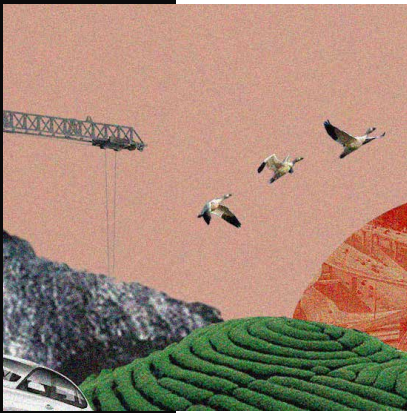




Listening Guide

Episode 9: At the Tipping Point

In 1972, a team of young scientists at MIT published a study exploring what would happen to human civilization if people kept pursuing endless economic growth on a finite planet. They weren't just disbelieved, they were ridiculed. The story of Donella Meadows and *The Limits to Growth*.

Features of Capitalism

Accumulation and Investment of Capital

SCENE **•ON** RADIO
Season 7: Capitalism

Reported and produced by Katy Shields and Vegard Beyer, with co-hosts John Biewen and Ellen McGirt.

Story editor: Loretta Williams.
Archival audio of Donella Meadows, Dennis Meadows, Aurelio Peccei, Jay Forrester, and others.
Interviewee: John Fullerton.

Visit sceneonradio.org/capitalism-educator-resources to access transcripts, the Features of Capitalism explainer, and other resources.

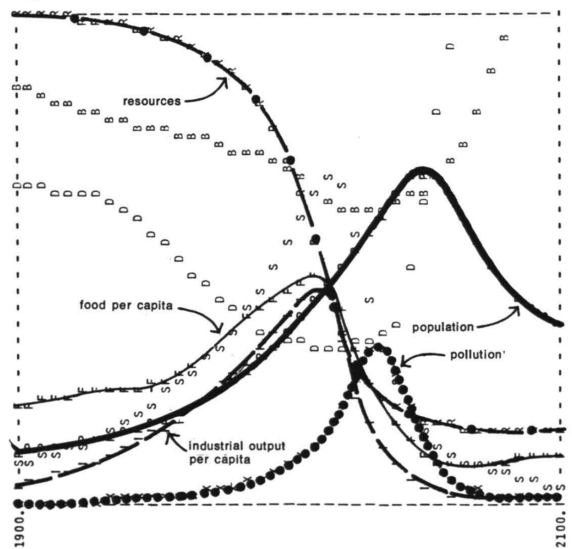
Before You Listen

- John Fullerton, the banker-turned-economic-reformer who John interviews in Episode 1, says that economic growth is the heart of capitalism's "fundamental algorithm."

Review the **Accumulation and Investment of Capital** entry in the **Features of Capitalism explainer**. How might the cycle of investment, profit, and reinvestment connect to Fullerton's statement?

- Figure 35** shows a chart published in *The Limits to Growth*.
 - What patterns do you notice?
 - What do you think this chart might show?
 - What questions does it raise for you?

Figure 35 WORLD MODEL STANDARD RUN



This chart and the [full digitized version of *The Limits to Growth*](#) are licensed by Dartmouth College Library under [CC BY-NC](#).

While You Listen

This listening guide divides the podcast into sections. All sections of this episode are recommended for listening.

Section	Questions to Consider
Section 1 Dana Meadows and <i>The Limits to Growth</i> 0:00-8:30 Recommended	- What is <i>The Limits to Growth</i>, and what problems were the MIT scientists trying to understand? - What is systems dynamics, and how is it connected to the MIT team's research? Figure 35 is known as the Standard Run – a famous outcome of the team's research. According to environmental economist Katy Shields, what does this chart show?

Section 2

Solving the
Problématique with
Systems Thinking

8:31-22:03

Recommended

- What does Aurelio Peccei mean by the Problématique? Explain in your own words.
- Why did Peccei and other members of the Club of Rome think that systems dynamics might help them understand the Problématique?
- Jay Forrester's model of the world system includes the following:
 - five core elements – population, food, industry, (natural) resources, and pollution
 - a host of other elements that interact with the core elements and each other – education, health care, investment of capital, technology, and so on

Systems dynamics holds that actions taken to change to one element creates positive or negative reactions (feedback) for other elements.

- How might an increase in population affect food and natural resources?
- How might an increase in industry affect natural resources and pollution?

Section 3

Infinite Growth in a
Finite System

22:04-30:15

Recommended

- What does Katy mean when she describes Earth as a "finite system"?
- What does the Kaibab Plateau in Arizona illustrate about growth, carrying capacity, and feedback?
- Why did the MIT team become concerned about rapidly growing population, industrial production, resource use, and pollution?
- Why did the MIT team conclude that technological advances alone might not solve the problems caused by continued growth?

Section 4

The "Standard Run" and
the Meadows' Findings

30:16-38:20

Recommended

- Compare three scenarios the MIT team modeled:
 - **Standard Run:** What happens if population and industrial production continue to grow?
 - **Unlimited Resources:** What changes when the model assumes far more natural resources? What problems remain?
 - **Stabilized World:** What changes when population and industrial growth are limited?

Taken together, what did these scenarios lead the MIT team to conclude about growth?

- According to Katy, what "implications" would committing to limiting growth have on wealthy nations like the United States?

Section 5

The Meadows Share
Their Findings – and
the World Responds

38:21-53:10

Recommended

- How did political leaders, members of the Club of Rome, and the news media respond to the MIT team's findings? What differences do you notice in their reactions?
- Some corporate executives told the MIT team that they believed its findings but felt unable to act differently because of pressures to compete and grow. What does their response suggest:
 - About the difference between individual choices and the pressures created by an economic system?
 - About John Fullerton's statement that economic growth is the heart of capitalism's "fundamental algorithm"?

Section 6

Unpacking the Episode:
The Limits to Growth
Today

53:11-1:03:29

Recommended

- *The Limits to Growth* was published in 1972 – over 50 years ago.
 - What examples does the episode offer that ideas from *The Limits to Growth* have gained influence since 1972?
 - What examples suggest that the debate over economic growth on a finite planet continues today?

After You Listen

- What is one moment or quote from the episode that stands out to you? It might be something that surprised you, challenged or confirmed your thinking, or prompted a new understanding.
- The episode closes with words from Dana Meadows:

This is the question that will be foremost in a sustainable world, to ask, where are we going, really? What is this progress for, what is this growth for, what is this economy for? What is this planet for and what is our purpose on it? The questions we flee from, especially in the public arena. Nobody wants or needs growth. What people want or need is material sufficiency, long-term security and sustainability, equity, and a purpose larger than accumulating material things.

What reactions or questions do Meadows' words spark for you?