I WANT TO LIVE FOREVER...

3. AGEING AND SOCIETY

Over the last few lessons, you have been busy studying the biology of ageing. Ageing takes place at different organisational levels. These include the level of DNA and other molecules, the level of cells, and the level of organs and organ systems. The environment, too, plays an important role. Lastly, we can also view ageing from an evolutionary perspective. All of these levels show the presence of damage and repair processes. Because scientists are beginning to understand ageing processes better and better, the prediction is that human life expectancy in the future can only increase. This means that we are living to be older and older. In this final section, we will attempt to consider the consequences of an increased lifespan for our society.

Have fun!

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De Praktijk

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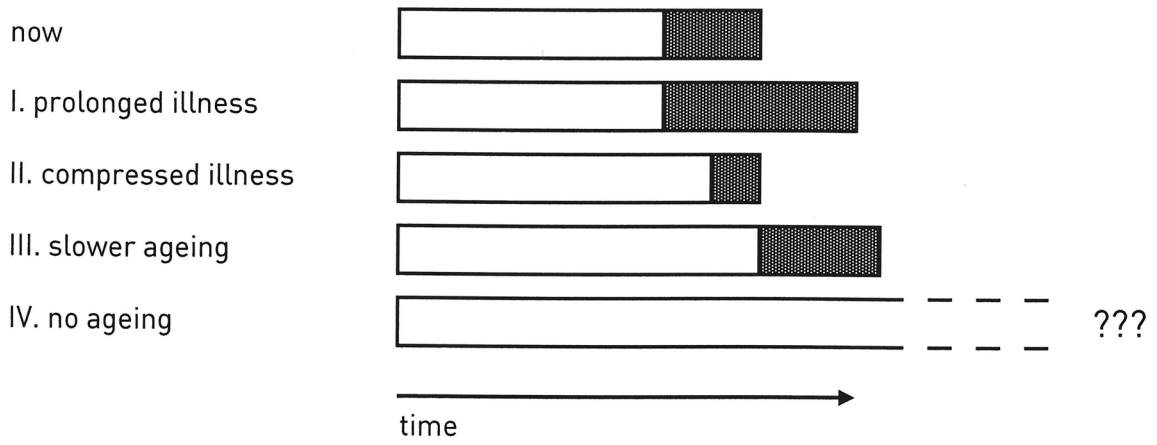
Assignment 1. Interfering with ageing

Scientists are beginning to understand more and more about the various processes involved with ageing. By interfering with these processes, scientists eventually hope to increase the average life expectancy of humans. In doing so, they not only look at the *total number of years of life*, but also the number of *healthy years of life*. At the ends of their lives, most people undergo a period of physical deterioration and illness. The figure below shows four possible ways in which average human life expectancy could increase.

Figuur 1. Four possible scenarios for extended lifespan (compared to the current situation). Total life expectancy is divided into healthy years of life (the white sections) followed by a period including physical, and possibly mental, deterioration (the dark sections).



1. Which of the above scenarios do you believe to be the least feasible in the short term? Explain your answer.

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Increased human lifespan will, of course, have all kinds of consequences for the society in which we live. A world in which people can live to be 250 would look very different in a number of ways.

2. Using the space below, indicate the effects that you believe a (considerable) increase in average lifespan would have on...

the economy (consider the retirement age, for example)

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health care (e.g. the cost of treatment)

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population growth and the environment (e.g. the use of natural resources)

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Assignment 2. What is your opinion?

You now hopefully have some understanding of the biology of ageing, and you have also thought about the consequences for our society of an increase in average life expectancy. You undoubtedly also have your own expectations and views on growing old. For this reason, your opinion is the main focus of this final assignment.

1. Watch the following video:
   David Gems 3 – Future expectations

[continue on the following page]

2. Write a short response to each of the six statements given below. For each statement, indicate whether you agree or disagree wholly or partially, and give your reasons why. Do this individually. When everybody is finished, the statements will be discussed in class.

a. If expensive anti-ageing therapies are ever developed, people must pay for them entirely by themselves.

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b. A significant increase in average lifespan will be bad for the environment.

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c. I would rather grow old naturally than use plastic surgery to keep looking young.

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d. I wouldn't mind at all living for a few centuries.

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e. Research into ageing should be aimed at preventing old-age illness, not at increasing total lifespan.

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f. Living another twenty years is fine, but people should still be able to retire at age 65.

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