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Pushing the Limits

From 2013 to 2019, I facilitated an NSF Pushing the Limits book discussion group at a number of WLN Libraries. The focus of Pushing the Limits was on books about how societies have used science and technology throughout history to either advance human interests (and quality of life perhaps), or to strain the capacity of nature to withstand human stressors. Both can and do happen concurrently of course. And, there is evidence that we are, as a result, in the throes of a sixth great species extinction, this one being caused by humans. If that is hard to comprehend over just a human lifetime, then think of an extinction episode as spanning maybe hundreds or thousands of years, still only a moment in geological time.

There are wonderful reads to be had in just considering the five known, dramatic extinctions in geological time frames, especially the last one of about 65 million years ago. I have written of them before, but the wonder in it all bears repeating.

We all know about the dinosaur extinction of that last time, but maybe we do not realize that there was then a broader extinction of species amounting to about 70% of all forms of life. That was for what is known as the Cretaceous-Tertiary Episode. For the Permian-Triassic Episode of about 250 million years ago, the estimated extinction was about 95% of all species. All five are estimated at 70% or above.

James Lawrence Powell's "Night Comes to the Cretaceous: Dinosaur Extinction and the Transformation of Modern Geology" (1998) is a fascinating story, both about the extinctions themselves and the father/son Alvarez team that iridium-traced the fifth to an asteroid impact off the Yucatan Peninsula. Louis, father and Nobel Prize physicist, found common ground with geologist son Walter, another good example of value in scientific collaboration. Edward O. Wilson, perhaps the Darwin of our own day, whom I have mentioned before, has spoken and written widely about the sixth extinction now in progress, and Elizabeth Kolbert has captured that and more in a fine and popular account in "The Sixth Extinction: an Unnatural History" (2014).

There are other excellent books to be read about just the dinosaurs and the archeological competition that began in the 19th century to find and excavate their bones in the American west (and elsewhere). Pittsburgh's own Andrew Carnegie figures in that story as exploration backer, as do the Carnegie Museum of Natural History and the American Museum of Natural History in New York. Here are some books, again, that recount the adventure:

Colbert, Edwin H., "The Great Dinosaur Hunters and Their Discoveries" (1984 republication of "Men and Dinosaurs" (1968)).

Wallace, David Rains, "The Bonehunters' Revenge: Dinosaurs, Greed, and the Greatest Scientific Feud of the Gilded Age" (1999).

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Spalding, David A.E., "Dinosaur Hunters: Eccentric Amateurs and Obsessed Professionals" (1993).

Horner, John R and Gorman, James., "Digging Dinosaurs: the Search that Unraveled the Mystery of Baby Dinosaurs" (1988).

Adventure is the right word to use about the collective tale told in these books, and you do not need to get on an airplane to have it. Just a WLN Library card will do!

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