



Charles Darwin - the man and the scientist

Darwin's professor

Jack Ashby:

Here at the Grant Museum we've got two very special links to Charles Darwin and the history of evolutionary biology. Firstly, the names, the museum is named after Professor Robert Edmond Grant who taught Charles Darwin when they were both at Edinburgh University, and Darwin was introduced to evolutionary theory in part at least by Robert Grant. So it's very special for that reason.

Secondly, now the museum for the last 13 years or so is in what we call the Darwin Building at University College London, and the Darwin Building is the site of, of Darwin's home when we came back from the voyage of the Beagle.

Joe Cain:

Well I'm a historian of biology, and I chose the Grant Museum because it reminds me of the nineteenth century tradition of comparative biology. I mean just look at this thing, this tiger, and in the nineteenth century comparative anatomy was what most biologists did. And you're supposed to look at something like the tiger and notice various things about it. Like, notice the teeth.

People would ask, well why, why do the teeth look different from say the teeth of a horse or the teeth of a cow, and that gets you to comparing.

And what I love about the Grant Museum is that so many specimens are around, you could look at everything and you can compare this to that, to that, and again it comes back to that big idea that looking was supposed to provoke thinking.

Graphic: Past and Present

Jack Ashby:

Well the specimens here in the Grant Museum can tell us so much about evolution. We have thousands of animal skeletons, pickled animals, parts of animals that you can look at to compare the species, to see how they're related to each other. If we can look at just the one I'm stood next to is the dugong which is an animal that lives in the sea.

He's got a pelvis at the end of his body but doesn't have any legs, so why would an animal that lives in the sea that doesn't walk have a pelvis if it didn't evolve from animals that did walk on land?

Joe Cain:

Well if I had to choose something to remind me of evolution I'd choose this plesiosaur.

It's a cast from the beginning part of the nineteenth century, and it's a piece of, of fossil history that no-one understood when they chipped the rocks away and discovered it. This was a brand new thing.

And when you look at a specimen like the plesiosaur, well it looks a little bit like the Loch Ness monster, it looks a little bit like a turtle with the flippers and, and the broad body, it looks a little bit like the neck of a giraffe.

And so the problem for a comparative anatomist or a palaeontologist is to just figure out what this was.

The beginning of the nineteenth century was the time when people were discovering that there was a time before people.

That idea that there were forms alive in the past. Those forms came to be and then passed away.

And what I love about this plesiosaur cast is, it provokes us to think about that deep time, the depths of time, the chapters in the book of life long before humans ever got there.

Graphic: Beginnings and Endings

Joe Cain:

Another thing I love in the Grant Museum are these glass models. They were made in the 1880s, and they're glass models of marine organisms. This one is a, a sea anemone.

What's the connection to Darwin? People studied primitive forms of animals because they wanted to know where animals came from. So many times we look at the ends of the branches of the tree of life. Well, these models got people thinking about the base in the tree of life, about the roots.

How did we get from the primordial ooze to the organisms that we see right here in front of us?

And in thinking about marine organisms and the simplest kinds of organisms, like the sea anemone and like the jellyfish, of the other glass models, they got people thinking about the base of the tree of life.

Jack Ashby:

It's easy to come into a museum like the Grant Museum and say "This is a Victorian collection, it's 180 years old. What can it tell us about evolutionary biology today?" But in fact, a major part of evolution is extinction, and we have animals that have been driven to extinction since the museum was founded.

We have the quagga which is an extinct type of zebra which went extinct 125 years ago due to hunting. We have the Tasmanian tiger or thylacene, which is a large marsupial carnivore, which went extinct in 1936 due to deliberate hunting, and it was deliberately driven to extinction. We have animals like the crescent nail tailed wallaby, which was driven to extinction in Australia due to the fact that the British introduced foxes.

Thousands of species are threatened with extinction at the moment by things like global warming or other introduced predators. By studying what's happened in the past, we can help protect those, and of course we have these specimens here at the Grant Museum today – the polar bear; the Tasmanian devils, the pandas. We can study these things and help protect them by learning about their biology today.