

Survivors of a Changing Environment

Dr. Rick Potts: 00:00 Well for a long time, scientists and many people have been interested in what environment did early humans evolve? Where did we originate? Was it the African Savannah, the grassland, or the Ice Age of Europe? (00:12) And so I went to East Africa to the Great Rift Valley, to understand something about the environments of early humans. I kept walking up and down the eroded gulleys and hillside and seeing layer after layer. And at one layer, maybe the lake was present. Another layer of the lake was gone. There was a drought. Another layer, there was a forest or a woodland. Another layer, a grassland. And I kept thinking, maybe it wasn't just one environment where early humans evolved, but rather it was the changeability, the ability of the environment to change back and forth between one and another, that was the key ingredient in how humans evolved and how we became so adaptable, able to live anywhere on earth. (00:54) So, if this idea was right, then early humans, our ancestors, should be associated mainly with places on earth where environments changed. And so I went to that part of the world, South China, where there was the reputation for an unchanging environment; a place where there was environmental stability, a forest that existed for a million years. (01:16) And so I already knew that Chinese scientists had found stone tools there. So what were early humans doing there if the environment was so stable? So I went there and dug with my Chinese colleagues and indeed what we found in the ground were stone tools, indicating the early humans were there. In that layer, we found these also, and these are what are known as tektites. These are pieces of molten earth rock that had been blown out of the earth, due to a meteor impact, a meteorite impact, in Earth's upper atmosphere, heating up the earth in that region of the world. (01:53) And these tektites were spread all the way from out of this explosion from Australia to Southern China and these hot objects burned down the forests. And so what we think then is that the early humans, the makers of these stone tools, were able to come across that landscape and take advantage of the animals that had died, perhaps some of the burned meat and burned up

burn plants that they could eat. It's almost like cooking and that they were able to survive a landscape that had been completely devastated, and they were indeed creatures of change, that they were adapted to survive on this changing landscape. And so it meant that my idea had some viability that it was perhaps correct, that it wasn't a bad idea after all.

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