

An Introduction to Evolutionary Biology

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Week 1 Lecture 3

Making of Darwinism (External Video)

Hi, so in our last discussion, we ended with the work of Jean Baptiste Lamarck And we said that although Lamarck's work did not get much traction, the next person who came Charles Darwin, It was his work that ended up convincing the world that the species have indeed changed. So, the way Charles Darwin and his contemporary Alfred Russell Wallace went about you know, coming up with the theory of evolution through natural selection, that story is actually a fascinating story. So, initially I had thought that I will tell you the story myself, But then later I realized that there are other people who have come up with excellent accounts of that story. So, what I will do is, I will request you to watch this particular video, the origin of species, the making of a theory. So, this is about 31 minutes long, that is the YouTube link. So, please watch this and then once you are done, come back to this video, that is the one in which you and I are talking, And at that point, we are going to have a quick discussion about what you saw in the video.

So, see you at the other end of the video. I assume that you have now seen the video And this particular video is made by Howard Hughes Medical Institute as part of their biointeractive project. So, what they have done is not only have they made the videos, They have also created excellent activities for students to learn And understand about various aspects of science in this particular case related to evolution. So, I have given you the original link to the Biointeractive resource.

There are quite a few fun activities over there. I would heavily recommend that you go there and check out some of these activities. Note that although the video is part of what we are discussing, these activities are not. So, they are completely outside the course. They are only for you to you know have fun.

The other point that I want you to note here is how Darwin and Wallace ended up treating each other during the discovery of this evolution through natural selection. So, if you remember when this entire thing is happening, The situation in which Darwin and Wallace find themselves are very different. Darwin is already famous, he is rich and he is sitting in London, which is like the epicenter of science in those days. On the other hand, Wallace is basically a nobody, He is poor, he is just a collector and he is sitting in the jungles of Malaya, you know about almost on the other side of the globe. So, when Wallace's letter arrives at Darwin's doorsteps, Darwin could have very easily just suppressed the letter and taken the entire credit for himself.

In this particular case, given that Darwin had already worked the whole thing out, Therefore, there was all the more reason for him to do that. However, that would have been unethical and Darwin actually does what is the right thing. In other words, he ends up using his influence to make sure that Wallace's letter is read in front of the Linnean Society in London And along with that, as an independent thing, He ends up getting one of you know abstracts of one of his, not an abstract, A summary of one of his earlier essays also read during the same meeting. So, he does not suppress Wallace's work, he promotes it, And, therefore makes sure that Wallace also gets his due recognition as a co-discoverer of the principle of natural selection. Now, how does Wallace behave under the same scenario? Very interestingly, Wallace also behaves with a lot of honor.

So, when Wallace comes back and understands, you know, looks at Darwin's work And understands the fact that A) Darwin got there earlier And B) Darwin had actually put in a lot more effort, He had put in a lot more evidences to convince everybody that evolution did happen in that particular way. And therefore, because Darwin had done more work, Wallace then goes out of his way to actually associate the overall theory with Darwin's

name, And, therefore explicitly titles his book as Darwinism. So, this is a great example of two great minds fully respecting each other's contributions. And not really trying to put the other person down. Now, I wish I could have said that every single scientific you know interaction between great minds were like that, unfortunately not.

In fact, in science, probably there are more examples of people fighting bitterly For getting precedence in terms of putting their names to a theory. But given that this particular example of Wallace and Darwin treating each other with respect comes out as a shining beacon of how this kind of things should be dealt with. Anyway, so you saw how Darwin and Wallace reached the theory, But you did not really get a good chance to see what exactly the theory was. So that is what we are going to discuss in our next meeting That what exactly did Darwin say and why exactly was that so important. Next meeting.