EE466 Political Economy of Development

Introduction

Why some countries are more developed than some others?
Why some lives are always wealthier and easier than some others?
What factors could impede a country from development?
Why couldn't a political system attract and nominate a right leader?
How can a society form a good public policy?
Why can't many good policy ideas be eventually practical?
Does an equal and just society be possible along with economic growth?
Is capitalism a final answer for our future economy?

NOTE

- This is not an **economics** or **history** class.
- But a brief introduction for you in understanding the development phenomena through various lens of political economy approaches.

EXPECTATIONS

- Be familiar with some key concepts of thought.
- Be familiar with the major readings and their arguments
- Have an intuition in explaining logically how the current phenomena be engaged with the economic system
- Practice constructing good academic arguments in writing and debating

LEARNING METHODS

- Lectures & Class discussion
- Reading
- Movies

Roots of Development

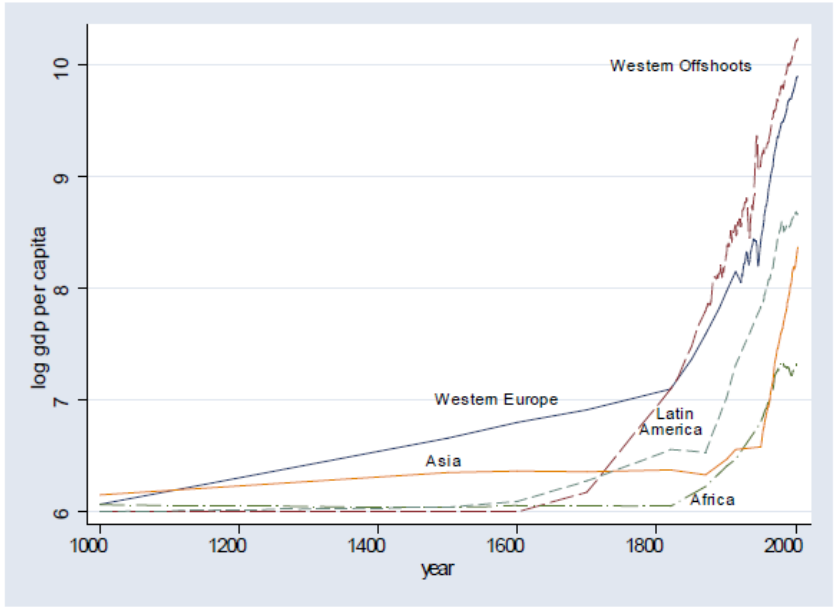
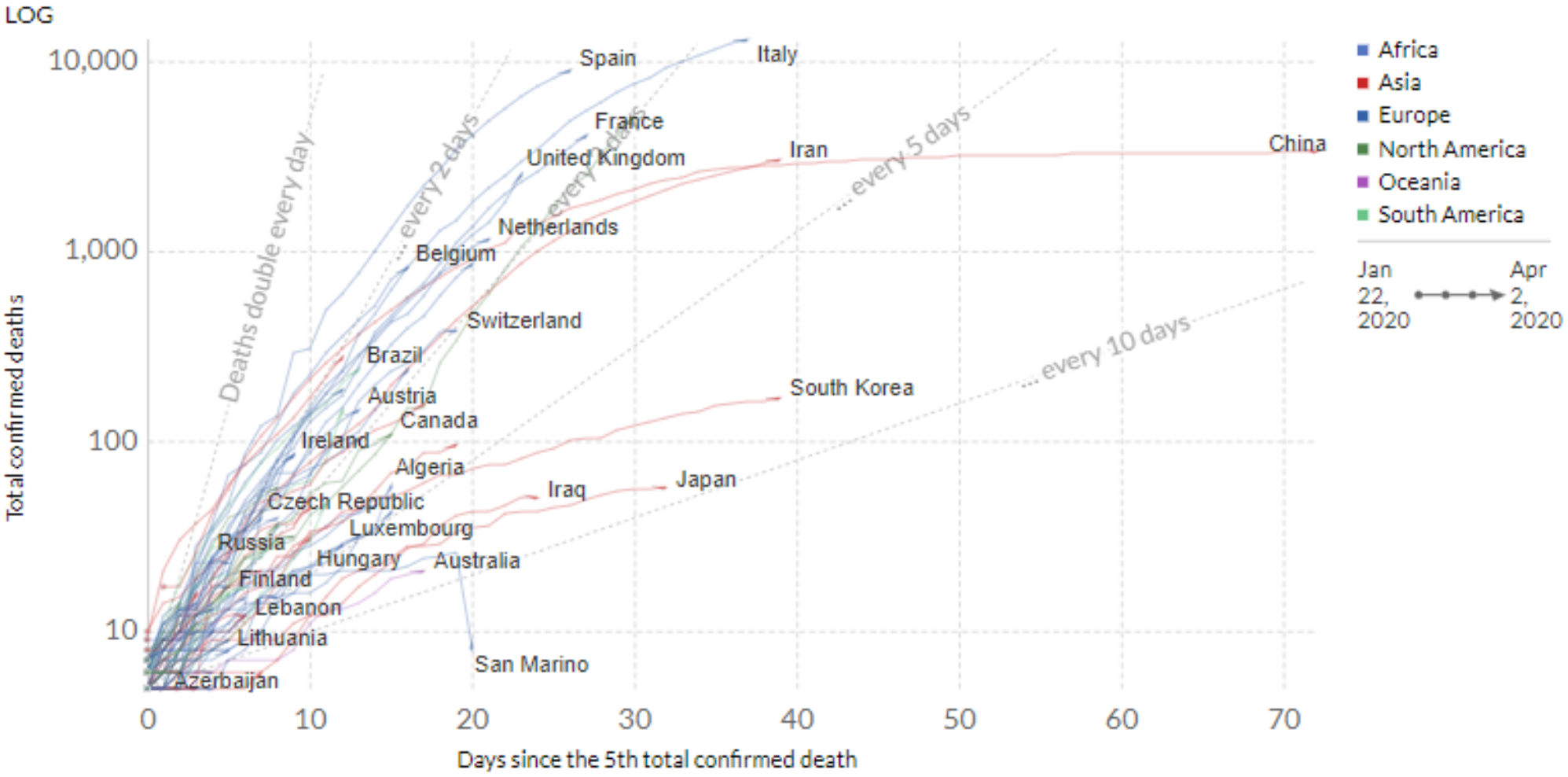


Figure: The evolution of average GDP per capita in Western Offshoots, Western Europe, Latin America, Asia and Africa, 1000-2000.

- We all descended from primitive hunting and gathering bands.
- The gap between rich and poor nations, between developed and undeveloped nations, is as wide today as it ever was and perhaps a great deal wider than ever before
- How have societies diverged? What accounts for their widely disparate performance characteristics?
- What accounts for societies experiencing long-run stagnation or an absolute decline in economic well-being?

Total confirmed deaths of COVID-19

Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.

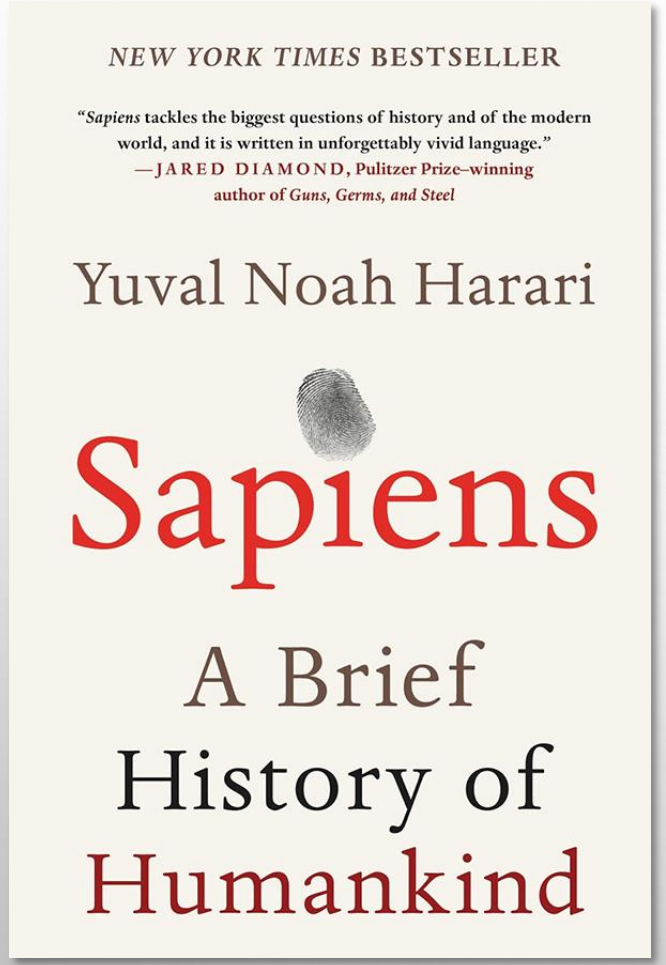


Source: European CDC – Situation Update Worldwide – Last updated 2nd April, 11:45 (London time)

THE RISE OF THE WEST

- Why has the world become increasingly unequal?
- Why are some countries rich and others poor?
- Why did the Industrial Revolution happen in England rather than France
- Both 'fundamentals' like **geography, institutions, or culture** and '**accidents of history**' played a role.

FROM THE PAST TO PRESENT?



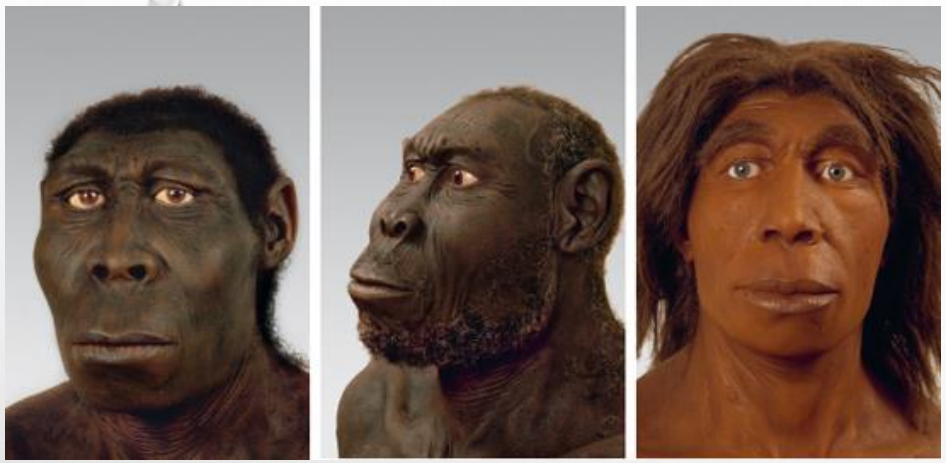
- Once we were an inconsequential animal on the African Savanna, today we are semi gods on this tiny blue dot of the universe. What got us here?

TIMELINE OF HUMAN HISTORY

Years Before the Present	
13.5 billion	Matter and energy appear. Beginning of physics. Atoms and molecules appear. Beginning of chemistry.
4.5 billion	Formation of planet Earth.
3.8 billion	Emergence of organisms. Beginning of biology.
6 million	Last common grandmother of humans and chimpanzees.
2.5 million	Evolution of the genus *Homo* in Africa. First stone tools.
2 million	Humans spread from Africa to Eurasia. Evolution of different human species.
500,000	Neanderthals evolve in Europe and the Middle East.
300,000	Daily usage of fire.
200,000	*Homo sapiens* evolves in East Africa.
70,000	**The Cognitive Revolution**. Emergence of fictive language. Beginning of history. Sapiens spread out of Africa.
45,000	Sapiens settle Australia. Extinction of Australian megafauna.
30,000	Extinction of Neanderthals.
16,000	Sapiens settle America. Extinction of American megafauna.
13,000	Extinction of *Homo floresiensis. Homo sapiens* the only surviving human species.
12,000	**The Agricultural Revolution**. Domestication of plants and animals. Permanent settlements.
5,000	First kingdoms, script and money. Polytheistic religions.
4,250	First empire – the Akkadian Empire of Sargon. Invention of coinage – a universal money.
2,500	The Persian Empire – a universal political order 'for the benefit of all humans'. Buddhism in India – a universal truth 'to liberate all beings from suffering'.
2,000	Han Empire in China. Roman Empire in the Mediterranean. Christianity.
1,400	Islam.
500	**The Scientific Revolution**. Humankind admits its ignorance and begins to acquire unprecedented power. Europeans begin to conquer America and the oceans. The entire planet becomes a single historical arena. The rise of capitalism.
200	**The Industrial Revolution**. Family and community are replaced by state and market. Massive extinction of plants and animals.
The Present	Humans transcend the boundaries of planet Earth. Nuclear weapons threaten the survival of humankind. Organisms are increasingly shaped by intelligent design rather than natural selection.
The Future	Intelligent design becomes the basic principle of life? *Homo sapiens* is replaced by superhumans?

https://www.youtube.com/watch?v=3rHXrA80NH4
https://www.youtube.com/watch?v=0yBzxC9eoog

TIMELINE OF HUMAN HISTORY



- From about 300,000 years ago our genus began using **fire**.
- This created a revolution as it allowed us to cook food—allowing us to eat foods we normally can't digest, killing bacteria and massively decreasing the amount of time chewing and digesting our food.
- Cooking food lead to shortened intestines and hence, our brains could grow bigger.
- ***Homo Sapiens***, humans that look just like us, first appeared on East Africa around 150,000 years ago. At this point we were an inconsequential species fighting for our survival like many others on this planet.
- Homo Sapiens brain consumes 25% of energy at rest, 8% is the norm for other apes. The big brain is an even bigger cause of human infants which are born relatively prematurely (in terms of physical strength) compared to the other species. The long gestation period and the raising of the child implied that the evolution favored strong social ties in humans.

COGNITIVE REVOLUTION

•Something very special happen around 70,000 years ago that lead to what is called the **Cognitive Revolution**.
• From around 70,000 years ago to 30,000 years ago Sapiens experienced unprecedented prosperity allowing us to leave Africa and reach places as far as Australia.
•During this period we also see the development of art, religion, commerce and social stratification.
• It is commonly believed that a genetic mutation allowed us to think and communicate in unprecedented ways thus igniting this revolution.

COGNITIVE REVOLUTION

- Anthropologists believe that our complex language was used more for **gossip** than to discuss where the prey. And from there evolved the ability to create and believe in myths. The **myths** allowed us to collaborate and cooperate in large numbers in the form of tribes and now, in the form of nation-states.

- There is something very special about out language habilites, specifically our ability as a species to speak about ***fiction***. We are the only animal that can speak about things that don't exist and from this collaborate in flexible ways that no other animal is able to. This is why we rule the world.

- **There are no gods in the universe, no nations, no money, no human rights, no laws, and no justice. All of these concepts exist solely in the imagination of human beings.**

- It is this diversity of **imagined realities** that Sapiens invented and the resulting different behavior that we today refer to as "culture". Ever since we created a culture these have changed and developed leading to the changes in what we refer to as "history".

COGNITIVE REVOLUTION


Corbis/Diego Lezama Orezzoli

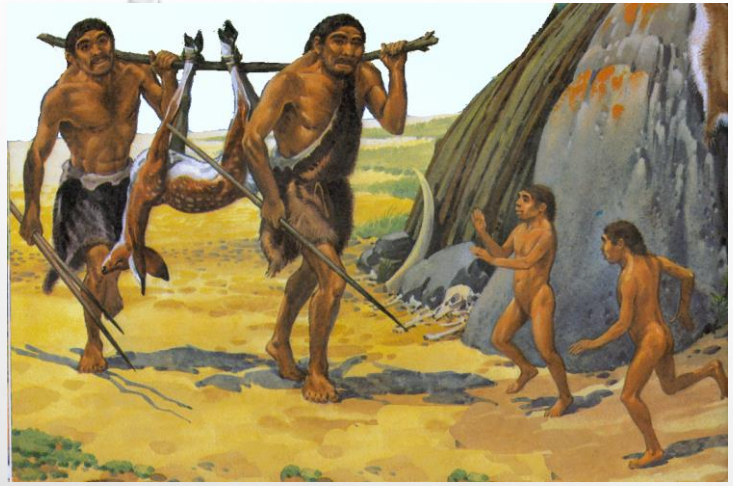
• *Human Rights* is an **imagined order**. A *Homo Sapiens* has no natural rights in the same way that a dog, elephant, dolphin or ant have no natural rights. Gravity, a **natural order**, will not cease to exist tomorrow. In contrast an imagined order is only valid because enough people believe in its truth or validity.

• Since all these imagined orders that we created are not passed down in our DNA we needed to create external tools to preserve them.

• A great leap in helping us maintain the imagined orders that we created came with **the invention of full script writing—cuneiform**—invented around 3000 BC and 2500 BC by **the Sumerians**.

•The initial writing was only for the record-keeping, therefore, it was a partial script. A full script can express almost everything that can be spoken.

AGRICULTURAL REVOLUTION



First wave extinction: Sapiens as hunter-gatherer enter the ecosystem
Second wave extinction: Sapiens become farmers and forests burnt and reduced to grasslands
Third wave extinction: Industrial revolution

• Except for the past 10, 000 years, Sapiens evolved in **pre-agricultural hunter forager societies**. These ancient foragers know a lot more about their surroundings than us. Forager societies tend to end wide and varied diet. Some anthropologists, therefore, call hunter-gather societies **the original affluent society.**

• About 45, 000 years ago, some Sapiens living on Indonesian islands figured out the art of building boats and eventually reached Australia. 23 out of 24 species larger than 50 Kg became extinct within few 1000 years. The marsupials, mammals with baby-carrying pouches, failed to adapt to the onslaught of the humans.

• About 16, 000 years ago, the invasion of America happened via Siberia which was connected to North-western Alaska when the sea levels were lower. Unlike other species of Homos, Sapiens adapted to the harsh colder climate by sewing boots and thermal clothing. They thrived on eating the juicy animals like mammoths which given low temperatures can be eaten over days. Around 14, 000 years ago, global warming melted the glaciers in Alaska which blocked the way to rest of the Americas. And that's when Sapiens ventured into the American continents. With 2000 years, Sapiens reached the southern most point in America.

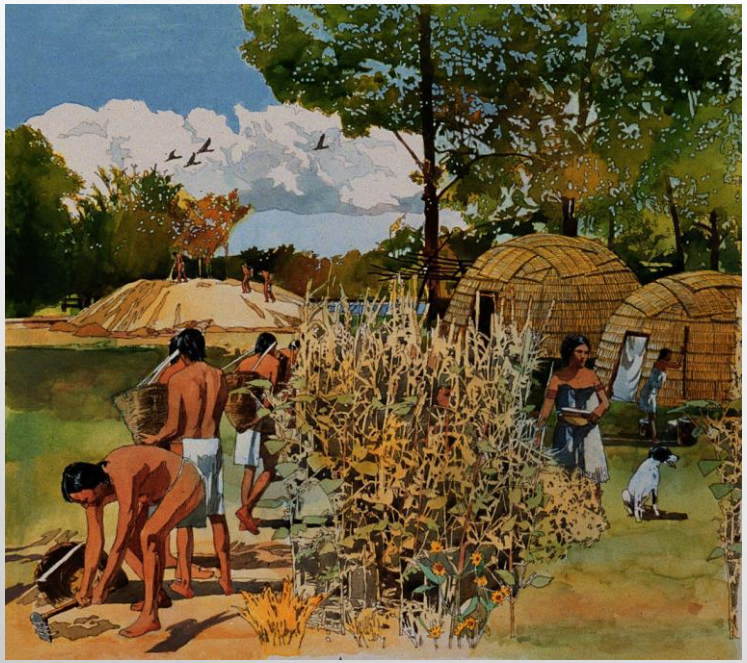
AGRICULTURAL REVOLUTION

- The transition to **agriculture** began around 9500 years ago and today 90 percent of the calories that feed humanity come from plants that our ancestors domesticated between 9500 and 3500 BC—wheat, rice, maize, potatoes, millet and barley.

- Even though the **Agricultural Revolution** increased the food supply this 23 out of 24 species larger than 50 Kg became extinct within few 1000 years. The marsupials, mammals with baby-carrying pouches, failed to adapt to the onslaught of the humans.extra food did not translate in an increase in the quality of life for most humans. It lead to **a population explosion**, **social and class division**, **exploitation and diet problems** that had never existed before.

- The Agricultural Revolution allowed Sapiens to settle and begin forming **large communities** that had never before existed. These communities began developing different "cultures" to organize themselves. It is this **imagined order** that allows us to cooperate effectively and as such create a more specialized society.

AGRICULTURAL REVOLUTION

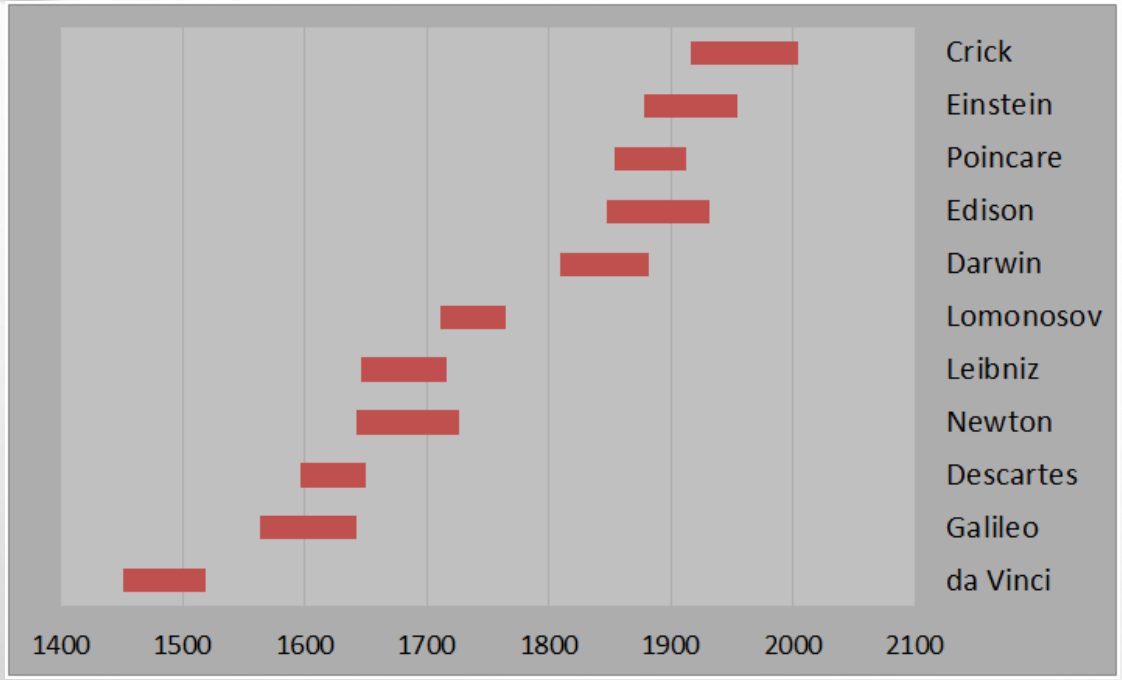


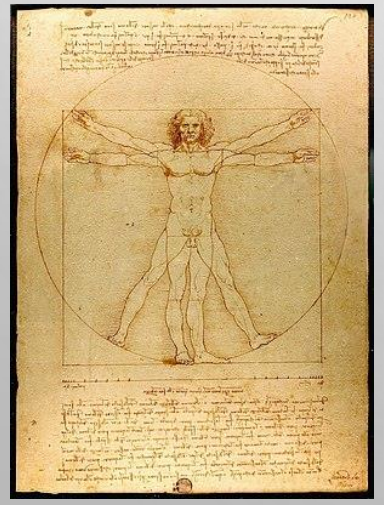
- Human bodies were not designed for agriculture and farming. Wheat demand protection from pests, animals, and even other humans. The only advantage farming has is that it leads to more food per unit area and allowed humans to multiply exponentially.
- Agricultural revolution leads to permanent settlements which allowed women to have more kids. Agriculture soon became a necessity to support the ever-increasing population.
- Similarly, domestication of animals proceeded with slaughtering the most aggressive, weak, and economically unworthy animals first. Over time, domesticated animals evolved to be more economically worthy and more submissive. While just like wheat, animals like chicken, sheep, pig, and cow spread over the world.

AGRICULTURAL REVOLUTION

- The **food surplus** exploded the population from 5-8 million in 10, 000 BC to 250 million in about 100 AD. The food surplus eventually lead to the emergence of bigger political orders like cities and nation-states.
- An **empire** is characterized by cultural diversity and territorial flexibility. All empires have engaged in the brutal slaughter and assimilation of the people outside its borders to extend its territory.
- Almost, all imperial empires follow the same style. First, they conquered territories. Then those territories adopt the new culture. Then the people of these territories demand equal stature. And then eventually empire flames out but the imperial culture remains.
- Not only all empires are founded on blood and used war and oppression to maintain themselves, but also they are the source of almost all modern cultures.

SCIENTIFIC REVOLUTION

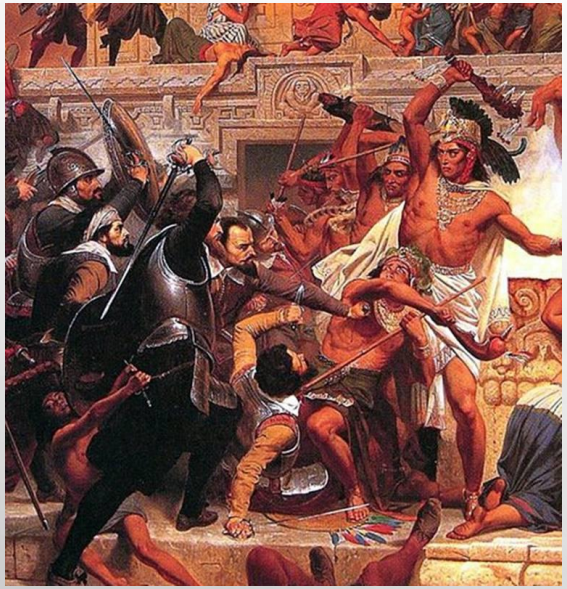




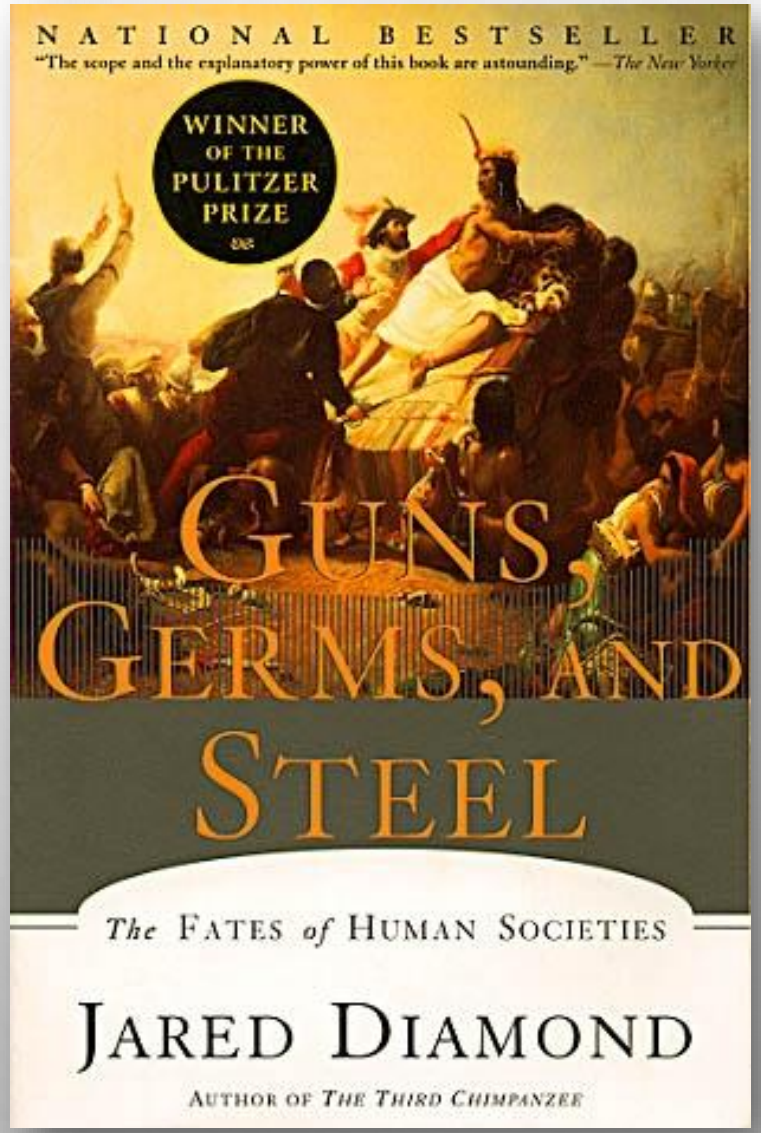
Vitruvian Man

- Scientific tradition, in western Europe, a part of the world which played little role in the history till about 1500AD.
- The focus of education has shifted from Theology to Mathematics and other "exact" sciences. The scientific progress has drastically elongated the life expectancies.
- While the Arab world, India, and China also produced intellectuals and scholars (which Europeans did study), it was only in Europe that these intellectuals worked alongside the capitalists towards for-profit initiatives.
- Western Europe and Britain which had played almost no important role in the history of the human civilization till about 1500 AD started to emerge and Europe took over to become the economic powerhouse between 1750 and 1850.

SCIENTIFIC REVOLUTION



- The **Imperial voyages** to the distant lands would consist not only of military but also some scientists to make discoveries.
- This scientific mindset is illustrated by the example of Columbus vs. Vespucci. Columbus reached the Bahamas and the Americas in 1492, but he simply did not want to believe that there exists a new continent which Bible and all other religious text could have missed.
- In 1492, Columbus reached the Caribbean; the local population was colonized, killed, and enslaved with an iron fist. Within a century, 90 percent of the local population was wiped out.
- Vespucci reached there around 1500, and he argued that this is a new continent unknown till then.
- The detailed understanding of the local culture allowed Europeans to leverage and rule the populations far larger than theirs. While Imperialists claim that their empires were altruistic projects, **a white man's burden**, the truth was locals were subjugated with an iron fist.



- Why did history unfold differently for different countries?

- Why are some countries poor while others are rich?

Yali's question: Yali, a New Guinea politician asked

> "Why is it that you white people developed so much cargo and brought it to New Guinea, but we black people had little cargo of our own?"

- Why were Eurasian societies disproportionately powerful and innovative?

ANSWER:

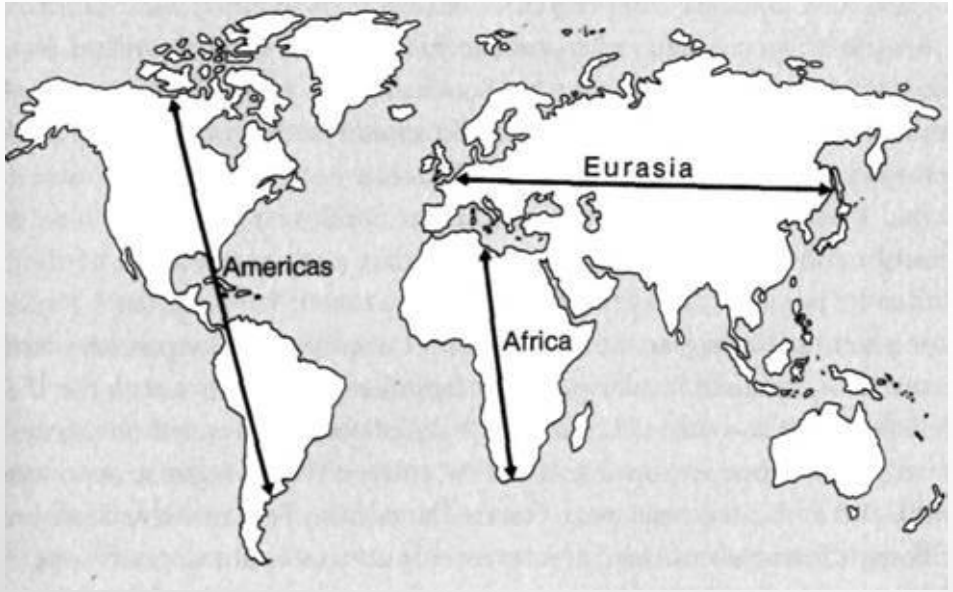
- "Much of human history has consisted of unequal conflicts between the haves and the have-nots."

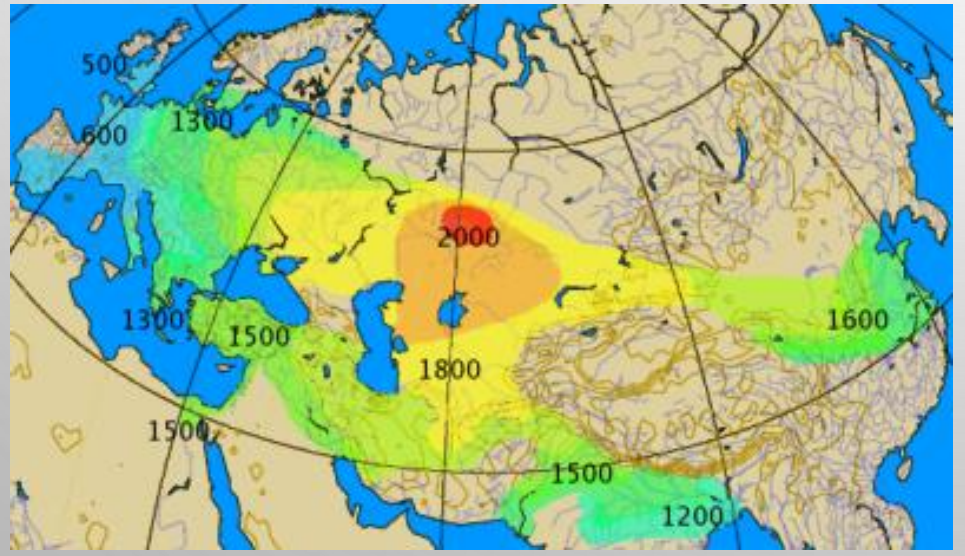
- **People in Eurasia had a geographical advantage**
  - Not smarter, more inventive
- **Best plants for domestication**
  - 5,000 years earlier than Americas
- **Best animals for domestication**
- **East-west orientation**
  - Climate similar
  - Crops spread easily
    - Populations
    - Cultures
    - Technologies
- **Eurasians easily conquered other continents**

- The Incas were conquered by the Spaniard Francisco Pizarro.
- Pizarro had only 168 soldiers but with steel armor, swords, horse mounted cavalry, and guns.
- He ambushed and captured Atahuallpa, used religion to justify it, and collected a huge ransom in gold and silver.
- The Conquistadors carried infectious diseases that wiped out 95% of Native Americans: smallpox, measles, influenza, typhus, bubonic plague.

- **Why did Europeans have all of the advantages instead of the Incas?**
- **Why didn't the Incas**
  - Invent guns and steel swords,
  - Have horses,
  - Or bear deadly diseases?
- **Answer:**
  - Adopted agriculture 5,000 years later
    - Population and technology behind
    - More food so more people
  - No horses in the new world
  - No large animal agriculture (only llama)
    - Eurasian epidemic diseases originated in animal agriculture

EAST-WEST AXIS





- It was easier for domestic plants and animals
  - Later, technology like wheels, writing
- To spread **east-west** in Eurasia
  - Than north- south in Americas, Africa
  - due to same day-length, similar seasonal variations.
- Therefore large Eurasian population resulted
  - Dominant in technology

Centers of origin of selected crops

Note: The pointer locations indicate general regions where crops are believed to have first been domesticated. In some cases, the center of origin is uncertain. Other geographic regions also harbor important genetic diversity for these crops.

Source: This map was developed by the General Accounting Office using data provided by the National Plant Germplasm System's Plant Exchange Office.

http://upload.wikimedia.org/wikipedia/commons/7/71/Feature2originmap600.png

THE RISE OF THE WEST

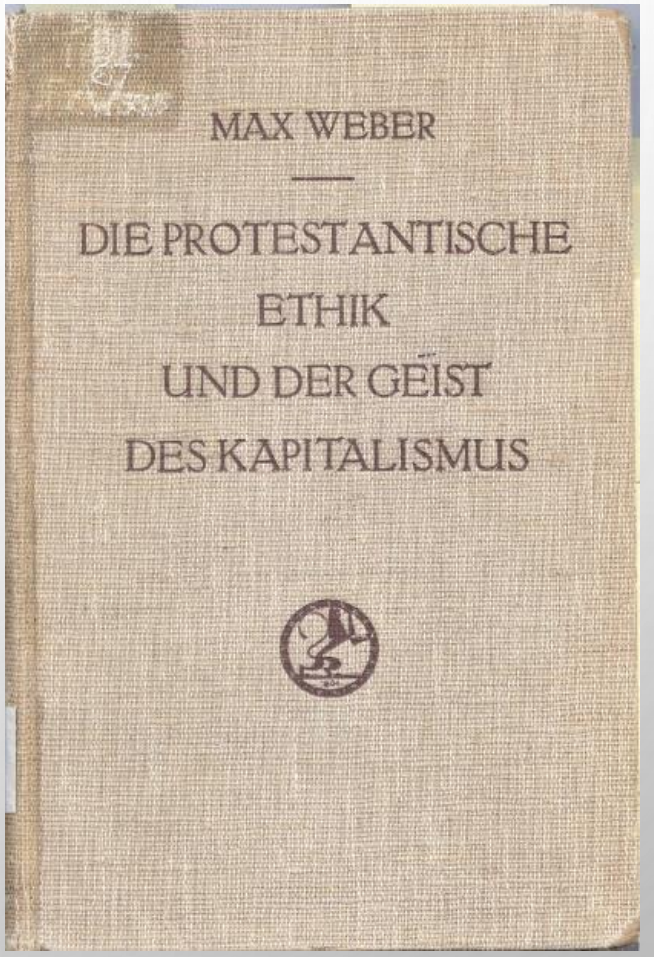
- **Geography** is important.
- Malaria holds back the tropics, and Britain's coal deposits underpinned the Industrial Revolution.
- One of the aims of technology is to reduce the burden of bad geography.
- In the 18th century, the location of coal and iron deposits determined the location of blast furnaces.
- Today, ocean transportation is so cheap that Japan and Korea obtain their coal and iron ore from Australia and Brazil.

THE RISE OF THE WEST

- **Culture?**
- There are aspects of culture that affect economic performance.
- Max Weber: Protestantism made northern Europeans more rational and hard-working than anyone else. Protestant Britain was richer than Catholic Italy

THE PROTESTANT ETHICS AND THE SPIRIT OF CAPITALISM

- THE ORIGINAL GERMAN TEXT WAS COMPOSED IN 1904 AND 1905
- MAIN ARGUMENTS IS **CAPITALISM IN NORTHERN EUROPE EVOLVED WHEN THE PROTESTANT** (PARTICULARLY CALVINIST) **ETHIC INFLUENCED LARGE NUMBERS OF PEOPLE TO ENGAGE IN WORK IN THE SECULAR WORLD**, DEVELOPING THEIR OWN ENTERPRISES AND ENGAGING IN TRADE AND THE ACCUMULATION OF WEALTH FOR INVESTMENT
- **PROTESTANT WORK ETHIC WAS AN IMPORTANT FORCE BEHIND THE UNPLANNED AND UNCOORDINATED EMERGENCE OF MODERN CAPITALISM**.



THE PROTESTANT ETHICS AND THE SPIRIT OF CAPITALISM

- **BENJAMIN FRANKLIN CAPITALISM'S *ETHOS*: TIME IS MONEY, THAT CREDIT IS MONEY, AND THAT MONEY CAN BEGET MONEY.**
- **"PHILOSOPHY OF AVARICE" SEES INCREASING CAPITAL AS AN END IN ITSELF**. IT IS AN ETHIC, AND THE INDIVIDUAL IS SEEN AS HAVING A DUTY TO PROSPER. **THIS IS THE SPIRIT OF MODERN CAPITALISM.**
- THE CAPITALIST ETHIC DOES NOT EMBRACE A HEDONISTIC LIFE-STYLE. **EARNING MORE AND MORE MONEY IS SEEN COMPLETELY AS AN END IN ITSELF, AND IS NOT SIMPLY THE MEANS FOR PURCHASING OTHER GOODS. THIS SEEMINGLY IRRATIONAL ATTITUDE TOWARDS MONEY IS A LEADING PRINCIPLE OF CAPITALISM**, AND IT EXPRESSES A TYPE OF FEELING CLOSELY ASSOCIATED WITH CERTAIN RELIGIOUS IDEAS
- WEBER REJECTS THE IDEA THAT THIS ETHIC ORIGINATED AS A REFLECTION OR SUPERSTRUCTURE OF ECONOMIC SITUATIONS.

THE PROTESTANT ETHICS AND THE SPIRIT OF CAPITALISM

- **THE BIGGEST OPPONENT THE CAPITALIST ETHIC HAS HAD IN GAINING DOMINANCE HAS BEEN TRADITIONALISM**.
- WEBER THEN **CONSIDERS THE ENTREPRENEUR IN TERMS OF THE MEANING OF TRADITIONALISM**, AS CAPITALISTIC ENTERPRISES CAN STILL HAVE A TRADITIONALISTIC CHARACTER.
- **THE SPIRIT OF MODERN CAPITALISM IMPLIES AN ATTITUDE OF RATIONAL AND SYSTEMATIC PURSUIT OF PROFIT**. SUCH AN ATTITUDE FINDS ITS MOST SUITABLE EXPRESSION THROUGH CAPITALISM, AND HAS MOST EFFECTIVELY MOTIVATED CAPITALISTIC ACTIVITIES. HOWEVER, **THE SPIRIT OF CAPITALISM AND CAPITALISTIC ACTIVITIES CAN OCCUR SEPARATELY**
- IN OUR MODERN INDIVIDUALISTIC WORLD, T**HIS SPIRIT OF CAPITALISM MIGHT BE UNDERSTANDABLE SIMPLY AS ADAPTATION**, BECAUSE **IT IS SO WELL SUITED TO CAPITALISM**. IT **NO LONGER NEEDS THE FORCE OF RELIGIOUS CONVICTION** BECAUSE IT IS SO NECESSARY. HOWEVER, **THIS IS THE CASE BECAUSE MODERN CAPITALISM HAS BECOME SO POWERFUL**. IT MAY HAVE **NEEDED RELIGION IN ORDER TO OVERTHROW THE OLD ECONOMIC SYSTEM**

THE PROTESTANT ETHICS AND THE SPIRIT OF CAPITALISM

- **“CALLING" HAVE A RELIGIOUS CONNOTATION OF A TASK SET BY GOD. THIS TYPE OF WORD HAS EXISTED FOR ALL PROTESTANT PEOPLES, BUT NOT FOR CATHOLICS** OR IN ANTIQUITY.
- ITS NEWNESS COMES IN **GIVING *WORLDLY* ACTIVITY A RELIGIOUS SIGNIFICANCE. PEOPLE HAVE A DUTY TO FULFILL THE OBLIGATIONS** IMPOSED UPON THEM BY THEIR POSITION IN THE WORLD.
- WEBER MAKES HIS STARTING POINT BY THE **INVESTIGATION OF THE RELATIONSHIP BETWEEN THE SPIRIT OF CAPITALISM AND THE ASCETIC ETHIC OF THE CALVINISTS AND OTHER PURITANS**

THE PROTESTANT ETHICS AND THE SPIRIT OF CAPITALISM

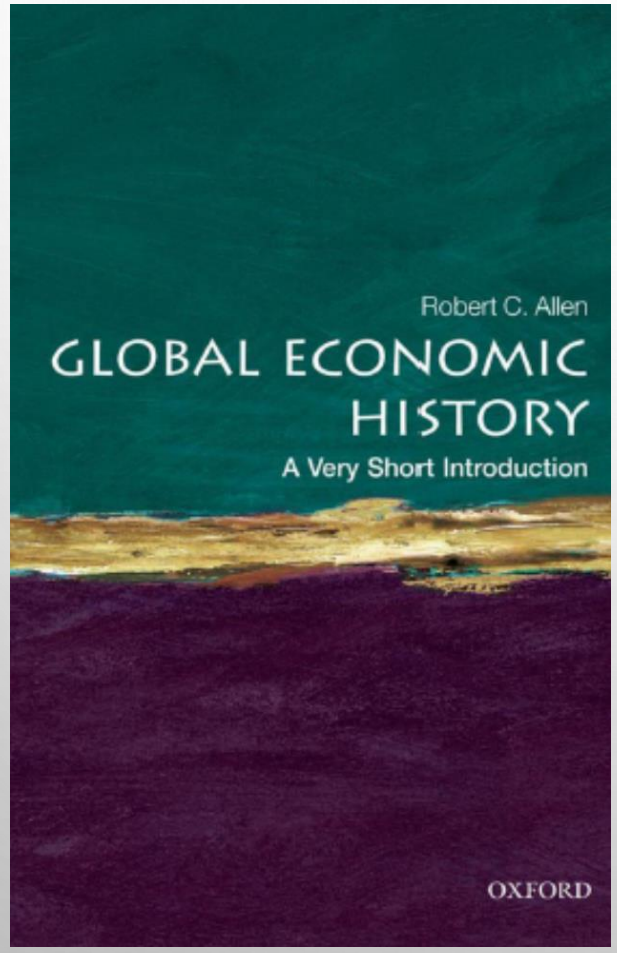
- WEBER IS INTERESTED IN **"THE INFLUENCE OF THOSE PSYCHOLOGICAL SANCTIONS WHICH, ORIGINATING IN RELIGIOUS BELIEF AND THE PRACTICE OF RELIGION**, GAVE A DIRECTION TO PRACTICAL CONDUCT AND HELD THE INDIVIDUAL TO IT."
- CALVINISTS BELIEVE THAT **GOD PREORDAINS WHICH PEOPLE ARE SAVED AND WHICH ARE DAMNED. MEN EXIST FOR THE SAKE OF GOD, AND TO APPLY EARTHLY STANDARDS OF JUSTICE TO GOD IS MEANINGLESS AND INSULTING**.
- CALVINISM MUST HAVE HAD A PROFOUND PSYCHOLOGICAL IMPACT, "**A FEELING OF UNPRECEDENTED INNER LONELINESS OF THE SINGLE INDIVIDUAL."** THIS ACCOUNT SHOWS WHY THE **CALVINISTS REJECTED ALL SENSUAL AND EMOTIONAL ELEMENTS OF CULTURE AND RELIGION**. ON THE OTHER HAND, WE SEE THE ORIGINS OF TODAY'S DISILLUSIONED AND PESSIMISTIC INDIVIDUALISM

THE PROTESTANT ETHICS AND THE SPIRIT OF CAPITALISM

- **CALVIN REJECTED IN PRINCIPLE THE ASSUMPTION THAT PEOPLE COULD LEARN FROM OTHER'S CONDUCT** WHETHER THEY WERE SAVED OR DAMNED--THIS WOULD BE TRYING TO FORCE GOD'S SECRETS.
- **CALVINISTS BELIEVED THAT GOD WORKED THROUGH THEM**. BEING IN A STATE OF GRACE MEANT THAT THEY WERE TOOLS OF DIVINE WILL. FAITH HAD TO BE SHOWN IN OBJECTIVE RESULTS. **THEY LOOKED FOR ANY ACTIVITY THAT INCREASED THE GLORY OF GOD. GOOD WORKS WERE NOT A MEANS TO SALVATION, BUT THEY WERE A SIGN OF HAVING BEEN CHOSEN**.
- **CALVINISM EXPECTED SYSTEMATIC SELF-CONTROL, AND PROVIDED NO OPPORTUNITY FOR FORGIVENESS OF WEAKNESS**. THIS WAS A RATIONAL AND SYSTEMATIC APPROACH TO LIFE. SINCE PEOPLE HAD TO PROVE THEIR FAITH THROUGH WORLDLY ACTIVITY.
- **CALVINISM DID HAVE A UNIQUE CONSISTENCY AND AN EXTRAORDINARILY POWERFUL PSYCHOLOGICAL EFFECT**.

THE PROTESTANT ETHICS AND THE SPIRIT OF CAPITALISM

- ASCETICISM OPPOSED THE SPONTANEOUS ENJOYMENT OF LIFE AND ITS OPPORTUNITIES. SUCH ENJOYMENT LEADS PEOPLE AWAY FROM WORK IN A CALLING AND RELIGION.
- **THE PURITANS REJECTED ANY SPENDING OF MONEY ON ENTERTAINMENT THAT DIDN'T "SERVE GOD'S GLORY.“**
- **THE PURSUIT OF WEALTH IN ITSELF WAS BAD, BUT ATTAINING IT AS THE RESULT OF ONE'S LABOR WAS A SIGN OF GOD'S BLESSING.**
- "THE RELIGIOUS ROOTS DIED OUT SLOWLY, GIVING WAY TO UTILITARIAN WORLDLINESS." HOWEVER, **THESE RELIGIOUS ROOTS LEFT ITS MORE SECULAR SUCCESSOR AN "AMAZINGLY GOOD" CONSCIENCE ABOUT ACQUIRING MONEY.**
- THE RELIGIOUS ASCETICISM ALSO GAVE THE BUSINESSMEN INDUSTRIOUS WORKERS, AND ASSURED HIM THAT **INEQUALITY WAS PART OF GOD'S DESIGN**
- **ASCETICISM HELPED BUILD THE "TREMENDOUS COSMOS OF THE MODERN ECONOMIC ORDER."** PEOPLE BORN TODAY HAVE THEIR LIVES DETERMINED BY THIS MECHANISM. THEIR CARE FOR EXTERNAL GOODS HAS BECOME "AN IRON CAGE." MATERIAL GOODS HAVE GAINED AN UNPARALLELED CONTROL OVER THE INDIVIDUAL.



Global economic history: A Very Short Introduction by Robert C. Allen

CHAPTER 2, 3, 4

THE INDUSTRIAL REVOLUTION
(1760 TO 1850)

- Britain was continuously extending the world's technology frontier which it led to continuous growth, so that income compounded to the mass prosperity of today
- There were famous inventions like the steam engine, the machines to spin and weave cotton, and the new processes to smelt and refi ne iron and steel using coal instead of wood fuels.
- In addition, there were a host of simpler machines that raised labor productivity in unglamorous industries like hats, pins, and nails.

- ***Why was the revolutionary technology invented in England rather than the Netherlands or France or China or India?***

THE INDUSTRIAL REVOLUTION
(1760 TO 1850)

Cultural and political context

- The Industrial Revolution took place in a particular political and cultural context that was favorable to innovation
- The English constitution had many features that promoted economic growth
- The English Parliament introduced a land tax in 1693 that was imposed on peers as well as commoners.
- The English state collected about twice as much per person as the French state and spent a larger fraction of the national income. Most of the money was spent on the army and the navy.
- Imperialism was the basis of the high-wage economy, which in turn led to growth by inducing labor-saving technical change.
- Constitution was far from democratic: only 3–5% of the English could vote and even fewer of the Scots.
- Much power remained with the Crown – in particular, the power to make war and peace. While Parliament had a constitutional right to refuse funds for war, it never did

THE INDUSTRIAL REVOLUTION
(1760 TO 1850)

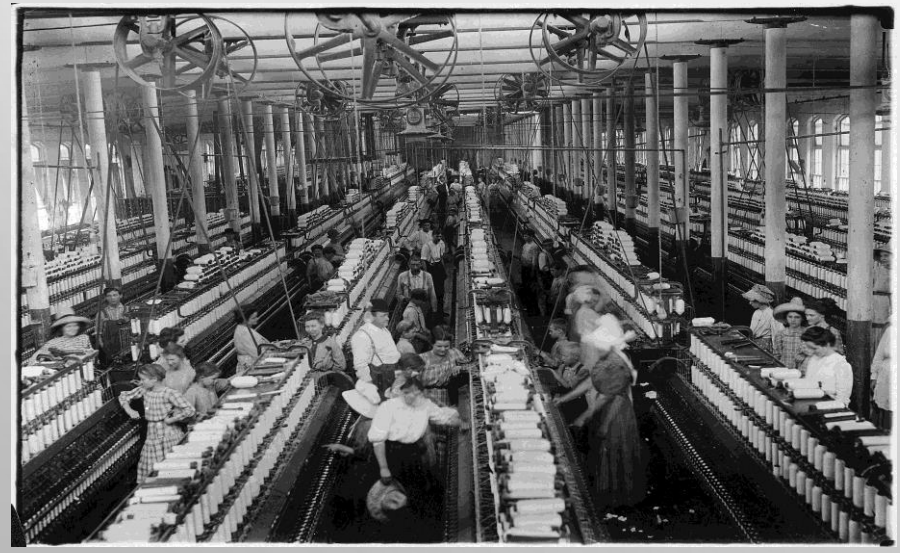
Cultural and political context

- The Industrial Revolution was sustained by the emerging scientific culture. The Scientific Revolution of the 17th century led to a handful of discoveries about the natural world that were applied by inventors in the 18th.
- Newton's model of the Solar System was the greatest achievement, and it inspired a reorientation of upper-class ideas about religion and nature
- However, scientific discoveries were known across Europe. But revolution was British!

THE INDUSTRIAL REVOLUTION
(1760 TO 1850)

- Cotton was the first industry to be transformed by factory production.
- The cotton industry grew to be Britain's largest, accounting for 8% of GDP in 1830 and 16% of British manufacturing jobs
- The various East Indies companies began to ship cotton calicoes and muslins to Europe in the late 17th century where they successfully competed against linen and wool, the principal European textiles.
- In the 17th century, China and India had the world's largest cotton industries.
- International competition was the spur that led to the mechanization of cotton spinning. The finer the cotton, the more time it took to spin.
- England could only compete if machines were invented to reduce labor

THE INDUSTRIAL REVOLUTION
(1760 TO 1850)



- Richard Arkwright's greatest achievement was to design a mill (Cromford Mill No.2)
- As a result, the cost saving from mechanical spinning was higher.
- In the 1780s, the rate of return to building an Arkwright mill was 40% in England, 9% in France, and less than 1% in India
- There were150 Arkwright mills were erected in Britain in the 1780s, 4 in France, and none in India.
- Most factories were driven by water power until the 1840s. After that, the use of steam to power industry expanded continuously.
- By the 1870s, factory cotton production began to shift into the Third World.

THE INDUSTRIAL REVOLUTION
(1760 TO 1850)

The steam engine

- Steam power was a spin-off of the Scientific Revolution. A practical engine was completed by Thomas Newcomen in 1712
- The science of the engine was pan-European, but the R&D was conducted in England because Britain had many more mines than any other country due to the large coal industry and that was where it paid to use the steam engine.
- In addition, the early steam engines burned vast quantities of coal, so they were cost-effective only where energy was cheap.
- The steam engine then allowed mechanical power to be used in a wide range of industries as well as in railways and ocean ships.

THE INDUSTRIAL REVOLUTION
(1760 TO 1850)

The steam engine

- Steam power also revolutionized transportation in the 19th century.
- In 1804, Richard Trevithick built the first steam locomotive for a railway at the Penydarren Ironworks in Wales.
- By the middle of the 19th century, steam was displacing sail in ocean transportation. Britain became the centre of world shipbuilding in view of its pre-eminence in iron and engineering.
- Steam power is an example of a general-purpose technology (GPT), that is a technology that can be applied to a variety of uses [same as electricity and computer].
- Half of the growth of labor productivity in Britain in the mid-19th century was due to steam. This long-run pay-off is an important reason that economic growth continued through the century.

BRITAIN'S SUCCESS FACTORS?

- In the middle of the 19th century, Britain was the 'workshop of the world', producing most of the world's exported manufactures.

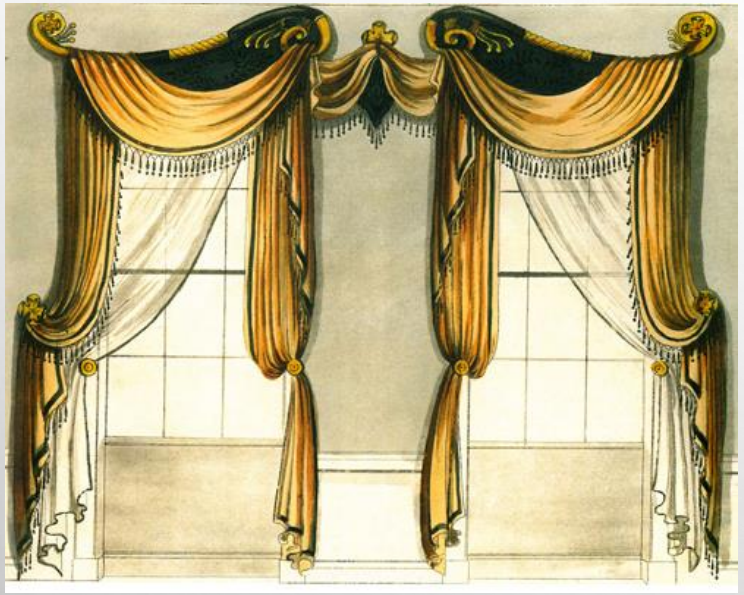
Though Britain did not have a policy to 'industrialize',

- **First**, Britain's early start meant that British manufacturers could out-compete those on the continent,
- **Second**, the technology of the industrial revolution was inappropriate for continental countries where wages were lower and energy prices generally higher than in Britain.
- Continental industrialization required the invention of appropriate technology and protection from British competition while that took place

WESTERN'S SUCCESS FACTORS?

- However, the continental Europe and North America overtake Britain in industrial output between 1870 and 1913.
- Countries with strong university programmes in these areas reaped economic benefits.
- Germany is the pre-eminent example before the 1930s. Its physicists and chemists won many Nobel Prizes.
- But Hitler, the Second World War, and post-war division derailed German science.
- The lead in university research passed to the USA, which had been developing a very large higher education sector.
- University research in the USA floated on a sea of government money.
- This was directed towards the military during the Cold War.
- **Pax Roma → Pax Britannica → Pax Americana →** ?

THE FIRST GLOBALIZATION



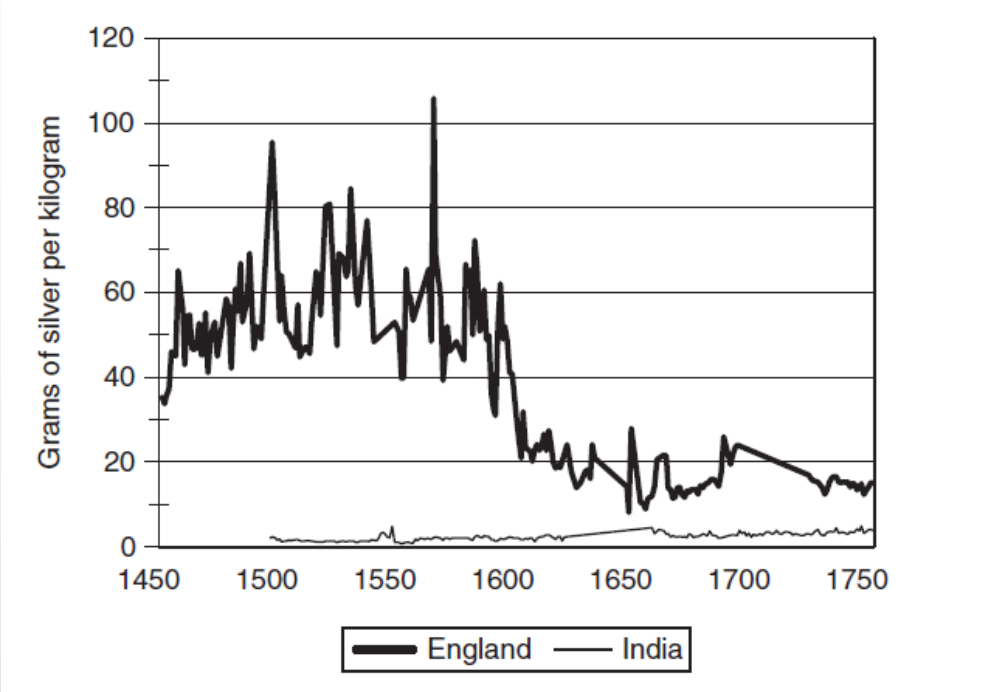
- The first phase of globalization that began in the late 15th century after the ships that could sail the high seas.

1. The relocation of Europe's manufacturing industry to northwestern Europe

- The Dutch began shipping Polish grain from Danzig to the Netherlands and, by the late 16th century, to Spain, Portugal, and the Mediterranean.

- English and Dutch producers contrived to make lightweight worsted cloth in imitation of Italian fabrics. With these 'new draperies', the English and Dutch drove the Italians out of business

THE FIRST GLOBALIZATION



Price of pepper, adjusted to price level of 1600

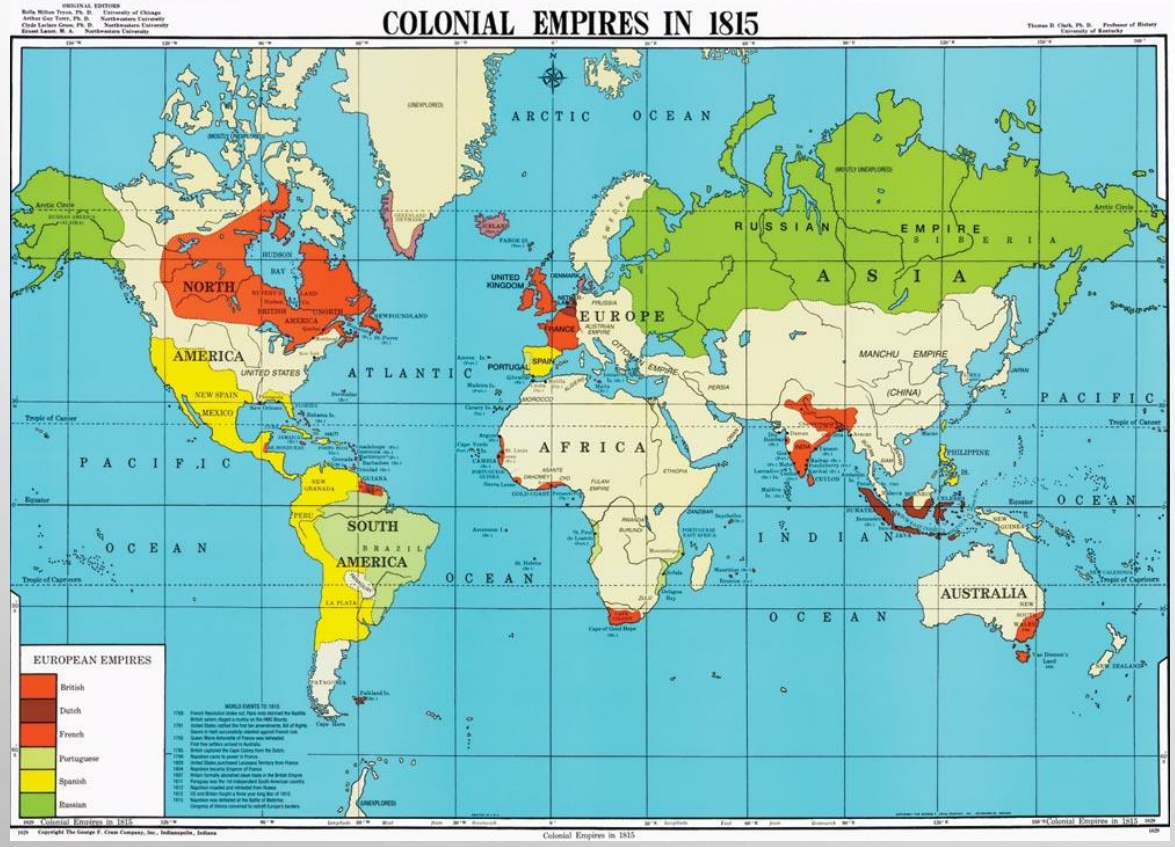
2. The Voyages of Discover

- Networks of Indian, Arab, and Venetian merchants shipped pepper and spices from Asia, across the Middle East, to Europe, and the Portuguese.

- Pepper from India: The other 96% of the price difference was transport costs. By 1760, the gap between the Indian and English prices had dropped by 85%, and that reduction is a measure of the efficiency gain from the all-sea route.

- The arrival of the English and Dutch East Indies companies in the early 17th century that broke Portugal's maritime monopoly and cut the European price by two-thirds.

COLONIALISM



- **1942:** Christopher Columbus talked to King Ferdinand and Queen Isabella of Spain into financing his expedition and sailing west from Europe directly to Asia, the East Indies. But it was the Americas he had 'discovered.
- The Portuguese also accidentally discovered Brazil in 1500, which became their biggest colony.
- Looting the Aztecs and the Incas brought immediate wealth to Spain.
- The silver flooding into Spain paid for the Habsburg armies fighting the Protestants across Europe, provided Europeans with the cash to buy up Asian goods, and unleashed decades of inflation known as **the Price Revolution**

STRUCTURAL CHANGE

	1500			1750		
	urban	rural nonagri-culture	agri-culture	urban	rural nonagri-culture	agri-culture
greatest transformation						
England	7%	18%	74%	23%	32%	45%
significant modernization						
Netherlands	30	14	56	36	22	42
Belgium	28	14	58	22	27	51
slight evolution						
Germany	8	18	73	9	27	64
France	9	18	73	13	26	61
Austria/Hungary	5	19	76	78	32	61
Poland	6	19	75	4	36	60
little change						
Italy	22	16	62	22	19	59
Spain	19	16	65	21	17	62

- English and Dutch trade with their colonies drove their economies forward
- Cities and export-oriented manufacturing grew
- Occupational structure changed accordingly

STRUCTURAL CHANGE

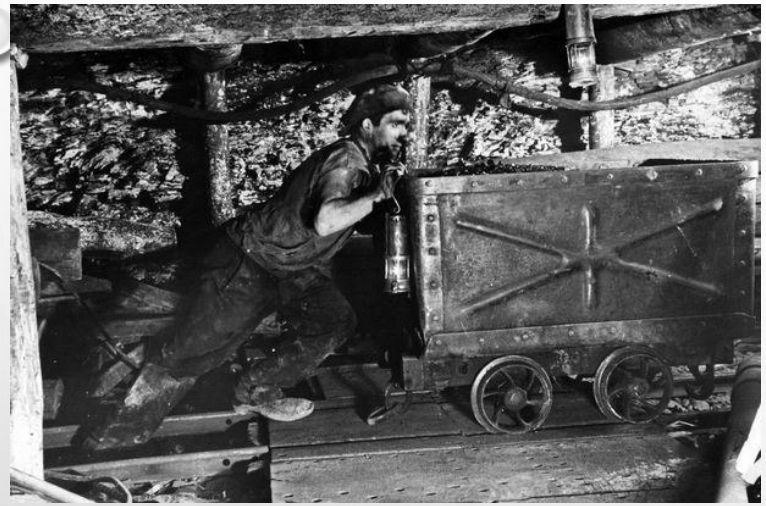
- Globalization spurred northwestern Europe forward but held southern Europe back.
- In the 16th century, **Spain** looked like the most successful imperialist, for Latin America yielded so much silver.
- Silver imports, however, led to much greater inflation in Spain than elsewhere.
- As a result, Spanish agriculture and manufacturing became uncompetitive.
- The constancy in the share of the urban population in Spain masks great changes – the populations of old industrial cities collapsed while Madrid expanded on the basis of American loot.

ECONOMIC DEVELOPMENT

- **First**, the growth in urbanization and rural manufacturing increased **the demand for labour** and led to tight labour markets and high wages.
- Living standards were high in London and Amsterdam.

- **Second**, growing cities and a high-wage economy put great **demands on agriculture for food and labour**.
- The result was **agricultural revolutions** in both England and the Netherlands.
- Output per farm worker increased by about 50% in both countries and reached the highest levels in Europe

ECONOMIC DEVELOPMENT



Third, growing urban demand also led to **energy revolutions** in both England and the Netherlands.

- In the Middle Ages, charcoal and firewood were the principal fuels burned in cities.
- As the cities grew, wood prices skyrocketed, and substitute fuels were developed.
- In the Netherlands, the alternative was peat; in England, it was coal.
- Coal was mined in Durham and Northumberland and shipped down the coast to London.
- England was the only country in the world with a large coal-mining industry in the 18th century, and that also gave it access to the cheapest energy in the world

ECONOMIC DEVELOPMENT

Table 4. Adult literacy, 1500 and 1800. Percentage of the adult population that could sign its name

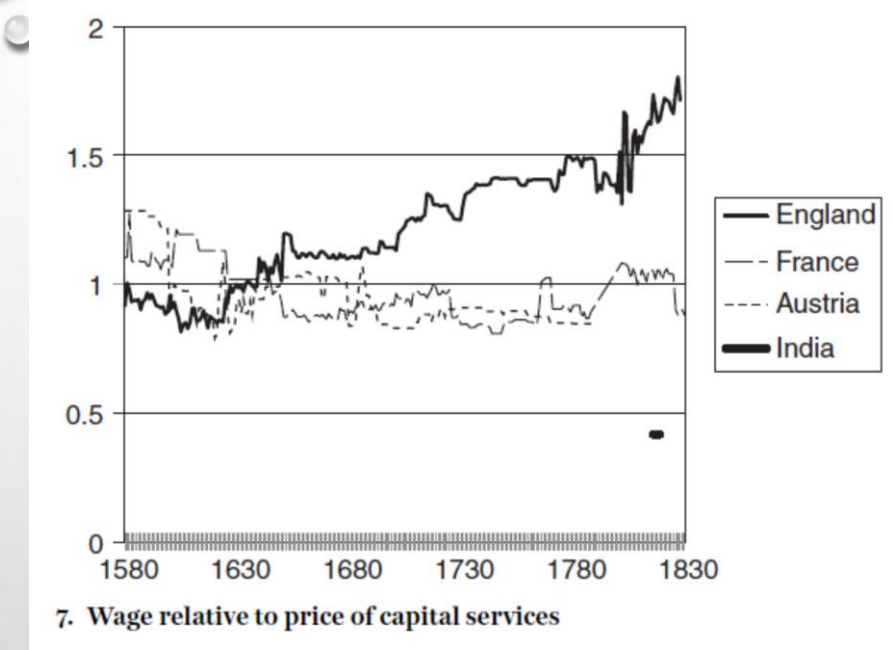
	1500	1800
England	6	53
Netherlands	10	68
Belgium	10	49
Germany	6	35
France	7	37
Austria/Hungary	6	21
Poland	6	21
Italy	9	22
Spain	9	20

Fourth, the high-wage economy generated a high level of literacy, numeracy, and skill formation in general

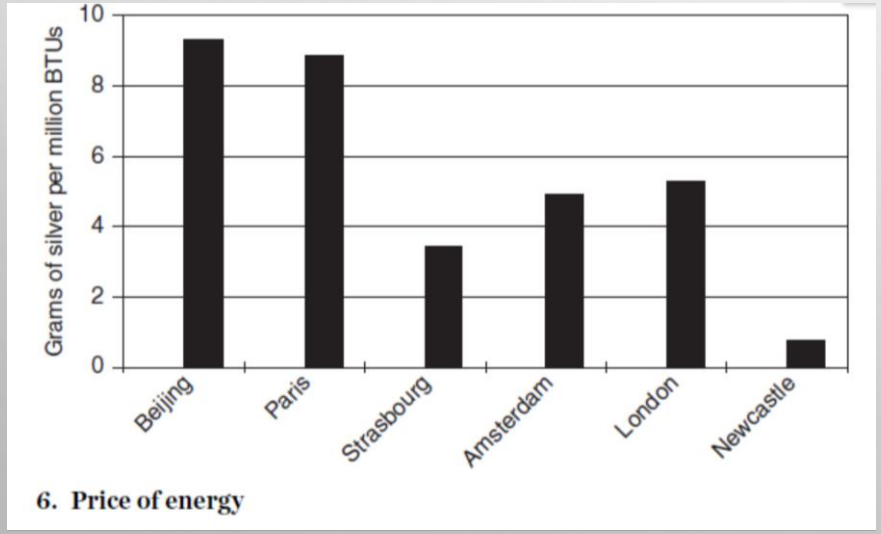
- The expansion of commerce and manufacturing increased the demand for education by making it economically valuable;
- At the same time, the high-wage economy provided parents with the money to pay for schooling their children
- By the 18th century, most sons of craftsmen, artisans, shop keepers, and farmers, and a smaller share of the sons of labourers, received several years of primary education. Many girls were also schooled.
- The result was a public that read newspapers and followed politics to an unprecedented degree

THE INDUSTRIAL REVOLUTION

(1760 TO 1850)



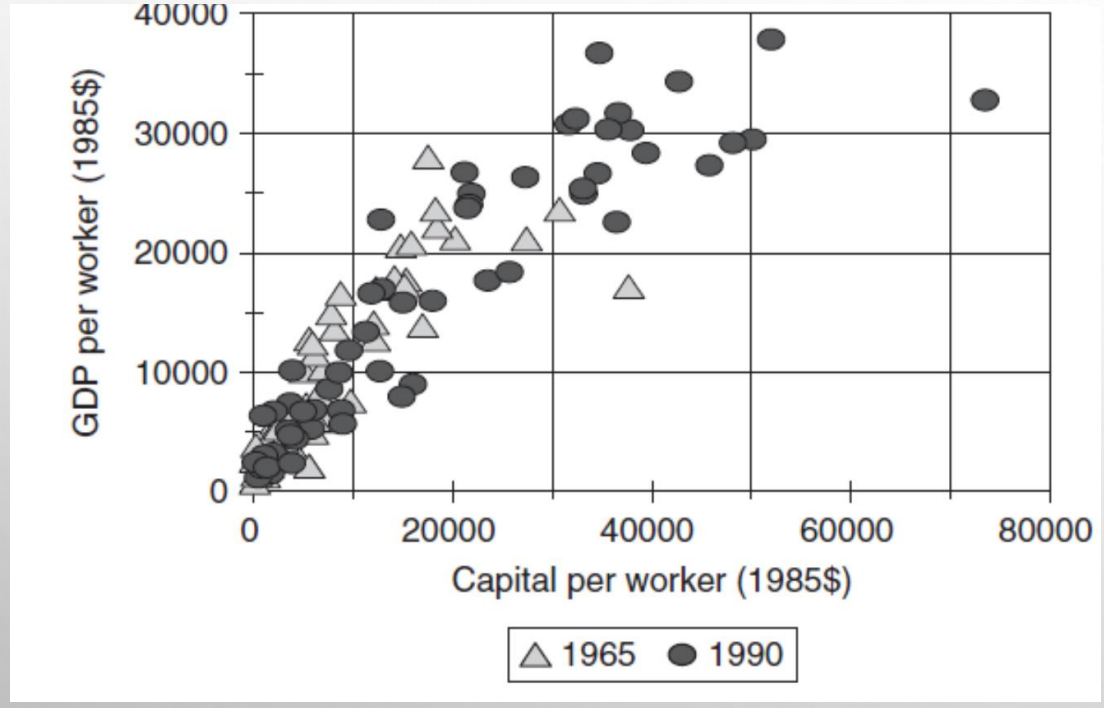
7. Wage relative to price of capital services



6. Price of energy

- Instead, the explanation lies in Britain's unique **structure of wages and prices**.
- Britain's high-wage, cheap-energy economy made it profitable for British firms to invent and use the breakthrough technologies of the Industrial Revolution.
- British wages were high relative to the price of capital
- By the middle of the 18th century, labor relative to capital was 60% more expensive in England than on the continent.

WESTERN'S SUCCESS FACTORS?



World production function

- The high wages of rich countries induced them to invent products that economized on labour by increasing the use of capital.
- This led to **an ascending spiral of progress**: high wages induced more capital-intensive production
- That, in turn, led to higher wages. This spiral underlies the rising incomes of rich countries.

WESTERN'S SUCCESS FACTORS?

- The reason that poor countries are poor is because they use technology that was developed by rich countries in the past.
- The most successful industry of many developing countries is the manufacture of clothing.
- The process of technical change, in which inventors in the leading economies sought to save high-wage labour, resulted in machinery that further increased the competitive advantage of rich countries without conferring any advantage on the poor countries of the world.

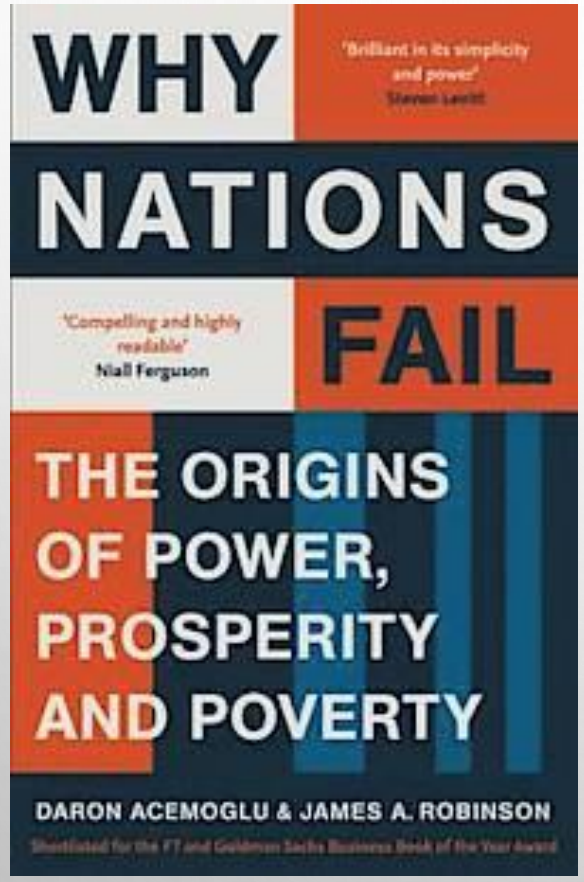
THE RISE OF THE WEST

- **Institutions?**

H_O: Economic success is the result of secure property rights, low taxes, and minimal government.

H_O: Arbitrary government is bad for growth because it leads to high taxes, regulations, corruption, and rent-seeking – all of which reduce the incentive to produce.

H_O: Successful economic development was due to the replacement of absolutism with representative government.



WHY NATIONS FAIL

THE ORIGINS OF POWER, PROSPERITY, AND POVERTY

DARON ACEMOGLU AND JAMES A. ROBINSON

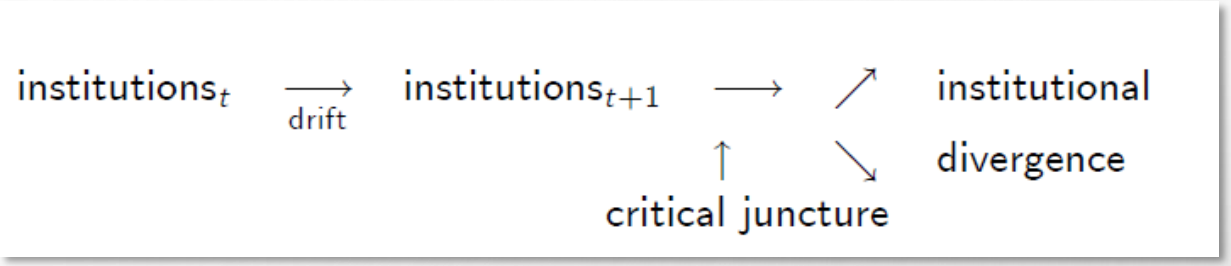
THEORIES THAT WON'T WORK

- Many economists tried to explain why nations fail
- Three main hypotheses are used to explain
  1. **The geography hypothesis**
     - Climate affects agricultural productivity and there exists diseases that only occur in hot climate.
     - North Korea and South Korea?
  2. **The culture hypothesis**
     - The specific culture that has an impact on how economy develops.
  3. **The ignorance hypothesis**
     - Simply because rulers **DO NOT KNOW** how to make poor countries rich.
     - Chinese communist party did not suddenly realized that collective ownership created terrible economic incentives?

- Nogales, Arizona (USA) and Nogales, Sonora (Mexico). Same people, same culture, same location. The part in the US has about three times higher household income than that in Mexico

INSTITUTIONS MATTER

- **The institutional dynamics** ultimately determined which countries took advantage of the major opportunities and which ones failed to do so.
- The roots of the world inequality today can be found in this **divergence**.
- The rich countries are those that embarked on **the process of industrialization and technological change**.
- Sometimes, **critical juncture** happened but the country failed to capture it.



- Industrial revolution created a critical juncture that affected almost every country.
- Many lagged behind as they blocked or did nothing to encourage the spread of industry.

CASE: CHINA

- China under the Song dynasty (960-1279) led the world in many technological innovations with the invention of clocks, the compass, gunpowder, etc.
- The growth under the Song dynasty was under extractive institution. The great inventions were not spurred by market incentives but under auspices of the government.
- In 1368, Emperor Hongwu of the Ming dynasty, concerned that overseas trade would be destabilizing of his power, allowed the international trade only if it involved tribute giving, and not commercial activity
- In 1425 Emperor Xuande banned all overseas trade and the ban was not lifted until 1567.
- These extractive events that prevented many economic activities had a fundamental impact on Chinese economic development.
- Just at the time when international trade and the discovery of the Americas were transforming the institutions of England, China was cutting itself off.
- This resulted in a stagnant Chinese economy in the 19th century while other economies were industrializing.
- In 1949, China had become one of the poorest countries in the world

CASE: THE SOVIET UNION

- Soviet union in 1927 led by Joseph Stalin
- He created the State Planning Committee "Gosplan" to plan the economic development plan for 1928-1933 to develop industry by government command.
- The government built a powerful centralized state and used it to allocate resources toward heavy industry
- Agriculture was taxed at very high rates. Abolition of private property rights to land and herding of all people in the country into collective farm run by the Communist Party.
- Stalin understood that people did not have incentive to work hard. There was also a set of laws created criminal offenses for workers who were perceived to be avoiding the duty
- However, this created disincentive to technological change.

- In 1931, Stalin *gave up* on the idea of creating "socialist men and women" who would work without monetary incentives. A bonus system was introduced.
- Innovation would take resources away from current production risked the output target not being met. This created a huge incentive never to expand output.
- The growth was rapid at first but not sustained. Eventually, the growth slowed down and collapsed.