

Assignment 8: Muller's Nobel Lecture of 1946; Topic Statements

Readings

Required: Hermann J. Muller. "The Production of Mutations." Nobel Lecture. Dec. 12, 1946. Nobel Media AB. URL: <https://www.nobelprize.org/prizes/medicine/1946/muller/lecture/>

Questions for Study and Discussion

Think about the following questions as you do the readings, and be prepared to discuss them in your Friday section.

Also write up a brief answer to the first two questions (everybody) and the one assigned to your breakout group. Upload your answers to your section Canvas page.

On Friday, after some general discussion and review, each group will meet in a Zoom breakout room to compare and discuss their individual answers and prepare a short synopsis for presentation to the rest of the class.

Everybody—Project Topics Now that you have some sources in hand that interest you and are presumably related to a common topic, describe the topic that you intend to write your term paper about. Just a brief statement—a sentence or two (or three).

If you need or want suggestions or additional feedback, please feel free to e-mail me or join in my Thursday office hours.

Everybody Why is the study of mutation important to Muller? Consider, e.g., the nature of evolutionary change, the problem of teleology, or Lamackism.

Breakout groups 1 and 2 How does he now picture the mutation process? It's not like the decay of radium any more. Is it still simply a photon "hit" that breaks something, or are there some new nuances and chemical processes involved?

Breakout groups 3 and 4 What does Muller now say or imply about the shape of the dose-response curve (i.e., mutation rate vs. absorbed dose of radiation)? What exactly does he mean when he says "the frequency of the gene mutations is directly and simply proportional to the dose"? And when he says there is "no escape from the conclusion that there is no threshold dose, and that the individual mutations result from individual 'hits'"?