HISTORY OF COMMUNICATION

By Domenico De Cosmo

ERASMUS+

SUCC3SSFUL COMMUNICATION

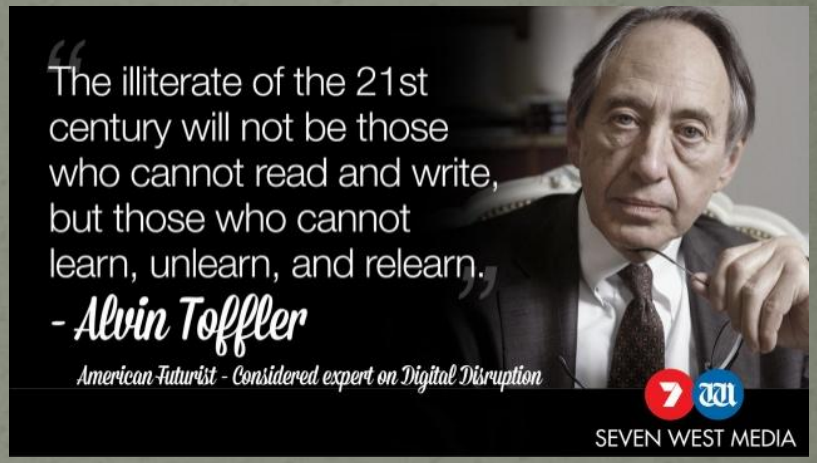
THE FUTURE OF EUROPE

Hystory of communications

Part 2

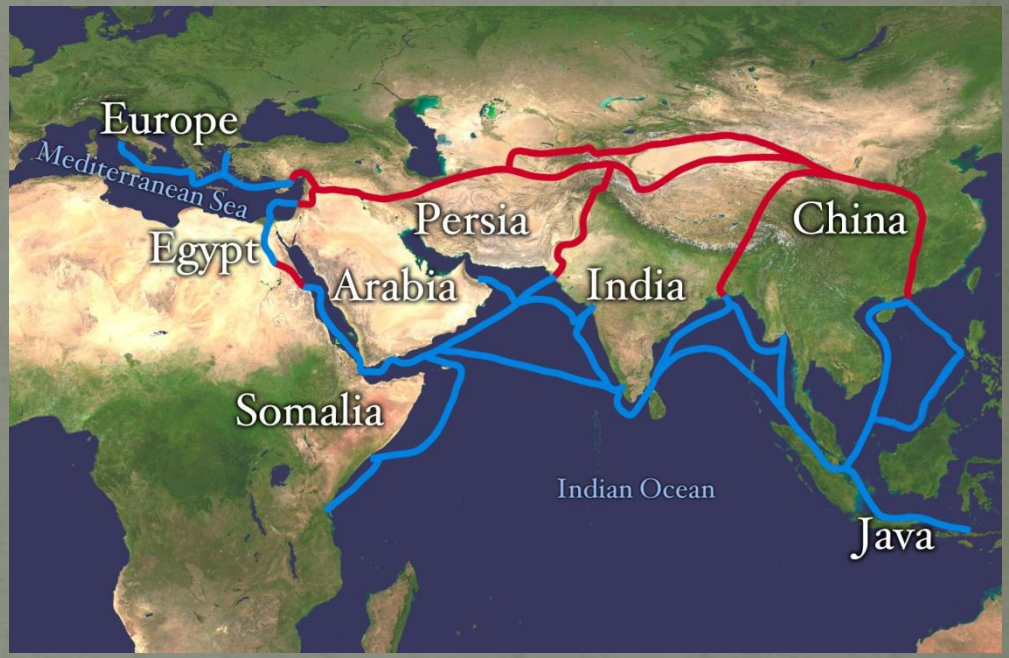
OUR TECHNOLOGICAL SOCIETY

- **Alvin Toffler** an American writer says "Society needs all kinds of skills that are not just cognitive; they're emotional, they're affectional. You can't run the society on data and computers alone".
- He describes three types of societies, based on the concept of "waves", in which emerges the unbalance of each of them:
- The First Wave, the society after agrarian revolution (99,8% of human history);
- The Second Wave, the society during the Industrial Revolution (ca. late 17th century through the mid-20th century, thus the 0,19% of human history);
- The Third Wave, our post-industrial society, (which takes the 0,01% of human history), where change is non-linear and can go backwards, forwards and sideways.



Before MIDDLE AGE

- Before Gutenberg knowledge circulates in the circuit of European Benedictine monasteries, representing the first web provider in the history.
- The Silk Road, the Amber Road, the Salt Road are nothing more but examples of networks, able to connect with other subsystems, to be used by pilgrims, travelers, artists and warriors of the time.



Around 114 BCE – 1450s CE

GUTENBERG'S MOVABLE TYPES

- The spreading of use of movable metal types and of printing press, transformed the multisecular control over human knowledge, laying the basis for the first mass diffusion of knowledge, opening new scenarios for societes and free goods exchange.
- Gutenberg discovery become the opportunity to transfer all amanuensis' text onto paper which came from China.

Movable metal type, and composing stick, descended from Gutenberg's press.

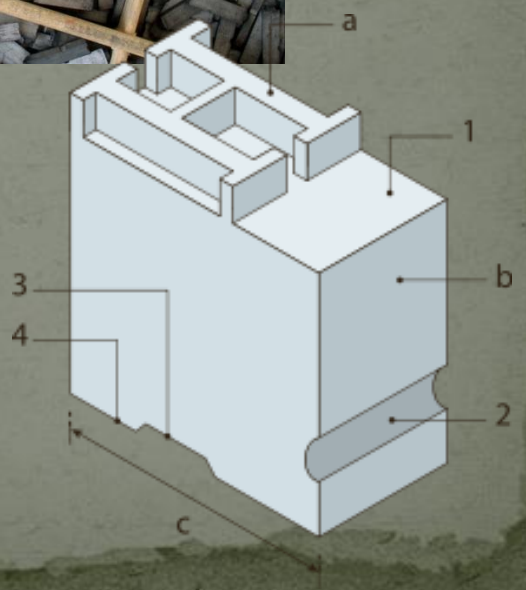
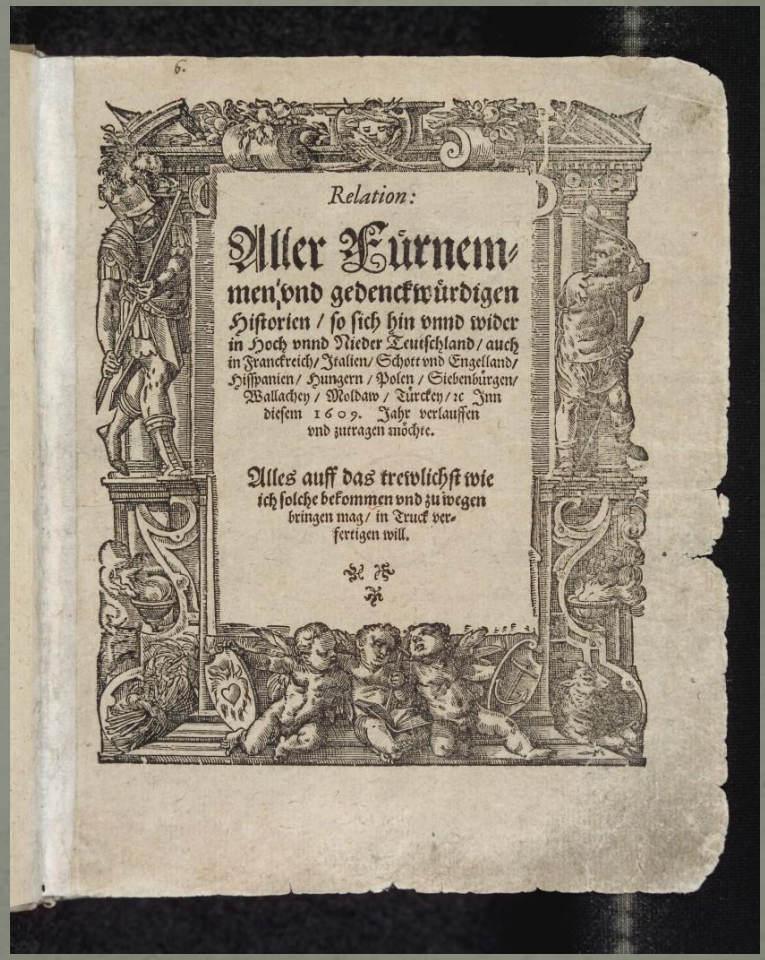


***Diagram of a cast metal sort**. **a** face, **b** body or shank, **c** point size, **1** shoulder, **2** nick, **3** gr oove, **4** foot.*

NEWSPAPERS' ERA

- The emergence of the new media in the 17th century has to be seen in close connection with the spread of the printing press from which the publishing press derives its name.
- The German - language **Relation aller Fürnemmen und gedenckwürdigen Historien**, printed from 1605 onwards by Johann Carolus in Strasbourg, is often recognized as the first newspaper.



The cover of "Relation aller Fürnemmen und gedenckwürdigen Historien", 1605.

NEWSPAPERS SPREADING

- By the early 19th century, many cities in Europe, North and South America, published newspaper-type publications; content was vastly shaped by regional and cultural preferences.
- Advances in printing technology related to the Industrial Revolution enabled newspapers to become an even more widely circulated means of communication. In 1814, *The Times* (London) had a printing press capable of making 1,100 impressions per hour.


"All the News That's Fit to Print."

The New York Times.

THE WEATHER

VOL. LXVIII...NO. 22,286. NEW YORK, MONDAY, NOVEMBER 11, 1918. TWENTY-FOUR PAGES. TWO CENTS

ARMISTICE SIGNED, END OF THE WAR!
BERLIN SEIZED BY REVOLUTIONISTS;
NEW CHANCELLOR BEGS FOR ORDER;
OUSTED KAISER FLEES TO HOLLAND

SON FLEES WITH EX-KAISER

Hindenburg Also Believed to be Among Those in His Party.

ALL ARE HEAVILY ARMED

Automobiles Bristle with Rifles as Fugitives Arrive at Dutch Frontier.

ON THEIR WAY TO DE STEEG

Belgians Yell to Them, "Are You On Your Way to Paris?"

Kaiser Fought Hindenburg's Call for Abdication; Failed to Get Army's Support in Keeping Throne

By GEORGE RENWICK.

Kaiser Shivered as He Signed Abdication

BERLIN TROOPS JOIN REVOLT

Reds Shell Building in Which Officers Vainly Resist.

THRONGS DEMAND REPUBLIC

Revolutionary Flag on Royal Palace—Crown Prince's Palace Also Seized.

GENERAL STRIKE IS BEGUN

Burgomaster and Police Submit—War Office Now Under Socialist Control.

Socialist Chancellor Appeals to All Germans To Help Him Save Fatherland from Anarchy

GERMAN DYNASTIES BEING WIPED OUT

King of Wuerttemberg Abdicates—Sovereign of Saxony to Follow Suit.

PRINCES MAY BE EXILED

Socialists Are Demanding That Every Sovereign in the Empire Shall be Dethroned.

MORE WARSHIPS JOIN THE REDS

Four Dreadnoughts in Kiel Harbor Espouse the Revolutionary Cause.

GUARDSHIPS ALSO GO OVER

These Protecting Mines in the Great Belt and the Baltic Abandon Their Posts.

WAR ENDS AT 6 O'CLOCK THIS MORNING

The State Department in Washington Made the Announcement at 2:45 o'Clock.

ARMISTICE WAS SIGNED IN FRANCE AT MIDNIGHT

Terms Include Withdrawal from Alsace-Lorraine, Disarming and Demobilization of Army and Navy, and Occupation of Strategic Naval and Military Points.

By The Associated Press.

WASHINGTON, Monday, Nov. 11, 2:48 A. M.—The armistice between Germany, on the one hand, and the allied Governments and the United States, on the other, has been signed.

The State Department announced at 2:45 o'clock this morning that Germany had signed.

The department's announcement simply said: "The armistice has been signed."

The world war will end this morning at 6 o'clock, Washington time, 11 o'clock Paris time.

The armistice was signed by the German representatives at midnight.

This announcement was made by the State Department at 2:50 o'clock this morning.

The announcement was made verbally by an officila of the State Department in this form:

"The armistice has been signed. It was signed at 5 o'clock A. M., Paris time, [midnight, New York time,] and hostilities will cease at 11 o'clock this morning, Paris time, [6 o'clock, New York time.]

The terms of the armistice, it was announced, will not be made public until later. Military men here, however, regard it as certain that they include:

Immediate retirement of the German military forces from France, Belgium, and Alsace-Lorraine.

Disarming and demobilization of the German armies.

Occupation by the allied and American forces of such strategic points in Germany as will make impossible a renewal of hostilities.

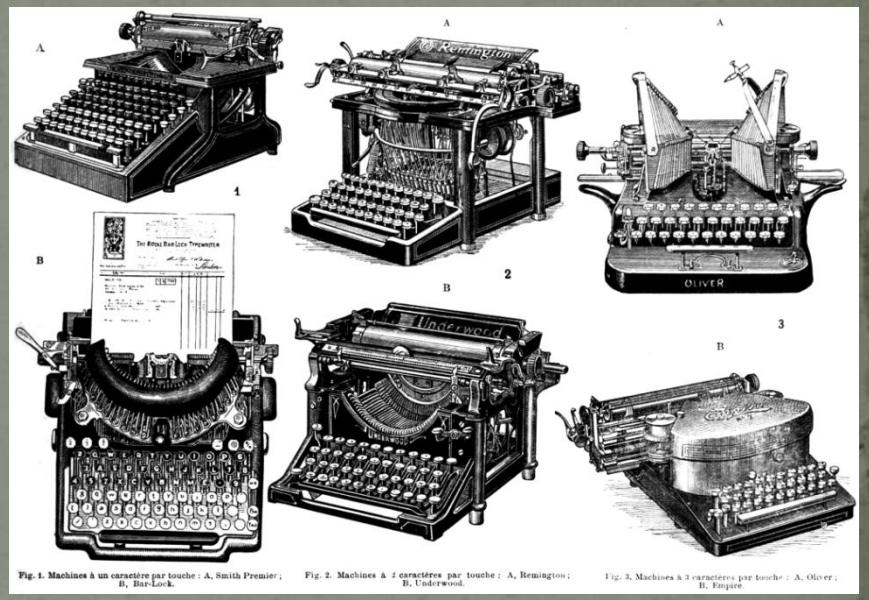
Delivery of part of the German High Seas Fleet and a certain number of submarines to the allied and American naval forces.

Disarmament of all other German warships

Front page of The New York Times on Armistice Day, 11 November 1918.

TYPEWRITERS

- An invention which made the Gutenberg's discovery ready for commercialization was the Typewriter.
- The first typewriter to be commercially successful was invented in 1868 by Americans Christopher L. Sholes, Carlos Glidden and Samuel W. Soule in Milwaukee. It had a QWERTY keyboard layout, which was slowly adopted by other typewriter manufacturers.
- The basic groundwork for the electric typewriter was laid by the Universal Stock Ticker, invented by Thomas Edison in 1870.
- A significant innovation was the shift key, introduced with the Remington No. 2 in 1878.
- By about 1910, the "manual" or "mechanical" typewriter had reached a somewhat standardized design.



Comparison of full-keyboard, single-shift, and double-shift typewriters in 1911

TELEGRAPH'S INVENTION

- In 1800 Alessandro Volta invented the voltaic pile.
- The first commercial electrical telegraph, the Cooke and Wheatstone telegraph, was co-developed by William F. Cooke and Charles Wheatstone.
- An electrical telegraph was independently developed and patented in the United States in 1837 by Samuel Morse. His assistant, Alfred Vail, developed the Morse code signaling alphabet with Morse.
- The first telegram in the United States was sent by Morse on 11 January 1838, across two miles (3 km) of wire at Speedwell Ironworks near Morristown, New Jersey. In 1844 he sent the message "WHAT HATH GOD WROUGHT" from the Capitol in Washington to Baltimore.

Cooke and Wheatstone's five-needle, six-wire telegraph

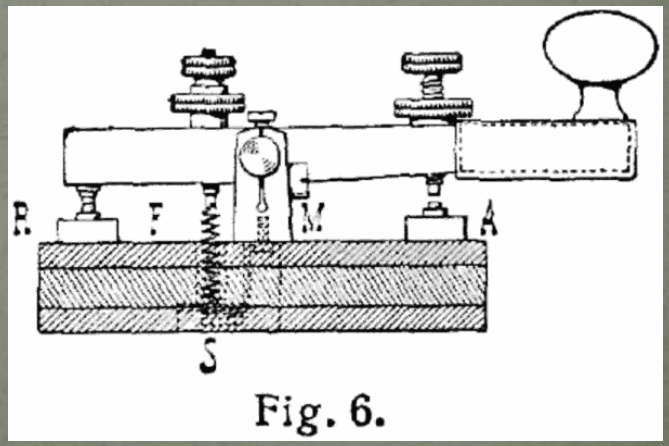


Fig. 6.

A Morse key

TELEGRAPH LINES

- From the 1850s until the first half of the 20th century, British submarine cable systems dominated the world system. This was set out as a strategic goal known as the All Red Line.
- In 1892, British companies owned and operated two-thirds of the world's cables and by 1923, their share was still 42.7 percent. During World War I, Britain's telegraph communications were almost completely uninterrupted, while it was able to quickly cut Germany's cables worldwide.
- The world's last existing true electric telegraph system from India's state-owned telecom company, BSNL, ended its telegraph service on 14 July 2013.

Major telegraph lines in 1891.

PHOTOGRAPHS and CINEMA

- The first permanent photograph, a contact-exposed copy of an engraving, was made in 1822 using the bitumen-based "heliography" process developed by Nicéphore Niépce.
- In 1829 Niépce entered into a partnership with Louis Daguerre and the two collaborated to work out a similar but more sensitive and otherwise improved process.
- This invention evolved in the discovery of **film**, also called **movie**, **motion picture** or **photoplay**, a series of still images which, when shown on a screen, creates the illusion of moving images due to the phi phenomenon.
- The **Lumière** brothers, **Auguste** and **Louis Jean,** were the first filmmakers in history. They patented the cinematograph, which in contrast to Edison‘s "peepshow" kinetoscope allowed simultaneous viewing by multiple parties.

View from the Window at Le Gras(1826 or 1827), by Nicéphore Niépce, the earliest known surviving photograph of a real-world scene, made with a camera obscura

The Lumiere brothers

TELEPHONE

- A telephone converts sound, typically and most efficiently the human voice, into electronic signals suitable for transmission via cables.
- In 1860, Johann Philipp Reis used the term in reference to his Reis telephone, his device appears to be the first such device based on conversion of sound into electrical impulses.
- Charles Bourseul, Antonio Meucci, Johann Philipp Reis, Alexander Graham Bell, and Elisha Gray, amongst others, have all been credited with the invention of the telephone.

Acoustic telephone ad, The Consolidated Telephone Co., Jersey City, NJ 1886

AT LAST! AT LAST!

A Perfectly Reliable Acoustic Telephone.

A TELEPHONE THAT WILL WORK WELL OVER ANY ROUTE, REGARDLESS OF ANGLES.

A TELEPHONE THAT WILL WORK WELL IN ALL KINDS OF WEATHER, WIND OR RAIN.

A TELEPHONE THAT DOES NOT ROAR WHEN THE WIND BLOWS.

A TELEPHONE THAT WILL ADMIT OF SEVERAL INSTRUMENTS UPON THE SAME TRUNK LINE.

An Acoustic Telephone Central Office,

Adapted to switch one line with another, similar in effect to the electric system. This is attained by the SHAVER SYSTEM, and its practical utility demonstrated by its use by over 150 bona fide subscribers in New York City, who are paying rentals of $2 to $8 per month for the service.

TELEPHONES sold outright or rented in unoccupied territory. Send stamp for list of users and testimonials. It will pay you to investigate the truth of these statements, and secure an agency. Liberal discounts to agents, and satisfaction guaranteed or money returned. References.

To rapidly introduce our goods, we will, for the first line in any town, give a discount of sixty per cent. from our regular retail prices for Telephones, as given below, providing the purchaser will endeavor to secure us a reliable agent.

Retail prices Telephones each	$10.00
Magneto Call Bells (not necessary)	6.00
Wire per 100 feet	.25
Hangers for right angles	.25
Ordinary supports	.10

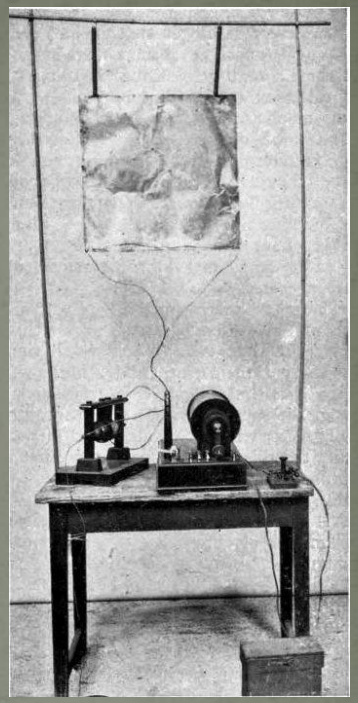
The SHAVER SYSTEM of Telephony has been in use by many business houses in this city for the past two years, gives universal satisfaction, and we cheerfully recommend it to those desiring such service.
—FRANK LESLIE'S PUBLISHING HOUSE.

THE CONSOLIDATED TELEPHONE CO.,
Jersey City, N. J.

Bell placing the first New York to Chicago telephone call in 1892

RADIO TRANSMISSION

- Heinrich Hertz began in 1888 to demonstrate that one could produce and detect electromagnetic radiation, known as radio waves.
- Marconi, just twenty years old, began his first experiments working on his own in the summer of 1894.
- In 1901 he established a wireless transmitting station at Marconi House Rosslare Strand, Co. Wexford, began investigating the means to signal completely across the Atlantic, in order to compete with the transatlantic telegraph cables.
- On 12 December 1901, using a 500-foot (150 m) kite-supported antenna for reception, the message was received at Signal Hill in St.John's, Newfoundland (now part of Canada) signals transmitted by the company's new high-power station at Poldhu, Cornwall. The distance between the two points was about 2,200 miles (3,500 km).



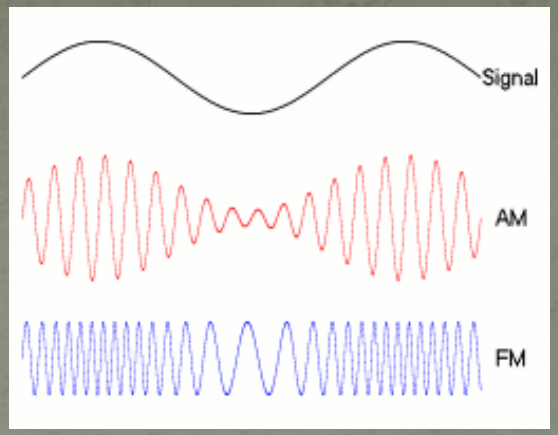
Marconi's first transmitter, consisting of a copper sheet capacitive antenna (top) connected to a Righi spark gap (left) powered by an induction coil (center) with a telegraph key (right) to switch it on and off to spell out text messages in Morse code.

Marconi demonstrating apparatus similar to that used by him to transmit the first wireless signal across the Atlantic Ocean, 1901.

RADIO

Radio is the use of radio waves to carry sound, modulating electromagnetic energy waves transmitted through space.

- The term "radio" is derived from the Latin word *radius*, meaning "spoke of a wheel, beam of light, ray" . The use of "radio" as a standalone word dates back to at least December 30, 1904, when the British Post Office for transmitting telegrams specified that "The word 'Radio'... is sent in the Service Instructions“
- The first use of *radio* in conjunction with electromagnetic radiation appears to have been by French physicist Édouard Branly, who in 1890 developed a version of acoherer receiver he called a *radio-conducteur*.
- Lee de Forest helped popularize the new word in the United States. In 1907 he founded the DeForest Radio Telephone Company, and his letter in the June 22, 1907 *Electrical World* about the need for legal restrictions warned that "Radio chaos will certainly be the result until such stringent regulation is enforced“.



An audio signal (top) may be carried by an AM or FM radio wave.

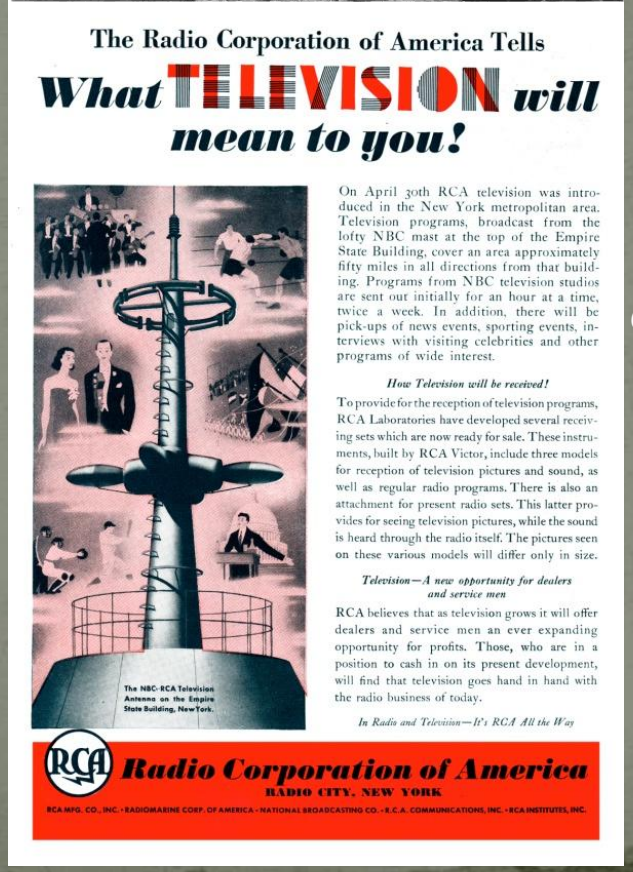
Bakelite radio at the Bakelite Museum, Orchard Mill, Williton, Somerset, UK.

TELEVISION

Television is a telecommunication medium used for transmitting sound with moving images in monochrome(black-and-white), or in color.

- Constantin Perskyi had coined the word *television* at the International World Fair in Paris on 25 August 1900. The word *television* comes from Ancient Greek τῆλε *(tèle)*, meaning "far", and Latin *visio*, meaning "sight".
- Willoughby Smith discovered the photoconductivity of the element selenium in 1873. Thanks to Paul J. Gottlieb "Nipkow disk" invented in 1884 (a spinning disk with a spiral pattern of holes in it, so each hole scanned a line of the image), in 1928, John Logie Baird broadcasted the first transatlantic television signal, between London and New York.
- By the 1938 the advancement of all-electronic television (image dissectors and other camera tubes, cathode ray tubes for the reproducer) marked the end of mechanical system for TV.
- Electronic color was introduced in the U.S. in 1953.

Baird in 1925 with his televisor equipment and dummies "James" and "Stooky Bill" (right).



The Radio Corporation of America Tells

What TELEVISION will mean to you!

The NBC-RCA Television Antenna on the Empire State Building, New York.

On April 30th RCA television was introduced in the New York metropolitan area. Television programs, broadcast from the lofty NBC mast at the top of the Empire State Building, cover an area approximately fifty miles in all directions from that building. Programs from NBC television studios are sent out initially for an hour at a time, twice a week. In addition, there will be pick-ups of news events, sporting events, interviews with visiting celebrities and other programs of wide interest.

How Television will be received!

To provide for the reception of television programs, RCA Laboratories have developed several receiving sets which are now ready for sale. These instruments, built by RCA Victor, include three models for reception of television pictures and sound, as well as regular radio programs. There is also an attachment for present radio sets. This latter provides for seeing television pictures, while the sound is heard through the radio itself. The pictures seen on these various models will differ only in size.

Television—A new opportunity for dealers and service men

RCA believes that as television grows it will offer dealers and service men an ever expanding opportunity for profits. Those, who are in a position to cash in on its present development, will find that television goes hand in hand with the radio business of today.

In Radio and Television—It's RCA All the Way

RCA Radio Corporation of America
RADIO CITY, NEW YORK
RCA MFG. CO., INC. • RADIOMARINE CORP. OF AMERICA • NATIONAL BROADCASTING CO. • R.C.A. COMMUNICATIONS, INC. • RCA INSTITUTES, INC.

Ad for the beginning of experimental television broadcasting in New York City by RCA in 1939.