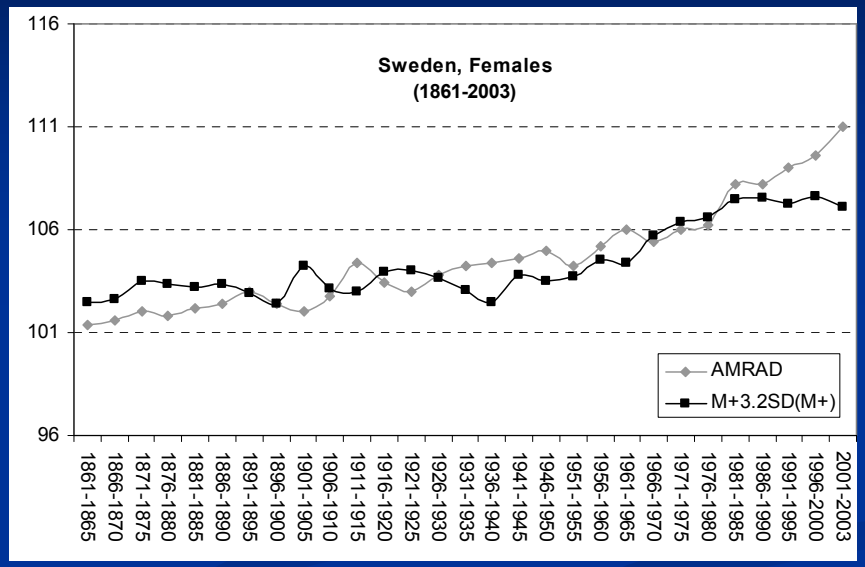


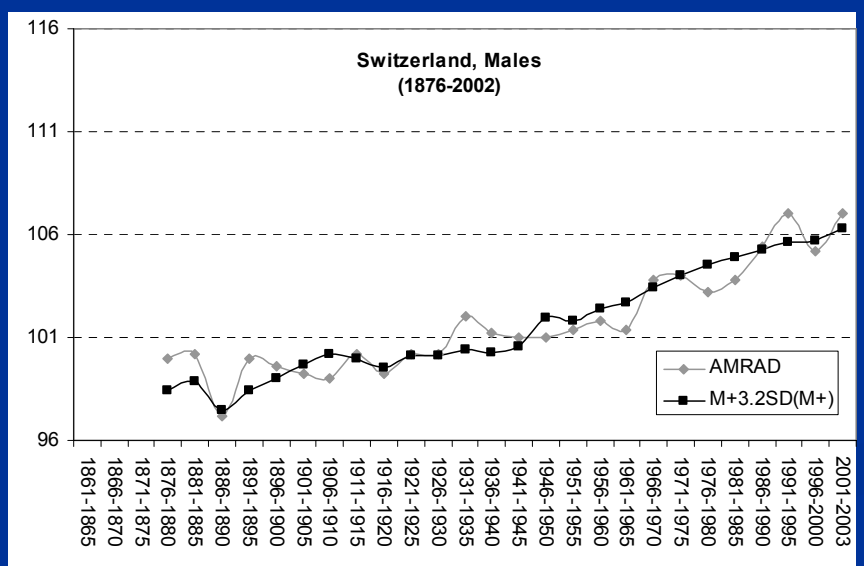
Robine & Paccaud, 2005

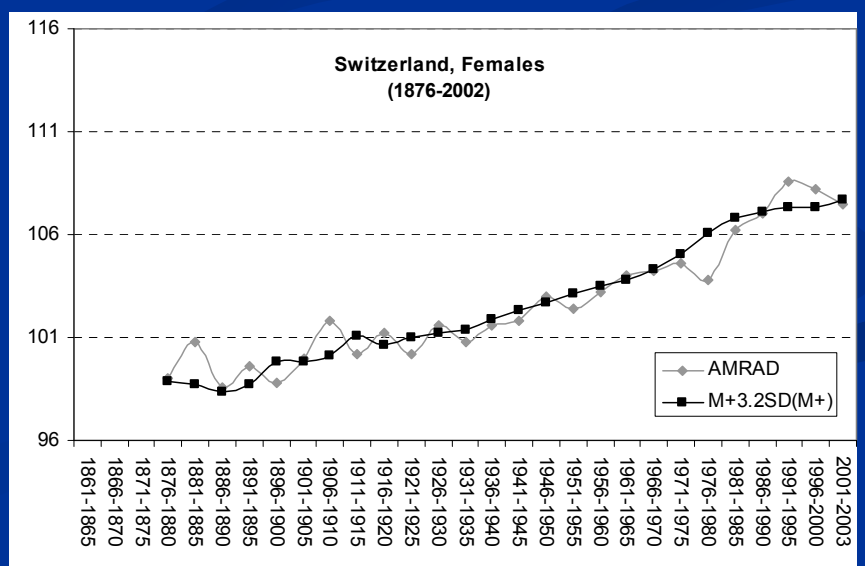
Maximum reported age at death (MRAD) and M + *k**SDM+

BY GENDER SWITZERLAND AND SWEDEN

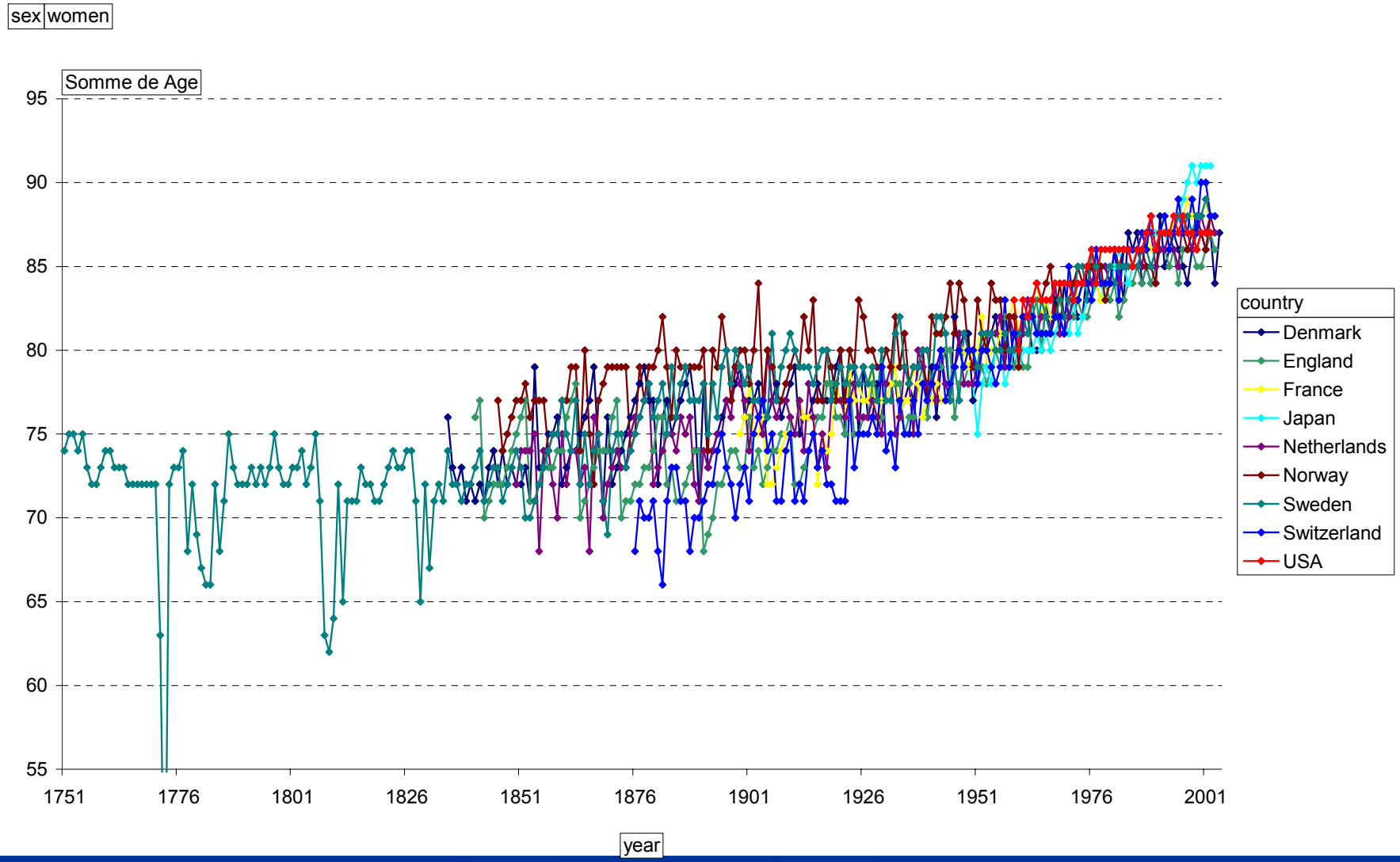
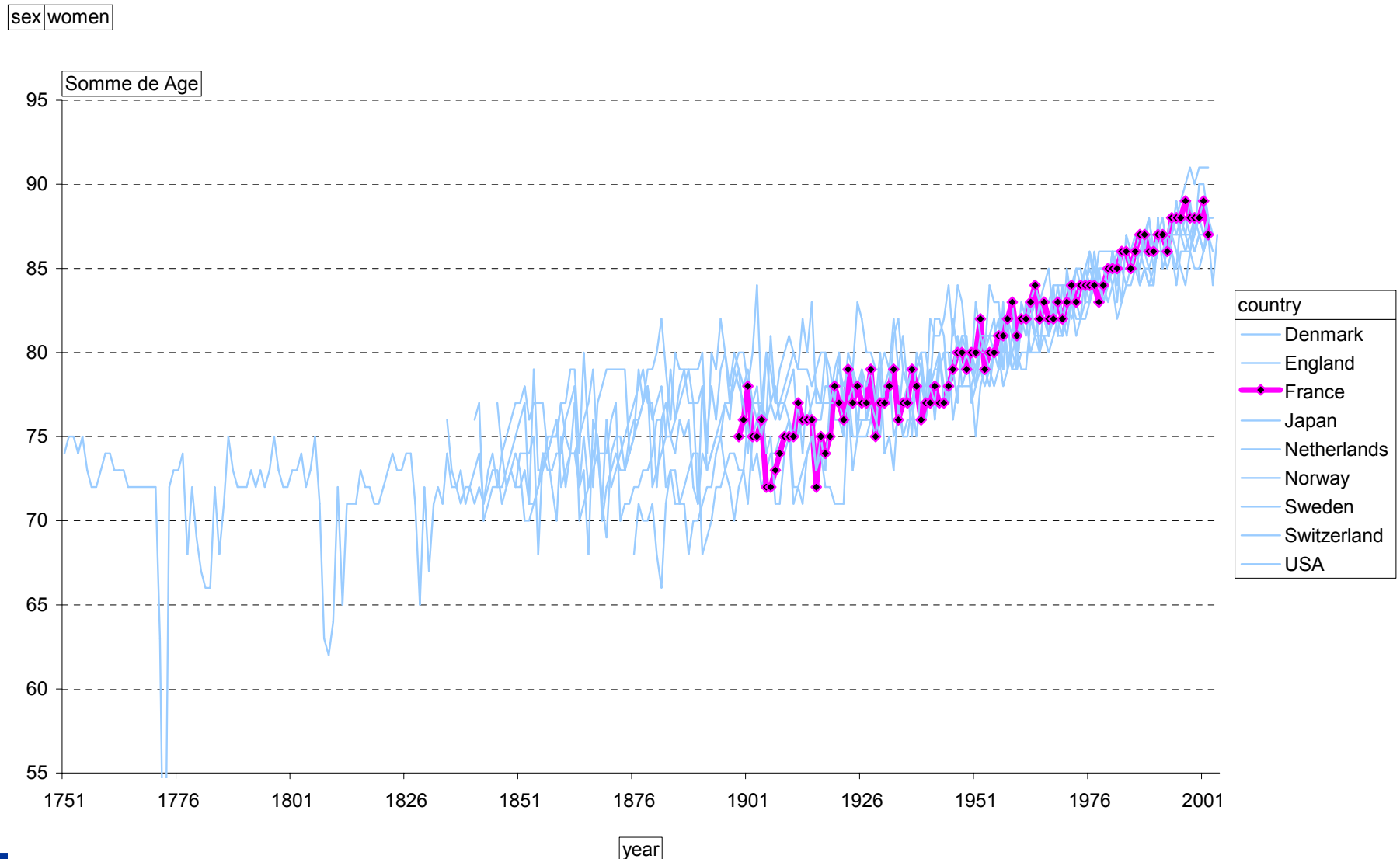








Increase in the modal length of life (M), since 1751: a selection of 9 countries



Augmentation des durées de vie modales (M), depuis 1751: selection de 9 pays