

Origin Day Lecture: Audience Question Two

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ARMAND LEROI: There's a question which comes from Ben Rawson, Bangkok, Thailand, and it's a random question. If Darwin were alive today, what area of evolutionary science would he be working in and why?

SANDY KNAPP: Oh.

RANDAL KEYNES: I think the one easy way out of that answer is that he would have been ranging across a number as always. One thing that I find remarkable and very clear about his way of work is that he never lingered anywhere because he loved a particular subject. He would even the things that we understand he loved most orchids, pigeons, and so on once he had done what he was doing, what he was interested in doing at that time, he would just dispose of them.

He would have forgotten about them because he would be onto barnacles, or earthworms, or bumblebees, or whatever it was. That's one way of answering a question. Another way would be just to ask in which areas of science as they develop now. I think he's always known as one of the greatest field biologists of all time. He kept out of laboratories in his time. He knew what was going on in laboratories.

When he had a question for a laboratory scientist about the possibility that we could find, detect electrical properties in plant movements, because it would be wonderful to find that there were similarities between plant structures for movement and animal nerves. He went straight to a friend with a laboratory, gave him a suggestion for an experiment, the friends carried it out, and it showed electrical power in plants movements that parallel human. He would have had no hesitation about going into laboratory science.

And he would certainly be reading the molecular biology. It was like nothing that he'd ever done. In as far as it required maths, he would have been terrified of it, because he knew his maths was completely hopeless. I'm not sure to what extent it does actually require the

mathematical abilities of a mathematical intelligence, but he would just want to read all about it and see the new kinds of history embedded in gene sequences and the ways that you can read histories in gene sequences. Things like that would have fascinated them, I think.

ARMAND LEROI: Any thoughts from you two?

SANDY KNAPP: Well, I think there is something that he came back to because he wrote two books about the movements of plants. And I think that's absolutely fascinating. It's the one thing that he came back to and wrote about again. And to me that's really interesting because--

ARMAND LEROI: [INAUDIBLE]

SANDY KNAPP: Yeah, well. So was Darwin. But it's the thought that here was something that he wrote a book about early on in his career and then came back to and wrote a much larger book about it. So obviously, the thought about what was going on. And to me that's the thing that people often characterize the difference between plants and animals, is plants just sit there and don't do anything.

But twining plants are actually plants that move. It's about plant behaviour. That's what that book is about. And I think that to me, that's an interesting thing. If I were to be able to talk to Charles Darwin, I would want to ask him, why did you do that?

PETER BOWLER: Yeah, I think it was an important and interesting suggestion you made on an earlier that Darwin may have deliberately restricted his access to the laboratory science. He's using them only when he needed them because otherwise he would have been swamped. And I think that was a strategic move. And I certainly wouldn't want it to be thought that I was implying that he wasn't interested in ultimately a materialistic explanation--

ARMAND LEROI: No, of course.

PETER BOWLER: --of the way the world worked. And I think Professor Wilson's whole thesis there is very important. Darwin was by the standards of his time a materialist. He wanted to explain things in terms of the basic operations of the physical universe. But he just felt that the techniques were not available to go down to some of the most important problems of that area. So he restricted it.

And a good example is the place of the origin of life. Today, many opponents of evolutionism, the creationist will say explain the origin of life, but Darwin actually said quite explicitly that I'm not going to go into that question. It's not what I'm doing. So he takes this strategic decision not to enter an area.

SANDY KNAPP: But I think you also have to think of the origin. So if we think about the origin as being that kind of central book, is he had to write that in a real hurry. And if he'd had his way, he would have written a 10 volume set that would have been full of facts that wouldn't have made the impact. The origin made an impact because it was a small book. It was well written and well constructed. You can read it a chapter a night.

If you get really difficult, you can just read the last paragraph of every chapter and it goes very, very quickly. You can do between underground stops even. But had he had time to do the origin in the way he wanted, he maybe would have gone into all of those other things in

more detail. Maybe. Who knows? But it certainly would have been a much more fact rich but slightly duller book.

ARMAND LEROI: You know what I think he would be doing if he were a modern evolutionary biologist? I think he'd be doing what Peter and Rosemary Grant are doing. I think he'd be sitting on a rock in the Galapagos, watching, counting seeds, measuring beaks, and just watching natural selection happen in front of his eyes. I think I'm just fascinated. That combination of that dynamic which he would love and that natural history, which he was so suited and pretty much meant for that.