

Footprints: In Search of Future Fossils

By David Farrier

A book review by Paul Etkind, museum volunteer

Since approximately 500 million years into the existence of our planet, life on earth has been leaving records of its presence via fossilized impressions in the rocks. In the earlier years, we see fossils of trilobites and ammonites. More recently, we have the spectacular fossil record of dinosaurs and mega-fauna mammals that eventually followed the dinosaurs' mass extinction. Then we have compiled the skulls and bone fragments that record the history of humanity's development and spread on earth.

These are the crown jewels of our family history. From these fossilized records, we can learn extraordinary amounts of information about when these life forms lived, how they lived, what they ate, what their habitats were like, and so on. This book poses an intriguing question: What will the fossil record of 20th-21st century humanity look like? What will it tell sentient life forms 20 million years from now ("deep time") about how we used the resources of this planet and protected the future of the planet for humanity and all other life forms?

In *Footprints: In Search of Future Fossils*, author David Farrier reviews some of the various forms of evidence that can be observed, collected, researched, and projected to see how they might be interpreted about us millions of years from now. Some are obvious while some may not come immediately to mind for many of us. Physical evidence of views into "deep time" include ice cores drilled from Antarctica's ice. These give an incredibly dense look at environmental conditions in past eons up until the present and are testimony to humanity's impact. This source of information is rapidly disappearing as the ice sheets melt. The author also visits sites where radioactive waste is entombed; and the cities that will be covered by rising waters and eventually become thin strata of concrete, steel, and glass in the sedimentary rocks.

The book also seeks to identify what will be lost over time because of humanity's impact. The author visits reefs to observe how these engines of biologic diversity are dying. He visits the Black Sea with its increasing portions of depths that contain no oxygen. He examines the many, deep landfills that are filled with our trash, much of which is plastic, which will degrade very slowly, if at all, and will not suit the soil microbiota that developed and supported a myriad and complex web of life. The loss of habitat may ultimately fulfill Rachel Carson's prediction of silence in her classic book *Silent Spring*.

As viewed through the lens of deep time, how we have acted as stewards of this planet's resources is a question that only now is relevant to the history of this planet. No life form beside humans have ever had the power to shape its own and the planet's environment. The author argues that future fossils are all around us in what we produce, throw away, and leave behind. These fossils will be the sources of stories and music of our lives that future beings, millions of years from now, will create to speak of the decisions we made and how we treated our home.

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