9.0

THRESHOLD 8 THE MODERN REVOLUTION

0:12–0:39

THE ANTHROPOCENE

Threshold 8 began about 200 years ago and we're living in the middle of it. We call it the modern revolution because it created the world we live in today.

Some geologists call the modern era the anthropocene. That's the era in which the Earth came to be dominated by a single species, us. How did we suddenly get to be so powerful?

0:39–1:42

POPULATION AND ENERGY GROWTH

First, we became a global species. After the year 1500, human societies began to link up across the world. This created huge exchange networks in which ideas, technologies, goods and belief systems could be shared. Because collective learning worked on a larger scale than ever before, innovation speeded up.

A second ingredient played a crucial role—our discovery of new sources of energy. The fossil fuels—coal, oil and natural gas—came from fossilized plants and organisms that had stored the energy from sunlight over hundreds of millions of years. Humans learned how to use that energy to power engines of all kinds. Eventually, we learned how to extract energy from nuclear reactions like those that drive the sun. Globalization, increased innovation and new energy sources allowed us to build the largest and most complex societies that had ever existed.

1:42–2:29

CONSEQUENCES

Today, billions of people around the world can instantly communicate with each other. With abundant energy, a vast range of new materials from plastics to semiconductors, and an astonishing number of new machines, many humans live better than ever before.

However, all of this new complexity has consequences. The energy and the food we produce has to support nearly seven billion people. That requires a huge portion of the Earth's resources. Human technology and activity is literally transforming the biosphere.

We may be powerful, but are we really in charge of our power? What lies ahead for our own species and for the biosphere as a whole?