

reading guide/discussion prep for chapters 11 and 12

These chapters are full of observations on the geographical distributions of organisms, and explanations for why they are so distributed. **I'd like to ask that while reading, you pay special attention to which hypothesis or hypotheses (exactly) are employed in explaining a given observation.** This task brings us back to a question that has come up in previous discussions: To what does Darwin refer when he says “my theory”?

One simple division (which may or may not exhaust “my theory”) is between the theses: (a) common ancestry for all or most species, and (b) natural selection as the main mechanism of ‘transmutation’. Note that (a) and (b) are logically independent. You could have independent lineages all evolving by natural selection but with no common ancestry—(b) without (a), and you could have common ancestry but with transmutation driven by some other mechanism—(a) without (b).

So one way to approach the question of which hypotheses (exactly) are employed in a given explanation is to look at the explanation Darwin proposes and ask whether it relies on (a), or (b), or both (or neither!).

On another subject, I think it will be helpful if I point out something that Darwin is not very explicit about, yet is important for understanding his reasoning. The antagonist of these chapters is creationism. But creationism is a notoriously slippery theory. *If* what's meant by ‘creationism’ is just that God created each species, then it is hard to know what we should expect to observe, were the theory true. There isn't enough structure to the theory—God could have done anything—there are no constraints that could be leveraged to extract predictions from the theory. So one isn't going to get very far using observations to evaluate creationism, so broadly construed.

Most of the time in these chapters, when Darwin says “the theory of creation”, he has a more specific theory in mind. (I'm pretty sure) he's thinking of a version of creationism that says what God was up to when God created each species and placed it somewhere *was matching forms to environments*. This more specific theory does tell us what we should expect to observe, were the theory true: the overall form of organisms should track the climate and other physical conditions of the local environments in which they are found. It is because he's focused on this specific version of creationism (I submit) that Darwin begins chapter 11 with his first “great fact” (which would otherwise be neither here nor there.)

—Casey