

## Media and Society: 2

History through technology

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### Outline

- **The Telegraph:** Speed and 'global-ness'
- **Newspapers:** Mass audience
- **Radio and TV:** Broadcasting
- **Satellites:** Globalisation
- **The Internet:** A new model
- **Mobile Telephony:** Everything, everywhere

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### Objectives

- Understand the role of technology in international communications
- Be aware of historical developments in communication technologies
- Understand how technologies have shaped our expectations of mass media

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### The Telegraph

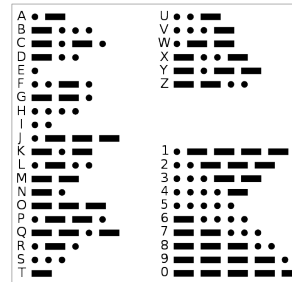
- Industrial Revolution
- Railways
- "Free Trade"
- British Empire (world-wide)



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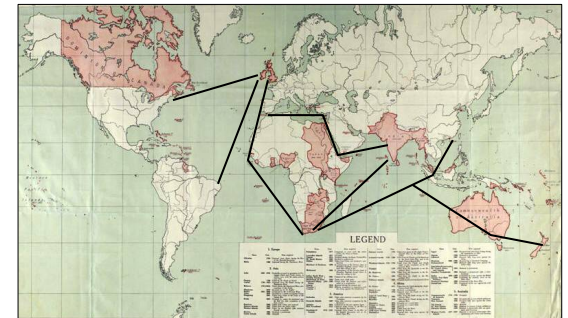
### (Samuel) Morse Code

- 24 May 1844: Morse sends first telegraph message from Washington DC to Baltimore.
- Fast operators may be able to send 30 to 70 English words per minute, depending on the type of equipment used.



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### The first 'World Wide Web' Undersea cables from the UK in apx. 1900



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### Telegraph Communication

- 'Instant' global communication



US White House telegraph office around 1903

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### Telegraph Communication

- 'Instant' global communication
- BUT...
- **Huge** capital investment required
- 'One-to-one' (point-to-point)
- Infrastructure **unreliable** and **vulnerable**

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### Crimean War / US Civil War

- From middle of c19 telegraph becomes important in newspaper reporting.
- 1854-6 Crimean War reports of William Russell of *The Times*

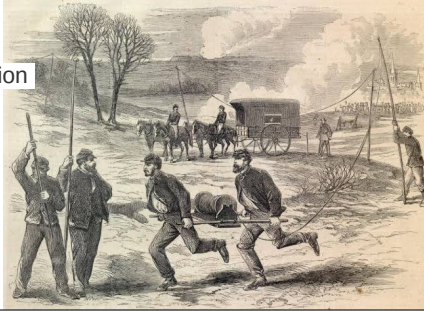


See - <http://www.inventingeurope.eu/story/eye-witnessing-the-war-in-the-crimea-telegraph-vs-camera>

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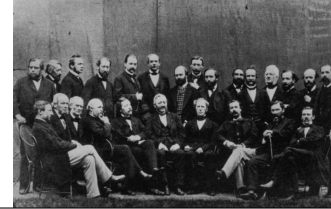
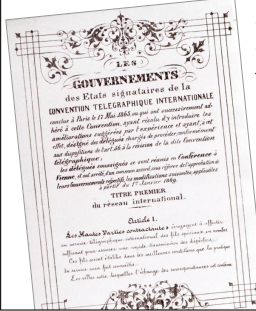
## U.S. Military Telegraph Corps

1861-5  
US Civil War  
Cables carried 6.5 million  
telegraph messages.

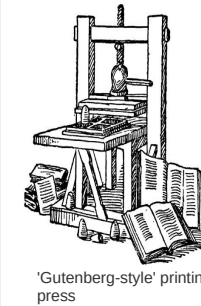


## ITU (Int'l Telegraph Union)

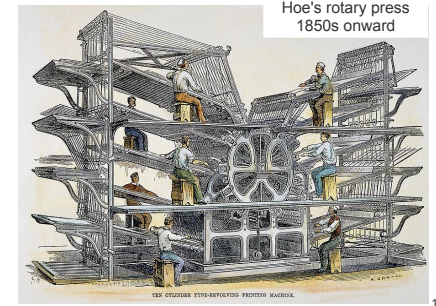
- Founded 17 May 1865, part of UN since 1947
- Regulates international communications technology, standards etc.



## Printing / Newspapers



'Gutenberg-style' printing press



Hoe's rotary press  
1850s onward

## Modern Newspaper Press



This press belongs to the *Statesman* newspaper in Austin, Texas.

Built in Germany this press is 20 metres tall and cost \$14 million (¥1 億).

The *Statesman* has four presses in all and can print about 1000 copies per minute.

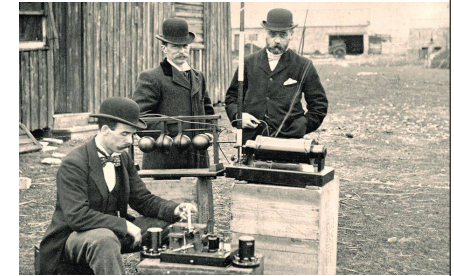
## Wireless (Radio): Early days

- Guglielmo **Marconi** (Pontecchio, Italy)
- 13 May 1897: "Are you ready?"
- 1912: 122 amateur radio clubs in US
- 1919: Formation of RCA (Radio Corp. of America)



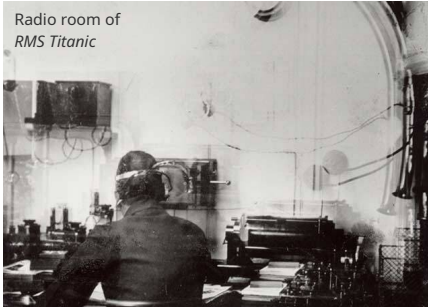
## Flat Holm to Lavernock Point

Post Office engineers inspect Marconi's equipment on Flat Holm Island



## Ship-to-shore/ship

Radio room of  
*RMS Titanic*



First uses of wireless telegraphy were in ship-to-ship and ship-to-shore communications.

## Wireless & 'Broadcasting'

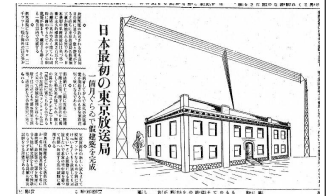
- First wireless experiments during early c20
- First regular services by mid-1920s in US



Poland: crystal set,  
1920s

## Birth of NHK

- March 22, 1925
- JOAK Tokyo first broadcast from Shibaura studio (JOBK Osaka, JOCK Nagoya)
- NHK formed 1926 when three stations were merged



## Japan's first day of broadcasting

**けふのプログラム**  
 正午から夜まで二回  
 午後三時三十分 高橋繁雄と高橋繁雄  
 午後七時三十分 高橋繁雄と高橋繁雄  
 午後九時三十分 高橋繁雄と高橋繁雄  
 午後十一時三十分 高橋繁雄と高橋繁雄  
 午後十二時三十分 高橋繁雄と高橋繁雄  
 午後一時三十分 高橋繁雄と高橋繁雄  
 午後二時三十分 高橋繁雄と高橋繁雄  
 午後三時三十分 高橋繁雄と高橋繁雄  
 午後四時三十分 高橋繁雄と高橋繁雄  
 午後五時三十分 高橋繁雄と高橋繁雄  
 午後六時三十分 高橋繁雄と高橋繁雄  
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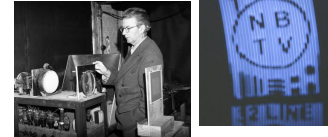
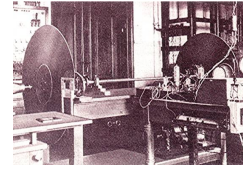
1200: selection of shakuhachi and koto music (30mins)  
 1400: light opera selection(30mins)

いよ／＼明日から  
 お待かねの無線放送  
 先着者取りの気持

1930: 20 minute lecture  
 2000: piano music selection  
 2030: Nagauta/shamisen and weather.

## Experiments in television

- Paul Nipkow (Berlin)
- Boris Rosing (St Petersburg)
- Vladimir Zworykin (StP. then RCA)
- Philo Farnsworth (US)
- John Logie Baird (UK)
- Kenjiro Takayanagi (JP)



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## Television Technology



Marconi 707: 1938, 7" screen, AM/SW radio



Sharp '1seg' phone tv

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## TV in Japan



NHK: 1 Feb 1953 (Public service)  
 NTV: 28 Aug 1953 (Commercial)



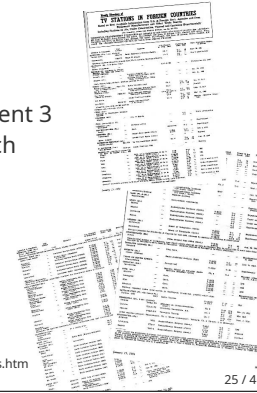
Shoriki Matsutaro



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## TV catches on

- By 1960 a typical adult in Japan spent 3 hours 11 minutes watching TV each day.
- By the mid-1960s there were TV stations in over 90 countries.



<http://www.tvhistory.tv/facts-stats.htm>

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## World TV: A shared language?



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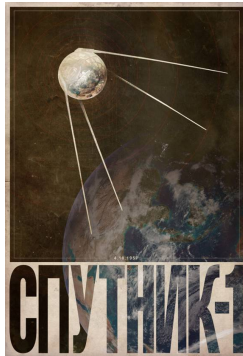
## Early satellites

**SPUTNIK 1:** launched 4 October 1957

Orbit speed: 29,000km/h

Time to orbit Earth: 96mins

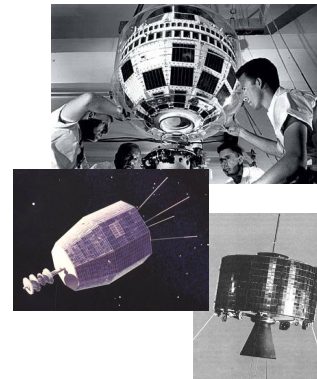
Spent three months in orbit and burned up on re-entry into Earth atmosphere on 4 January 1958.



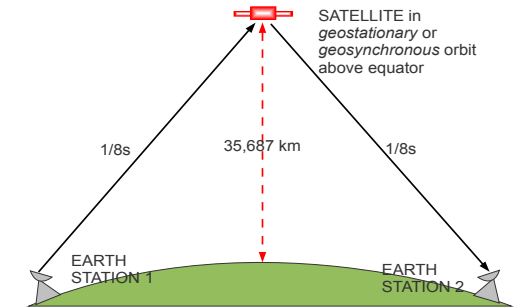
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## Early Satellites: 2

- **Telstar 1:** launched 10 July 1962  
 23 July 1962 used for first intercontinental TV broadcast between US and Europe.
- **Relay 1:** 13 Dec 1962. Used for first Japan-US link, 22 Nov 1963.
- **Syncom 3:** first geostationary satellite, used to broadcast 1964 Tokyo Olympics to US.

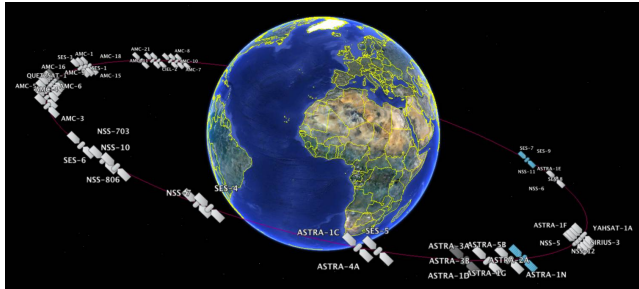


## Satellite communication



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## Satellites: 3



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## Convergence

Computing  
Minituarisation  
The internet  
**Everything, always,  
anywhere**

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## Alan Turing ( 1912 - 1954 )



### The 'Turing Test'

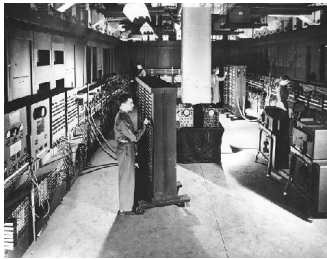
I propose to consider the question, 'Can machines think?'

(1950)

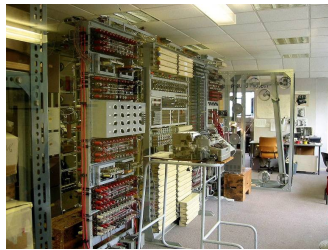
Manchester memorial

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## Computing



ENIAC, 1946



Colossus, 1943  
(replica 2007)

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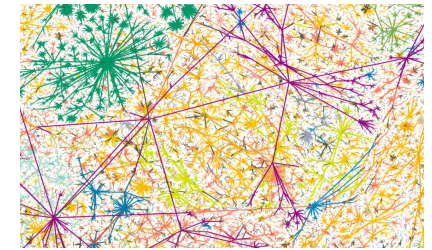
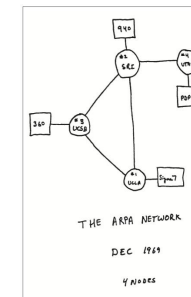
## Minituarisation

- Transistor replaces valve late 1950s
- Silicon chip on sale 1954 (little demand)
- Microprocessor, 1971



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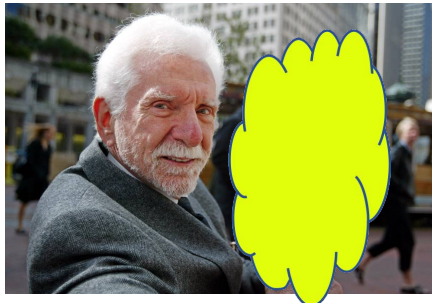
## Internet



The internet: mapped in 2000

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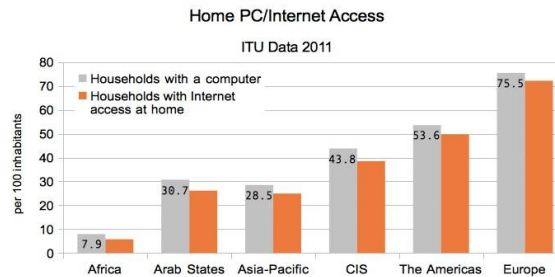
## The latest gizmo



Martin Cooper, Motorola  
3 April, 1973...

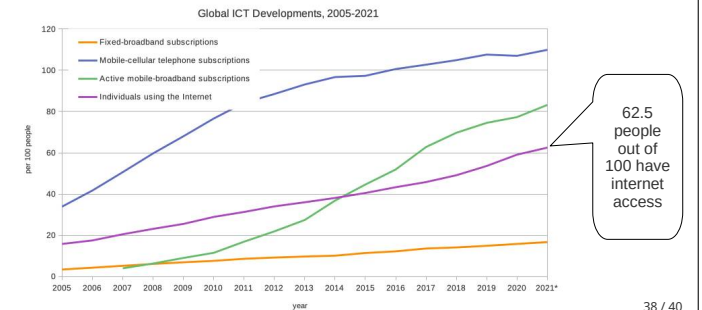
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## Access to IT Technology



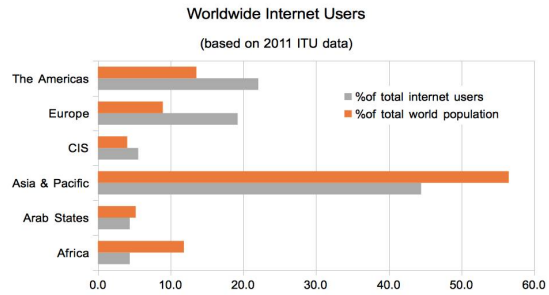
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## 2021 ITU Data



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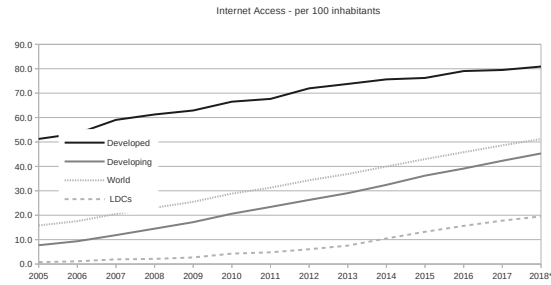
## Digital representation?



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[https://www.itu.int/en/ITU-D/Statistics/Documents/statistics/2018/ITU\\_Key\\_2005-2018\\_ICT\\_data\\_with%20LDCs\\_rev27Nov2018.xls](https://www.itu.int/en/ITU-D/Statistics/Documents/statistics/2018/ITU_Key_2005-2018_ICT_data_with%20LDCs_rev27Nov2018.xls)

## Disparities in Internet Access



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## Summary

- The current media 'landscape' is a result of historical developments
- Media has effects on what we expect media to do and to be able to do
- Has digitalisation/the internet fundamentally changed *everything*?

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END

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