




## Unit 9: Acceleration

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## BHP Unit 9 Overview | OER Project

The world has experienced dramatic changes in the past 250 years. Humanity's use of fossil fuels to power machines and our increasing global connections have caused an acceleration of collective learning. But, these rapid changes have also created many problems, especially for our environment. Our last threshold of increasing complexity—the Modern Revolution—has led scientists to propose that we're living in a new geological epic, one in which humanity is impacting the Earth for millions of years to come—the Anthropocene.



**0:13**

*Future Rachel appears as a hologram.*

Hi everyone! It's great to see you all. As usual I'm—

[Future Rachel] Rachel Hansen from the future!

Wait what? You mean you've made improvements on the time machine that everyone remembers from Unit 2, seven months ago?

[Future Rachel] I have seen the future, and I am here to introduce the long-awaited Unit 10: The Future!

But this is Unit 9: Acceleration?

*Future Rachel disappears.*

[Future Rachel] Acceleration? I guess I got ahead of myself. See what I did there? I'll let myself out.

**0:52**

Hi, as you may have already gathered from the context clues, I'm Rachel Hansen, and this is Unit 9: Acceleration.

We'll start with an important word: Anthropocene. It's a big part of this unit. But what does it mean?

Well, in each stage of this course, we've dealt with some really big units of time.

*Images of pre-human developments.*

Those enormous, pre-human developments like the shifting of continents, the birth of stars, and the evolution of life, are all part of the way humans periodize history and create narratives! So again it comes down to how we know what we know. The scientific and historical evidence that opens a window on our cosmic, planetary, and human past.

*Text definition of epoch.*

The term Anthropocene does kinda the same thing, but with a twist! Calling our present epoch the "Anthropocene" means that we're thinking about future historians and future scientists. We're guessing how they will know what they will know about our present—which will be their past. Confused? Well, here's the thing:

**2:04**

Anthropocene is a geological epoch, like the Holocene or the Late Jurassic.

The term comes from the Greek "ánthrōpos", meaning "human."

The Anthropocene isn't an official epoch yet, but some geologists think it should be.

*Video of a busy intersection.*

They have proposed that we are now living in the Anthropocene because humanity is so impactful, so big, and moving so fast, that we have created an entirely new period of geologic time. So... yay us?

*Videos of environmental changes.*

Well...the term asserts that we are changing our planet in such fundamental ways that the marks we leave will be evident in the geologic layers of the Earth for eons to come.

That's a big claim. In this unit, you'll use your claim testers to evaluate it.

So, let's take a look at where we've been, and then meet our last threshold as you explore how the Modern Revolution led us to our present—and think about what we can do to save our future.

### 3:13

*Early world maps.*

*Illustration of Ibn Battuta  
and Ibn Mājid.*

*Video of ship at sea and  
illustrated world map.*

*Image sequence of modern  
foods.*

Unit 8 was all about how societies expanded and interconnected.

For example, by the time Ibn Battuta left on his epic journey across Africa and Asia in the fourteenth century, Islamic empires dominated the lands he passed through. Arab traders in the Indian Ocean like Ibn Mājid traded goods and ideas that led to innovations in shipbuilding and navigation.

Fifteenth-century European explorers benefitted from this collective learning, which allowed them to sail across the Atlantic Ocean. This is when connections suddenly became global.

The plants and animals that moved from one world zone to another led to some pretty amazing foods like French fries—which actually might be Belgian or Dutch fries—pizza, gumbo, and vanilla lattes! Great, now I'm hungry!

### 4:08

*Illustrations of effects  
of colonization and  
enslavement.*

*The Columbian Exchange  
graphic.*

But you also discovered that the Columbian Exchange had many disastrous effects. While people in Afro-Eurasia had immunities to many diseases thanks to centuries of regional trade and crowded cities, Indigenous Americans did not. Viruses such as smallpox devastated Indigenous communities, as did European colonization. Their colonization of the Americas also led Europeans to enslave and transport over 12 million Africans across the Atlantic Ocean to work on plantations. Millions died on this voyage and after.

The coming together of the four world zones and the expansion of oceanic empires led to the exchange of new plants, animals, diseases, people, and ideas. The diversity of connections created as a result helped increase human populations and speed up collective learning.

### 5:03

*Animation of global  
networks.*

*Graph showing global  
population.*

Things were moving fast in the last unit, but Unit 9 covers a period when things really picked up. As networks of diverse people exchanged ideas, collective learning accelerated. And so did population. But humanity still needed one more ingredient to reach Threshold 8, and that was new energy sources.

In the past 250 years, the global population has skyrocketed. And most of that growth has happened in the last 75 years.

In 1750 about 800 million people lived on Earth. By 1900, the population doubled to 1.6 billion.

Fifty years later, the total population grew to 2.5 billion.

Seventy years after that, in 2020, there were 7.7 billion people sharing the planet.

*Image of coal.*

What do we have to thank for this incredibly fast rate of change? Well, this little rock, for one. It doesn't look very appetizing, but it's the reason we have so much food. Stay with me...

### 6:11

*Video of industrialization  
technology.*

In the eighteenth century, people began using fossil fuels, like that little lump of coal, to power machines. And with the addition of this missing ingredient, we finally reached our final Threshold of Increasing Complexity—the Modern Revolution.

*Threshold 8 graphic.*

This revolution was the result of increasingly large global exchange networks coupled with new energy resources like fossil fuels.

*Image of modern transportation technologies.*

Once human societies began to industrialize, complexity increased exponentially. As populations grew so did the number of innovators. And along with people and innovations, fossil fuel consumption increased. Almost everything you use on a daily basis requires fossil fuels, and our use of them has reshaped the Earth in dramatic ways.

**7:01**

*Text definition of Anthropocene.*

That's why geologists and authorities have proposed Anthropocene as the name of a new epoch. Age of the human. And I'm not sure it's a compliment.

These global transformations in collective learning, fossil fuels, and climate change have been accompanied by major social changes as well.

*Image of business owners.*

Industrialization revolutionized how we produce and distribute the things we use. But industrialization also changed how we buy goods and accumulate wealth. People who owned the factory and business sought out new markets for their manufactured goods and designed means to collect wealth in the capitalist economic system.

*Image of child working in a factory.*

But the people who worked in those factories and businesses did not enjoy the same benefits as the wealthy. Life was difficult and wages were low. Governments were reluctant to place restrictions on businesses.

**7:56**

*Images of workers protesting.*

But over time, workers joined together and fought for more rights, better conditions, and higher wages.

In some regions of the world, workers fought for a revolutionary new economic system—socialism. The contrasting economic systems of capitalism and socialism continue to shape our world today.

*Course timeline graphic.*

Homo sapiens have been around a long time. About 250,000 years. Most of the big changes in our communities have happened very recently. Humans only started farming about 11,000 years ago. Our societies only began industrializing in the last 250 years. Just a tiny fraction of our species' history.

When we zoom out to the timeline of Big History, our modern world is merely a blip in the history of the Universe.

**8:47**

But things have changed drastically in that short time. Collective learning, increasing populations, and the use of fossil fuels have pushed our species into an age of acceleration. What will the next 250 years bring?!

*Future Rachel reappears.*

[Future Rachel] That's my cue, for only I can tell you what is in Unit 10: The Future!

Umm, I thought you knew the future? Don't you know that they still have to get through all of Unit 9: Acceleration.

[Future Rachel] Acceleration? Then speed it up! Ba-dum-bum! She does it again.

Future me is no longer funny.

[Future Rachel] That implies you think you're funny now.

Hey, don't make me come over there.

[Future Rachel] I dare you.



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