

The history of television

[Media](#), [Television](#)



Did you know there are more television sets in the world than there are telephones? Even the television professionals find it hard to believe. However the statistics prove it. According to official figures from the International Telecommunication Union there were 565 million telephones in 1983, and 600 million television sets. Other statistics are just as impressive. In Belgium, from 1967 to 1982, the average time spent watching television by children from 10 to 13 years, increased from 82 to 146 minutes per day. This amazed people.

Our senses are attacked every day visual images. Its almighty and instantaneity are finely tuned to our way of thinking, whether we are hard-worked or lazy. We expect from it effortless pleasure and news. A Chinese word says a picture is worth ten thousand words.

But the astonishment takes its toll and we lust for more. Images pour over us in a never-ending torrent.

Television has already modified our social behavior. It helps our taste for things that visual. The impact of the picture and its colors. It encourages in us a strive for the big spectacle. The effect can be seen in the way we react to one another and in the world of advertising. But television cannot yet be said to have enriched our civilization. For that to happen it must become interactive, so the viewers may cease to be just absorbers.

In the flood of images from the silver screen the less good accompanies the best, just as in cinema or in literature. The factor which distinguishes television from the cinema and books, however, is that the full quality range, down to the very worst, is offered to us round the clock, in our own homes.

Unless we take particular care to preserve our sense of values, we let it all soak in.

We have not yet become "diet conscious", as regards our intake of television fare, although this is becoming increasingly necessary as the number of channels available to the public steadily increases. Without this self-control our perception becomes blurred and the lasting impression we have ceases to be governed by a strict process of deliberate reflection.

Television cannot, on its own, serve as an instrument of culture. It has, to be appreciated that it is not well suited for detailed analysis or in-depth investigation. The way it operates and its hi-tech infrastructure are such that it cannot do justice to the words of the poet. How fortunate that there is other media for that.

Television aims at our most immediate perception. Pictures.... to see almost to feel. It is a medium for multiple contacts. It sets the whole world before us. It offers us entertainment games, sports and more serious programs. Eurovision was created for that very purpose. Television offers something of everything, and each viewer can pick and chose whatever he or she finds the most illuminating.

The cultivation of a diet-conscious viewing public will be easier if the viewers can become more familiar with the media and how they work if we can do away with the "telly" myth. Some attempts have already been made. The 50th anniversary of television affords an excellent opportunity to contribute to this movement and, by showing equipment and drawings, people hope to

enlighten people by working on this most consumed of consumer technologies.

A brief history 1873. Ireland. A young telegraph operator, Joseph May, discovered the photoelectric effect: selenium bars, exposed to sunlight, show a variation in resistance. Variations in light intensity can therefore be transformed into electrical signals. That means they can be transmitted.

1875. Boston, USA. George Carey proposed a system based on the exploration of every point in the image simultaneously: a large number of photoelectric cells are arranged on a panel, facing the image, and wired to a panel carrying the same number of bulbs.

This system was impracticable if any reasonable quality criteria were to be respected. Even to match the quality of cinema films of that period, thousands of parallel wires would have been needed from one end of the circuit to the other.

In France in 1881, Constantin Senlecq published a sketch detailing a similar idea in an improved form: two rotating switches were proposed between the panels of cells and lamps, and as these turned at the same rate they connected each cell, in turn, with the corresponding lamp. With this system, all the points in the picture could be sent one after the other along a single wire.

This is the basis of modern television: the picture is converted into a series of picture elements. Nonetheless, Senlecq's system, like that proposed by Carey, needed a large number of cells and lamps.

1884, the German Paul Nipkow applied for a patent covering another image scanning system: it was to use a rotating disk with a series of holes arranged in a spiral, each spaced from the next by the width of the image; a beam of light shining through the holes would illuminate each line of the image.

The light beam, whose intensity depended on the picture element, was converted into an electrical signal by the cell. At the receiving end, there was an identical disc turning at the same speed in front of a lamp whose brightness changed according to the received signal.

After a complete rotation of the discs, the entire picture had been scanned. If the discs rotated sufficiently rapidly, in other words if the successive light stimuli followed quickly enough one after the other, the eye no longer perceived them as individual picture elements. Instead, the entire picture was seen as if it were a single unit.

The idea was simple but it could not be put into practice with the materials available at the time.

Other scientific developments were to offer an alternative. The electron, the tiny grain of negative electricity, which revolutionized physics at the end of the 19th century, was the key. The extreme narrowness of electron beams and their absence of inertia caught the imagination of many researchers and oriented their studies towards what in time became known as electronics. The mechanical approach nevertheless stood its ground, and the competition lasted until 1937.

The cathode ray tube with a fluorescent screen was invented in 1897. Karl Ferdinand Braun, of the University of Strasbourg, had the idea of placing two electromagnets around the neck of the tube to make the electron beam move horizontally and vertically. On the fluorescent screen the movement of the electron beam had the effect of tracing visible lines on the screen.

A Russian scientist, Boris Rosing, suggested this might be used as a receiver screen and conducted experiments in 1907 in his laboratory in Saint Petersburg.

As early as 1908 the Scotsman A. A. Campbell Swinton outlined a system using cathode ray tubes at both sending and receiving ends. This was the first purely electronic proposal. He published a description of it in 1911:

- the image is thrown onto a photoelectric mosaic fixed to one of the tubes;
- a beam of electrons then scans it and produces the electric signal;

At the receiving end, this electric signal controls the intensity of another beam of electrons, which scans the fluorescent screen.

All this work went into the making of the television. It did not go unheard. The television caught on very quickly. In only one hundred years the television has very rapidly grown into the main source of media for almost the entire globe.

The technology used to create the television also made it possible for the computer to be invented. Even though the computer is superseding the

television because it is interactive, it would have never been invented if the television wasn't.

If the television has led the way for the computer and was the first invention to have visual movement with sound was almost like being at the event.

All media is held up to be compared to the television. The television certainly has held and set the standard that media should be held at.

If it wasn't for the television media may have been fizzled out or it would still be primitive like the time of the first books.

This is why the television is the most important medium of today. But you never know... television today something better such as the Internet tomorrow.

Sources

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