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“From Australopithecines to the Anthropocene: where did we come from and where are we going...a geologists view”

Abstract

Origins:

While we may not have been literally born in the African Rift Valley, our ancestor's bones are concentrated here because of the coincidence of favorable environments for living and for fossil preservation---coupled with great outcrops and sixty years spent collecting and studying the remains.

We see that over the last 4,000,000 years we made 4 quantum leaps: we learned to Speak, to Walk, invented Tools and tamed Fire.

Leaving Africa and Developing Civilization:

We left Africa in a steady dribble over the past few million years and settled in Eurasia. A few tens of thousands of years ago we wandered into the New World. We grew up to occupy the world, learning, discovering, sharing, and teaching.

Over the past 10,000 years, we made 3 more quantum leaps: Agriculture/Domestication, Cities and Writing that carried us through to the eve of the Industrial Revolution; here tool making rose a quantum step with steam and hydrocarbons leading us to the gilded era marked by the 1908 Model T Ford. Somewhere in here we phased into the Anthropocene....The era of accelerated extinctions and fossil fuels. Having climbed to ascendancy we can ponder where we are headed.

The internet and Wikipedia:

In our lifetimes, the latest quantum leap, the Internet has trumped all enabling Wikipedia, the most powerful tool invented by mankind. We are achieving a global consciousness envisioned by De Chardin. The world is changing and the rate of change is changing leading to the Great Acceleration. In the past ten years the population of the earth has increased by a billion people; equivalent to the population of the western hemisphere, in my lifetime the population has tripled. We are at increased risk as more people live in harm's way at sea level and amidst volcanoes, earthquakes, and tsunamis.

Accelerating changes are afoot fueled by FOMO. Global connectivity is achieved through the use of social media; some countries have more cell phones than people. Using the new tool kit and drawing on the fullness of human knowledge through automated search bots, our children will find new ways forward, some completely unimaginable today.

Can we convince ourselves the future smells good?

Science has propelled our population to beyond 7 billion. Science has elevated hundreds of millions from poverty during our lifetime—yet science is poorly understood by many and our accomplishments have occurred amidst a tragedy of the commons.

Beguiled by progress, we have inadvertently, but knowingly triggered and accelerated the sixth extinction. We condone a planetary lifestyle where over a billion people lack clean water and are malnourished. Our world receives more energy than it emits due to man made modifications of the atmosphere. This is changing ocean temperature and chemistry together with global climate patterns.

We have the many hands of the young to help us use new tools to build a clean new world, a green world of interconnected and flourishing cities. They will redefine careers and lifestyles in an automated world. Great cities are emerging as role models, New York, Singapore, Bangalore....

Our Presenter

Bob Raynolds



Bob is a Research Associate at the Denver Museum of Nature & Science. Bob earned his Master's in Applied Earth Sciences from Stanford University and his PhD from Dartmouth College. His dissertation focused on sediments that accumulated at the foot of the Himalayas. This experience led him to study comparable rocks in the Denver Basin that record the uplift of the Laramide Front Range and contain precious groundwater. Bob has worked on the Rift Valley in East Africa and on the eastern plains of the Andes. Bob has taught as a Fulbright professor at the Center for Excellence in Geology at Peshawar University in Pakistan, at Dartmouth College, and at the Colorado School of Mines where he is currently an adjunct faculty member in the geophysics department. His recent lectures focus on the impact of climate change on Colorado's ecology and water resources of the Colorado River system.