

World Population Aging

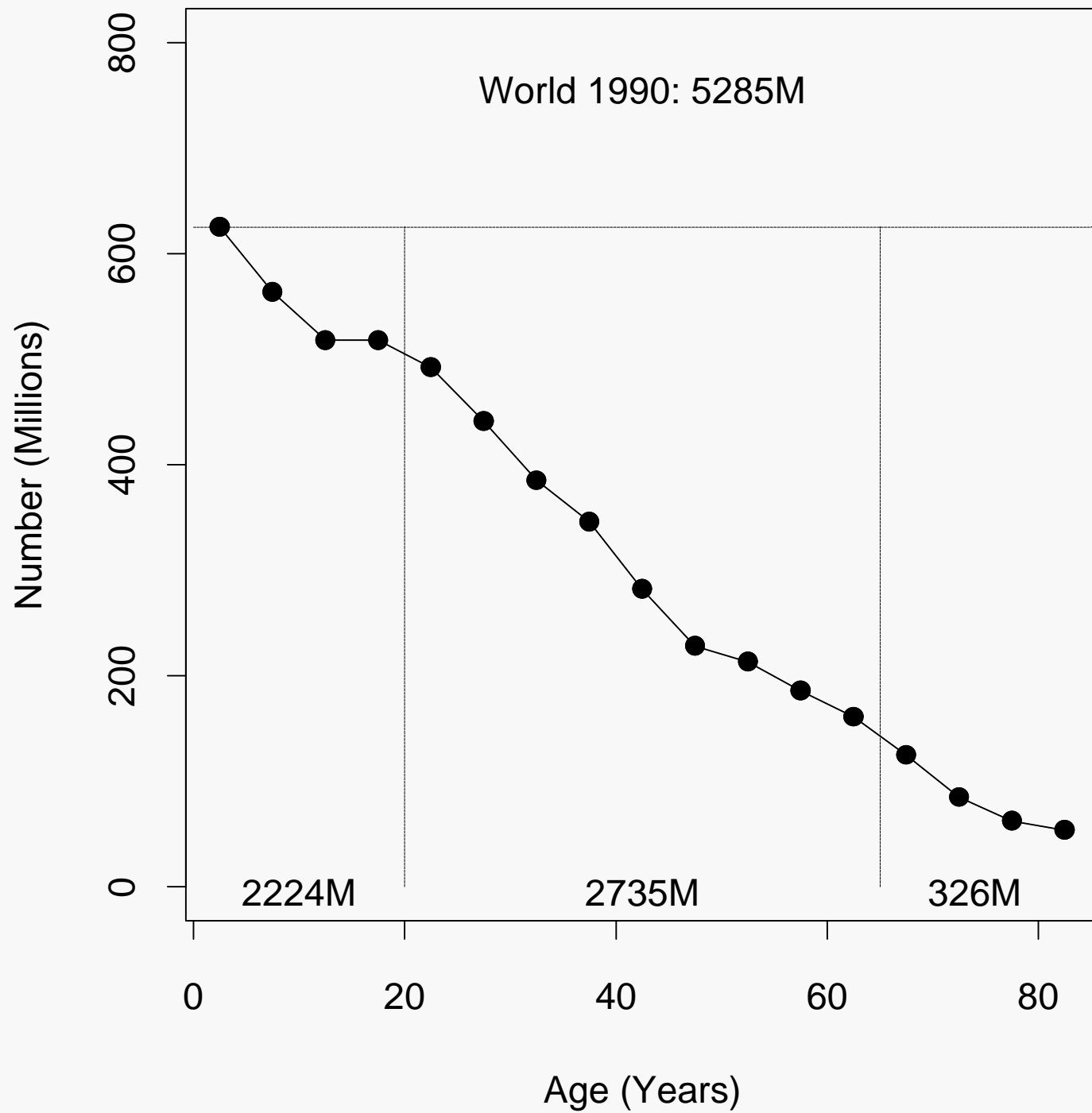
Griffith Feeney

Population Aging

- Is a necessary concomitant of low levels of fertility and mortality
- The aging consequences of low fertility and mortality come about only slowly, however
- Many populations in the world are just beginning the process of aging and will age for another 20, 30, 40 or more years

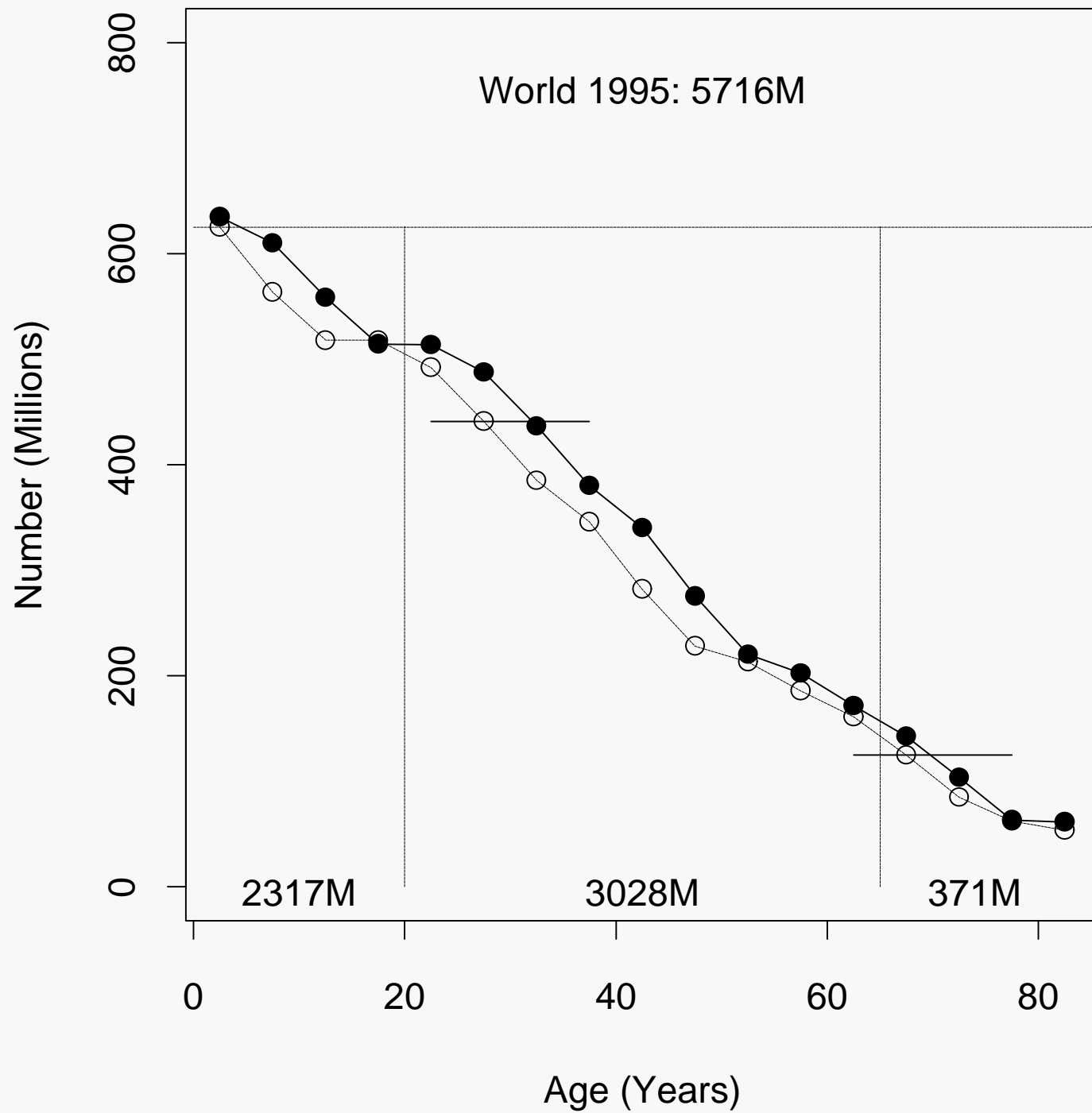
World Population Aging 1990-2050

- We will follow the evolution of world population aging through the year 2050
- Beginning with the 1990 world age distribution, we'll review what happens over five years, to 1995
- Then the change that occurs over 20 years,, to 2010, and finally the change over 60 years, to 2050



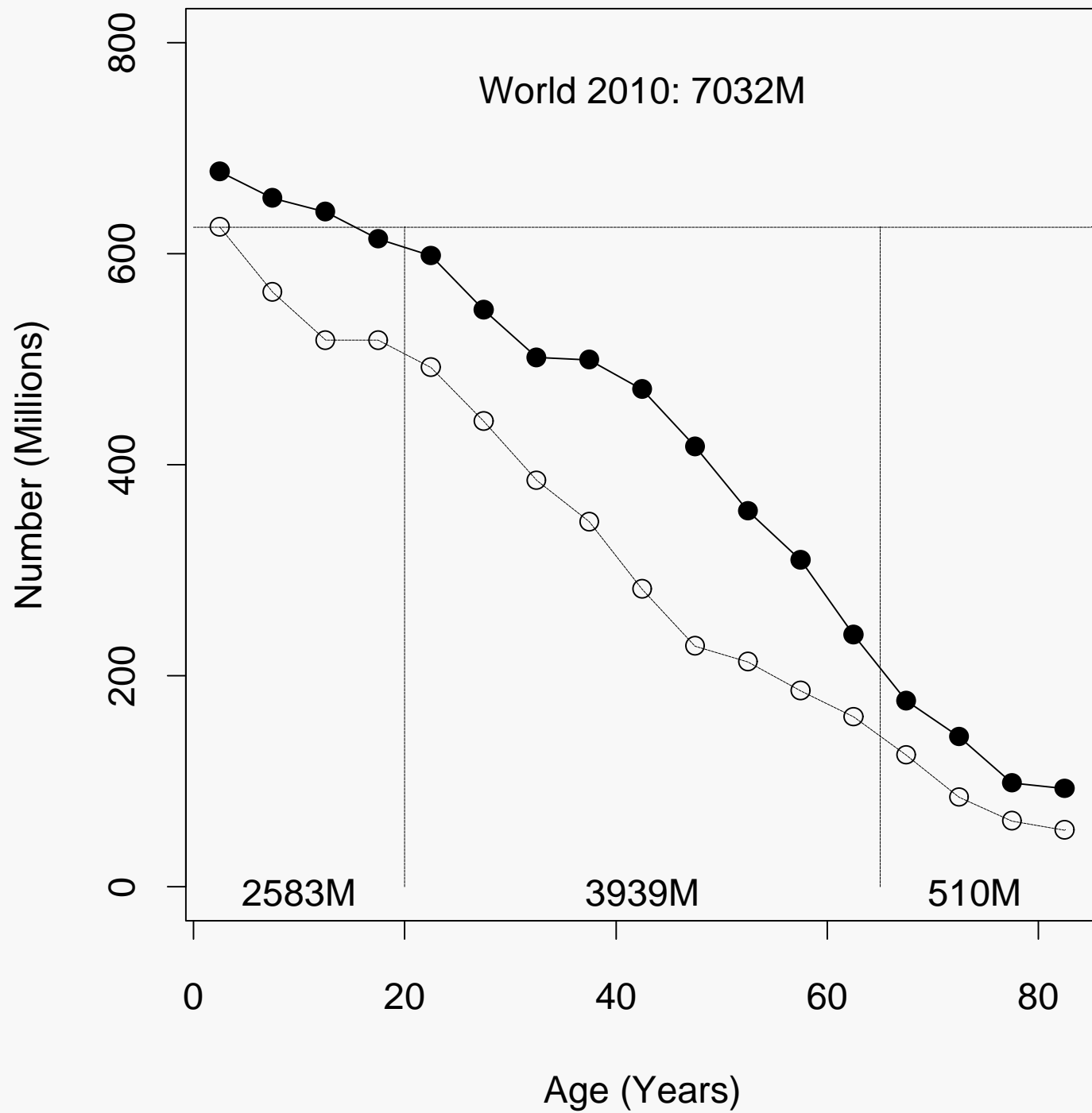
Now Look at the 1995 Age Distribution

- 1990 is shadowed for reference
- Note that 1990 points move *horizontally to the right* five years, as cohorts age, and *vertically down*, as cohorts lose members to mortality
- The 0-4 age group in 1995 are the survivors of births during the preceding five years



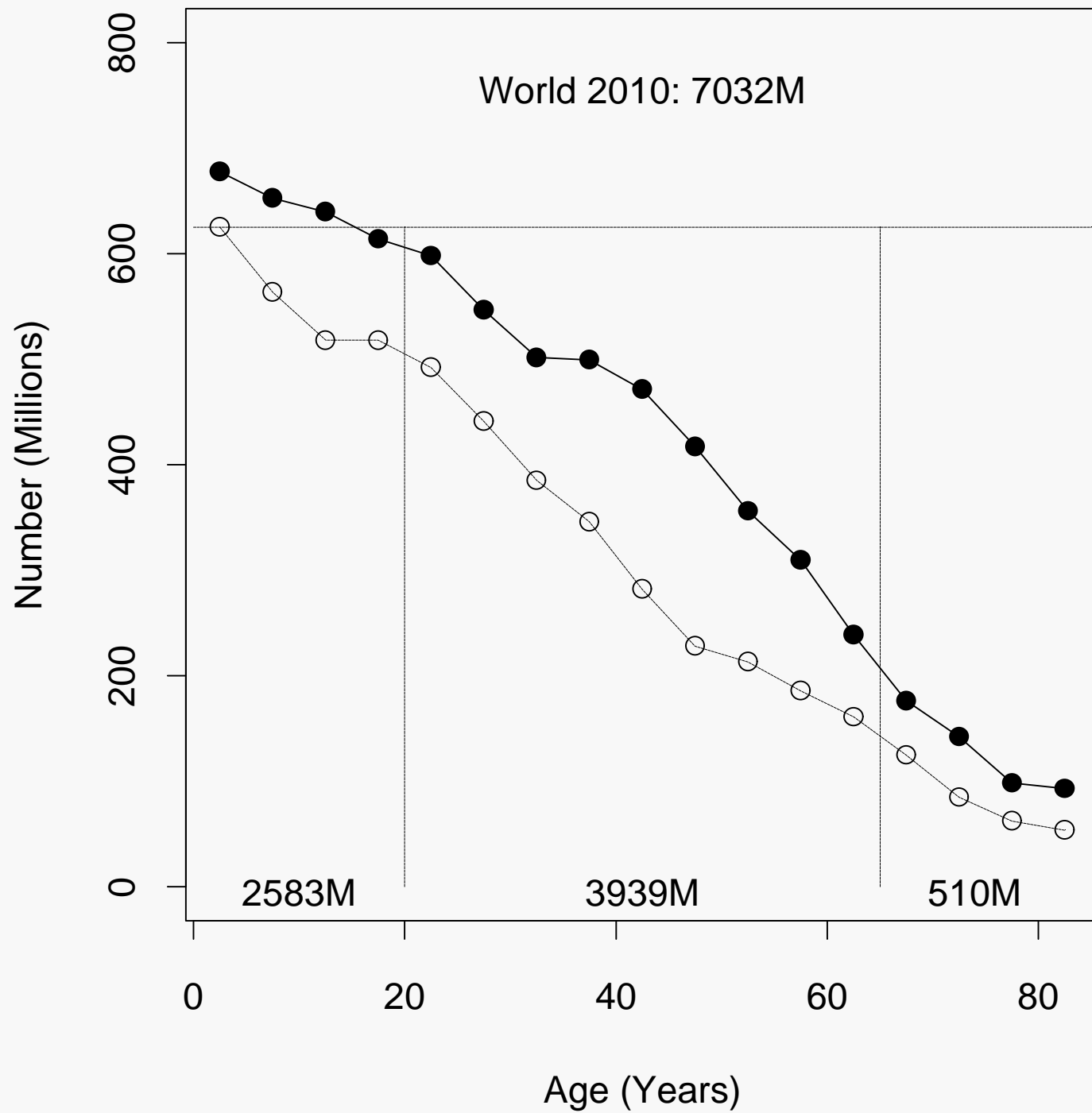
Now Look at 2010

- But first, think how the age distribution will change over the 20 year period 1990-2010
- If you understood how it changed during the five year period 1990-1995, apply the same reasoning to the longer time period
- Try to imagine what the plot will look like before you see it; then compare what you see with your expectation



How Well Did You Do?

- Did you anticipate correctly?
- Each 1990 age distribution point moved *horizontally over* by twenty years (in 20 years we all get 20 years older)
- Each 1990 age distribution point moved *vertically down* by some amount; why?
- How did movement to the right compare with movement down? Have another look.

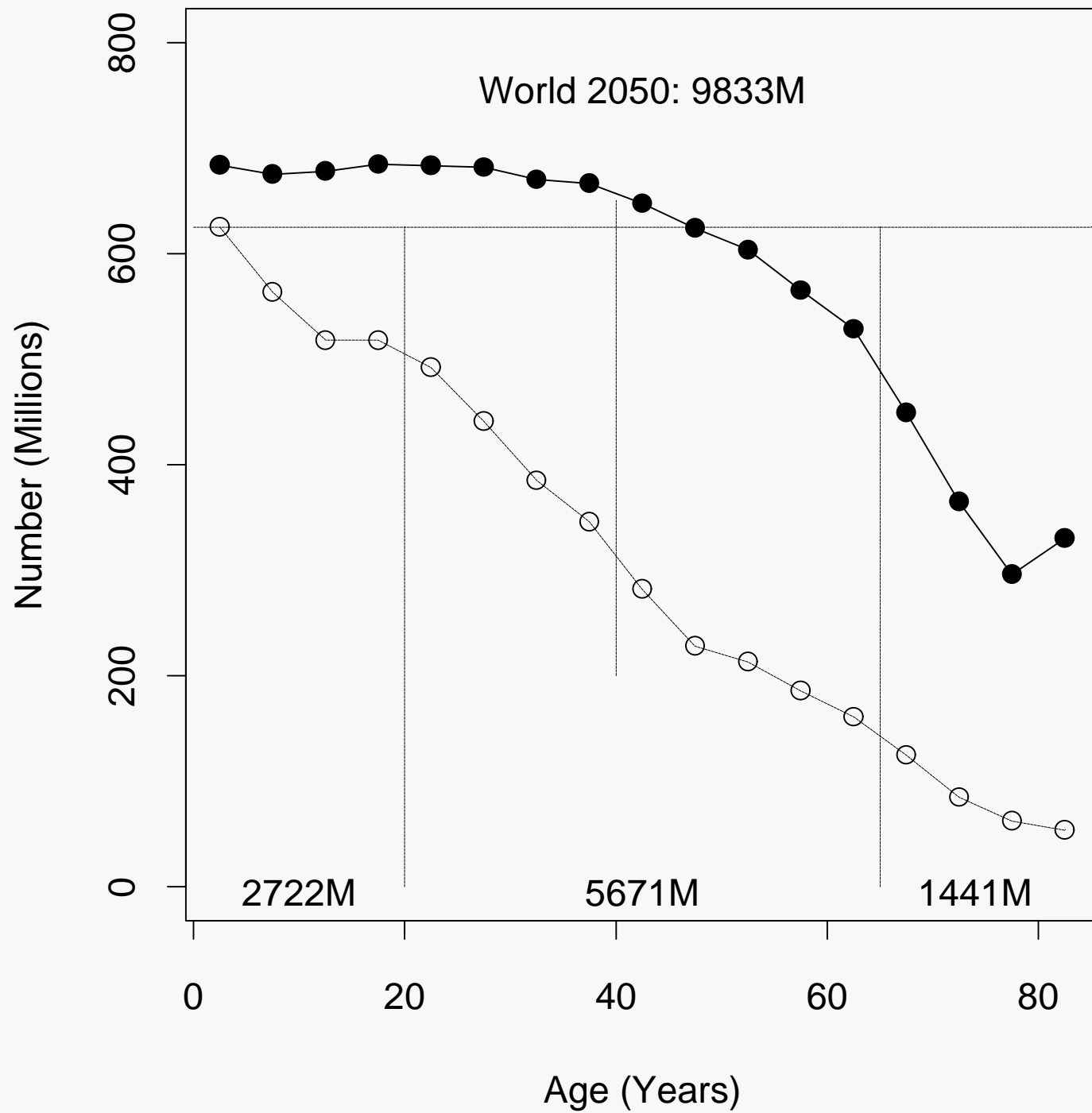


Do You See a Pattern Here?

- Perhaps not yet, but look again, and you'll see that the age distribution is getting older
- The numbers in the young age groups are not increasing very much, but
- The numbers in the older age groups are increasing substantially
- Why are the numbers in older age groups increasing?

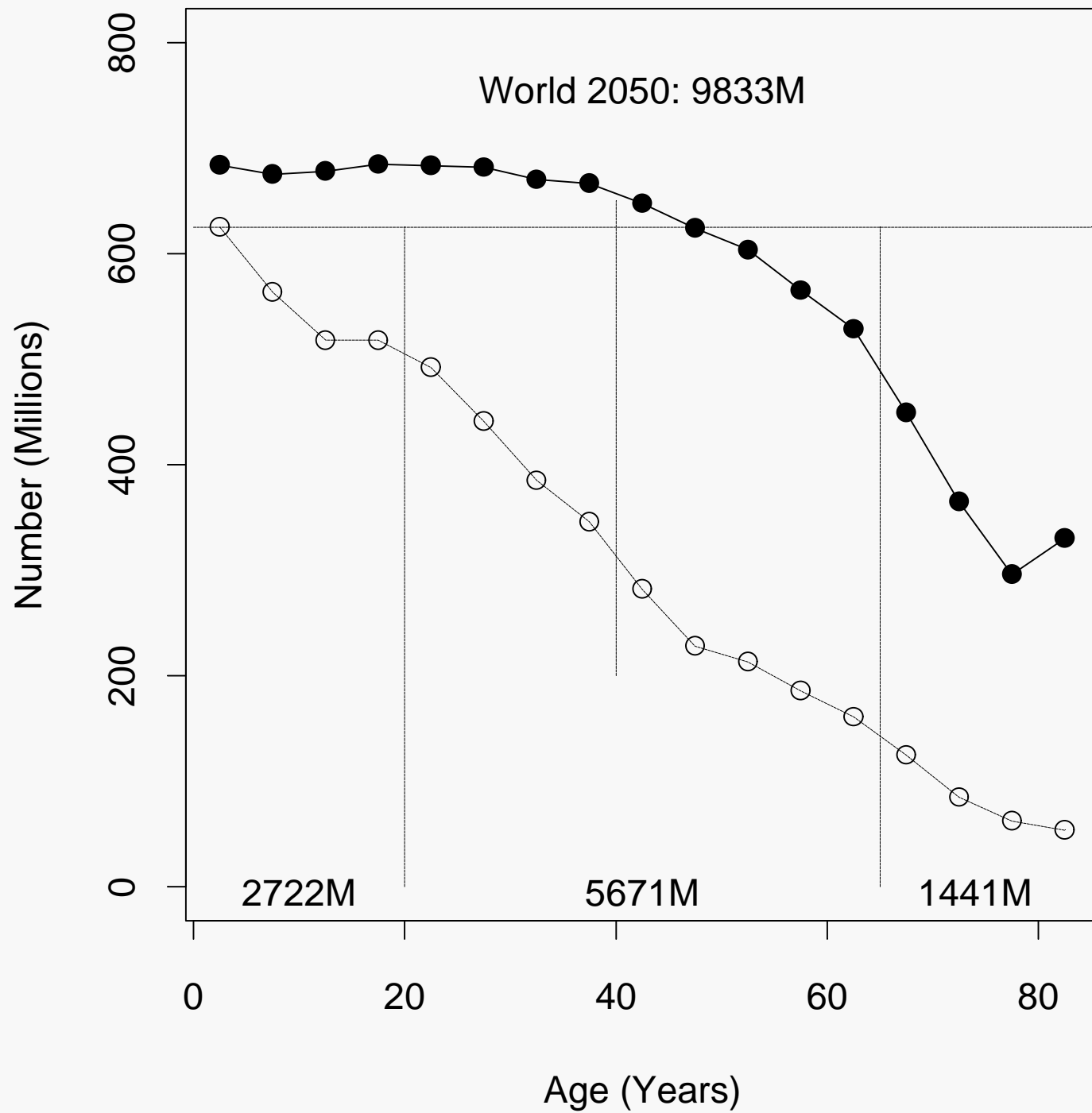
Now for 2050

- We're moving *60 years* ahead, from 1990 to 2050
- Again, before you look at the picture, think what it will look like, then compare your expectation with what you see
- Consider the varying degrees of *uncertainty* in different parts of this picture



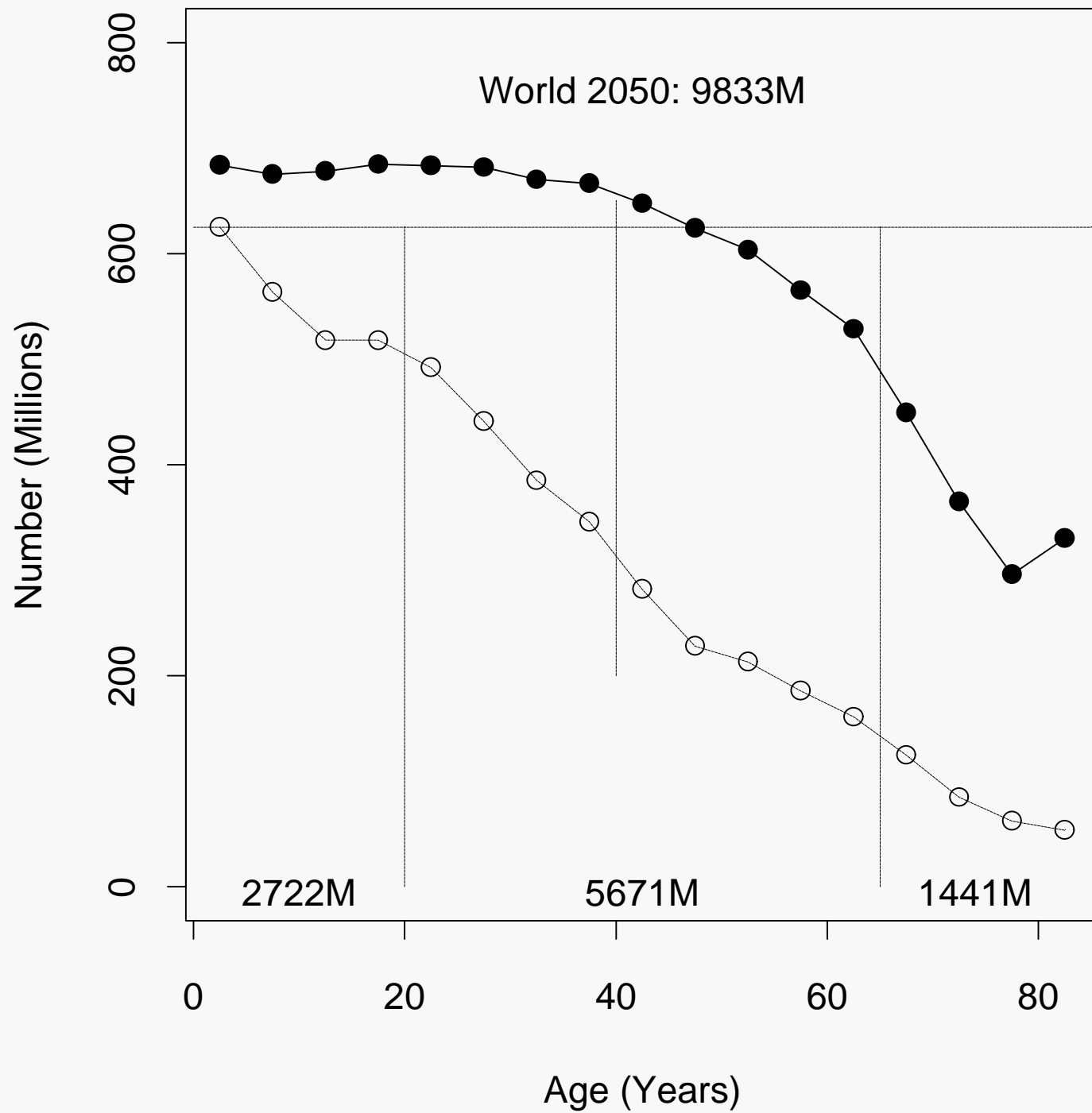
The Aging of World Population

- ‘Aging’ doesn’t just mean larger numbers of ‘old’ people, in the sense of 65 years of age and over
- It also involves a large aging of the working age population, with many more older working age persons, relatively, than in the past
- Look at the picture again



Some Questions

- How much does the population of *younger* working age persons increase?
- How much does the population of *older* working age persons increase?
- How much does the population of *post* working age persons increase?
- How much does the population of *pre* working age persons increase?



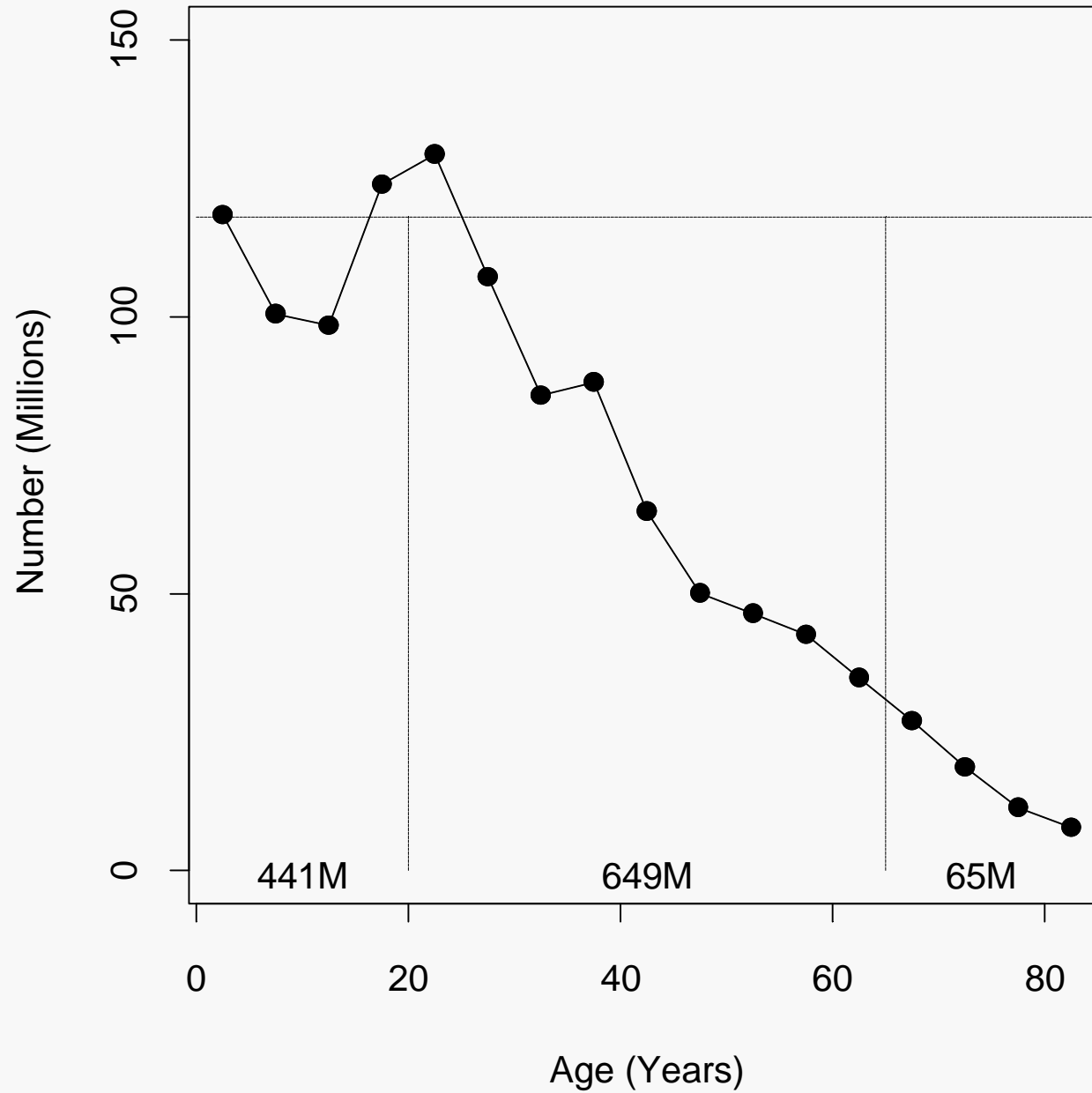
What You've Seen Here

- Is one aspect of a major, long term historical change than is changing the demography of most countries
- Reflects the changes in fertility and mortality known as 'the demographic transition'
- Will have far reaching social, economic and political effects for decades to come

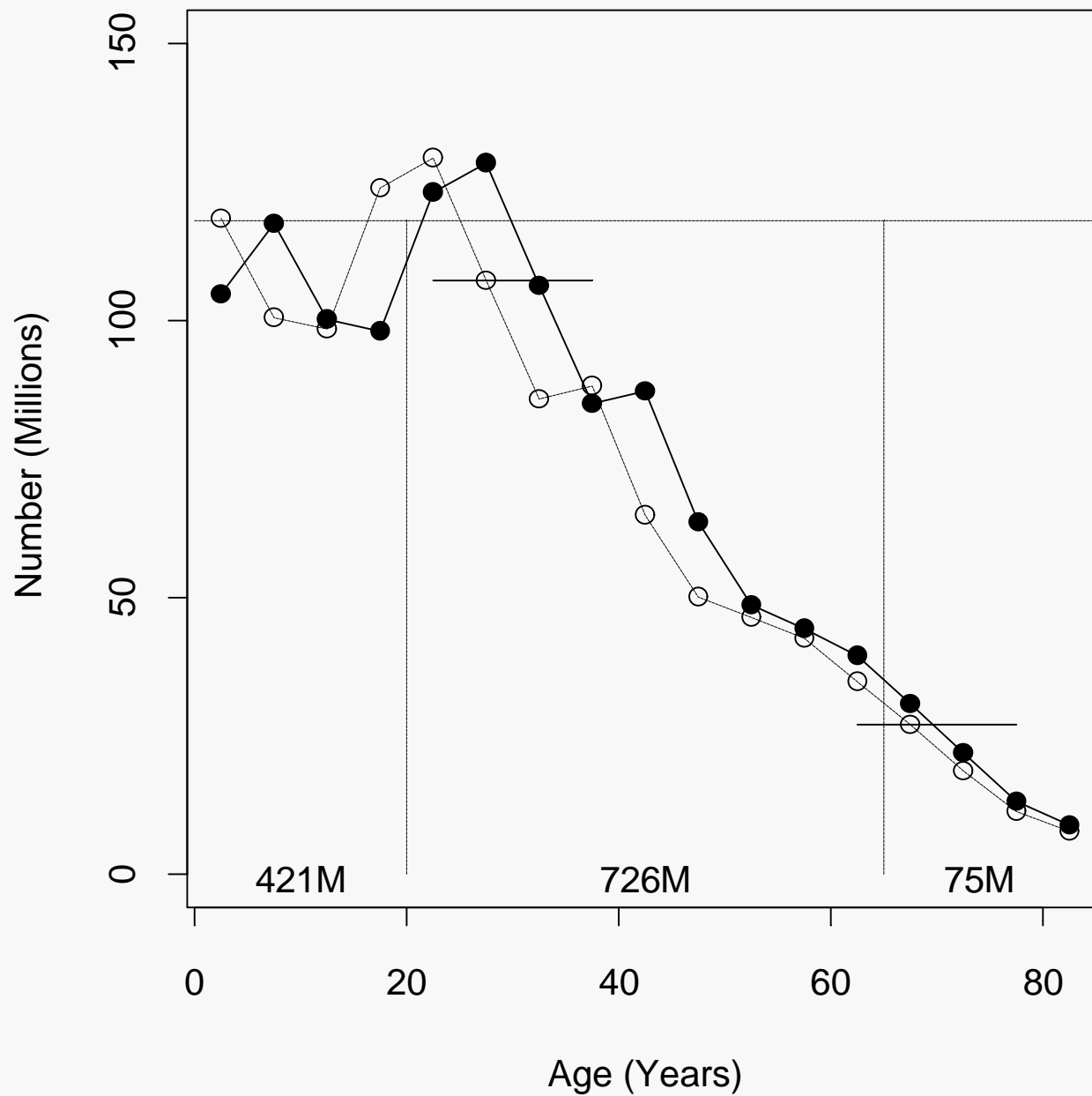
Population Aging in China

- Population aging is a world wide phenomenon, but the situation in particular countries varies considerably
- Let's look at population aging in China, at present the world's largest country
- The following plots display China's aging in the same form as the preceding plots of world aging

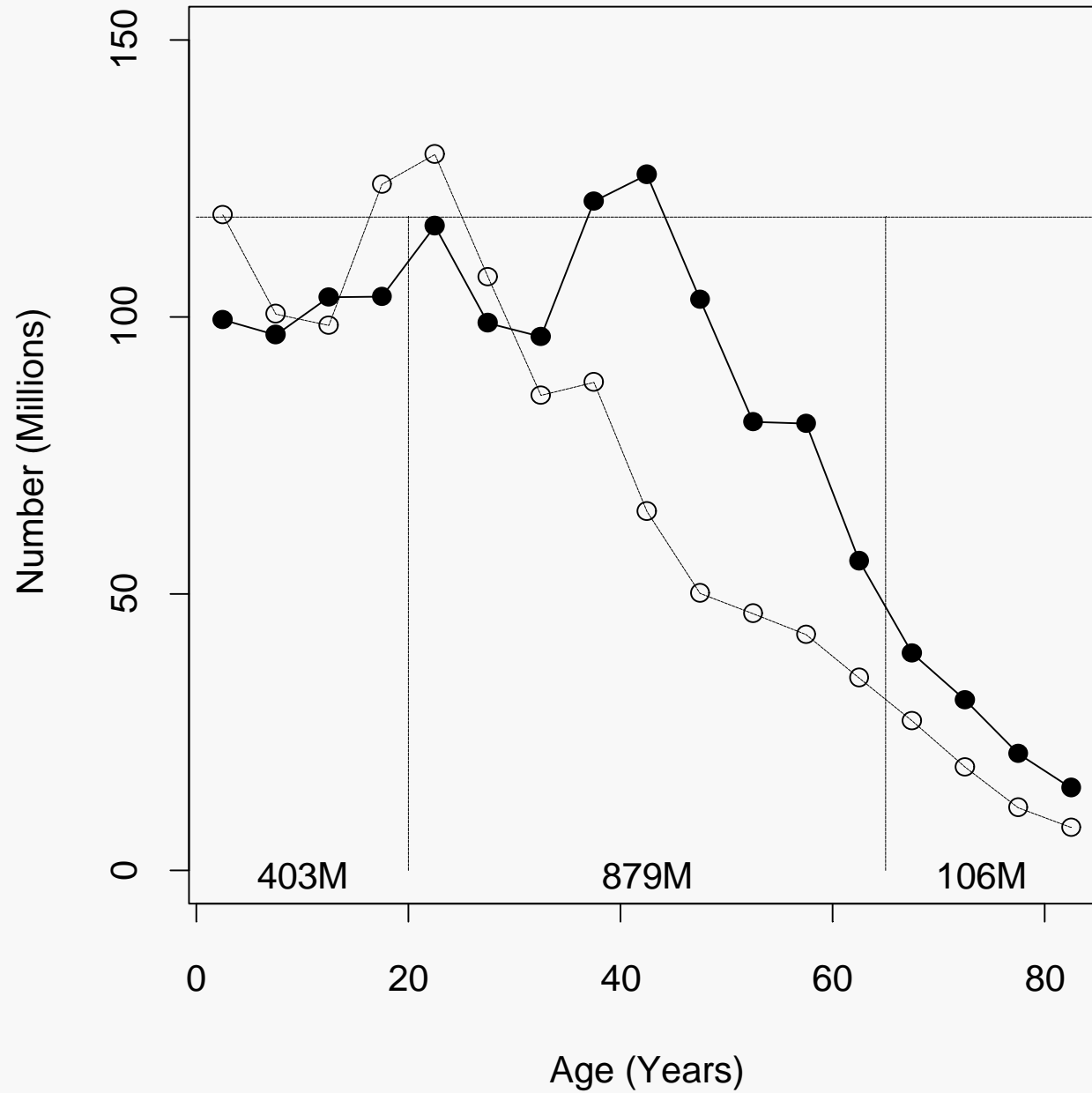
China 1990: 1155M



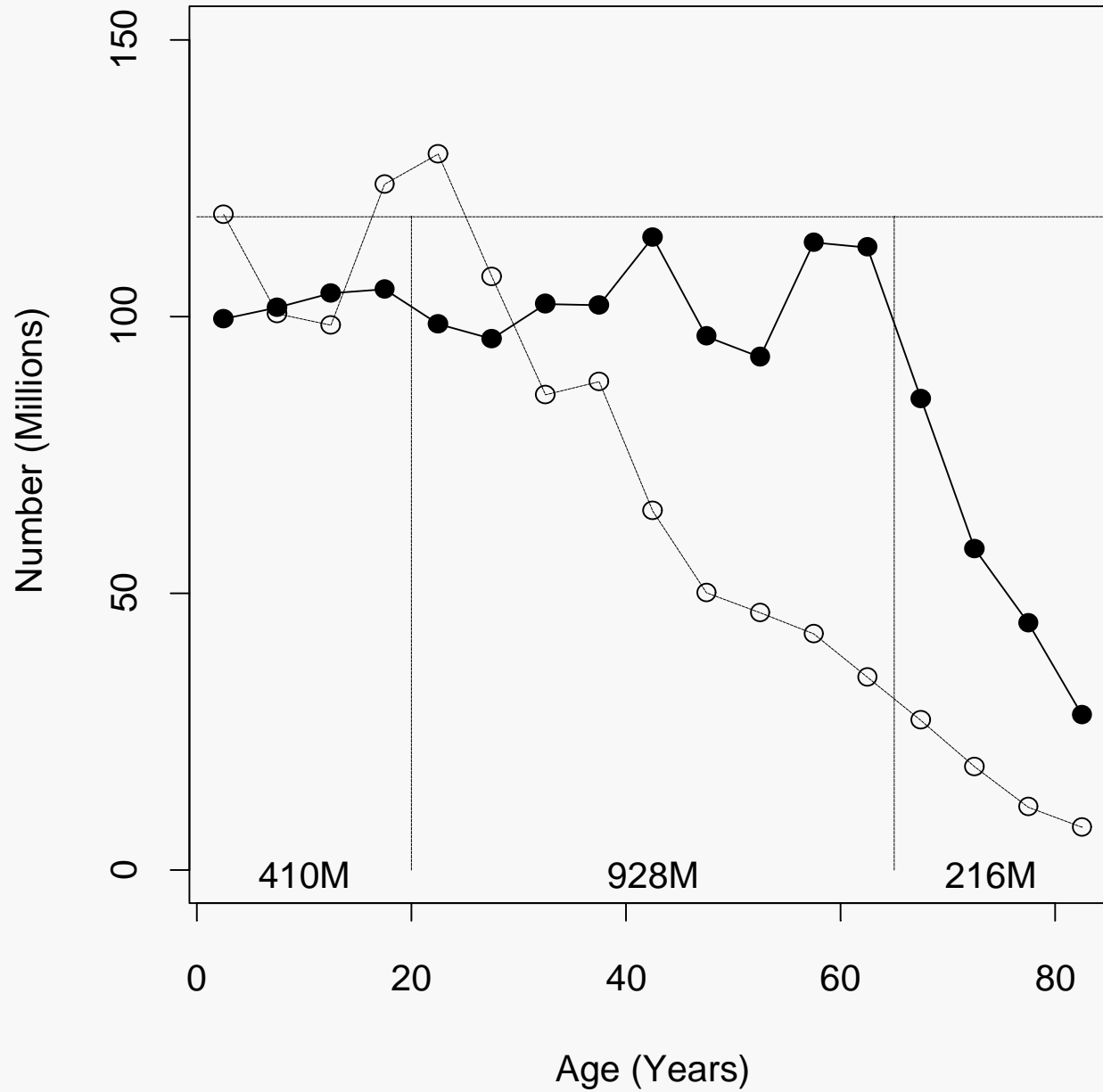
China 1995: 1222M



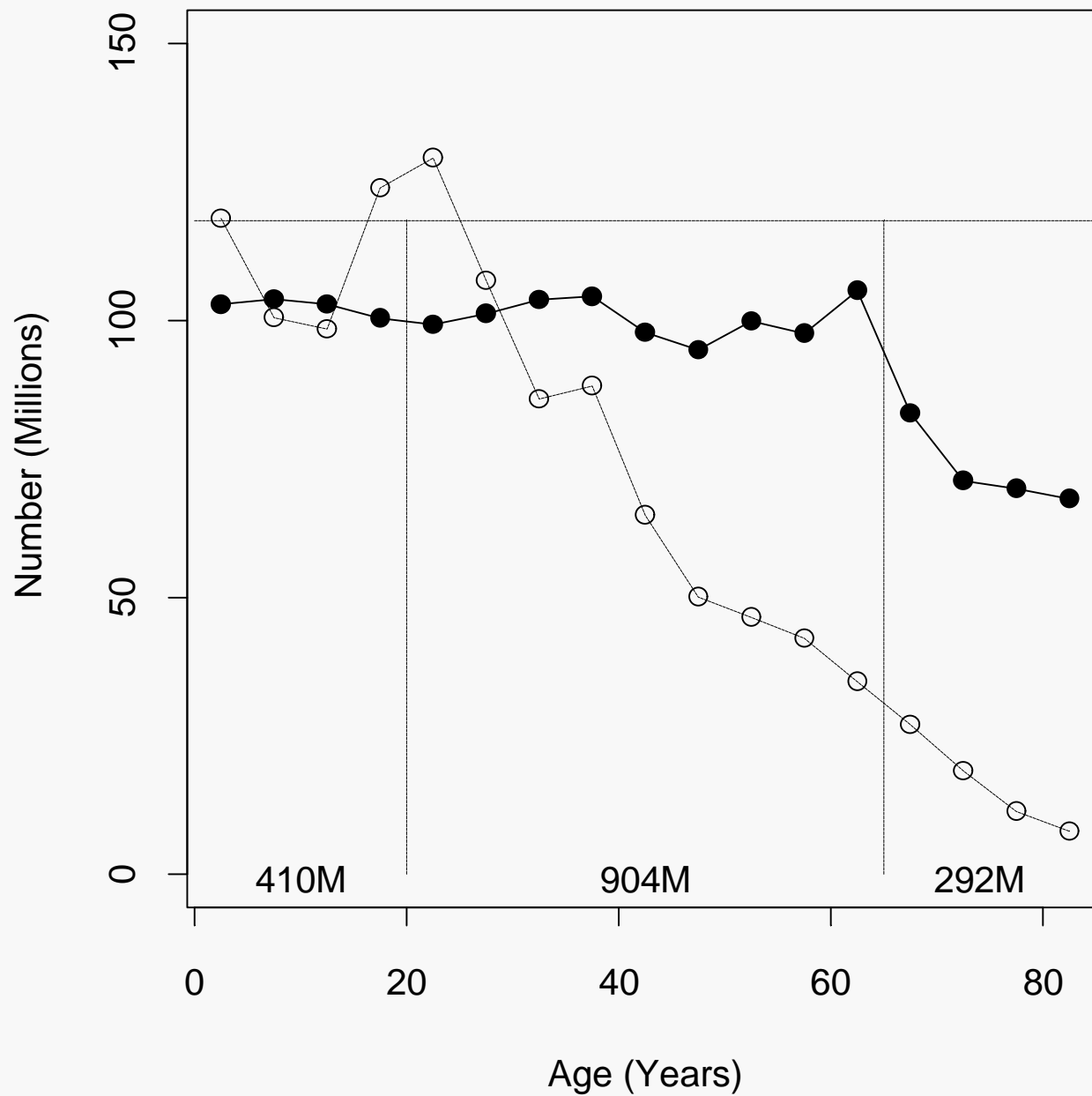
China 2010: 1388M



China 2030: 1554M



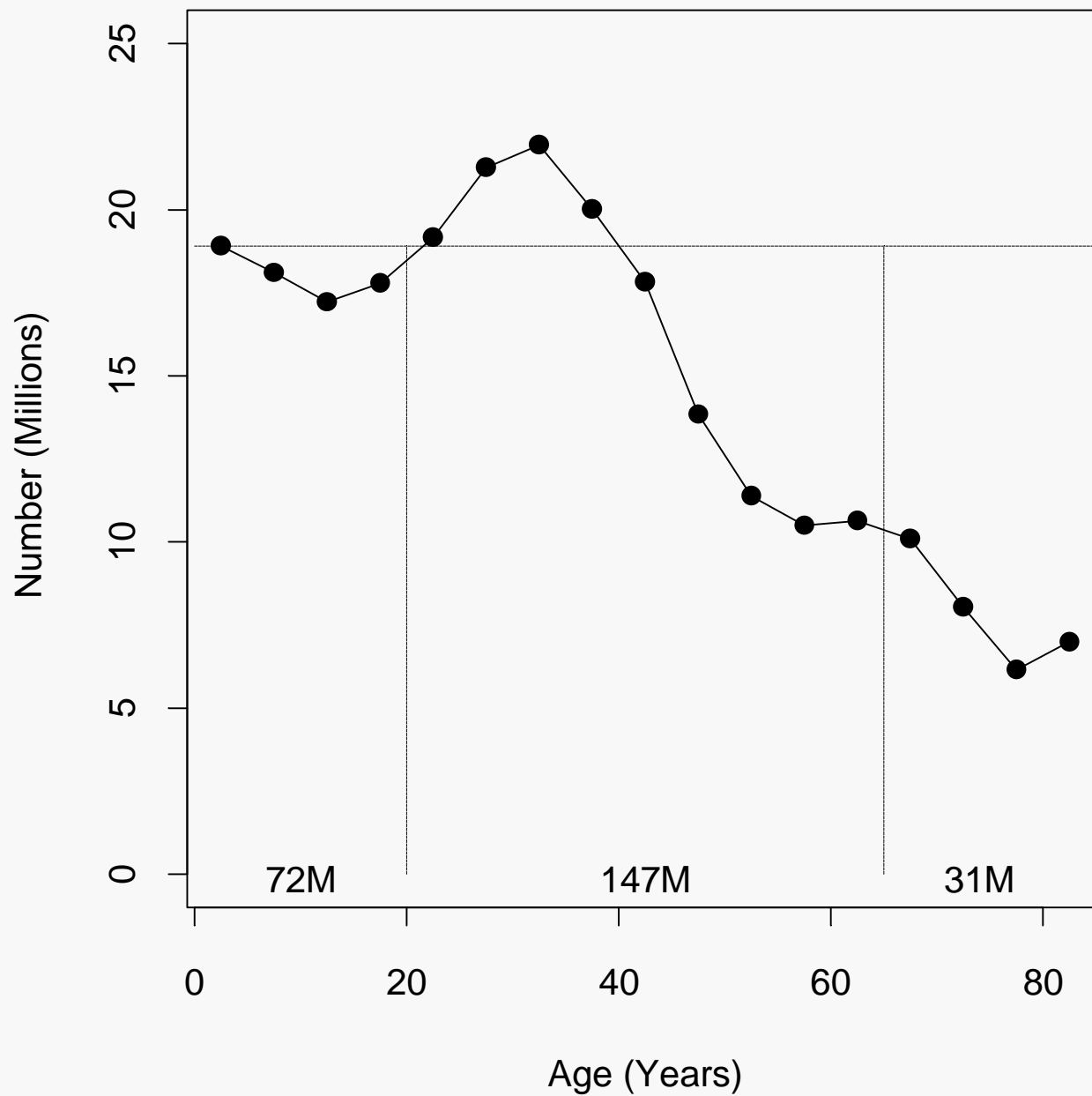
China 2050: 1606M



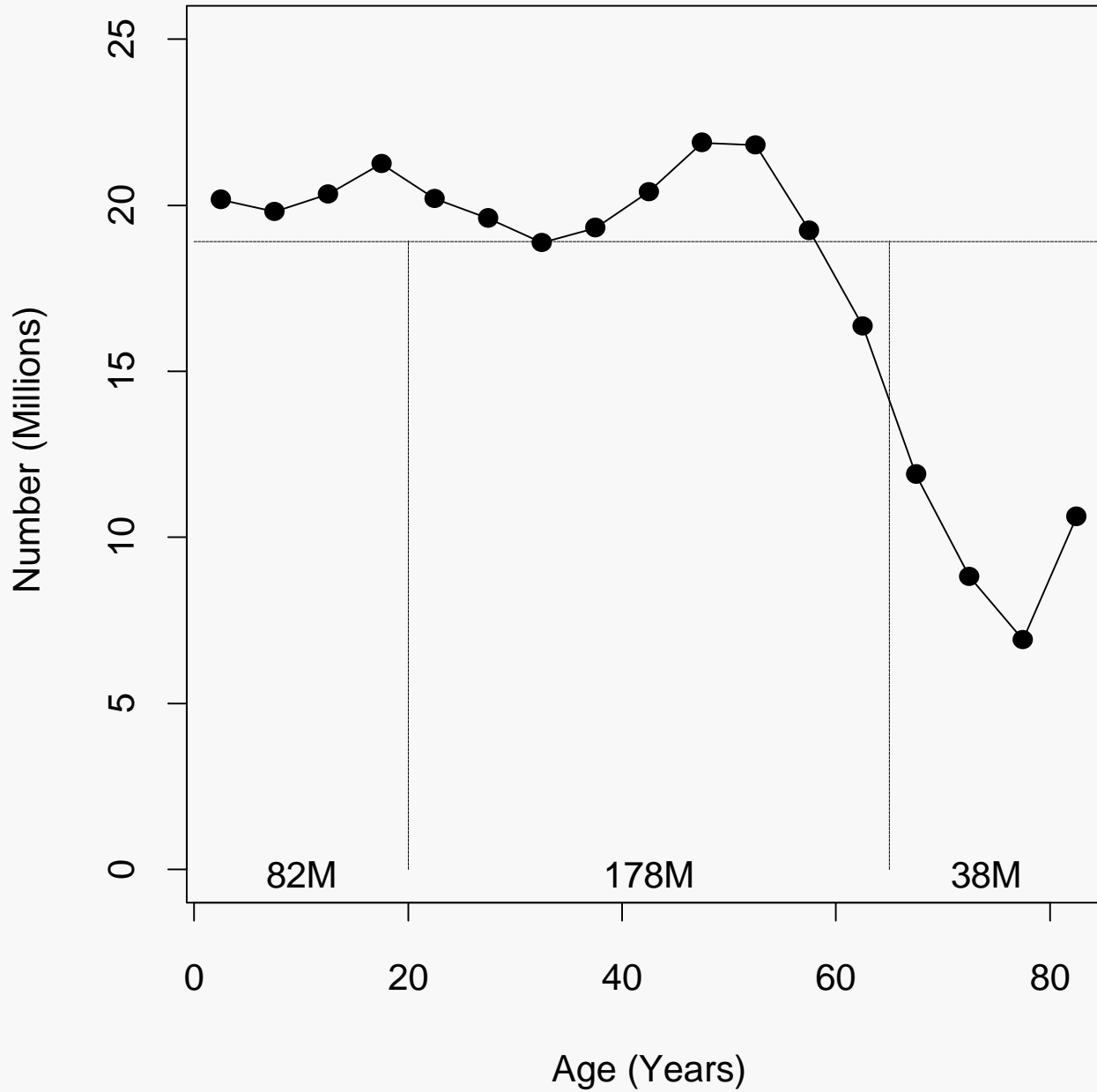
Aging in the United States

- Here's a similar series of plots for the United States
- Note that substantial aging occurs in *both* China and the United States
- Note the famous “baby boom” bulge in the US age distribution

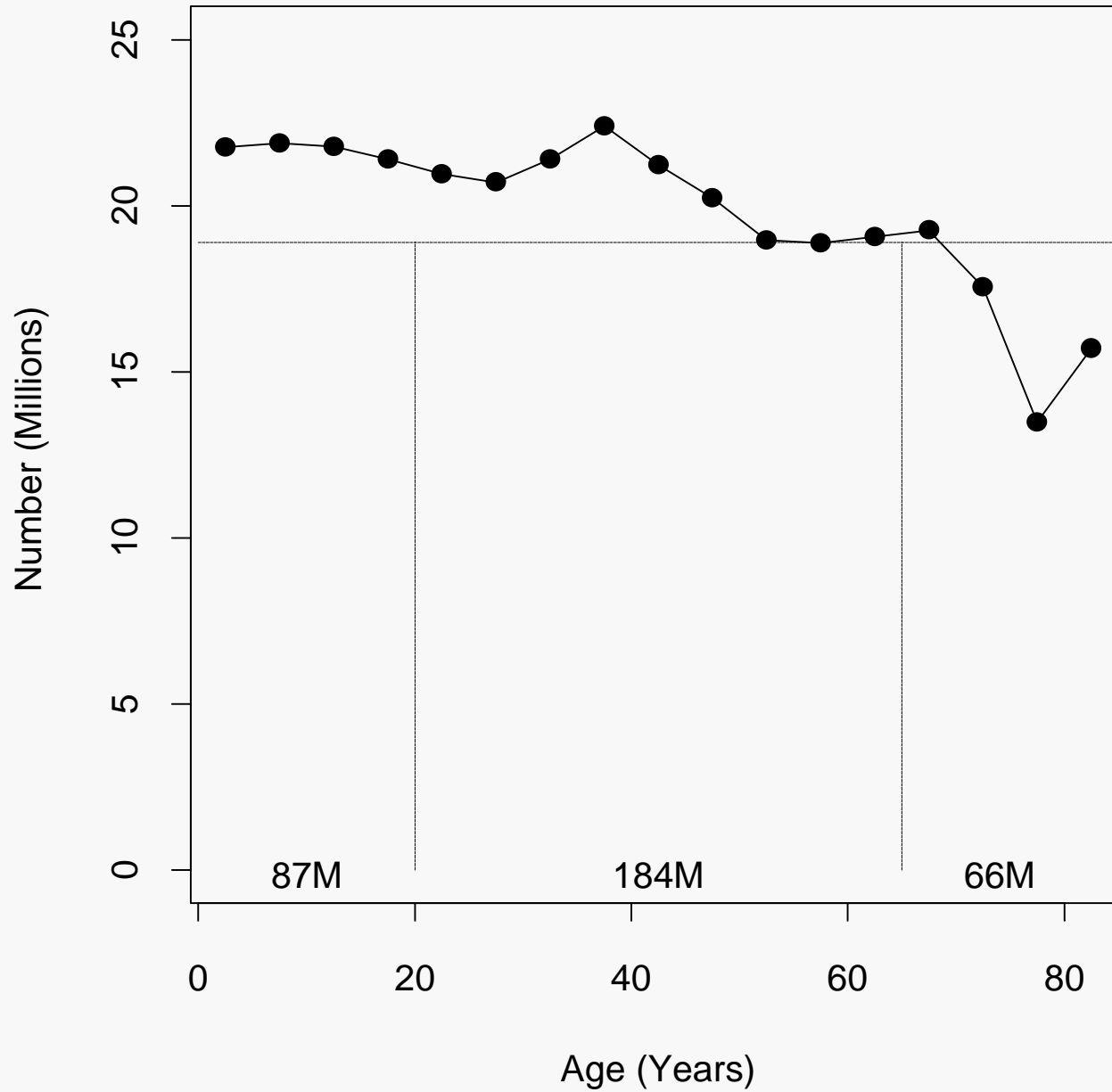
United.States 1990: 250M



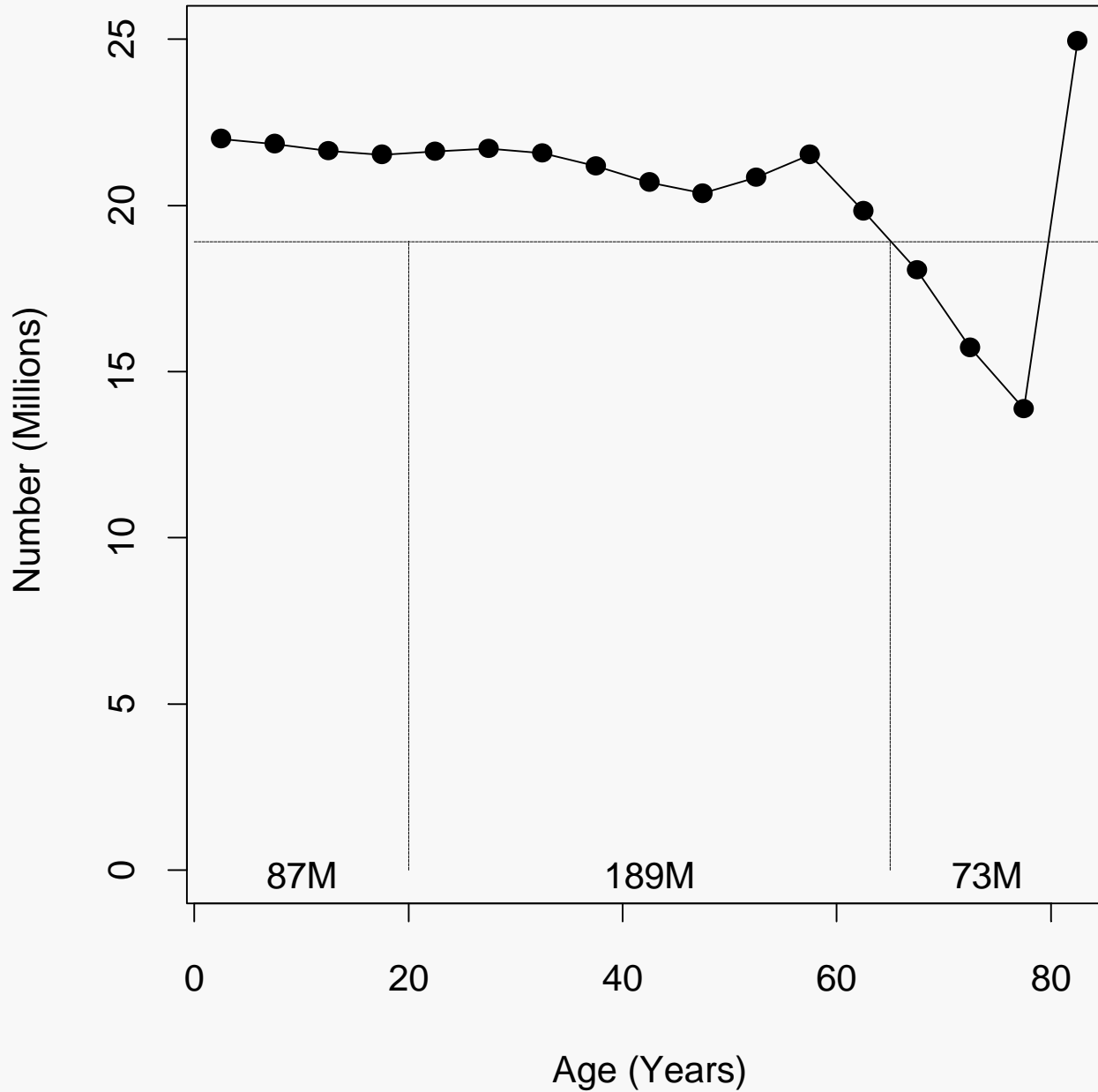
United.States 2010: 298M



United.States 2030: 337M



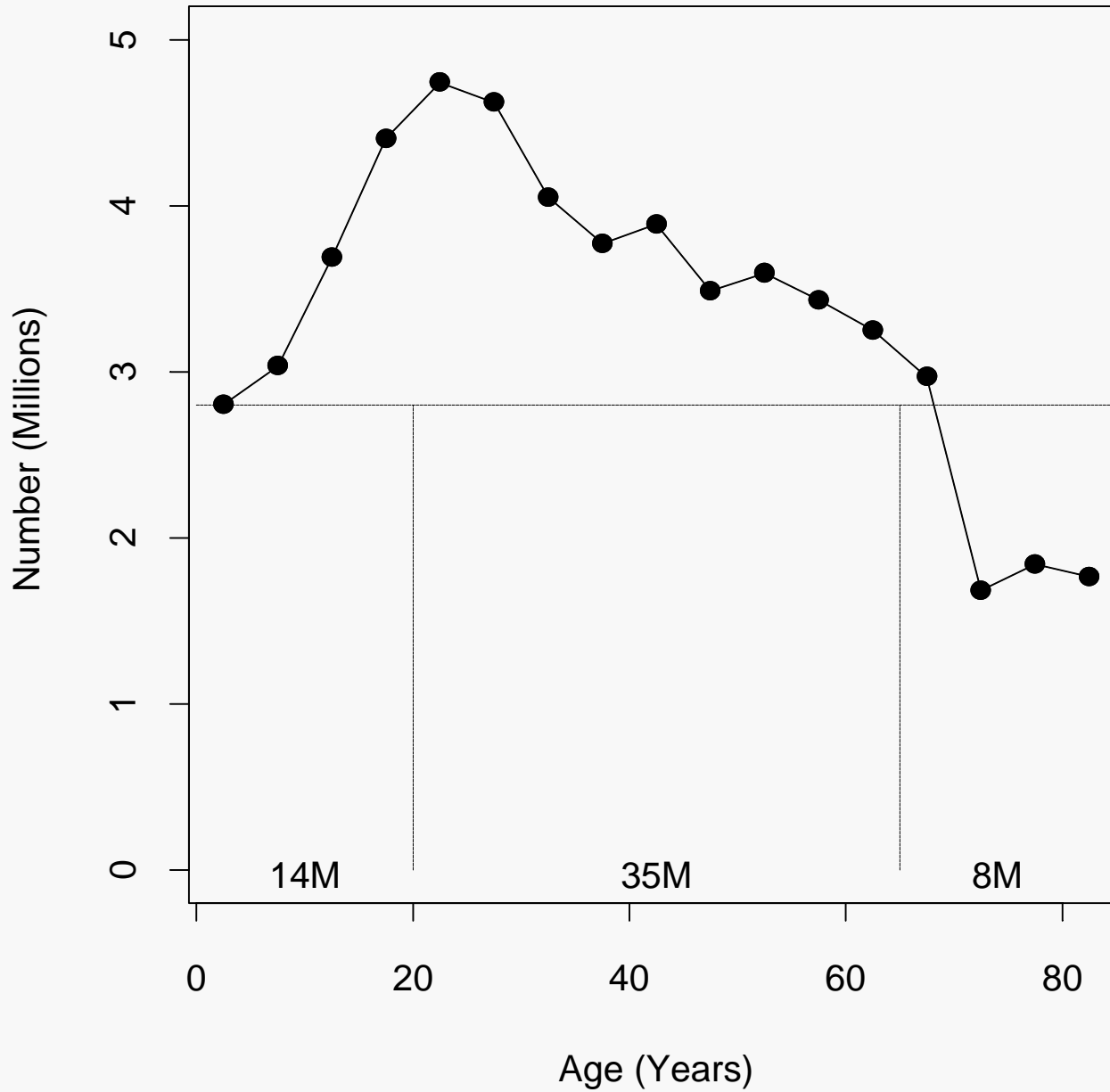
United.States 2050: 349M



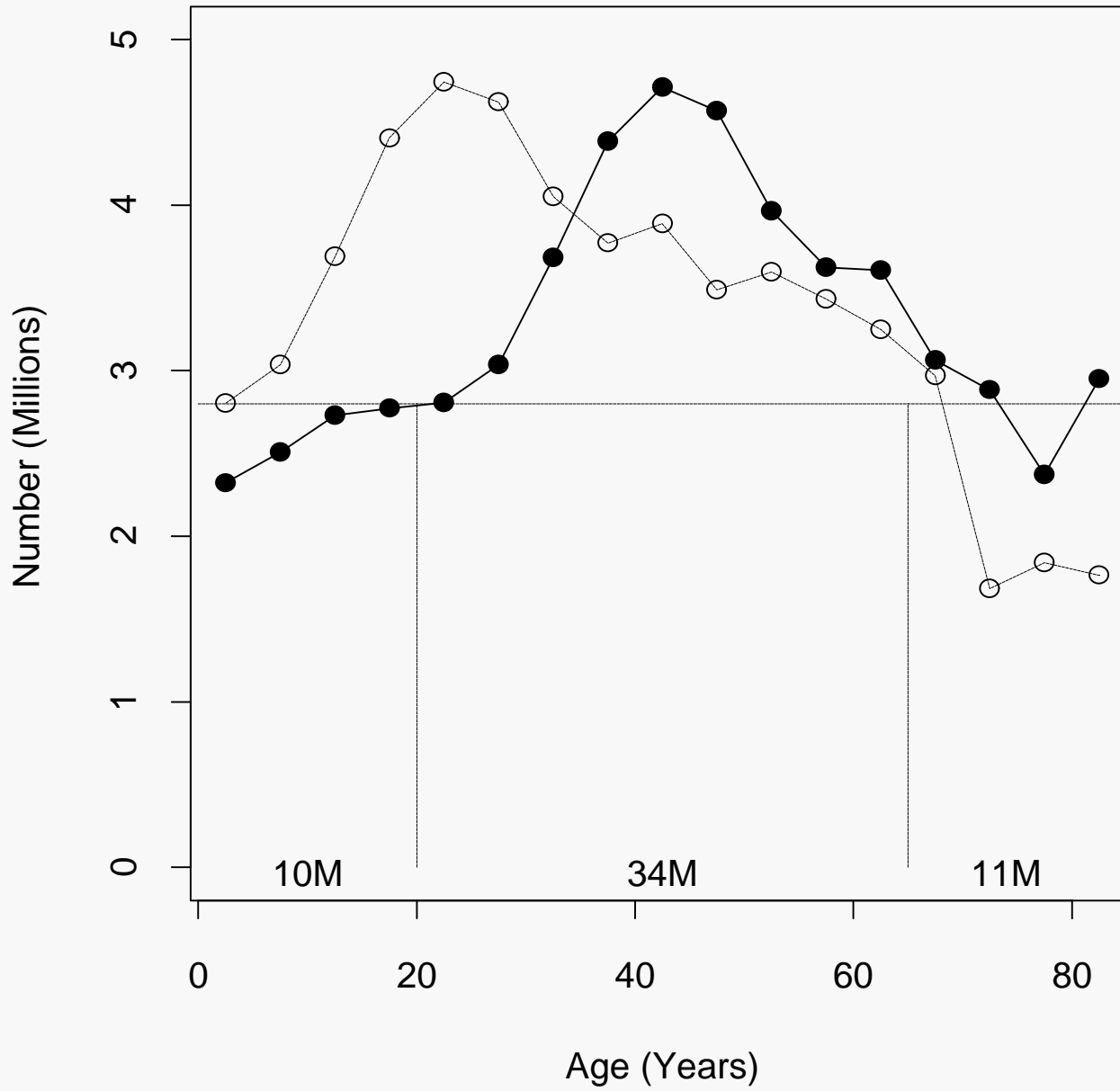
Population Aging in Italy

- Italy has the distinction of the lowest TFR in the world, about 1.3 children per woman
- A continuation of this low fertility will induce radical aging of the Italian population
- How the TFR will change in the future is uncertain, however

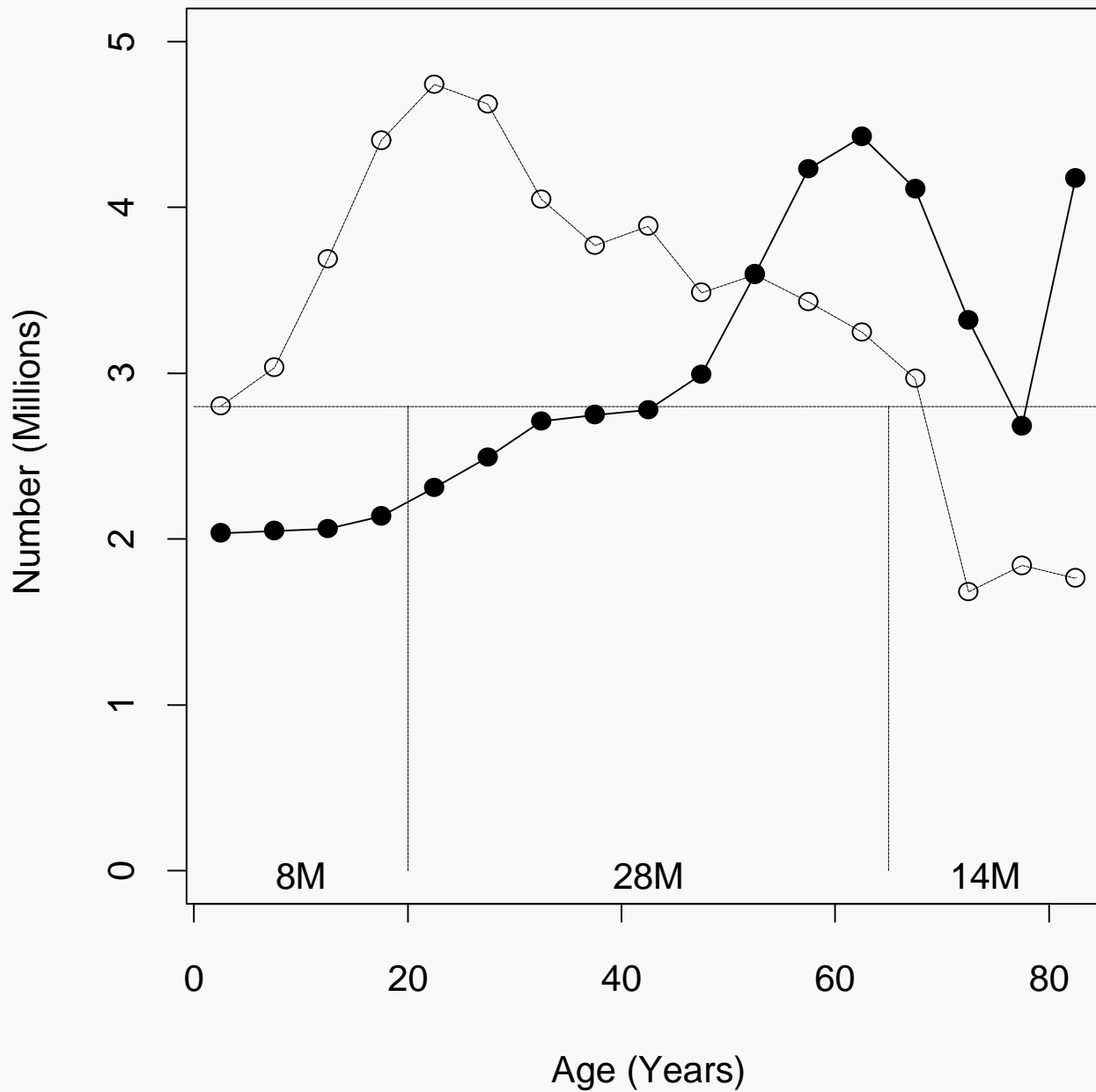
Italy 1990: 57M



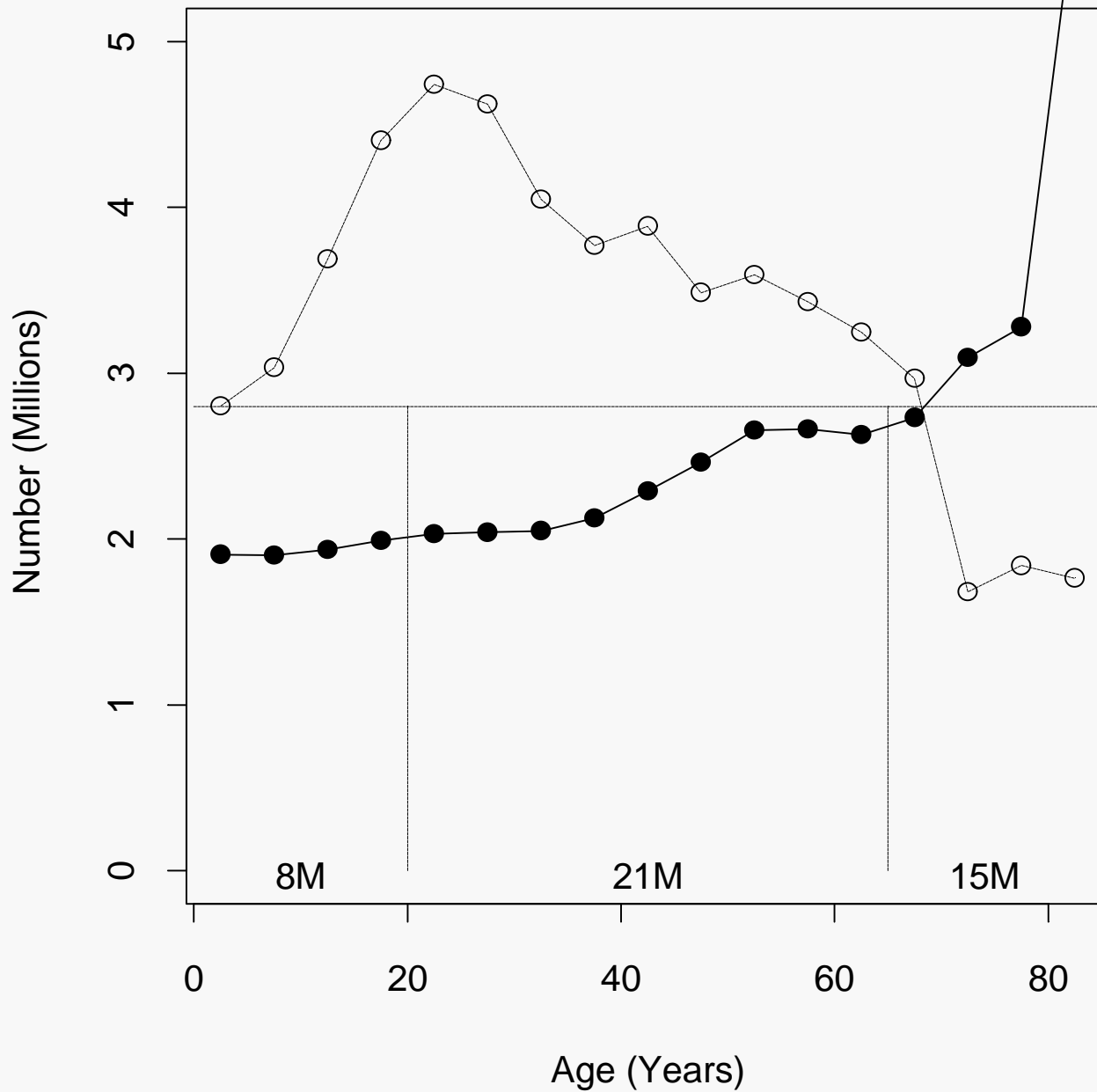
Italy 2010: 55M



Italy 2030: 50M



Italy 2050: 44M



Review of Key Points

- Dynamics of Aging
- World Population Aging
- Aging in China
- Aging in the United States
- Aging in Italy

Questions?
Comments?
Discussion?