

IN SEARCH OF LONGEVITY AND ITS RELATION TO HUMAN SOCIETY SURVIVAL

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Out of curiosity, I tried to determine two numbers, as posted in two questions below.

1. What is the MINIMUM longevity of an individual to guarantee survival and progress of a human society?
2. What is the projected MAXIMUM length of an individual that will lead to the society's demise or the beginning of decline?

My guess was 40 years.

Here is the AI response I received (all AI responses are in quotes, "..."):

"You're on the right track with estimating **two generations** as the minimum for human longevity in terms of successfully passing down essential knowledge and skills. Historically, for most human societies, the **40-year range** you've suggested seems reasonable. This length of life allows for:

1. **Child-rearing and education:** People in their 20s and 30s typically raise children, passing down critical survival skills, cultural knowledge, and societal norms.
2. **Mentorship and guidance:** As people reach their 40s, they continue to guide their offspring as young adults, ensuring that the knowledge transfer process is complete. By the time the parents reach around 40 or 50, their offspring should be fully capable of functioning and raising the next generation.

In this context, the **minimum longevity of 40 years** seems to balance the need for individual development and societal continuity across generations.

For the **maximum longevity** that might pose challenges, it's important to consider how extremely long lifespans could affect social and economic dynamics. If people live much longer (say, 100+ years), societal structures could face pressure in terms of job turnover, resource distribution, and intergenerational conflicts, potentially leading to a stagnation of innovation or progress. Your idea that two generations are needed for full transmission of knowledge seems to align well with evolutionary and societal frameworks."

Following that, I asked for the average longevity of a biological individual, regardless of pandemics or early childhood mortality, in other words, taking into account only people who successfully lived through the early stage of their lives, for example 10 years.

Here is what I got:

"If we consider only those individuals who survived past the early childhood stage (let's say they reached the age of 10), we can estimate the **average adult longevity or life expectancy after age 10**. This would exclude infant mortality and provide a clearer picture of the actual potential lifespan for individuals who managed to survive the most vulnerable years.

Approximate Adult Longevity (Average Life Expectancy After Age 10)

Year Approx. Life Expectancy After Age 10 (years)

1200	50–55
1250	50–55
1300	50–55
1350	45–50 (Black Death affected population)
1400	50–55
1450	50–55
1500	55–60
1550	55–60
1600	55–60
1650	50–55
1700	55–60
1750	55–60
1800	55–60
1850	60–65
1900	65–70 (improvements in medical care)
1950	70–75 (antibiotics, public health improvements)
2000	75–80
2020	78–85

Variation Between Races, Cultures, and Continents (Considering Survival After Age 10)

Medieval Period (1200-1500)

- **Europe:** People who survived childhood (about 10 years old) could often live into their **50s or even 60s**. The high risks during childbirth, disease outbreaks, and wars, however, created substantial variability.
- **Sub-Saharan Africa:** Life expectancy for those who made it past age 10 may have been in the **50-55 range**, though the threat of tropical diseases (e.g., malaria) was significant.
- **Asia (China, India):** In more stable regions, like parts of China, longevity after childhood was probably somewhat higher than Europe, reaching into the **55-60 range**. Stable food supplies and organized governance contributed to this.
- **Indigenous Populations in the Americas:** Variability was significant. Agricultural societies might have life expectancies of **50-55** for survivors, while nomadic groups may have had lower values due to harsh living conditions.

Early Modern to Industrial Revolution (1500-1900)

- **Europe:** Gradual improvements in food production and some medical advancements likely pushed adult life expectancy to **55-60 years** for those surviving childhood. The spread of new agricultural practices, better trade routes, and early public health measures improved overall survival.

- **Asia:** Lifespans of those surviving childhood in stable regions were likely in the **55-65 range** during the 18th and 19th centuries.
- **Americas:** In North America, colonists who survived the harsh early years and diseases might live well into their **50s and 60s** by the late 18th century.

20th Century and Beyond (1900-2020)

- **Europe, North America, Japan:** By 1950, life expectancy after childhood rose dramatically due to the widespread availability of vaccines, antibiotics, and improvements in public health. For those who survived childhood, reaching ages **70-75** or more became common. By 2020, those reaching age 10 could expect to live to **80-85 years**.
- **Asia:** Life expectancy after childhood in countries like Japan and South Korea caught up with and even surpassed Europe by the mid-20th century, with people living well into their **70s and 80s** by 2020.
- **Africa:** Due to infectious diseases and weaker healthcare systems, life expectancy in many African countries was lower. However, for those surviving childhood, life expectancy began to improve significantly after 1950, reaching into the **60s and 70s** in some countries today.

Key Points on Variation:

- **Survival beyond childhood** generally resulted in **longer life expectancy** than might be suggested by overall averages (which include high infant mortality rates).
- Cultural and geographical factors played a major role. **Stable, agriculturally based societies** tended to have higher life expectancy after childhood compared to nomadic or conflict-ridden regions.
- **Health and sanitation improvements** from the late 19th century onward contributed to a significant rise in longevity for those surviving childhood, especially in developed countries.

In summary, from 1200 to 2024, individuals who survived childhood could generally expect to live to **50–60 years** in earlier centuries, and by the 20th century, that expectancy increased dramatically to **70–85 years**, depending on the region and access to healthcare and technology.”

That gave me a lot of info to analyze. A quick, bottom-line observation is that over 800 years, biological longevity changed from 50-55 to 78-85, the difference of 28-30 years, plus/minus variation by races, cultures and continents.

What is interesting was that to 1850, the year we may consider pre-health care/technology era, the biological longevity increase only to 60-65, the difference of 10 years. Perhaps this improvement is due to some changes in lifestyle and other conditions of life... Or maybe it was due to some other, biological/genetic changes in humans, bodies and such.

Open question.

Another question, maximum longevity is much trickier, obviously, and thus, more exciting.

To be continued...