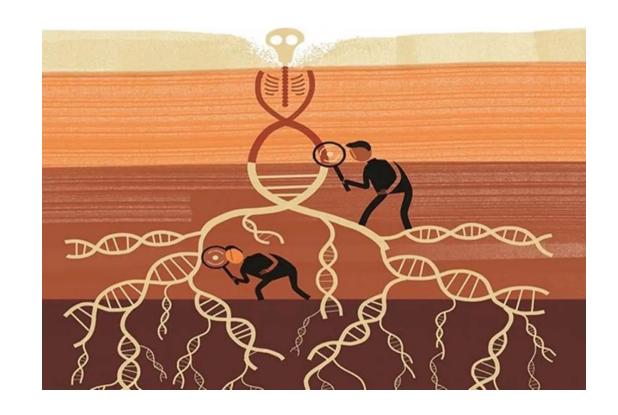
# Tutorial 6 Watson What is the code of life?

GFN1000 In Dialogue with Nature

## Content

- 1. Experimentation
- Reductionism and Interdisciplinarity
- 3. Nature vs. Nurture
- 4. Eugenics
- 5. Debate



## Experimentation

- Scientific discovery begins with 1) a **hypothesis**, followed by 2) experiment **design**, and 3) the interpretation of experiment results that either **confirm or disprove** the hypothesis. Describe each component of the following experiments.
  - Mendel's pea experiment (pp.102-105) (1)
  - Morgan's fruit fly experiment (pp.106-108) 2
  - Griffith's mice experiment (pp.117-118) ③
  - The Meselson–Stahl experiment (pp.138-139) 4
- What do you think makes a successful experiment? (5)

# Reductionism and Interdisciplinarity

- How do you understand Watson's argument that "life was just a matter of physics and chemistry, albeit exquisitely organized physics and chemistry" (Para. 64)? Do you agree with him? (5)
- How have scientists combined approaches from various disciplines and discovered the structure of DNA? (1)(2)
- How has the methodology in life science evolved since Darwin's time? ③
- Considering that scientific discovery typically results from collaborative efforts involving multiple scientists from diverse disciplines and institutions, is it appropriate to grant scientific awards to individuals? 4

#### Nature vs. Nurture

- What are the technical (non-ethical) problems with Galton's research on the heredity of abilities? (1)
- Do you agree with Watson that intelligence differences among races are due to genes? 23
- Give examples demonstrating gender differences stemming from nature 4 (i.e., biological factors) and nurture 5 (i.e., upbringing and societal influences).

## Eugenics

- Give examples showing that the definition of good/bad genes has varied across time and space. 2
- Did the one-child policy result in any eugenic consequences? ③
- If you were a proponent of Eugenics, how would you propose eugenics policies in contemporary China? 45
- What do you think are the pros and cons of premarital genetic screening?

### Debate

- Topic: Parents have the right to determine what kind of children they want.
- Make arguments to defend your position and counter the opposing viewpoint.
  - Affirmative (1)(2)
  - Negative (3)(4)

