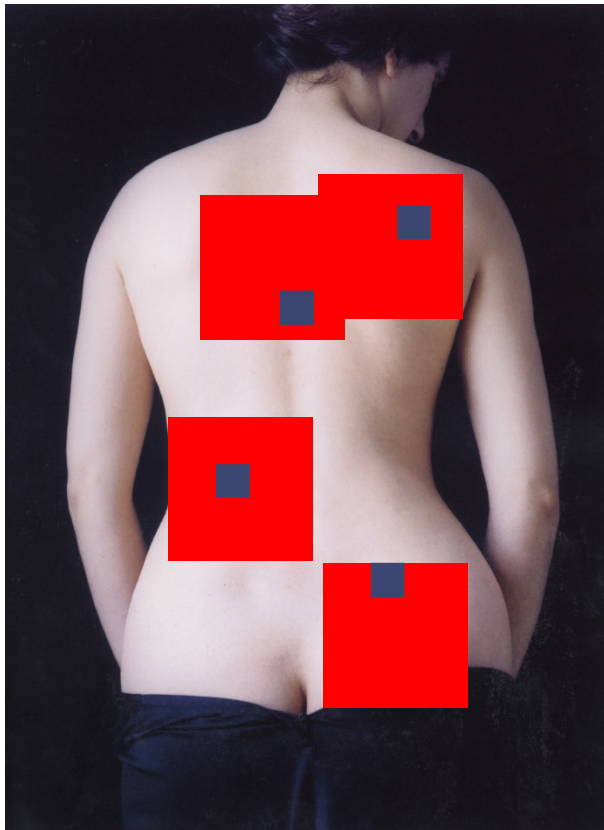


The quest for immortality

di Westendorp

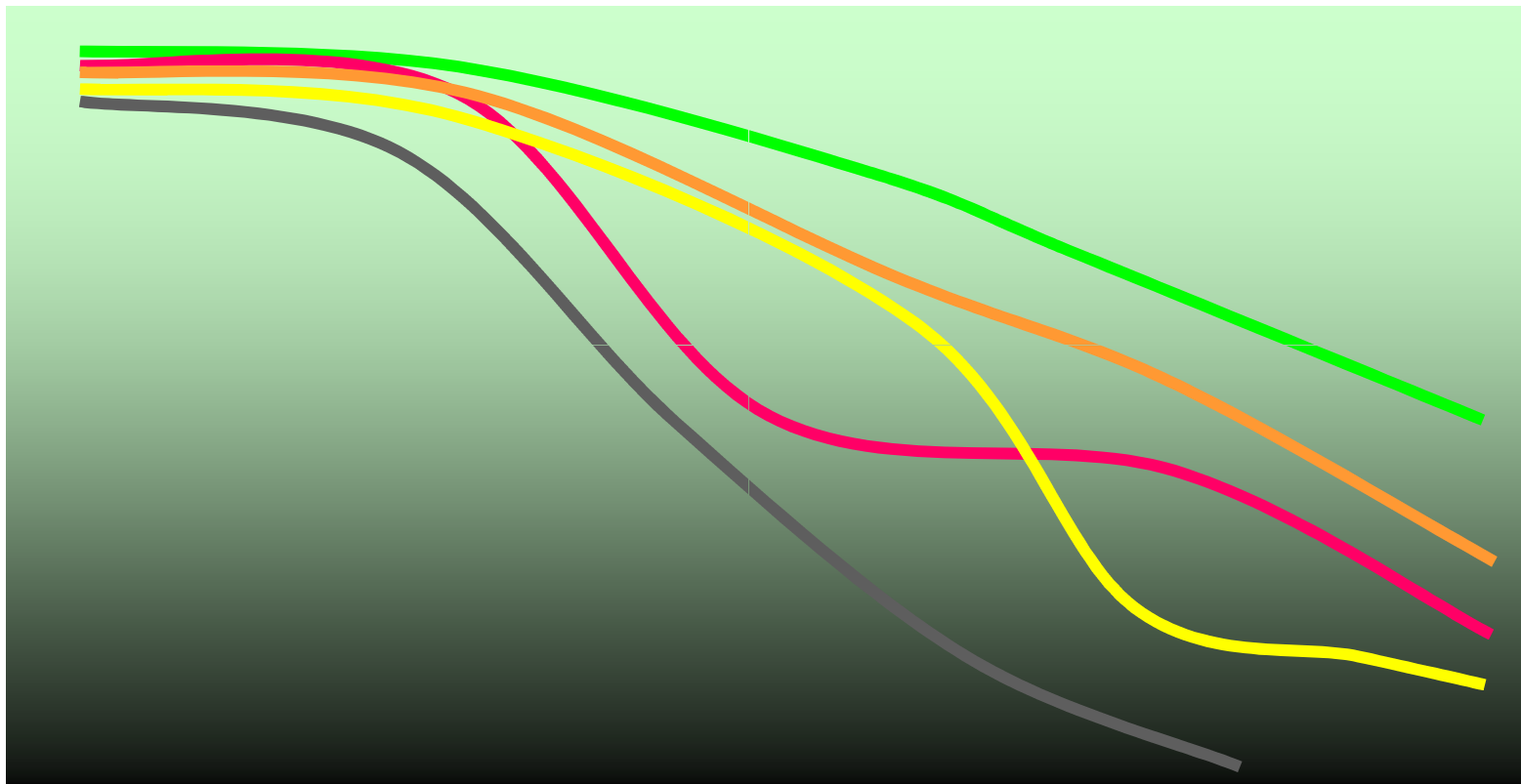
en University Medical Center
en Academy on Vitality and Ageing



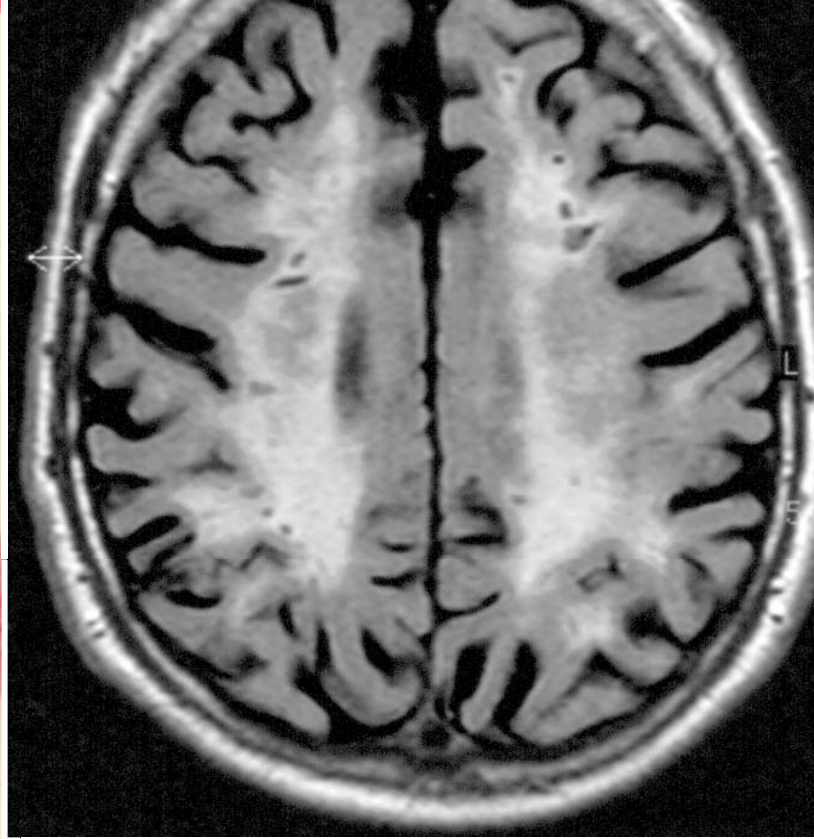


damage and rep

strength, vision, cognition

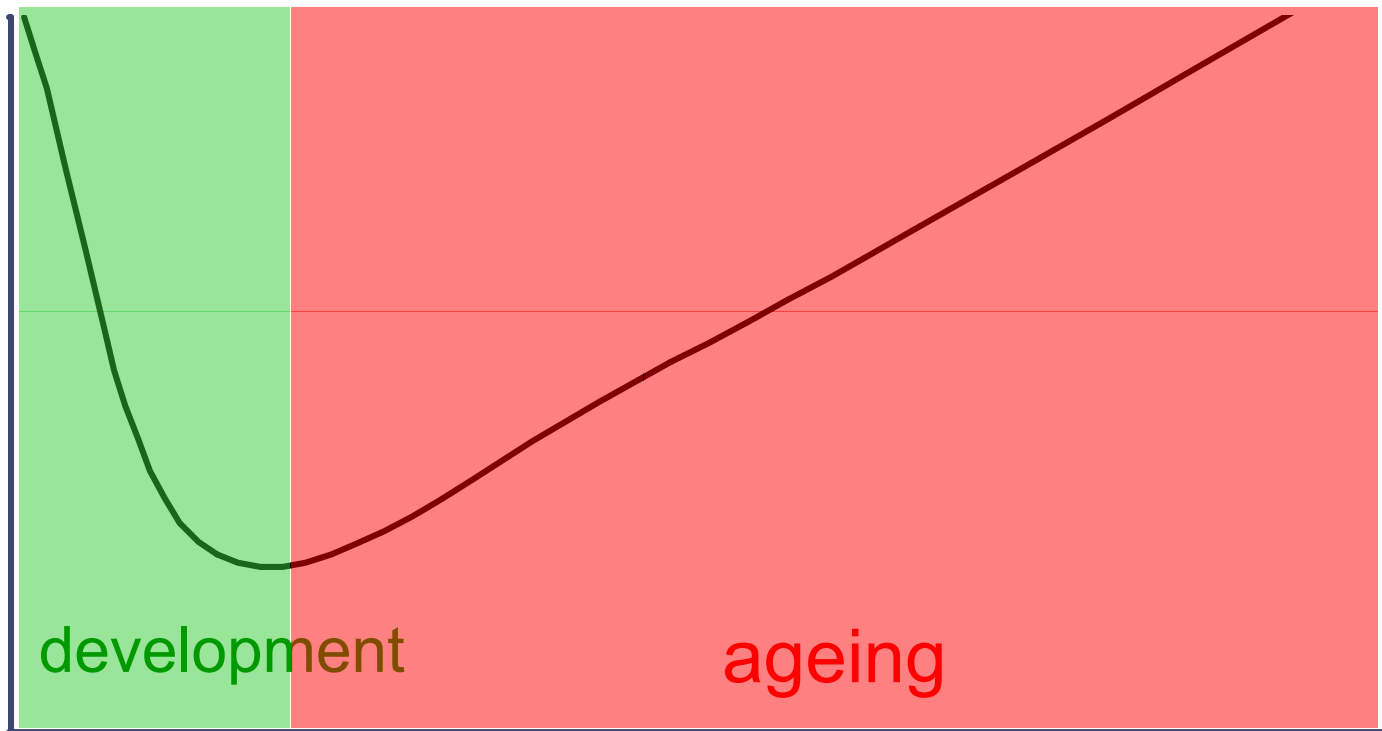


age





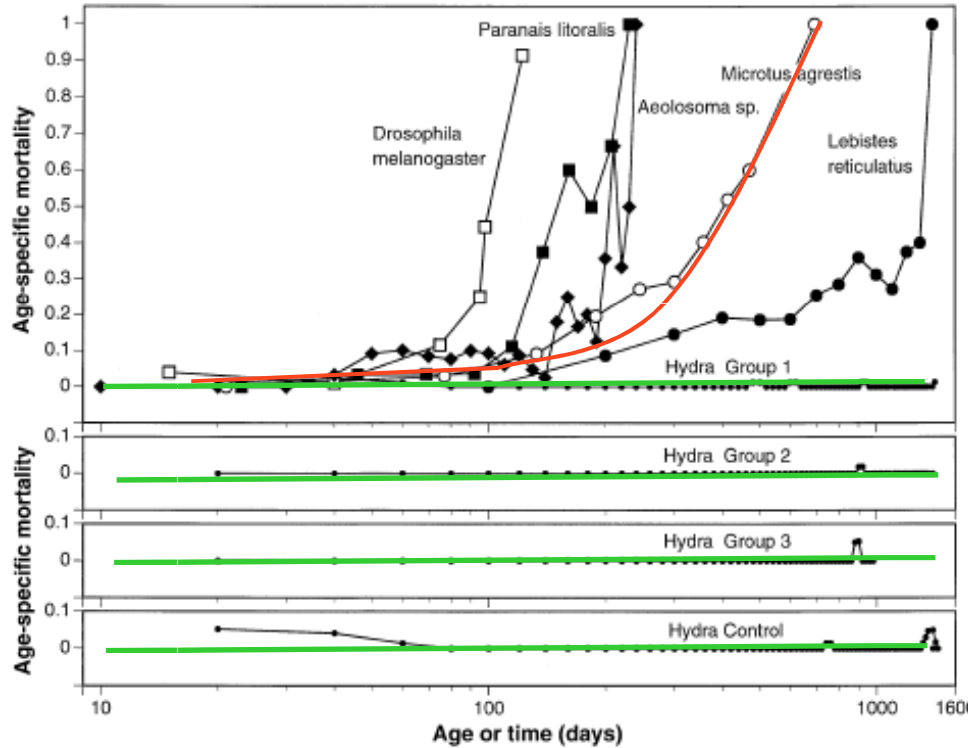
log mortality risk



development

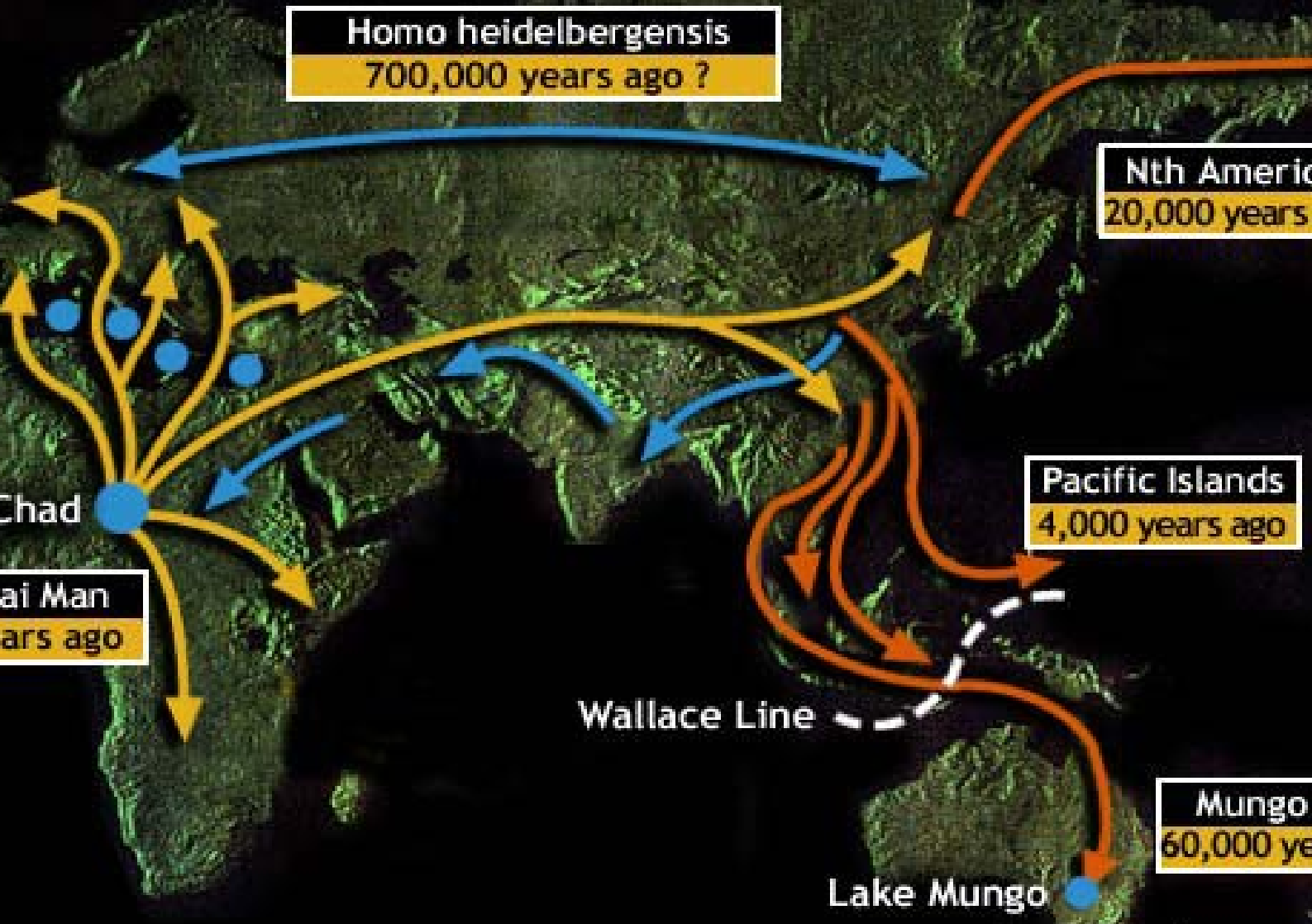
ageing

Ageing is absent in Hydra



“It’s easy to stay young and
so hard to become immortal”

‘tribute to Rodgers and Hart 1935’



Homo heidelbergensis
700,000 years ago ?

Nth America
20,000 years

Pacific Islands
4,000 years ago

Mungo
60,000 years

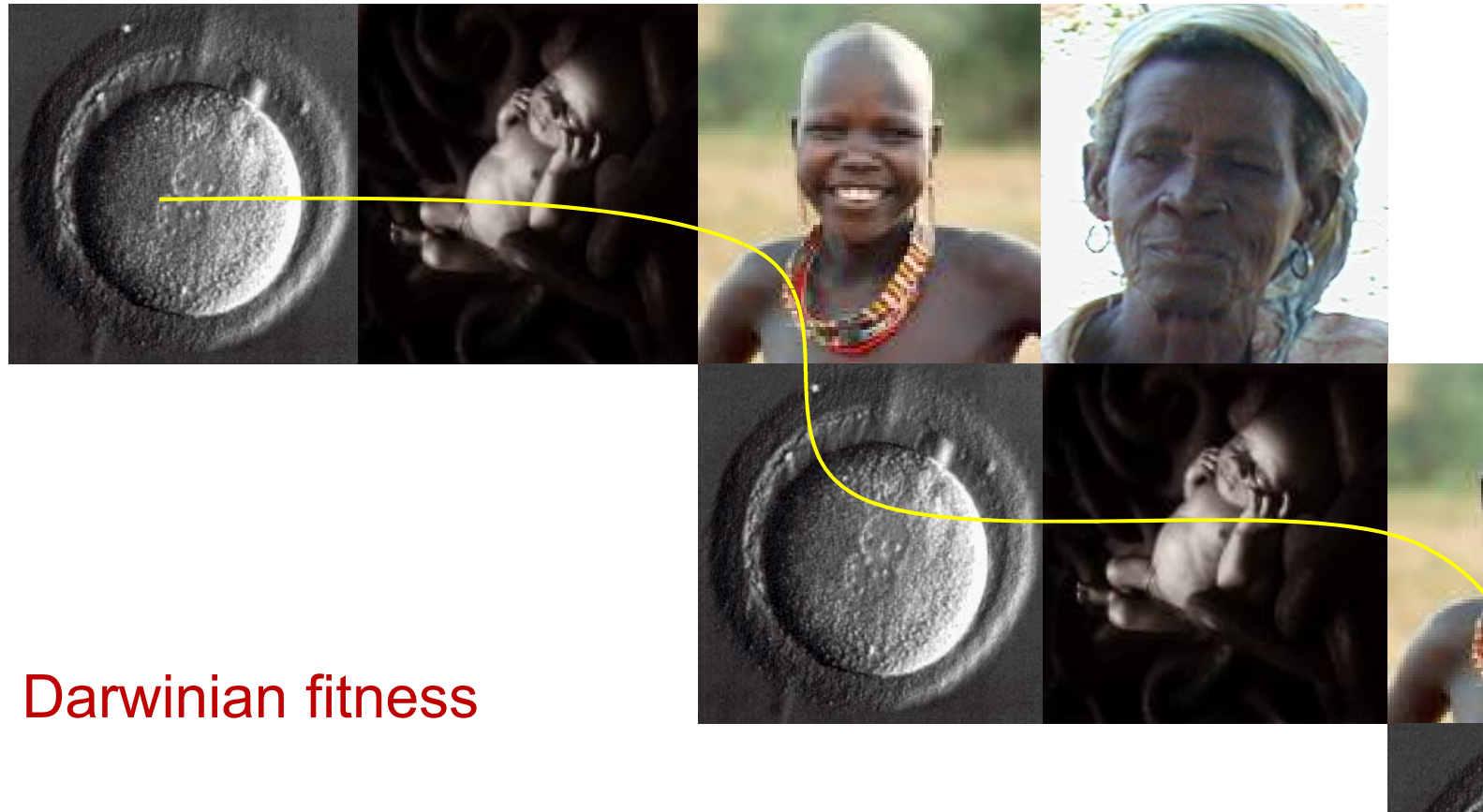
Chad
ai Man
100,000 years ago

Wallace Line

Lake Mungo



original adverse environment

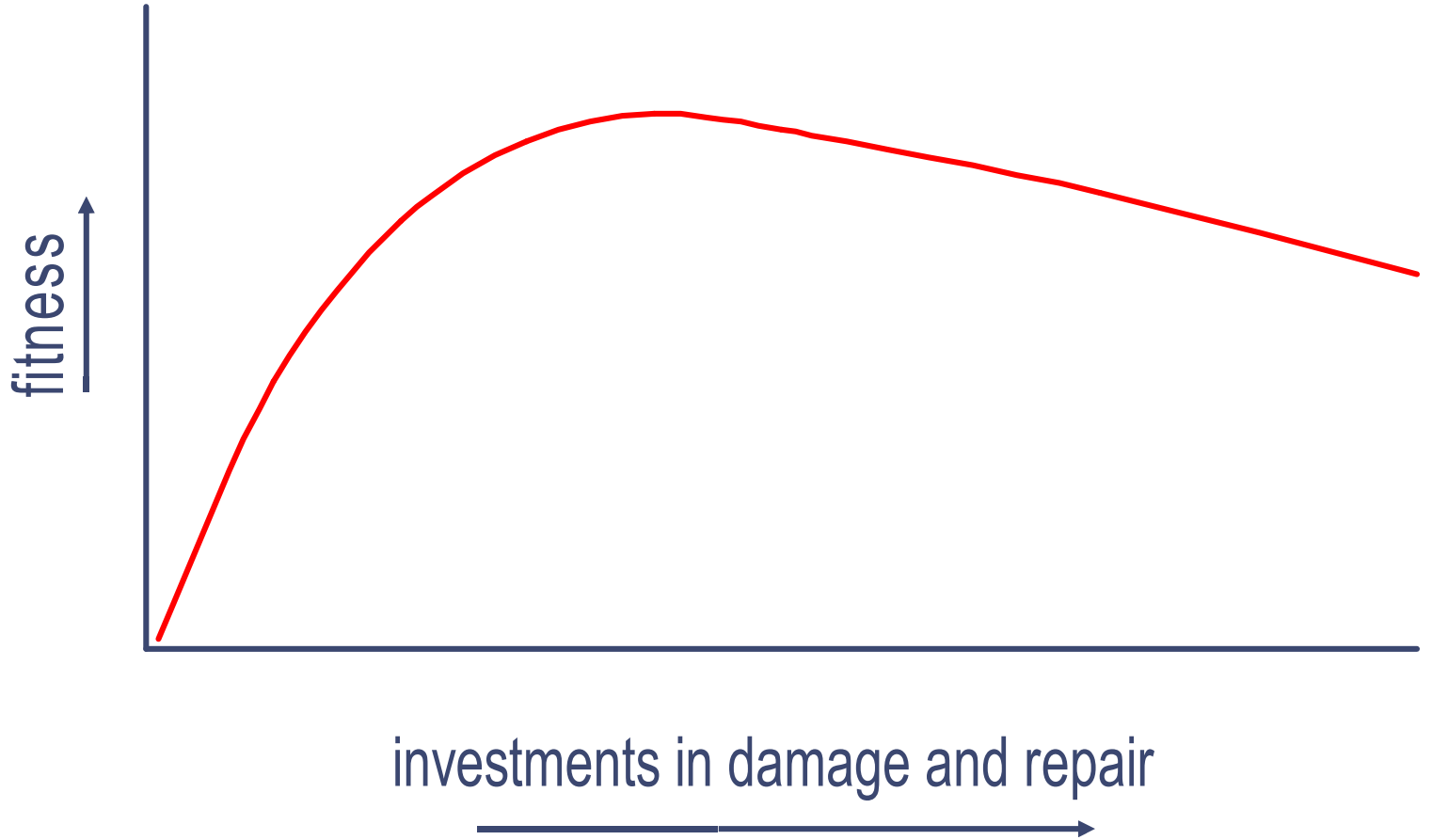


Darwinian fitness

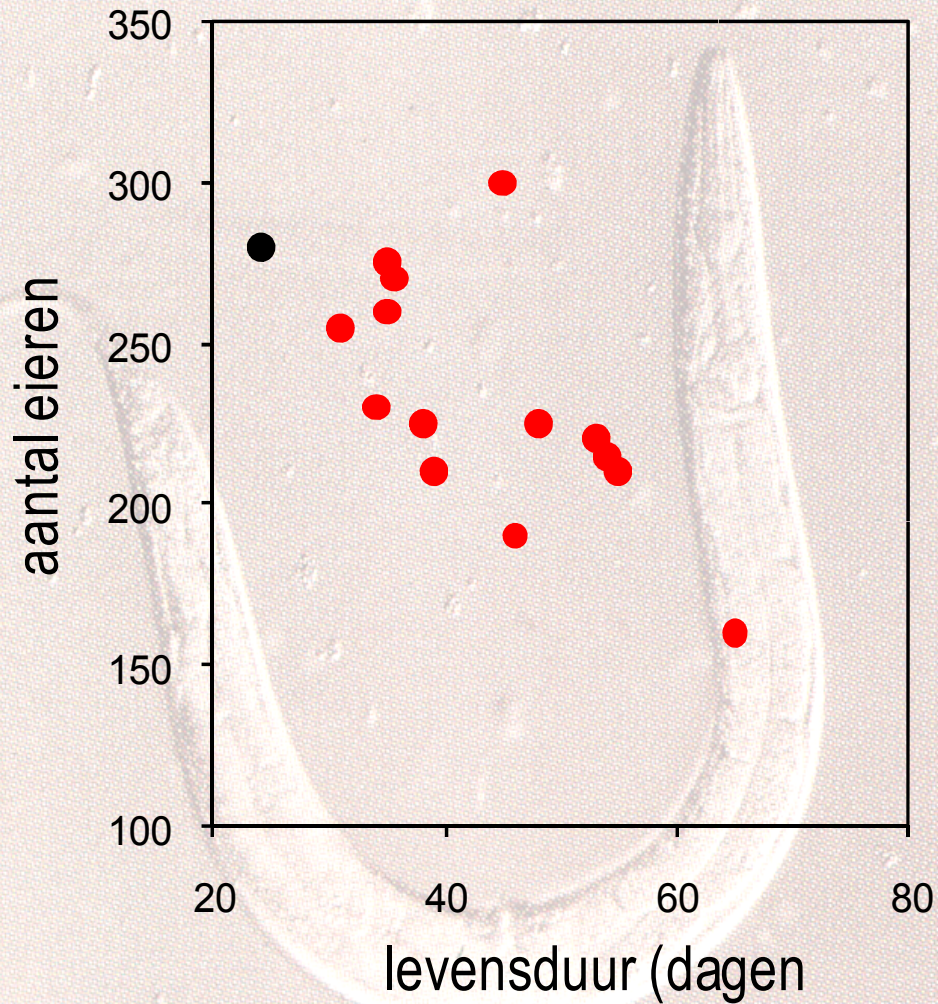
‘the key to understand ageing is why our bodies accumulate damage and ultimately fail whereas our genes are maintained in successive generations’

‘Disposable soma’ Kirkwood 1976

disposable soma theory



C. elegans



Sci/Tech

Breed early, die young



Breeding early could cut years off your life span

Breed early and the chances are you will die young. Research just published in the science journal Nature suggests there is a trade-off between reproduction and long life.



[BBC Science Correspondent Sue Nelson: Uncovering secrets of long life](#)

The association has already been shown in flies and now a study of the British aristocracy appears to indicate the same is true in humans.

Professor Thomas Kirkwood, from the University of Manchester, said:

Sci/Tech Contents

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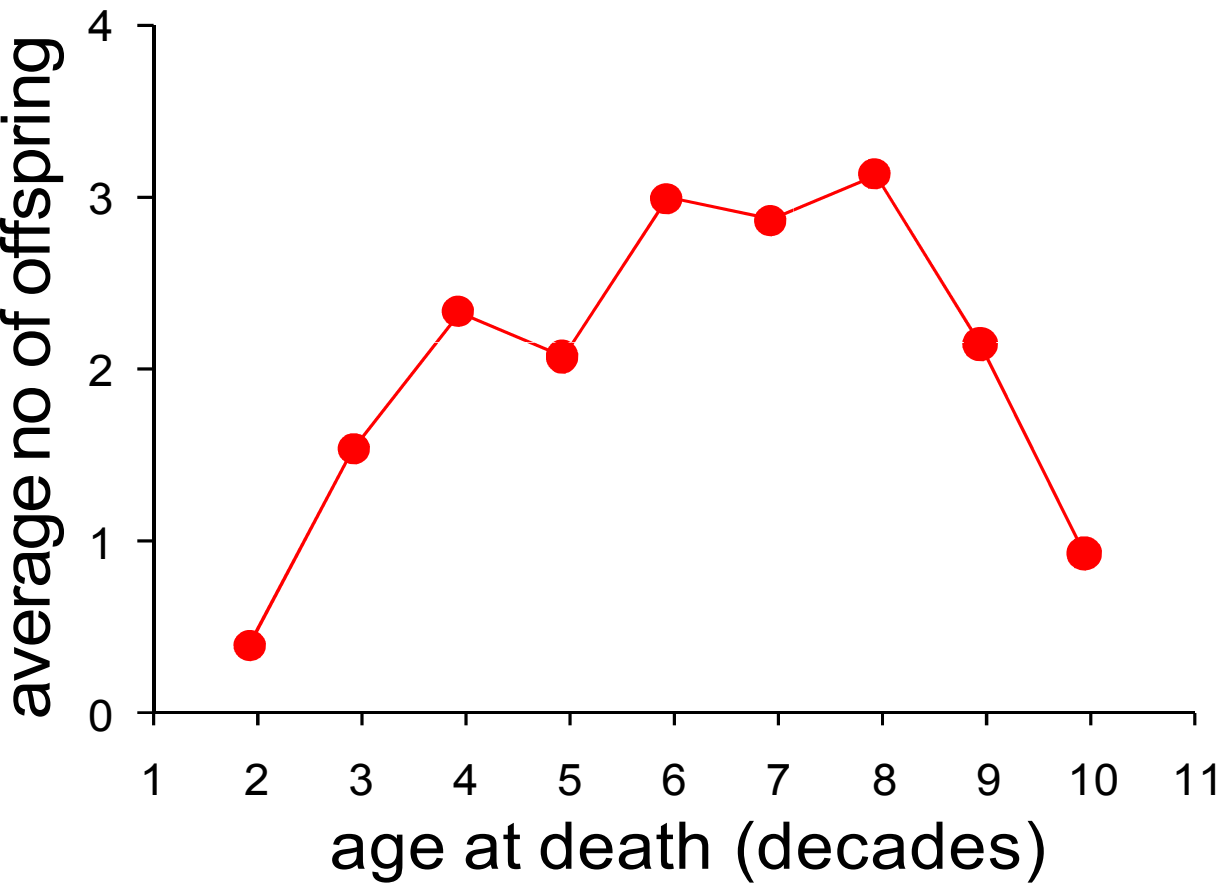
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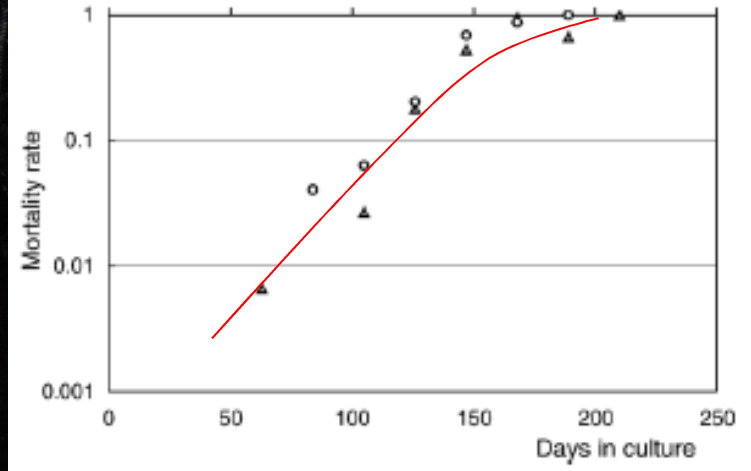
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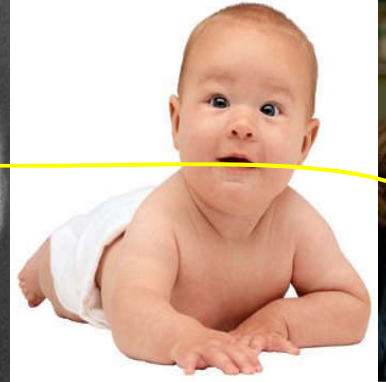
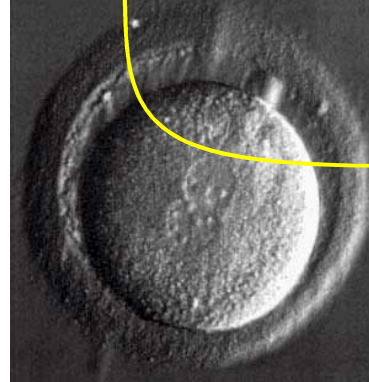
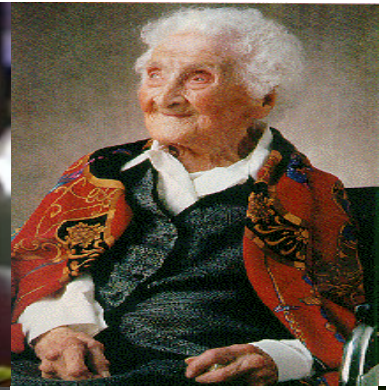
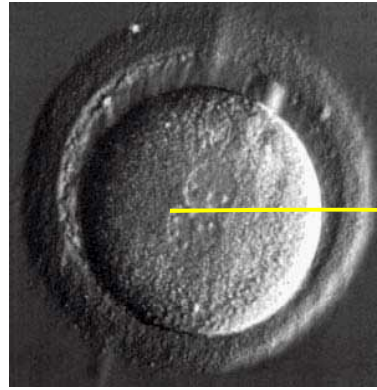


Trade-offs in aristocratic women



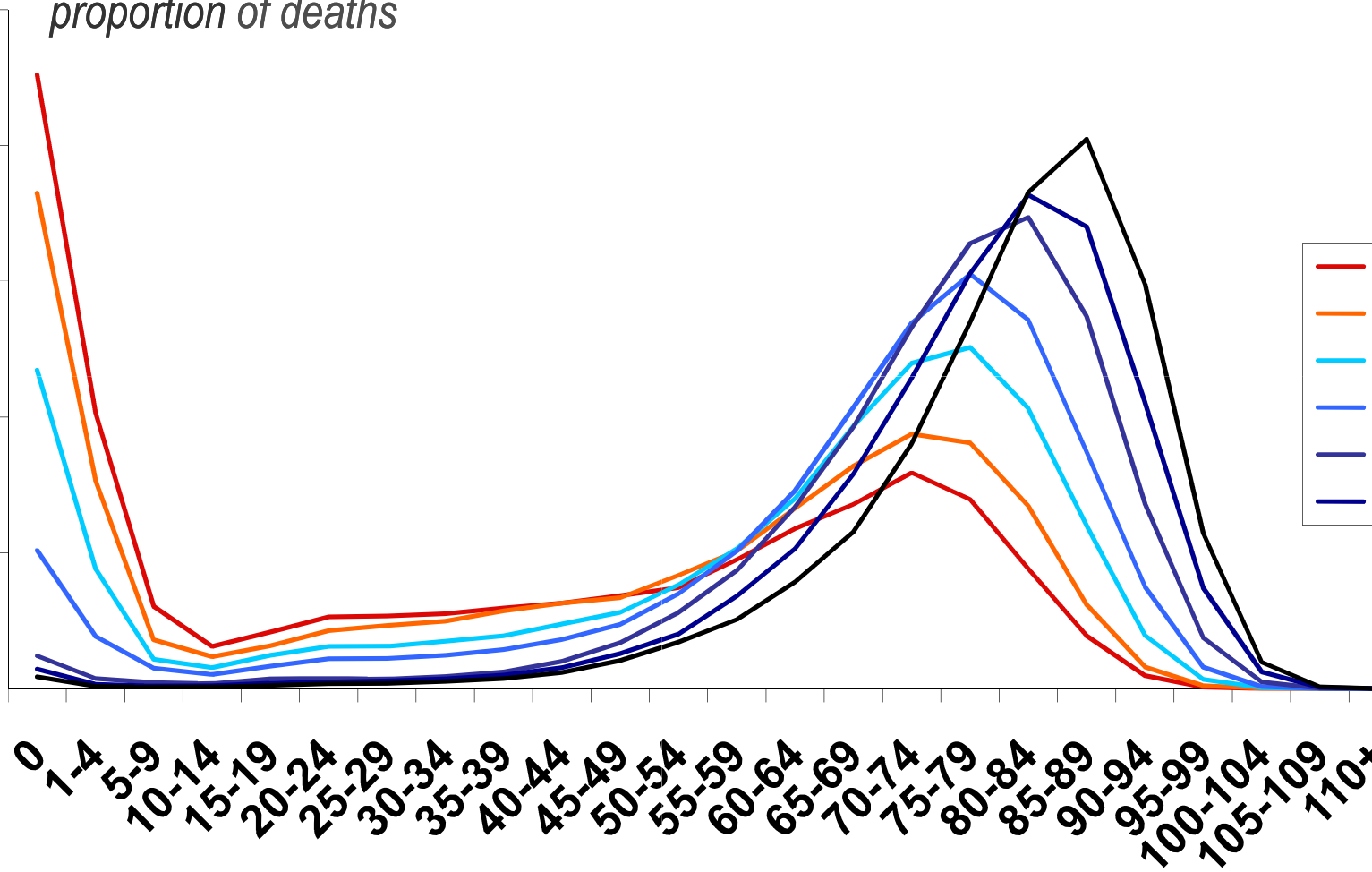


nowadays affluent environmen



Longevity revolution

proportion of deaths



The Joy of Stats



Help us cross the ri
myths



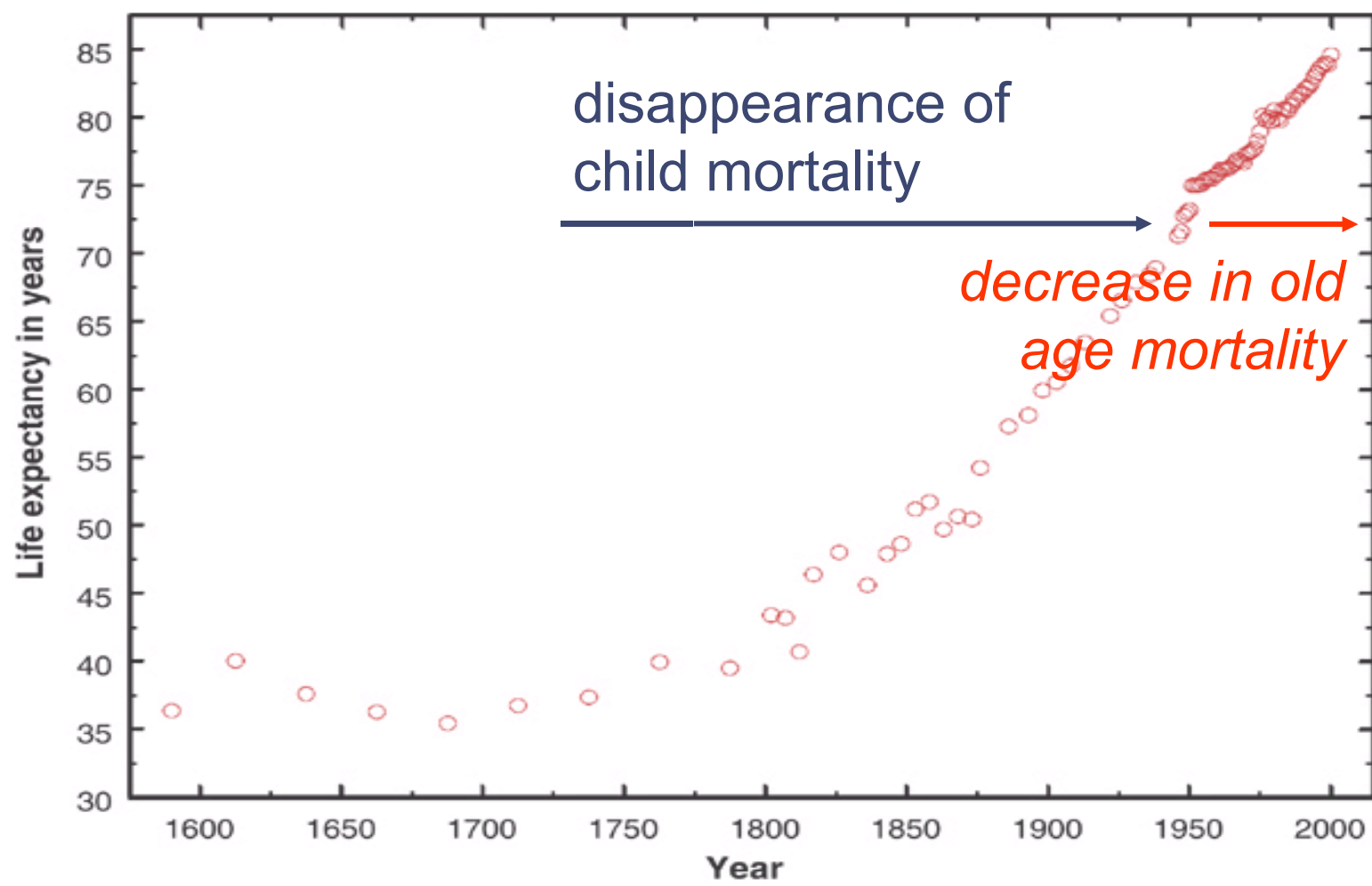
Please read Hans Rosling's
personal appeal.

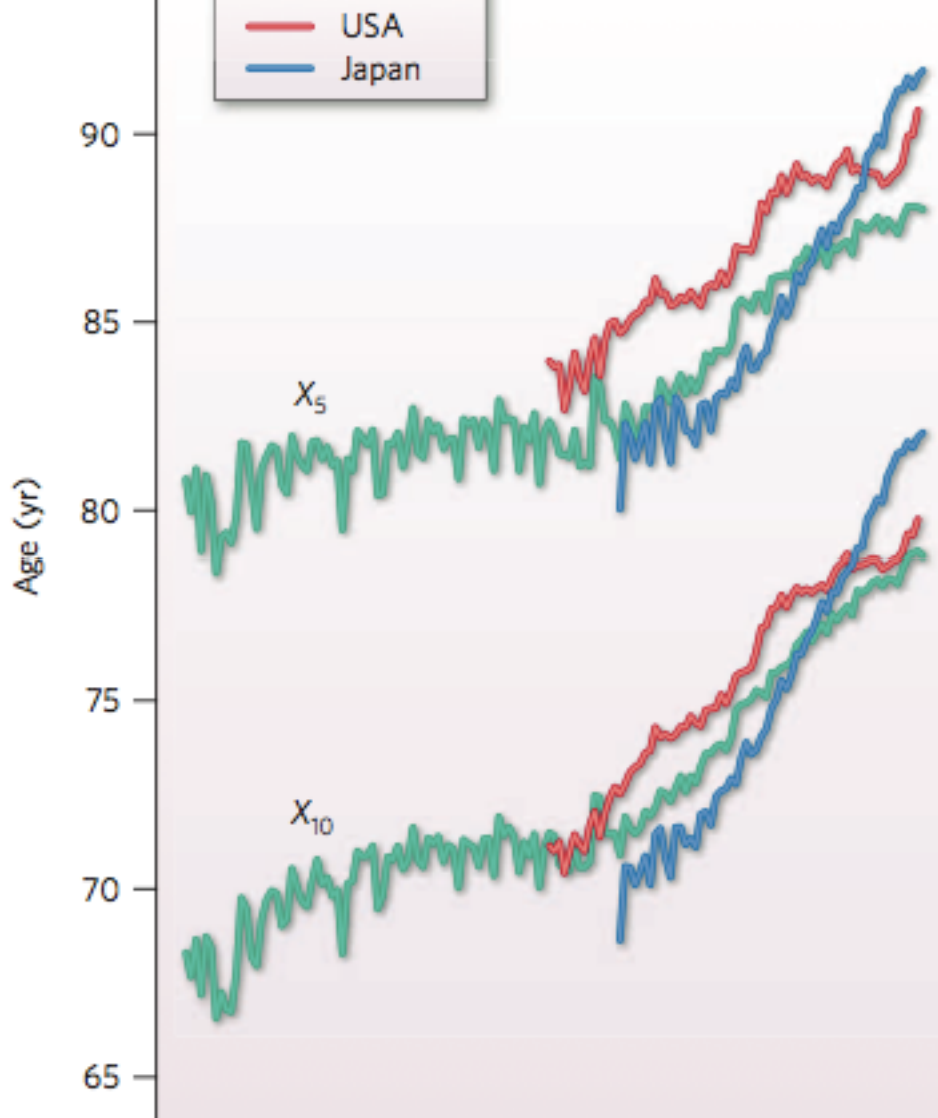
Like 2K

Tweet 546



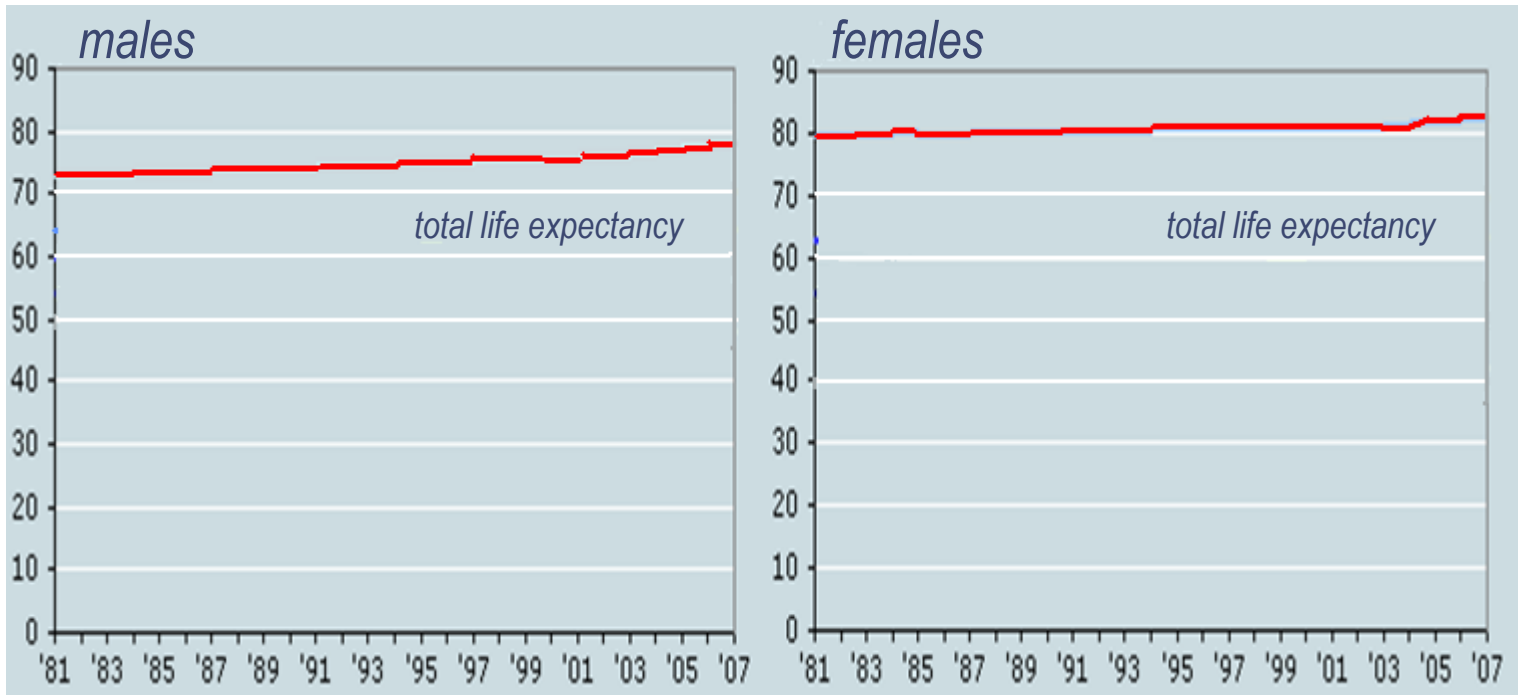
the demographic revolution





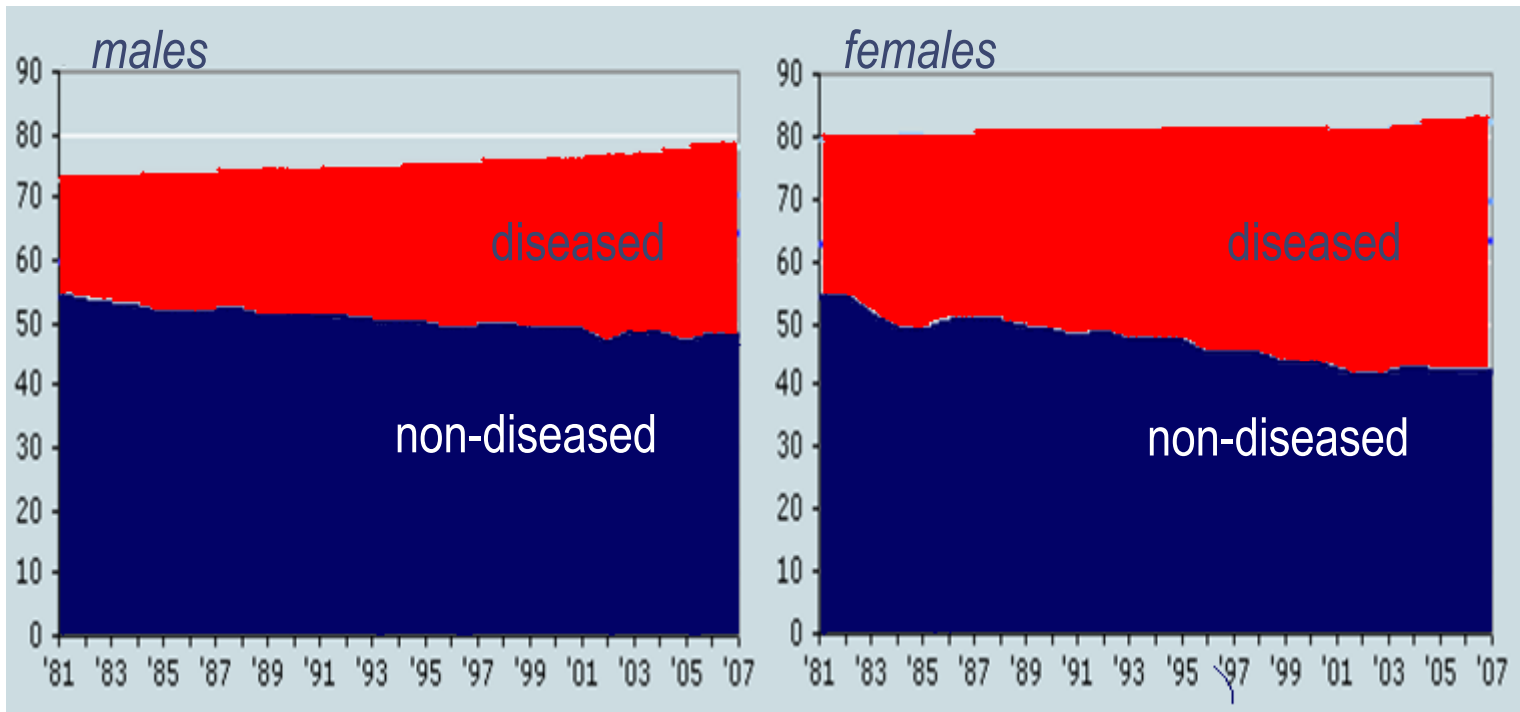
Appearance of
the oldest ol

Life expectancy over time

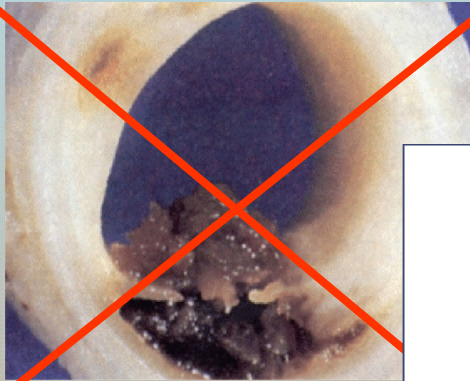


calendar time

Disease free life expectancy over time

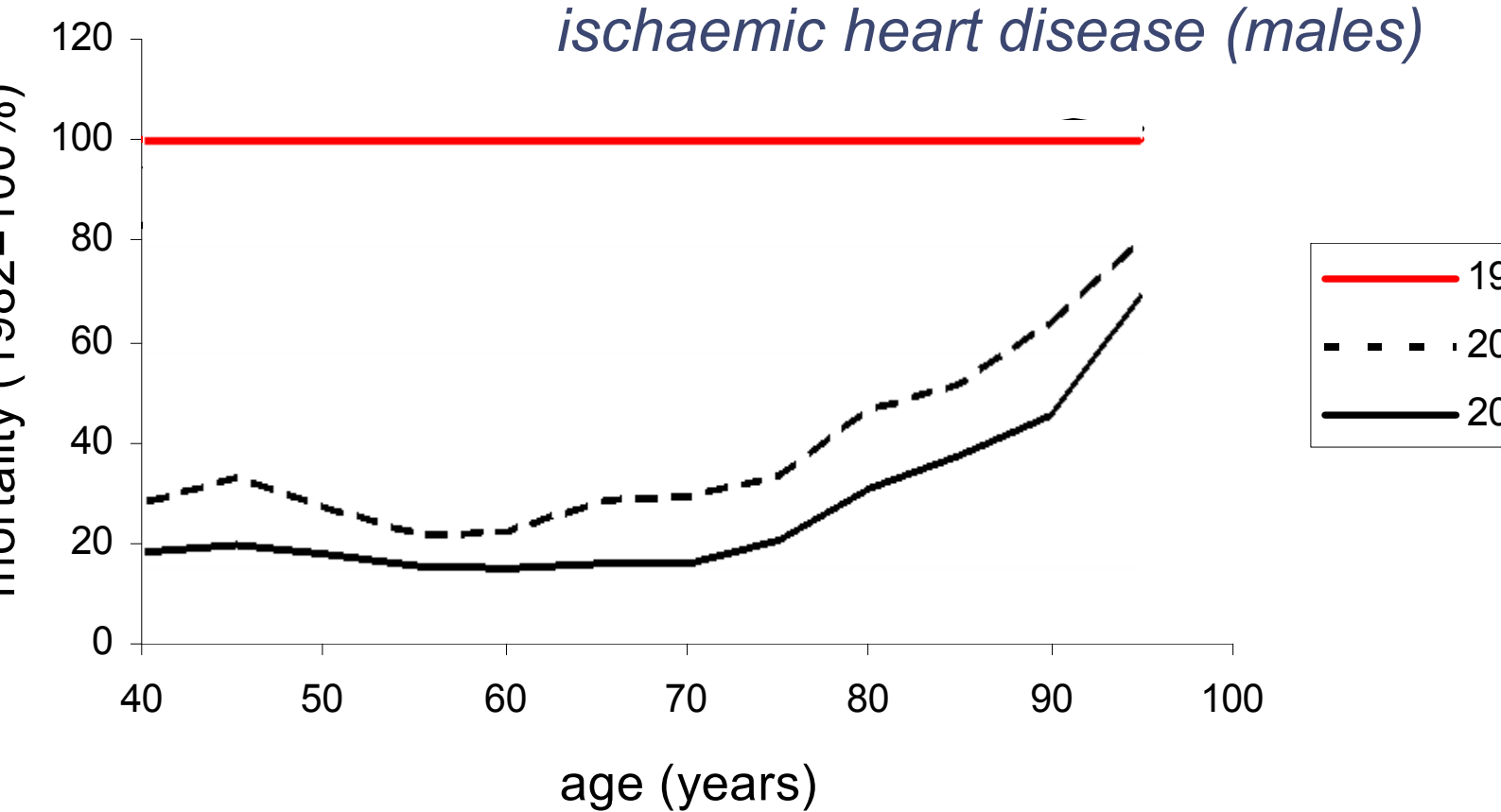


calendar time

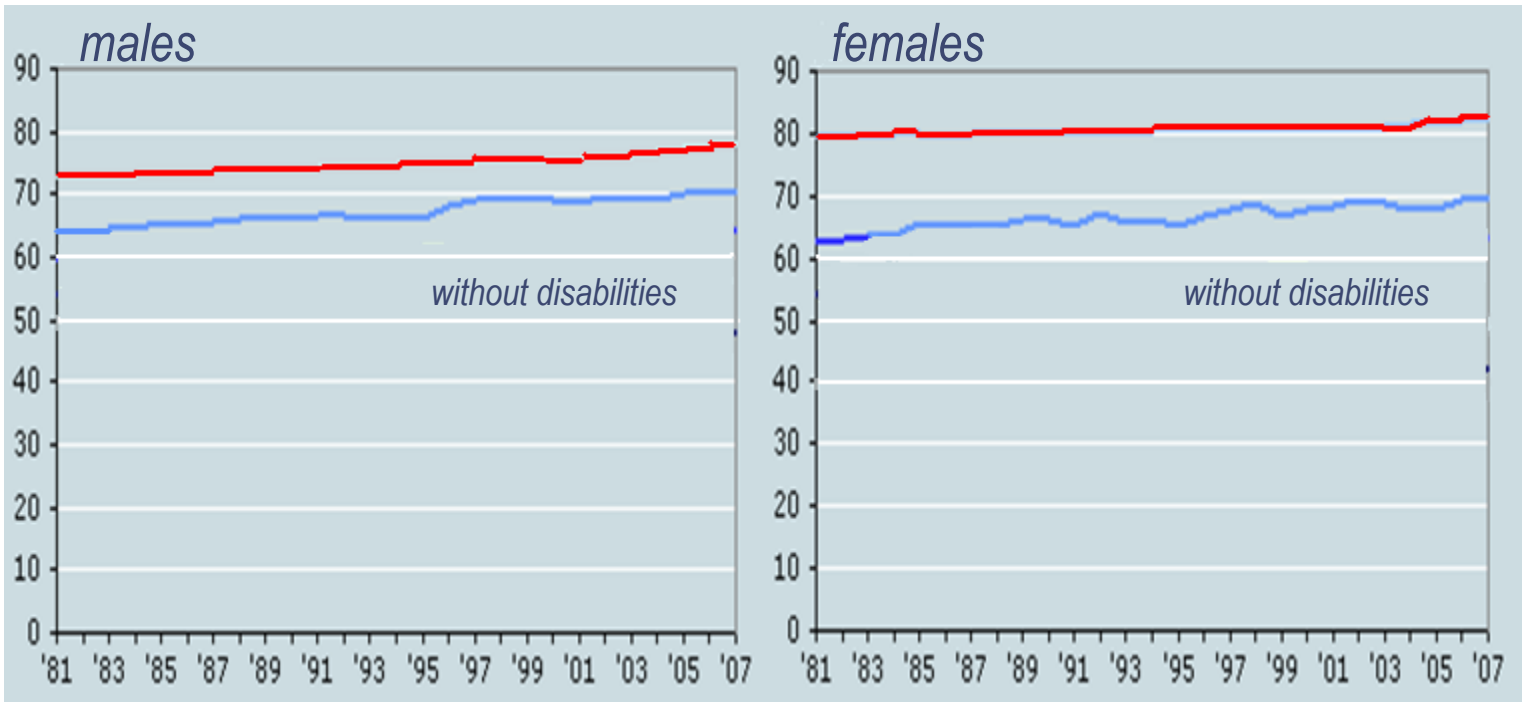


chronic
heart
failure

Decrease of mortality over time

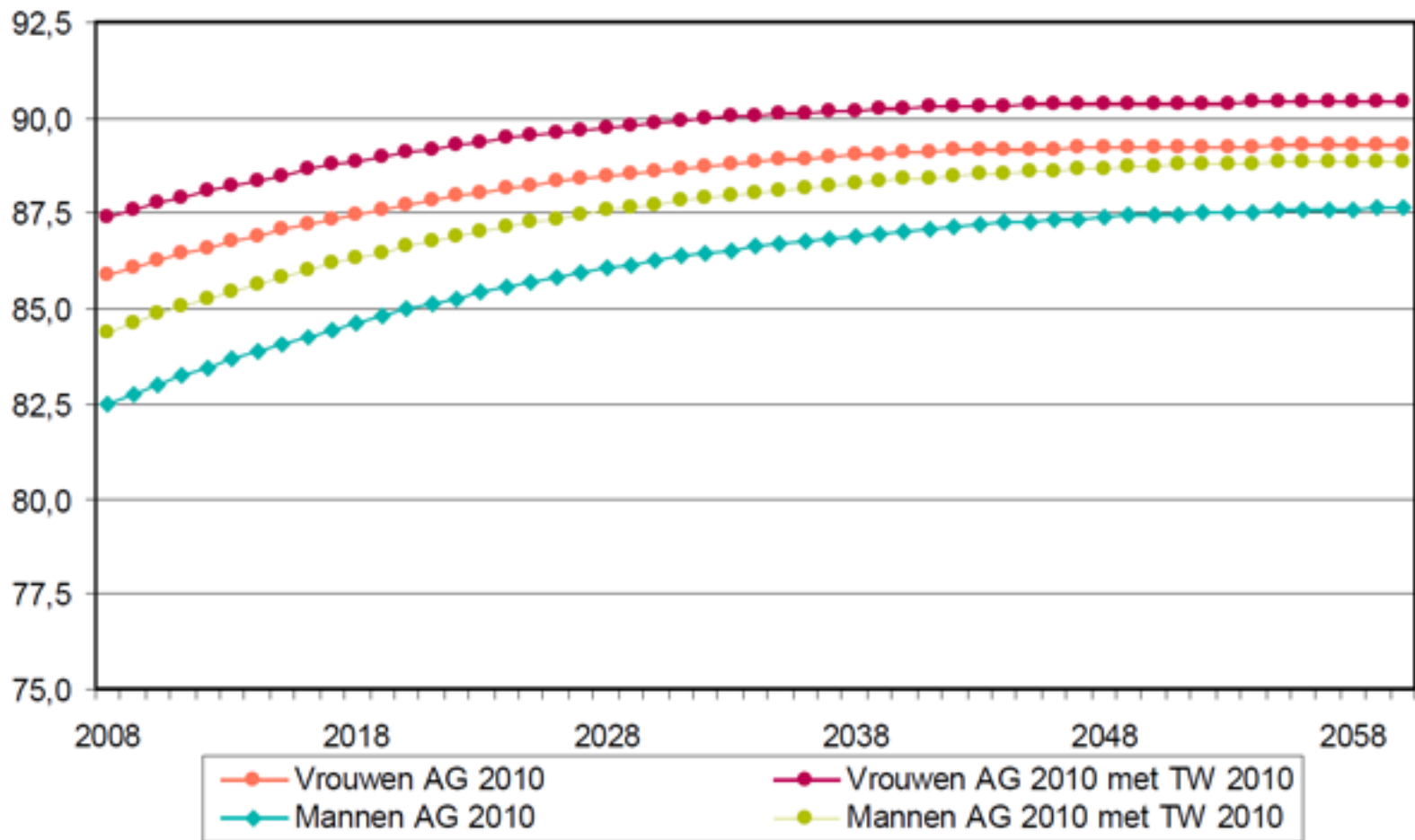


Healthy life expectancy over time



calendar time

Development of life expectancy



How old do you get?

Oldest Age at which at least 50% of a birth cohort is still alive in
countries

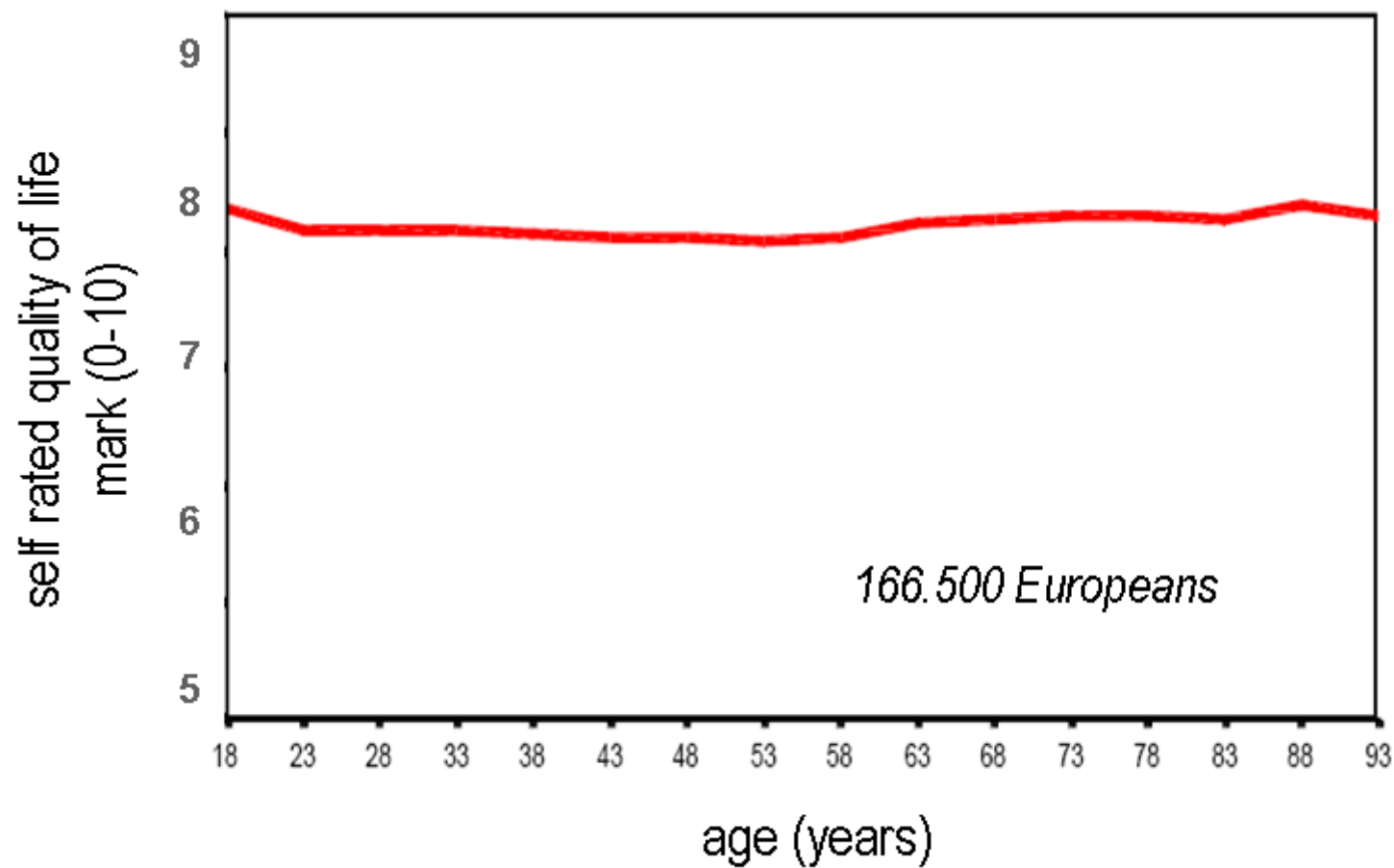
| Country | Year | | | | | | | |
|----------------|------|------|------|------|------|------|------|------|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
| Canada | 102 | 102 | 103 | 103 | 103 | 104 | 104 | 104 |
| Denmark | 99 | 99 | 100 | 100 | 101 | 101 | 101 | 101 |
| France | 102 | 102 | 103 | 103 | 103 | 104 | 104 | 104 |
| Germany | 99 | 100 | 100 | 100 | 101 | 101 | 101 | 101 |
| Italy | 102 | 102 | 102 | 103 | 103 | 103 | 104 | 104 |
| Japan | 104 | 105 | 105 | 105 | 106 | 106 | 106 | 106 |
| Netherlands | 100 | 100 | 100 | 100 | 101 | 101 | 101 | 101 |
| United Kingdom | 100 | 101 | 101 | 101 | 102 | 102 | 103 | 103 |
| United States | 101 | 102 | 102 | 103 | 103 | 103 | 104 | 104 |

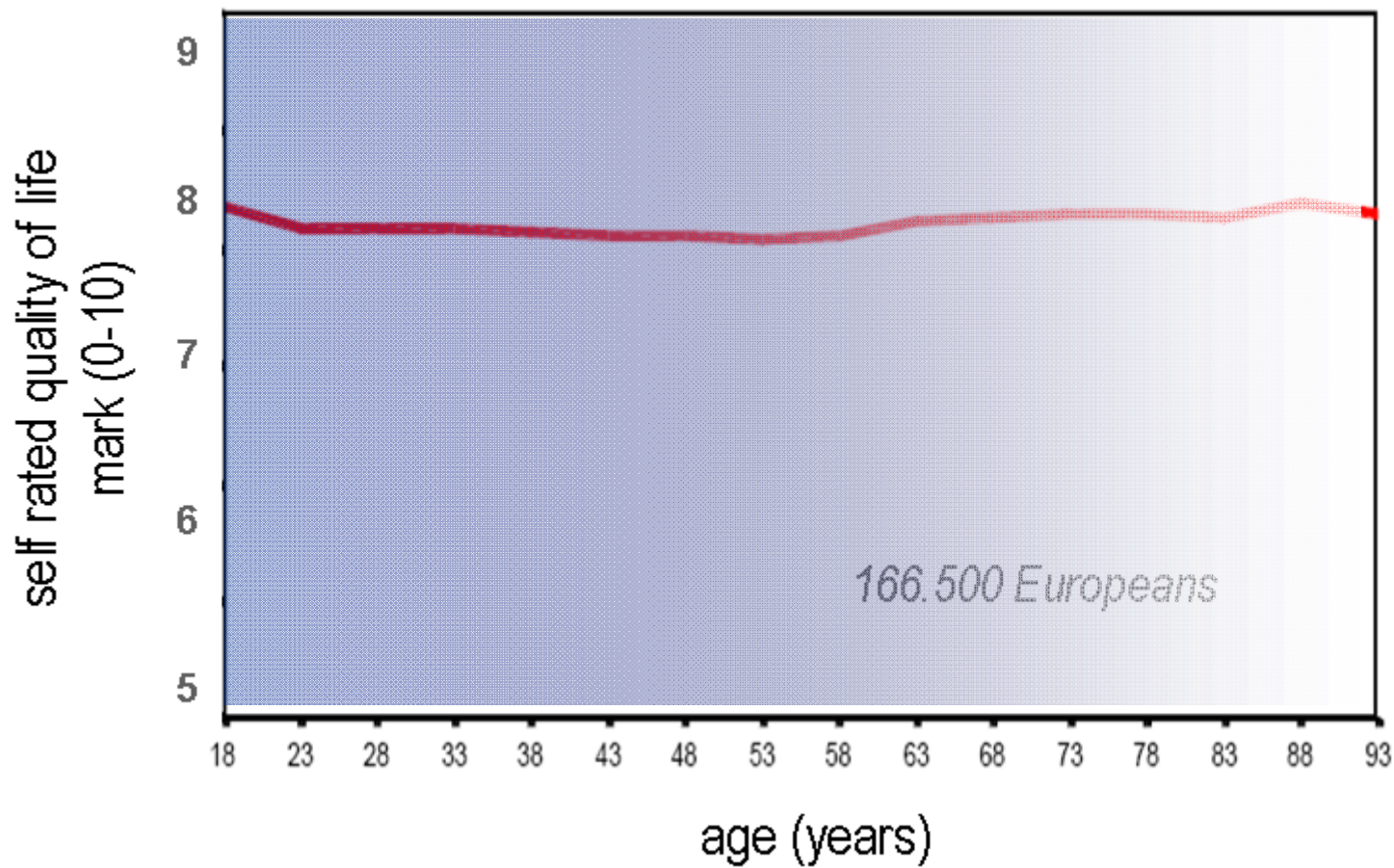
Strategies for Engineered Negligible Senescence”



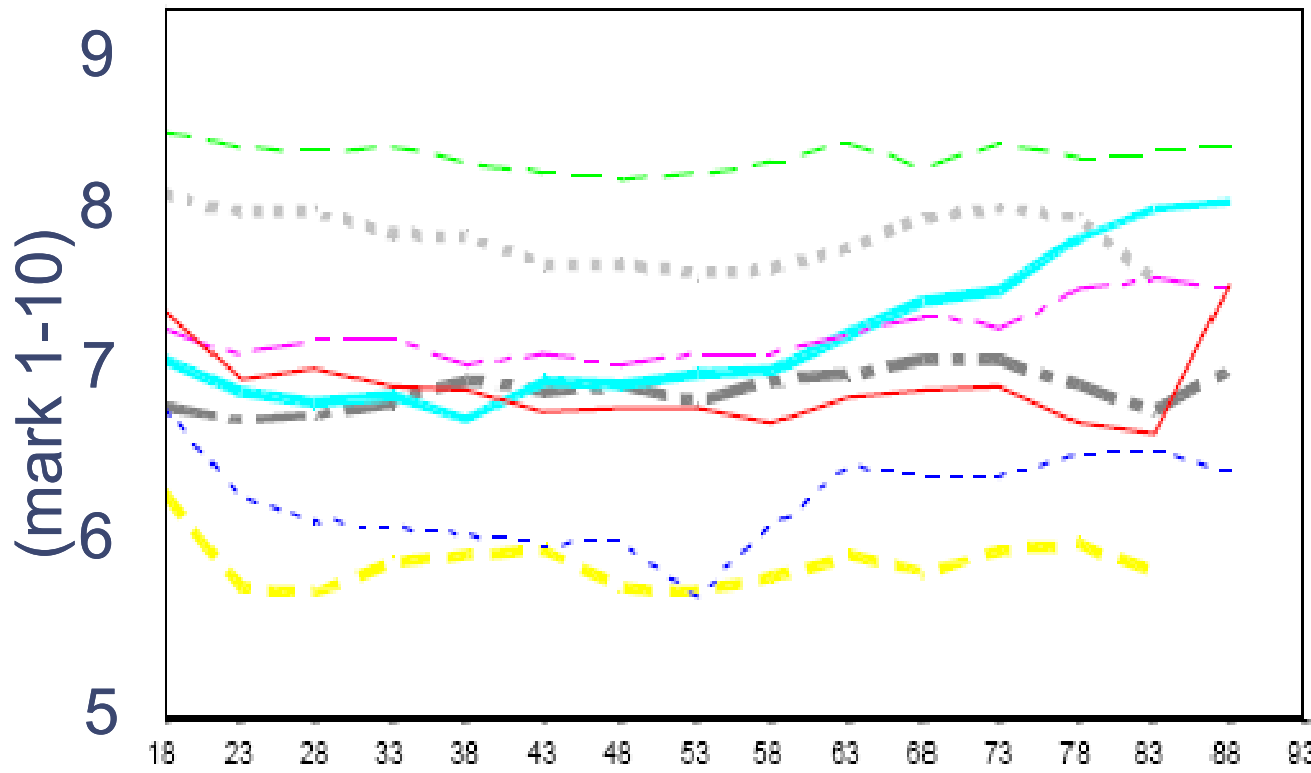
Aubrey de Grey, PhD

Chairman and Chief Science
Officer of the SENS foundation





Self rate quality of life



- België
- - - Denemark
- - - Frankrijk
- - - Engeland
- N.Ierland
- - - Italië
- - - Nederland
- - - W. Duitsland

age (years)



How to stay young and healthy Aging gracefully

In the industrialized world, birth rates are falling and people are living longer. This will require a new focus on research to promote healthy aging.