

The Threshold

by

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## The Threshold

Threshold: (1) the sill of a doorway; the entrance to a house or building; (2) the point at which a psychological or physiological effect begins to be produced; the starting point of an adventure or experience; (3) the maximum point or upper limit at which a state or condition transitions into another state, usually permanently. - Webster's New Collegiate Dictionary

Thresholds made us human. A brutal drought likely drove our ape ancestors out of the trees and dying forests into the African savannah, encouraging them to walk upright. The tool-making, meat-eating, cooking, singing, dancing, and story-telling around the campfire that followed over the millennia also represent significant thresholds in our development. So does a transformative genetic bottleneck 75,000 years ago that created our modern behavior, likely the consequence of another devastating drought. Next came the Diaspora out of Africa by a small group of people, freezing weather, cave art, and the start of the warm Holocene epoch. We were ready. We burst across this new threshold – and invented civilization. Nothing was the same ever again. It's in our nature to explore, adapt, and survive. It's who we are. It's where we came from. It's where we are going – over the next threshold.

In 2012, high up in the atmosphere above the Arctic, carbon dioxide levels surpassed 400 ppm (parts-per million) for the first time in the three million years or so that hominids have existed on Earth. At the start of the Industrial Revolution, the levels floated at 275 ppm and during the previous 800,000 years, according to ice core studies, they rarely rose above 300 ppm. By the late 1950s, however, when Dr. Ralph Keeling began recording carbon dioxide concentrations at the top of Mauna Loa in Hawaii, levels had risen to 315 ppm, a consequence of burning fossil fuels. Then, in the late 1980s they cruised past 350 ppm – the level now considered by most scientists to be the upper limit of a stable climate.

If you look at carbon dioxide levels over the course of a year, you'll see a wave-like pattern as levels fluctuate seasonally with the uptake of the gas by green plants – up in the spring as things grow, down in the fall as they go dormant – as if the planet breathed in and out. The first breach of the 400 ppm threshold in 2012 was like a toe tentatively extended into the doorway of a strange house, quickly pulled back. Then we stuck our head inside the house and looked around apprehensively before withdrawing. The following year, we half-entered before pulling back. Next, scientists said, we'll enter the strange house for good.

It happened in September 2016:

<https://www.theguardian.com/environment/2016/sep/28/the-world-passes-400ppm-carbon-dioxide-threshold-permanently>

*The Threshold* examines the forces that pushed us over this line as well as the larger questions about our character and our choice of paths into the future. The narrative is built around trips I took for my work and includes my personal journey: raising teenagers, entering mid-life, changes professionally, and other aspects of this moment in time. It balances fears and concerns raised by scientific reports with an insider's look at hope among the grassroots.

Thresholds *make* us human. This is our story