PART 2

How Markets Function

PRINCIPLES OF

Microeconomics

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Chapter 9: Consumers, Producers, and Market Efficiency

Chapter 9: Consumers, Producers, and Market Efficiency

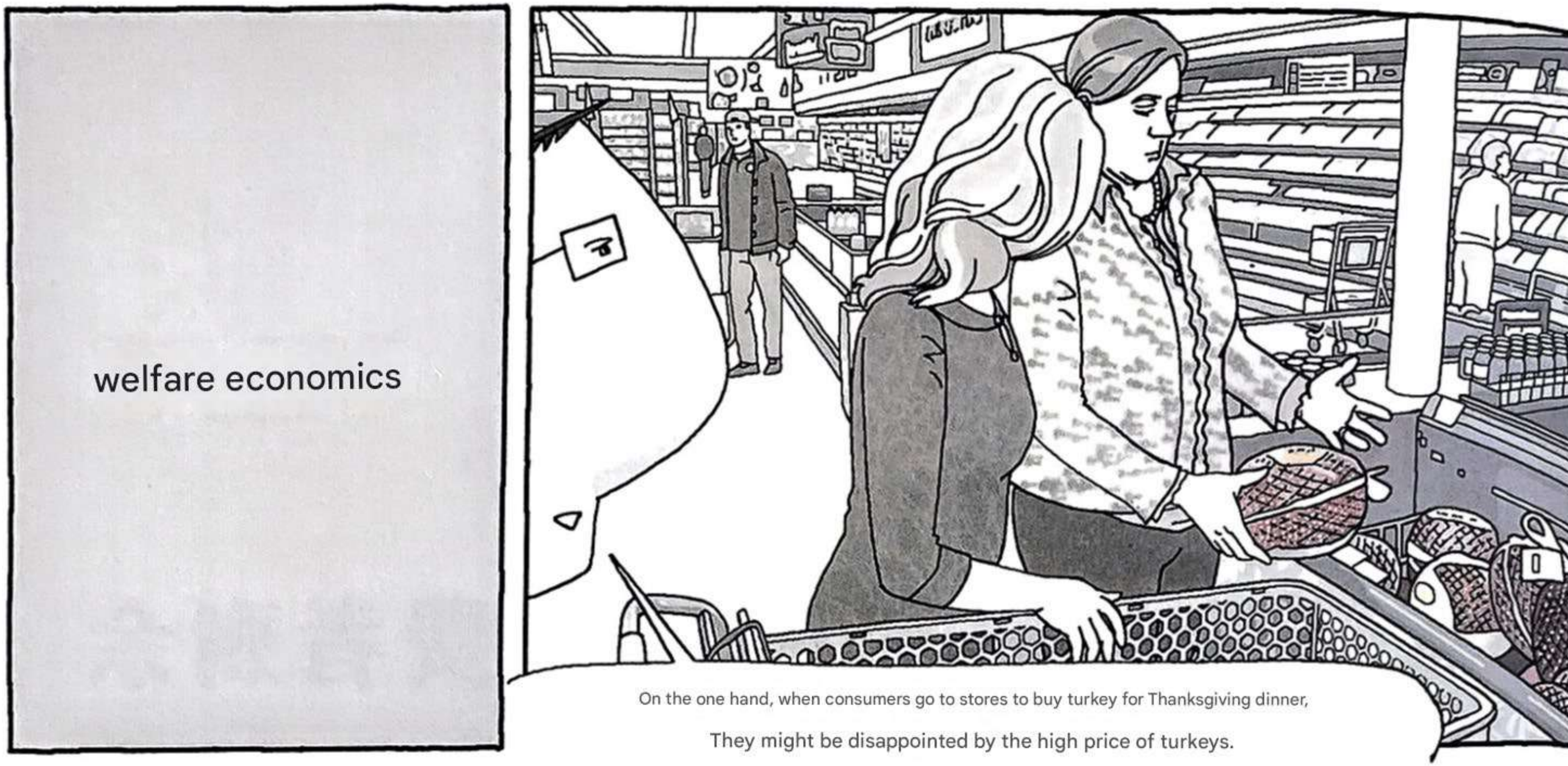
- **In this chapter, we will examine and analyze the fundamental tools of welfare economics and assess the efficiency of free markets using consumer surplus and producer surplus.**

- **Furthermore, we will see that when supply and demand forces efficiently allocate resources, even if each buyer and seller in the market is only concerned with their own welfare, they will collectively be guided by an invisible hand to an equilibrium level that maximizes the total benefit of both buyers and sellers.**

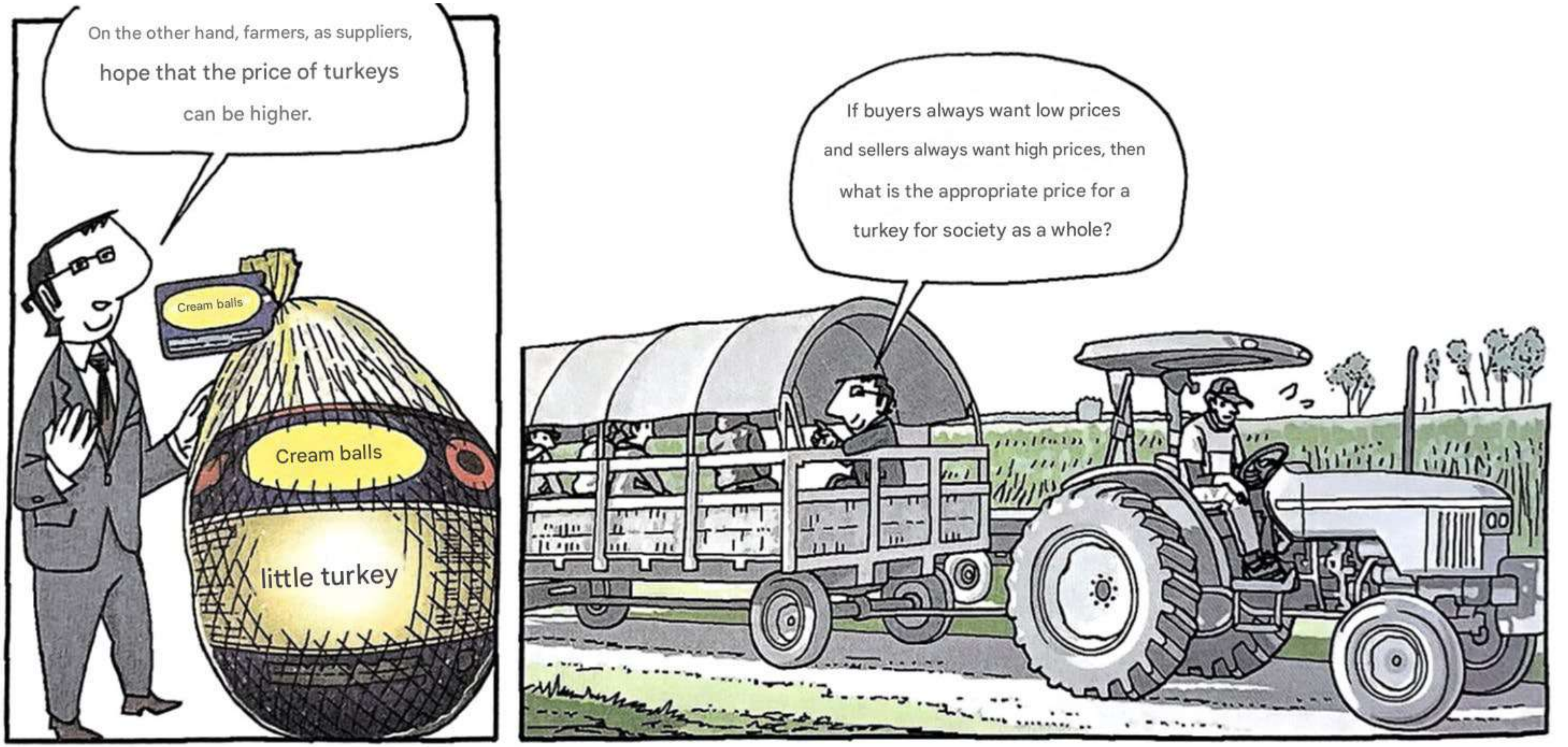
Chapter 9: Consumers, Producers, and Market Efficiency

- **Consumer surplus**
- **Producer surplus**
- **Market efficiency**

Welfare Economics

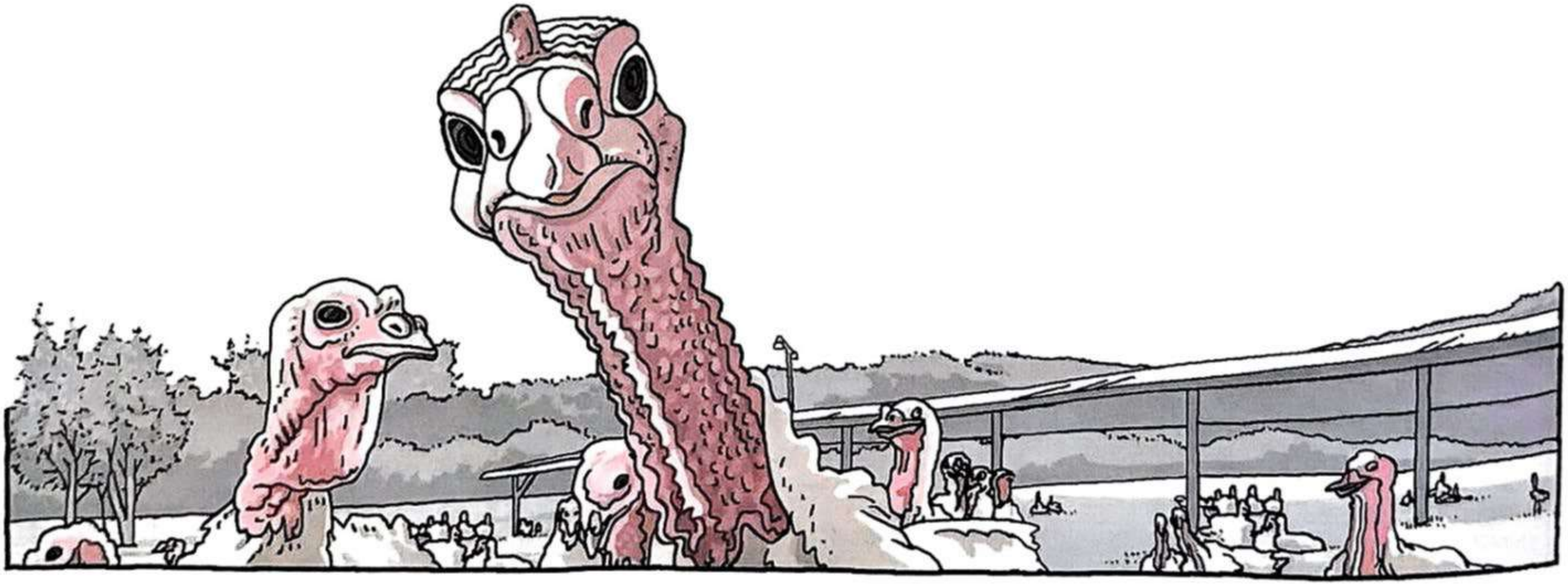


Welfare Economics

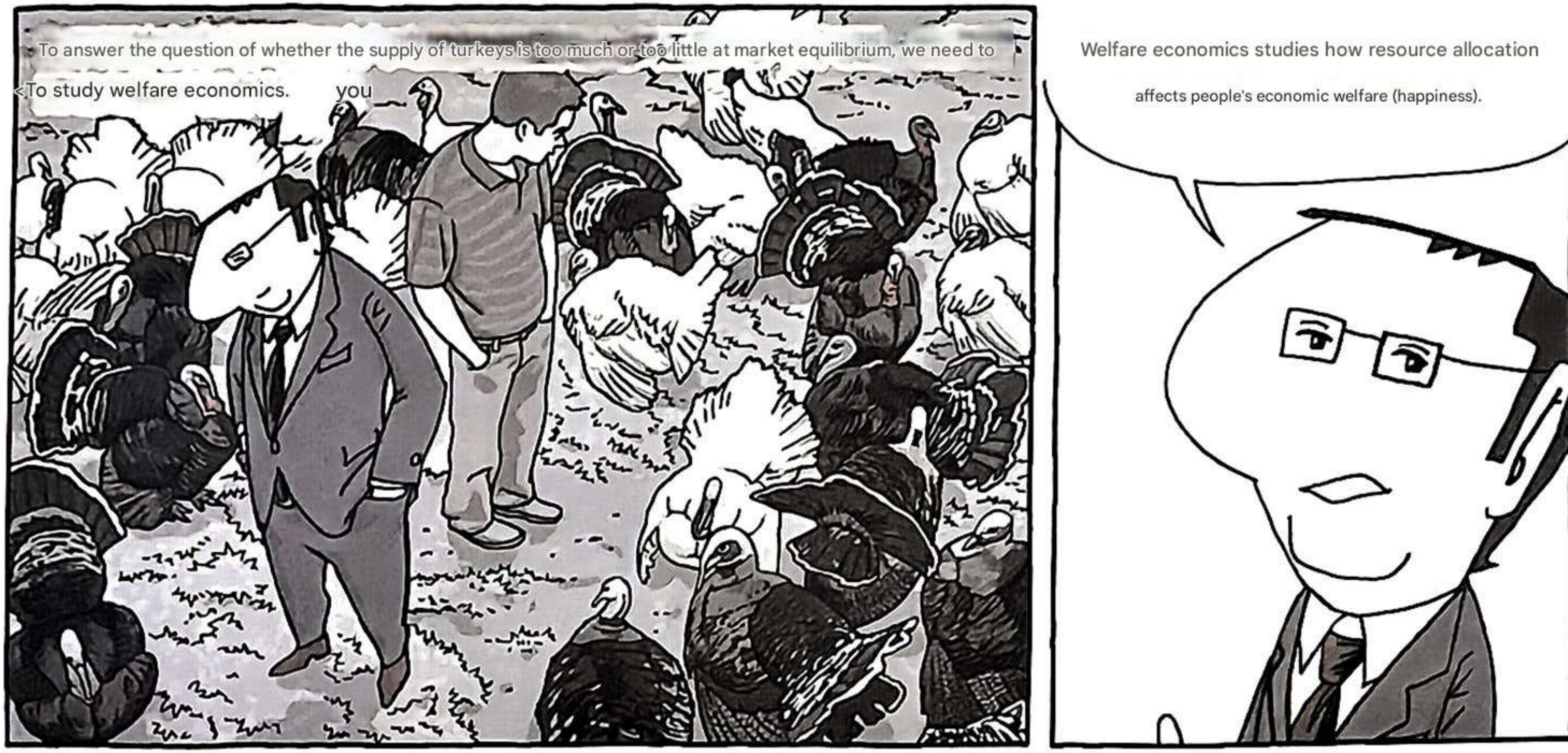


Welfare Economics

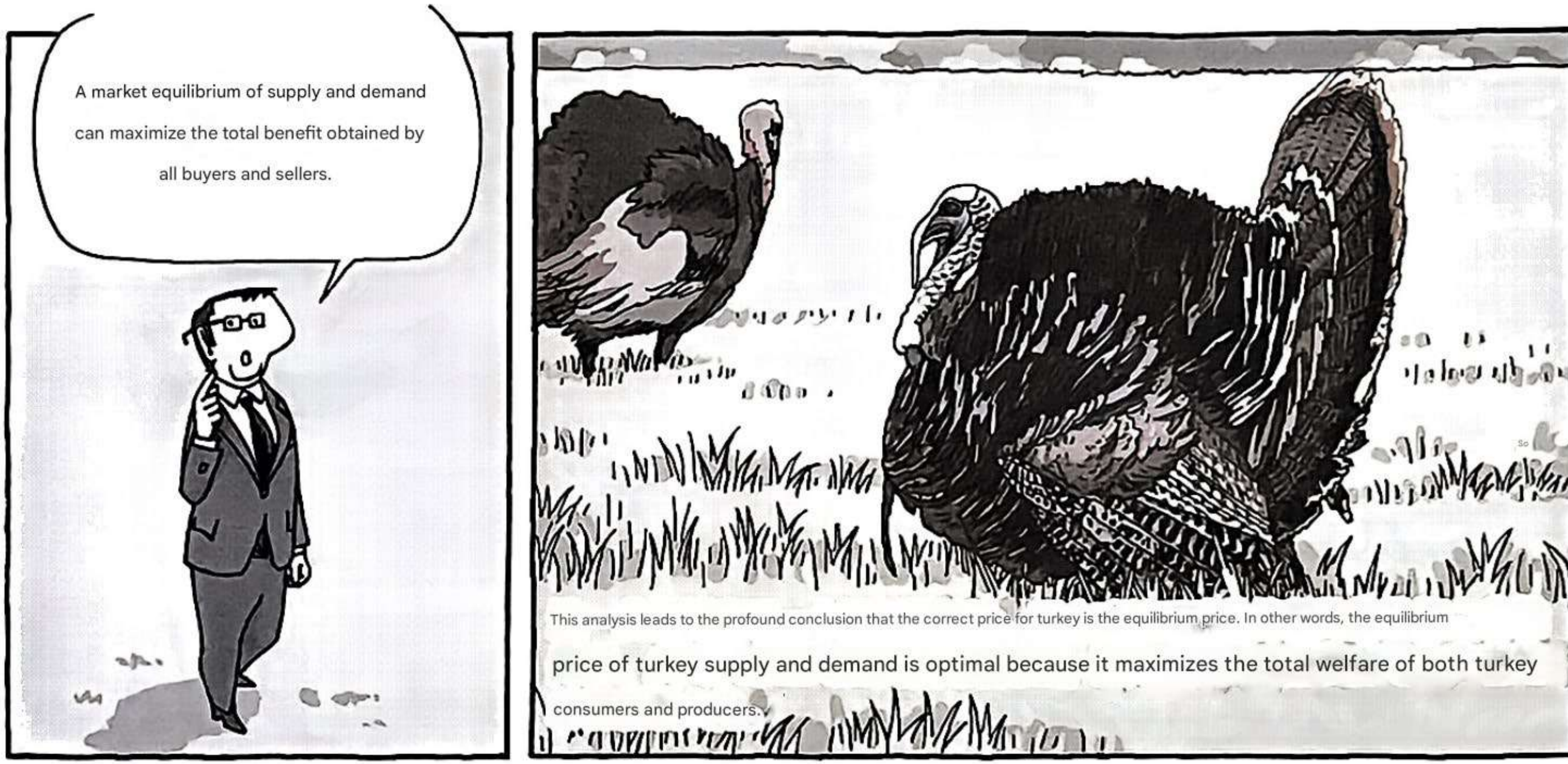
In the preceding text, we saw how supply and demand forces determine the prices and sales volumes of goods and services in a market economy. However, we did not explain whether these market configurations are desirable.



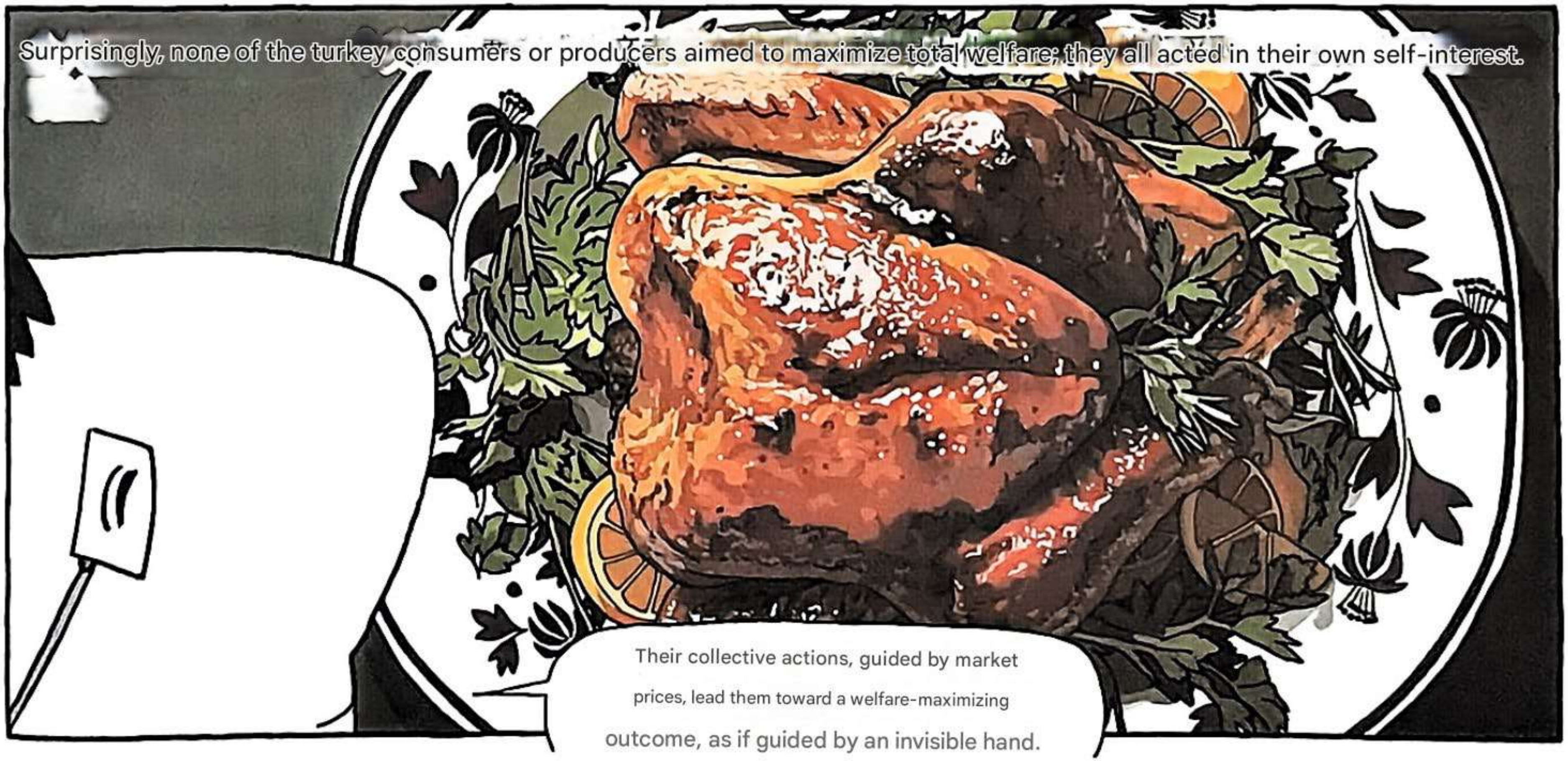
Welfare Economics



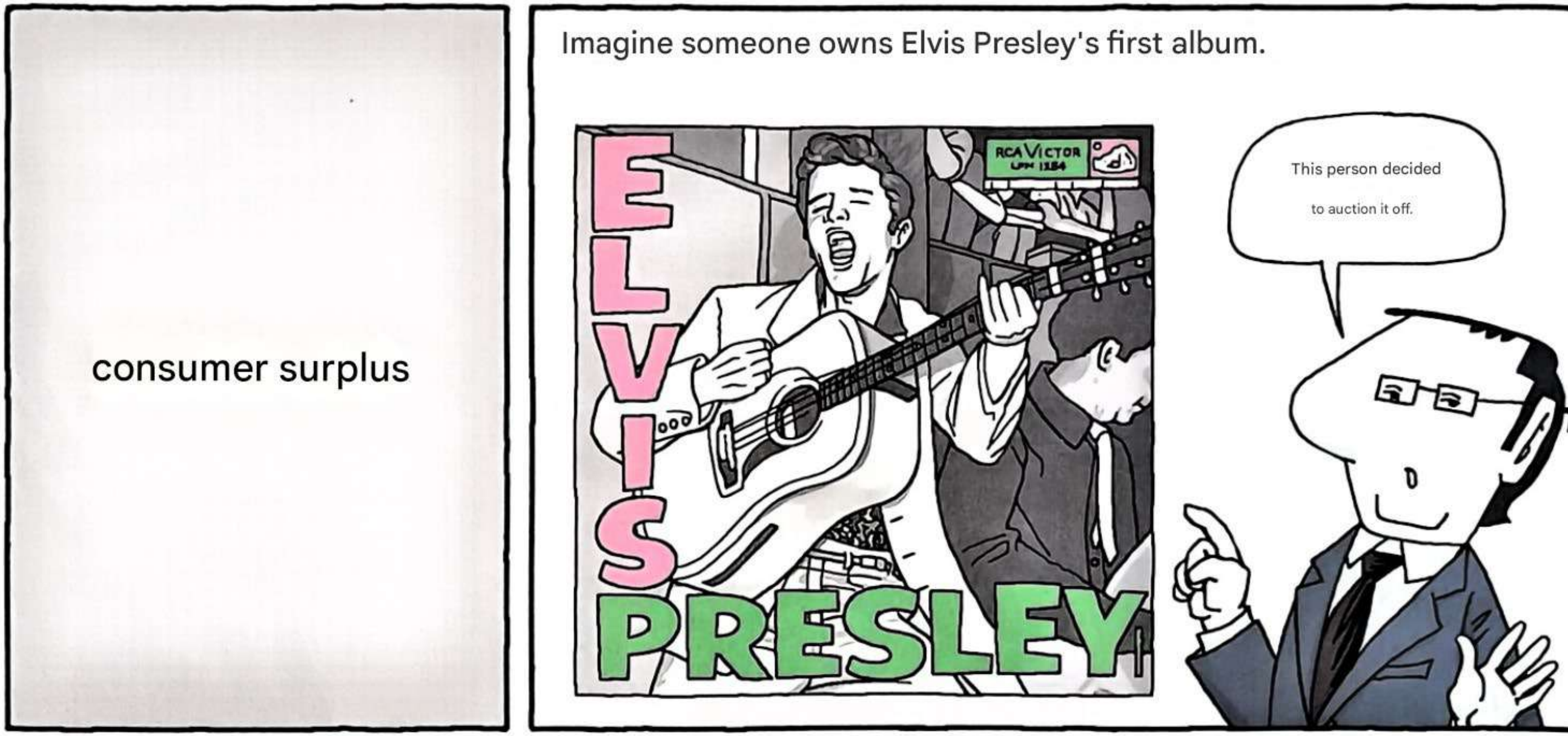
Welfare Economics



Welfare Economics

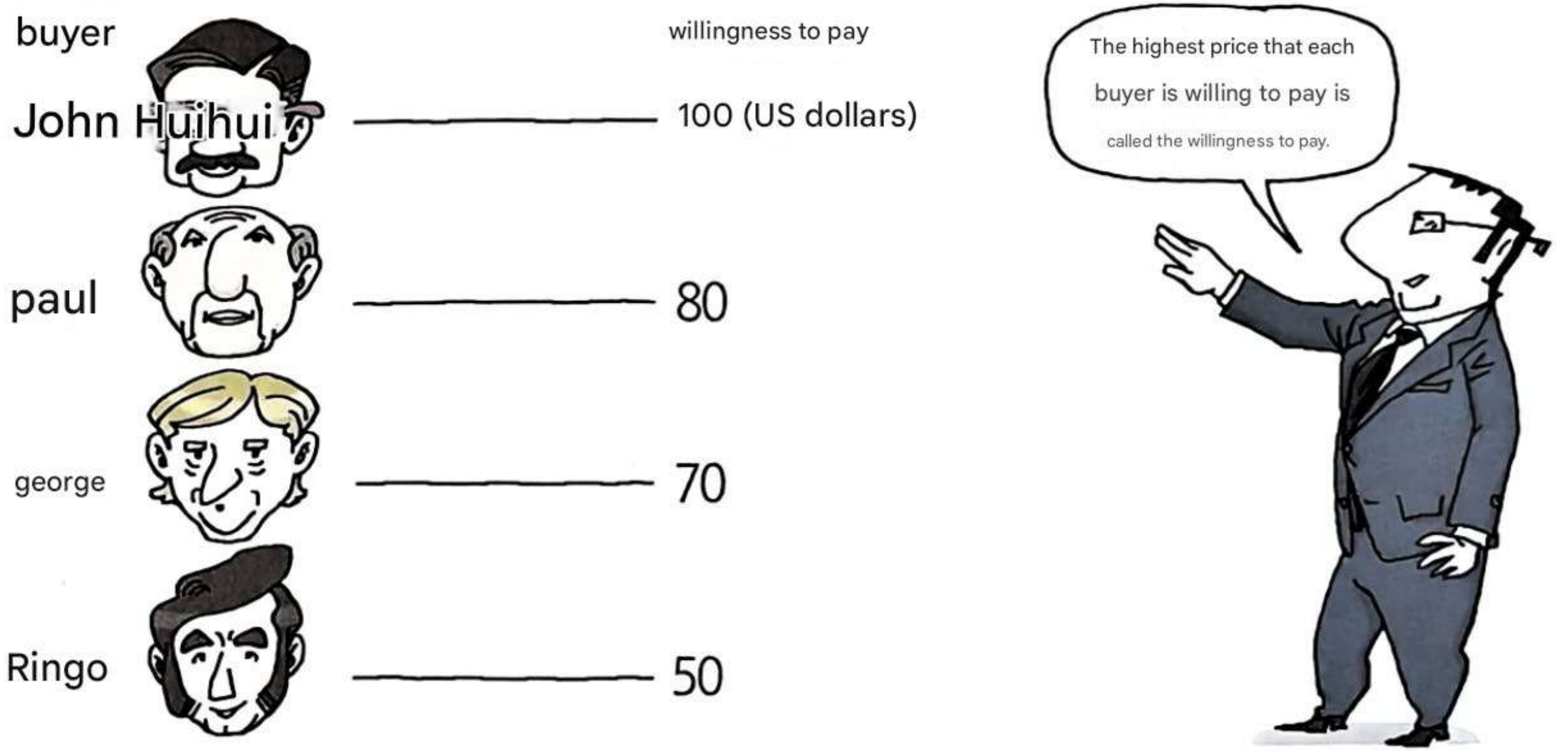


Consumer surplus

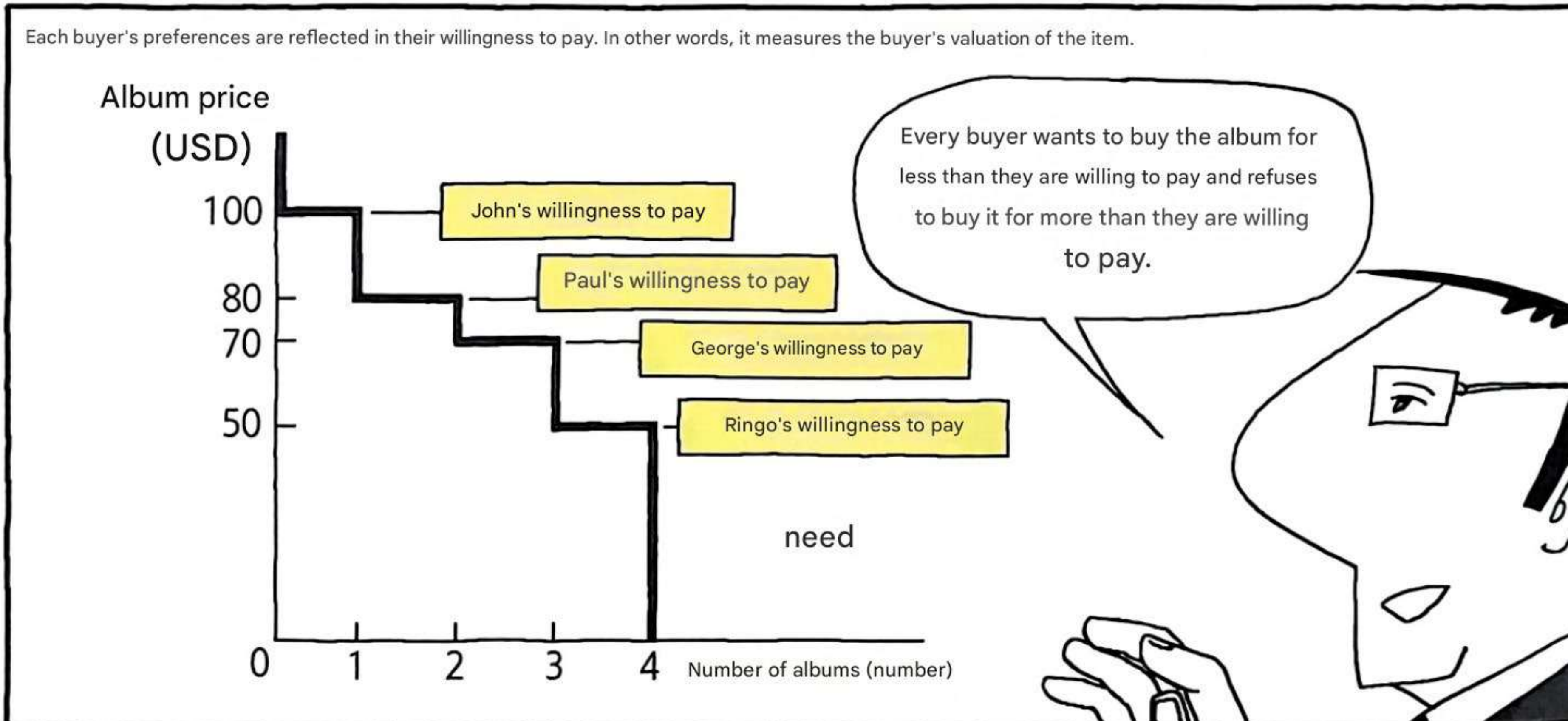


Consumer surplus

Four Elvis fans, John, Paul, George, and Ringo, attended the auction. Each of them wanted to win the album, but each was willing to pay a limited amount.



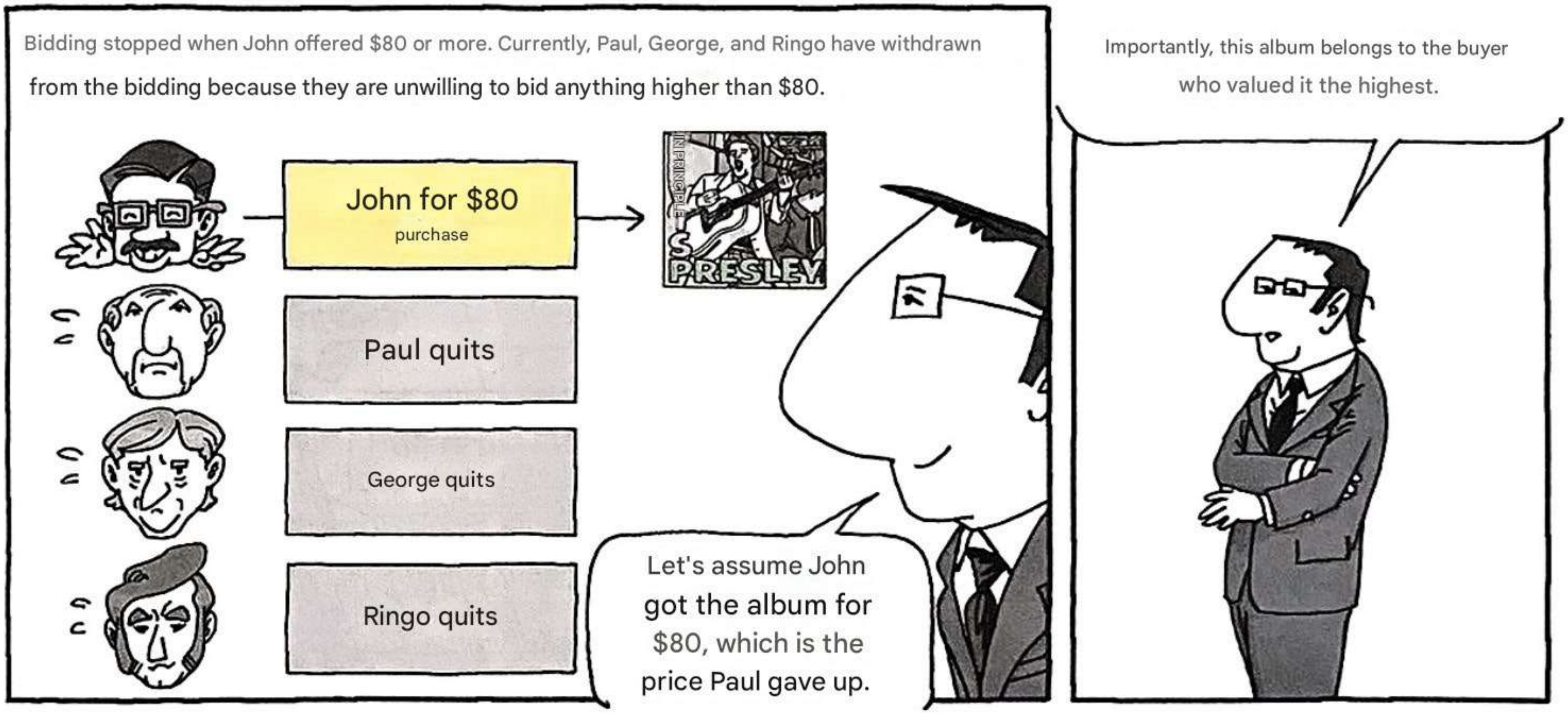
Consumer surplus



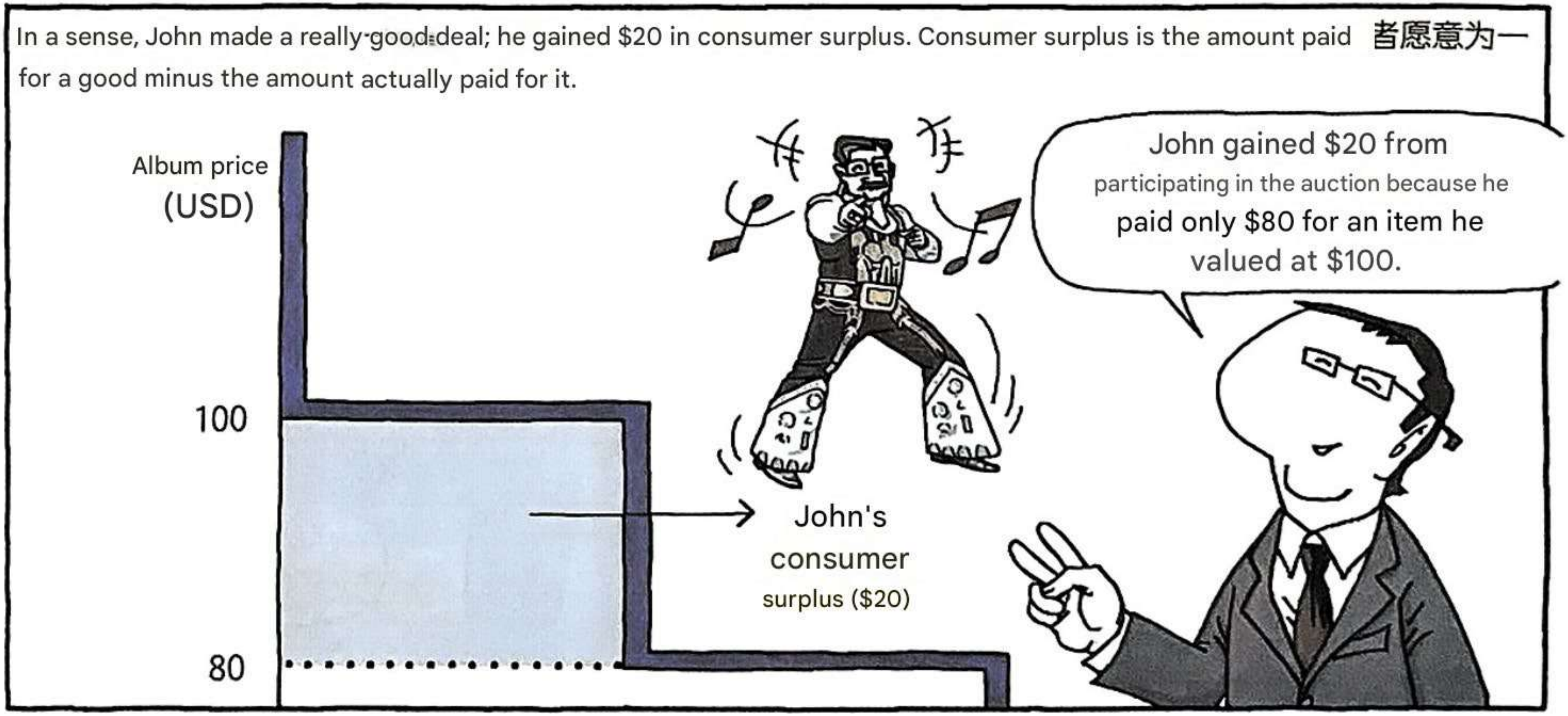
Consumer surplus

The owner started asking for $10, which was less than the willingness of four buyers to pay, and the price quickly rose.

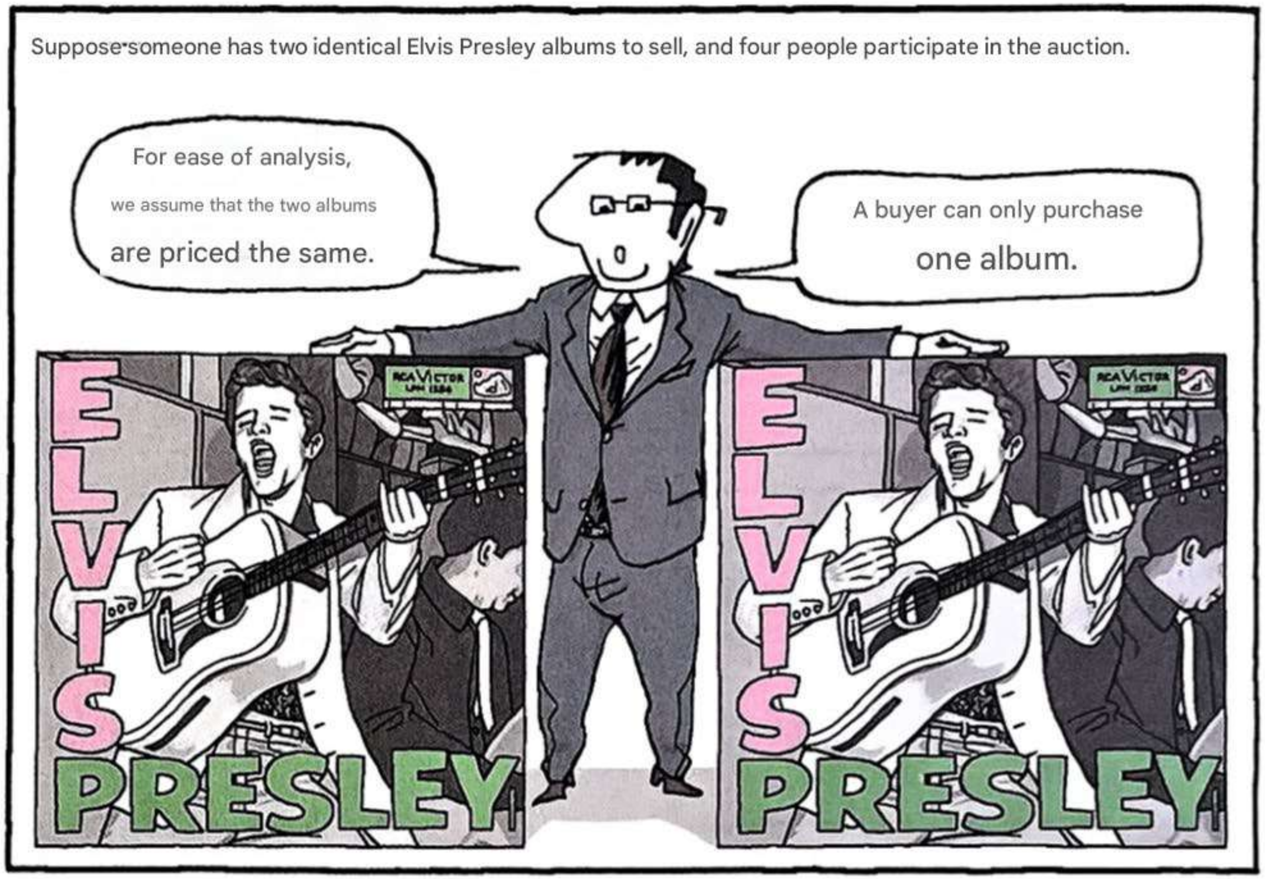
Consumer surplus



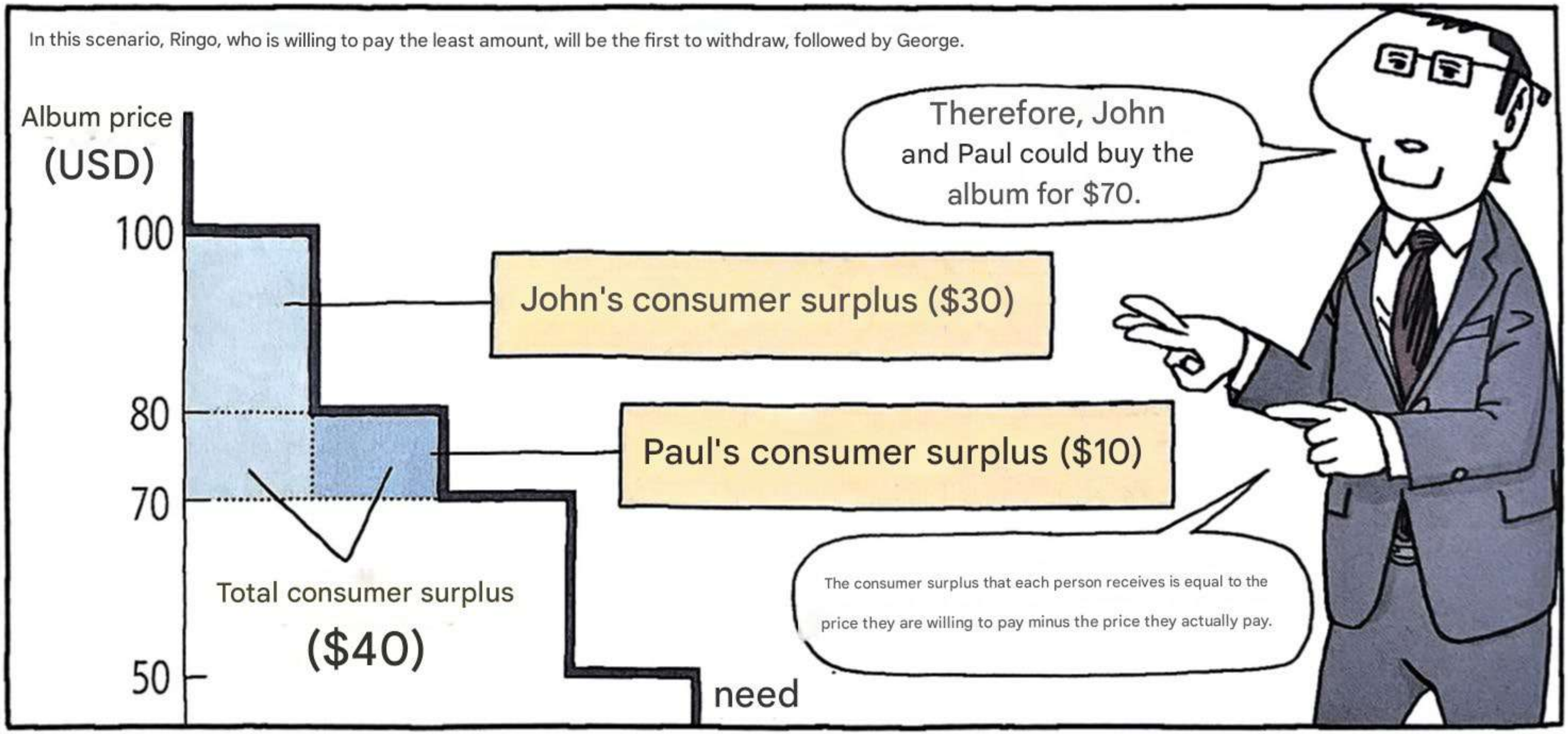
Consumer surplus



Consumer surplus



Consumer surplus

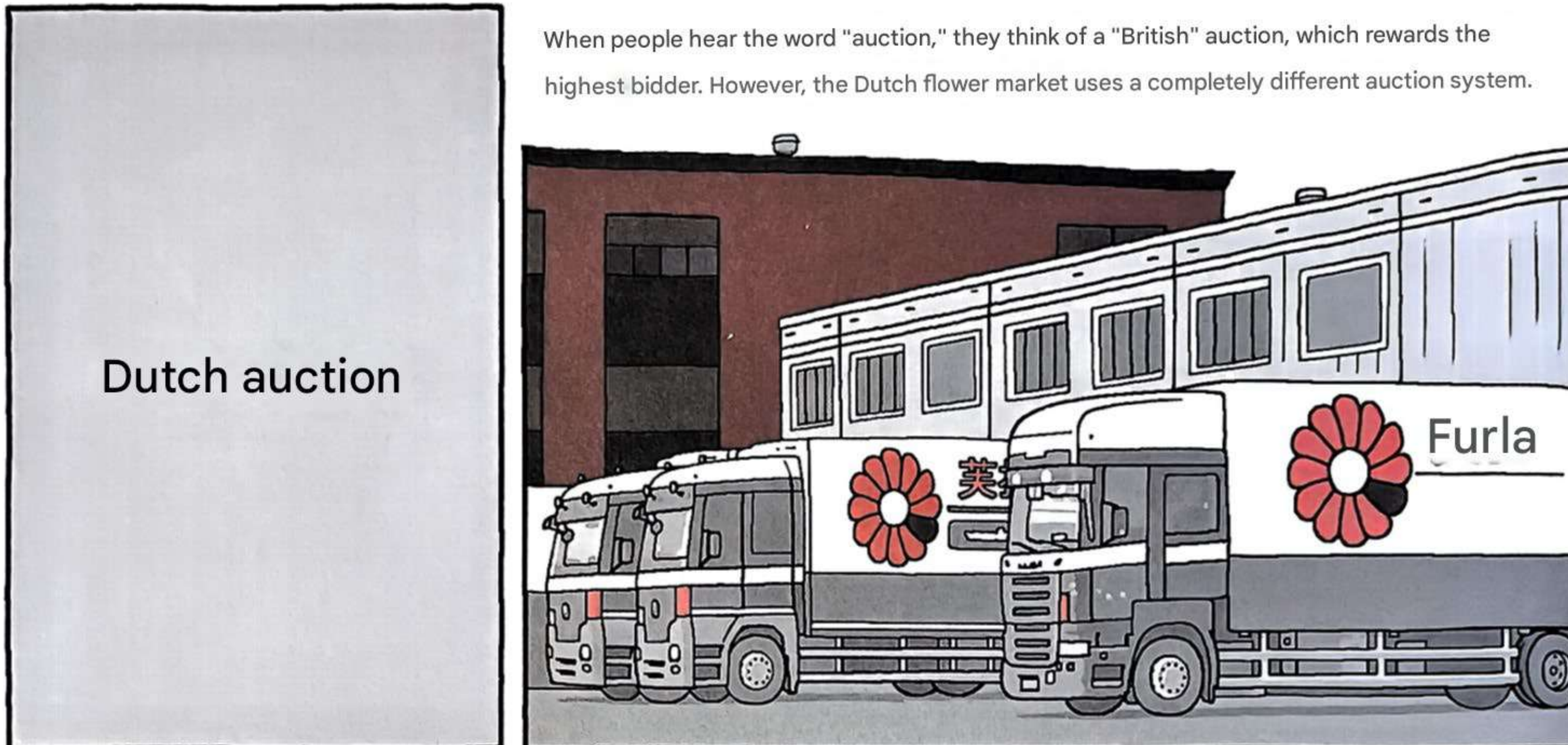


Consumer surplus

Consumer surplus

Consumer surplus

Dutch auction



Dutch auction

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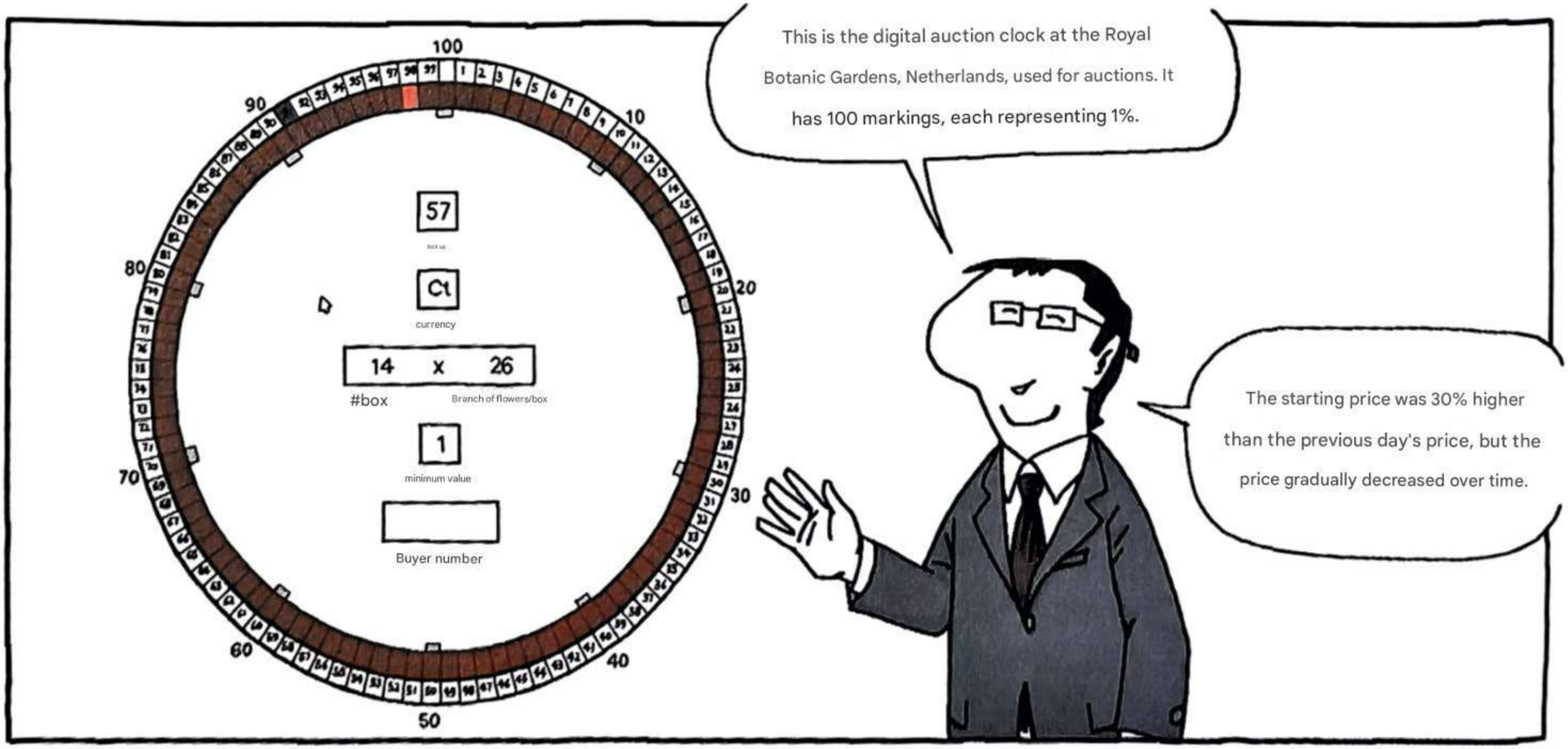
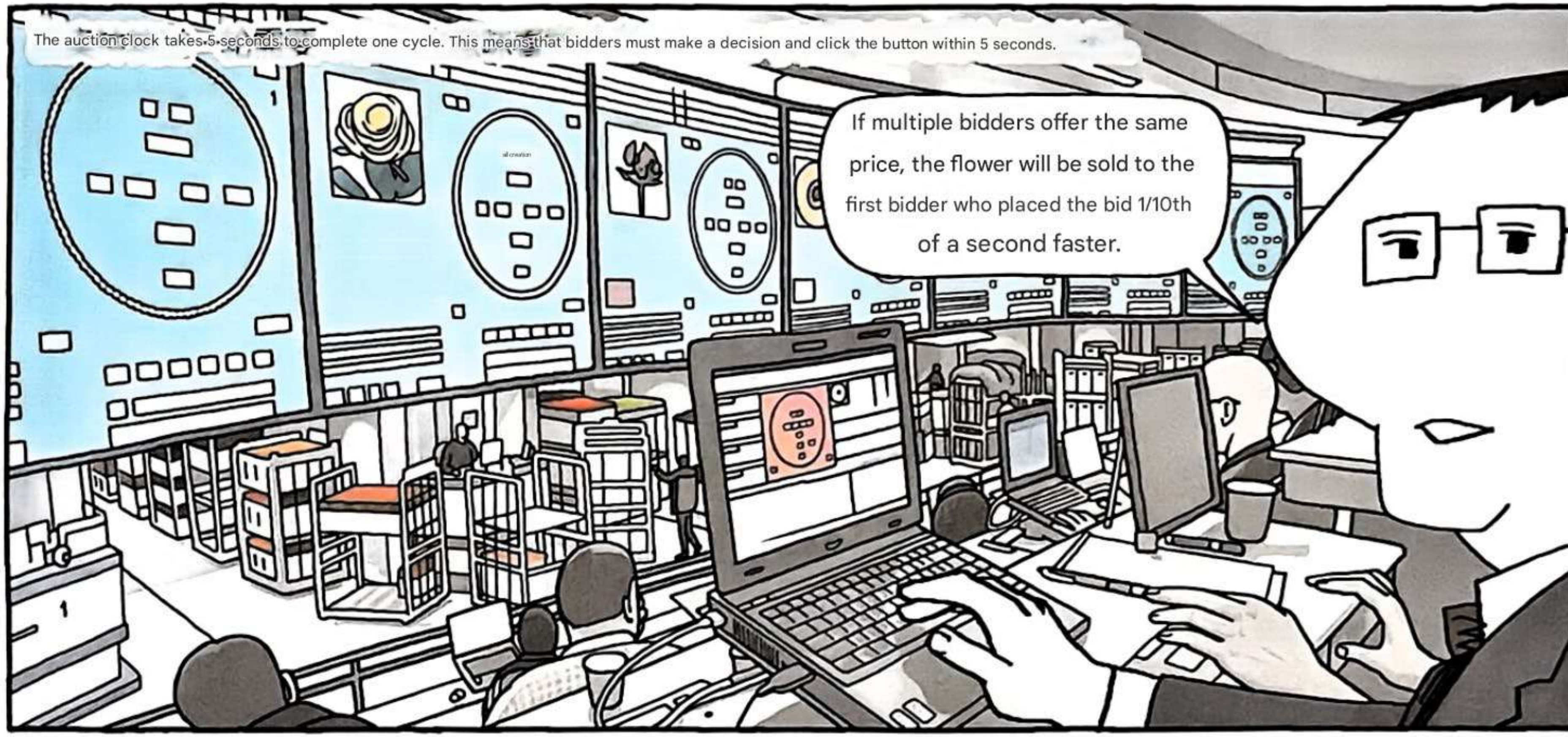
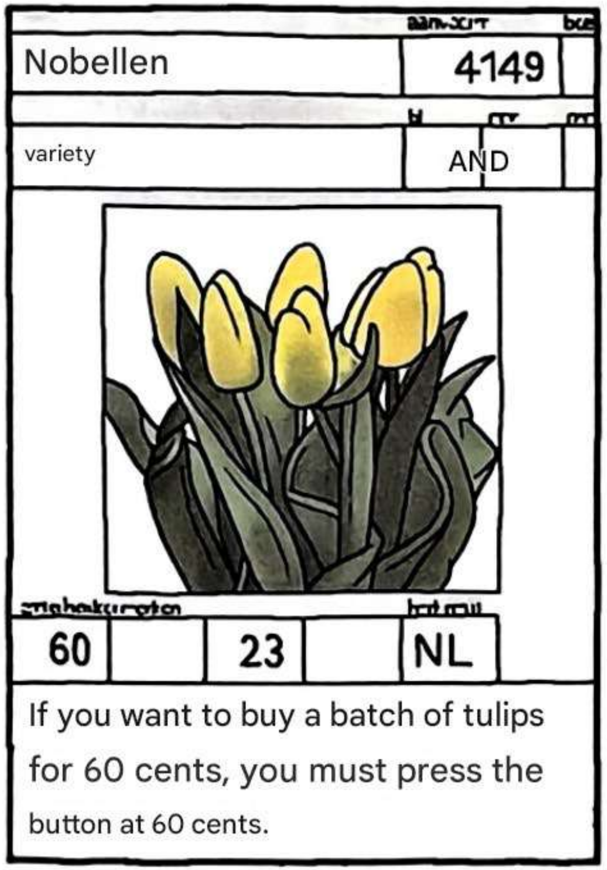
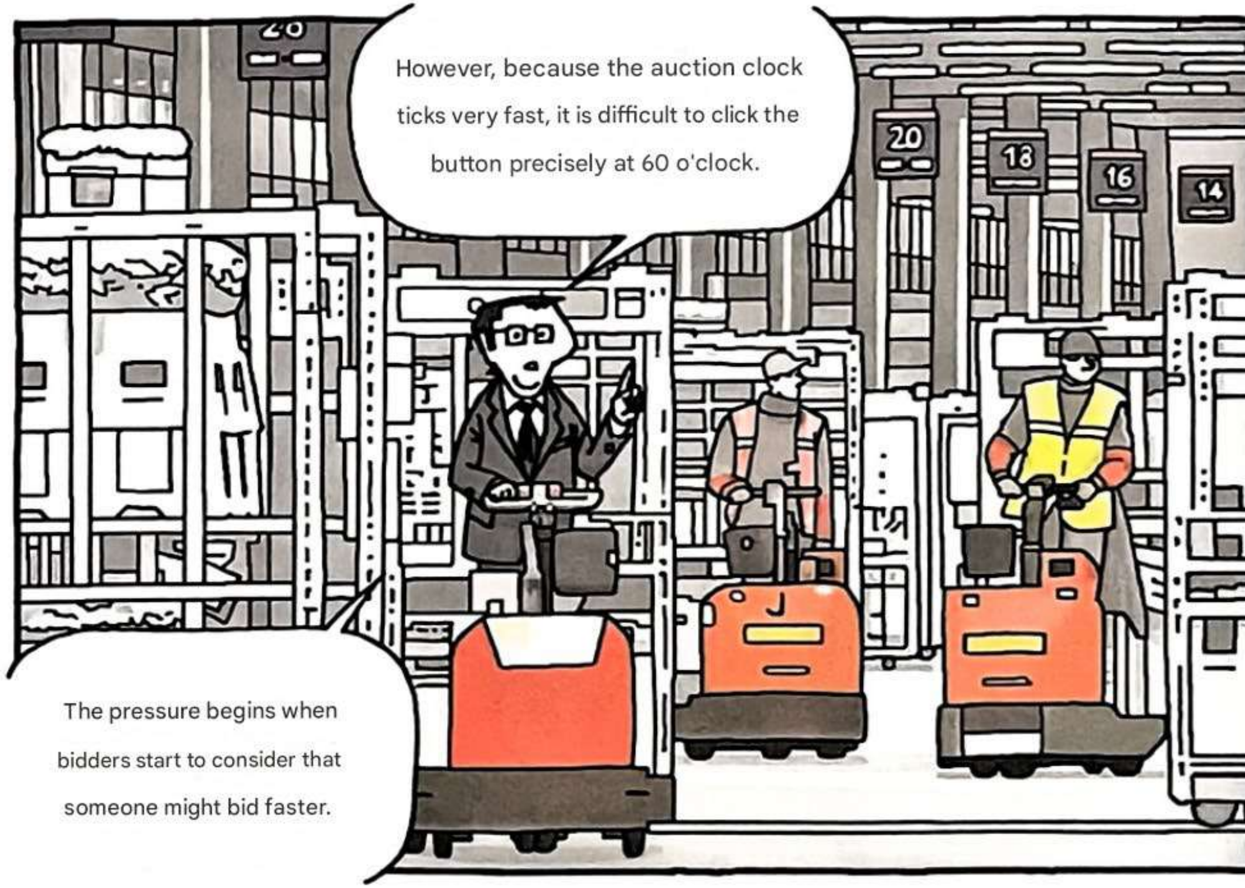


Dutch auction



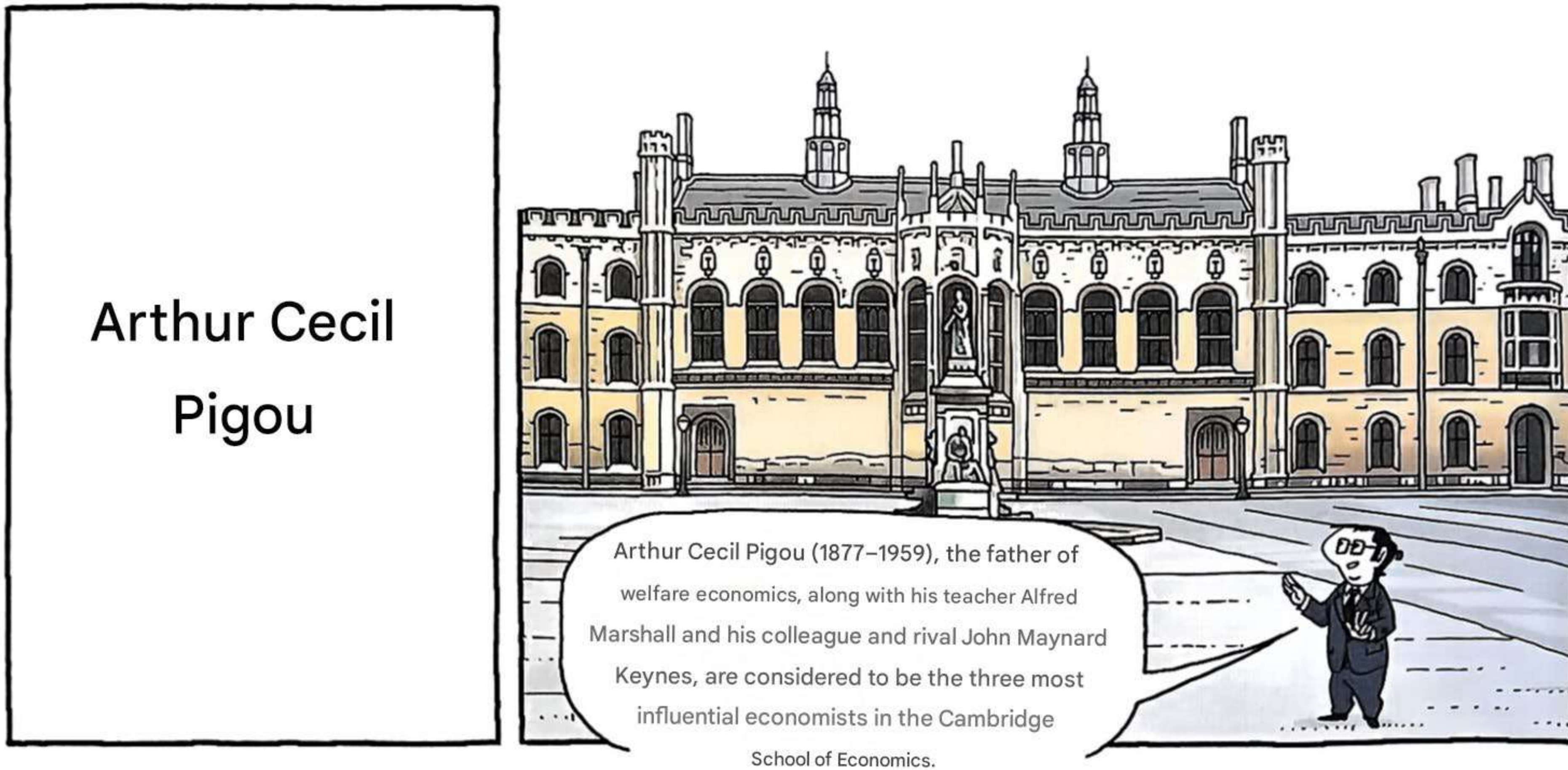
Dutch auction





Dutch auction

Arthur Cecil Pigou



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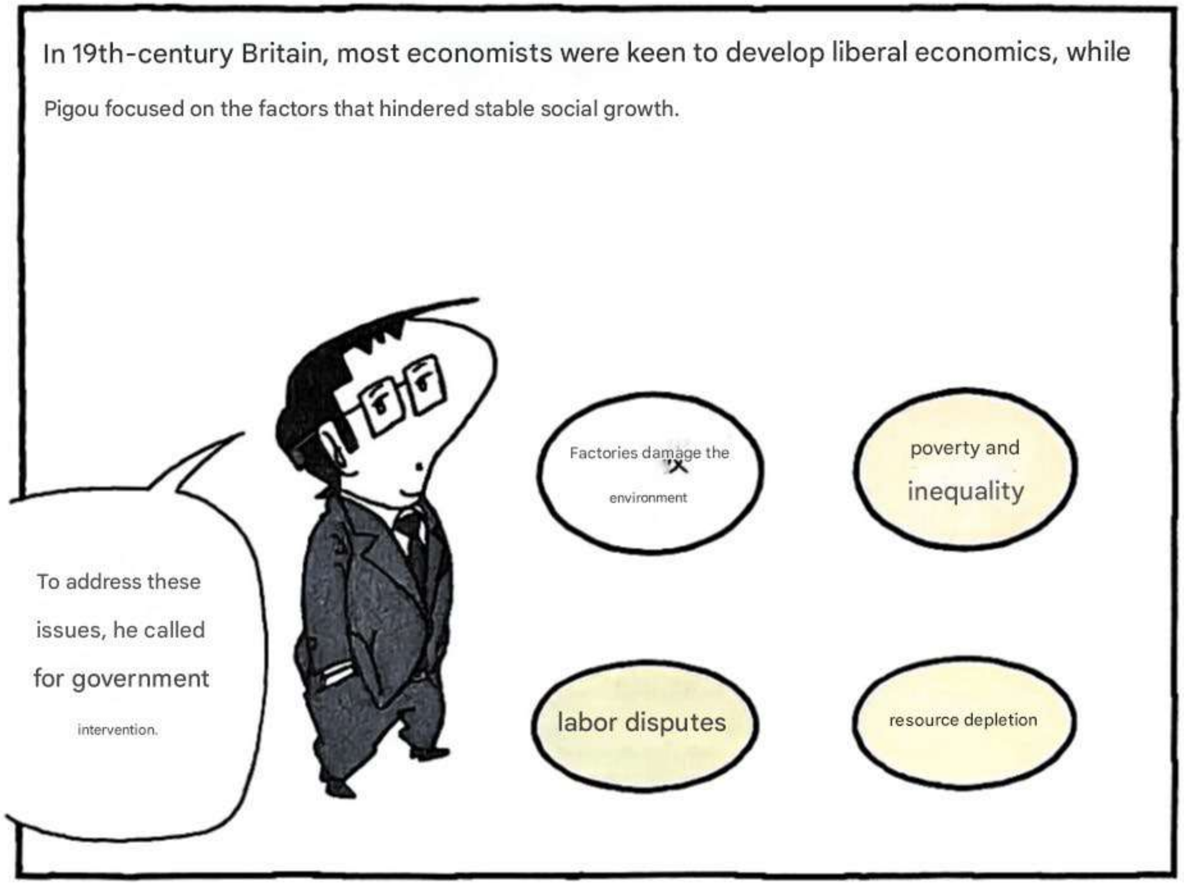

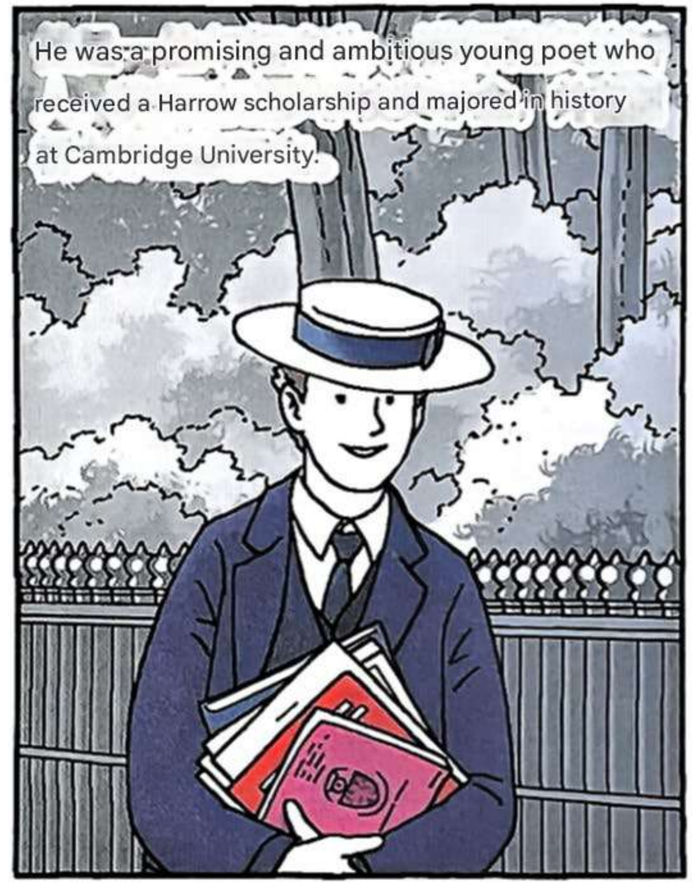

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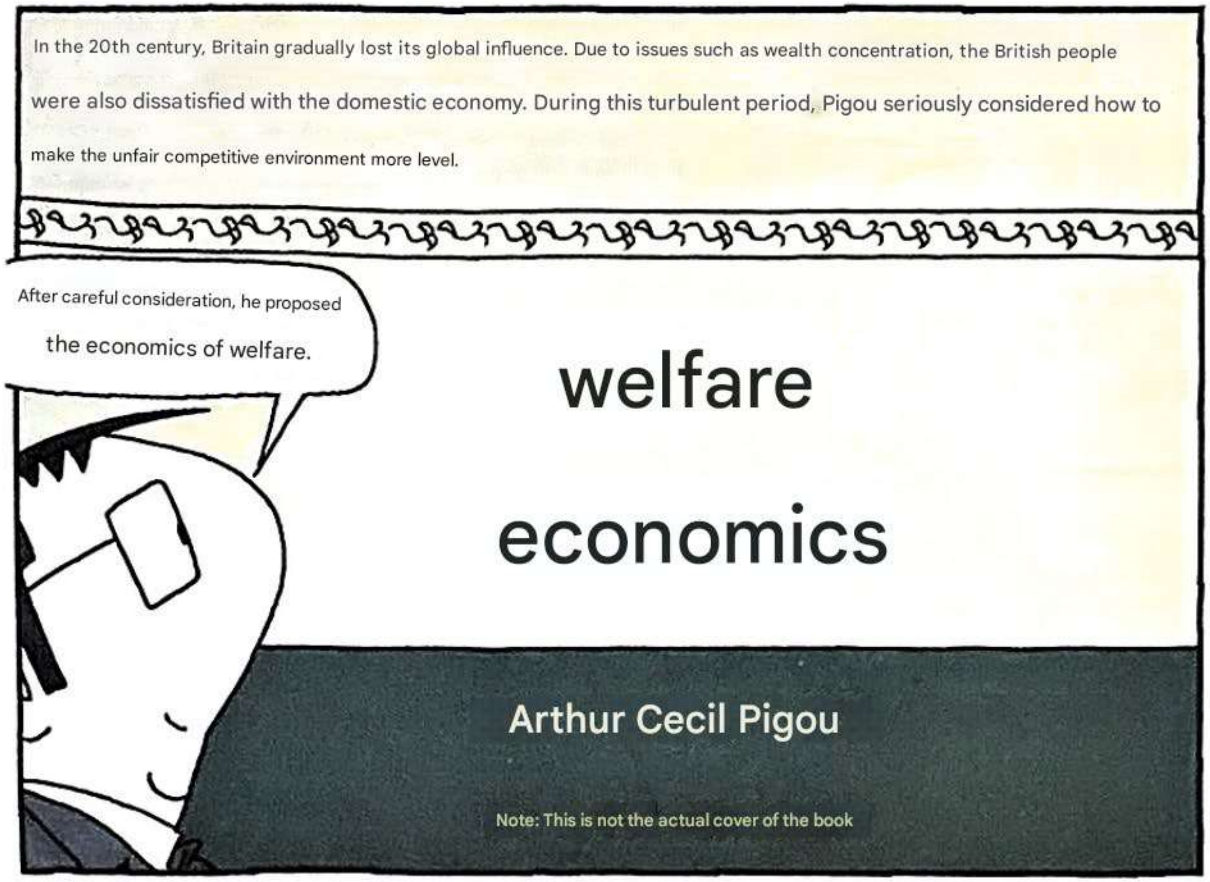

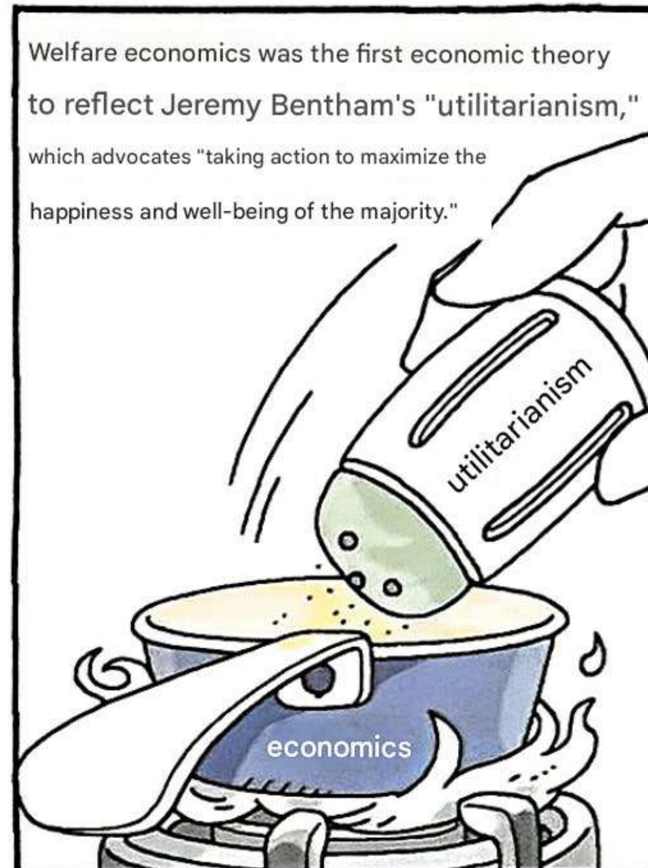

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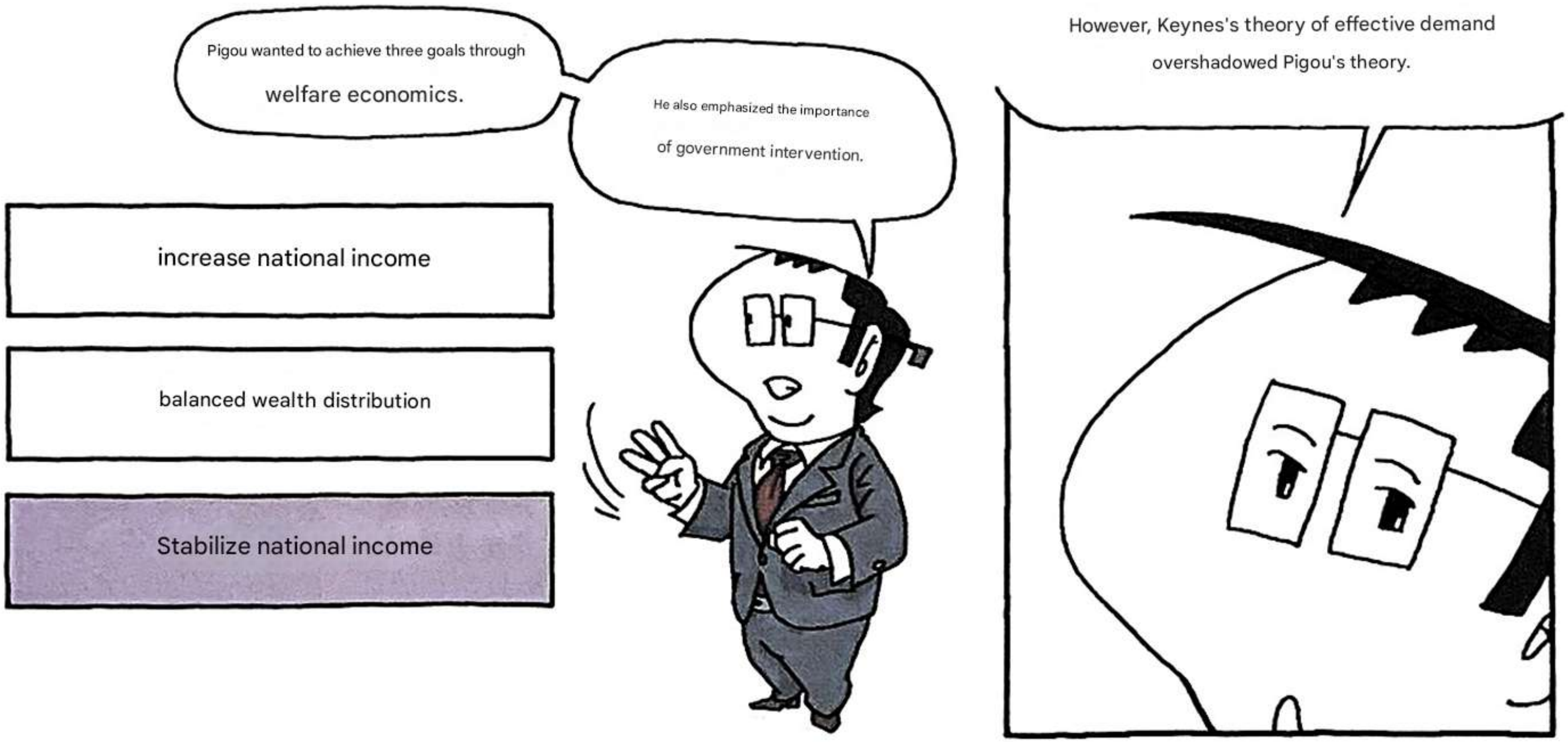

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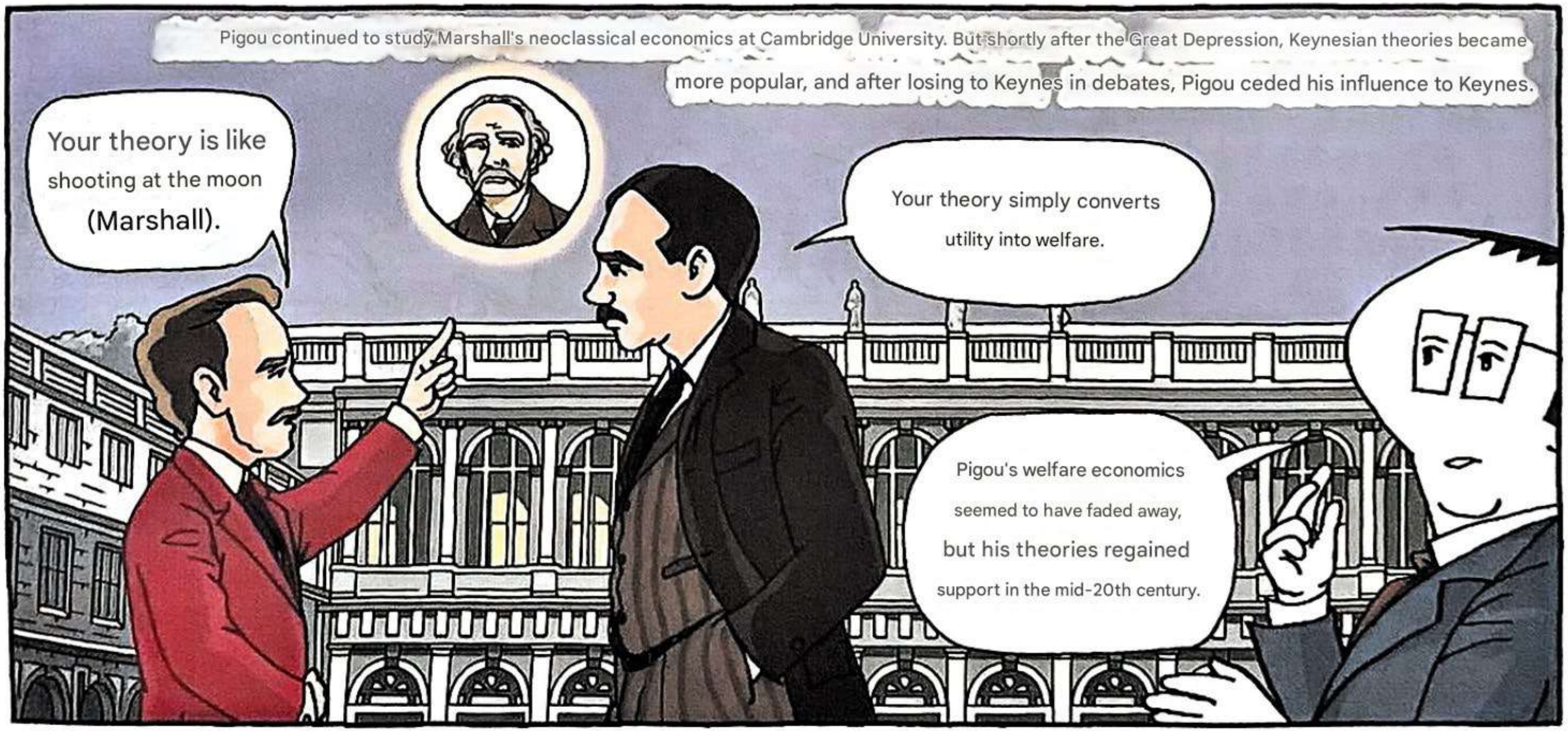

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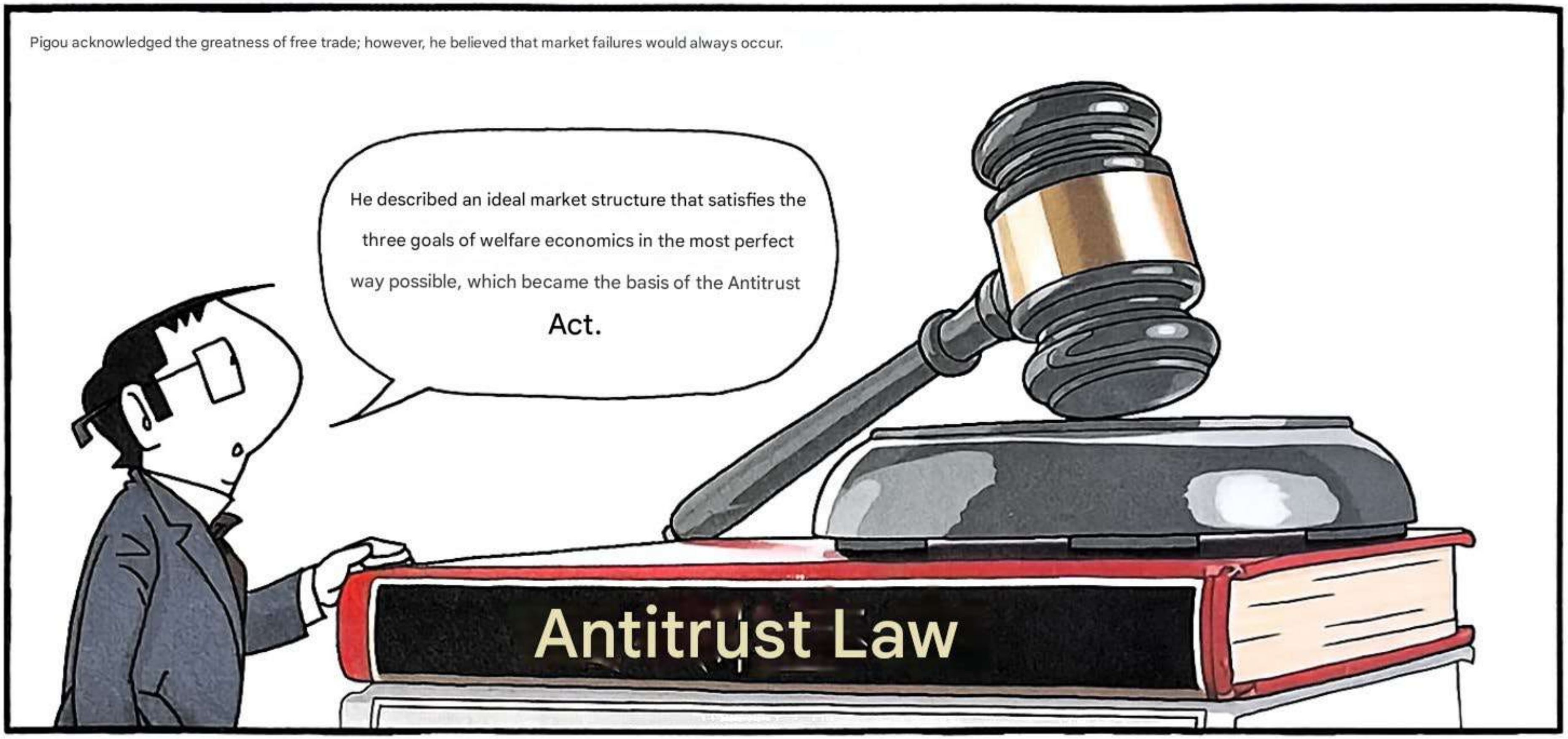

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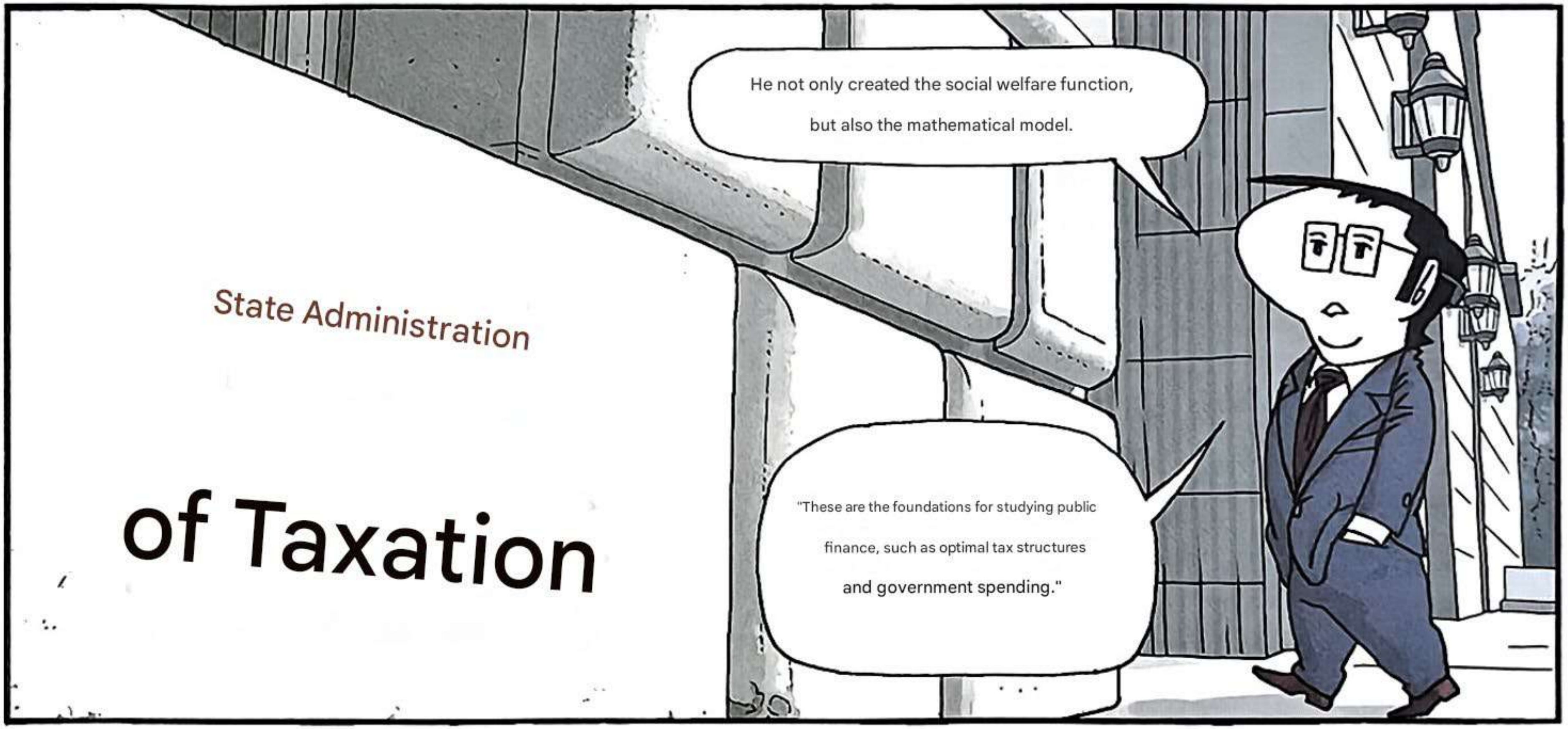

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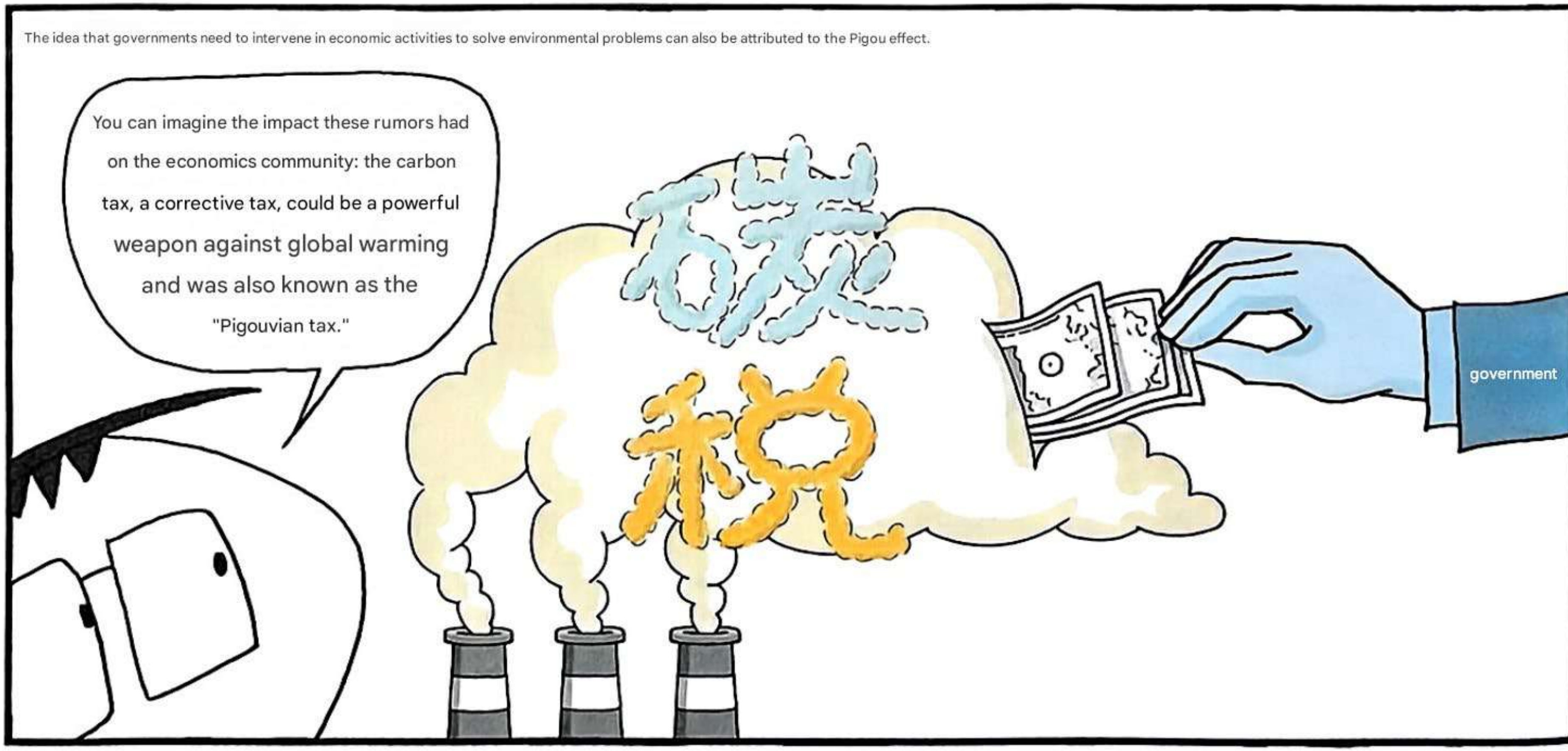


SUMMARY

- Welfare economics is the study of how resource allocation affects economic welfare.
- First, let's examine the benefits that buyers and sellers derive from participating in market transactions. The maximum benefit each buyer derives is called their willingness to pay, which measures how much they value a good. Buyers want to buy a product at a price lower than their willingness to pay, and they refuse to buy it at a price higher than their willingness to pay.

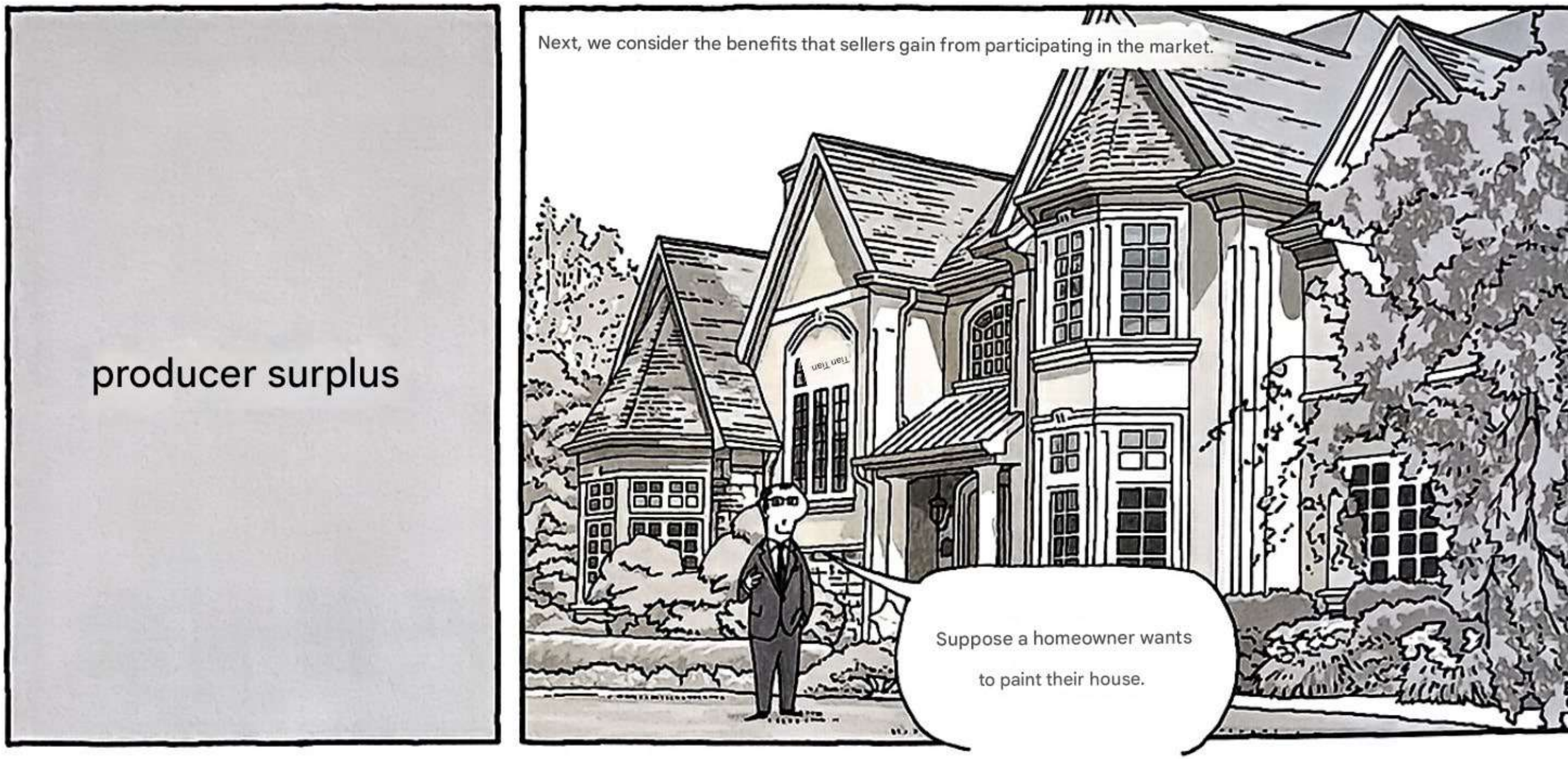
SUMMARY

- Consumer surplus is the amount each buyer is willing to pay for a good minus the amount they actually pay for it; it measures the benefit buyers derive from participating in the market.
  - The area under the demand curve and above the price can measure consumer surplus in a market because the height of the demand curve measures a buyer's valuation of the good, i.e., their willingness to pay for it.
- Since buyers always want to pay less for what they buy, lower prices improve their situation.
- This increase in consumer surplus when prices fall consists of two parts:
  - First, the increase in consumer surplus from existing buyers;
  - and second, the increase in consumer surplus resulting from the entry of new buyers into the market, whose willingness to pay generates incremental demand.

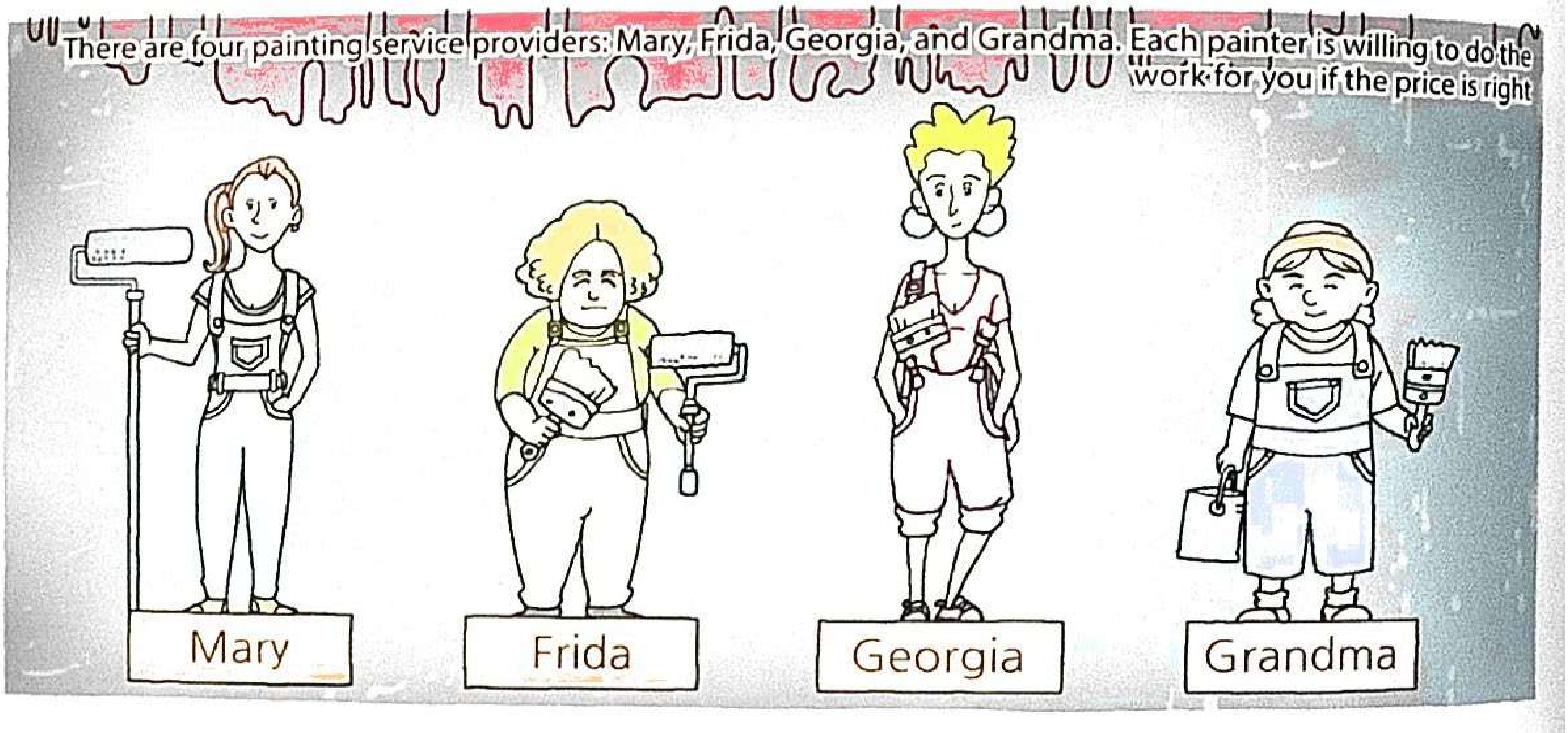
Chapter 9: Consumers, Producers, and Market Efficiency

- Consumer surplus
- **Producer surplus**
- Market efficiency

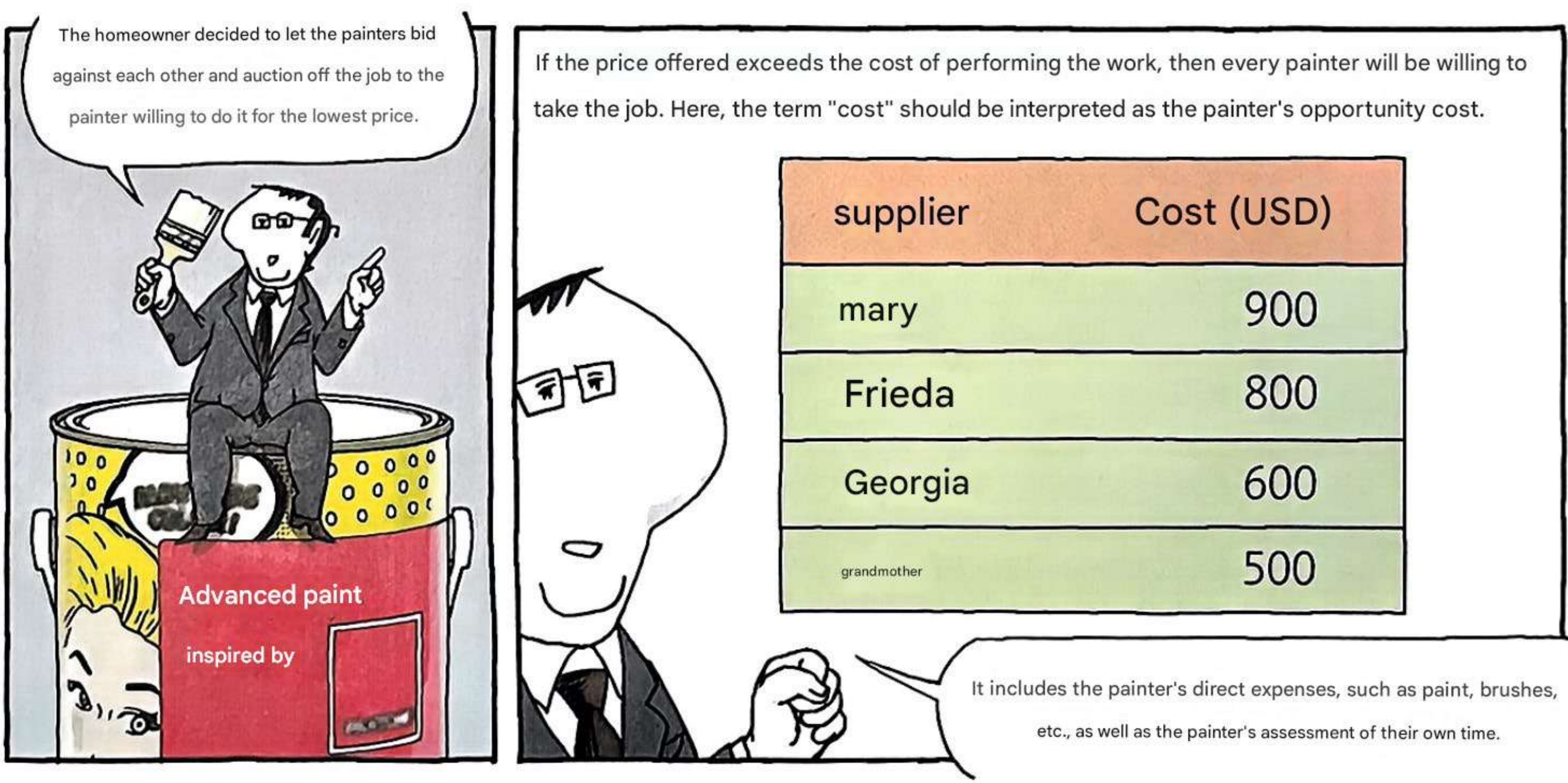
Producer surplus



Producer surplus



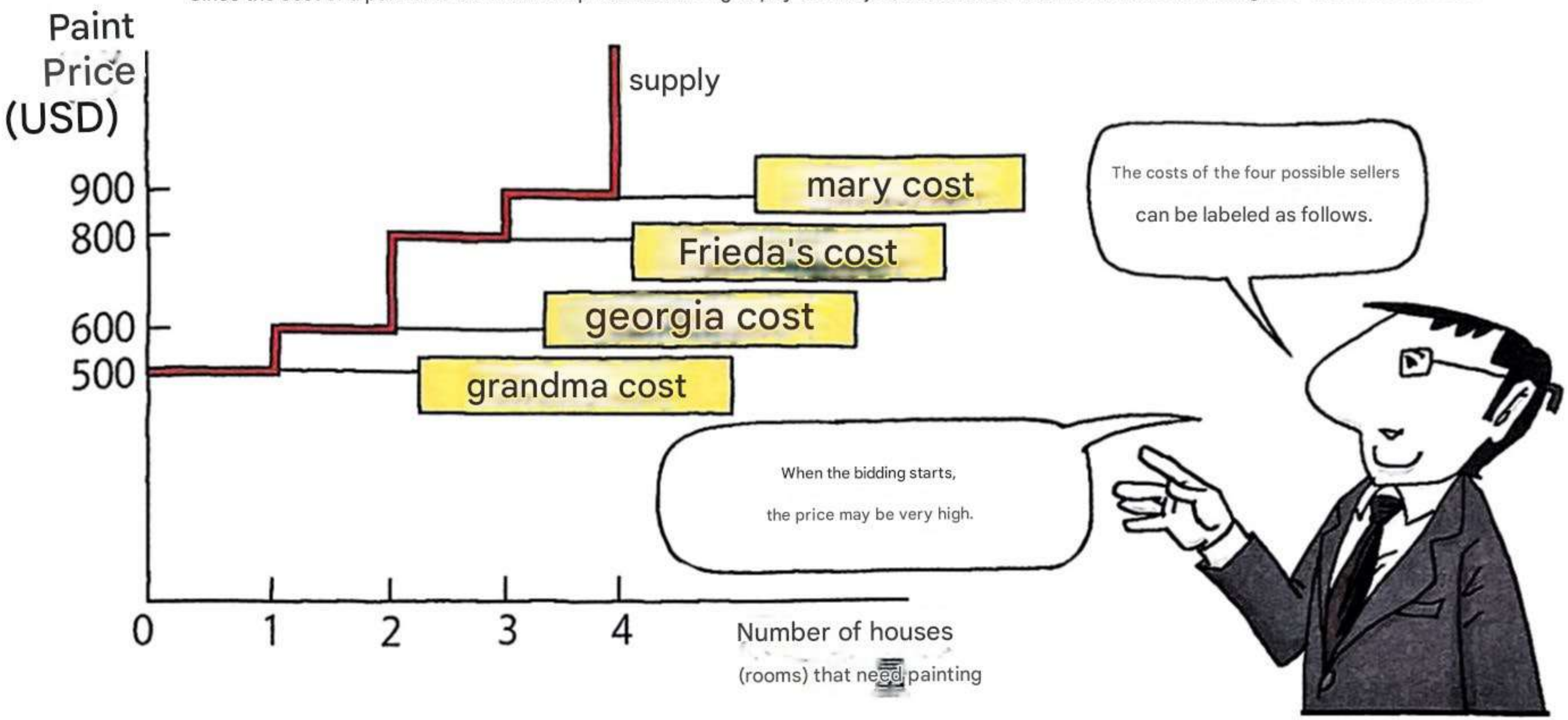
Producer surplus



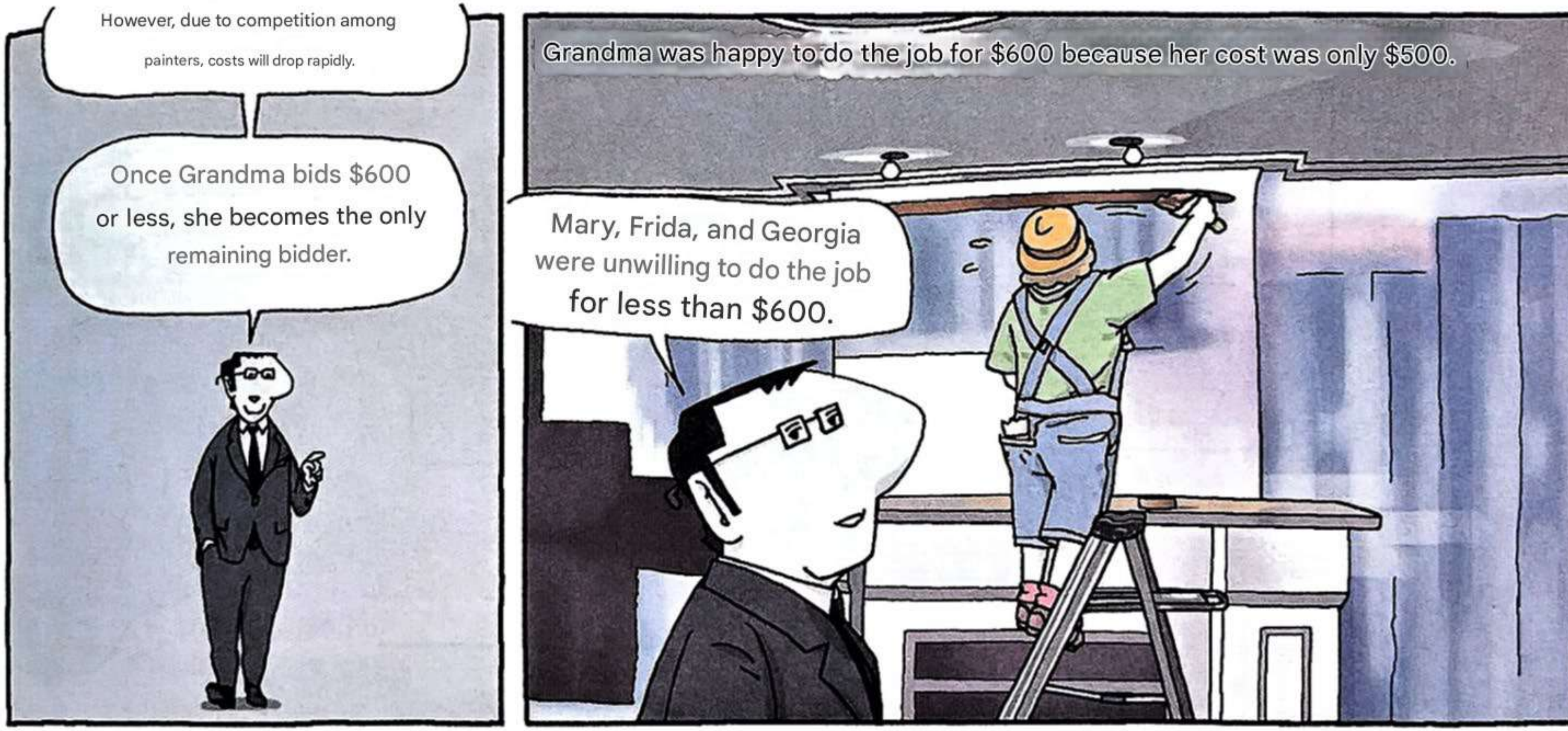
supplier	Cost (USD)
mary	900
Frieda	800
Georgia	600
grandmother	500

Producer surplus

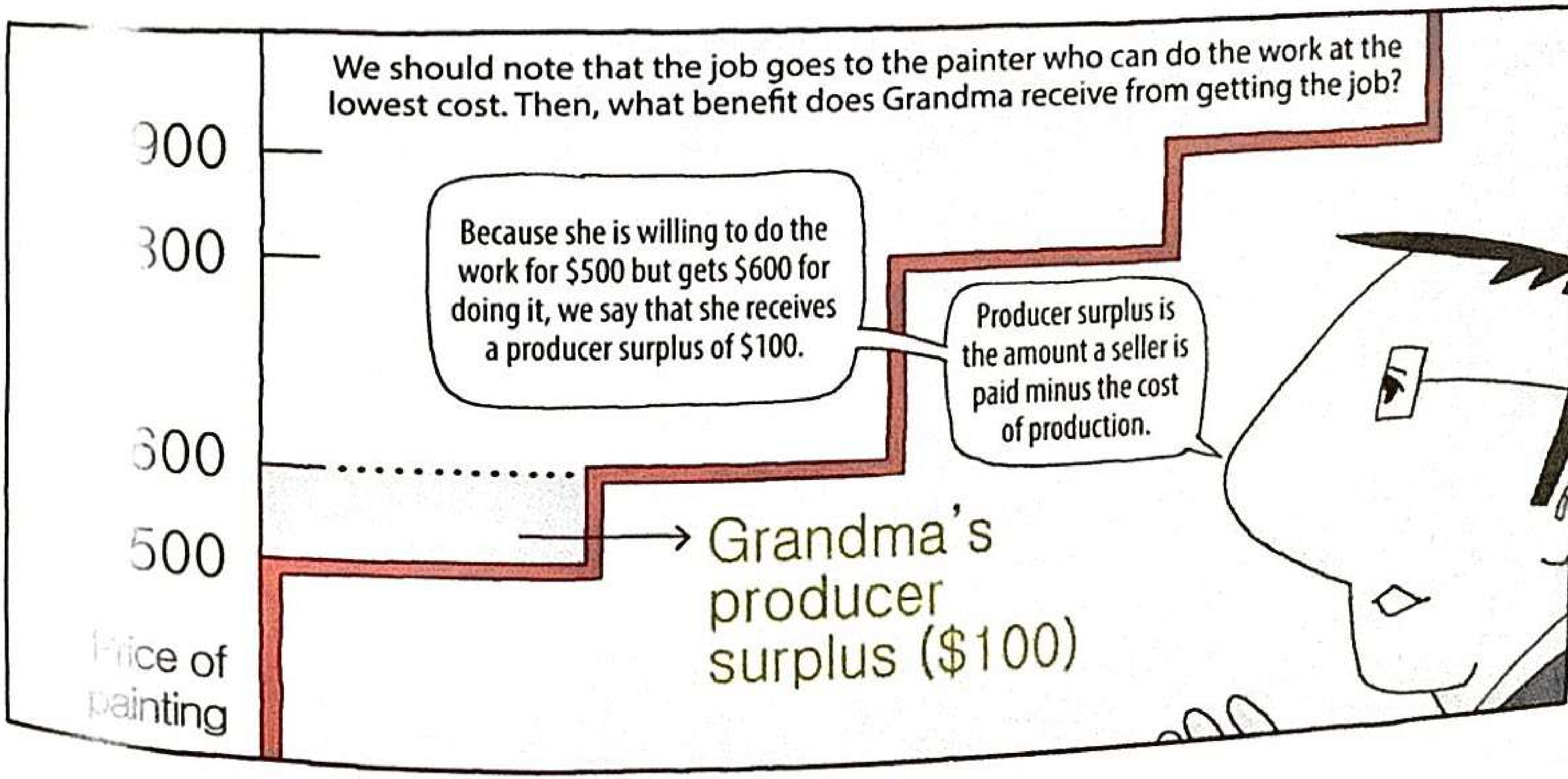
Since the cost of a painter is the minimum price he is willing to pay for the job, cost can be used to measure his willingness to sell his services.



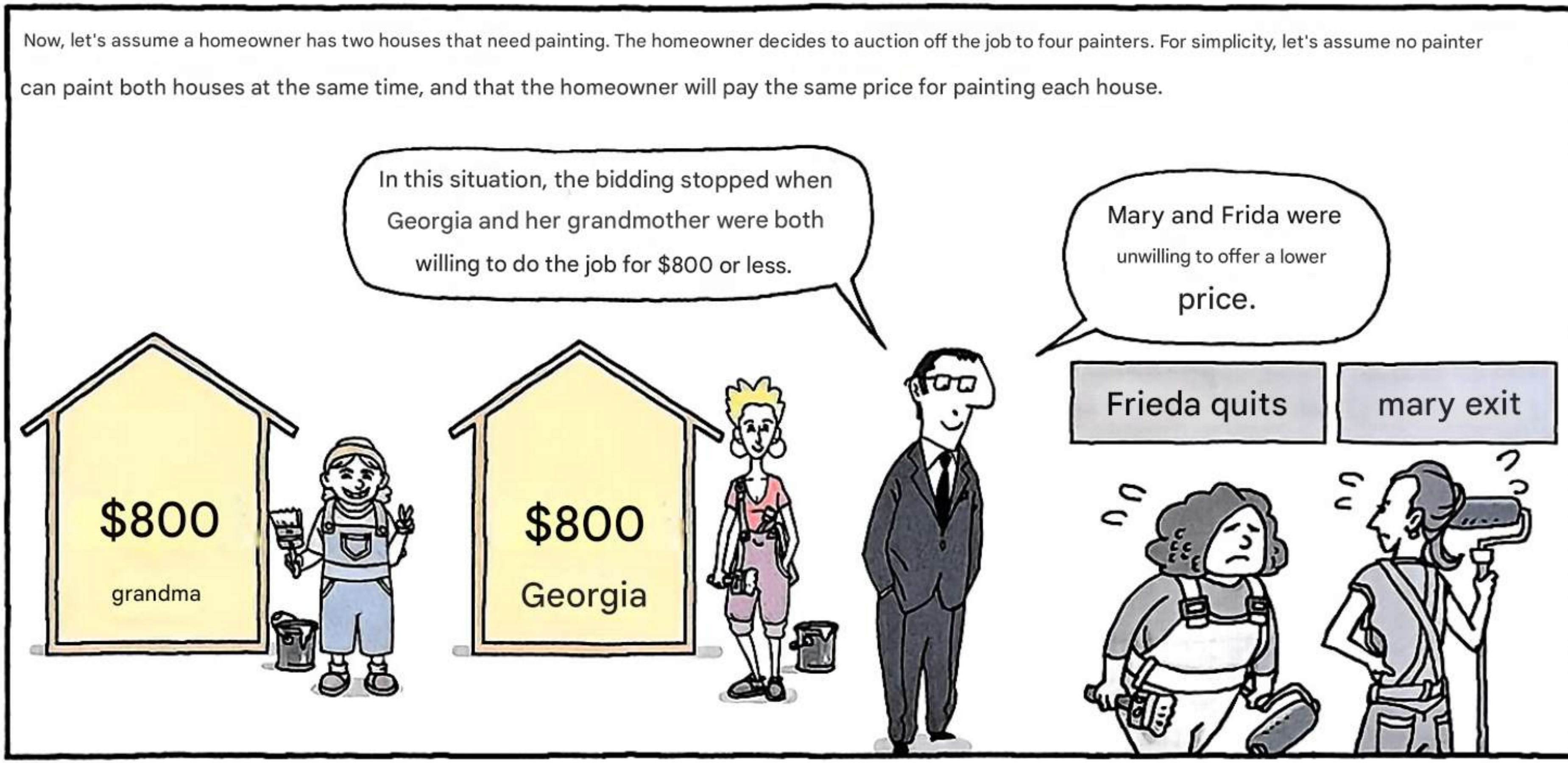
Producer surplus



Producer surplus



Producer surplus



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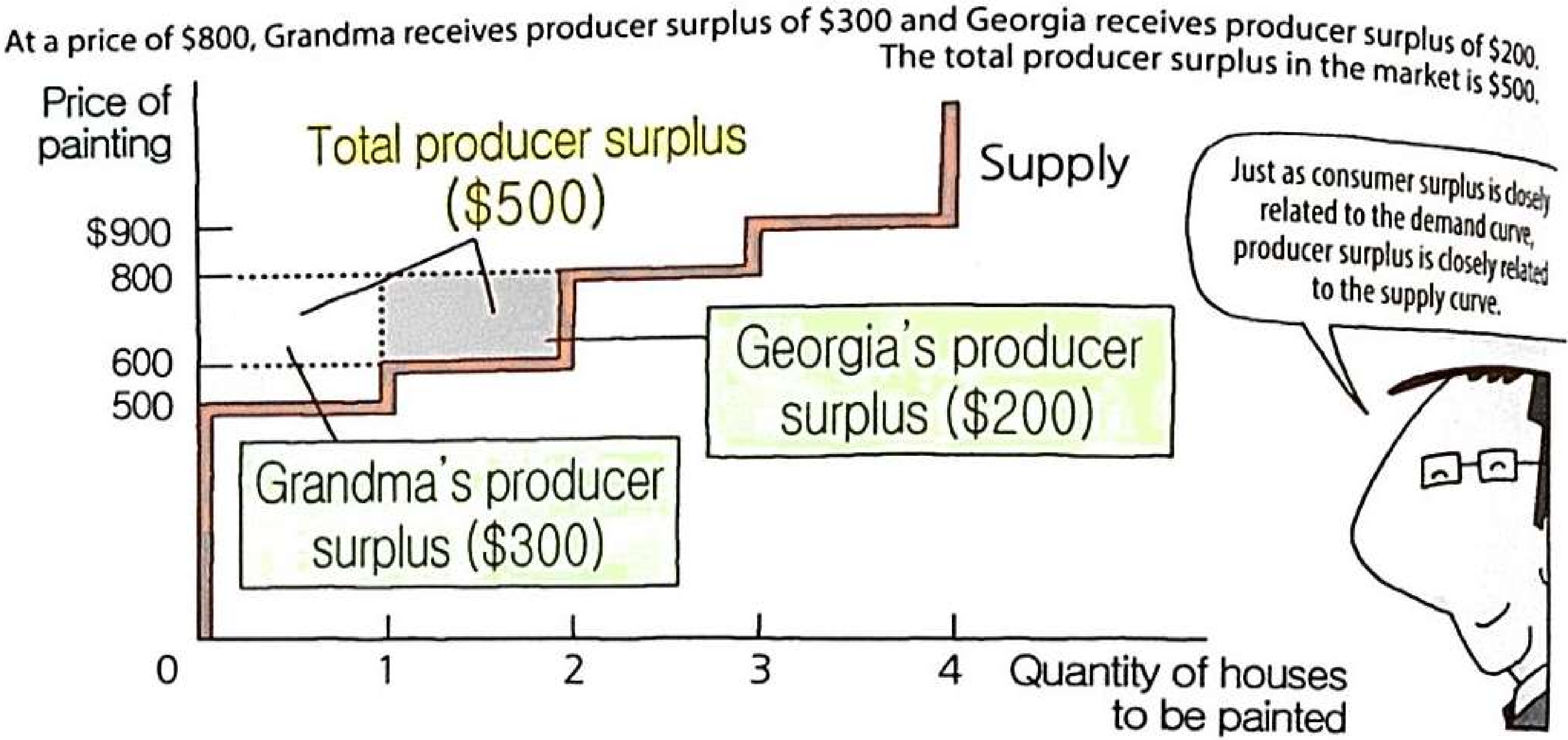
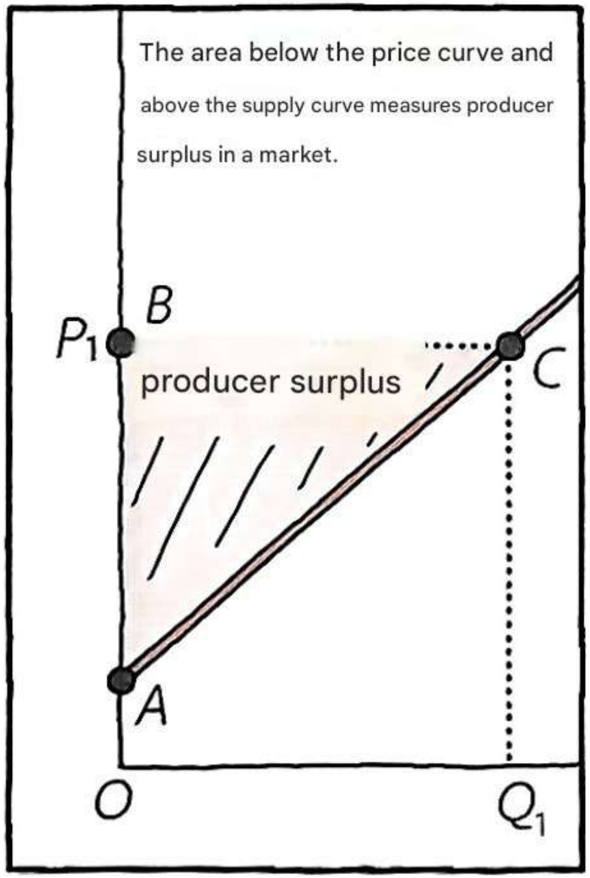
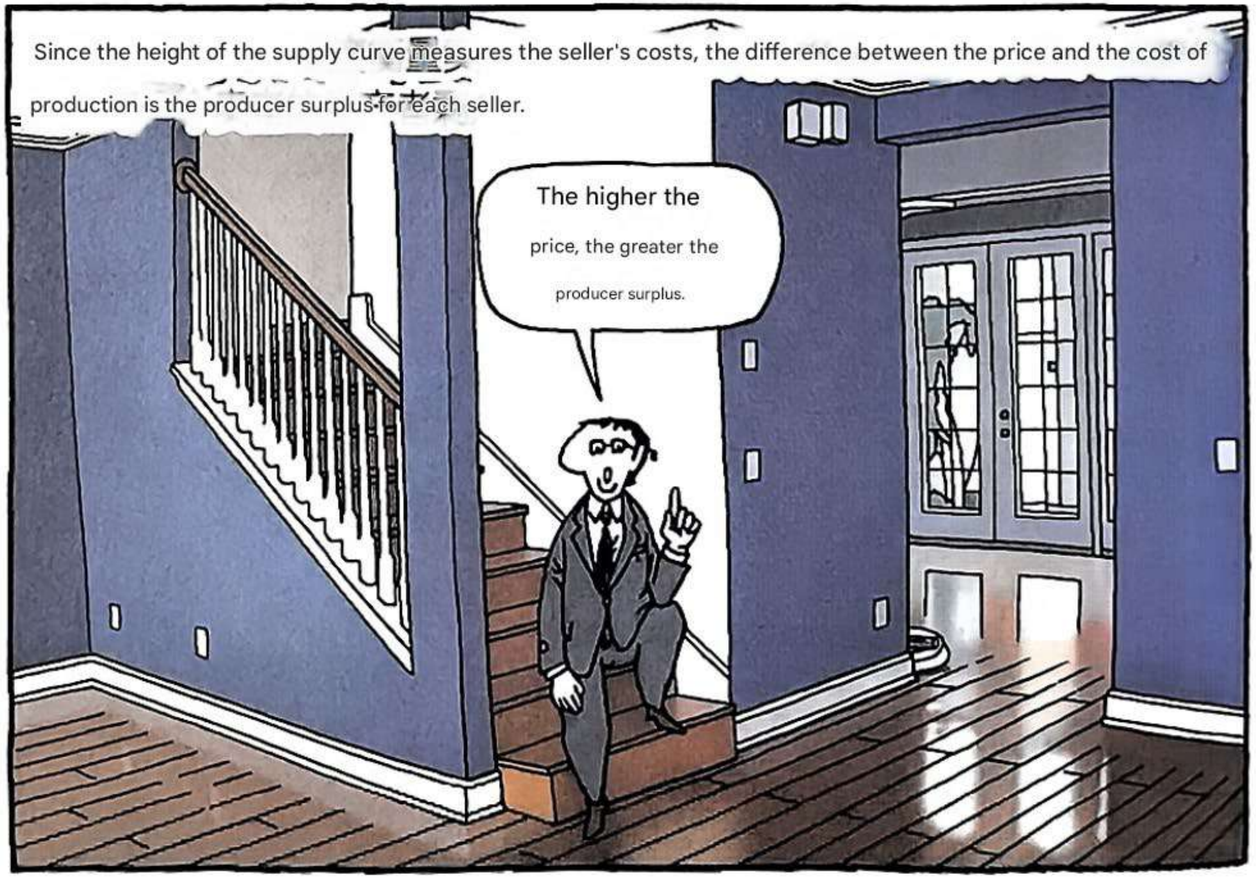


Producer surplus





SUMMARY

- Now we turn to the other side of the market to examine the benefits sellers receive from participating in the market. Cost is everything of value that a seller must give up to produce a good. Producer surplus is the amount a seller receives for selling a good minus the cost of providing that good. Producer surplus measures the benefit sellers receive from participating in the market.
- The area below the price and above the supply curve measures the producer surplus in a market. Because the height of the supply curve measures the seller's cost, the difference between the price and the cost of production is the producer surplus for each seller.

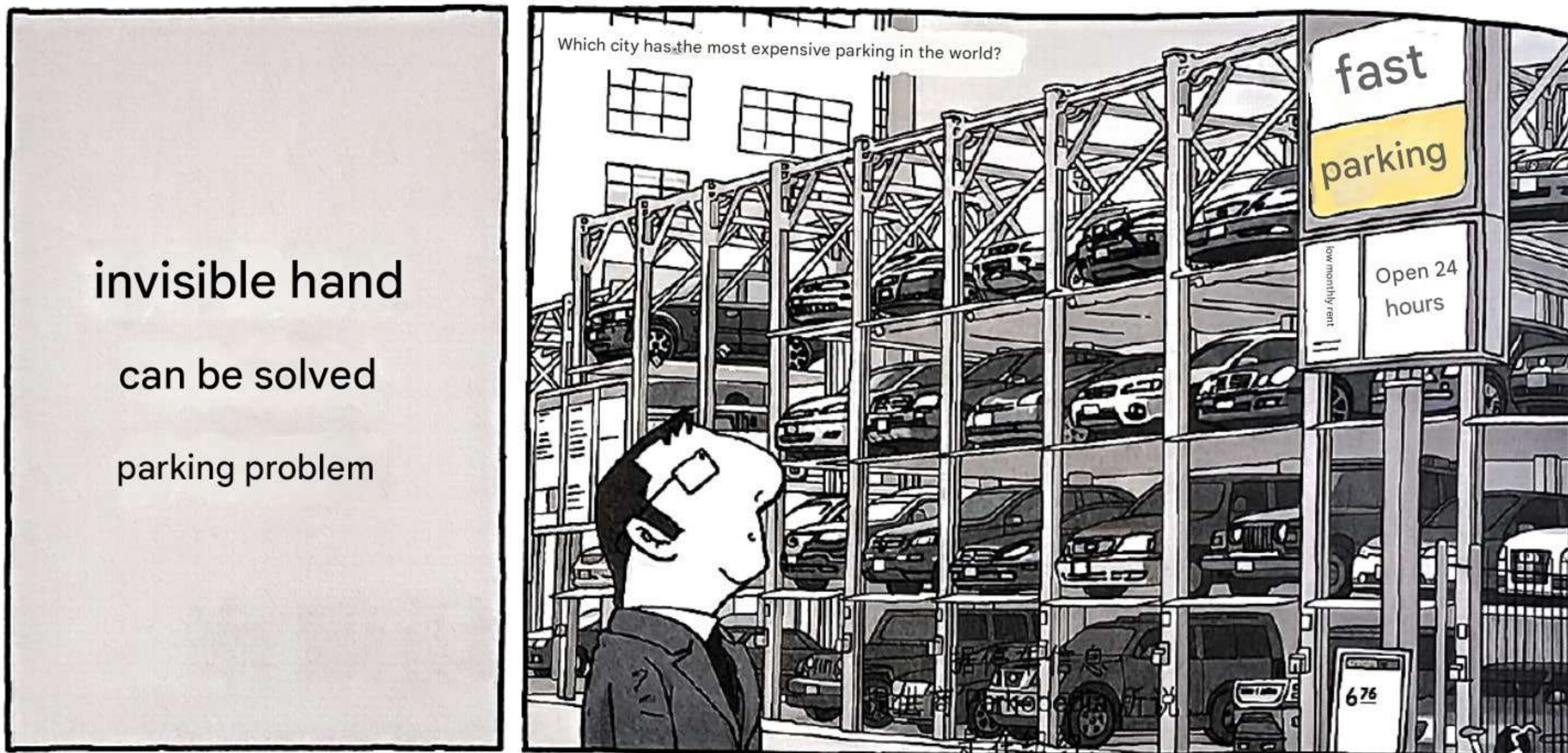
SUMMARY

- You won't be surprised to hear that sellers always hope to receive a higher price for the goods they sell. When the price rises, the increase in producer surplus includes two parts: first, the increase in producer surplus from existing sellers; and second, the increase in producer surplus from new sellers entering the market, encouraged by the higher price, leading to an increase in the quantity supplied.

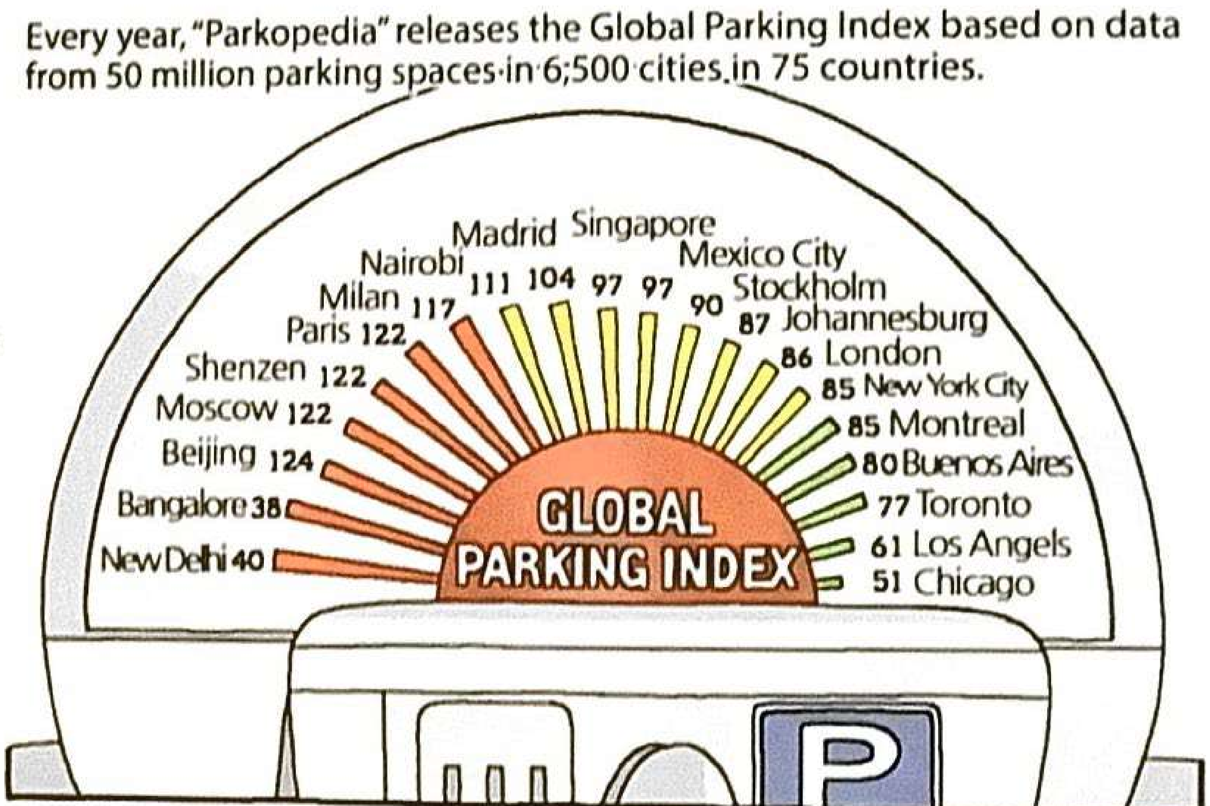
Chapter 9: Consumers, Producers, and Market Efficiency

- Consumer surplus
- Producer surplus
- **Market efficiency**

The invisible hand can solve the parking problem



The invisible hand can solve the parking problem



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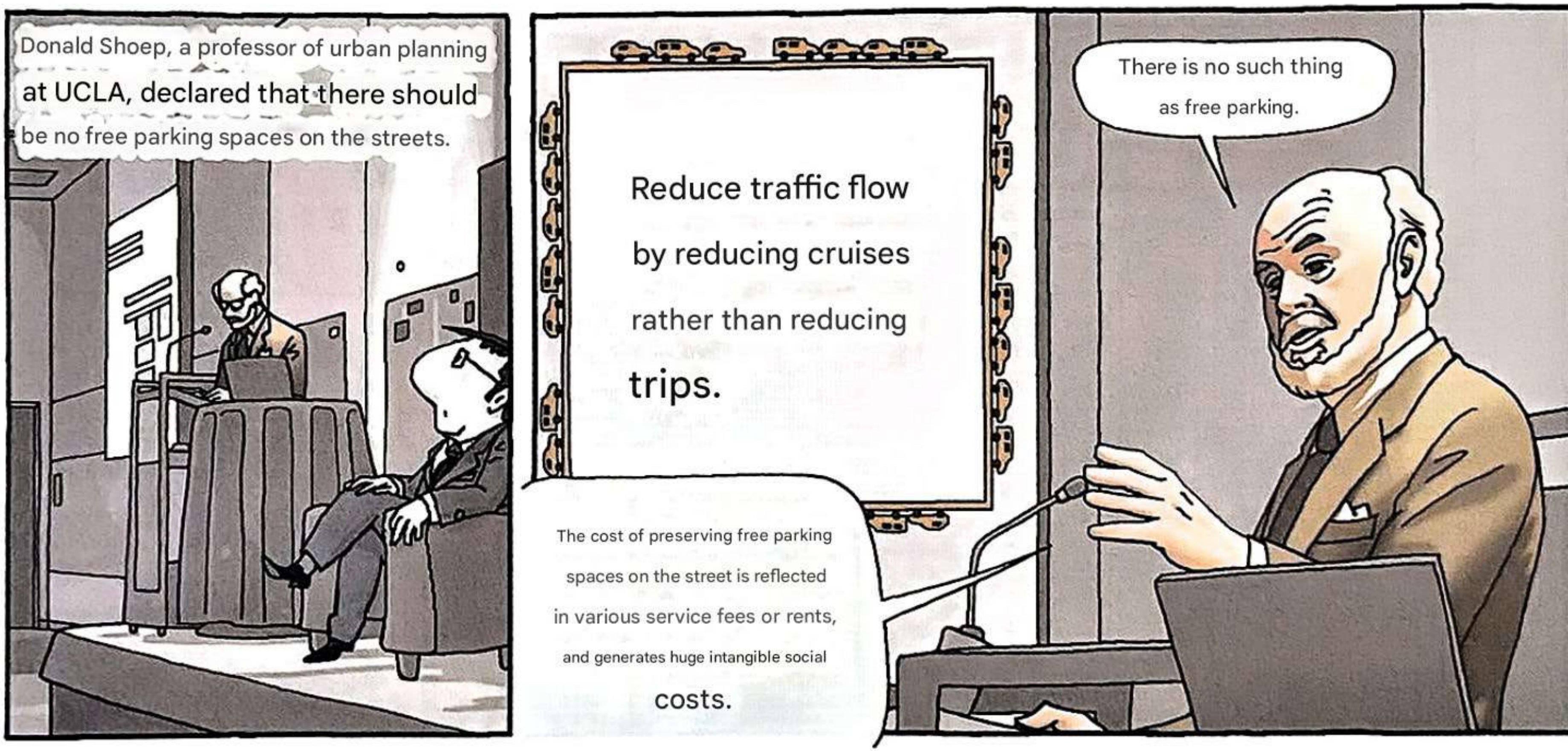


The invisible hand can solve the parking problem

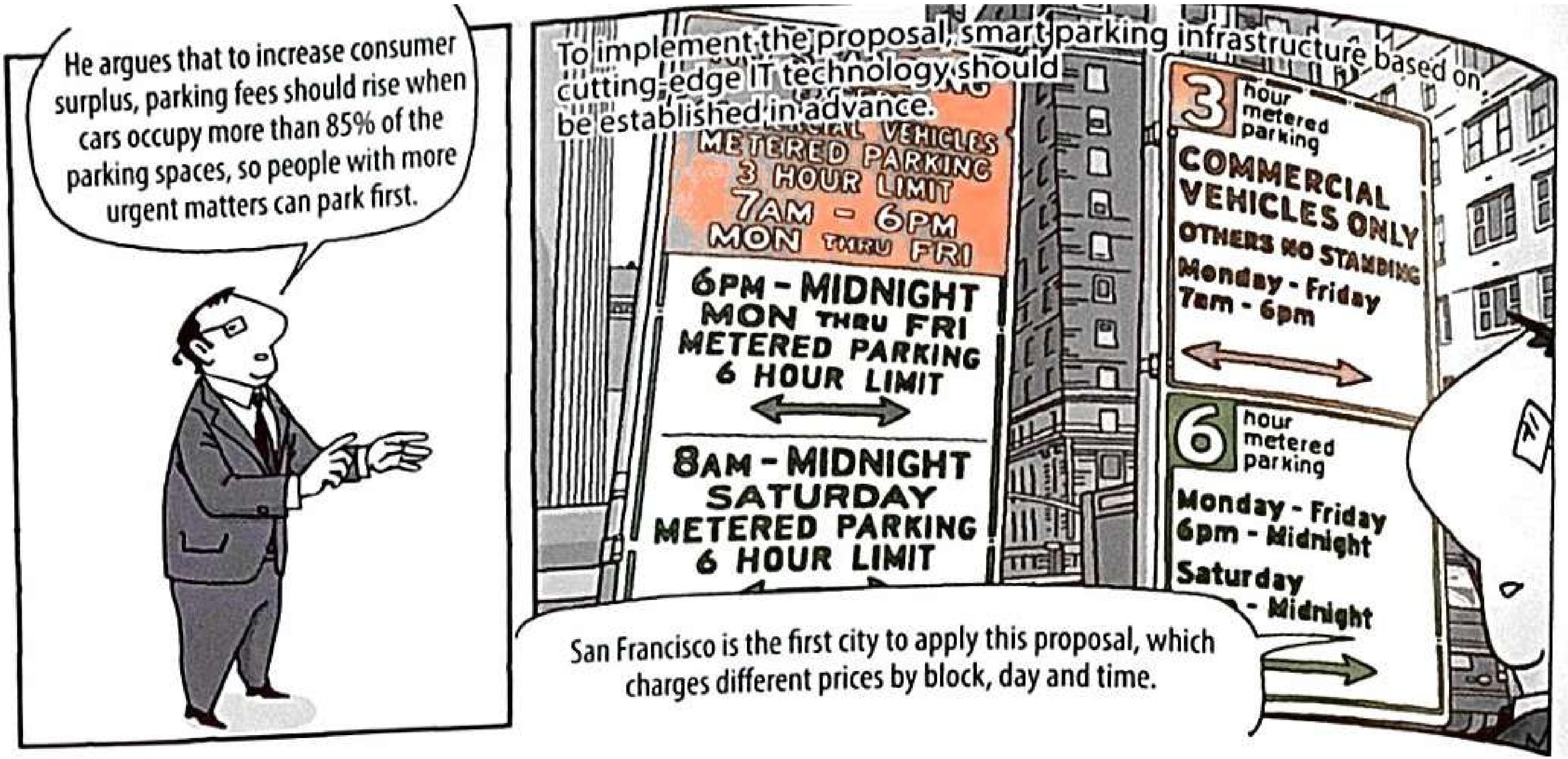
He proposed the "85% theory," which proposes charging differentiated parking fees based on occupancy rates. This ratio is based on his research finding that public parking is most effectively utilized when the occupancy rate of roadside parking spaces reaches 85%.

What advice does Professor Donald have?

Optimal rules for setting street parking prices: Occupancy rate

- Occupancy surveys or monitoring
- If occupancy is >85%, then increase the price.
- If occupancy is less than 85%, lower the price.
- If the occupancy rate reaches 85%, the price remains unchanged.

The invisible hand can solve the parking problem



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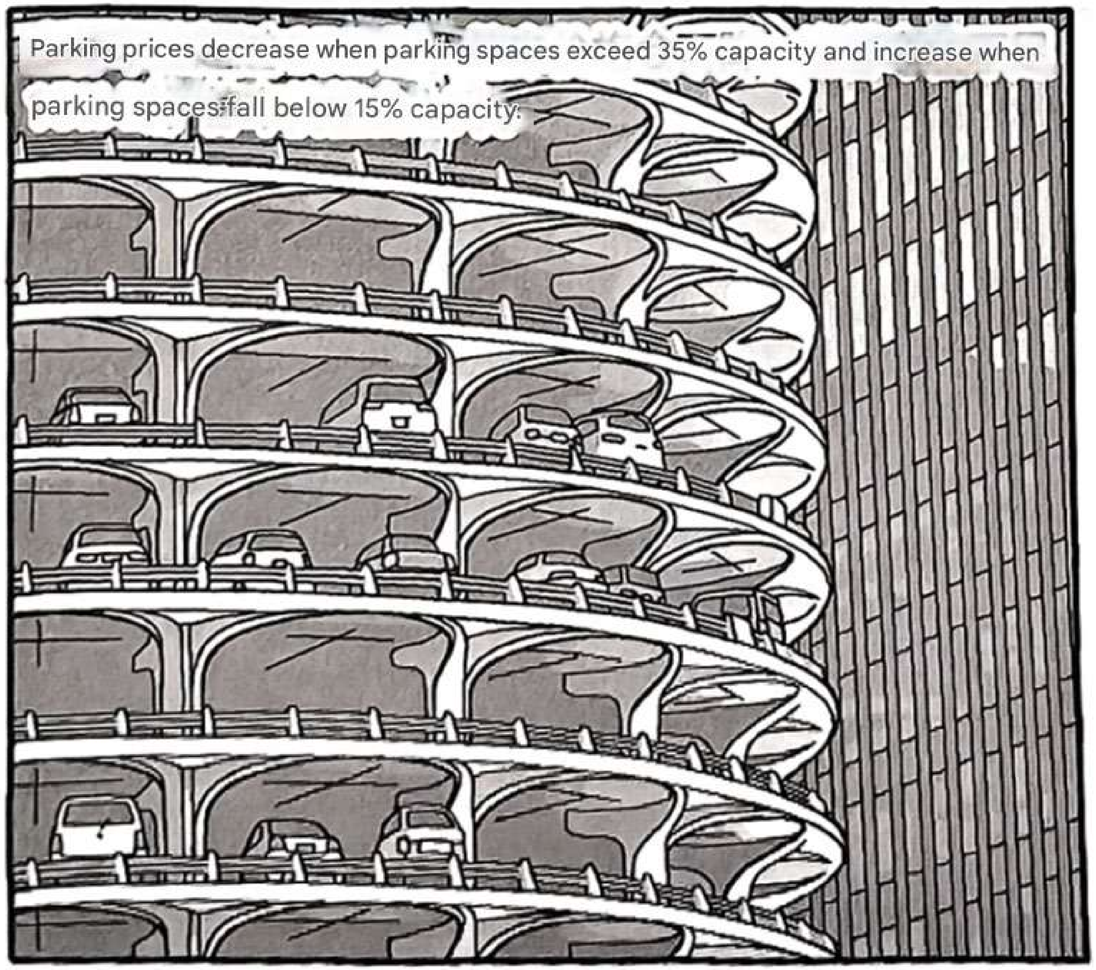
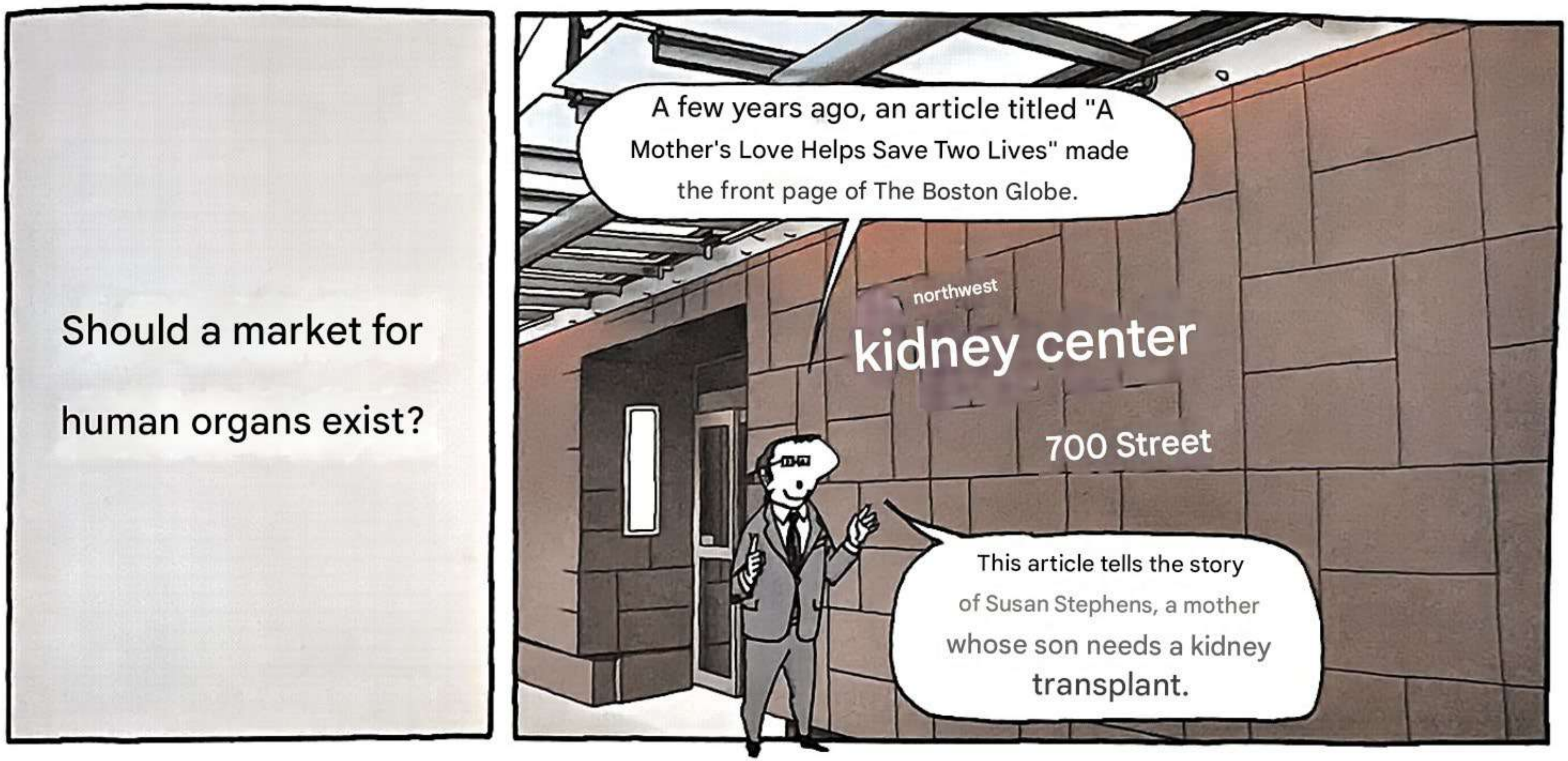


Should a market for human organs exist?



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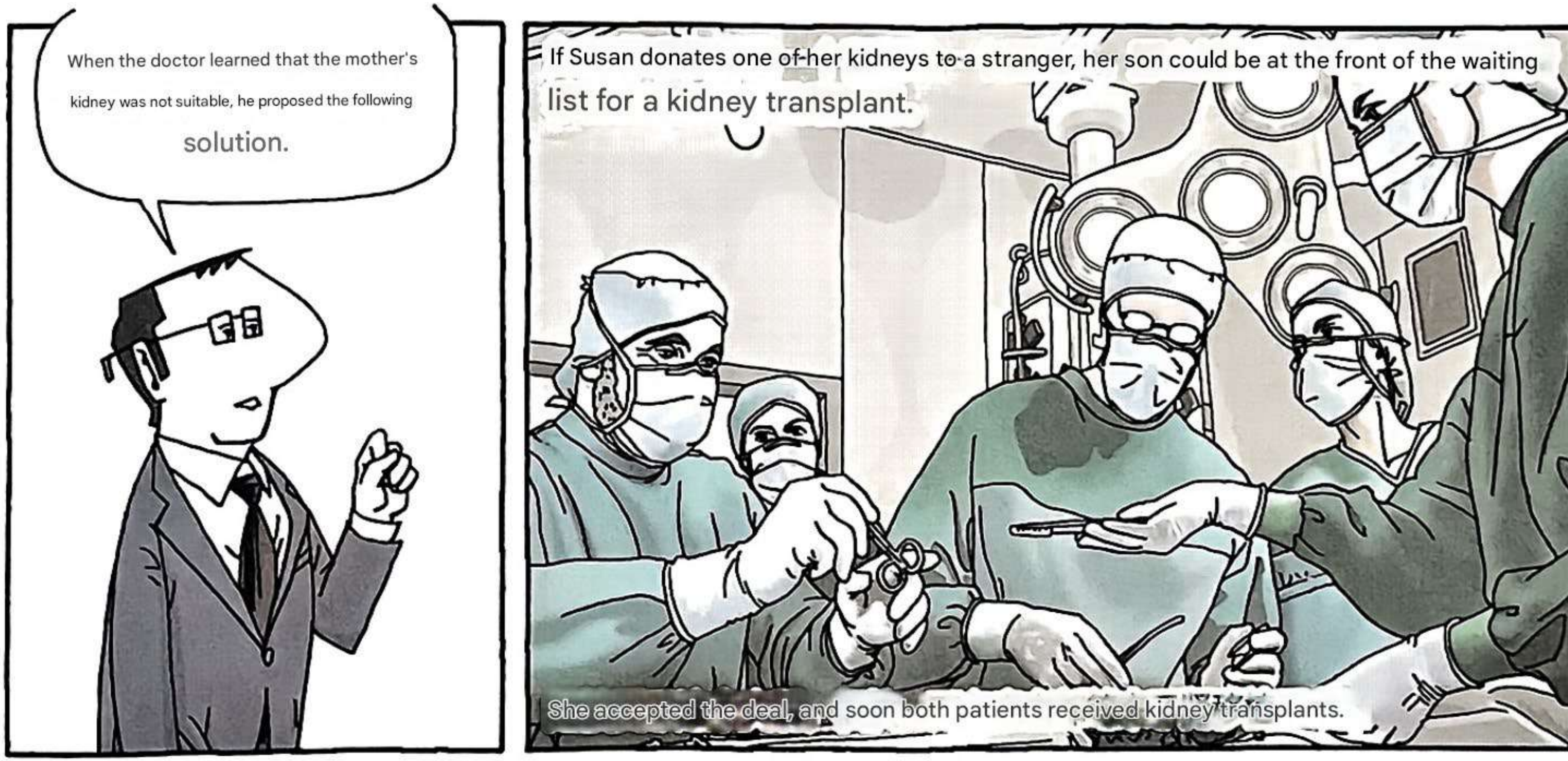

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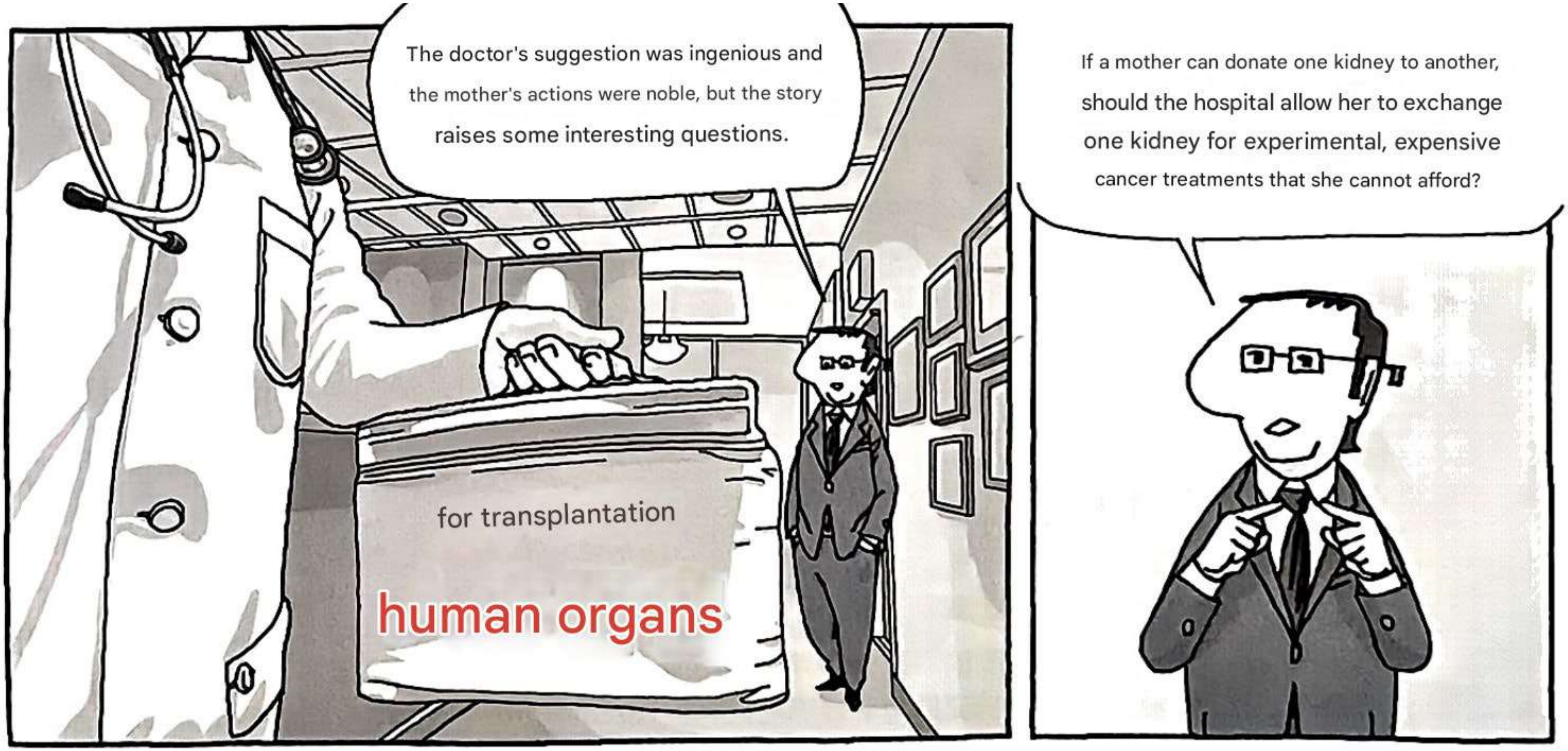

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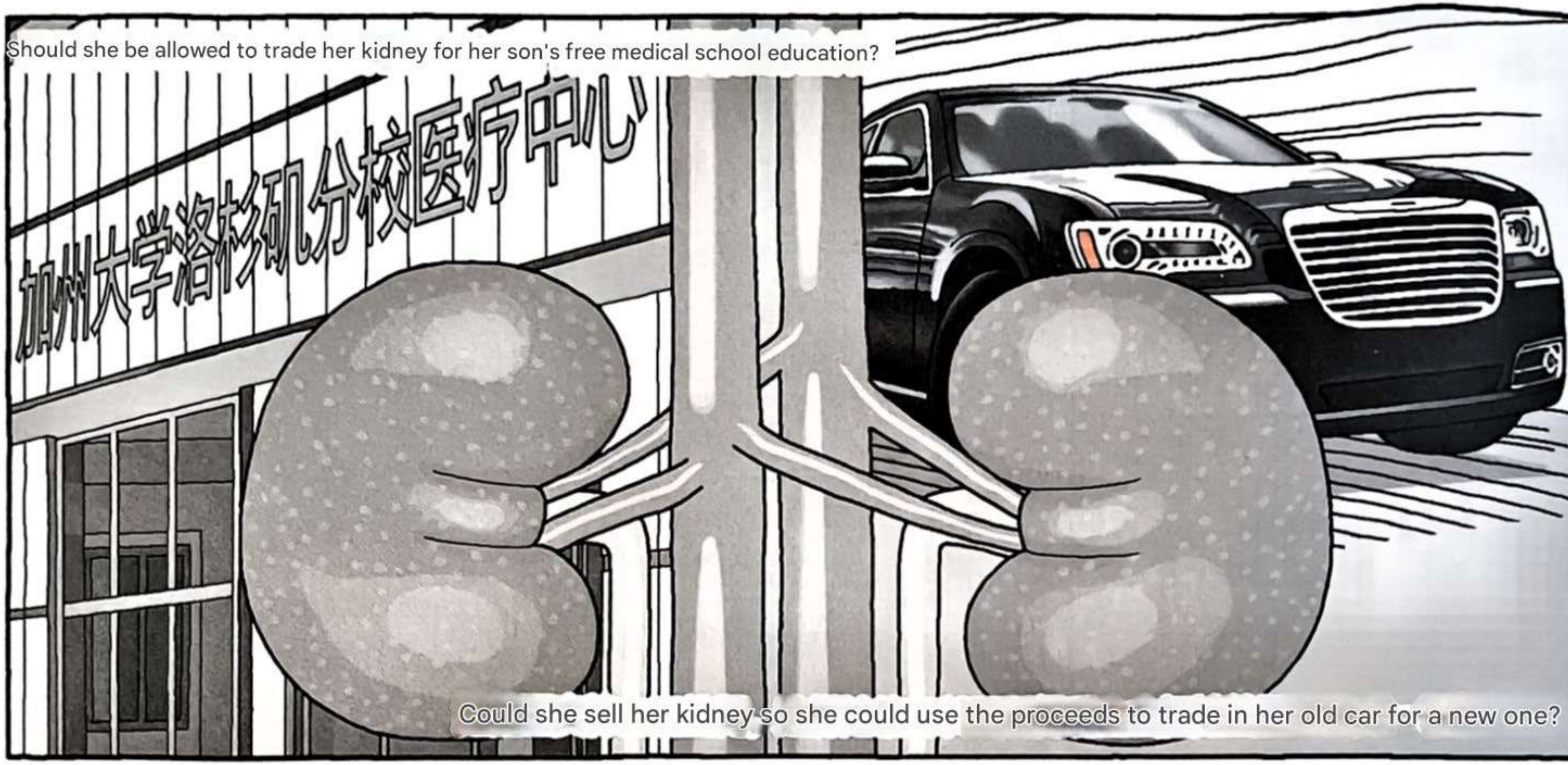

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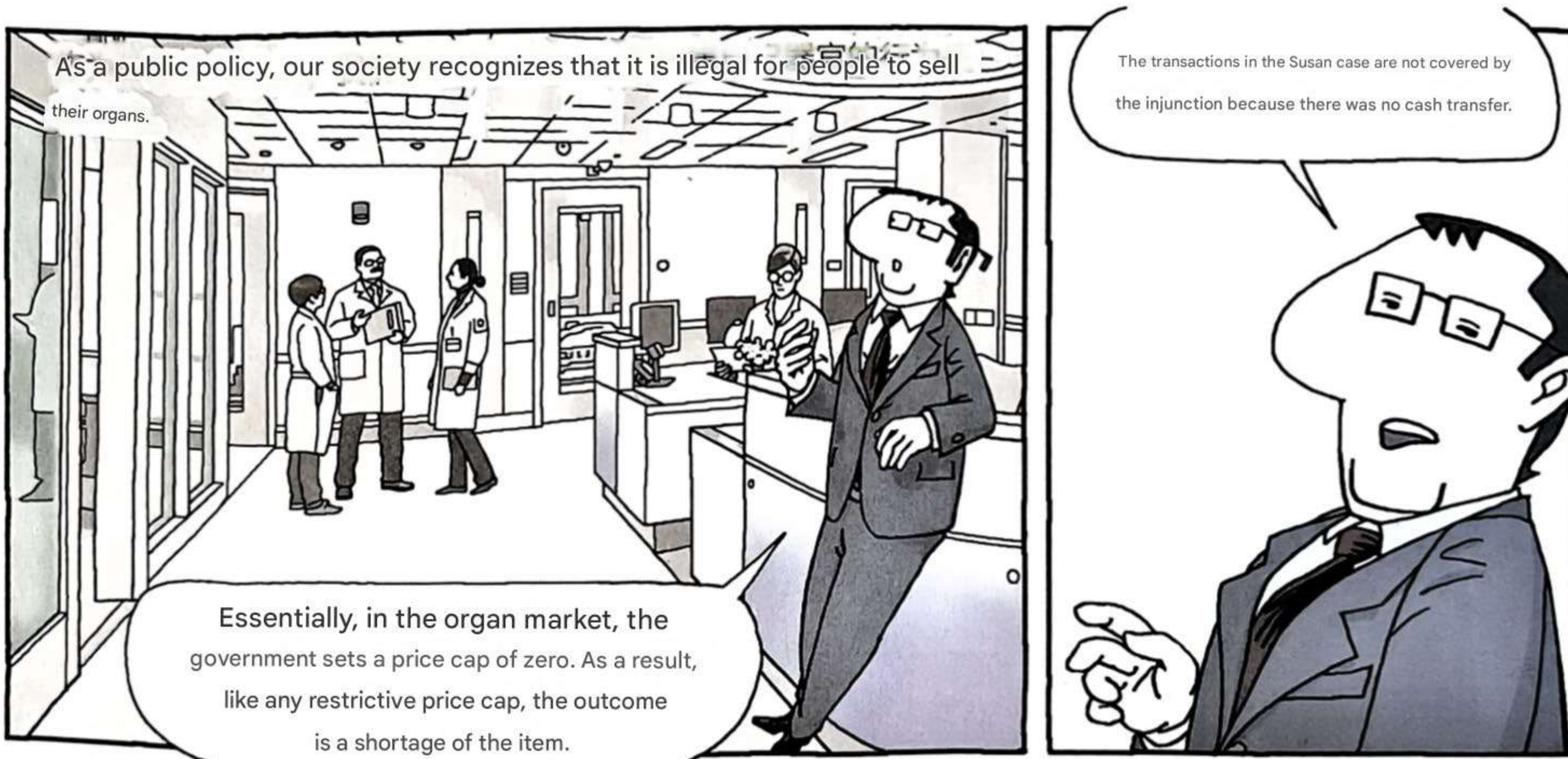

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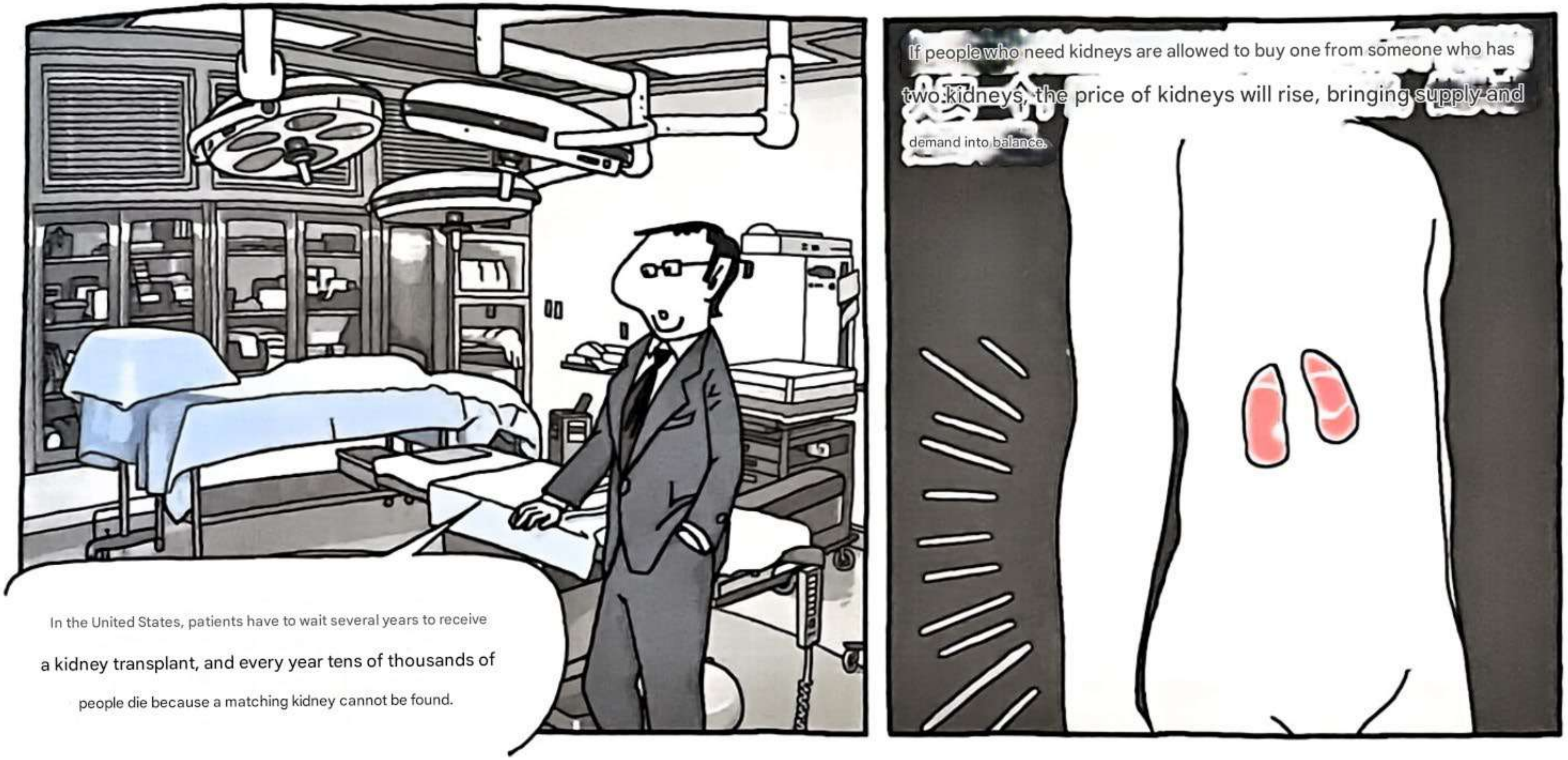

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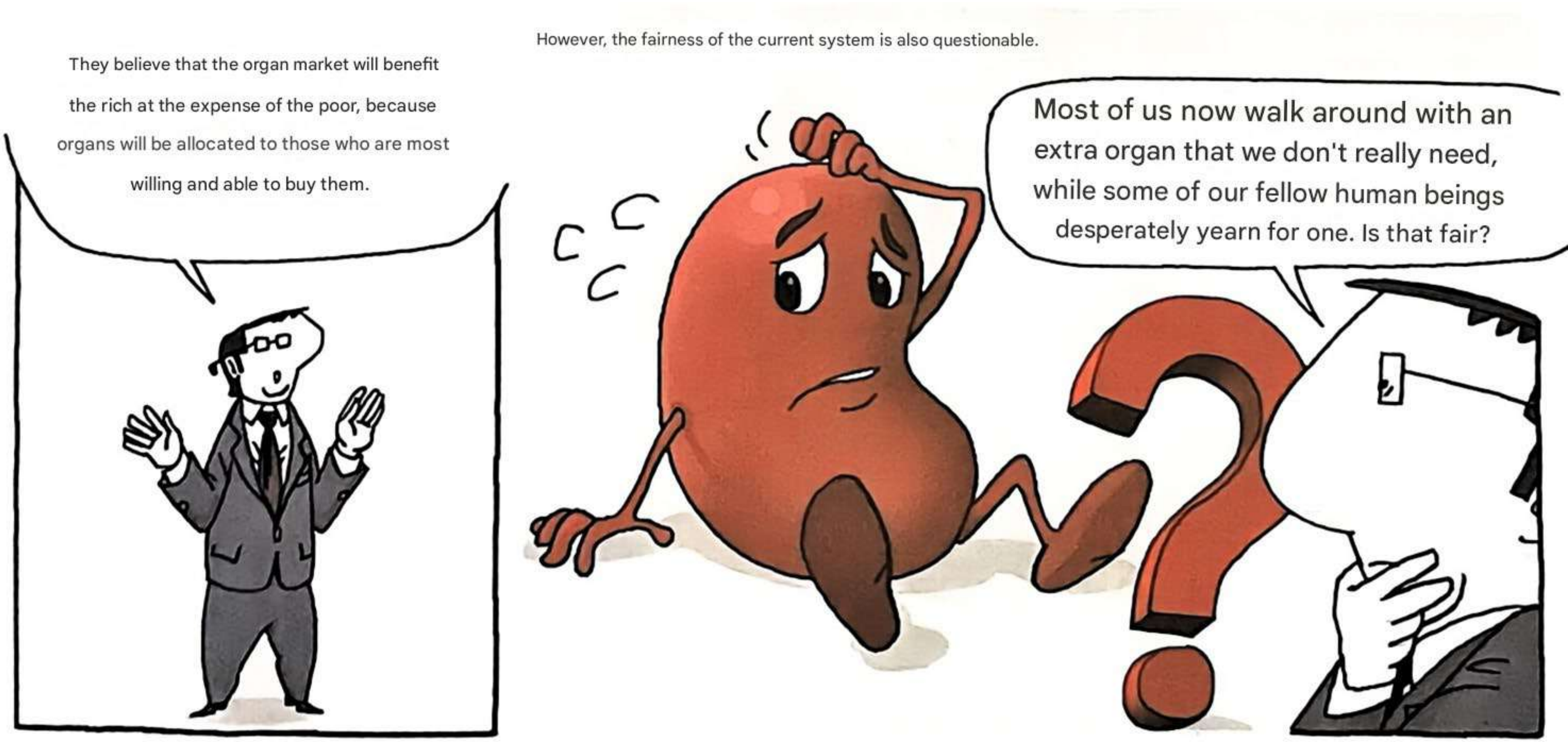
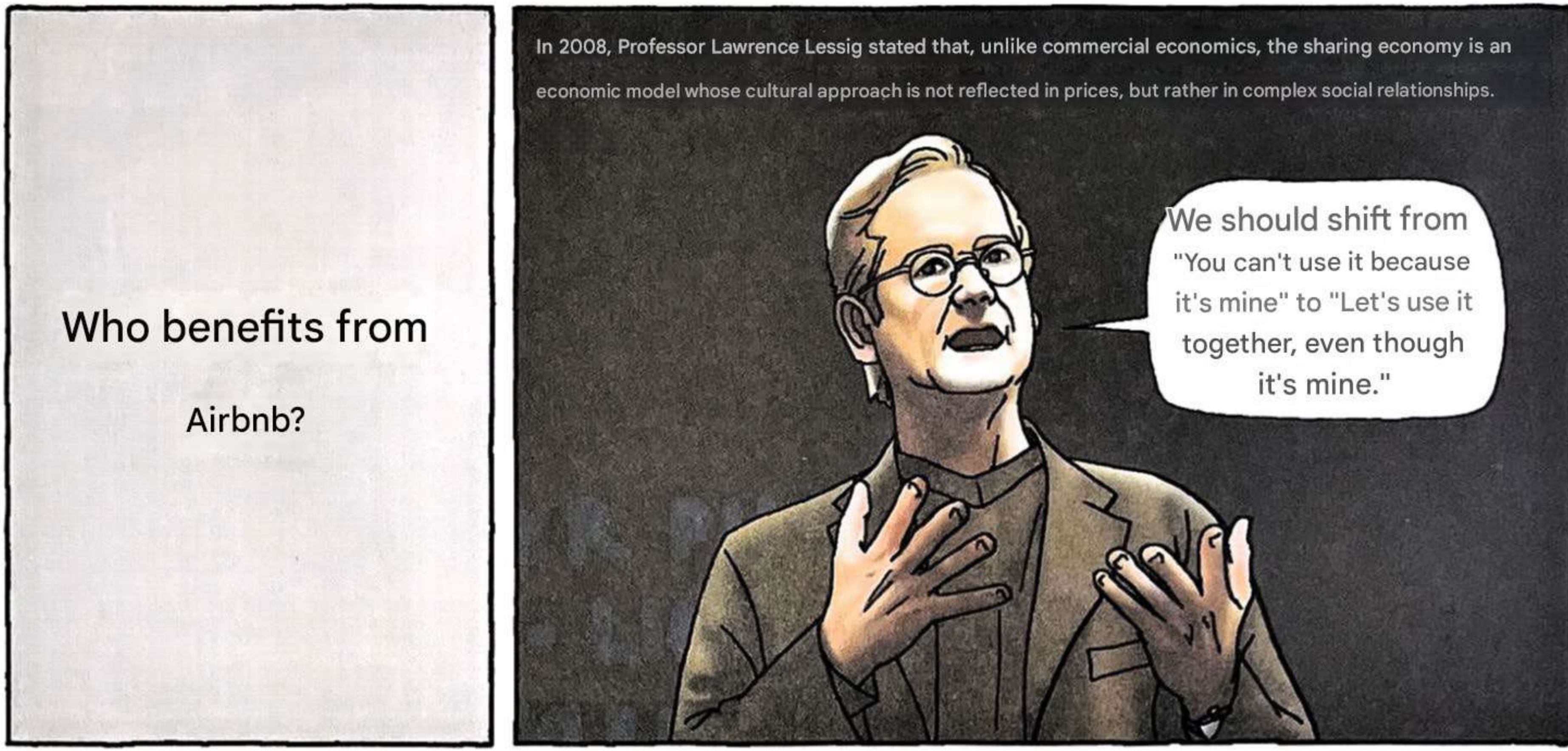


Who benefits from Airbnb?



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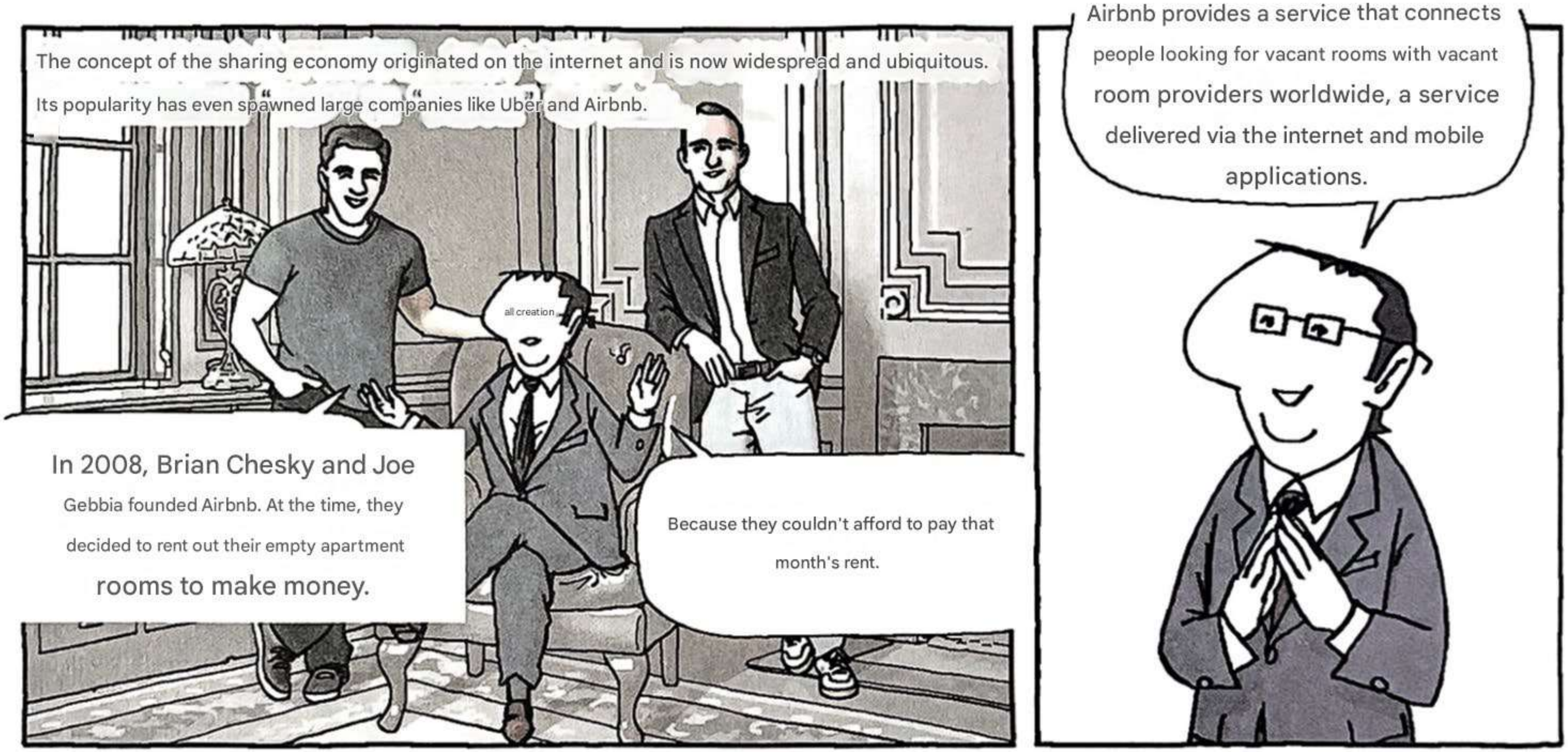

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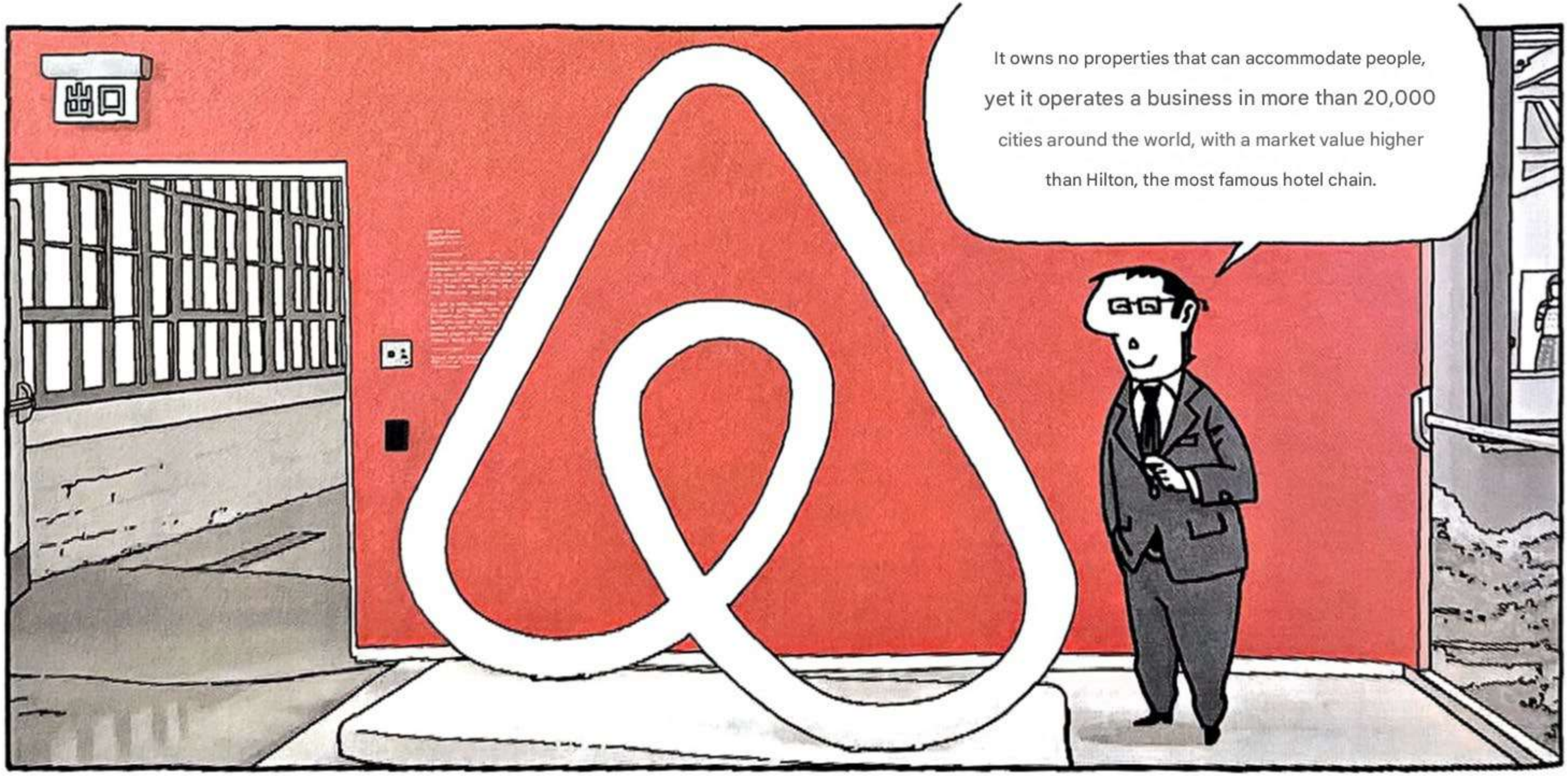

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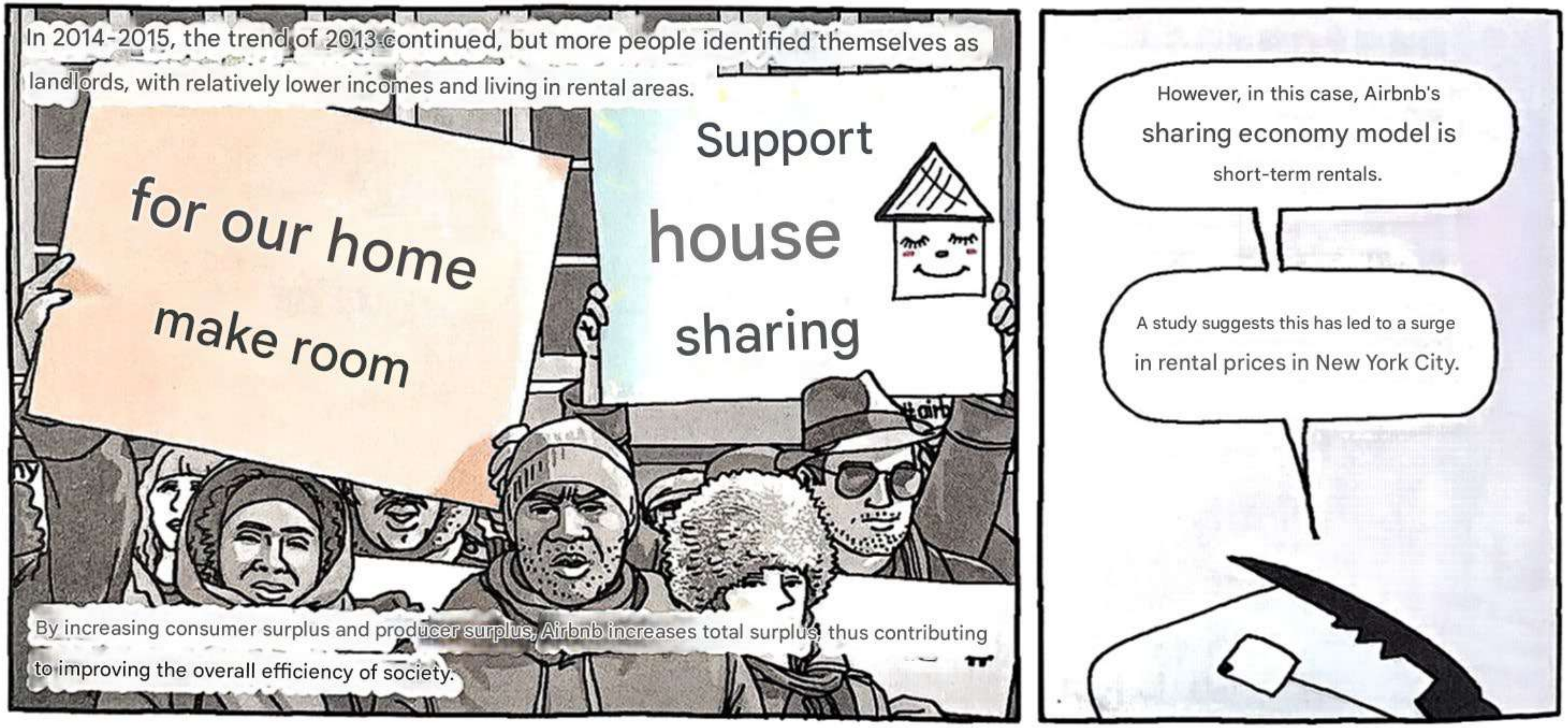

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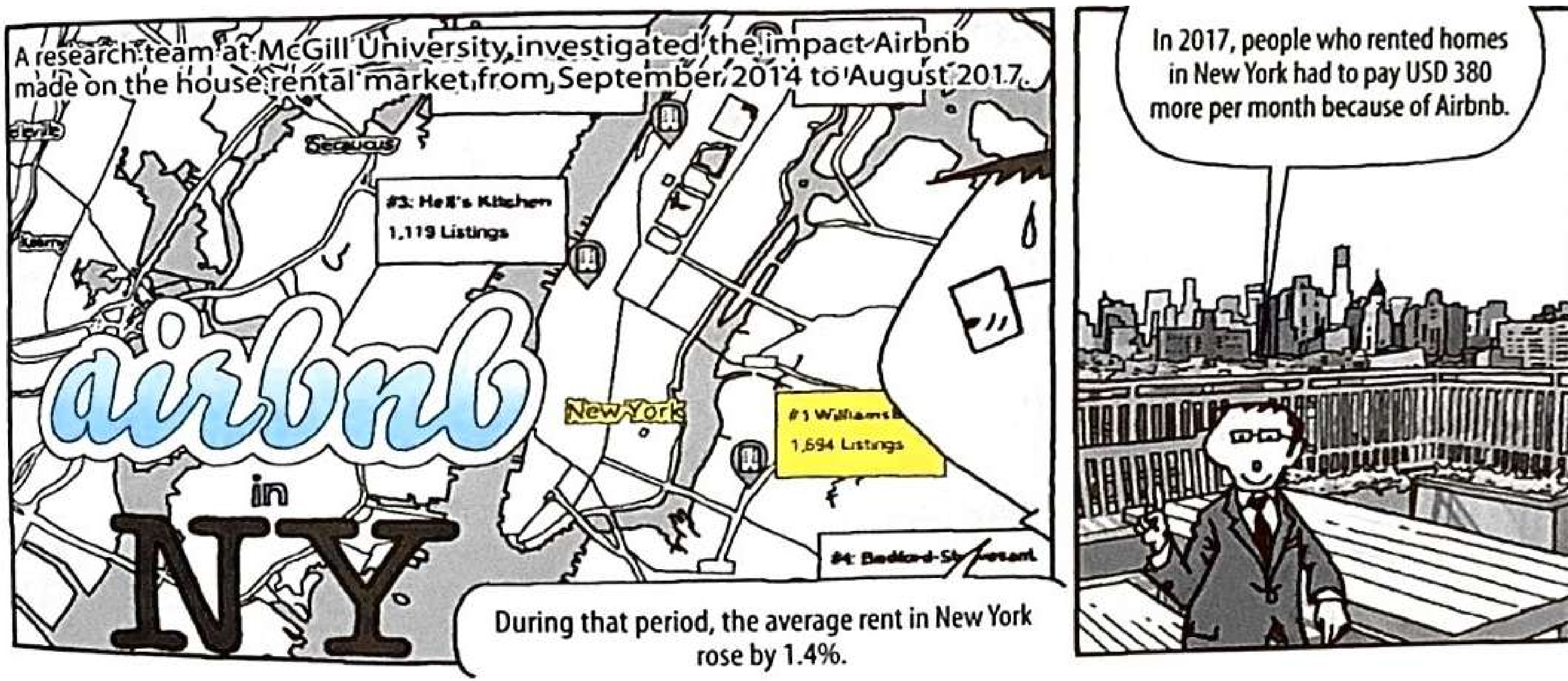

SUMMARY

- One possible indicator of socioeconomic welfare is the sum of consumer surplus and producer surplus, which we call total surplus. Since the amount paid by buyers equals the amount received by sellers, we can express total surplus as follows:
  - Consumer surplus = Buyer's valuation - Amount paid by buyers
  - Producer surplus = Amount received by sellers - Seller's cost
  - Total surplus = Consumer surplus + Producer surplus = Buyer's valuation - Seller's cost

SUMMARY

- Efficiency refers to allocating resources to maximize the total surplus received by all members of society, while equality refers to the even distribution of economic prosperity among members of society. The efficiency problem focuses on whether the "cake" is made as large as possible, while the equality problem focuses on how to cut this cake into smaller pieces and whether these pieces are distributed equally among members of society.

SUMMARY

- The demand curve reflects buyers' valuations, and the supply curve reflects sellers' costs. At any quantity below the equilibrium level, buyers' valuations exceed sellers' costs. Therefore, increasing production and consumption increases total surplus. This continues until the quantity reaches the equilibrium level.
- Similarly, at any quantity above the equilibrium level, buyers' valuations are less than sellers' costs. In this case, reducing the quantity increases total surplus, and this continues until the quantity falls to the equilibrium level. Therefore, to maximize total surplus, a social planner would choose the quantity where the supply and demand curves intersect.

SUMMARY

- Supply and demand equilibrium maximizes the sum of consumer surplus and producer surplus. In other words, the invisible hand of the market guides buyers and sellers to allocate resources efficiently. In cases of market failure (such as due to market power or externalities), the market fails to allocate resources efficiently.

思考题

1. Jane values her time at $60 per hour. She spent 2 hours giving Colleen a massage. Colleen was willing to pay $300 for the massage, but they agreed on a price of $200. In this transaction,

a. Consumer surplus is $20 more than producer surplus.

b. Consumer surplus is $40 more than producer surplus.

c. Producer surplus is $20 more than consumer surplus.

d. Producer surplus is $40 more than consumer surplus.

思考题

2. The demand curve for cookies is downward sloping. When the price of cookies is $2, the quantity demanded is 100. If the price of cookies rises to $3, how will consumer surplus change?

a. Decrease by less than $100

b. Decrease by more than $100

c. Increase by less than $100

d. Increase by more than $100

思考题

3. John has been working as a tutor, earning $300 per semester. When the university increased the payment to tutors to $400, Emily entered the market and started tutoring. By how much did the producer surplus increase due to the price increase?

a. Less than $100

b. $100-$200

c. $200-$300

d. More than $300

思考题

4. The efficient allocation of resources maximizes ______.

a. Consumer surplus

b. Producer surplus

c. Consumer surplus plus producer surplus

d. Consumer surplus minus producer surplus

思考题

5. When the market is in equilibrium, the buyers are those with the _______ willingness to pay, and the sellers are those with the _______ costs.

a. highest, highest

b. highest, lowest

c. lowest, highest

d. lowest, lowest

思考题

6. Producing a quantity greater than the supply-demand equilibrium is inefficient because the marginal buyer's willingness to pay is:

a. Negative

b. Zero

c. Positive, but less than the marginal seller's cost

d. Positive, and greater than the marginal seller's cost