PART 1

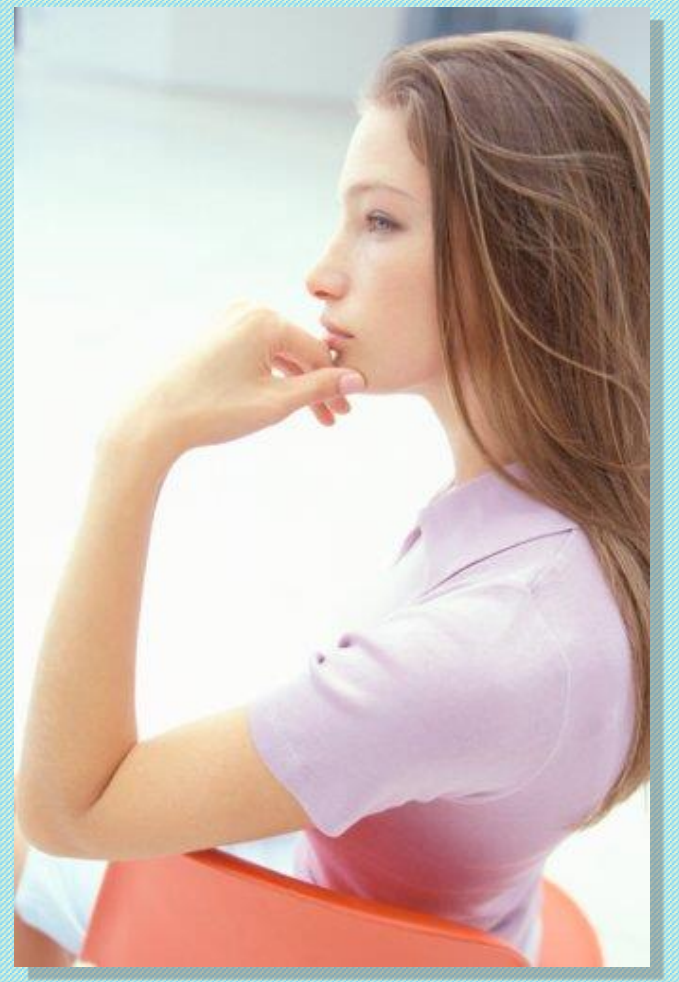
Ten Principles of Economics

PRINCIPLES OF

Microeconomics

Shizhe Peng
School of Economics and Management
Changsha University of Science and Technology

Chapter 4: Thinking Like an Economist



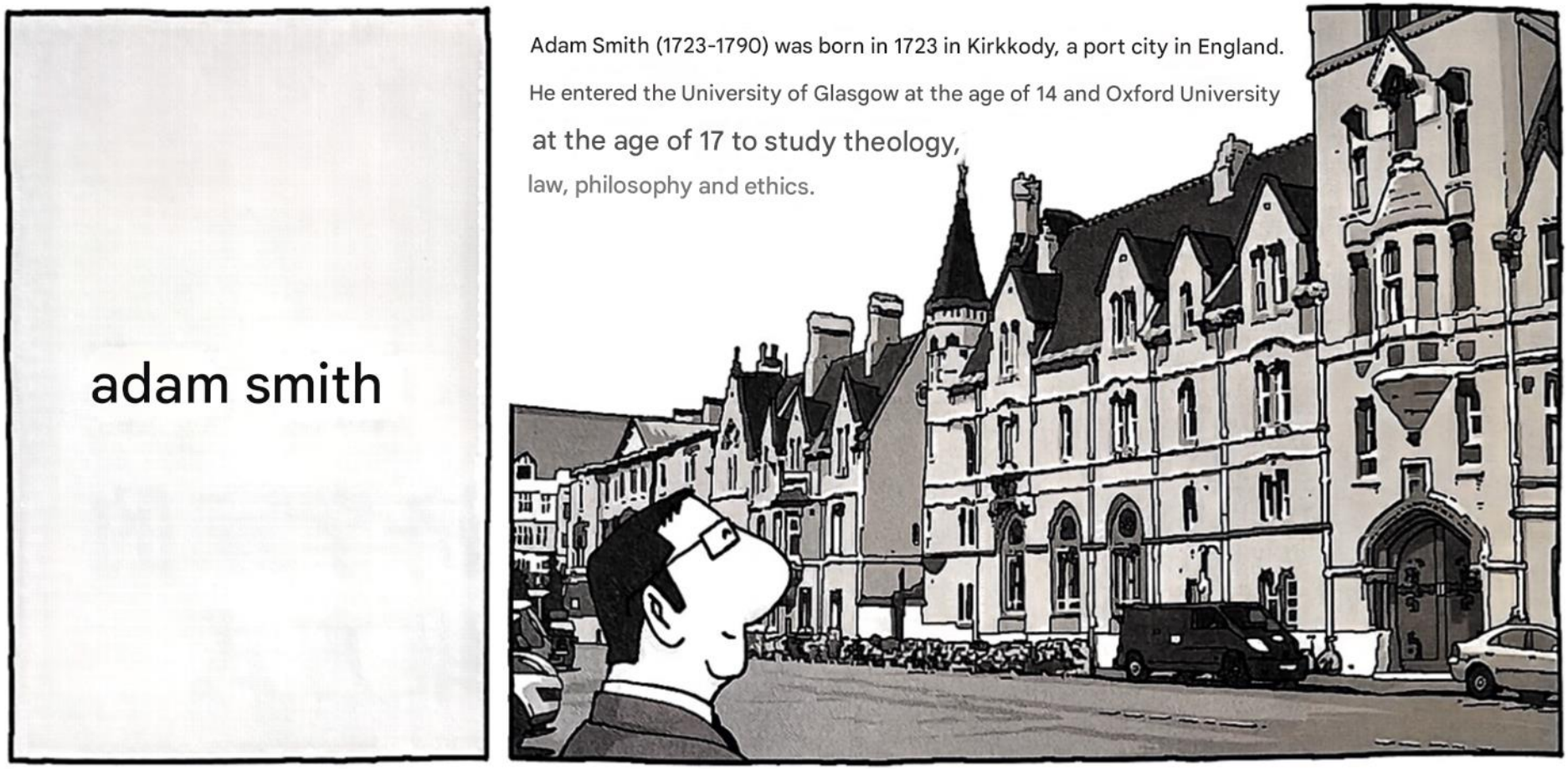
Chapter 4: Thinking Like an Economist

- **This chapter aims to help you learn to think like an economist.**
- **You can gradually develop this skill by studying economic theories, case studies, and current news.**
- **Before diving deep into the study of economics, it's worthwhile to first understand how economists view the world.**
- **Next, let's explore the lives and ideas of six world-renowned economists—observe their perspectives, analyze how they approach issues, and grasp what it truly means to "think like an economist."**

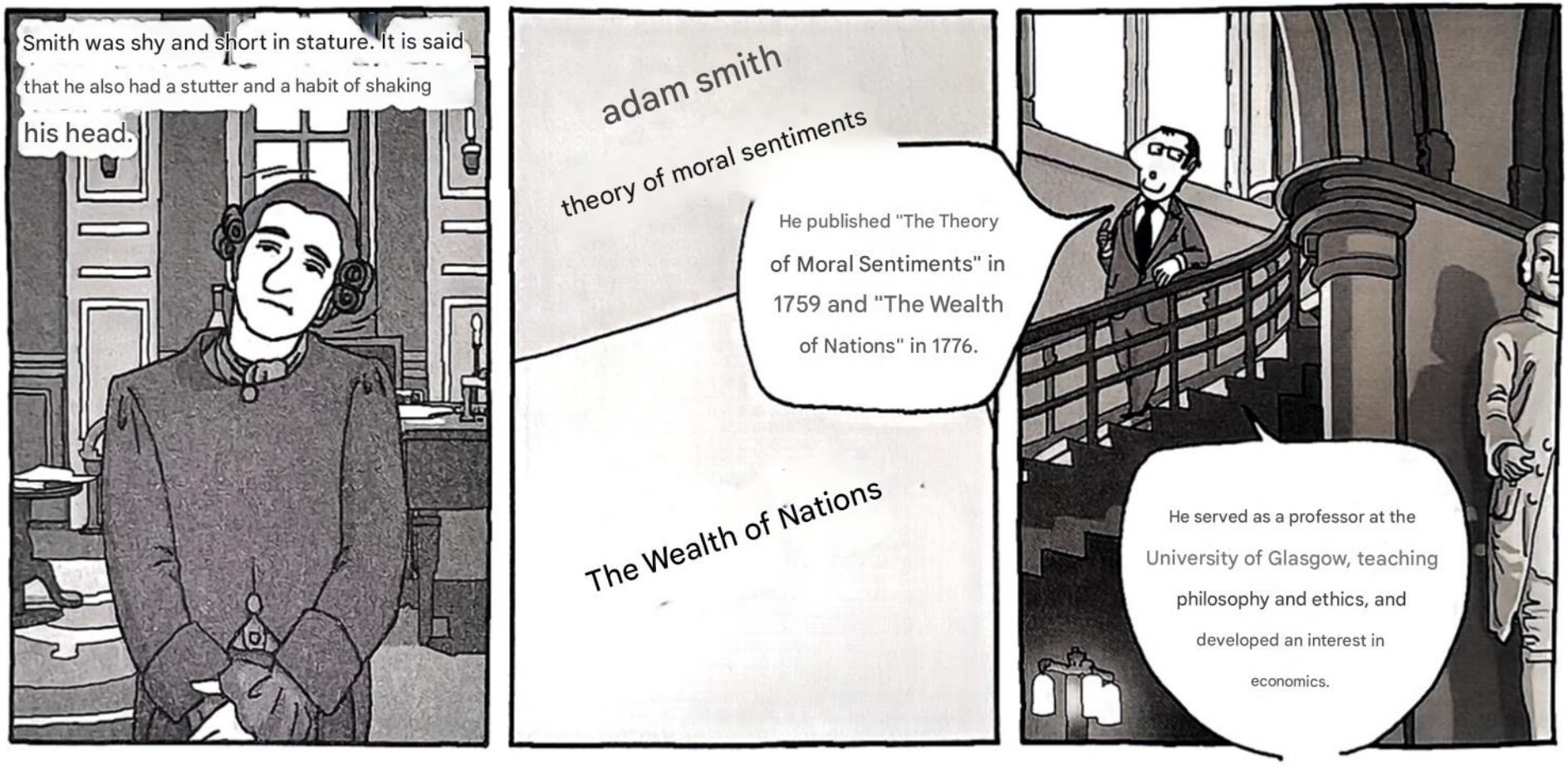
Chapter 4: Thinking Like an Economist

- **Economic Thinking 1: The Economist's Way of Thinking**
- Economic Thinking 2: Economists as Scientists
- Economic Thinking 3: Economists as Policy Advisors
- Economic Thinking 4: Why Economists Disagree

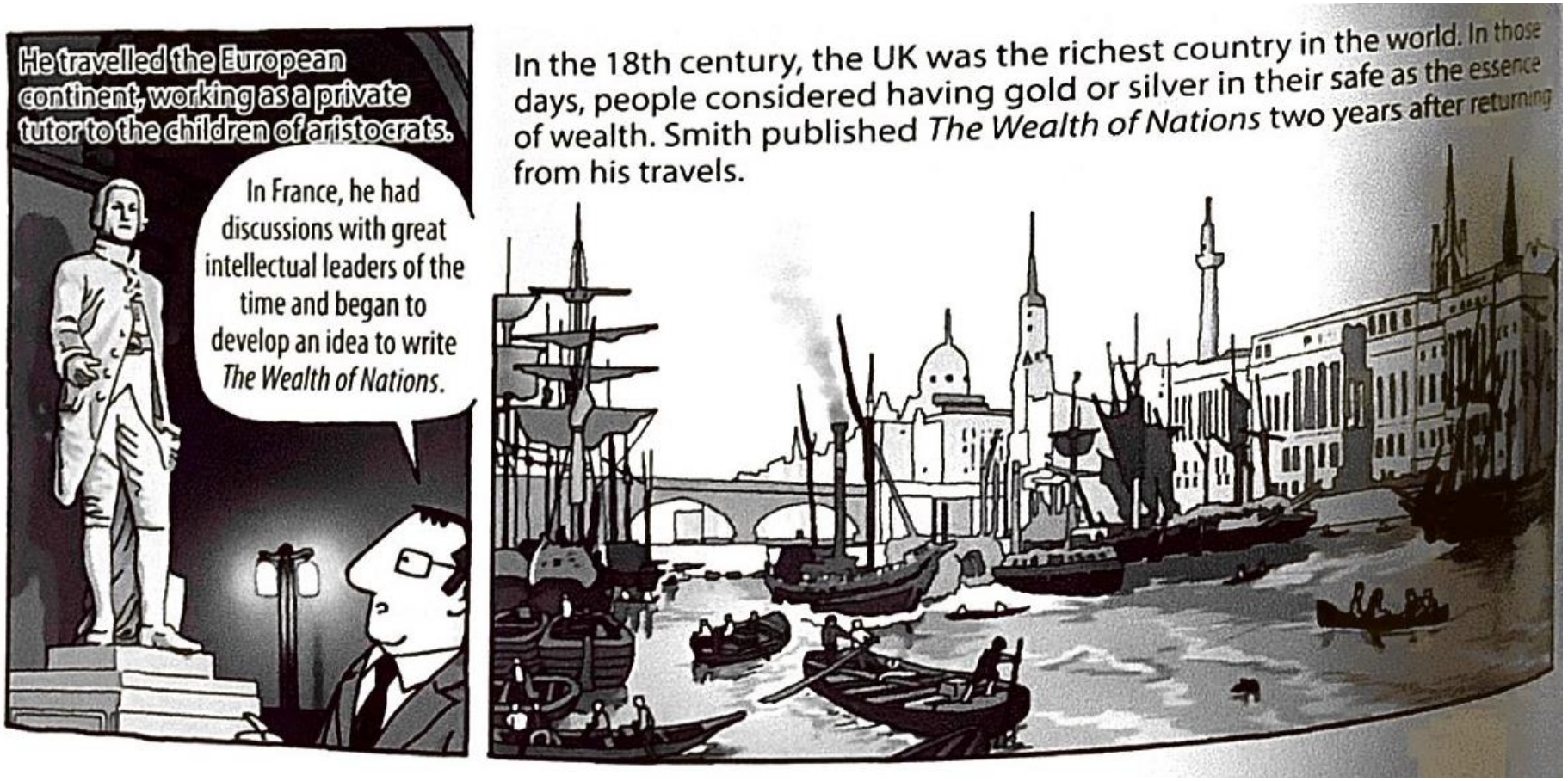
Adam Smith


adam smith
Adam Smith (1723-1790) was born in 1723 in Kirkkody, a port city in England.
He entered the University of Glasgow at the age of 14 and Oxford University
at the age of 17 to study theology,
law, philosophy and ethics.

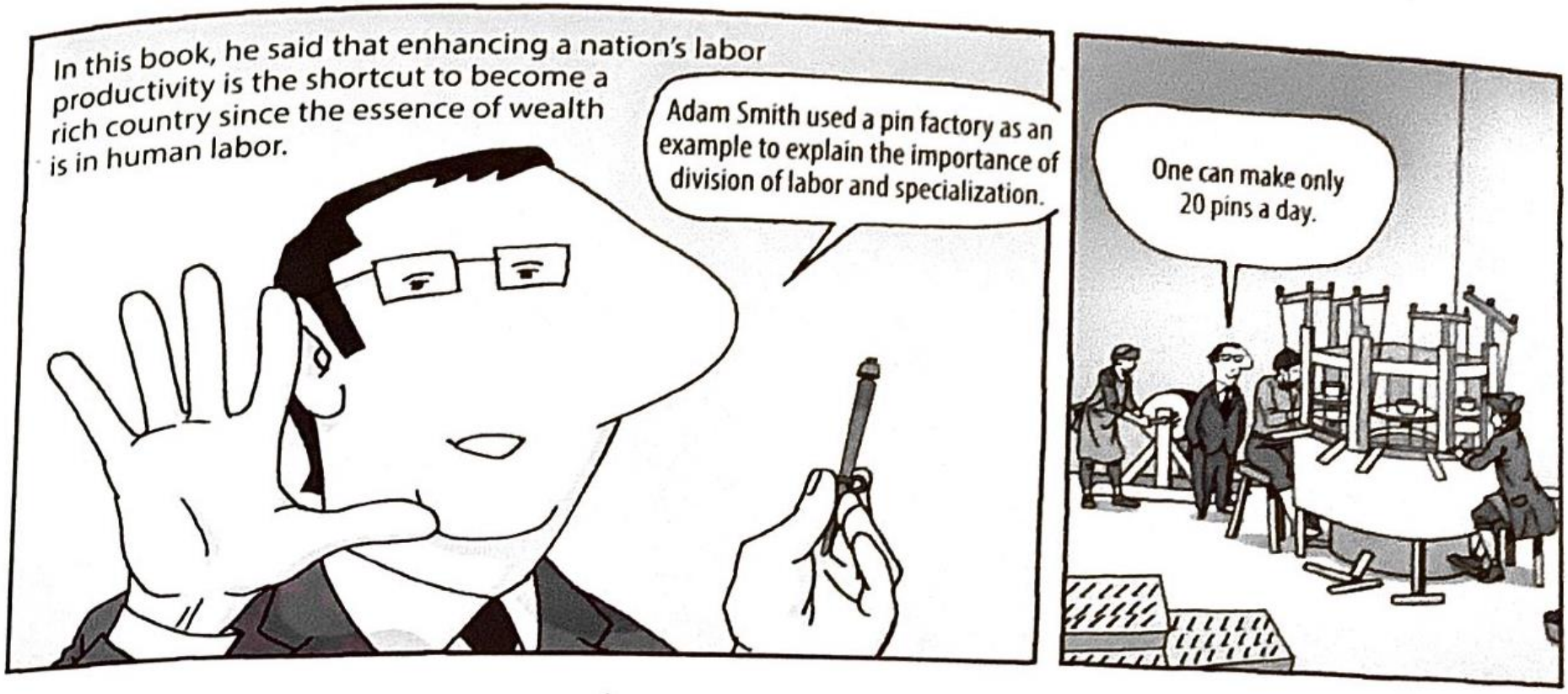
Adam Smith


Smith was shy and short in stature. It is said that he also had a stutter and a habit of shaking his head.
adam smith
theory of moral sentiments
He published "The Theory of Moral Sentiments" in 1759 and "The Wealth of Nations" in 1776.
The Wealth of Nations
He served as a professor at the University of Glasgow, teaching philosophy and ethics, and developed an interest in economics.

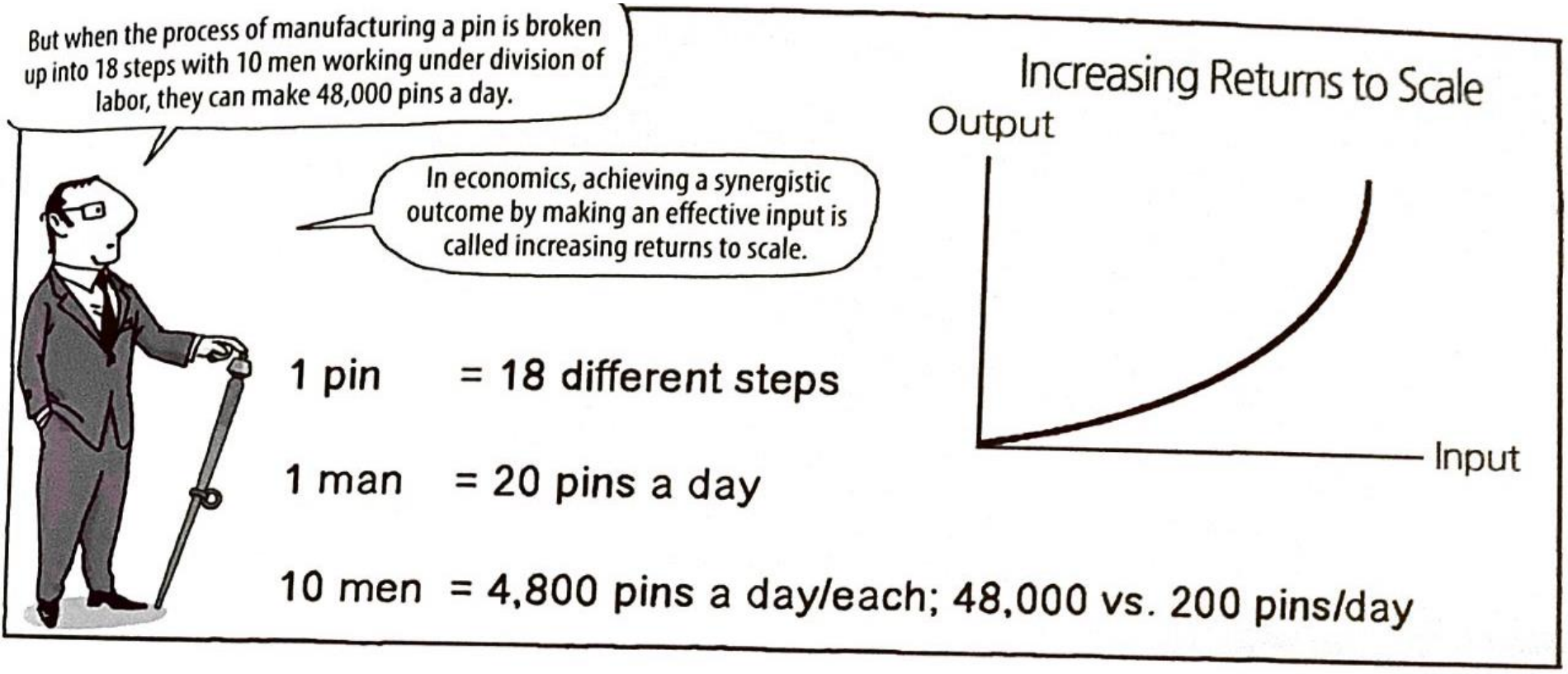
Adam Smith


He travelled the European continent, working as a private tutor to the children of aristocrats.
In France, he had discussions with great intellectual leaders of the time and began to develop an idea to write *The Wealth of Nations*.
In the 18th century, the UK was the richest country in the world. In those days, people considered having gold or silver in their safe as the essence of wealth. Smith published *The Wealth of Nations* two years after returning from his travels.

Adam Smith

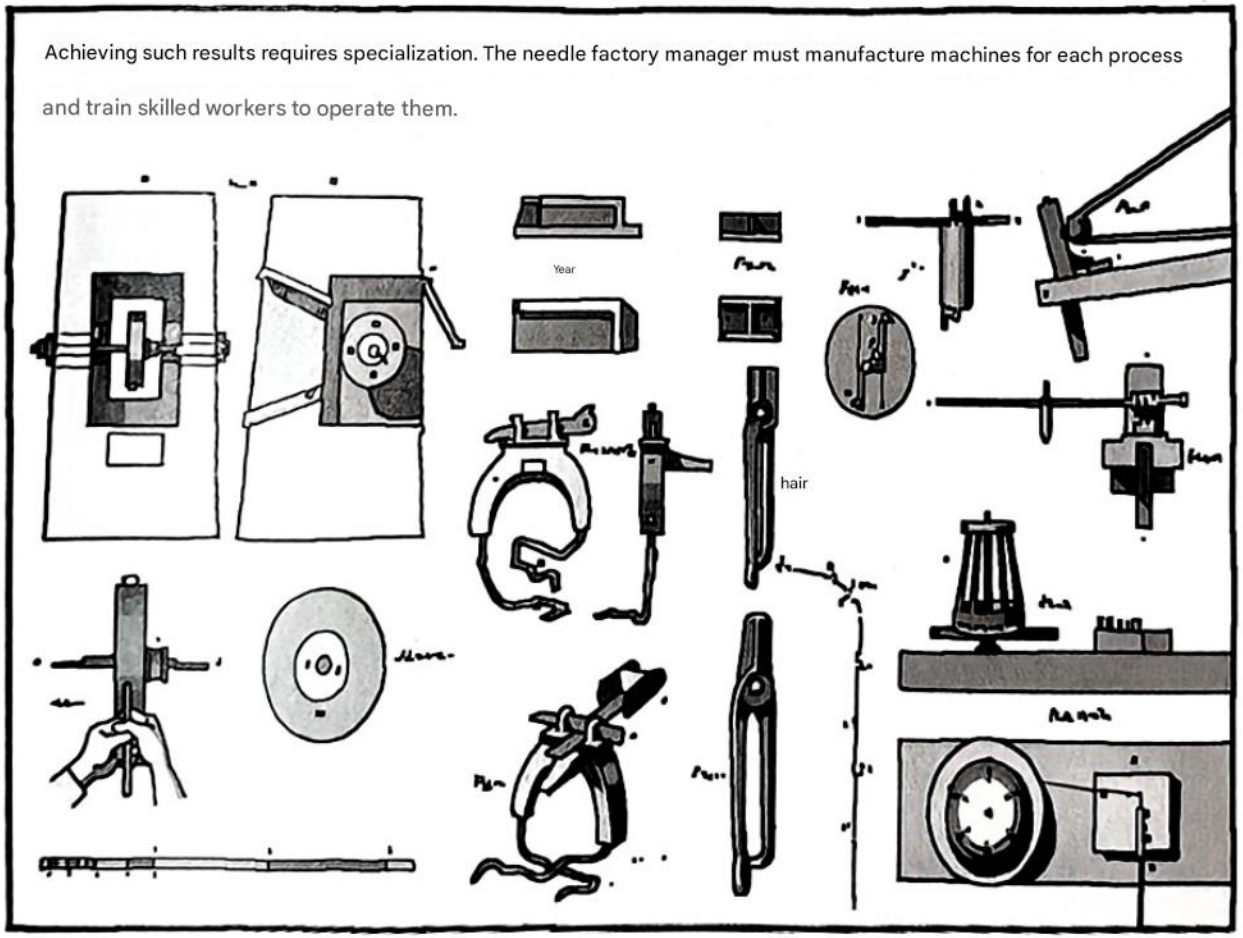

In this book, he said that enhancing a nation's labor productivity is the shortcut to become a rich country since the essence of wealth is in human labor.
Adam Smith used a pin factory as an example to explain the importance of division of labor and specialization.
One can make only 20 pins a day.

Adam Smith



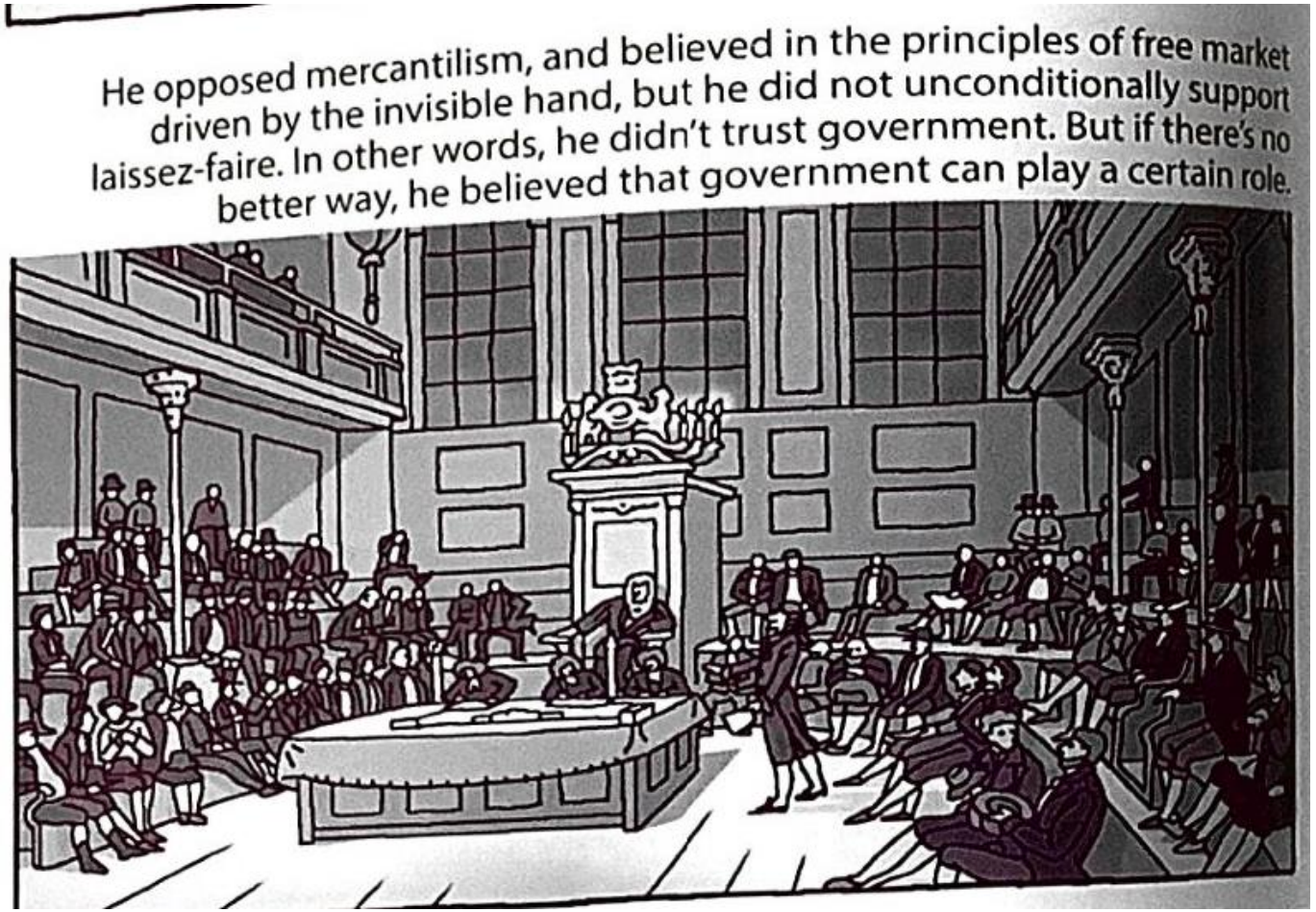
Increasing returns to scale, also known as economies of scale, refers to the phenomenon where, under constant technological conditions, when all factors of production (such as labor and capital) are increased in the same proportion, the output increases by a larger proportion than the increase in inputs.

Adam Smith

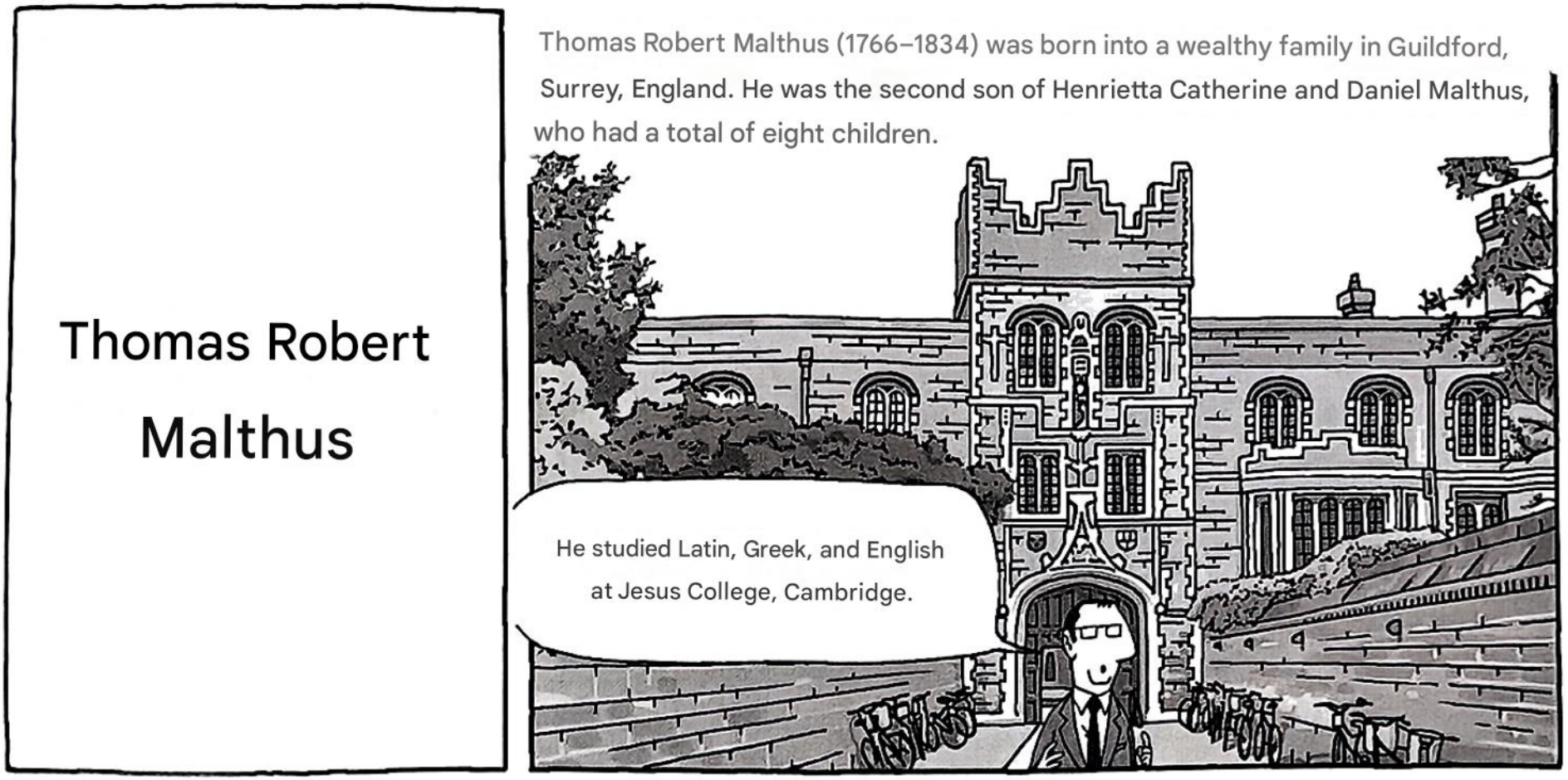

Achieving such results requires specialization. The needle factory manager must manufacture machines for each process and train skilled workers to operate them.
Year
hair


Smith also emphasized the importance of markets: products produced through large-scale specialization must have channels to be sold.

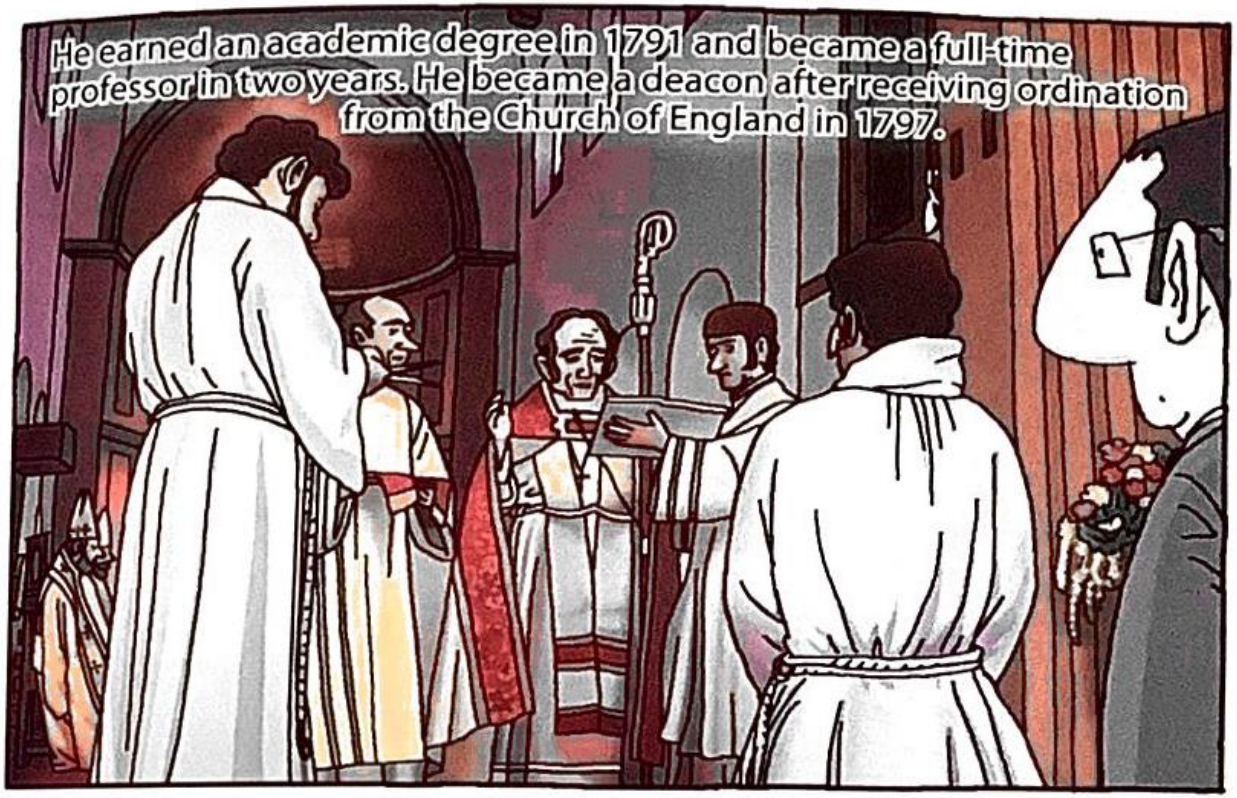
Adam Smith


He opposed mercantilism, and believed in the principles of free market
driven by the invisible hand, but he did not unconditionally support
laissez-faire. In other words, he didn't trust government. But if there's no
better way, he believed that government can play a certain role.

Thomas Robert Malthus



Thomas Robert Malthus



When he published the Principles of Population.

AN

ESSAY

ON THE

PRINCIPLE OF POPULATION,

AS IT AFFECTS

THE FUTURE IMPROVEMENT OF SOCIETY.

WITH REMARKS

ON THE SPECULATIONS OF MR. GODWIN.

M. CONDORCET,

AND OTHER WRITERS.

LONDON:

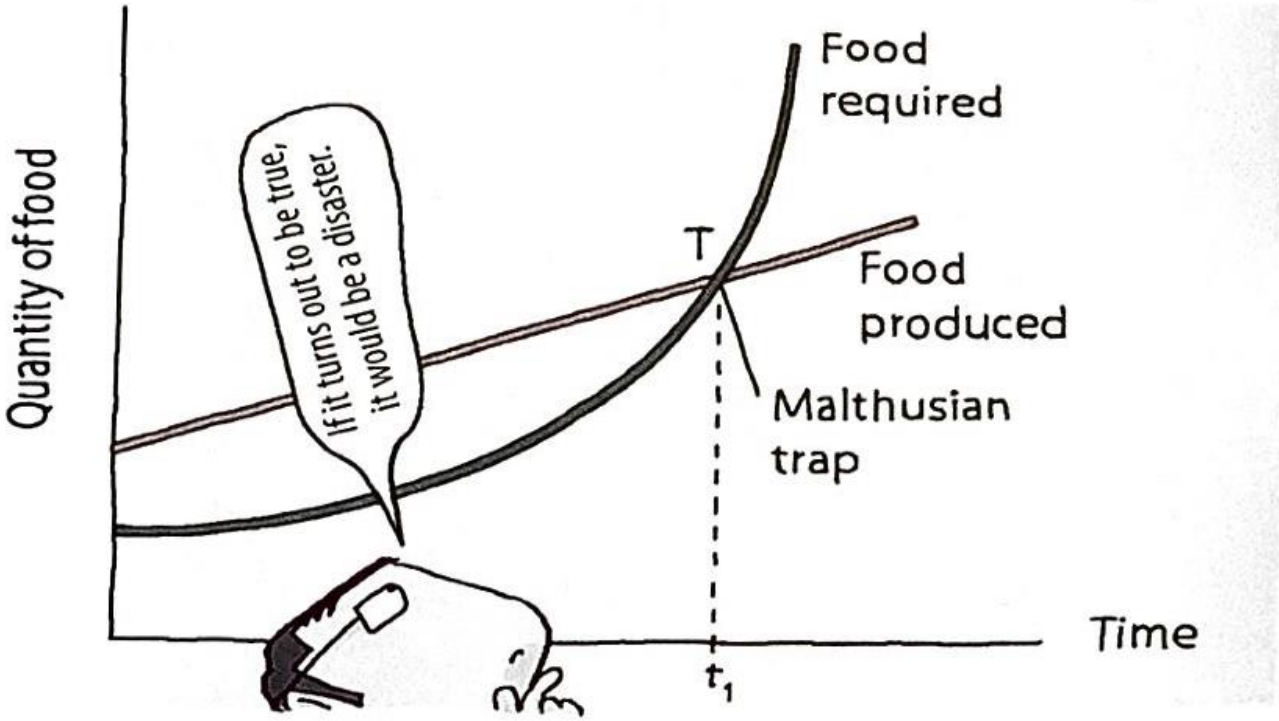
PRINTED FOR J. JOHNSON, IN ST. PAUL'S CHURCH-YARD.

1798.

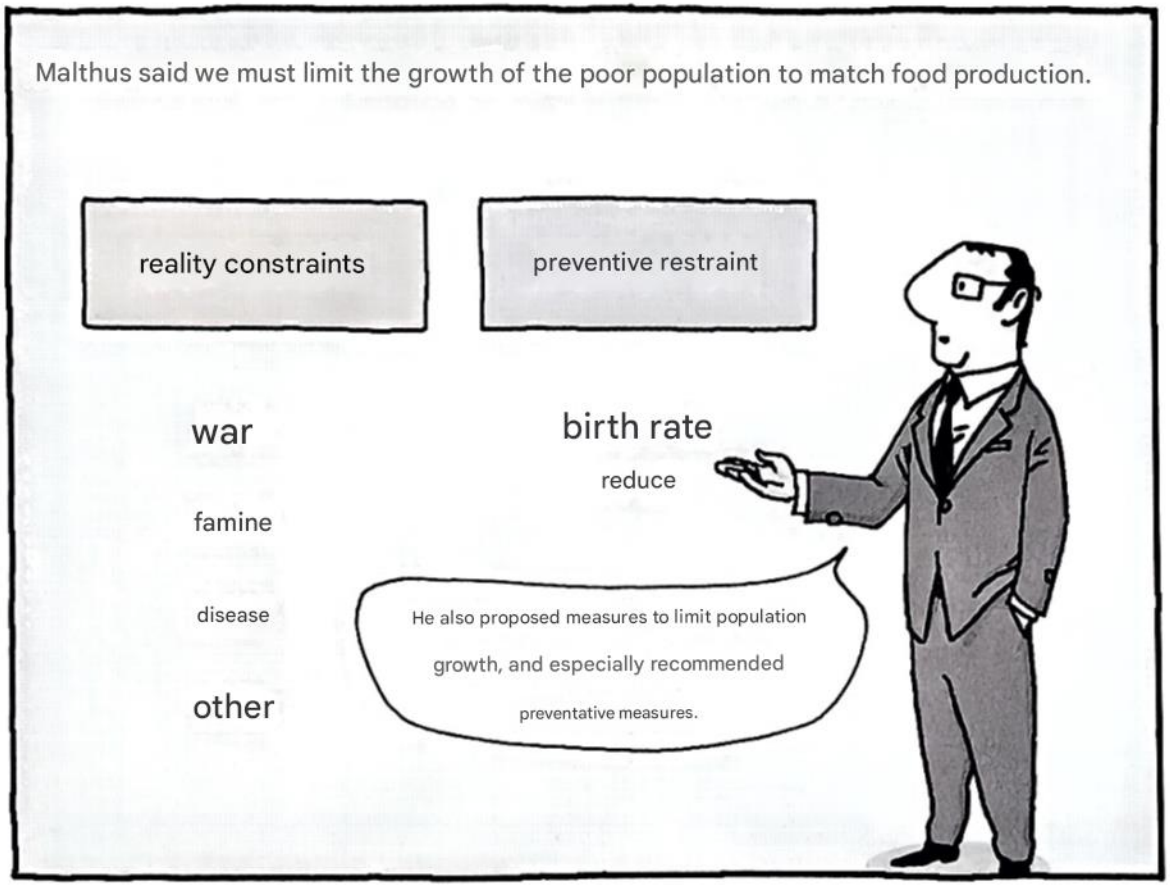
Population growth was considered a virtue.

Thomas Robert Malthus

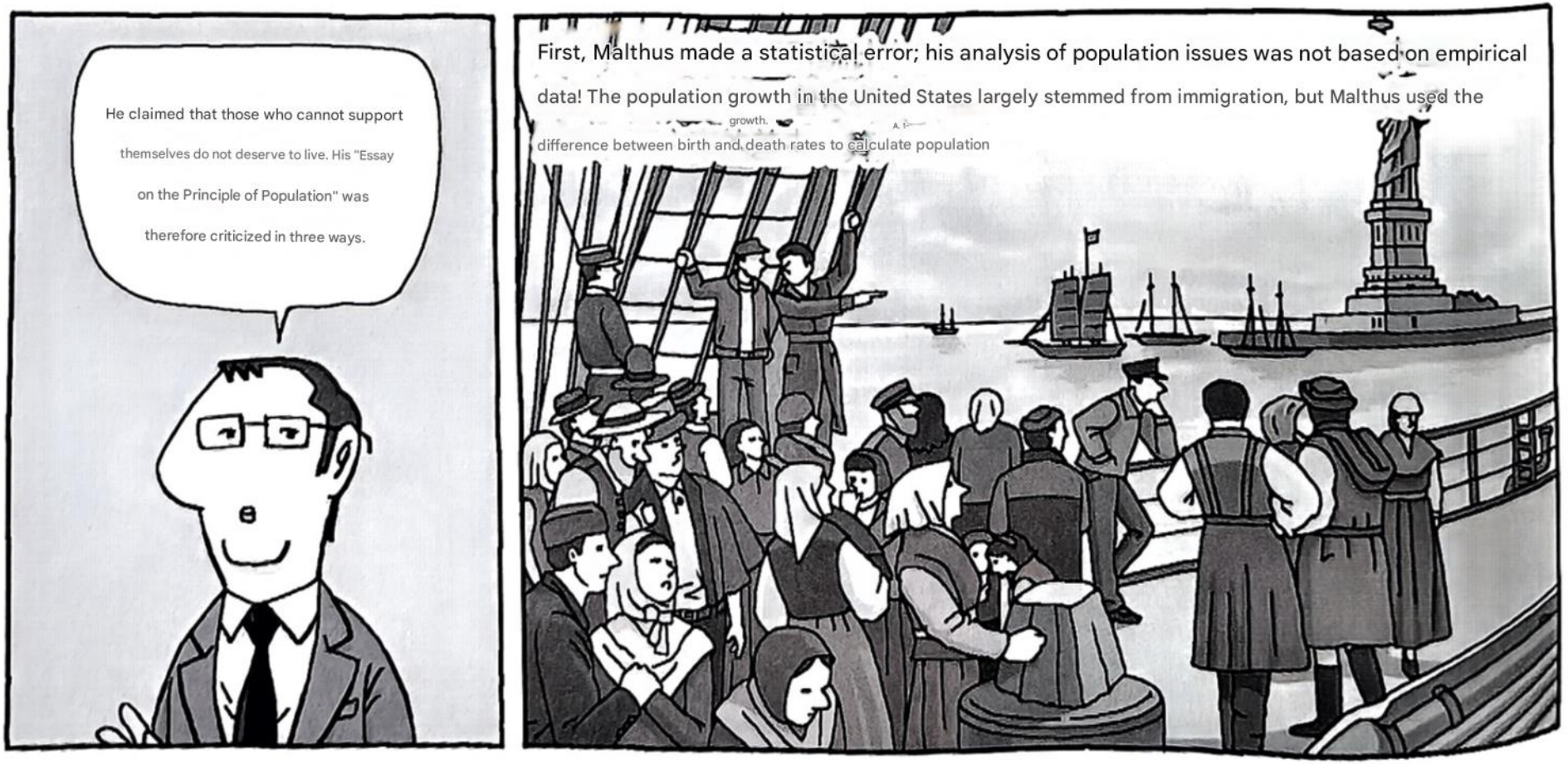
In his *Principles of Population*, Malthus argued that population multiplies geometrically and food arithmetically. Therefore, if nothing is done, the world will head towards disaster due to food shortage.



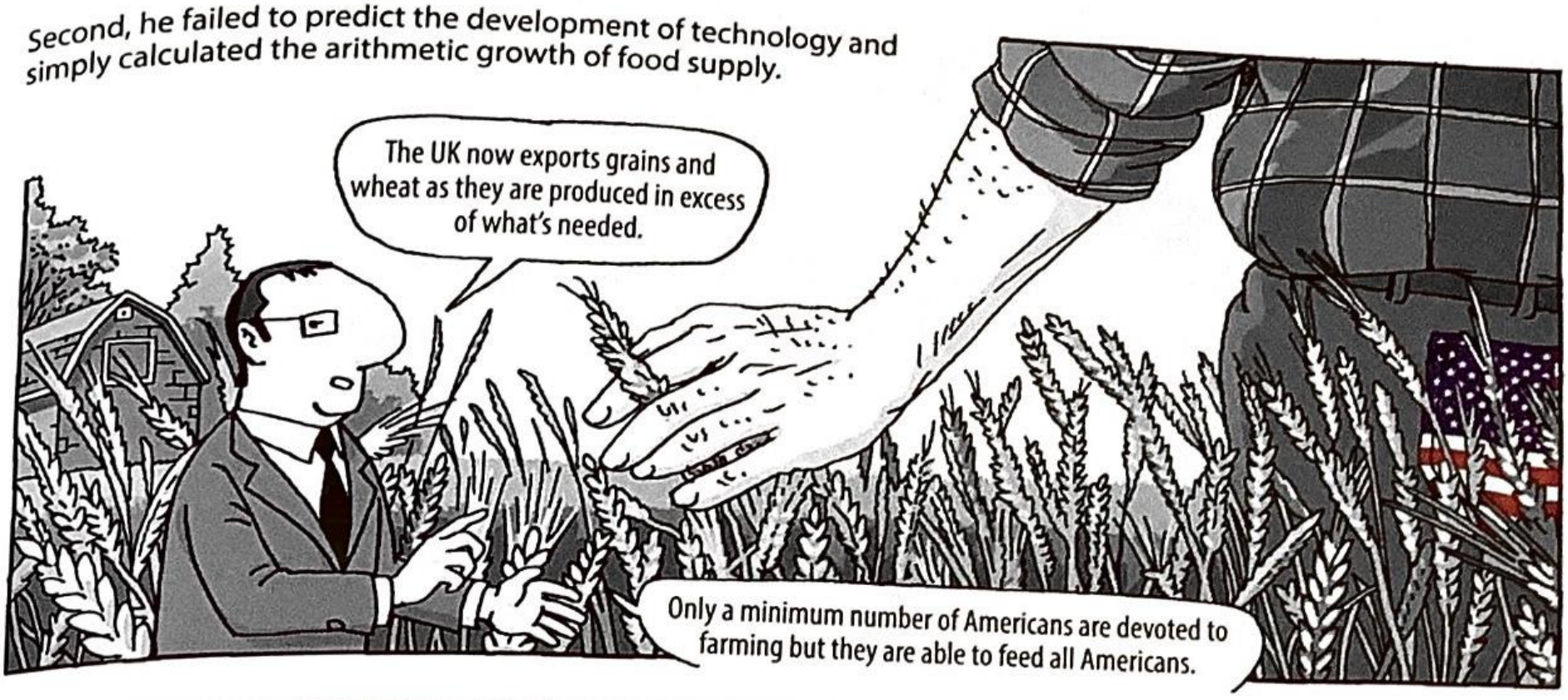
Thomas Robert Malthus



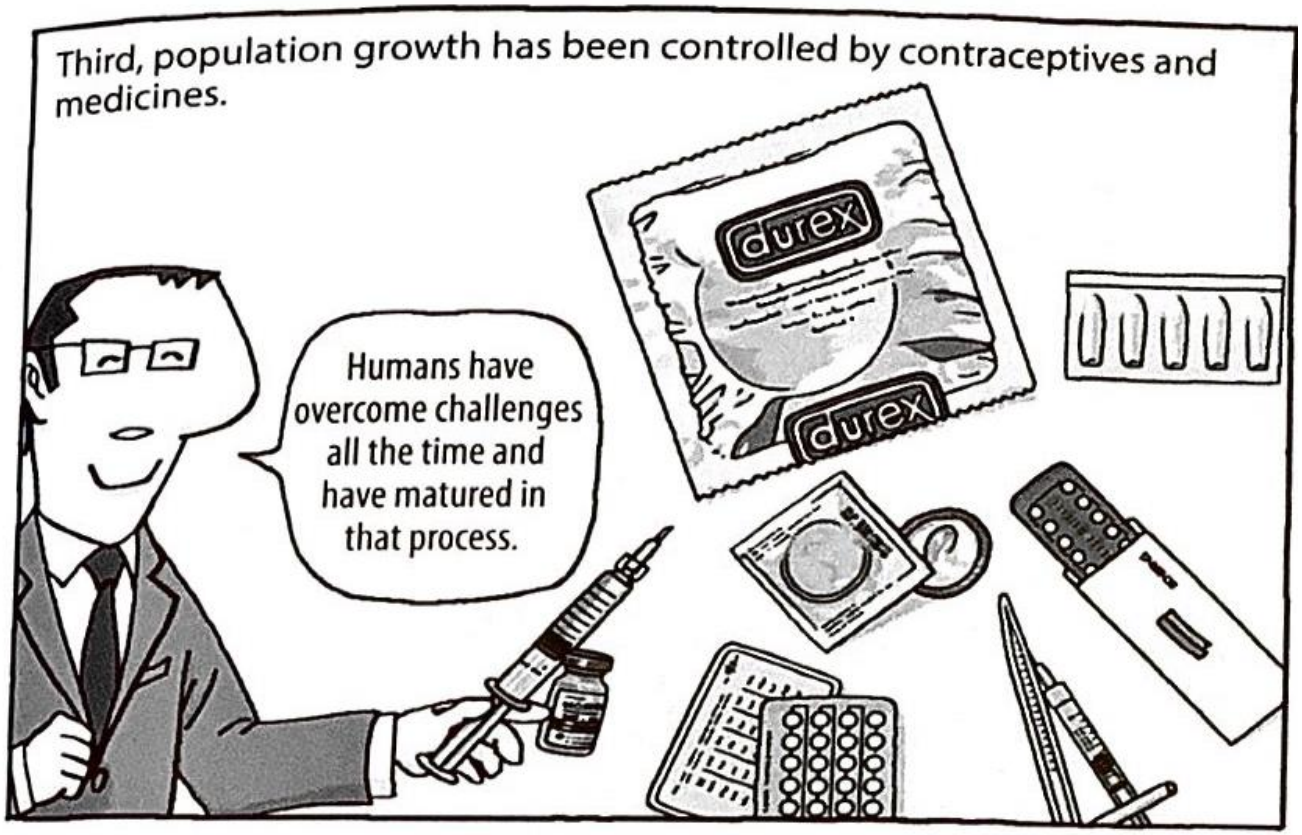
Thomas Robert Malthus



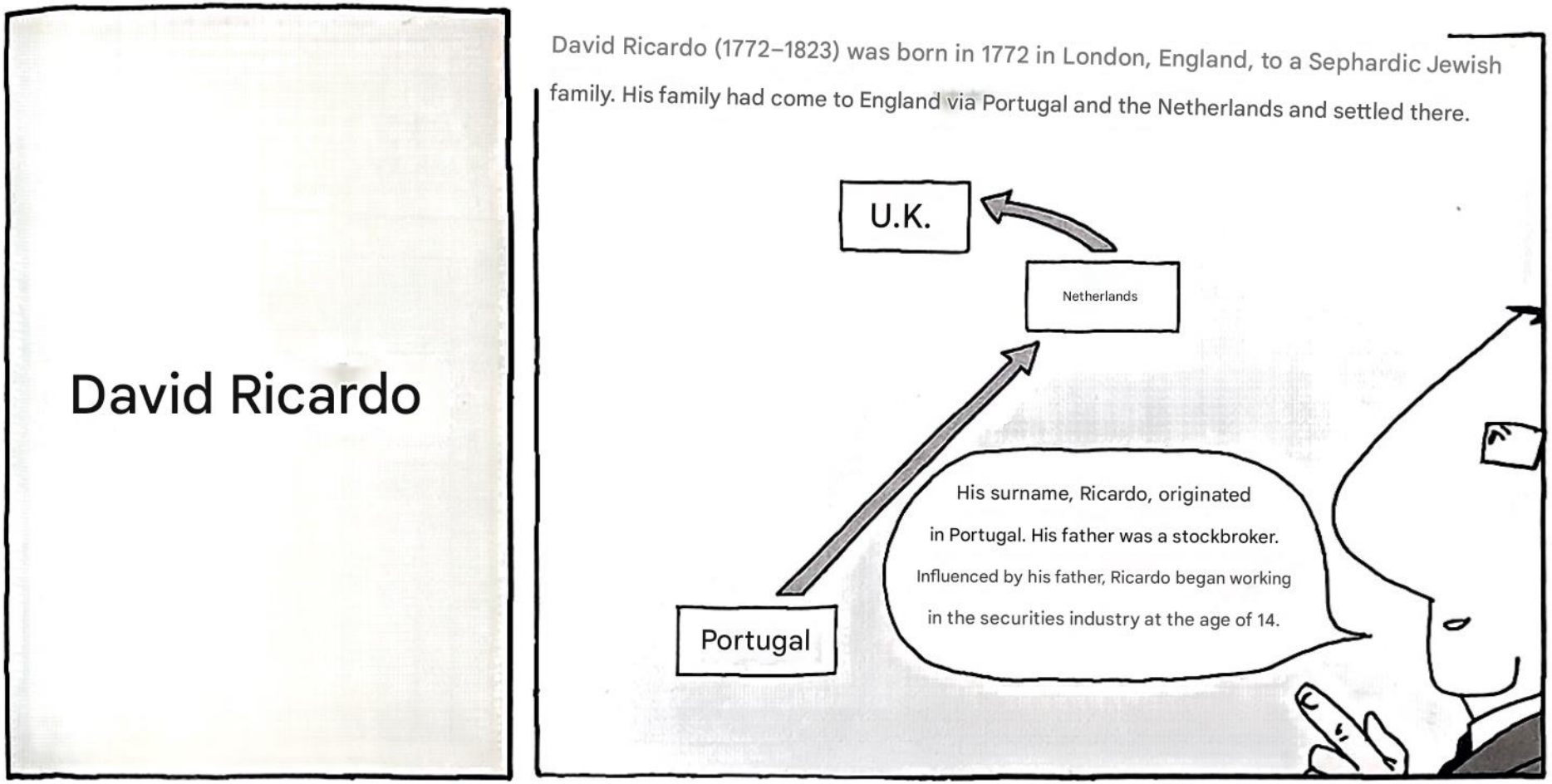
Thomas Robert Malthus



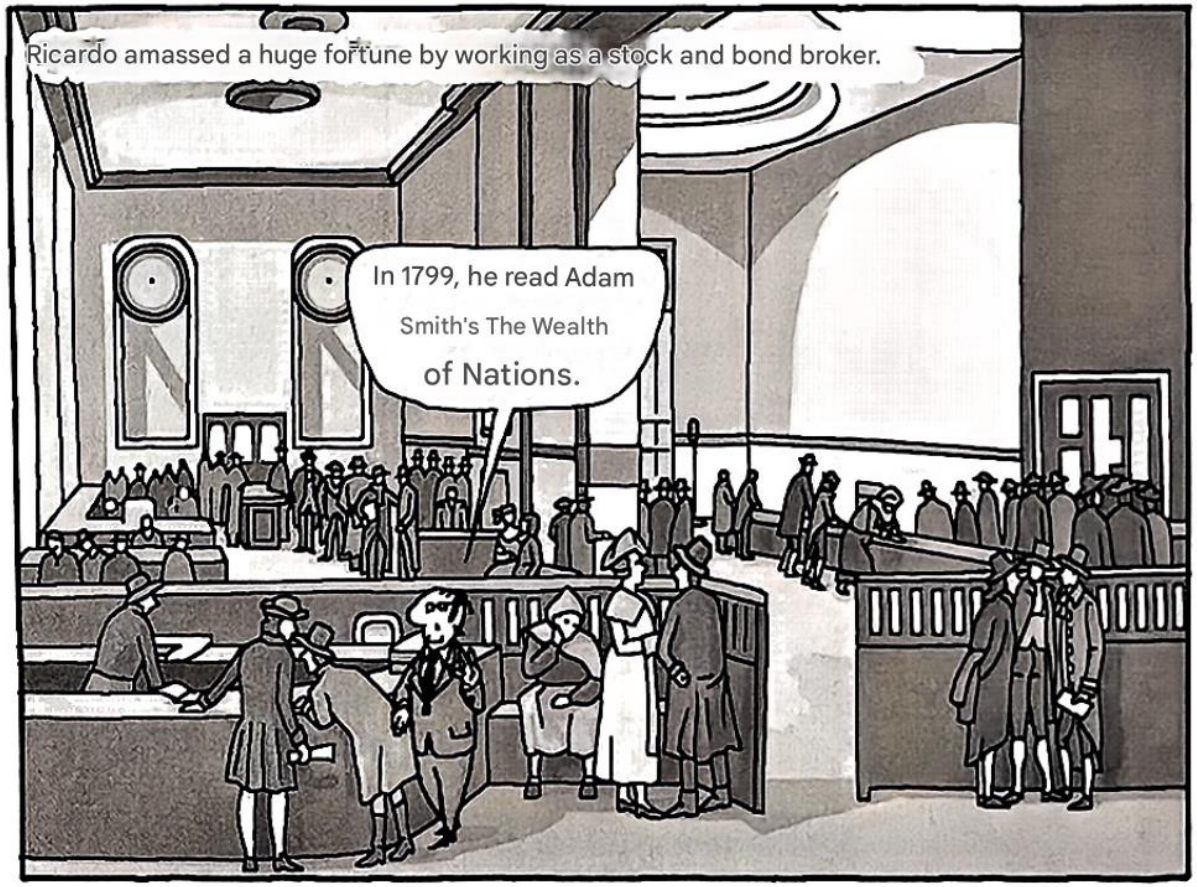
Thomas Robert Malthus



David Ricardo

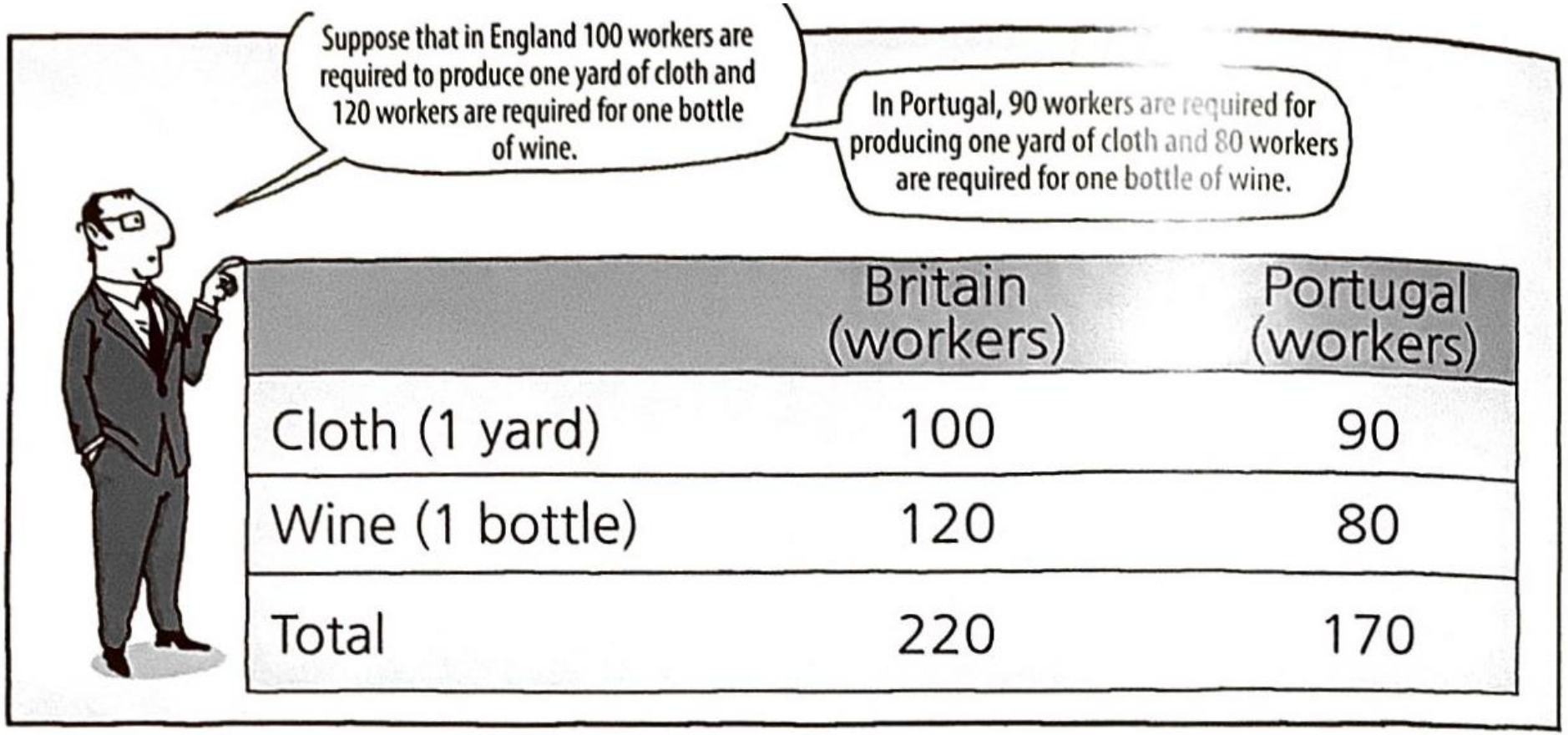


David Ricardo



David Ricardo

David Ricardo



	Britain (workers)	Portugal (workers)
Cloth (1 yard)	100	90
Wine (1 bottle)	120	80
Total	220	170

David Ricardo

But Ricardo claims that both Portugal and Britain would increase their profits if each specializes in one product and trade with the other. Let's compare the relative values of cloth and wine based on the number of workers.

Britain

1 yard of cloth = 0.83 bottle of wine
(= 100 workers ÷ 120 workers)

Portugal

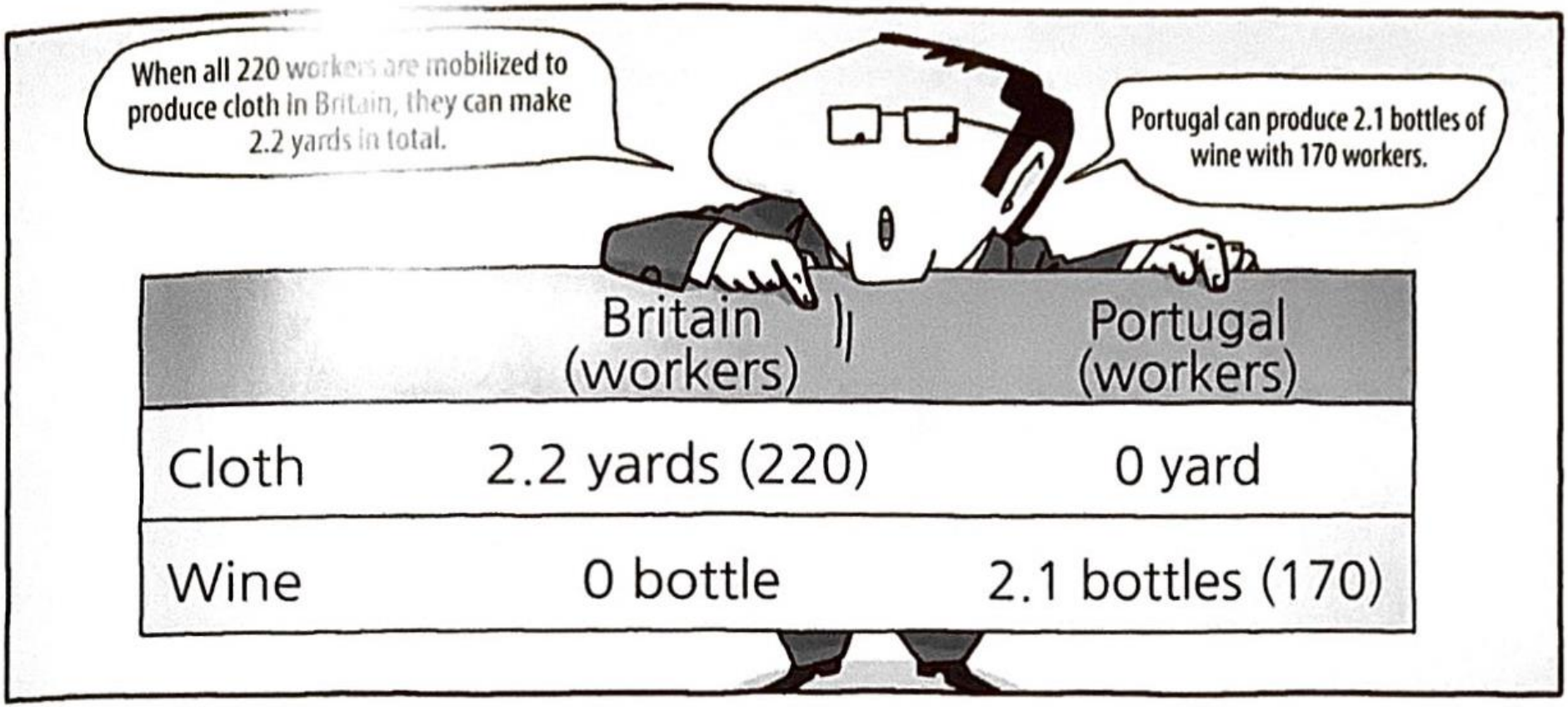
1 yard of cloth = 1.1 bottle of wine
(= 90 workers ÷ 80 workers)

Opportunity costs

David Ricardo

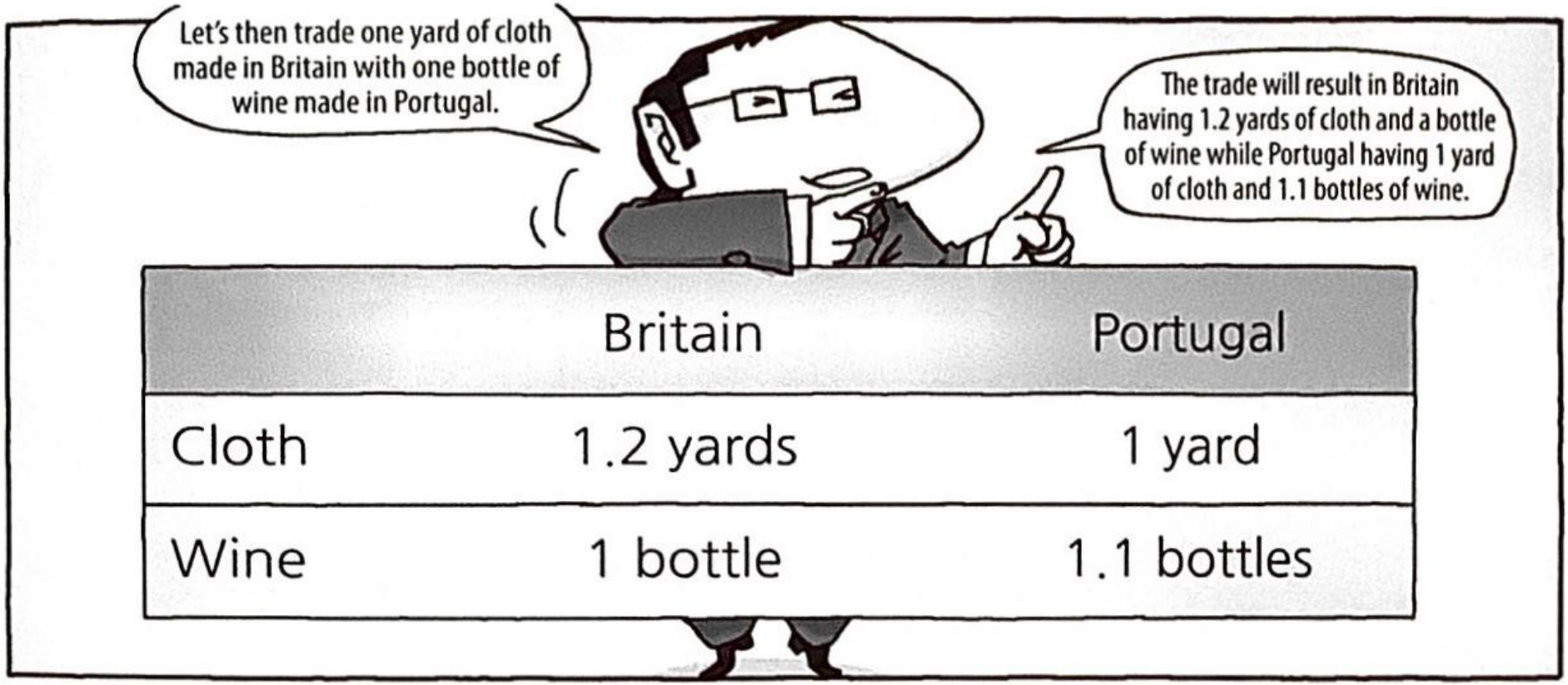
Comparative advantage refers to the ability to produce a good at a lower opportunity cost.

David Ricardo



England has a comparative advantage in the production of cloth, while Portugal has a comparative advantage in the production of wine.

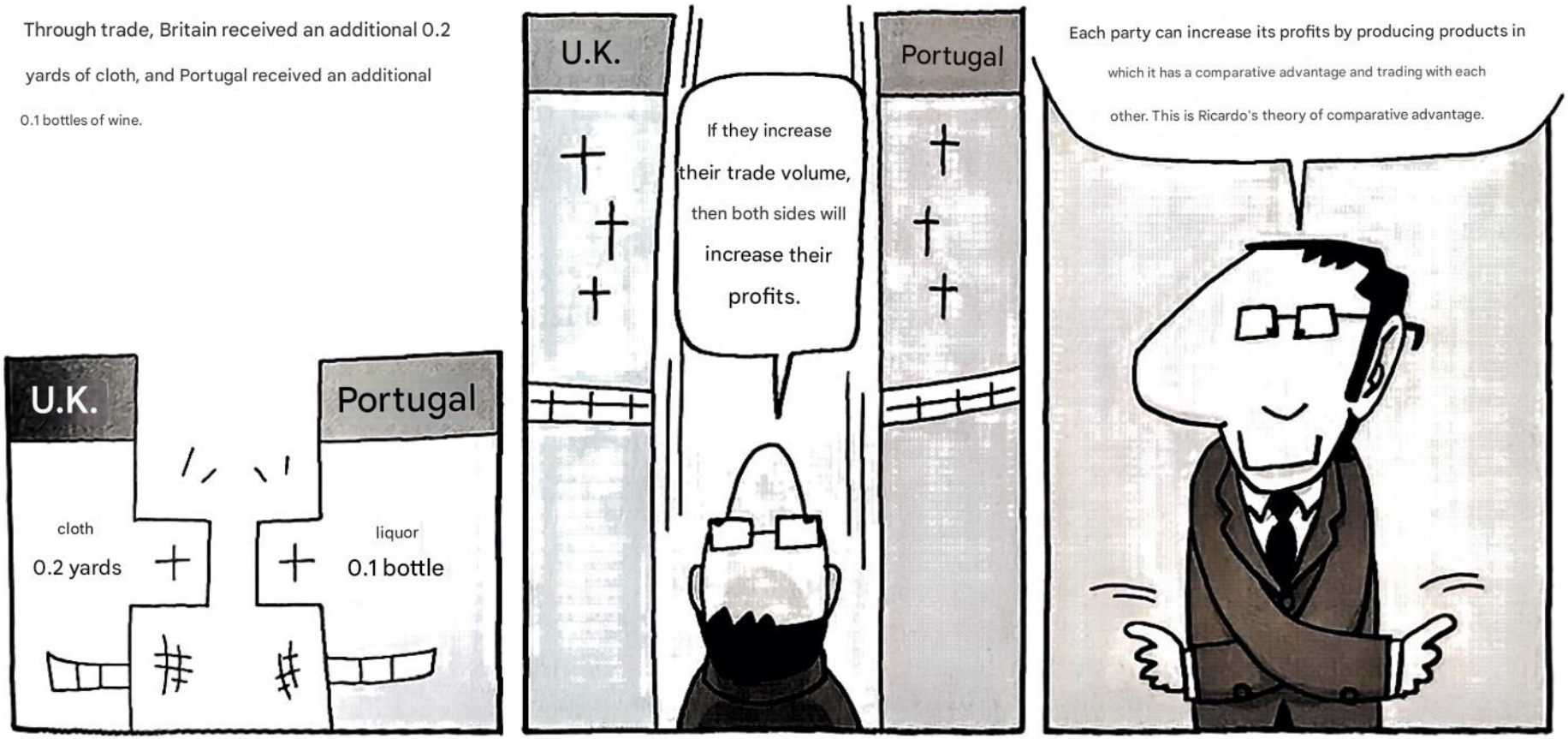
David Ricardo



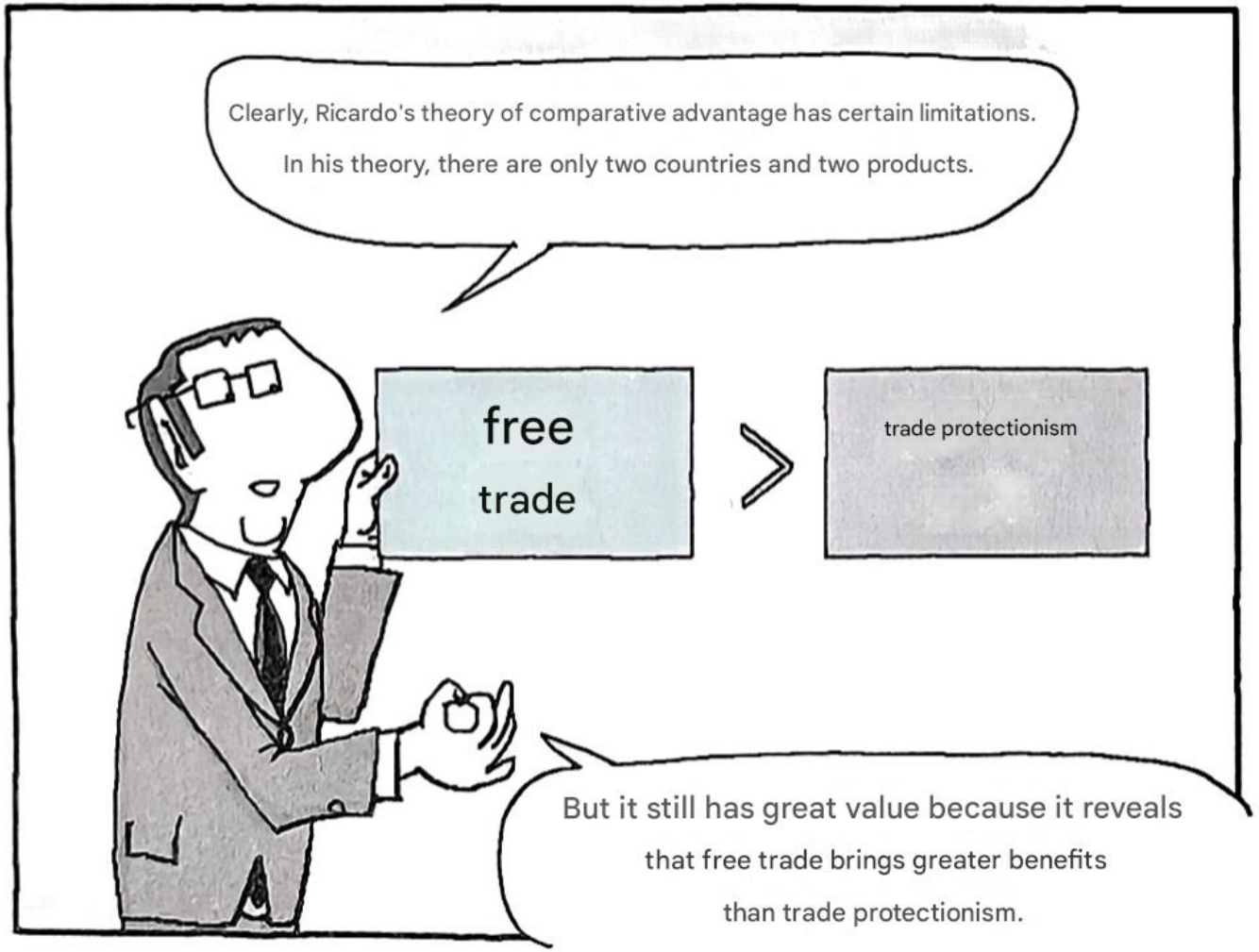
	Britain	Portugal
Cloth	1.2 yards	1 yard
Wine	1 bottle	1.1 bottles

Previously, both countries possessed one yard of cloth and one bottle of wine.

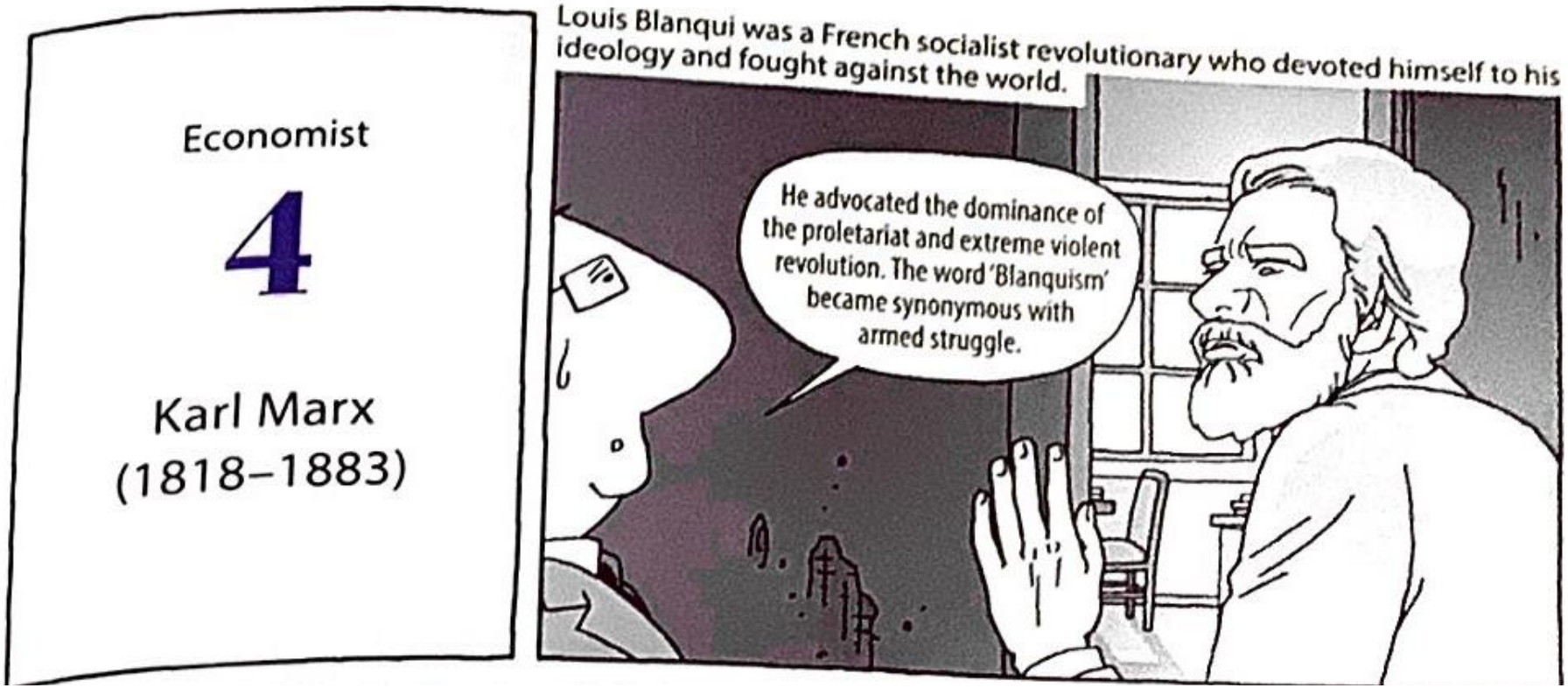
David Ricardo



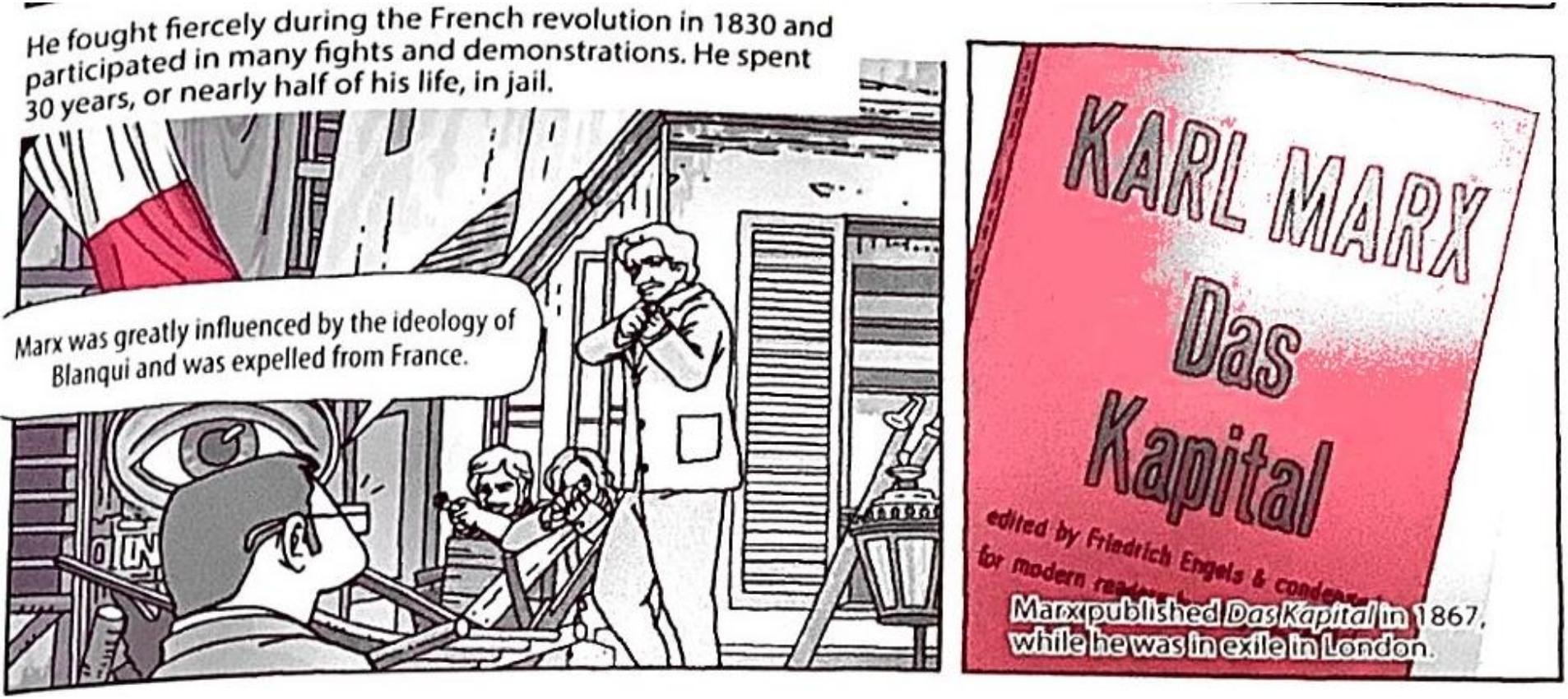
David Ricardo



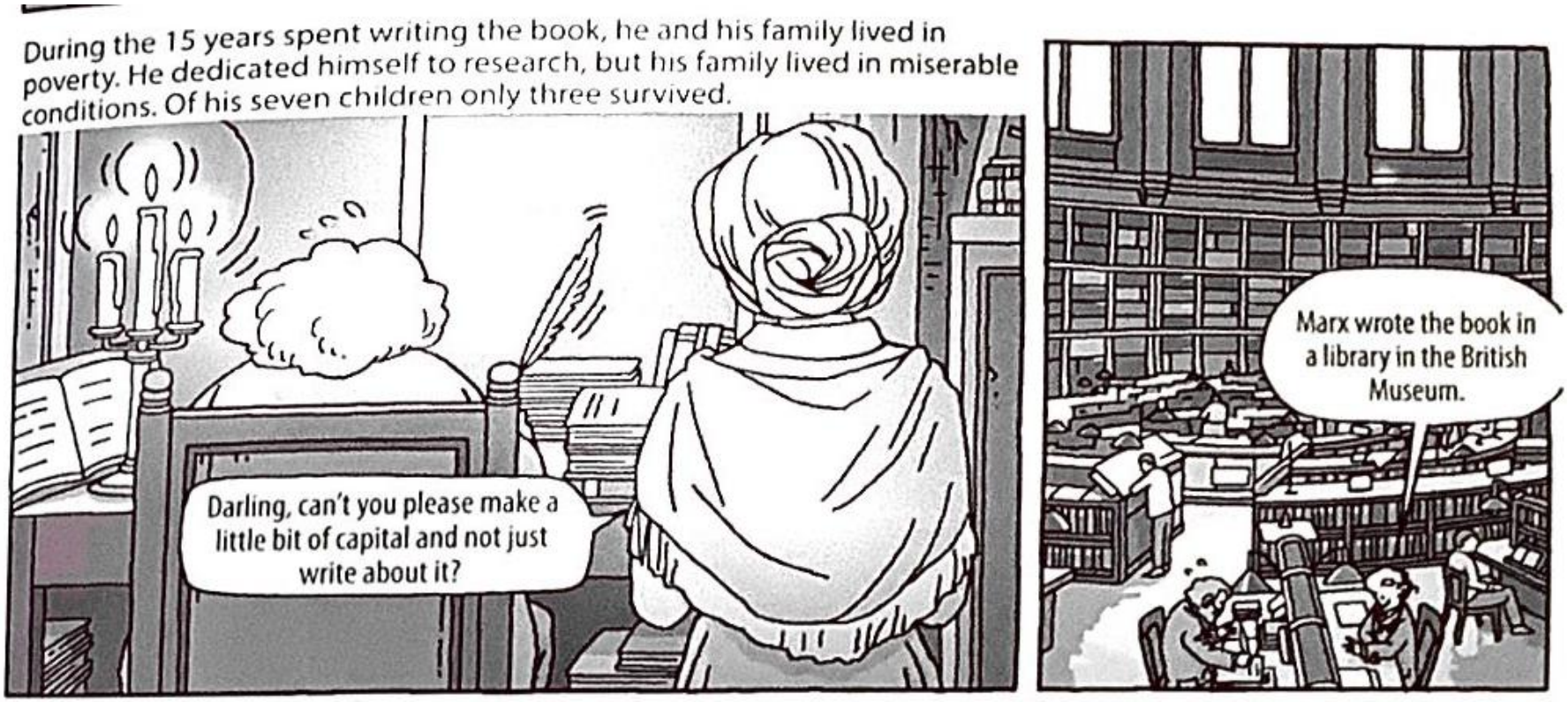
Karl Marx

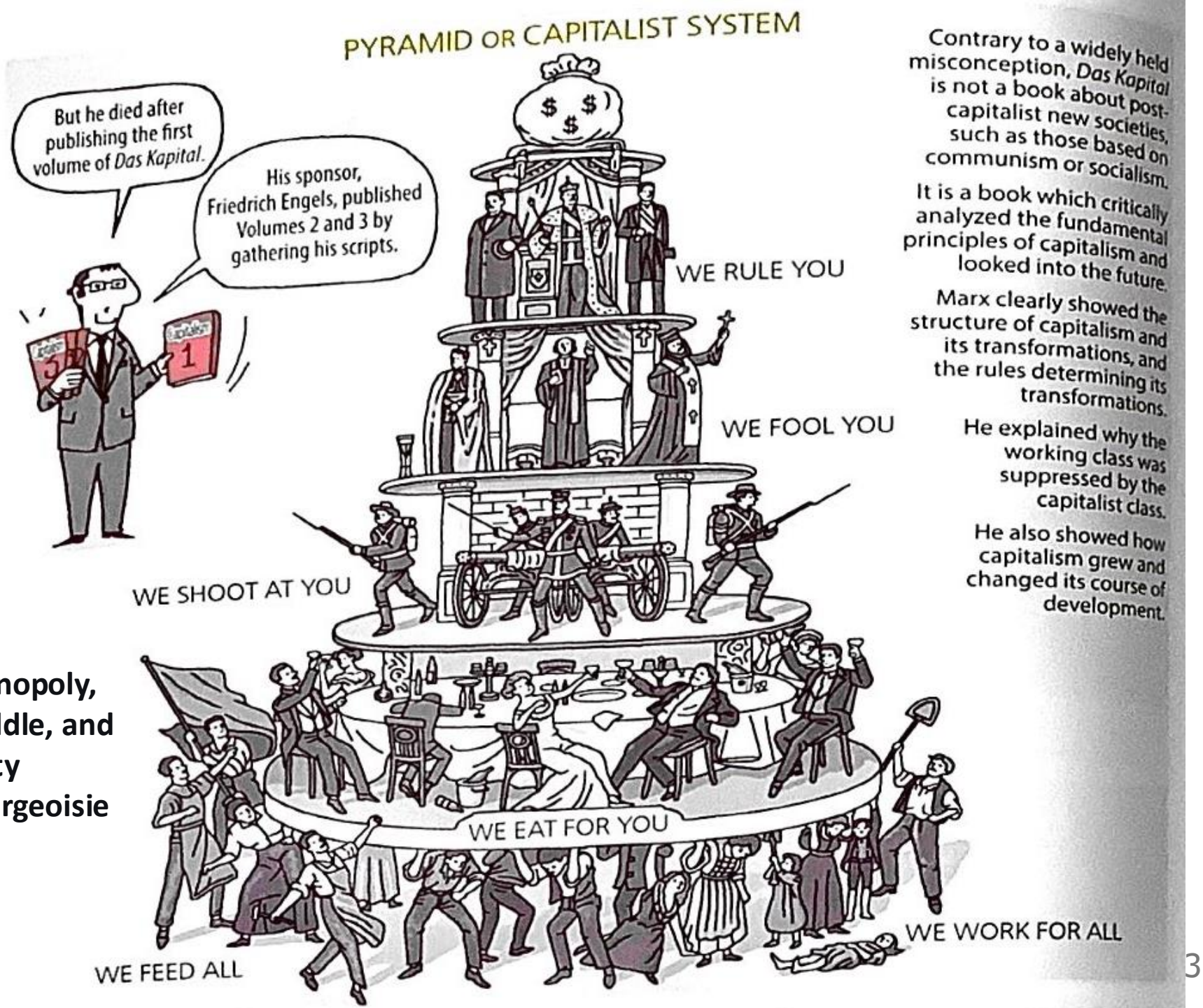

Economist
4
Karl Marx
(1818–1883)
Louis Blanqui was a French socialist revolutionary who devoted himself to his ideology and fought against the world.
He advocated the dominance of the proletariat and extreme violent revolution. The word 'Blanquism' became synonymous with armed struggle.

Karl Marx


He fought fiercely during the French revolution in 1830 and participated in many fights and demonstrations. He spent 30 years, or nearly half of his life, in jail.
Marx was greatly influenced by the ideology of Blanqui and was expelled from France.
KARL MARX
Das Kapital
edited by Friedrich Engels & condens
for modern
Marx published Das Kapital in 1867, while he was in exile in London.

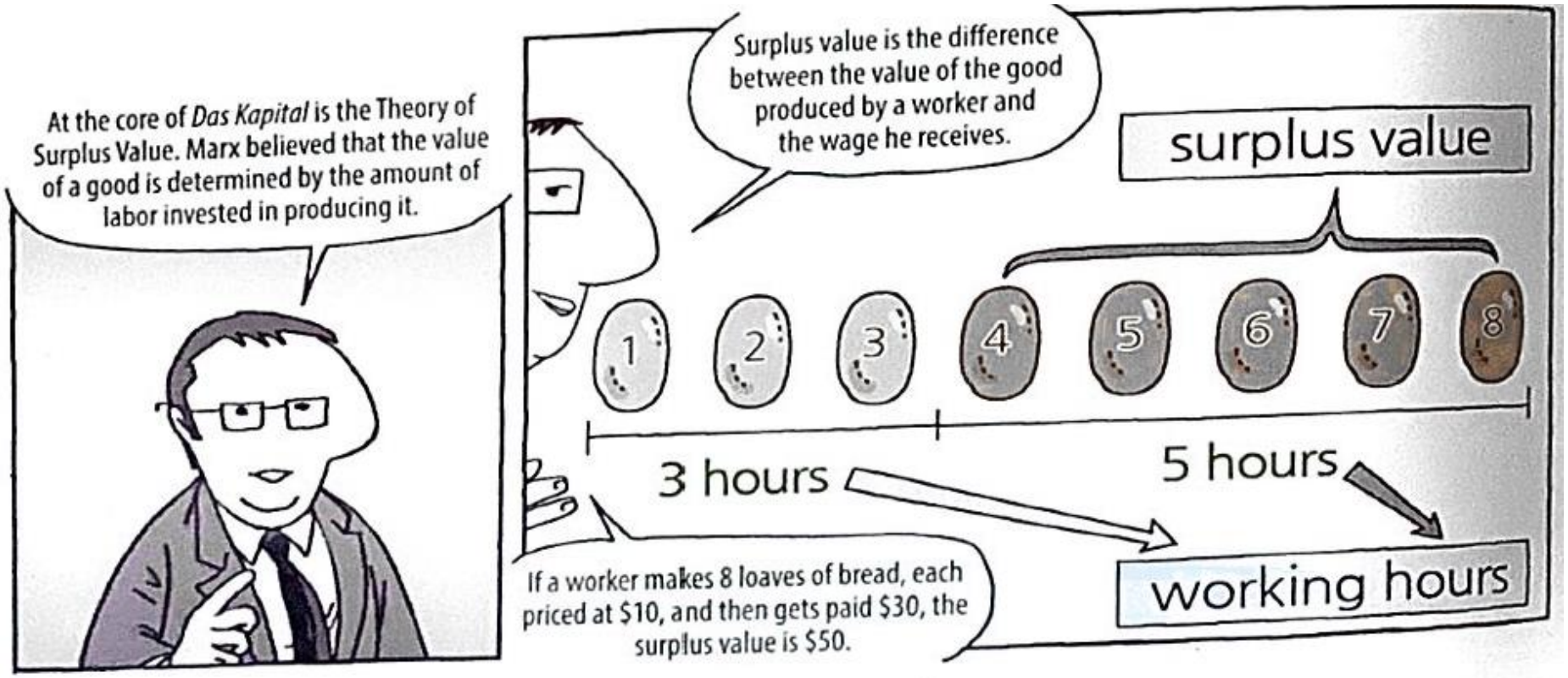
Karl Marx


During the 15 years spent writing the book, he and his family lived in poverty. He dedicated himself to research, but his family lived in miserable conditions. Of his seven children only three survived.
Darling, can't you please make a little bit of capital and not just write about it?
Marx wrote the book in a library in the British Museum.

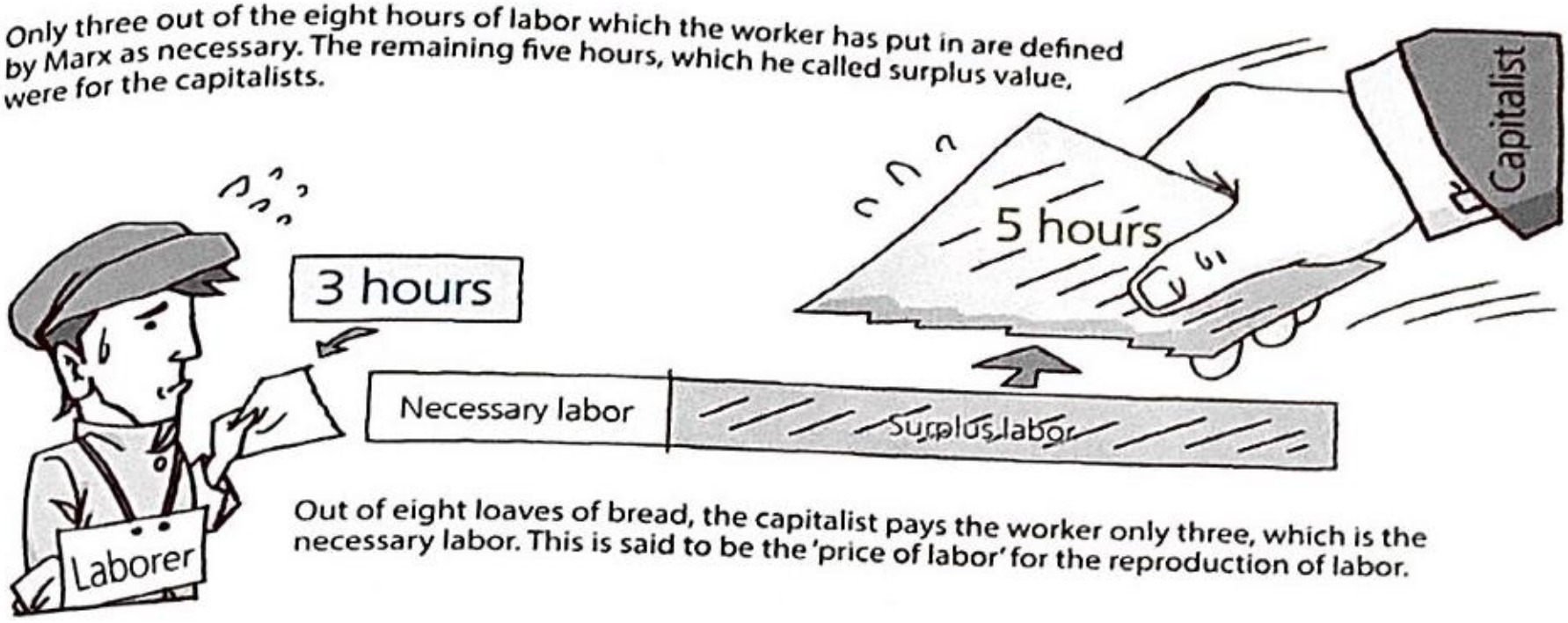


Monopoly, Middle, and Petty Bourgeoisie

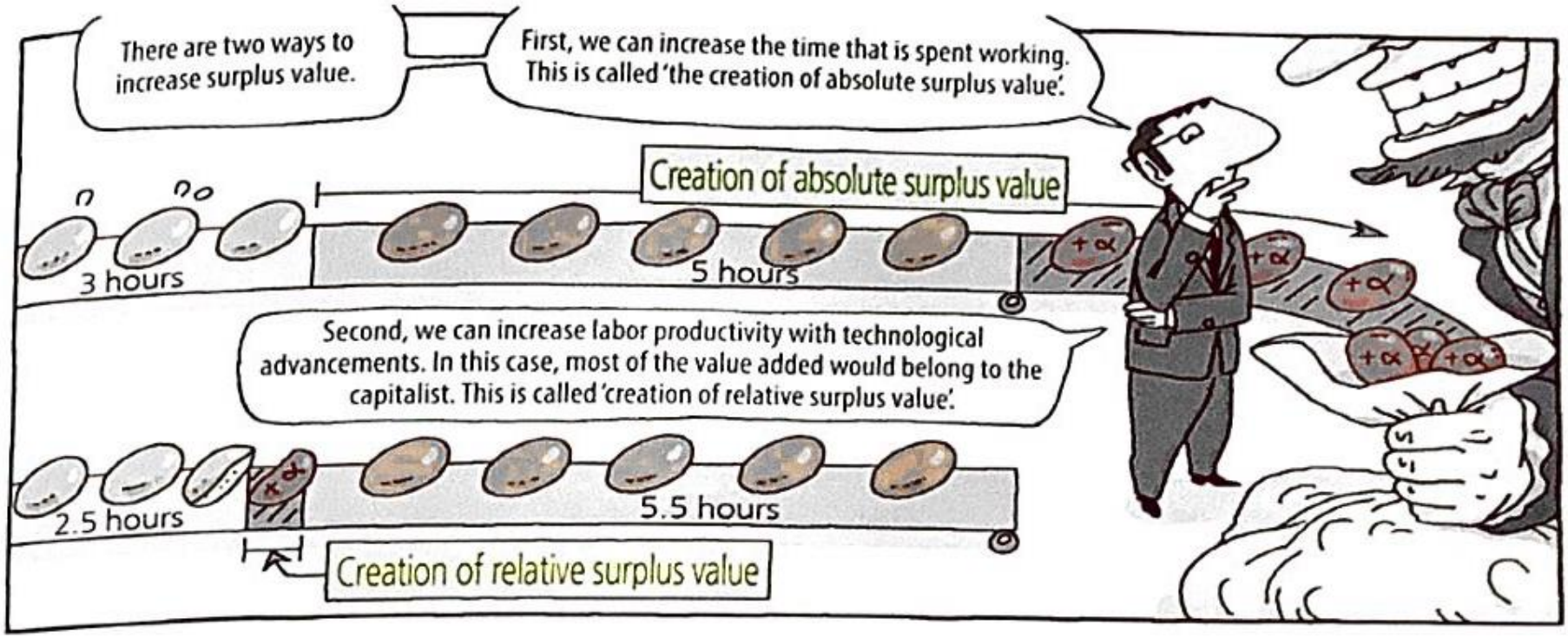
Karl Marx


At the core of *Das Kapital* is the Theory of Surplus Value. Marx believed that the value of a good is determined by the amount of labor invested in producing it.
Surplus value is the difference between the value of the good produced by a worker and the wage he receives.
surplus value
1
2
3
4
5
6
7
8
3 hours
5 hours
working hours
If a worker makes 8 loaves of bread, each priced at $10, and then gets paid $30, the surplus value is $50.

Karl Marx

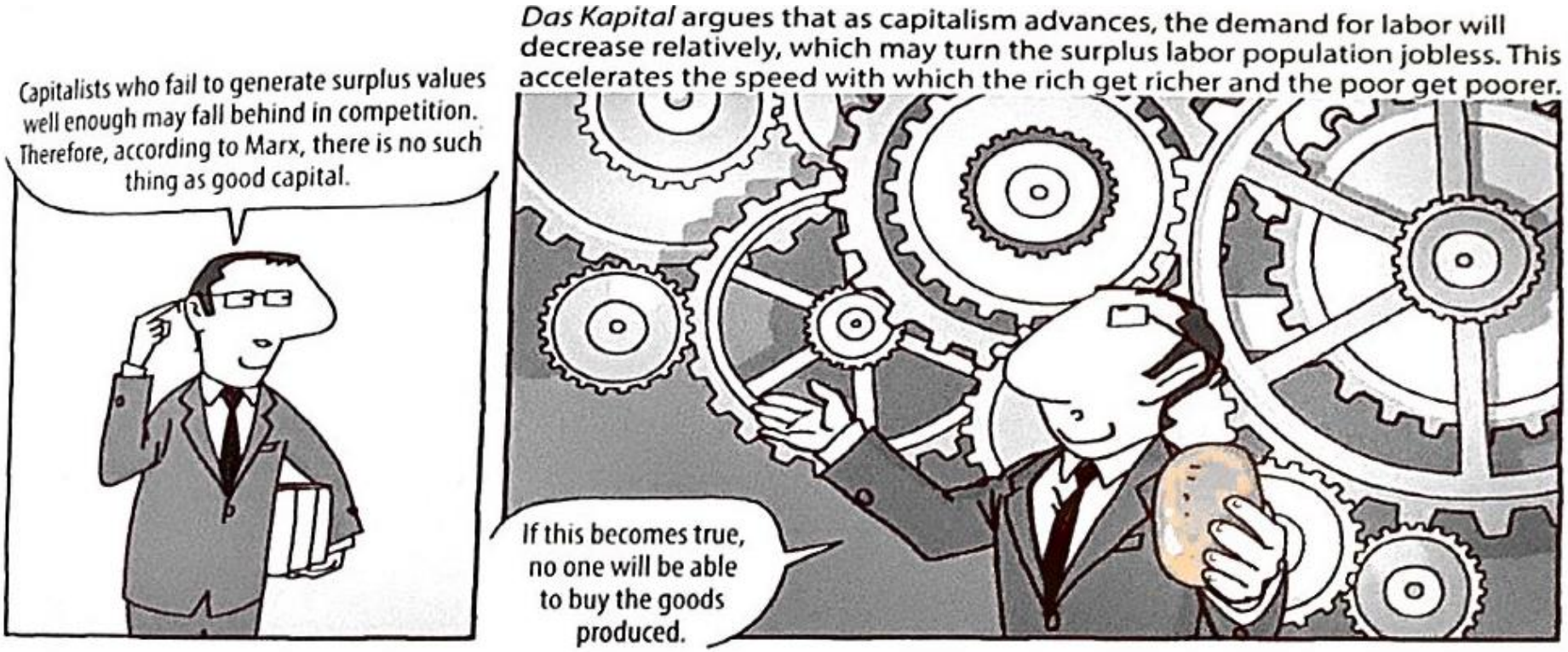

Only three out of the eight hours of labor which the worker has put in are defined by Marx as necessary. The remaining five hours, which he called surplus value, were for the capitalists.
Capitalist
5 hours
3 hours
Necessary labor
Surplus labor
Laborer
Out of eight loaves of bread, the capitalist pays the worker only three, which is the necessary labor. This is said to be the 'price of labor' for the reproduction of labor.

Karl Marx

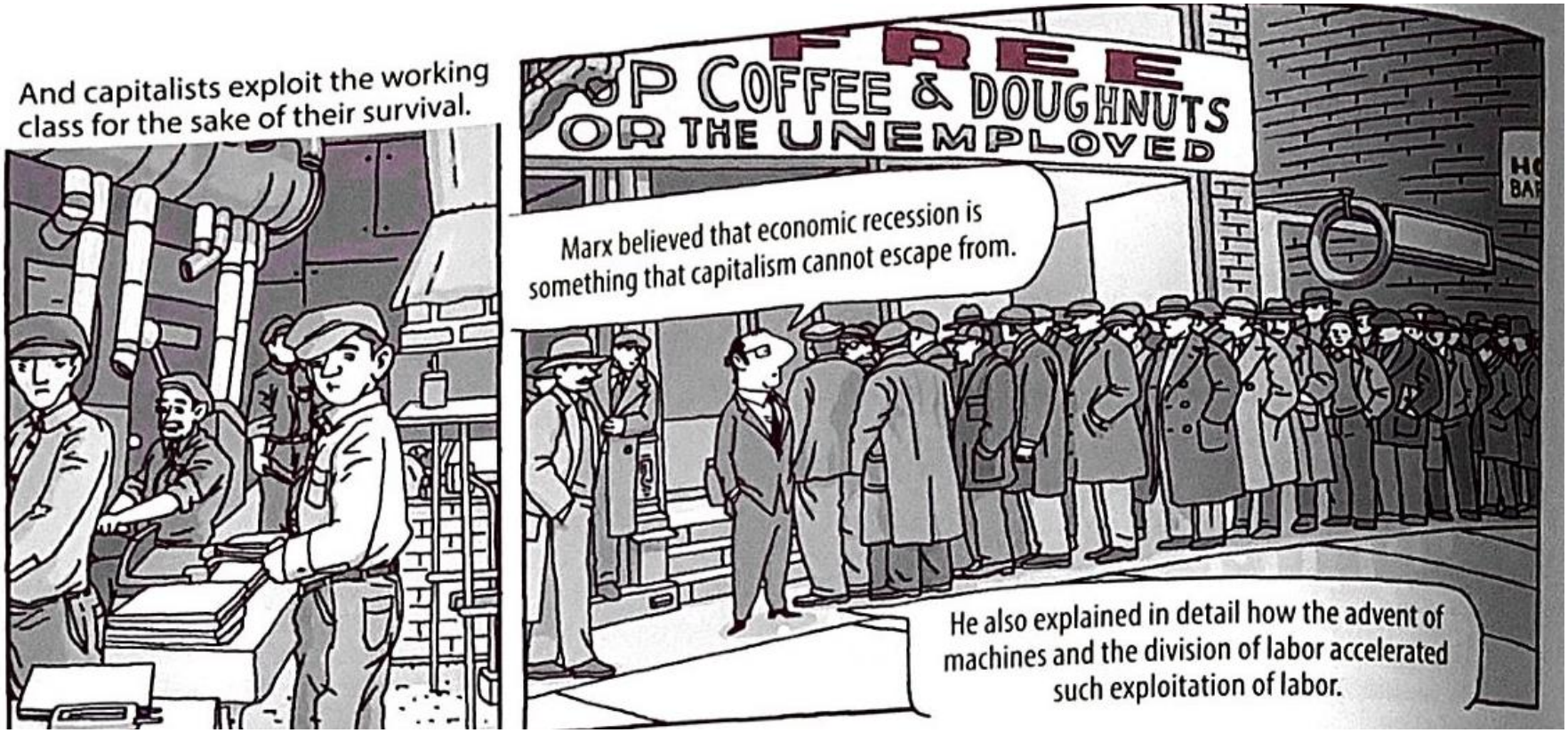


Under a fixed total working hours, technological advancement reduces necessary labor time, thereby extending surplus labor time.

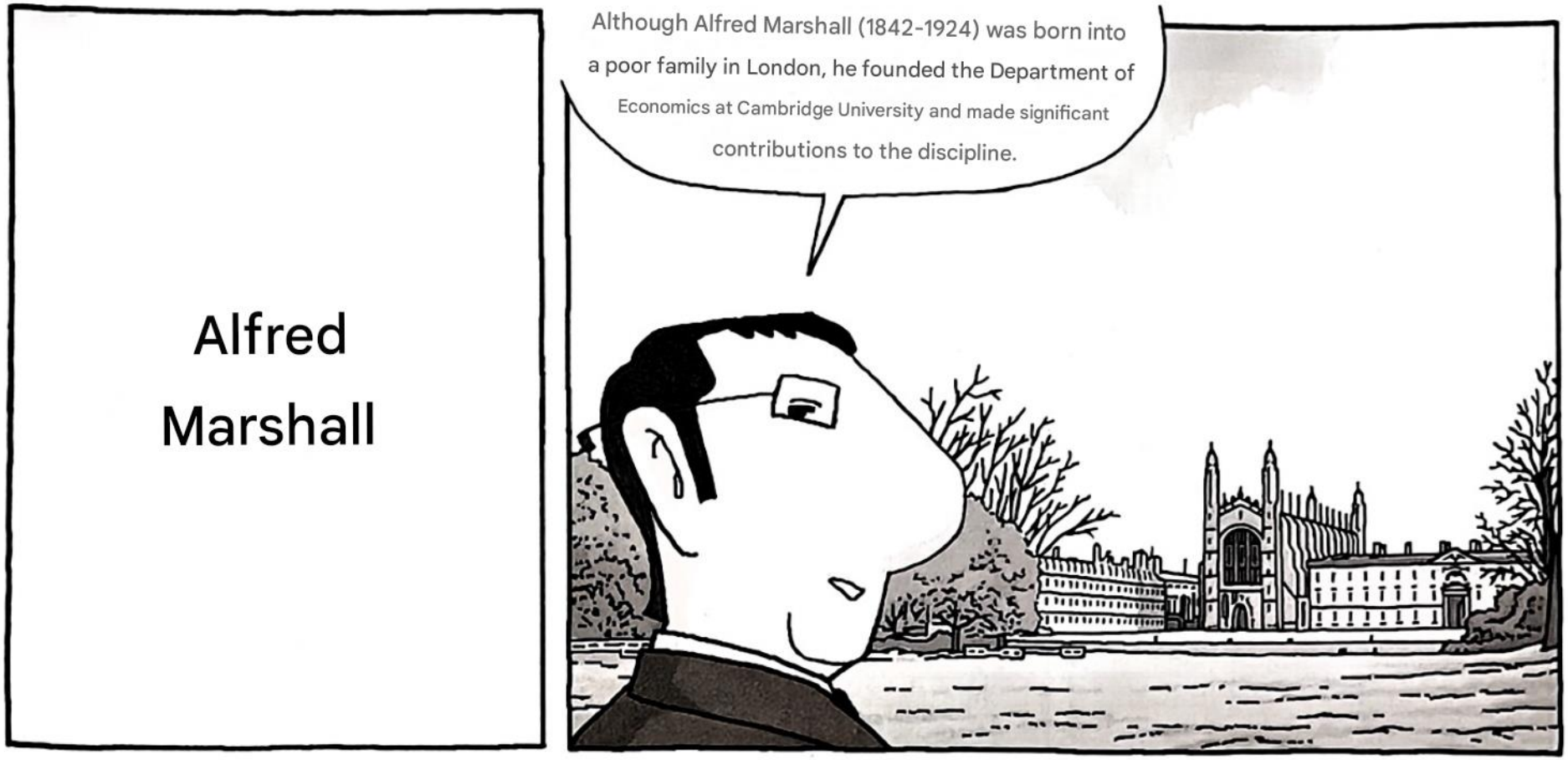
Karl Marx


Capitalists who fail to generate surplus values well enough may fall behind in competition. Therefore, according to Marx, there is no such thing as good capital.
Das Kapital argues that as capitalism advances, the demand for labor will decrease relatively, which may turn the surplus labor population jobless. This accelerates the speed with which the rich get richer and the poor get poorer.
If this becomes true, no one will be able to buy the goods produced.

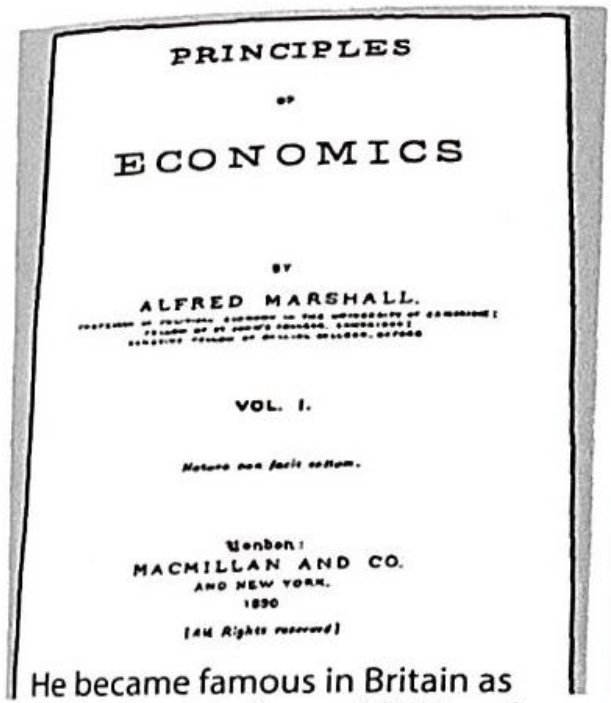
Karl Marx


And capitalists exploit the working class for the sake of their survival.
FREE
P COFFEE & DOUGHNUTS
OR THE UNEMPLOYED
Marx believed that economic recession is something that capitalism cannot escape from.
He also explained in detail how the advent of machines and the division of labor accelerated such exploitation of labor.

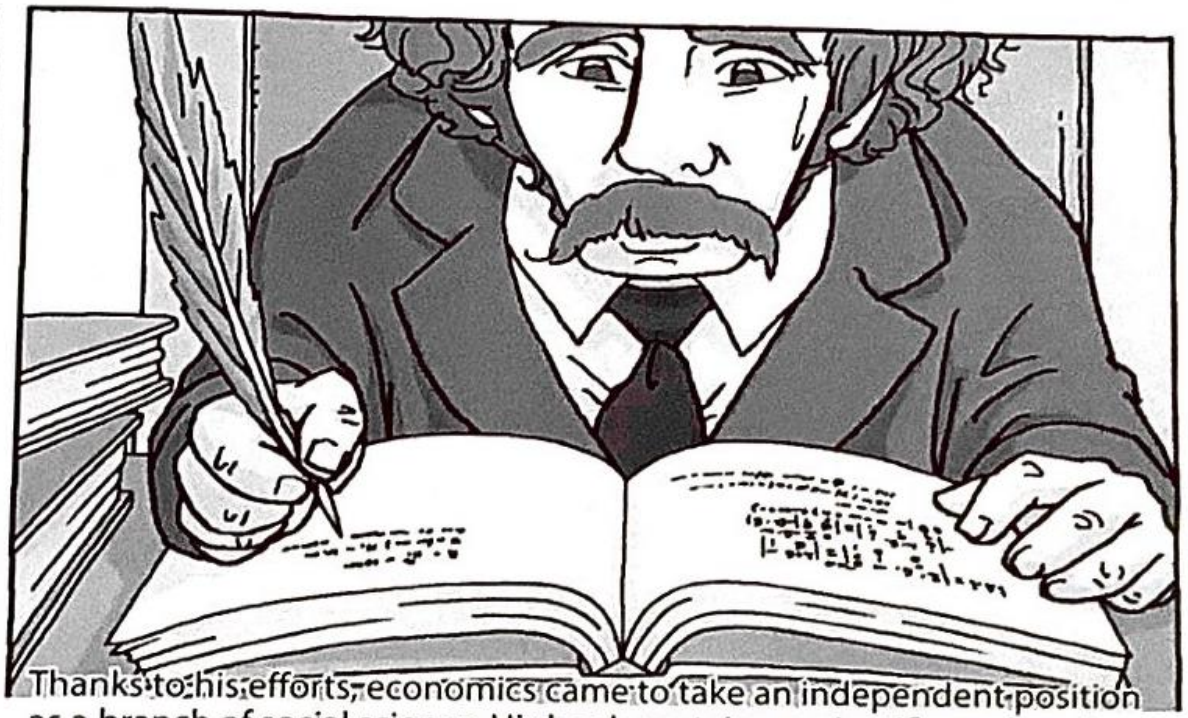
Alfred Marshall



Alfred Marshall

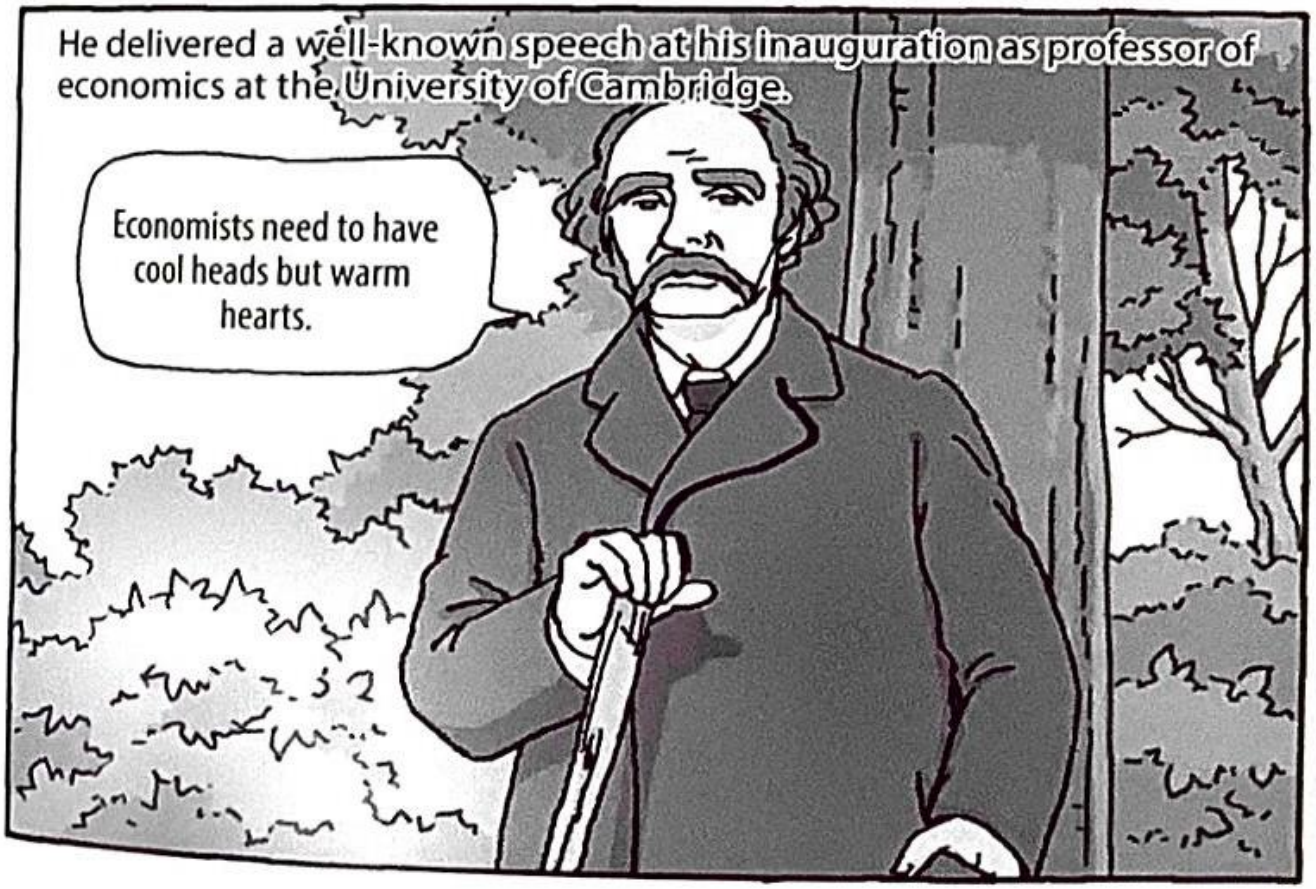


He became famous in Britain as an economist after publishing the *Principles of Economics* in 1890.

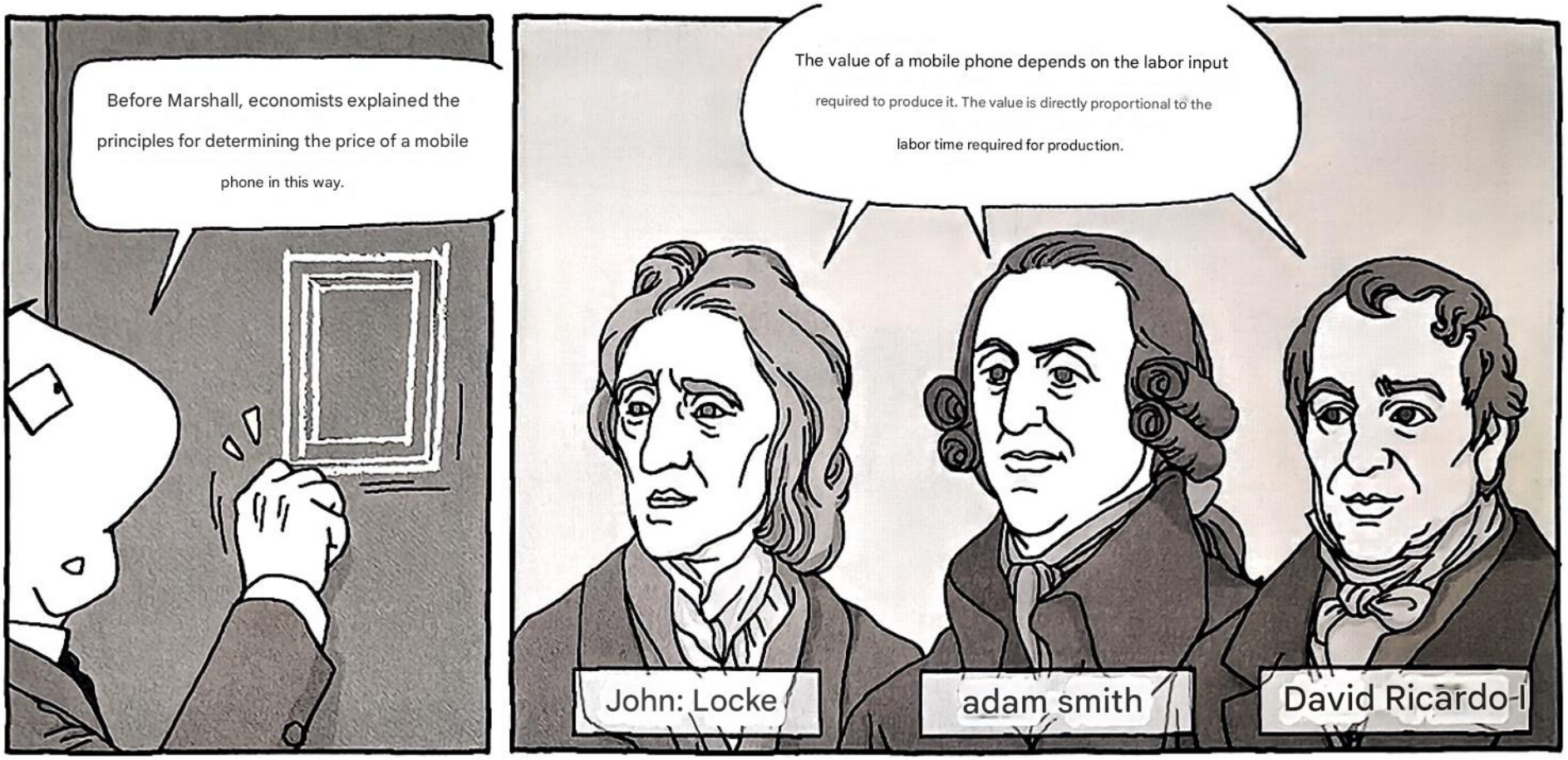


Thanks to his efforts, economics came to take an independent position as a branch of social science. His book contains a scientific explanation of concepts such as supply, demand, and marginal utility.

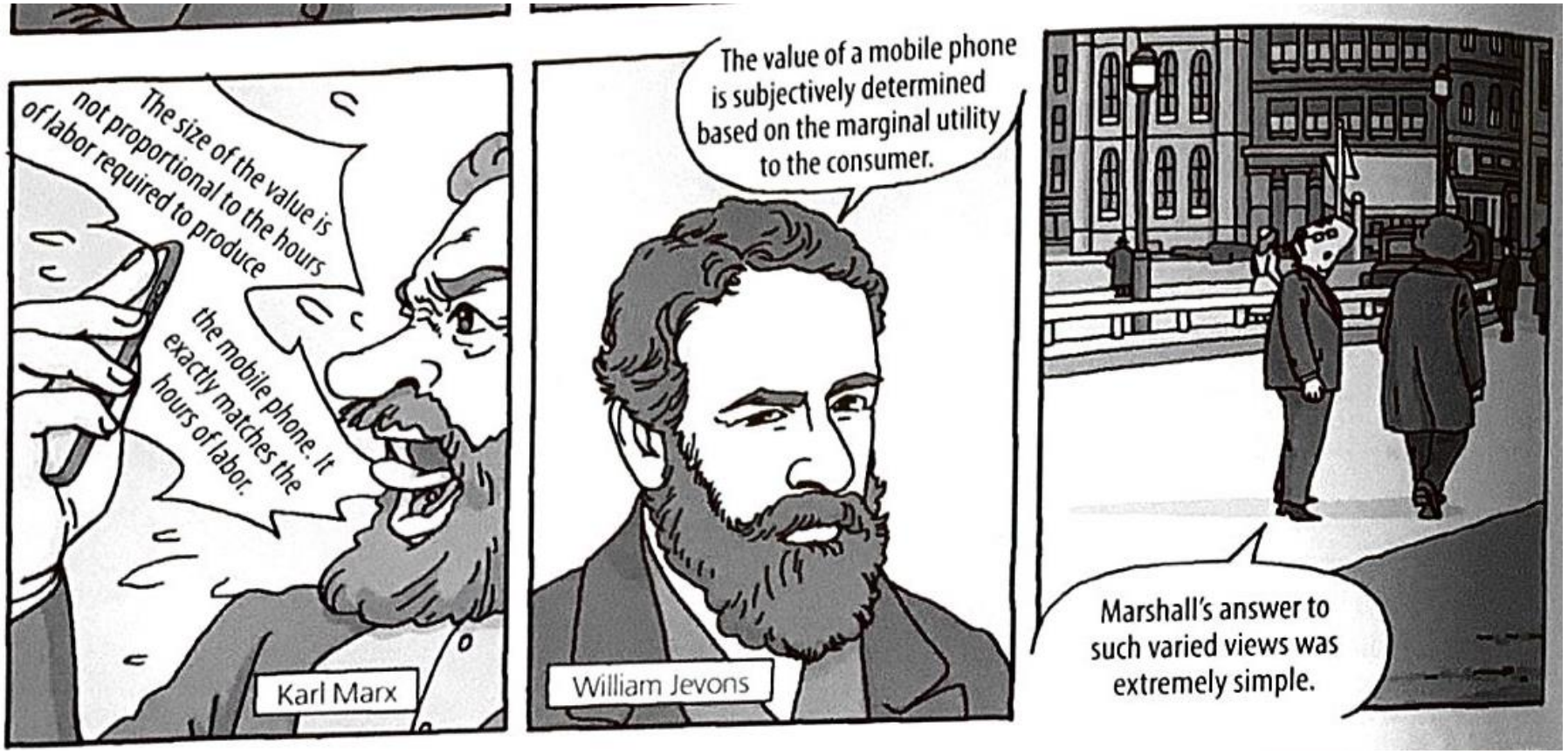
Alfred Marshall



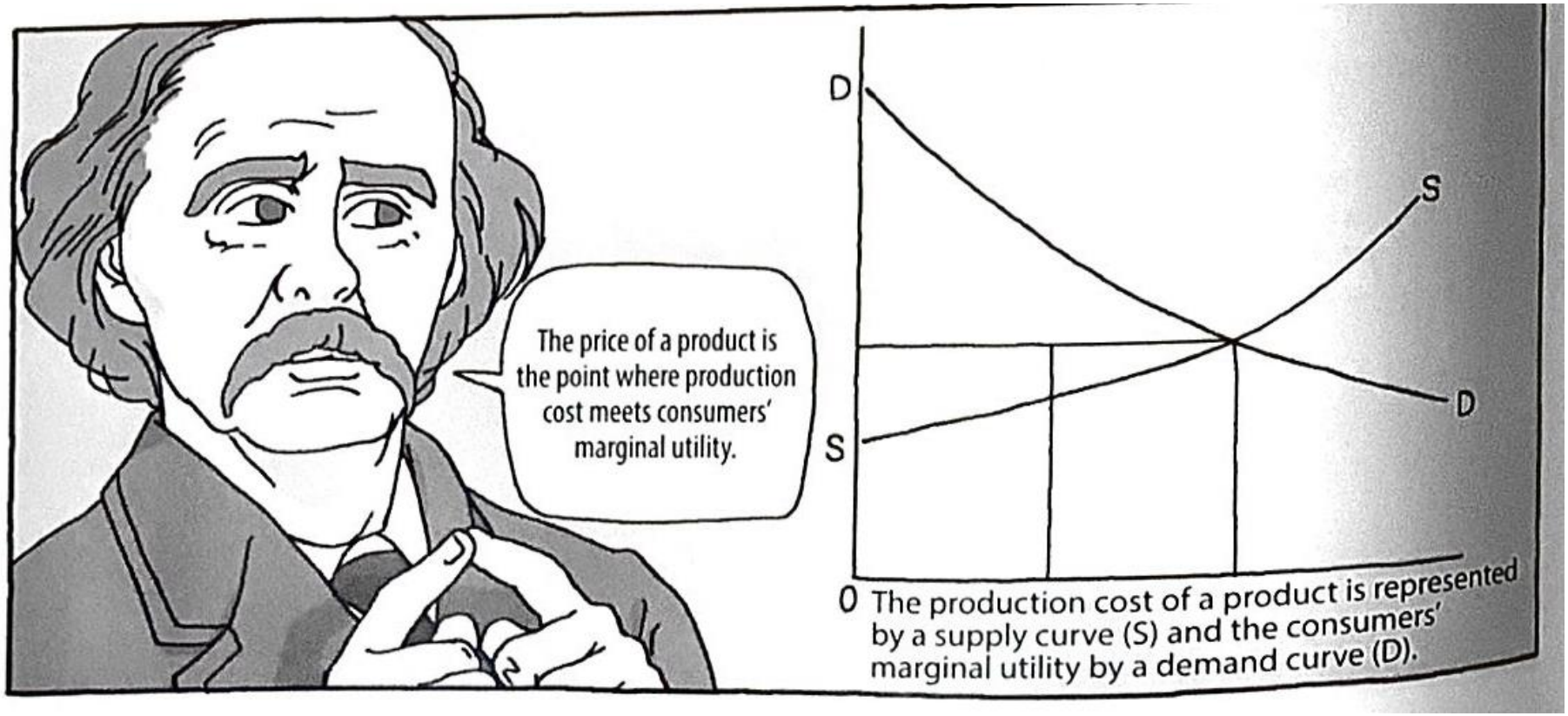
Alfred Marshall



Alfred Marshall

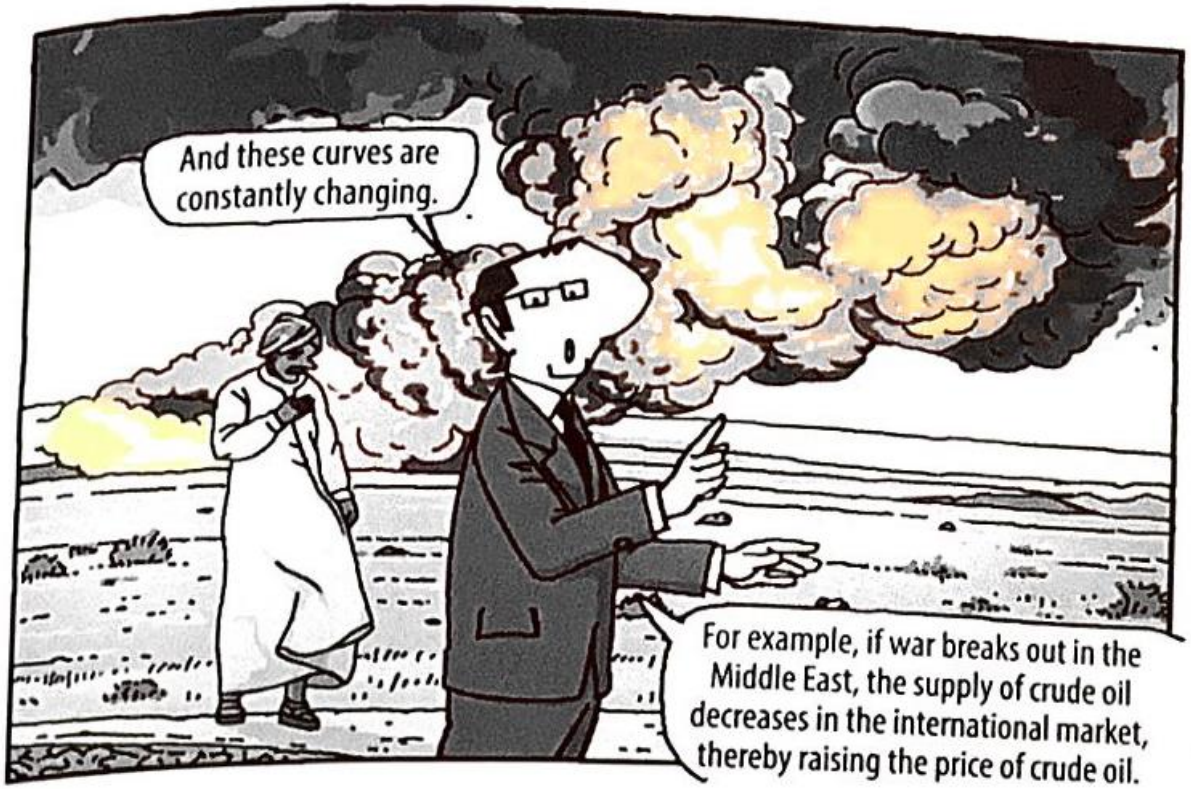


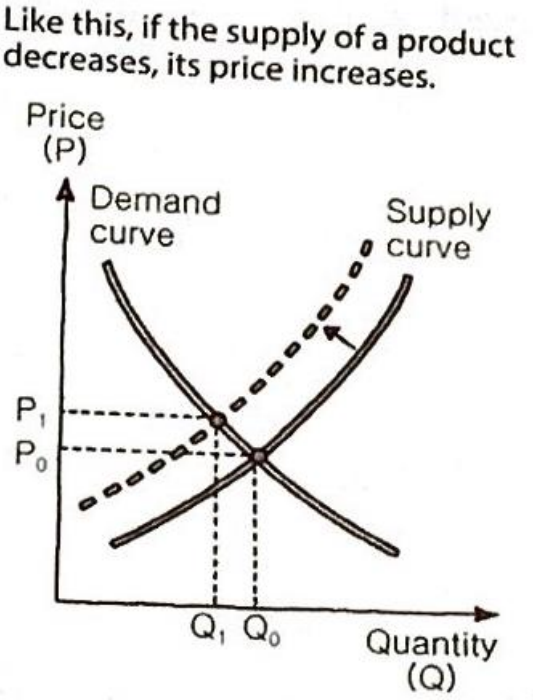
Alfred Marshall



The cost of production is the minimum price at which a producer is willing to sell a product.

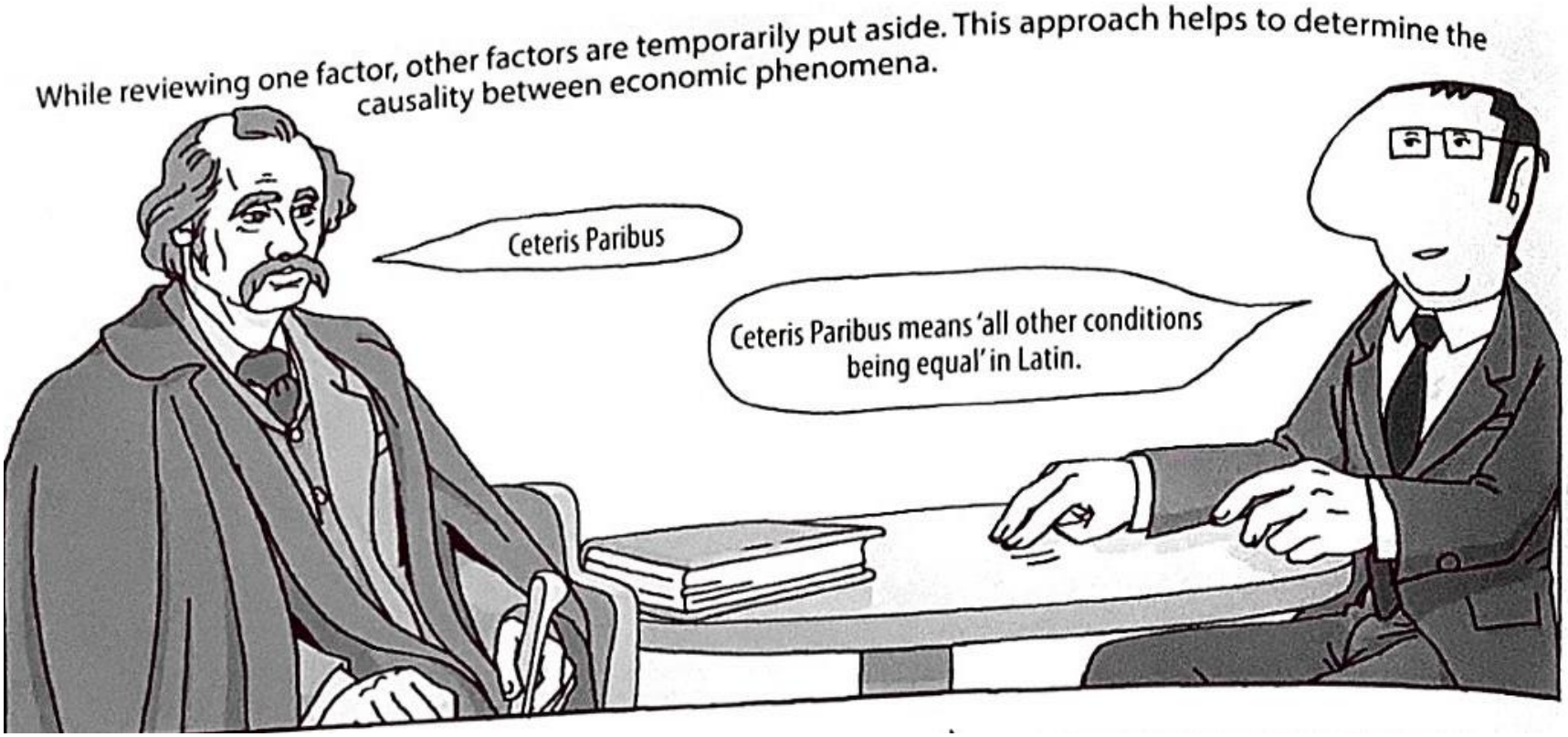
Alfred Marshall



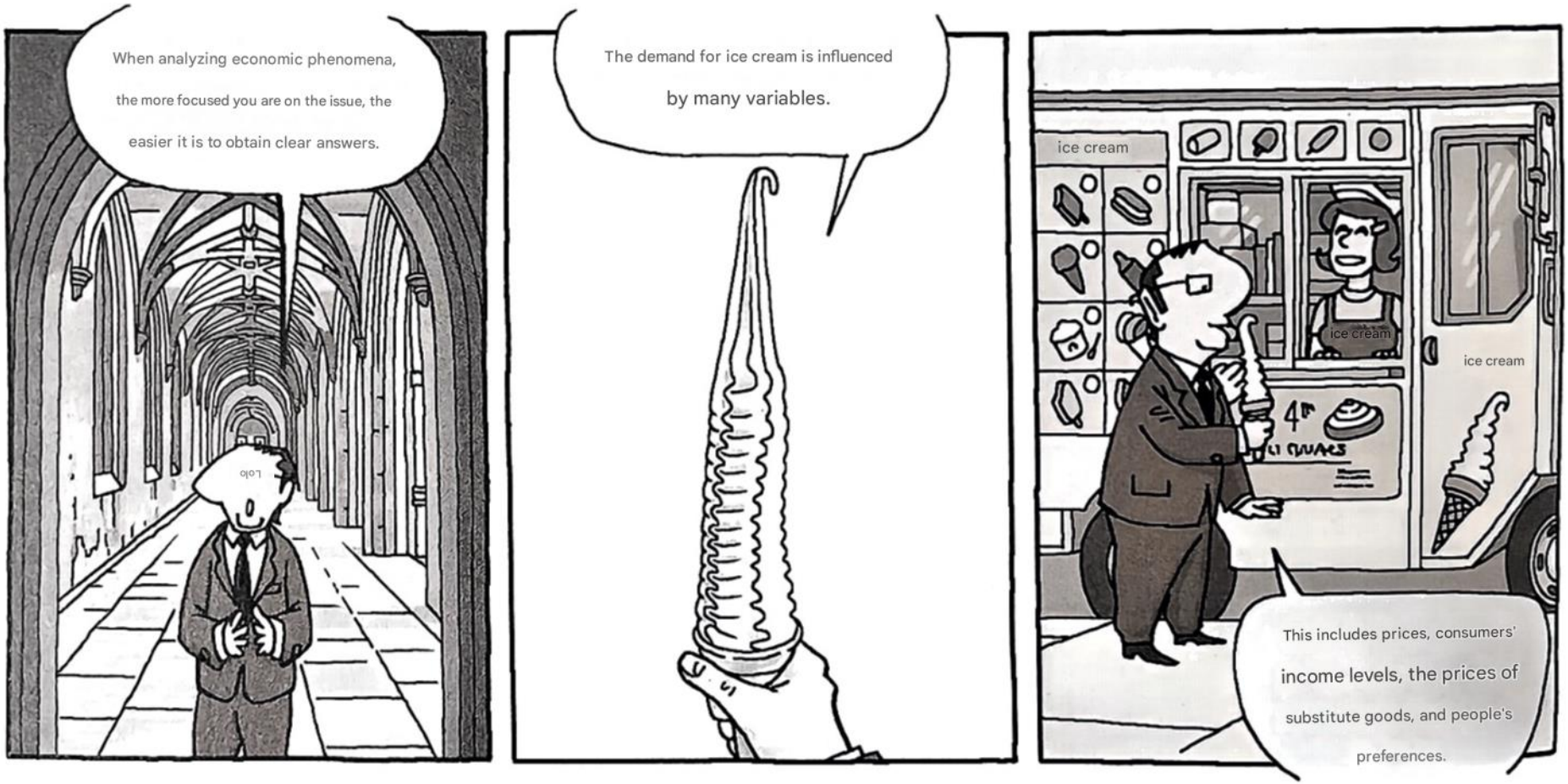


Alfred Marshall

Alfred Marshall



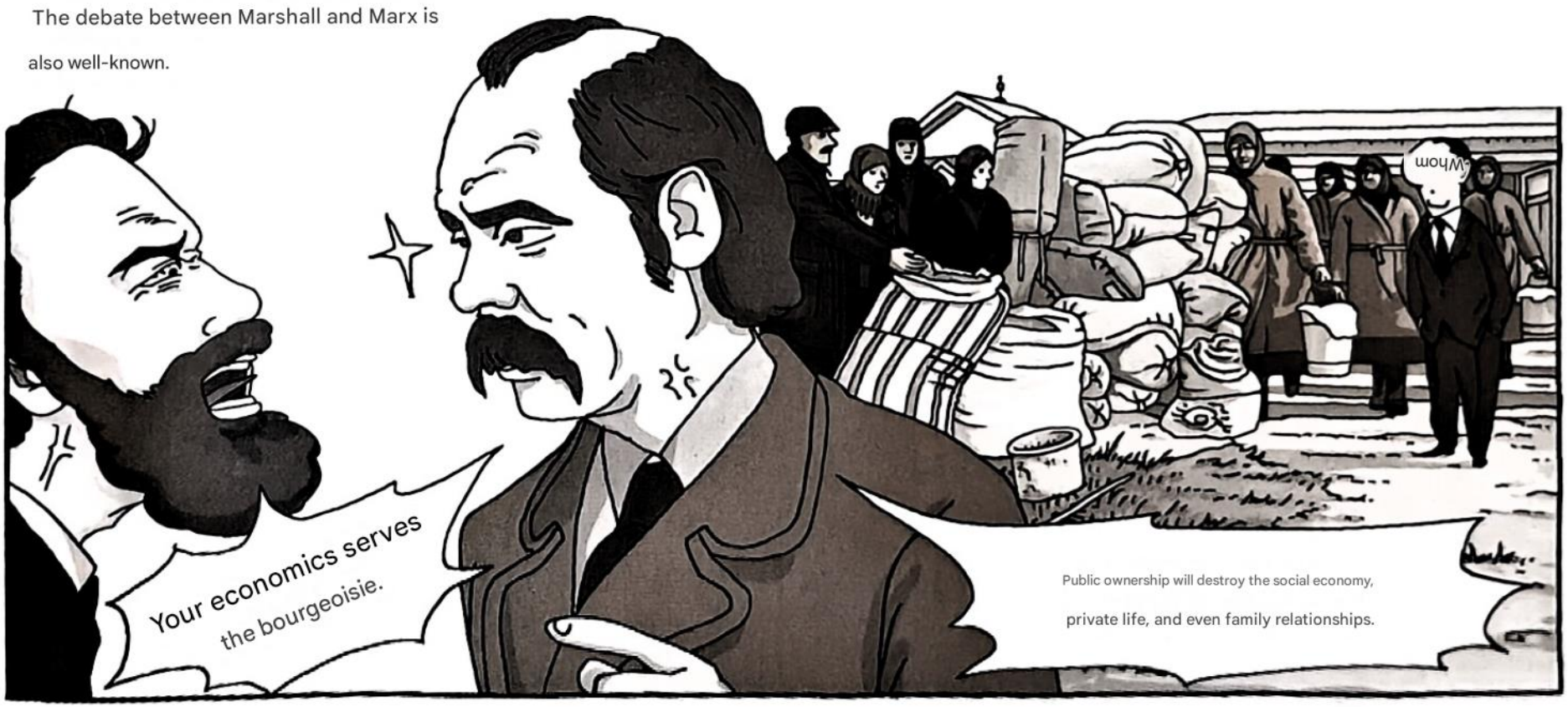
Alfred Marshall



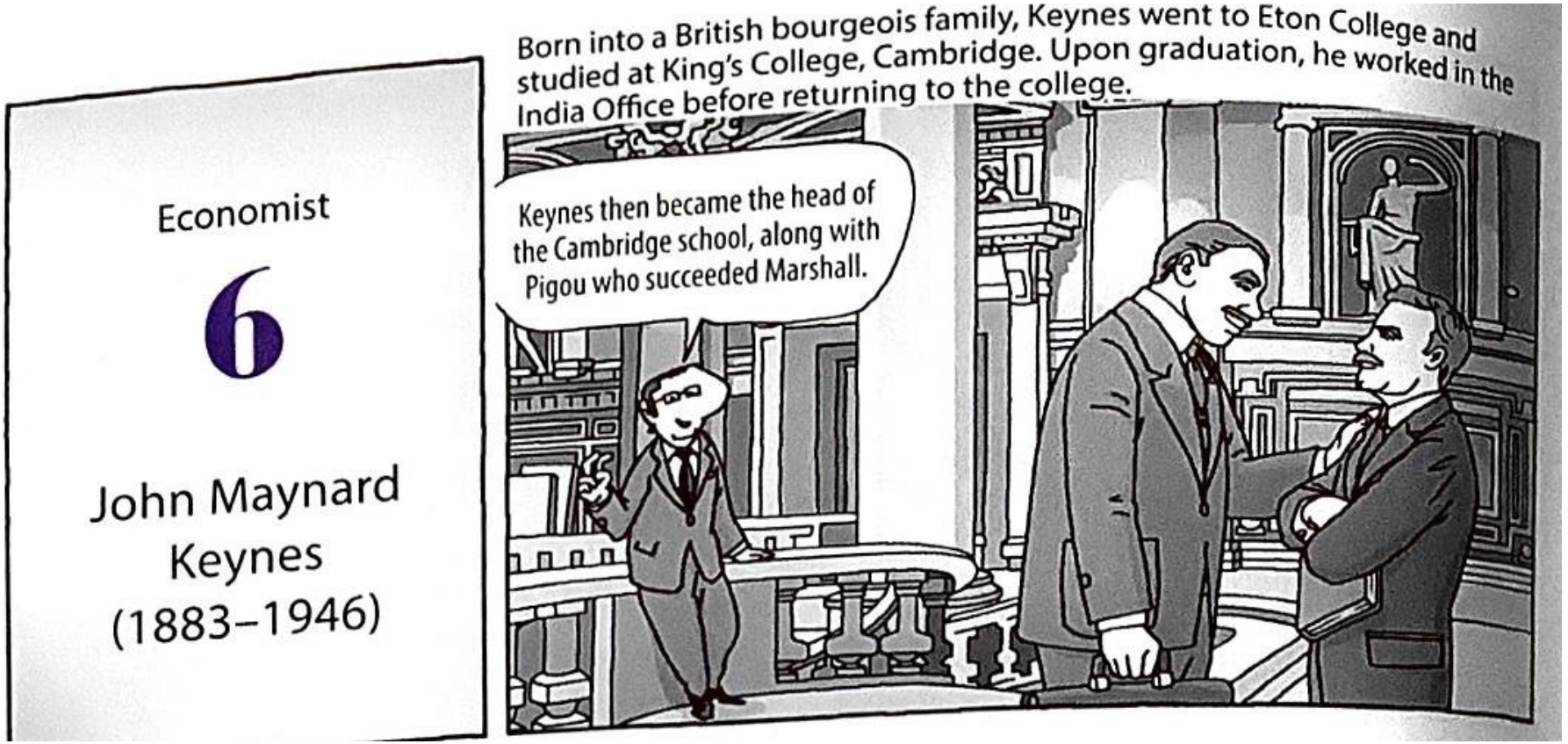
Alfred Marshall

The most reliable way to prove that X (the cause) leads to Y (the effect) is to create a world where all conditions are identical except for X, and then observe whether any change occurs in Y.
Control group: The baseline group that does not receive the experimental treatment, used for comparison.
Experimental group: The group that receives the specific treatment or intervention being tested.

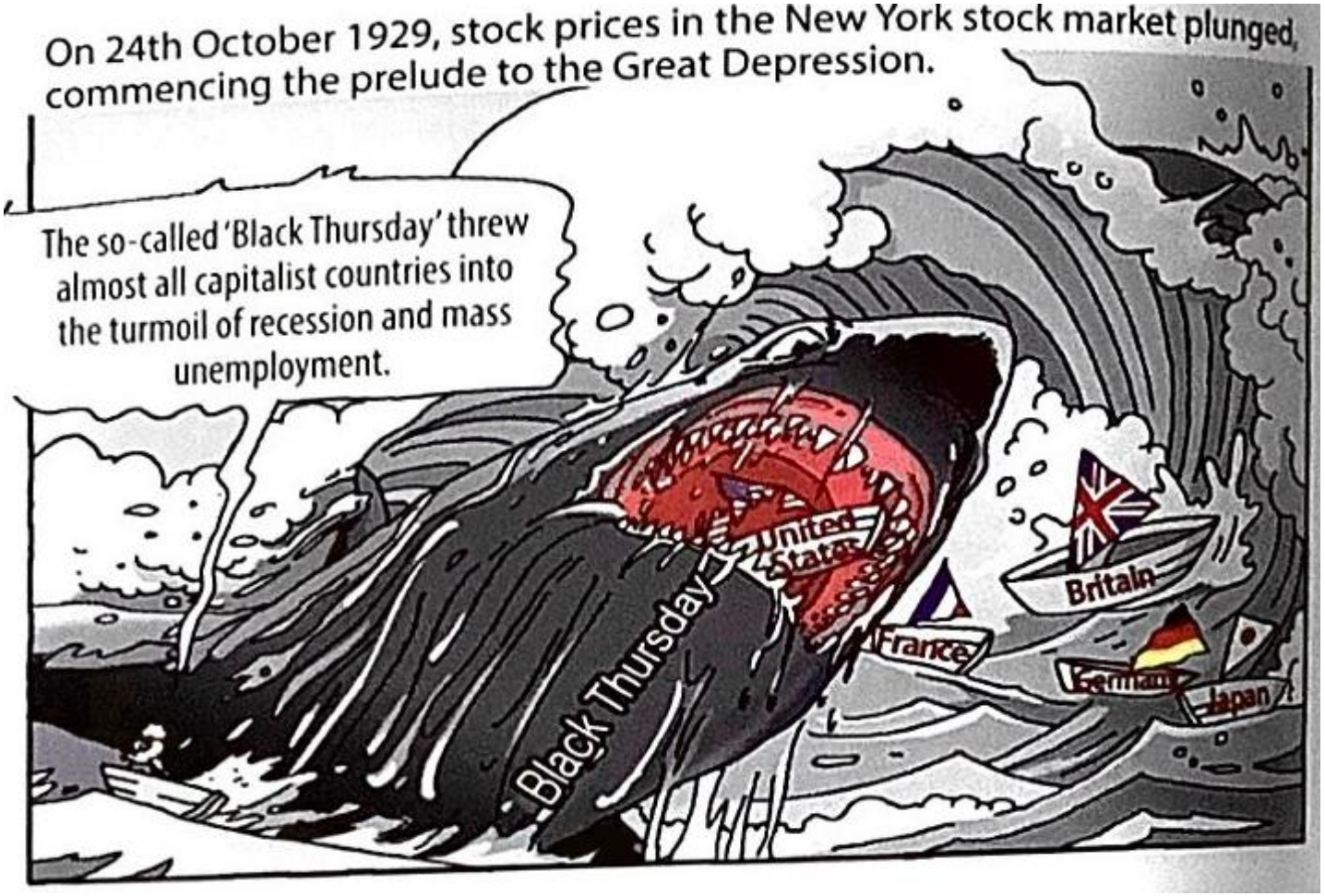
Alfred Marshall



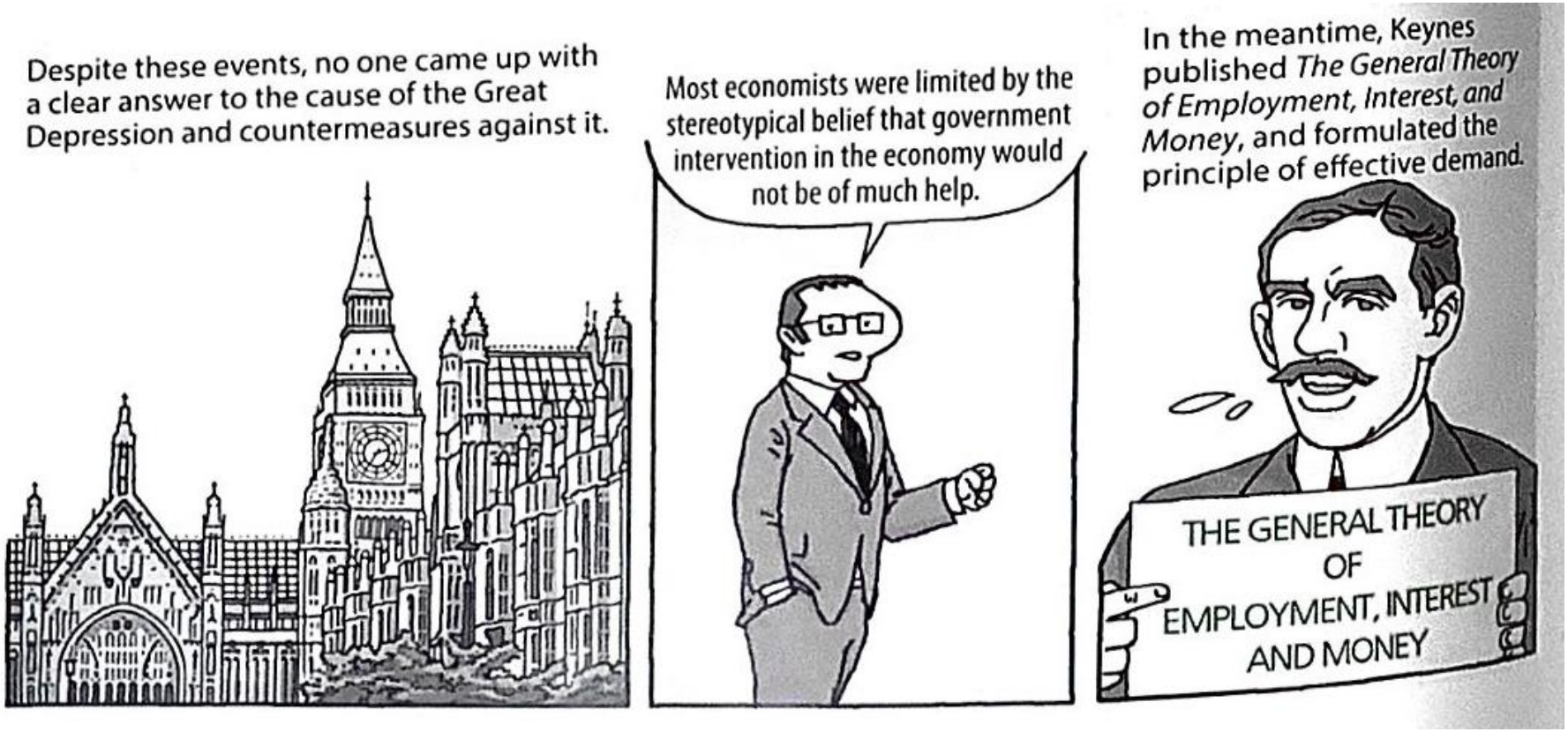
John Maynard Keynes



John Maynard Keynes

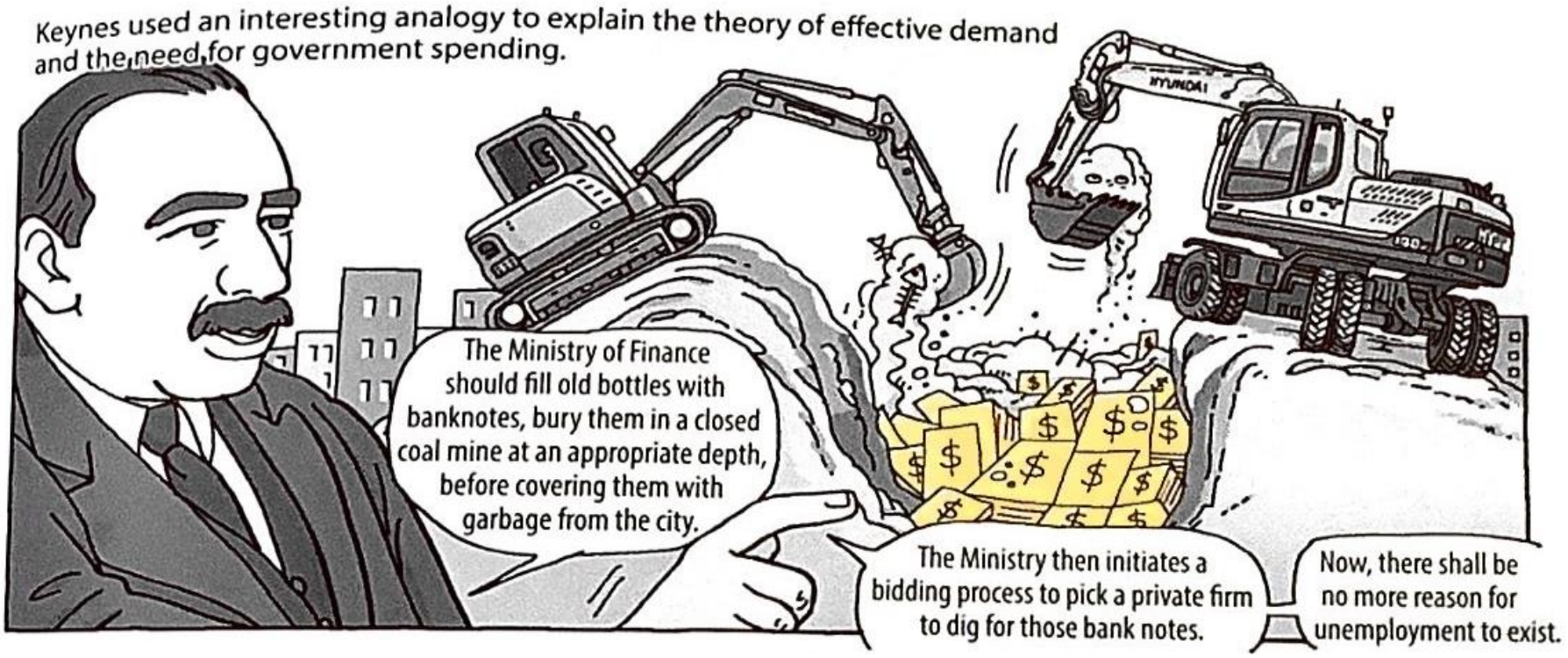


John Maynard Keynes



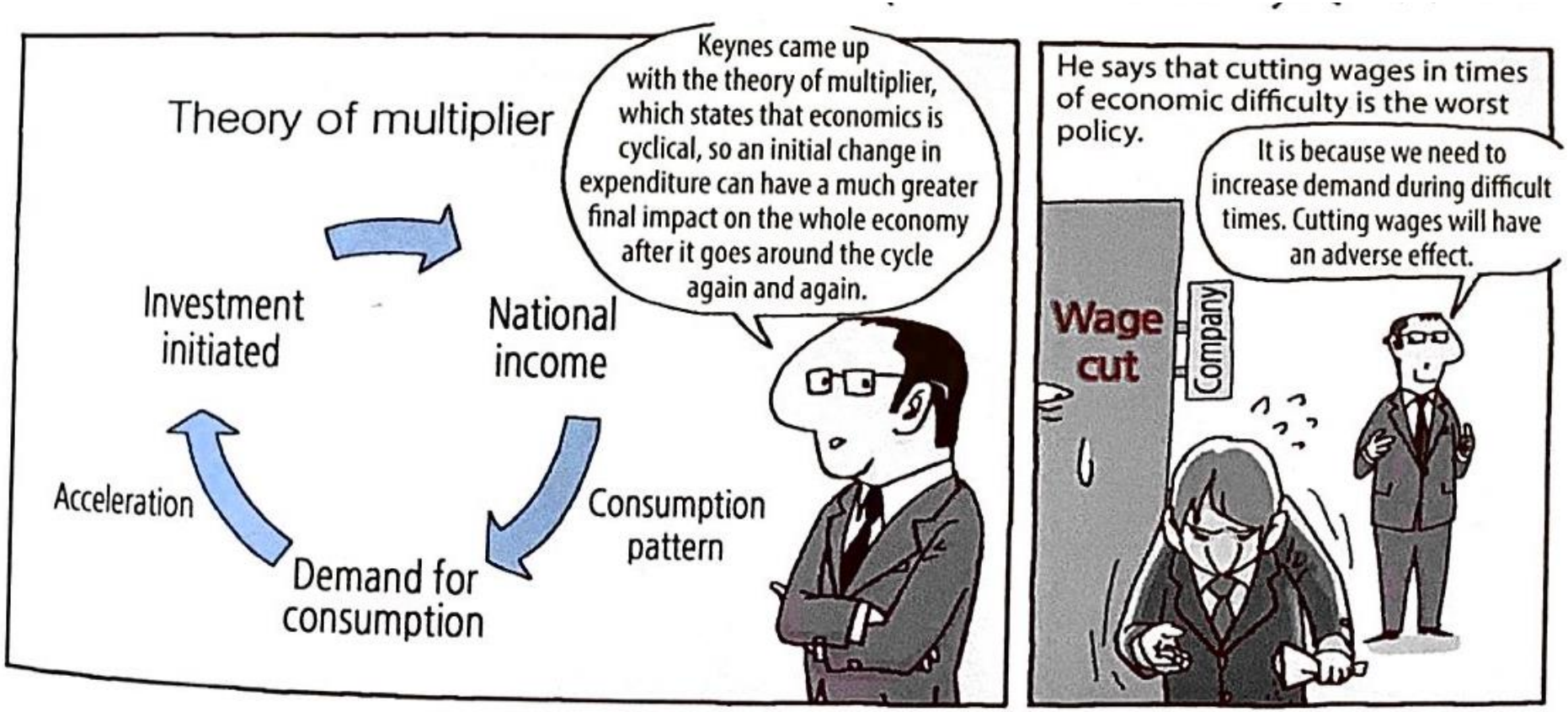
John Maynard Keynes

John Maynard Keynes

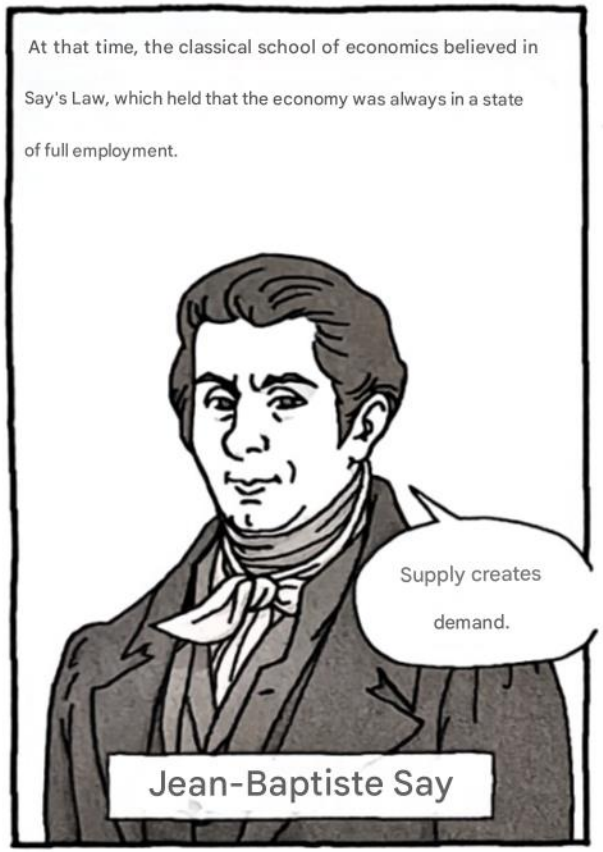


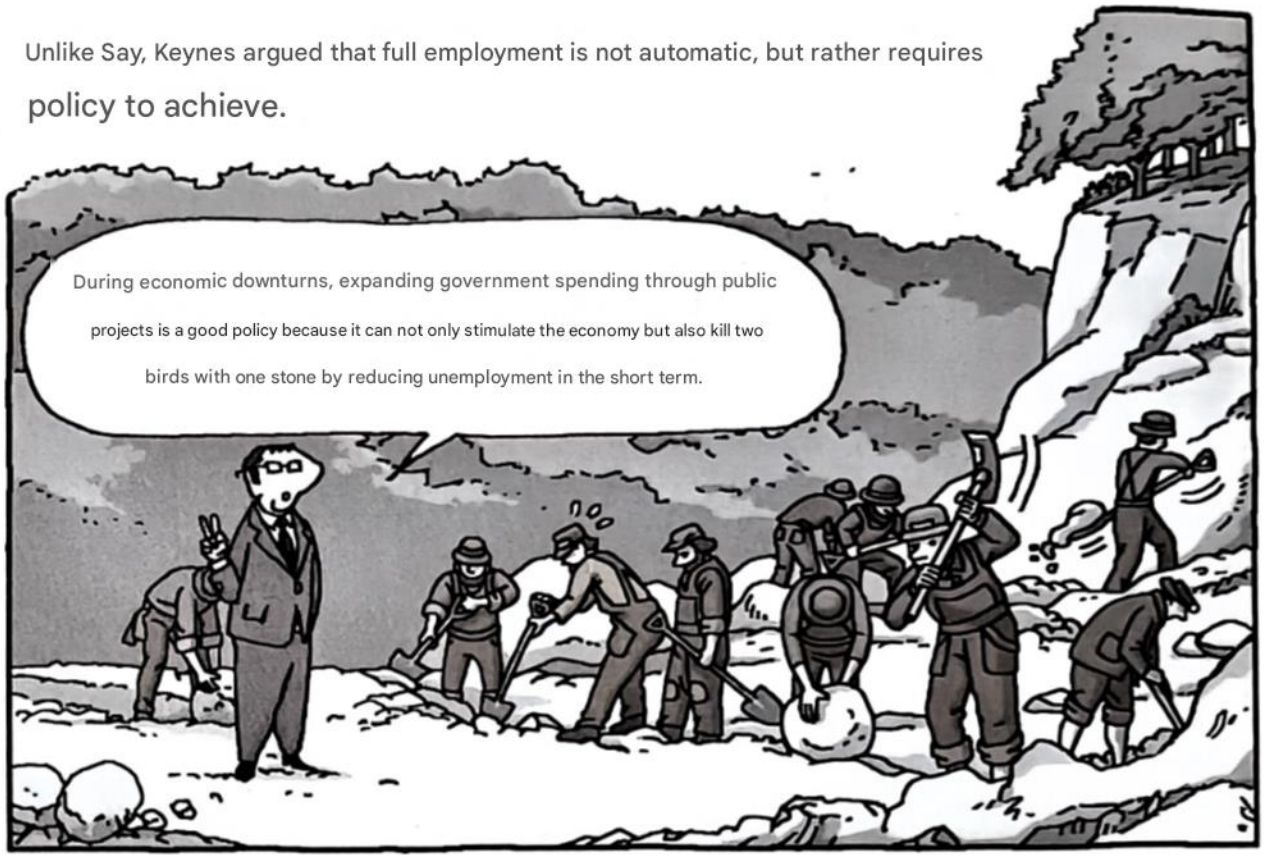
This process will set off a chain of economic activities: companies that obtain mining rights will hire workers and purchase equipment to "unearth the treasure." Once the banknotes are excavated, the involved businesses and workers will earn income. They will then use this income to consume, thereby stimulating production and employment in more sectors (such as food, clothing, entertainment, etc.).

John Maynard Keynes

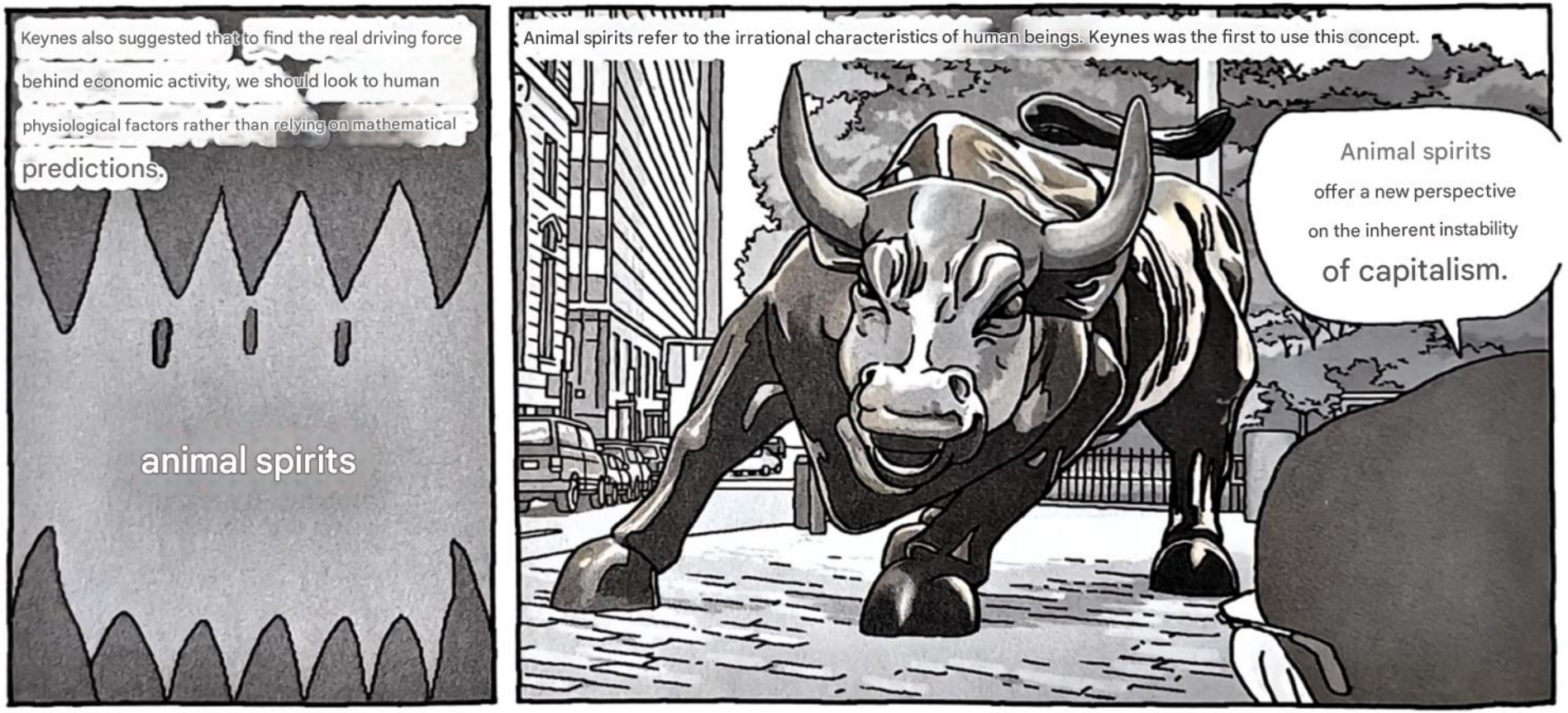


John Maynard Keynes

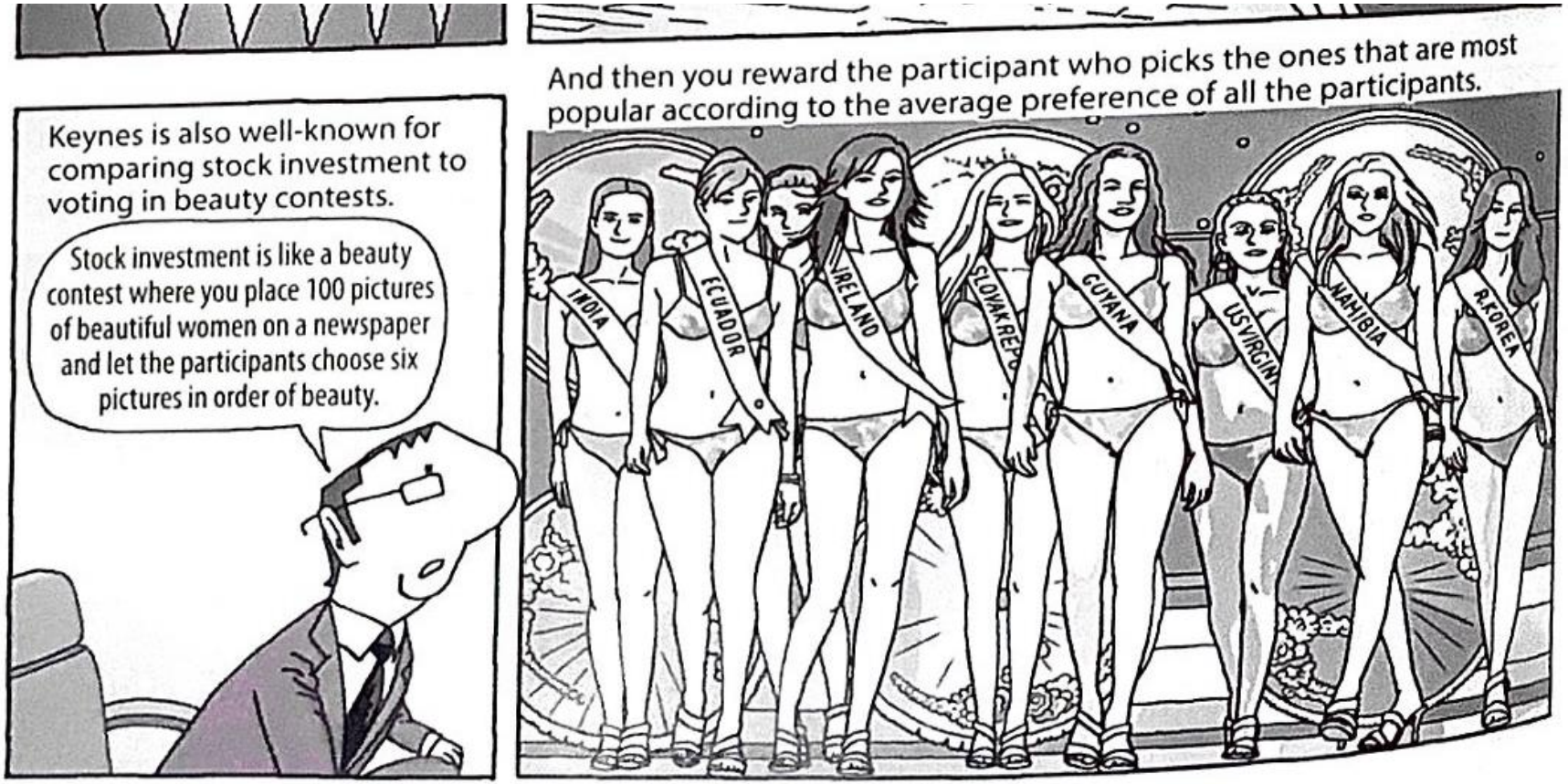




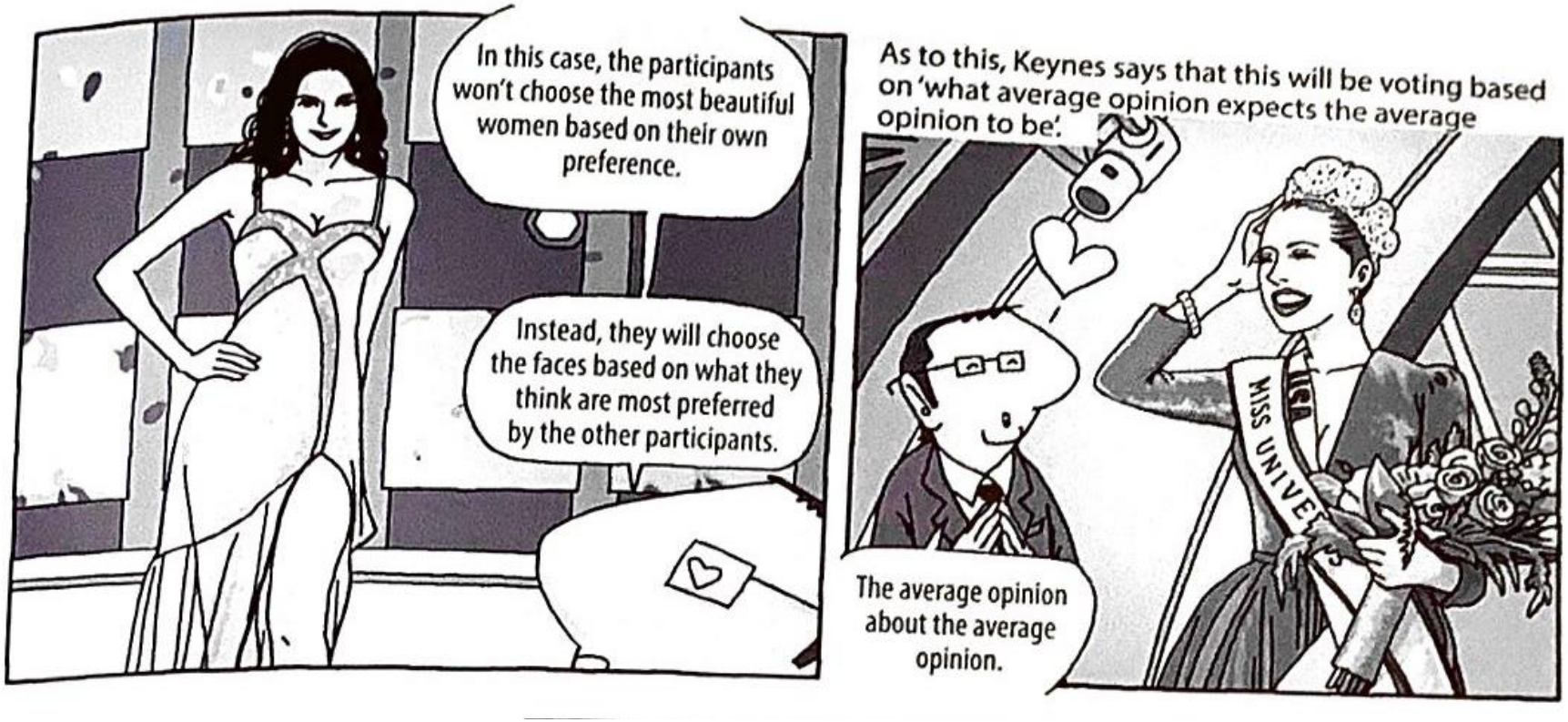
John Maynard Keynes



John Maynard Keynes

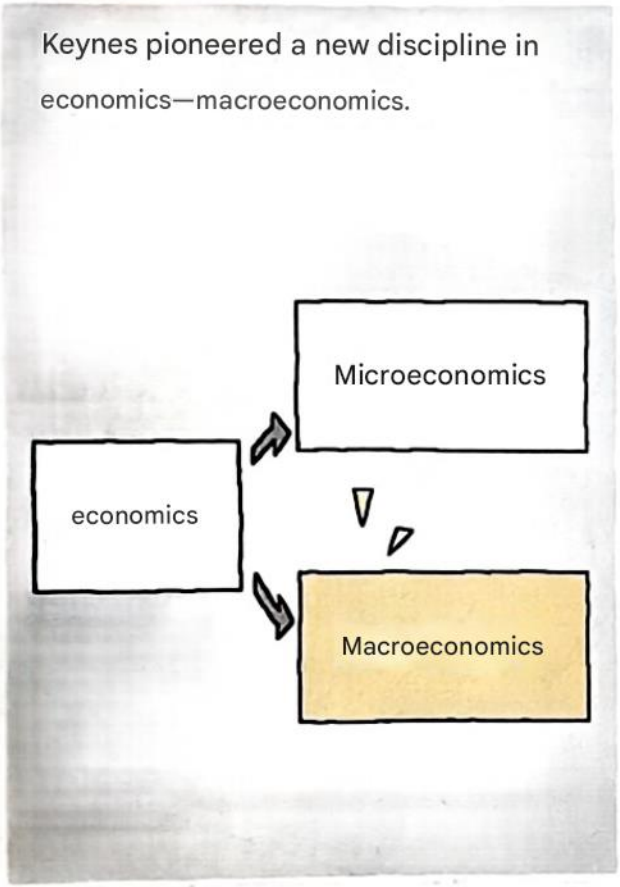


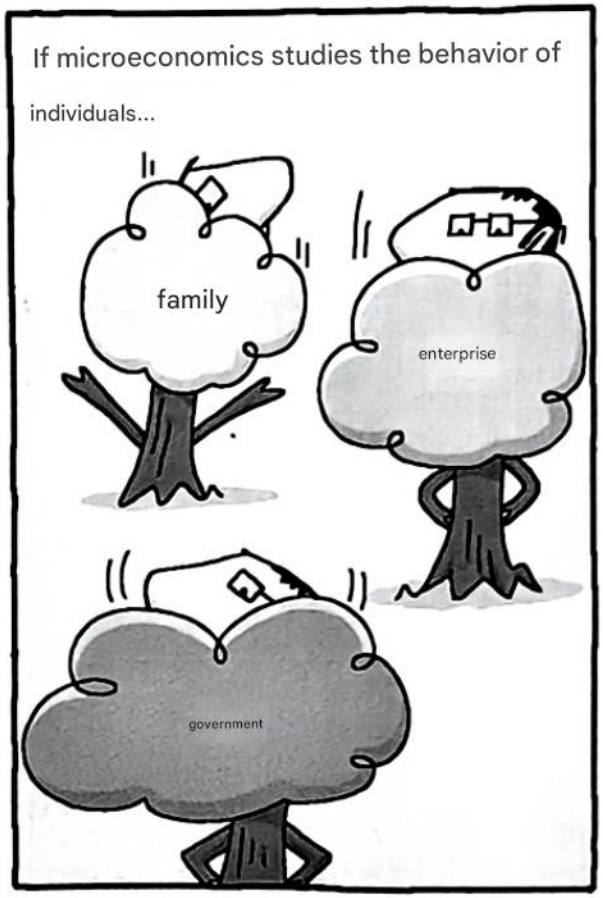
John Maynard Keynes

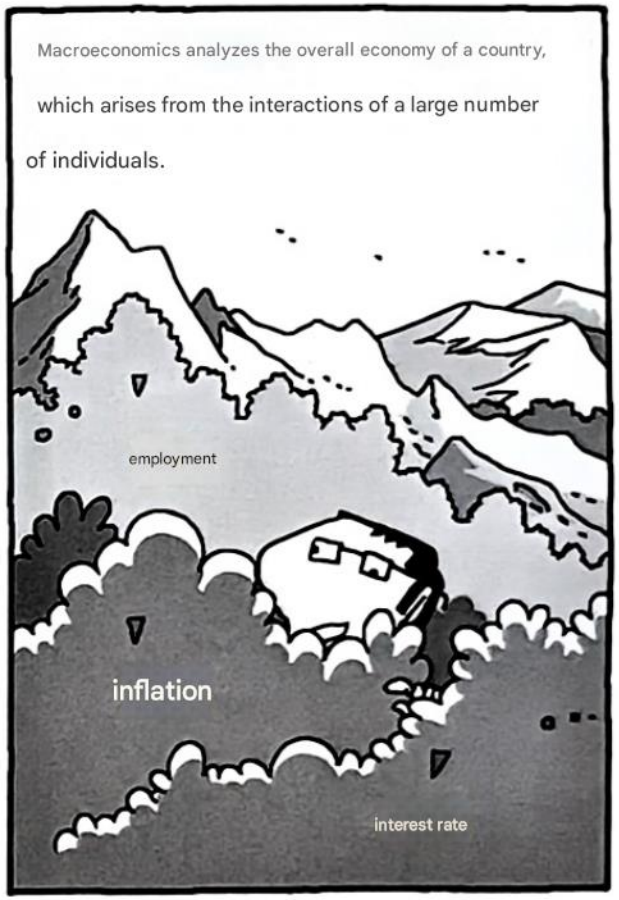


The selection here is not about choosing what is truly the most beautiful based on personal judgment, nor is it even about selecting what is considered the most beautiful in an average sense. We have reached the third level: using our intelligence to predict what the majority believes the majority's opinion will be. Moreover, some may even operate at the fourth, fifth, or higher levels.

John Maynard Keynes







Chapter 4: Thinking Like an Economist

- Economic Thinking 1: The Economist's Way of Thinking
- **Economic Thinking 2: Economists as Scientists**
- Economic Thinking 3: Economists as Policy Advisors
- Economic Thinking 4: Why Economists Disagree

Scientific Methods

- **The methods economists use to study economics bear a strong resemblance to how physicists study matter or how biologists investigate life.**
  - **They construct theories, collect data, and then analyze this data in an attempt to verify or refute their theories.**
- **Suppose an economist observes that prices in his country are rising too rapidly. He then proposes a theory: the price increases are related to excessive money printing.**
  - **To test his theory, he gathers data from other countries to analyze the relationship between price increases and the money supply.**
  - **Through this approach, he can either verify or disprove his theory.**

Scientific Methods

- **However, it is difficult to conduct controlled experiments in economics.**
  - **A controlled experiment is a scientific test done under controlled conditions, meaning that only one variable is changed at a time, while all others are kept constant. The primary goal is to establish a clear cause-and-effect relationship between the variable being changed and the outcome being measured.**
- **Newton could perform experiments in a laboratory, but economists cannot manipulate a country's monetary policy just to study inflation. Therefore, economists have to rely on historical empirical data.**
- **By observing historical experiences and cases, we can understand past economic conditions and evaluate economic theories.**

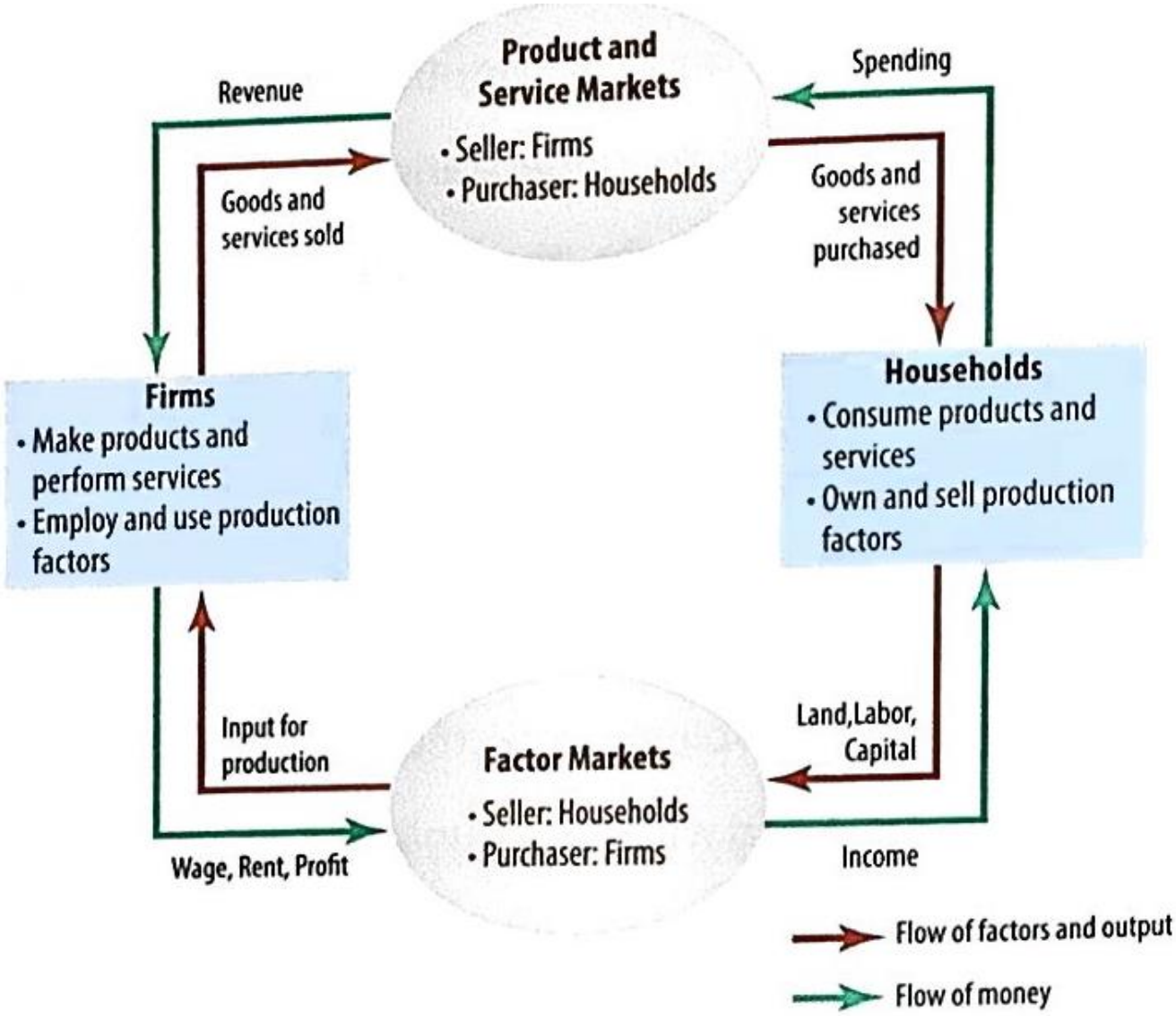
Assumptions

- **Like scientists, economists use assumptions to simplify the complex world, making it easier to understand.**
  - **For example, when studying the impact of international trade, they might assume that there are only two countries in the world, each producing only two types of goods.**
  - **Of course, the real world consists of hundreds of countries, each producing thousands of different kinds of products.**
  - **However, by assuming two countries and two goods, they can focus their thinking on the essence of the issue.**
  - **Once they understand international trade in this simplified world, they can better comprehend international trade in the complex real world.**

Economic Models

- **Economists rely on models to understand the world.**
  - **These models are often composed of diagrams and equations.**
  - **Economic models omit many details to help us see what truly matters.**
  - **All models are built on assumptions to study various economic issues.**
  - **By making assumptions, economists assume away many details of the economy that are irrelevant to the current research question, allowing them to better understand reality through a simplified version.**

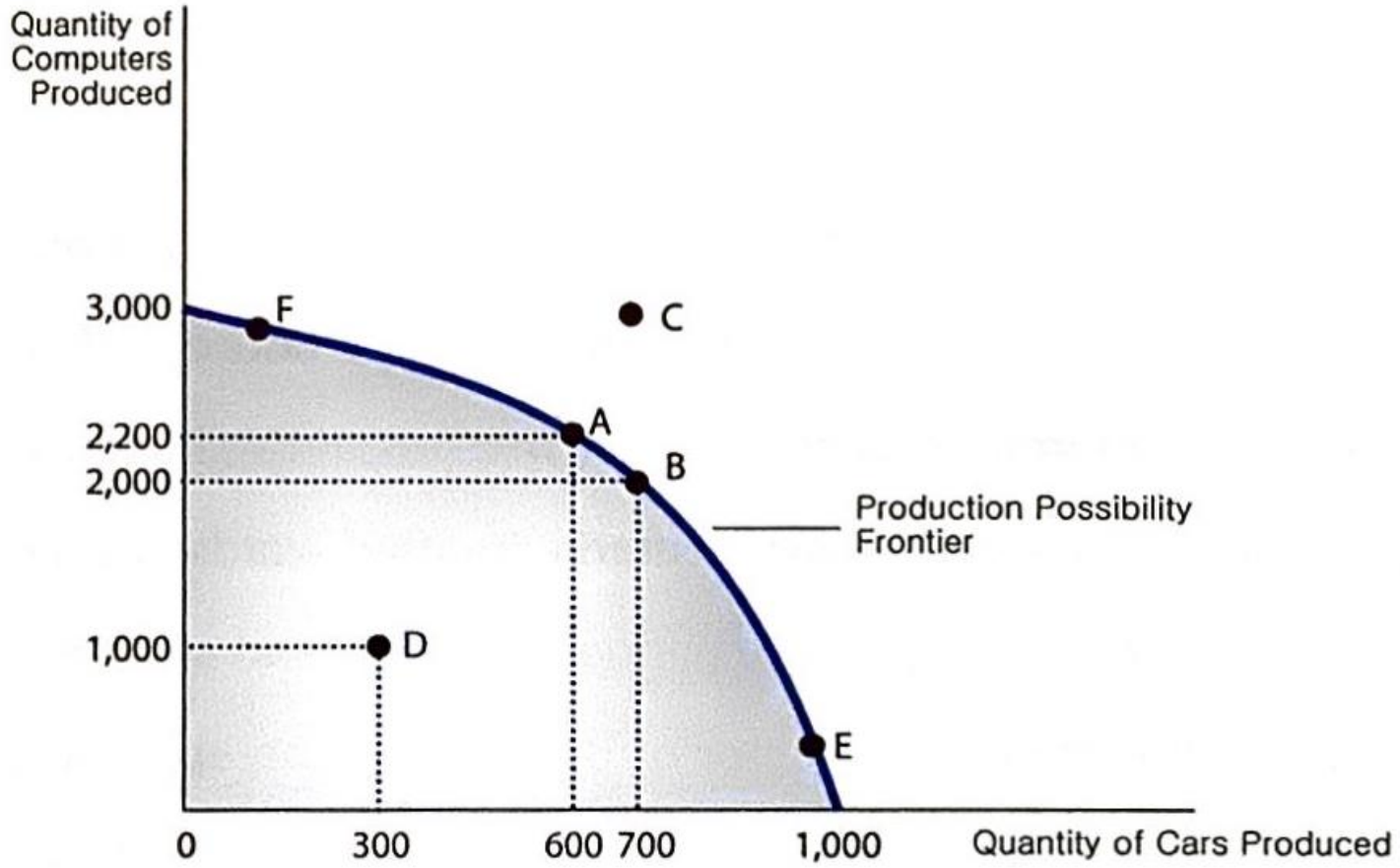
Economic Model 1: Circular Flow Diagram



Economic Model 1: Circular Flow Diagram

- **The Circular Flow Diagram is a visual model that depicts an economy comprising a large number of participants. It illustrates how a market economy functions and how the various participants interact within it.**
  - **The diagram includes two main groups: households and firms. Firms utilize factors of production such as land, labor, and capital to produce goods and services, which are then consumed by households.**
  - **Households interact with firms in two types of markets. In the market for goods and services, firms act as sellers and households as buyers. In the market for factors of production, households act as sellers and firms as buyers. In other words, households exchange money for goods and services while also supplying labor as a factor of production.**
  - **The outer arrows in the diagram represent the flow of money, while the inner arrows indicate the flow of factors of production and outputs.**

Economic Model 2: Production Possibility Frontier



Economic Model 2: Production Possibility Frontier

- **Unlike the circular flow diagram, most economic models are constructed using mathematical tools.**
- **Among them, one of the simplest models is called the Production Possibility Frontier.**
- **The Production Possibility Frontier is a graph that illustrates the various combinations of output an economy can produce given its factors of production and technology level.**
- **Although real economies produce thousands of goods and services, let us temporarily assume the economy produces only two goods—for example, cars and computers.**

Economic Model 2: Production Possibility Frontier

- **Points on the production possibility frontier represent "efficient" production levels.**
  - **At point A, the economy can produce 600 cars and 2,200 computers.**
  - **At point B, the economy can produce 700 cars and 2,000 computers.**
- **Points inside the frontier represent "inefficient" production levels.**
  - **At point D, only 300 cars and 1,000 computers are produced, indicating an inefficient outcome.**
  - **If the causes of inefficiency are addressed, the economy will move from point D to point A or B, increasing the production of both cars and computers.**
- **Constrained by available resources, the economy cannot produce at points beyond the frontier.**
  - **For example, no matter how resources are reallocated between these two industries, the economy cannot produce the combination of cars and computers represented by point C.**

Economic Model 2: Production Possibility Frontier

- **The production possibility frontier illustrates a fundamental trade-off faced by society.**
  - **For example, when the economy moves from point A to point B, society produces 100 additional cars—increasing total car production from 600 to 700—but at the cost of producing 200 fewer computers, reducing computer output from 2,200 to 2,000.**
  - **By moving from point A to point B, society gives up 200 computers to gain 100 additional cars.**
  - **Thus, the opportunity cost of 100 cars is 200 computers. In other words, the opportunity cost of one car is two computers.**
  - **The number of computers sacrificed by society to produce one more car—the opportunity cost—is equivalent to the slope of the production possibilities frontier.**

Economic Model 2: Production Possibility Frontier

- **The production possibility frontier reveals the opportunity cost of producing one good (measured in terms of the other good).**
  - **The production possibility frontier exhibits a curved, outward-bowed shape due to specialized factors of production.**
  - **At point E, where the economy produces more cars and fewer computers (the frontier is steep), the opportunity cost of one car is high. If the economy devotes most of its resources to car production—even those resources best suited for computer manufacturing—producing one additional car requires sacrificing a large number of computers.**
  - **At point F, where the economy produces fewer cars and more computers (the frontier is flat), the opportunity cost of one car is relatively low. If the economy allocates most resources to computer production—even those best suited for car manufacturing—producing one additional computer requires giving up many cars.**
  - **The production possibility frontier simplifies a complex economy to highlight key economic principles, such as scarcity, efficiency, trade-offs, opportunity cost, and economic growth.**

Chapter 4: Thinking Like an Economist

- Economic Thinking 1: The Economist's Way of Thinking
- Economic Thinking 2: Economists as Scientists
- **Economic Thinking 3: Economists as Policy Advisors**
- Economic Thinking 4: Why Economists Disagree

Economists as Policy Advisors

- When economists explain the high youth unemployment rate, they are acting as scientists.
- When they attempt to answer the question, "What should the government do to improve the economic well-being of young people?" they are acting as policy advisors.
- To clarify these two roles of economists, let's examine how they might express themselves differently. Below is a dialogue between the two roles regarding minimum wage laws:
  - A: Minimum wage laws lead to unemployment.
  - B: The government should raise the minimum wage.
  - Speaker A speaks like a scientist because they are describing how the world works; Speaker B speaks like a policy advisor, offering suggestions on how to improve the world.

Economists as Policy Advisors

- **When studying economics, we should keep in mind the distinction between positive statements and normative statements.**

- **A significant portion of economics is positive: it simply seeks to explain how the economy operates. However, users of economics often have normative goals: they also want to understand how to improve the economy.**

- **Economists who make normative statements are acting not as scientists, but as policy advisors.**

Chapter 4: Thinking Like an Economist

- Economic Thinking 1: The Economist's Way of Thinking
- Economic Thinking 2: Economists as Scientists
- Economic Thinking 3: Economists as Policy Advisors
- **Economic Thinking 4: Why Economists Disagree**

Why Economists Disagree

- George Bernard Shaw once quipped, "If all economists were laid end to end, they would not reach a conclusion." Former U.S. President Ronald Reagan also remarked, "If you ask 100 economists a question, you'll get 3,000 different answers."

- Why do economists often provide conflicting advice to policymakers?

- There are two fundamental reasons:
  - First, different economists hold different understandings of how the world operates.
  - Second, they possess different values, leading to disagreements about what economic policies ought to achieve.

Differences in Scientific Judgments

- **Economists have different views since they differ in their judgment on the economic theory presented or differ in their views of the important variables.**
  - **For example, the government may try to impose tax in an attempt to induce people to save money in deposits.**
  - **Some economists may suggest that imposing tax based on the income level of each household is what should be done, while others insist taxation should be based on the level of consumption.**
  - **Levying tax on consumption rather than on income would lead more people to save as no tax would be levied on the savings. An increase in savings would quickly lead to a growth in productivity and living standards.**
  - **But the economists who espouse the former approach would insist that tax based on consumption rather than income would not lead to that much increase in savings. This case represents the differences in their views on saving's responsiveness to tax incentives, so they differ on which tax system would be better.**

Perception vs. Reality

- **Due to differences in scientific judgments and values, disagreements among economists are inevitable. However, we should not overstate the extent of these disagreements.**
  - **For example, most economists oppose rent ceilings and trade barriers. Yet, despite such widespread opposition, rent controls and trade restrictions remain in place.**
  - **Most economists agree that imposing rent ceilings reduces both the quantity and quality of available rental housing. While the intent of such regulations is to protect economically vulnerable groups, the costs are significant. Despite economists' general opposition, policymakers in many cities continue to enforce rent ceilings.**
  - **Similarly, most economists concur that tariffs and import quotas reduce overall economic welfare. Nevertheless, governments in many countries still implement policies that restrict the import of certain goods and services.**

Perception vs. Reality

- **Since experts generally oppose policies such as rent control and trade barriers, why do these policies continue to persist?**
  - **This may be due to the realities of the political process, or because economists have not yet convinced enough of the public that these policies are undesirable.**

- **One of the aims of this book is to help you understand economists' perspectives on these topics. In Chapter 5, we will examine some of the viewpoints that enjoy widespread agreement among economists.**

Quick Quiz

1. An economic model is

a. a mechanical model that replicates the functions of a national economy

b. a detailed and precise description of the real economy

c. a simplified version of reality

d. a computer program designed to predict economic outcomes

Quick Quiz

2. In the market for factors of production in the circular flow diagram:

a. Households are sellers and firms are buyers

b. Households are buyers and firms are sellers

c. Both firms and households are buyers

d. Both firms and households are sellers

Quick Quiz

3. Points inside the production possibilities frontier represent:

a. An efficient but unattainable outcome

b. An attainable but inefficient outcome

c. An efficient and attainable outcome

d. An inefficient and unattainable outcome

Quick Quiz

4. Suppose an economy produces only hot dogs and hamburgers. If research shows that hot dogs are very beneficial to health, affecting consumer preferences, then:

a. The production possibilities frontier will shift outward

b. The production possibilities frontier will shift inward

c. The economy will move along the production possibilities frontier

d. The economy will move inside the production possibilities frontier

Quick Quiz

5. Which of the following is not a topic in microeconomics?

a. The impact of cigarette taxes on teenage smoking

b. Microsoft's influence on software pricing

c. Analysis of the poverty reduction effects of the welfare system

d. The impact of government deficits on economic growth

Quick Quiz

6. Which of the following is a positive statement?

a. This policy will reduce national income

b. This is a good policy

c. Congress should pass this policy

d. The President should veto this policy

Quick Quiz

7. Are the following topics microeconomics or macroeconomics?

(1) A household's decision on how much income to save

(2) The impact of government regulations on automobile emissions

(3) The effect of high national savings on economic growth

(4) A firm's decision on how many workers to hire

(5) The relationship between the inflation rate and changes in the money supply

Quick Quiz

8. Are the following statements positive or normative?

(1) Society faces a short-run trade-off between unemployment and inflation

(2) Reducing the money growth rate reduces the inflation rate

(3) The central bank should reduce the money growth rate

(4) Welfare recipients should be required to look for work

(5) Lower tax rates encourage more work and saving

Quick Quiz

9. For each activity below, identify the corresponding market and economic agents in the circular flow diagram:

(1) A spends $1 to buy milk

(2) B works at a restaurant and earns $4.50 per hour

(3) C spends $30 on a haircut

(4) D earns $10,000 from his 10% ownership stake in Company E

Quick Quiz

10. Imagine an economy that produces weapons (cannons) and consumer goods (butter). Use the concept of opportunity cost to explain why the production possibilities frontier is bowed outward.