

The Beak of the Finch: Chapters 14-16

Answer each question in at least one paragraph (ca. 150-200 words). Refer to the syllabus (section “Written assignments”) for formatting instructions.

1. Why are there so many kinds of animals? Explain the concept and list some examples mentioned in the book (historic and current).
2. Historians learn from spelling errors in a similar way as evolutionists learn from DNA. Explain how Darwin’s spelling errors are relevant to understanding how different finch species are related to each other. When Darwin talked about invisible characters, what was he referring to?
3. What is the so-called “SOS response” and what is its purpose? Use *E. coli* as an example. What role does hybridization in Darwin’s finches play in the light of this process?
4. Revisiting: In what situation could the tameness of island-inhabitants become a problem? Give an example from the book (Lyell and Darwin each provided one in their writings).
5. Hermon Carey Bumpus published a famous story of evolution in action. Explain the study. (Are the birds he was studying native to the New World? How did they arrive in New England? What did Bumpus find? Which modes of selection did he encounter? What did Peter Grant find when he reanalyzed the data?)
6. The book gives a great example of rapid evolution when a new “beast” is introduced. Explain the soapberry bug story.
7. Haw flies lay their eggs in hawthorn but some flies have switched to apples. Why do most evolutionists regard the possibility of speciation in haw flies as unorthodox? What are the two forms of sexual selection described in apple flies? Hypothesize into which categories of sexual selection they fall. (not mentioned in book, extra points for this) Does molecular evidence support the hypothesis of apple flies as a distinct species? What did Jeffrey Feder find?