science of natural history





Transcript

Darwin & Dinosaurs: Fossils... Scientists... History...

Narrator: Life on our planet has a rich history that goes back billions of years. A history that is in many ways defined by change. Evidence for these changes come from every branch of science, but the evidence that perhaps evokes the most wonder, are the fossilized skeletons of animals long extinct. These fossils reveal a world that rivals fantasy.

Dinosaurs are part of our vocabulary and the effect they have on us beckon us to the cinema as well as to museums. Some new finds, like this relative to *Tricerotops*, are clear cut cases of new species. Others, like *Nanotyrannus*, are controversial. Is this a new species or is it a young Tyrannosaurs rex, which is a species we've known about since we were kids.

Dinosaurs are well represented in popular culture. But think about the 1800s, when these fossils were being discovered and described for the very first time. This was truly a time of discovery and great strides were made in understanding how the earth itself, as well as many forms of life have changed over hundreds of millions of years.

Some scientists were well-recognized at the time, while others worked in relative obscurity. Charles Darwin, one of the most famous scientists of all time, embarked on one of the most famous voyages of all time, making the HMS Beagle one of the most famous ships of all time.

The voyage of the Beagle is a remarkable story that is worthy of its place in history. Darwin was a naturalist on the voyage while Captain Robert Fitzroy charted oceans and coastlines like never before. The naval tools and technology of the time are as beautiful as they were functional. To determine latitude, sextants were used to measure the angle between the horizon and the sun at noontime. Accurately determining longitude required knowing the exact time at a reference point, which was often thousands of miles away. Chronometers were designed to maintain this accuracy even under the harsh conditions of extreme temperature changes and the tossing and turning of the ship. This marine chronometer is near identical to two of the 22 chronometers on that voyage.

During this voyage, Darwin not only filled up notebook after notebook with observations, but he also sent many crates of specimens back to England, which he and other scientists used for many advancements. Darwin was meticulous and prolific in research, and his intensive work on barnacles resulted in a significant scientific book on the subject, establishing him as an expert in zoology. This in-depth work provided just some of the hard evidence that he coupled with other ideas to form his theory of evolution by natural selection.

And then there's Alfred Russel Wallace, another top-notch scientist, who independently came up with the theory of evolution by natural selection. In 1858, Wallace and Darwin co-published the first paper on this topic. A year later, Darwin's work culminated with one of the most significant publications of all time.

Visiting this exhibit not only feeds the curious mind, but also conveys emotional power that comes from examining these historical artifacts. Seeing original books of important scientific works, including a first edition of *On the Origin of Species* along with reviews and coverage by the press, and objects that are near identical to the ones used for ground breaking advancements bring that time in history alive making it feel all the more real. These were real people, with their own lives, pursuing passions that would change our view of the world forever.

And full scale reproductions of fossils bring a world alive that was literally buried for millions of years. To touch a dinosaur bone is to touch a time so long ago it is difficult to fathom. Here we are, at a time when we can go to a museum and immerse ourselves in the natural history from times long past. Times that rival fantasy.

This D&D may not be Dungeons and Dragons, but a dragon is most certainly overhead.