

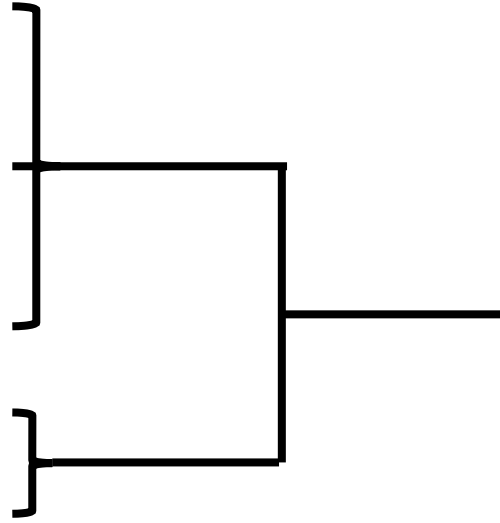
History of Economic Thought: The Theory of Path Dependence

Altug Yalcintas

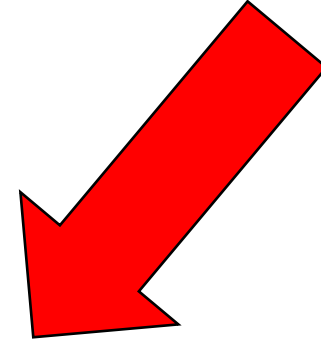
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- Ideas evolve
- Technologies evolve
- Alphabet evolves
- Species evolve



Asymmetry among the bundles of arguments



- Ideas evolve
- Technologies evolve
- Alphabet evolves
- Languages evolve
- Geography evolves
- Fashion evolves
- Arts evolve
- ...

A process of change ✓

- Ideas evolve
- Technologies evolve
- Alphabet evolves
- Languages evolve
- Geography evolves
- Fashion evolves
- Arts evolve
- ...

A process of change ✓

A process of non-change ?

How should we understand the evolution of (economic) ideas where some of the conceptions, notions, and paradigms do not change for long periods of time?

A plausible explanation: The Theory of Path Dependence

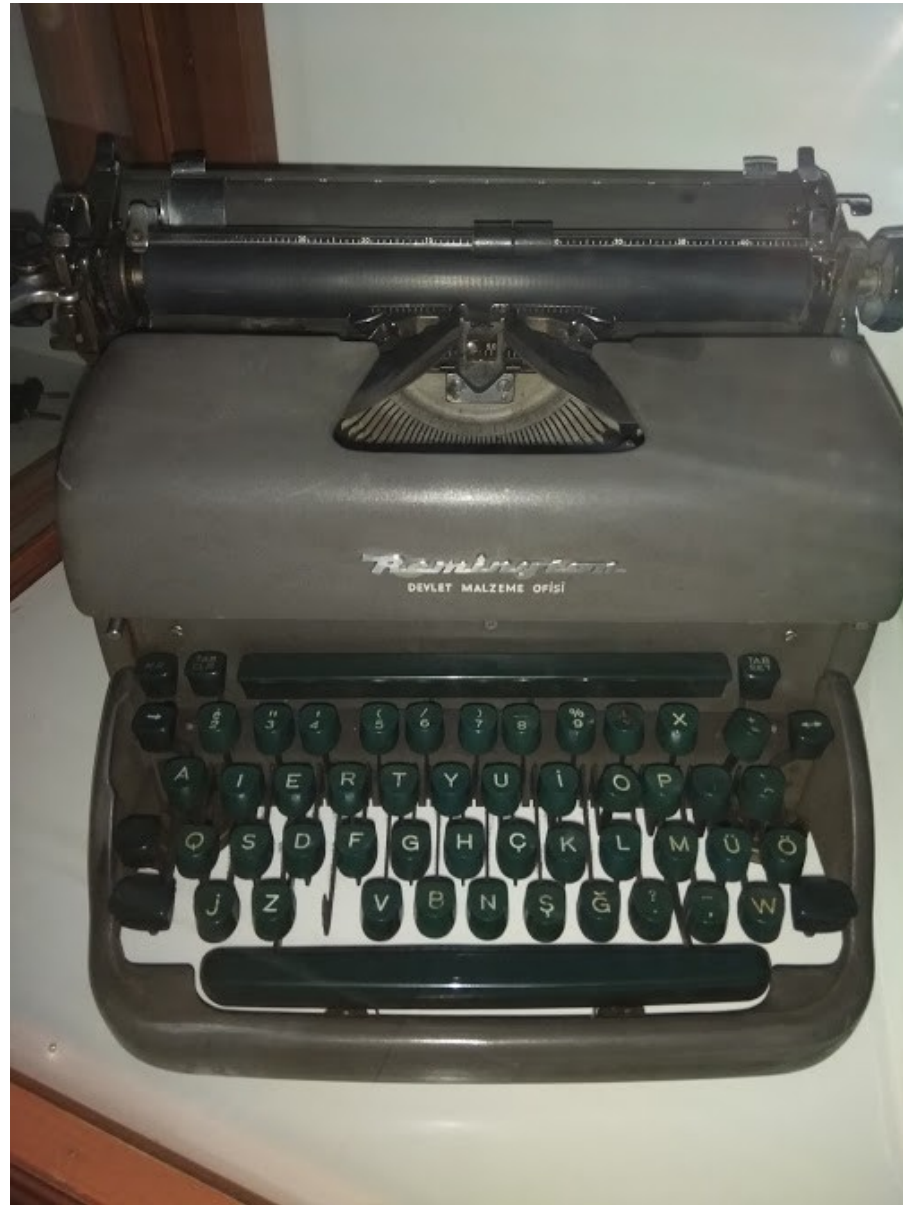
- Paul David. 1985. "Clio and the Economics of QWERTY" *American Economic Review* 75 (2): 332-337.
- Brian Arthur. 1994. *Increasing Returns and Path Dependence in the Economy*. The University of Michigan Press.



A Mechanical QWERTY (or Q-type Keyboard)



An F-type Keyboard



An A-type Keyboard



IBM Selectric II dual, 1961



ComputerHope.com

A Digital Q-type keyboard



COURTESY: BOY GENIUS REPORT

A Digital Q-type Keyboard on a Mobile Device

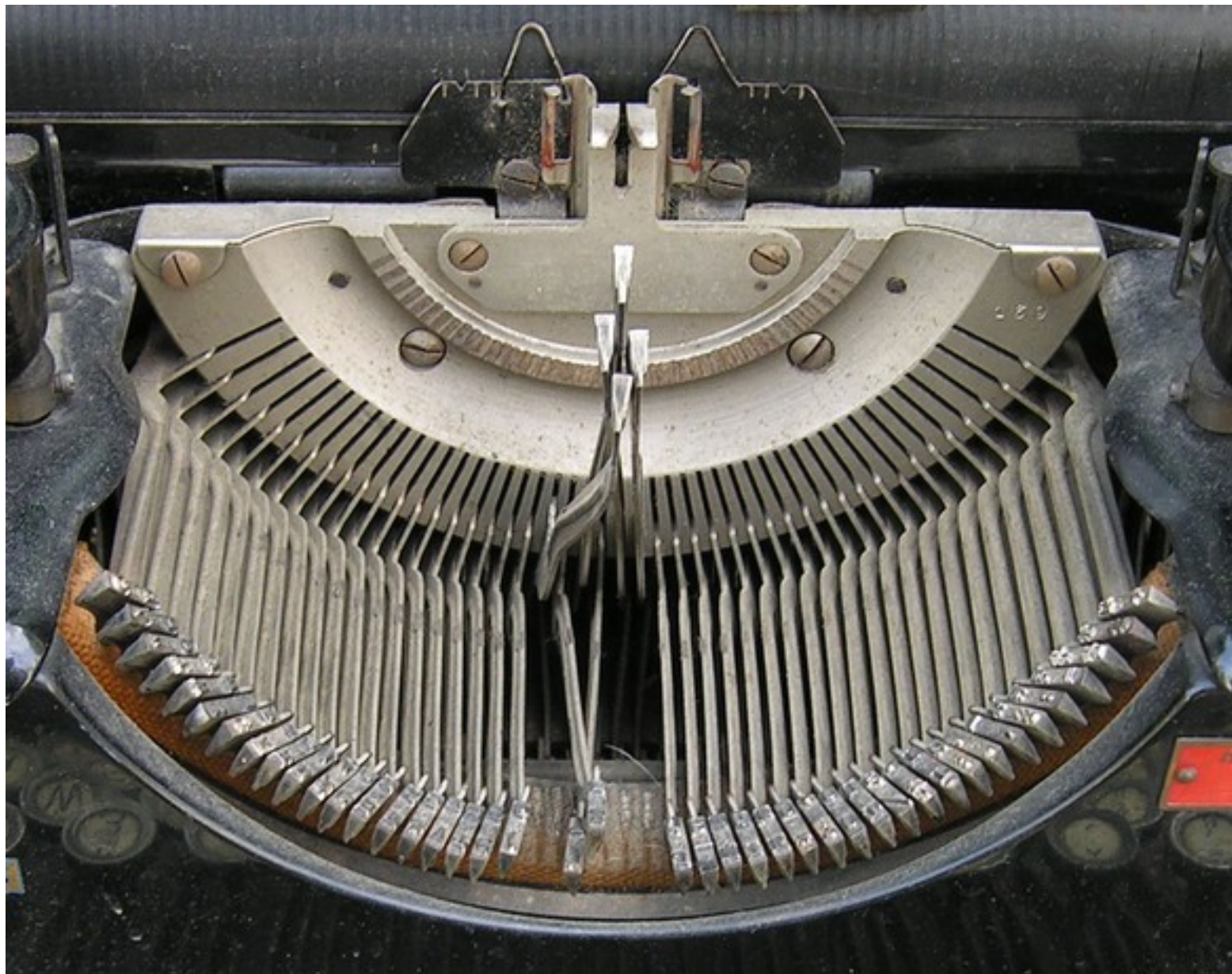


A Laser Q-type Keyboard

QWERTYs

- The first “type writer” was patented by Christopher L. Sholes in 1867 although its prototypes date back to the 1700s.
- In 1873, QWERTY was adapted*

() QWERTYs were patented by Sholes and his colleagues in 1909 (US), 1924 (UK). Dvorak Simplified Keyboards were patented by August Dvorak and W. L. Deadley in 1932.*



Source: WikiMedia Commons

Why do we use QWERTY's?

- A problem with the original type writer layouts:
jamming and clashing of mechanical parts
- A solution was QWERTY:
speed down the typist → lower the number of jammings →
increase the number of letters, words, and sentences typed

Why do we use QWERTY's?

After the solution (QWERTY)

- Mechanical QWERTY speeds down the typist but
- Mechanical QWERTY helps you type more letters and words

(at least, this was the original argument: P. David. 1985. "Clio and the Economics of QWERTY" American Econ Rev 75 (2): 332-337.)

Why do we use QWERTY's?

- After digital keyboards, the problem disappeared!

No jamming and clashing of mechanical parts

In other words, we have a SOLUTION without a PROBLEM

- We still use QWERTY's in our PCs, laptops, and tablets even when we type in Turkish!!!

So what?

- From problems without solutions
 - Injustice, inequality, ...
- To solutions without problems
 - Universities, families, languages, ...

Why do we use QWERTY's?

- Are QWERTY's «the best» keyboard systems?
- As we mostly type Turkish texts, why do we still use QWERTYs which are supposed to be the best keyboard system in English?
- Or, why do we not use F keyboards?

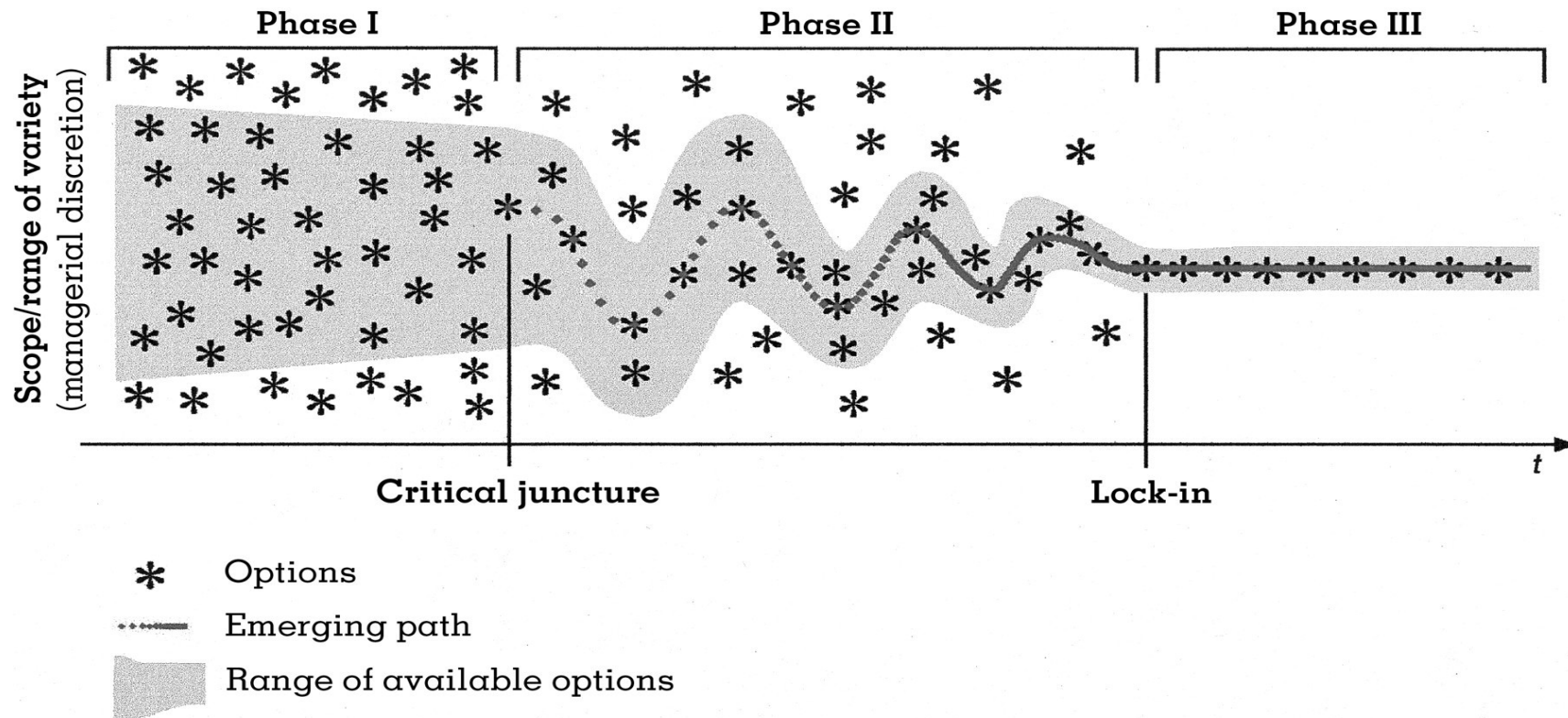
Why do we use QWERTY's?

- Sunk costs
- Habits of conduct
- Contingencies (or “small events”)
- History and institutions matter!



**The Theory of
Path
Dependence**

What is a pathway anyway?



Source: Georg Schreyögg and Jörg Sydow 2011 "Organizational Path Dependence: A Process View" Organization Studies 32 (3): 321-335.

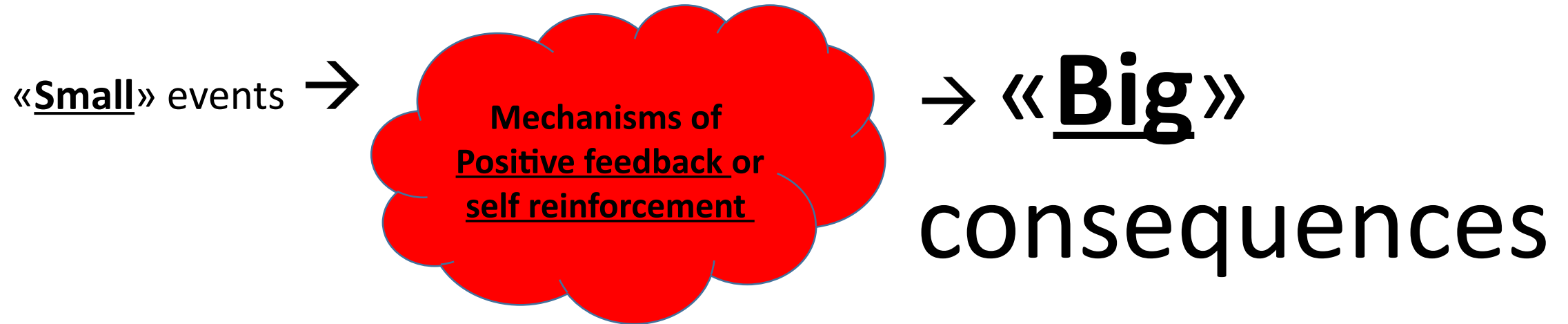
What is a contingency (“small event”)?

- Opposite of necessity
- In Turkish: «Olumsal» or «Başka türlü de olabilecekken olmuş olduğu gibi olan şey»

What is a contingency (“small event”)?

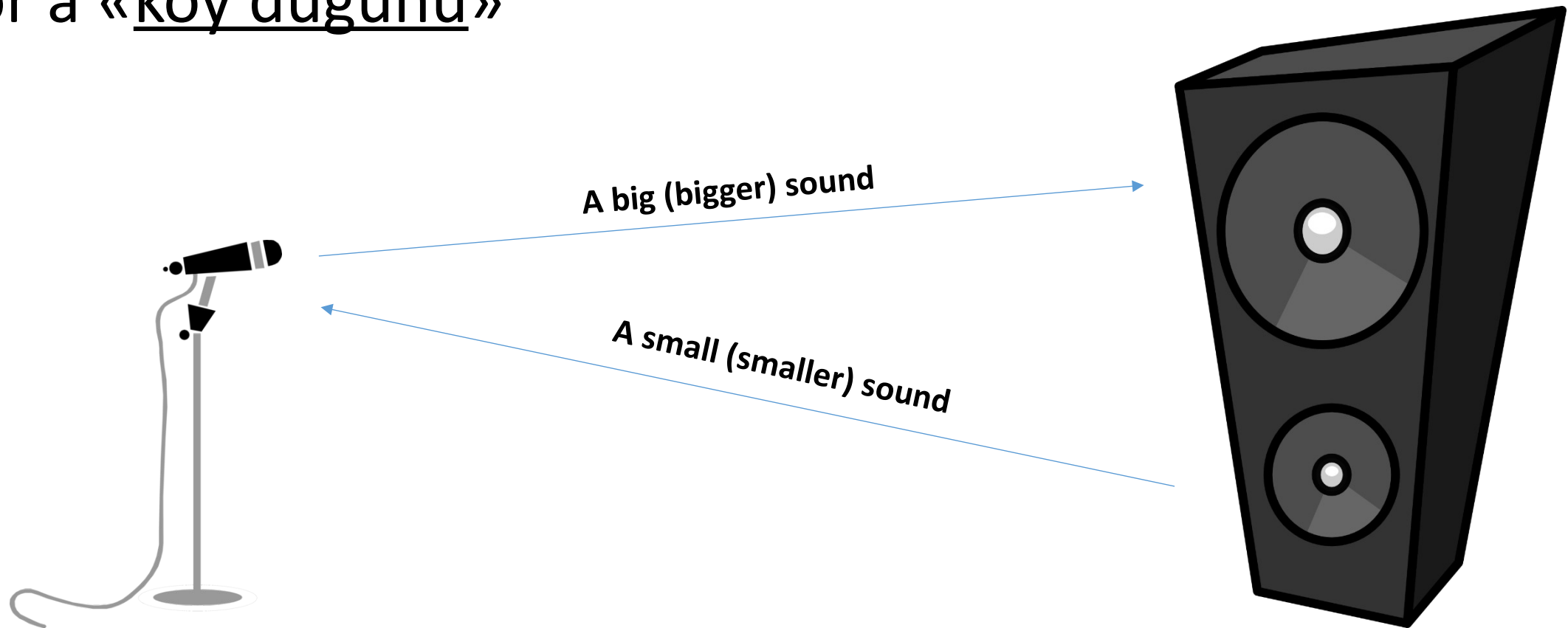
- Chance events → Super Lotto
- Random events → «bingo» or «Tombala»
- Probabilistic events → You pass an exam or you fail
- Unpredictable events → Earthquakes
- An important element is the mechanisms of positive feedback and self-reinforcement

What is a positive feedback mechanism?



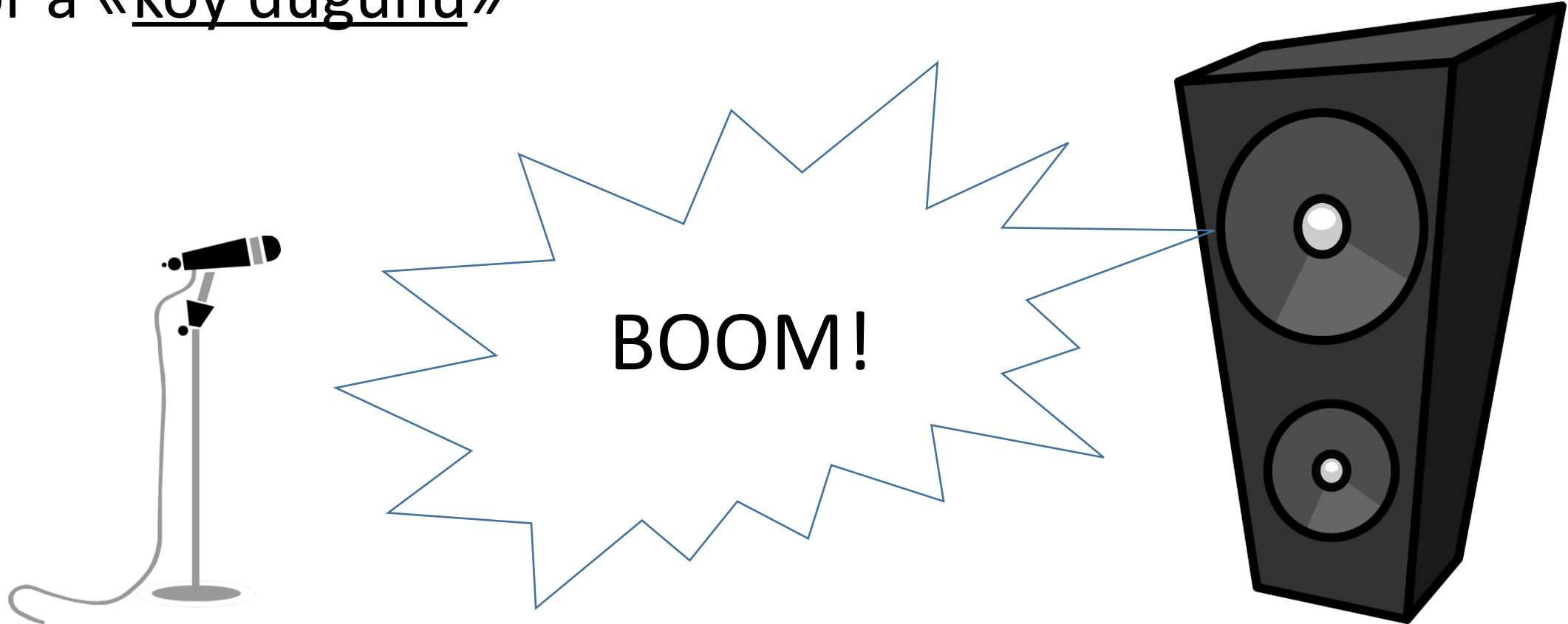
An example to positive feedback mechanism:

Imagine you're in a music studio, a small bar with live music, or a «köy düğünü»



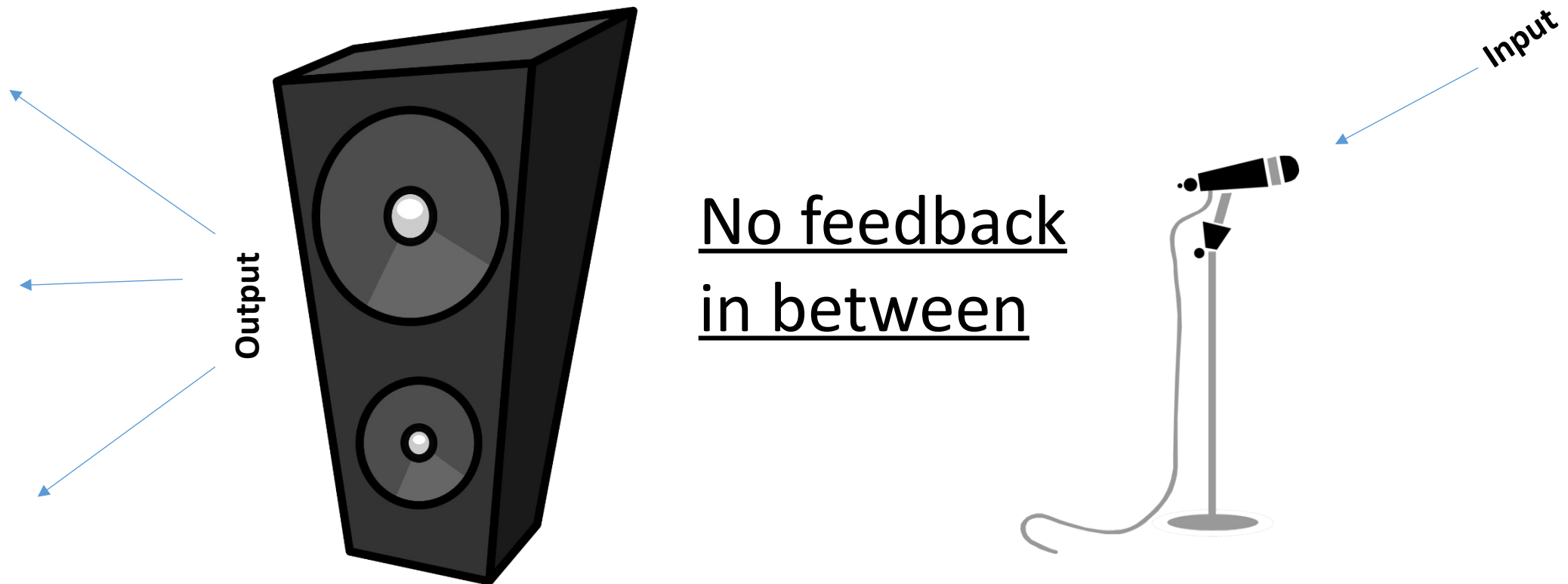
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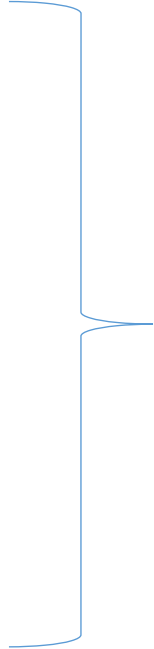
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Established cases of path dependence:

- QWERTY vs. Dvorak
- VHS vs. Beta
- Internet Explorer vs. Netscape
- Silicon Valley
- Economic clusters



Keep in mind:
These cases are,
mainly, related to
the economics of
technology!

Other established cases of path dependence:

- Emergence of capitalism
 - *Why did capitalism emerge in Northern Europe?*
- Colonialism
 - *Why are some countries rich and others poor?*
- Political economy of the European Union
 - *Is the full adoption of different law systems, customs, and rules possible?*

What other cases of path dependence can we think of?

- Language?
- University?
- Family?
- Science?

In these cases:

- Does history matter?
- Can you observe small events?
- Can you observe positive feedbacks?

- **How about your own private lives?**

So what?

Since we started:

- We have made **progress**.
- We have **learned** about different definitions of evolution.
- We have **moved toward upper levels** of understanding.

And now:

- We are at a **further stage**.
- We are **advanced** economics students.

So what?

Since we started:

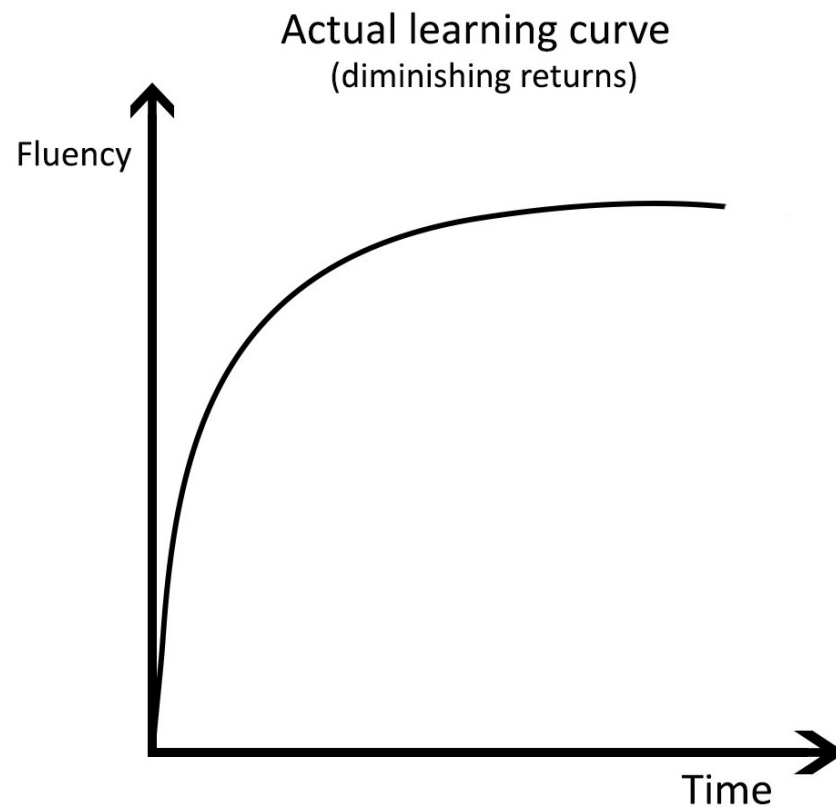
- We have made progress.
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What do we
know about the
underlined
words
(concepts)
*beyond
commonsense?*

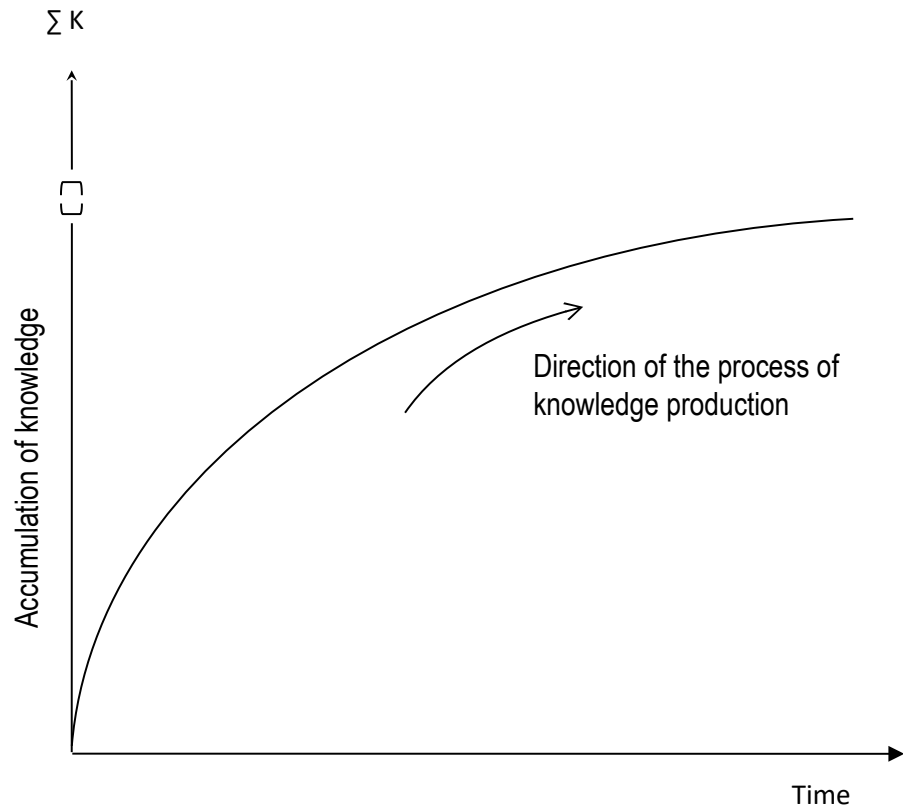
So What?



<http://www.lingholic.com/wp-content/uploads/2013/05/actual-learning-curve1.jpg>

So what?

Let's try to think like an **economist**:



Properties of a graph like this:

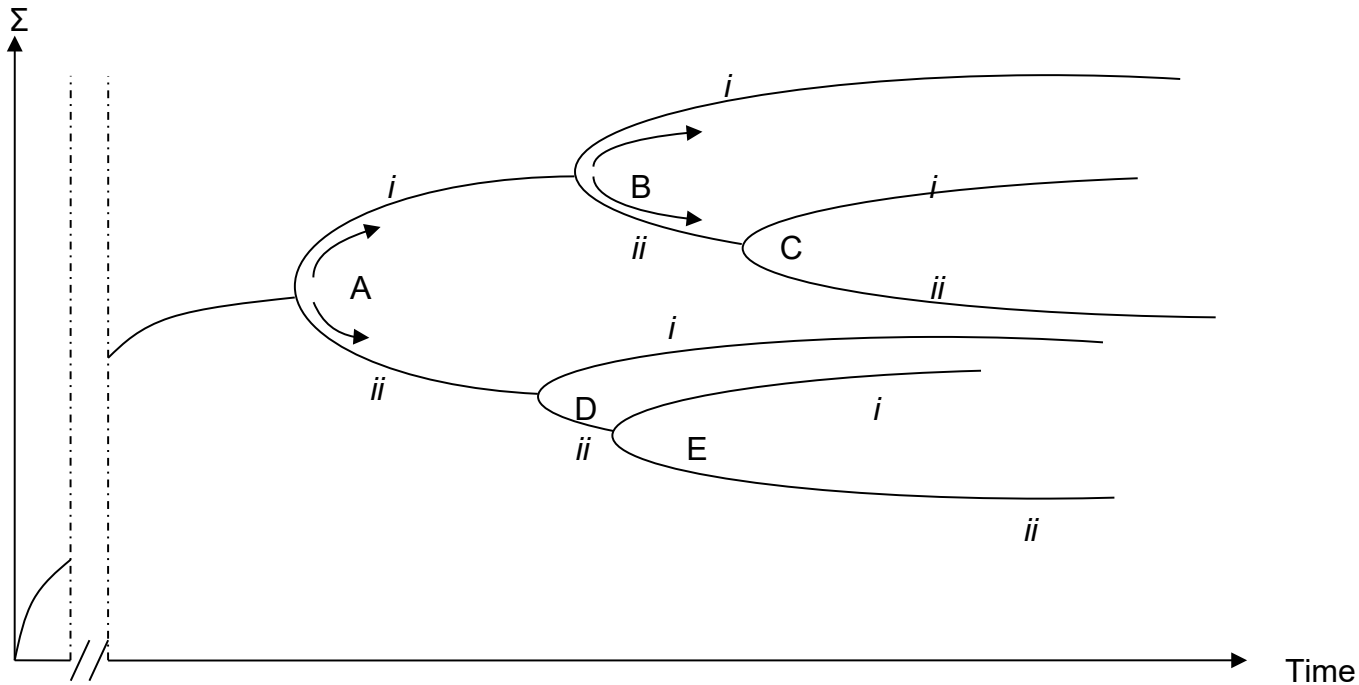
- Continuous
- Progression, advancement, growth etc.
- A single pathway

So what?

- Dialectics (Friedrich Hegel): Negation of ideas
- Rational Choice Theory: Utility maximization
- Critical Rationalism (Karl Popper): Trial and error

So what?

Let's try to think like a **philosopher**:

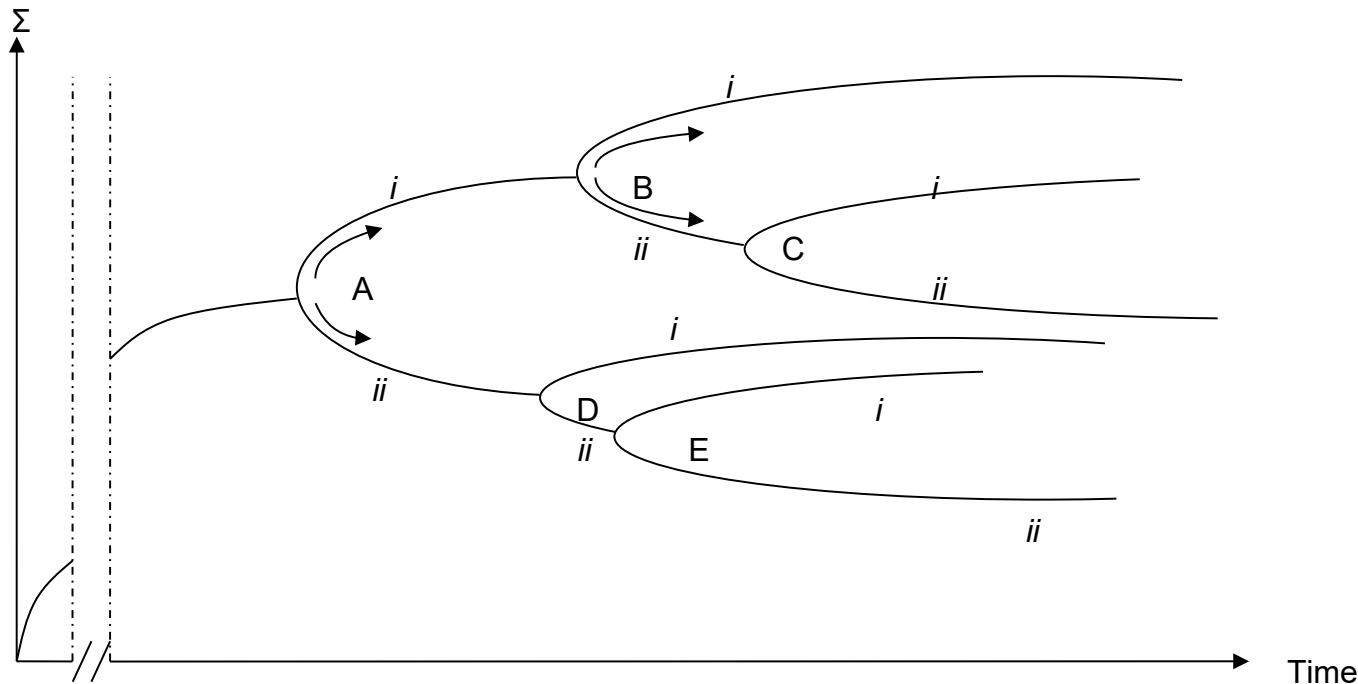


Properties of a graph like this:

- Progress, advancement, growth
- BUT
- Discontinuous
- Multiple pathways

So what?

Let's try to think like a **historian**:



This graph may represent:

- Social revolutions

15,000-10,000 BC The Neolithic Revolution

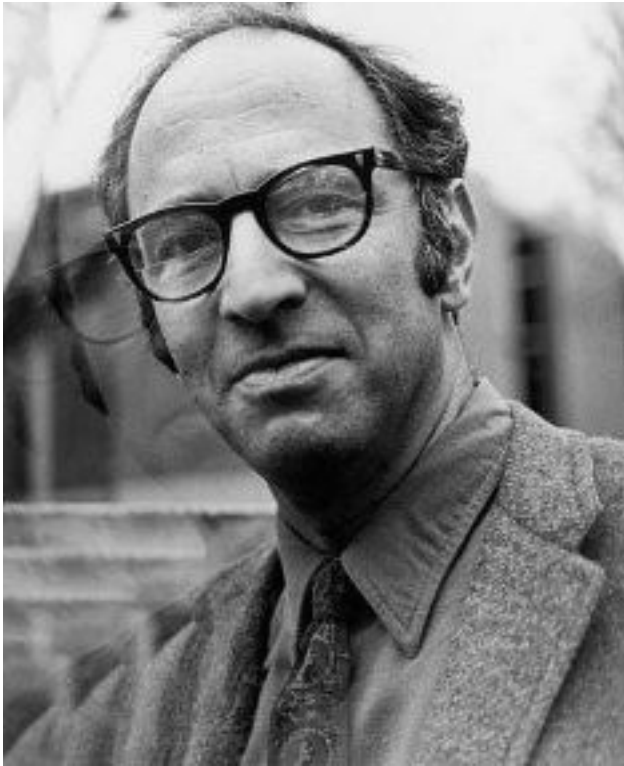
1789 The French Revolution

1917 The Russian Revolution

1923 The Turkish Revolution

1970s The Digital Revolution

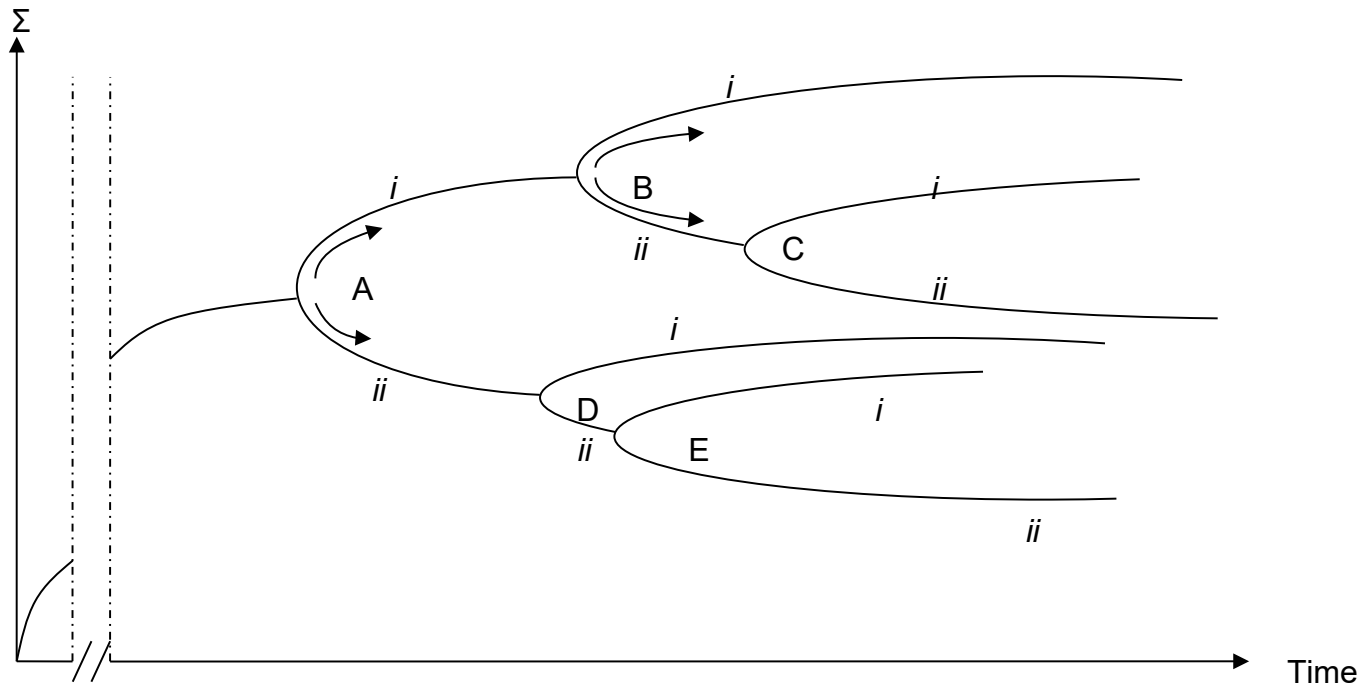
Thomas Kuhn (1922-1996)



- Philosopher of science
- Best known for his work *The Structure of Scientific Revolutions* (1962)
- In Turkish: *Bilimsel Devrimlerin Yapısı* (1982)
- Paradigm

So what?

Let's try to think like a **historian of economics**:



This graph may represent:

- Paradigm shifts

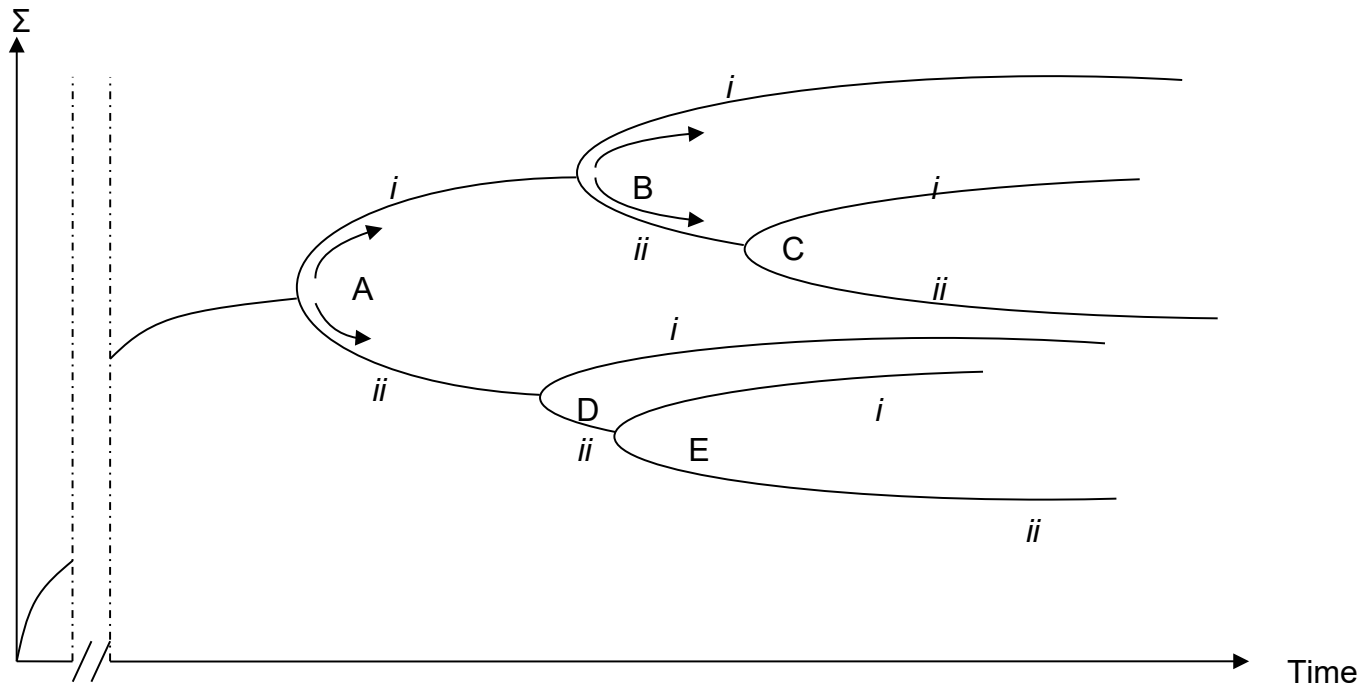
Coined by Thomas Kuhn

Newtonian Paradigm in Physics

Neoclassical Paradigm in Economics

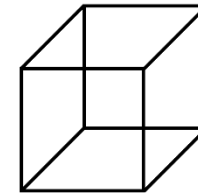
So what?

Let's try to think like a **historian of economics**:



This graph may represent:

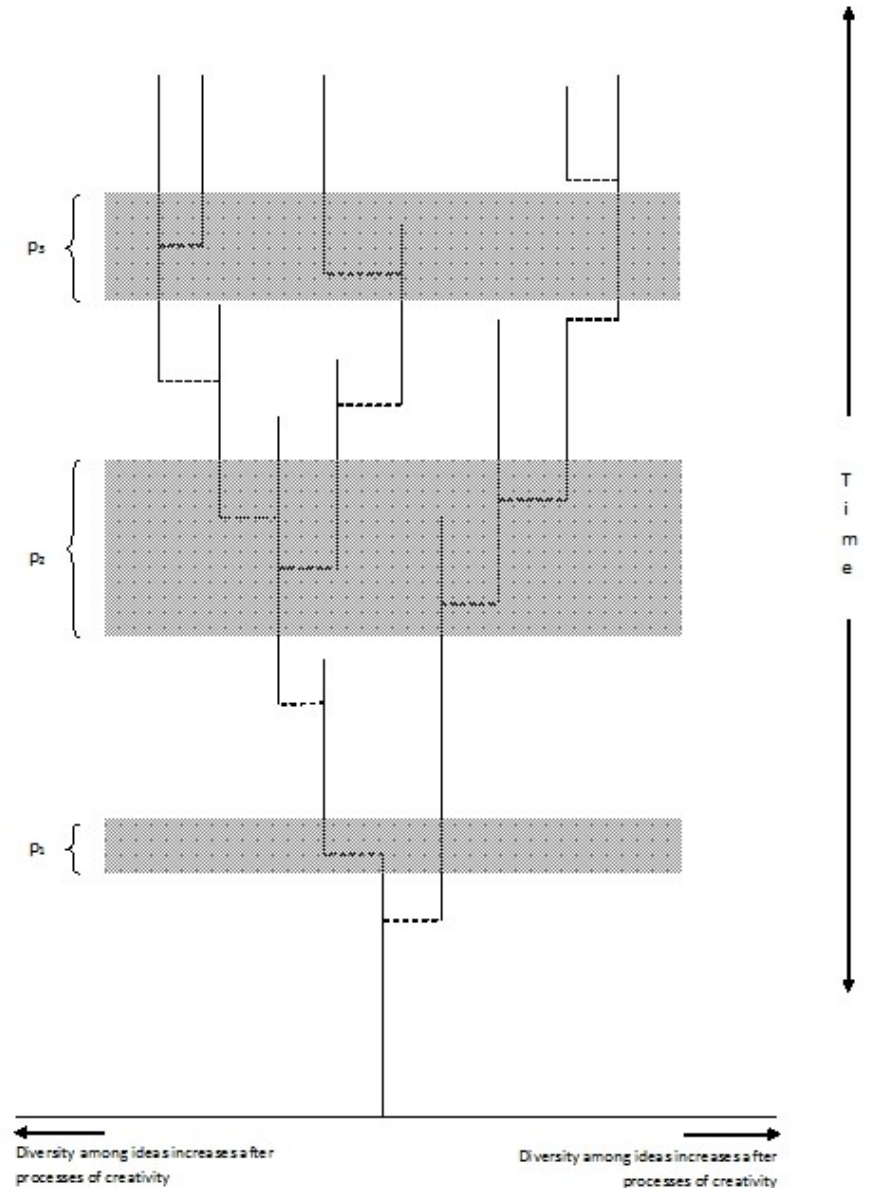
- Gestalt shifts



What if?

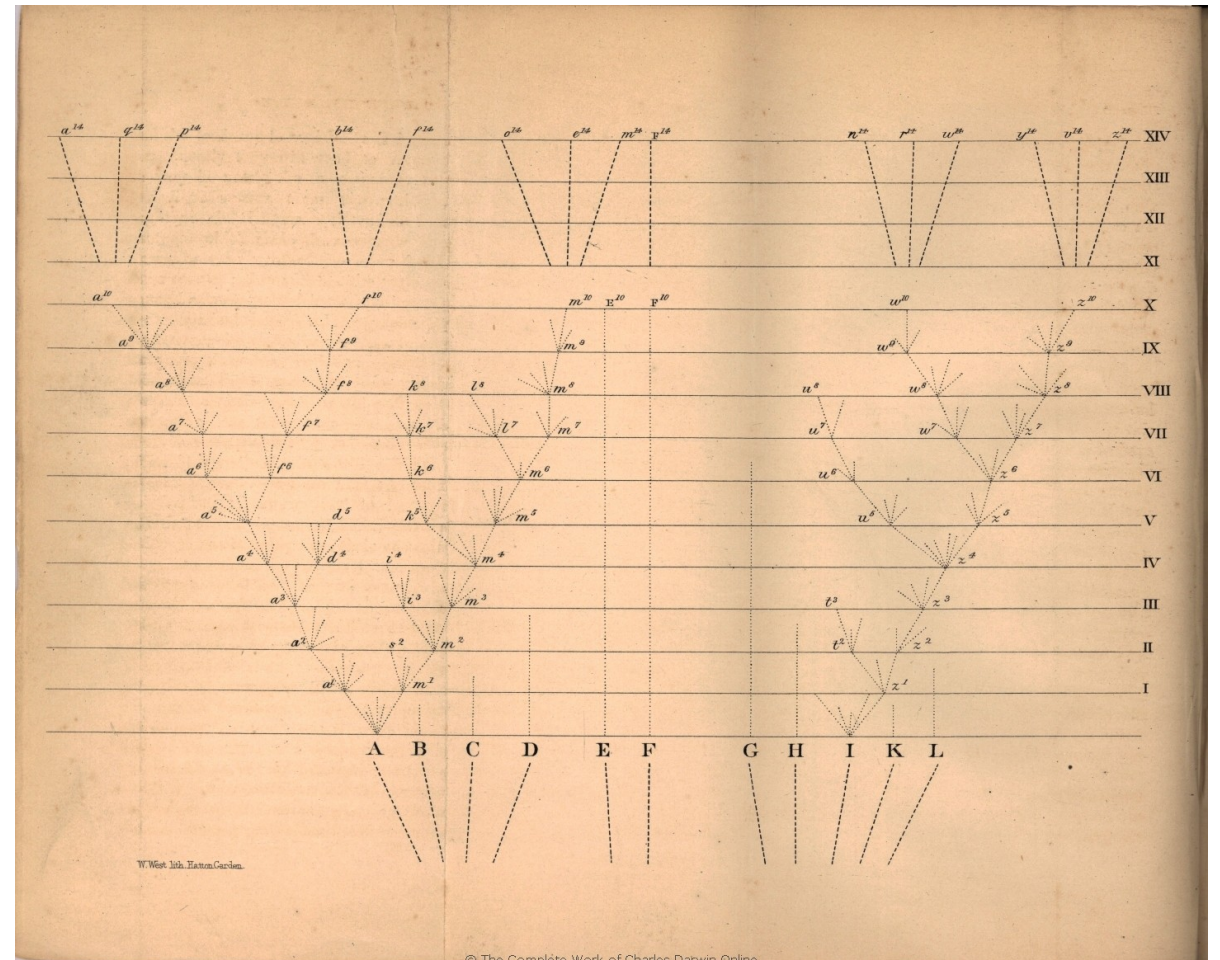
How about this?

- Progress, advancement, growth → DIVERSITY
- Discontinuous or discrete
- Multiple pathways



Darwin's "Tree of life"

Source: Charles Darwin. 1859
[2006] *On the Origin of Species*. In
E. O. Wilson. *From So Simple a
Beginning*. W. W. Norton: 525

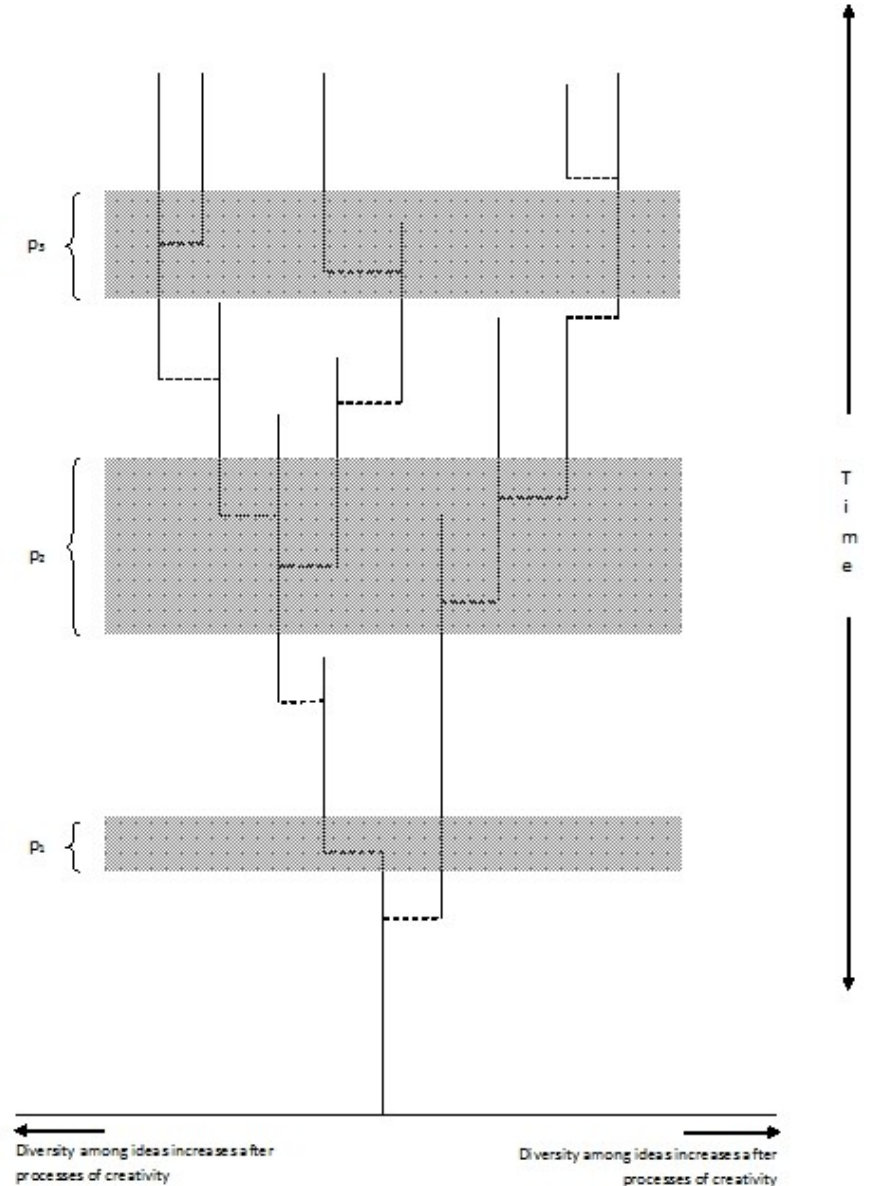


What if?

How about this?

- Darwin's «tree of life»
- We forget things
- We refuse to remember
- Somethings do not change
- People are stubborn, stupid, and lazy
- People have habits
- People behave instinctively

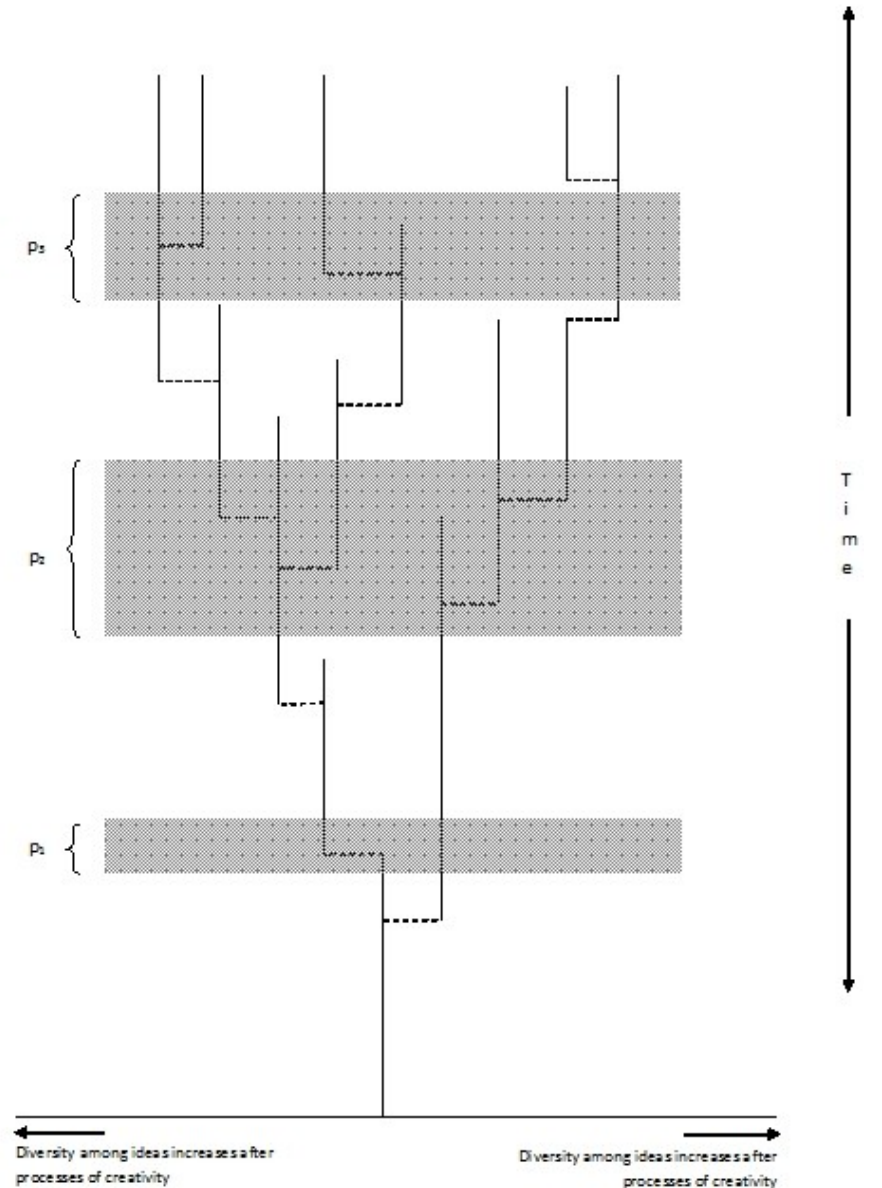
The Theory of Path
Dependence



What if?

This graph may represent:

- The history of economic thought
- Emergence of nations
- Evolution of any social institution:
 - Technologies
 - Universities
 - Habits
 - Customs
 - Languages
 - Religions



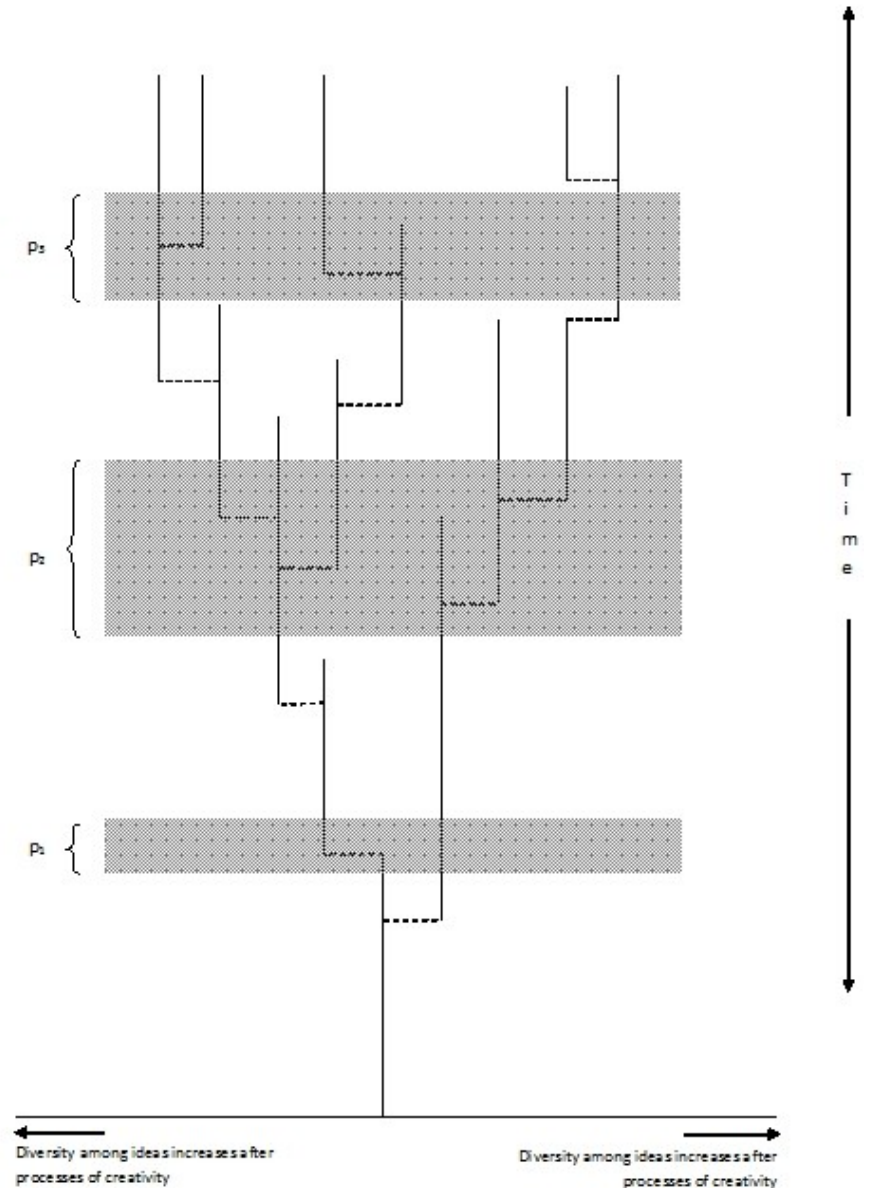
What if?

This graph can explain:

- Why there are more than one specie
- Why there are more than one theory
- Why there are more than one language
- Why there are more than one religion

In short:

- **Multitude and diversity in the society and economy!**



Conclusion

How should we understand the evolution of (economic) ideas where some of the conceptions, notions, paradigms do not change for long periods of time?

Evolution is a process in which several mechanisms are simultaneously at play, causing institutions, instincts, and habits to change or resist to change.

