

"The Extended Phenotypes" by  
Richard Dawkins (1941-)

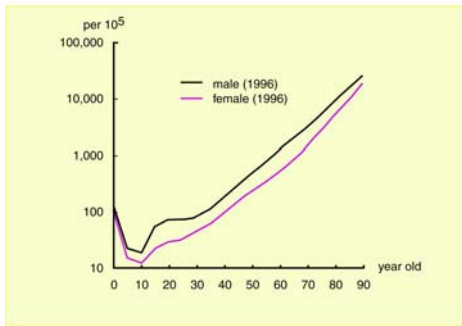
DNA's effects are not limited to an organism's body but can stretch far into the environment.



Life of a Car



Age-specific Death Rate



Life of a Car



deterministic (designed in the blueprint)

Development process for sexually maturation is programmed in DNA.

Life of a Car

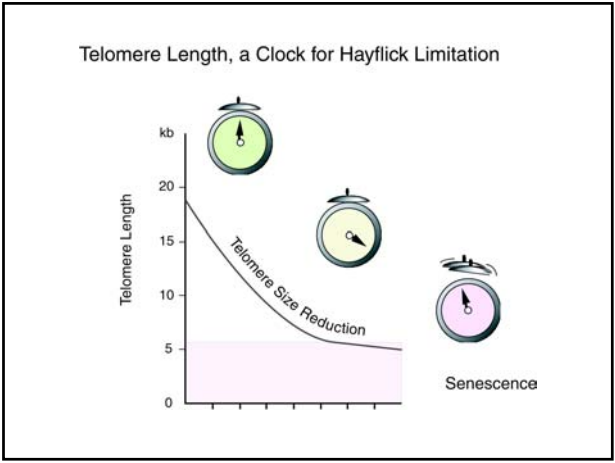
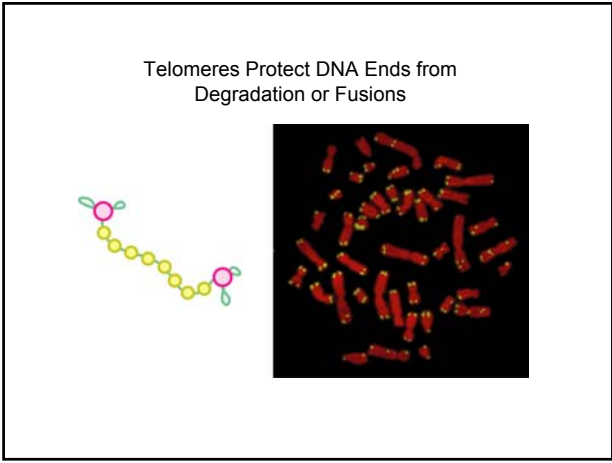
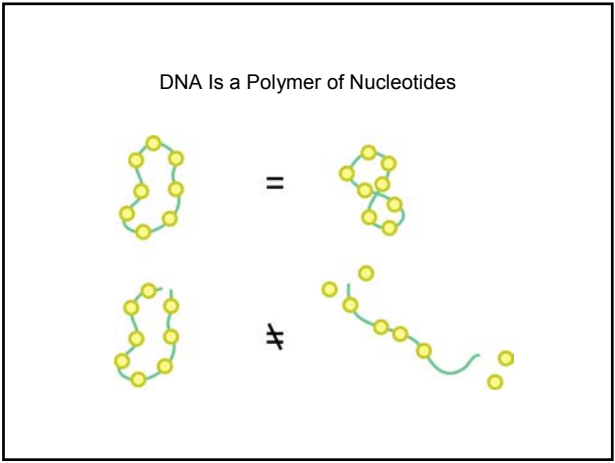
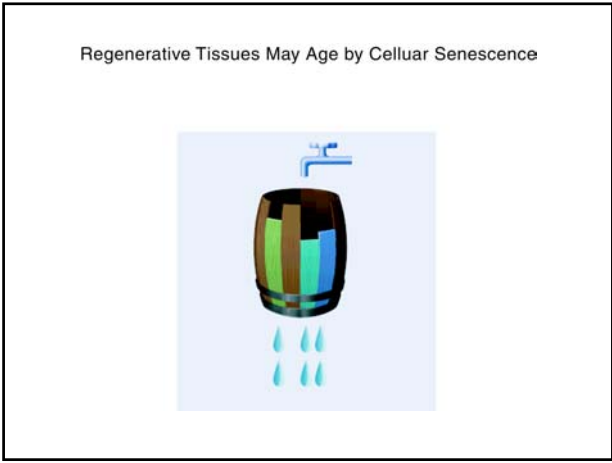
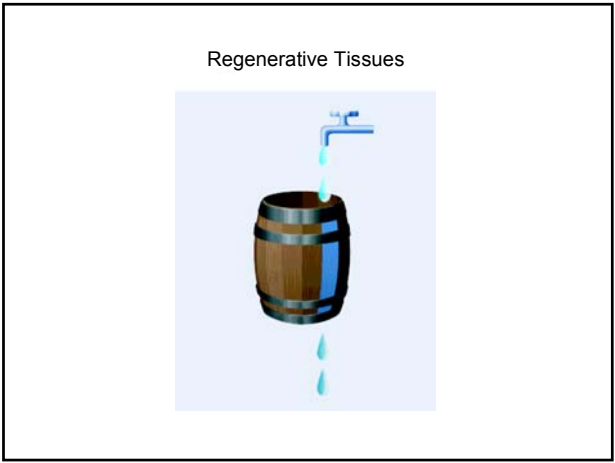


apparently stochastic; time-dependent

Ageing is NOT directly programmed in the blue-print (DNA).

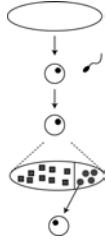
横山大観 (Taikan Yokoyama, 1868-1958)





# August Weissmann (1834-1914)

Professor at Albert Ludwig University of Freiburg im Breisgau



1. Separation of Germ and Soma Cells
2. Sexual Reproduction by Germ Cells

# Telomerase Is Active Only in Germ Cells (and Tumor Cells)

