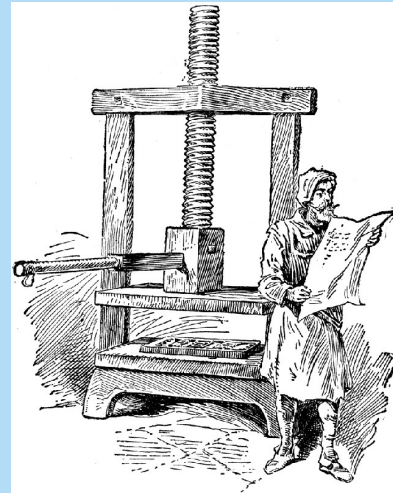


From distance to interrelations



Do not machines create humans as much as humans create machines?



From distance to interrelations



Do not machines create humans as much as humans create machines?

First subject: Trains **Second subject:** Print

Carefully study the following documents: primary sources (visual elements, quotations) and secondary sources (analysis by an expert). You will have to account for the extent to which trains had a dramatic impact on humans, altering their lives, their social structures, their consciousness, their thinking processes.

You may work in groups to organize your short synthesis and present your findings to the rest of the class. Work through the documents step by step, as they are becoming more and more explicit.

First subject: Trains

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Document A: William Turner, Rain, Steam and Speed (The Great Western Railway), 1844



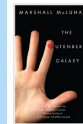
Notes and analysis:

Second subject: Print

Carefully study the following documents: primary sources (visual elements, quotations) and secondary sources (analysis by an expert). You will have to account for the extent to which print had a dramatic impact on humans, altering their lives, their social structures, their consciousness, their thinking processes.

You may work in groups to organize your short synthesis and present your findings to the rest of the class. Work through the documents step by step, as they are becoming more and more explicit.

Document A: Cover for Marshall McLuhan's *The Gutenberg Galaxy*, 1962



Notes and analysis:

From distance to interrelations



Document A: William Turner, *Rain, Steam and Speed (The Great Western Railway)*, 1844



Notes and analysis:

Document B: Quotations

« [...] [A]s we emerged in a few moments from a dark tunnel, whirling out of the town, big drops of rain came slanting in upon us. [...] The road ran through a deep cutting, with only occasionally such depressions of its green-sodded bank, that we could, through the dusty glass, get glimpses of the country. In successive gleams: A market garden, with rows of early cabbages, and lettuce, and peas; Over a hedge, a nice new stone villa, with the gardener shoving up the sashes of the conservatory, and the maids tearing clothes from the drying-lines; A bridge, with children shouting and waving hats; A field of wheat [...]. Another few minutes of green bank; A jerk - a stop.»
Frederick Law Olmsted, *Walks and Talks of an American Farmer in England*, 1852

« No one would travel in that manner who could help it [...]. It transmutes a man from a traveller into a living parcel. For the time he has parted with the nobler characteristics of his humanity for the sake of a planetary power of locomotion. Do not ask him to admire anything.»
John Ruskin, *The Seven Lamps of Architecture*, 1849

Document C: Analysis by an expert

When railways were introduced in England, they not only changed the face of the country, but also the ways it was perceived. A great number of contemporaries disliked the new perception of the landscapes offered by the experience of railway journeys, which seemed indeed to shatter the principles of this vision as they were established by picturesque and romantic theories and practices. Railways were thus blamed for offering fragmented, monotonous, whirling landscapes, and for creating a gap between the observer and the object of its admiration. Hence the criticism made by the fiercest opponents of railway travel, who denounced its destruction of a real knowledge of the country by its inhabitants, thus damaging a particular definition of English national identity.

Charles-François Mathis, Abstract of « Chemins de fer et vision des paysages anglais », 2005

Notes and analysis :

From distance to interrelations

Impact of Trains on Human Structures :

A Painting : Blurry

B First quotation :

Unnamed towns and landmarks

Attribution of potentially negative elements to the landscape, reminiscent of human pain (pathetic fallacy):

“a deep cutting” “depressions” “rain” “sodded”

Only “glimpses” and “gleams” of the country
(disconnected syntax)

Second quotation:

Man transformed into “a living parcel”

No admiration possible any more

C Analysis:

Changed the face of the country

Changed the way the country was perceived (no longer romantic, picturesque landscape)

Fragmentation, monotony, gap between the observer and the country

Changes (in the perception of) Space

Scarred Nature because of Mechanization and Urbanization

Loss of a particular English national identity

Destruction of the knowledge of the country

Fragmentation of social units and sense of disconnection from one’s country (unity replaced with individualism)

Loss of aesthetic abilities

Dehumanization, objectification, reification (capitalism)

Changes (in the perception of) Time

Go further: <https://www.bbc.co.uk/programmes/m0008r5s> “Railways were the symbol of change and progress. They changed not only travel but time itself, which could no longer be defined by the natural world and county habits but now had to be standardized everywhere to conform to the train timetables.”

From distance to interrelations



Document A: Cover for Marshall McLuhan's *The Gutenberg Galaxy*, 19



Notes and analysis:

Document B: Quotation by Marshall McLuhan



Notes and analysis:

Document C: "'The Gutenberg Galaxy': How McLuhan Opened a New Path in the Digital Age to the Socratic Ideal of the Examined Life," article by Federico Ponzoni (January 29, 2016)

The Gutenberg Galaxy is a book about the effects of the introduction of a movable type press on practically any- and everything conceivable, from politics to economy, from science to art, from society as a whole to the individual's perception of time and space. McLuhan's book is based on a core argument: the human being's five senses are organized as a whole into a *sensorium*. The internal organization of the *sensorium* functions according to laws that prioritize one sense or group of senses over the others. [...] All this means that if you communicate only orally (i.e., if you live in a culture that has not discovered writing), your *sensorium* will be organized by laws that give priority to hearing and touch over that of sight. [...] In other words, the communication technology a given culture uses determines how individuals belonging to that culture perceive the world. The way in which the individual perceives the world in turn determines the whole cultural landscape in which the individual lives in terms of values, social organization, beliefs, practices, etc. [...]

McLuhan is not the only one suggesting that technology tends to shape decisively both culture and society. Harold Innis in his *Empire and Communication* suggests that it is impossible to think of a human society organized as an empire without a communication technology that allows messages to be interchanged across long distances. Walter Ong in his *Orality and Literacy* describes the psychology of the oral man. He also depicts how the psychological structure of the oral man changes when writing is introduced.

[...] [A]ccording to McLuhan we have to reject something very deeply rooted in our comprehension of communication: the possibility of separating form and content. According to McLuhan, the "medium is the message." One possible way of understanding McLuhan's line—which I find the most convincing—is the following: a given communication technology, a medium in McLuhan's terminology, has effects on society as a whole. These effects are produced almost entirely by the introduction of a new communication technology, regardless of what is actually communicated through it. For instance, books change our way of perceiving space not because something is written in them such that we have to perceive space in a new way, but because reading in a sequential line changes the way we use our eyes. This change brings with itself a new understanding of space itself. From the point of view of the change brought by reading books in the understanding of space, *what* is written in a book, its content, is altogether indifferent. [...] [C]ommunication technology cannot be used innocently. The more we use technology, the more we are somehow also used by it. As an example, we can think of how our smartphones have extended our work time. We bought a smartphone as a useful tool that should make our life easier (with a smartphone and Google Maps you won't get lost anymore), but we may find ourselves answering emails from our boss at odd hours (which leads to a reduction of the quality of time we spend with our families).

From distance to interrelations

Impact of Print on Human Structures:

A Cover:

“G” for “Gutenberg” as a human fingerprint > print now defines who humans are (dramatic change in their bodies)
The letter being on the finger, printed words symbolically replace touch > sight became more important than touch > the human body and senses are reorganized

B Quotation:

The Medium is the Message > the way information is communicated affects and changes you more than the message which is communicated
Ex. The perception of Space changed because of the way we use our eyes in a sequential line (potentially inducing changes in the perception of chronology and causality as well), not because of what is written

C Analysis:

Changes (in the perception of) Space and Time
The movable type press impacted politics, economy, science, art and society as a whole
The *sensorium* (organization of the five senses according to those you prioritize) changed
Ex. an oral culture prioritizes hearing and touch, whereas a print culture prioritizes sight (which entails loss of some abilities as well)
The way humans physically perceive the world changed, and that had an impact on every aspect of culture

From distance to interrelations

Do not machines create humans as much as humans create machines?

Document C: “‘The Gutenberg Galaxy’: How McLuhan Opened a New Path in the Digital Age to the Socratic Ideal of the Examined Life,” article by Federico Ponzoni

“Our lives are more and more determined by technologies, in particular by technologies that allow us to communicate with one another more cheaply, more rapidly, and across greater distances. [...] The more we use technology, the more we are somehow also used by it.”

Consider the structures that are highlighted in the text.

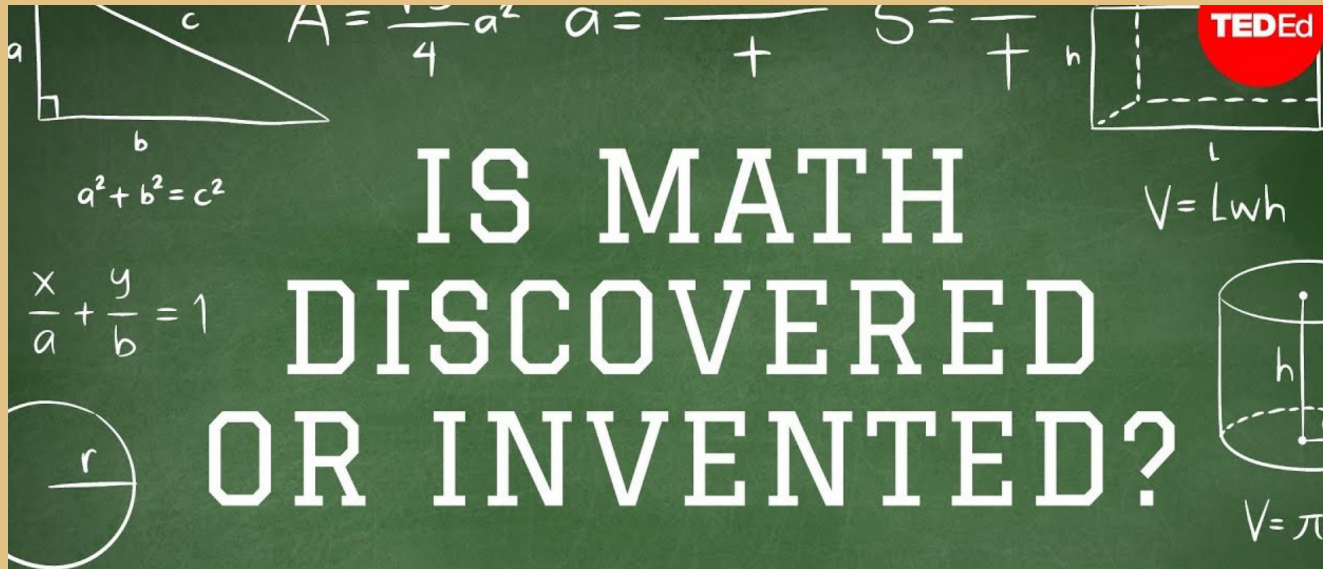
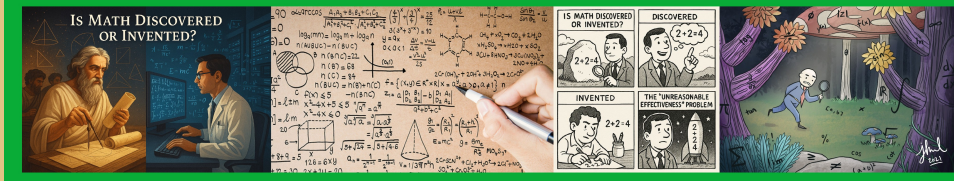
From distance to interrelations

Superlative Structure adjective adjective	Exceptions :
	+	+	
Comparative Structure adjective adjective	
	+	+	
	-	-	
Double Comparative	=		

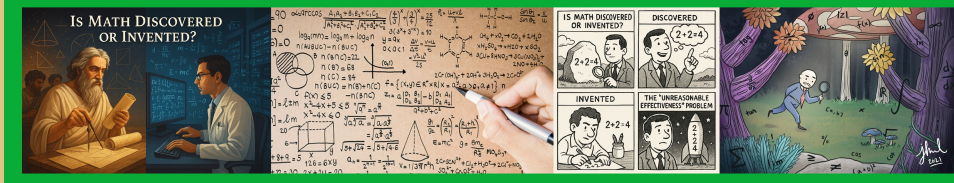
From distance to interrelations

Superlative Structure	Short adjective + the + adjective + -est - the least + adjective	Long adjective + the most + adjective - the least + adjective	Some exceptions : good > the best bad > the worst far > the farthest the furthest
	Comparative Structure	Short adjective + adj + -er (+ than) - less + adj (+ than)	Long adjective + more + adj (+ than) - less + adj (+ than)
	= as + adjective + as		
Double Comparative	the + adjective in the <u>comparative</u> [...], the + adjective in the <u>comparative</u>		

Inventions and Innovations



Inventions and Innovations



2. Pay attention to the following figures.

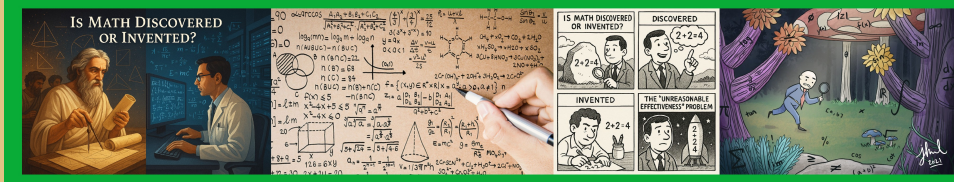
a. Match the name and the picture.

Albert Einstein - Henri Poincaré - Eugene Wigner - Euclid - Plato - David Hilbert - Gottfried Hardy -
 Leopold Kronecker - Fibonacci - Bernhard Riemann - Pythagoras



b. Put them in the right chronological order.

Inventions and Innovations



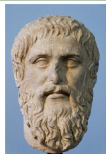
IS MATH
DISCOVERED
OR INVENTED?

1. What would you say – is mathematics discovered or invented?

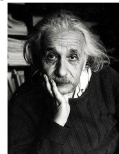
2. Pay attention to the following figures.
a. Match the name and the picture.



6. Bernhard Riemann



2. Plato



10. Albert Einstein



4. Fibonacci



8. David Hilbert



9. Gottfried Hardy



11. Eugene Wigner



1. Pythagoras



5. Leopold Kronecker



7. Henri Poincaré



3. Euclid

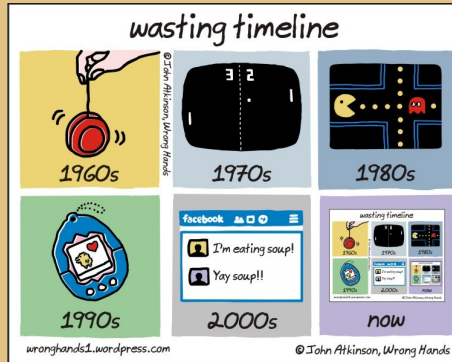
b. Put them in the right chronological order.

Pythagoras (5th c BCE), Plato (4th c BCE), Euclid (3rd c BCE), Fibonacci (1170-1250), Leopold Kronecker (1823-1891), Bernhard Riemann (1826-1866), Henri Poincaré (1854-1912), David Hilbert (1862-1943), Gottfried Hardy (1877-1947), Albert Einstein (1879-1955), Eugene Wigner (1902-1995)

c. Discuss with your partner: which side do you think their maths would be on? Why? Which argument would they use? Do you think about other points to make?

Inventions and Innovations

Timeline of Inventions and Innovations

































In groups from two to four players, you will have to collaborate to try and place all the thirty cards in the right chronological order.

Each player, in their turn, is going to draw a card from the pack and choose where to place it. They will have to state their argument, resorting to modals as well as comparative and superlative structures, better to convince the other members of the team.

When all the cards are in the timeline, you will have one final discussion to try and persuade the other members to move some of them, if need be.

Inventions and Innovations

Timeline of Inventions and Innovations

							
Musical Instrument	Animation	Ice-Making Refrigerator	Steam Engine	Matches	Electric Car	Aquarium	Bicycle
							
Vending Machine	Rap Battles	Eyeglasses	Printing Press	Contact Lenses (invention)	Nintendo Company	Model T Car	Television
							
Ornithopter	Contact Lenses (idea)	Wristwatch	Submarine	Traffic Light	Self-Driving Car	Wi-Fi	Long-Playing (LP) Record
							
Horseless Carriage	Vaccine	Computer	Lighter	E-Cigarettes	World Wide Web		

Timeline of inventions

BCE = Before common era

Musical Instrument (43,000 years BCE) Neanderthal Flute carved from a bear femur
Animation (21,000 BCE) (Cave paintings made so that a flickering oil light would create the illusion of motion)

Ice-Making Refrigerator 4th century BCE (Yakhchals in the Persian desert)
Steam Engine 1st century AD (Heron of Alexandria's aeolipile, 1765 James Watt)
Vending Machine 1st century AD (water dispenser with a coin; Heron of Alexandria)
Rap Battles 900 AD (Vikings)

Eyeglasses 1290
Printing Press 1455 (Johannes Gutenberg)

Ornithopter 1489 (Leonardo Da Vinci)
Contact Lenses (idea) 1508 Leonardo Da Vinci
Wristwatches 1571 (Queen Elizabeth I got one in 1571)

Submarine 1620

Horseless Carriage 1769 (Fardier à Vapeur)
Vaccines 1797 (smallpox vaccine)

Computer 1820s (English Mathematician Charles Babbage, mechanical, The Babbage Difference Engine)

Lighter 1823

Matches 1826

Electric Car 1832

Aquarium 1832 (Jeanne Villepreux-Power)

Bicycle 1840 (Kirkpatrick Macmillan)

Contact Lenses (invention) 1838

Nintendo Company 1889 (playing cards)

Model T car by Henry Ford 1908

Television 1923 (John Logie Baird)

Traffic Light 1923 (Garrett Morgan)

Self-driving Car 1939

Wi-Fi 1941 (Hedy Lamarr)

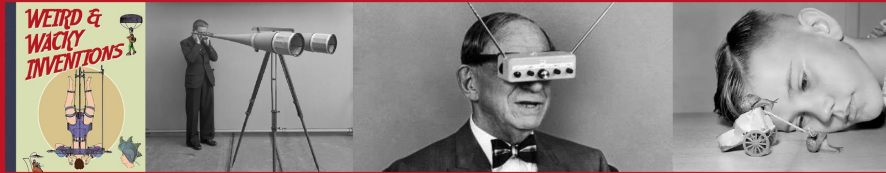
Long-Playing (L.P) Record 1948 (Peter Goldmark)

E-Cigarettes 1967

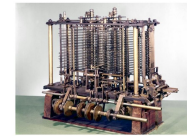
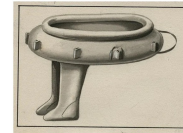
World Wide Web 1993 (Tim Berners-Lee)

To count your points, remove all the cards that do not fit the general timeline, or that are placed neither before nor after the right card – how many are left?

Inventions and Innovations

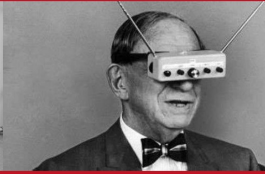


Can you guess what those inventions were made for?
Which problem were they supposed to solve?
Use the passive structure for your hypotheses.



Insert your own

Inventions and Innovations



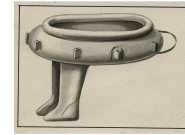
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Car with shovel for pedestrians: Invented for the purpose of reducing the number of casualties among pedestrians; Paris, 1924.



Folding bridge for emergencies: The emergency bridge can easily be transported on a handcart; invented by L. Dech. The Netherlands, 1926.



Booted rubber boat: Drawing of a 'pneumatic sports-fish and hunt boat', an inflatable boat for one person with boots attached. The Netherlands, 1915.



Manual dredger: Workers operated the so-called bucket dredger with their arms and legs using stepper boards.



Amphibious bicycle: This land-and-water bike can carry a load of 120 pounds; Paris, 1932.



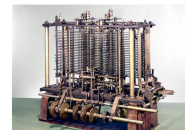
All-terrain car: This all-terrain car can descend slopes up to 65 degrees; England, 1936.



Fixed newspaper: In 1938, the world's first wireless newspaper was sent from WOR radio station in New York City.



Snowstorm mask: Plastic face protection from snowstorms; Canada, Montreal, 1939.



This analytical engine, the first fully-automatic calculating machine, was constructed by British computing pioneer Charles Babbage (1791-1871) - 1812.



Ice sailboat: In the 17th century, it was so cold that meteorologists spoke of a Little Ice Age. 1600.



Hambin glasses for reading in bed: A pair of spectacles especially designed for reading in bed; England, 1936.



Electrically heated jacket: developed for the traffic police in the United States, 1932. The power is supplied by electric contacts in the street.



An early chainsaw, known as Osteotome, from 1780. The chainsaw as we know it appears to have begun life as a medical instrument—one used to assist in childbirth.



Mechanical tree, by Klaus Lackner, Professor in the School of Sustainable Engineering at Arizona State University. It shows that machines can be built to directly capture Carbon...

Insert your own