# Summer Camp Lets Communicate




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# Why we communicate ?



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## Why we communicate ?

- To send a message
- To alert others
- To express wants and needs
- To share ideas
- To tell stories
- To exchange information
- …

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## How we communicate? Using what?



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## But what if we want to communicate in long distance ?

## → Telecommunications !

From Greek *tēle*- 'far off'

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## Smoke Signals

- Used in ancient China by soldiers stationed on the Great Wall to alert each other
- Various North American Indian tribes used it for communication. Each tribe had its own signaling system
- Still in use today by the College of Cardinals in Rome to indicate the selection of a new Pope
- Colored smoke grenades are used by the military to mark positions or special calls




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## Semaphore Telegraph

- Invented in 1792 in France by Claude Chappe
- Network of towers with pivoting shutters, or blades
- Towers were built within line-of-sight of each other about 5-20miles apart
- Operators watched the neighboring towers with a spyglass, acting as a relay

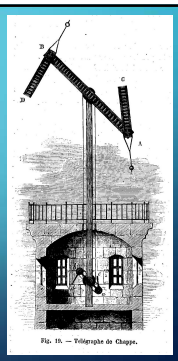

Fig. 15. — Télégraphe de Chappe.

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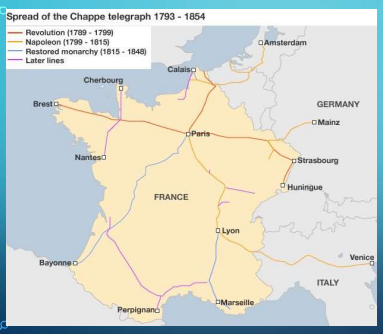


## French Semaphore Telegraph Network

- 534 Stations
- Covering more than 3,100
- Message from Paris reached the most remote areas in three or four hours instead of days with riders on horseback
- The prime purpose of the system was military

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## Napoleonic Semaphore Network

- In 1799 Napoleon Bonaparte leads a coup to overthrow the government
- In 1804 he crowns himself as Emperor of the First French Empire
- In 1815 he is defeated in the Battle of Waterloo and the monarchy is reestablished
- Many of the military successes of Napoleon Bonaparte that brought most of the continental Europe under his control is attributed to the use of the Semaphore Telegraph Network
- In 1837 Samuel Morse made this technology obsolete with the invention of the electronic telegraph

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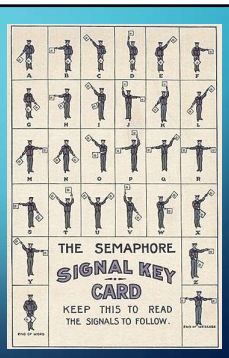
## Flag Semaphore

- Telegraph system using visual signals with hand-held flags, rods, disks, paddles, etc



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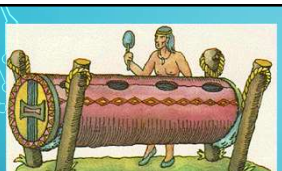



## Sonic Communications

- West African ethnic groups
  - Tama, Gan gan, Dun Dun, Dondo Lunna, Kalangu, Doodo
- Amazonian Bora Tribe of Colombia and Peru still today communicates with traditional manguare drums. The use a special language to reach people up to 12 miles away. Their language imitates the melody and rhythm of words and sentences
- Native American Indians
  - Pow-Pow drums by Navajo

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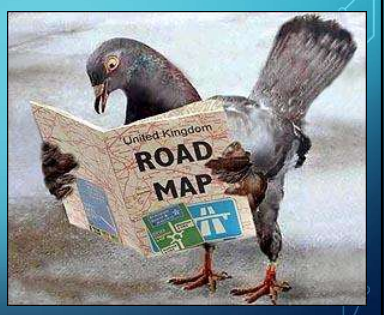
## Messenger Pigeon (or Homing Pigeon)

- Innate ability to return to its nest far away using magnetoreception
- Started as a sport 3,000 years ago
- Average flight distance 600miles, at 60mph speed
- Extensively used during WWII to deliver messages from the French Resistance

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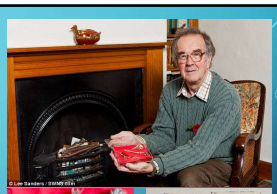
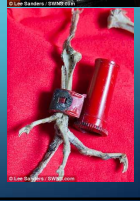
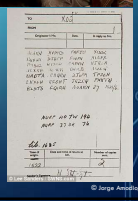
## A WW II Hero Messenger Pigeon

- In 2012 David Martin from Surrey, UK discovered the skeleton of a Messenger Pigeon behind his fireplace
- Examining the red capsule which contained a secret message experts believe the pigeon was assigned to a Special Operations Executive and was carrying a message from Germany to Field Marshal Montgomery HQ's in Reigate, Surrey
- X02 could probably be Bomber Command
- Apparently without the "codebook" nobody has been able to decipher the message yet







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## What other early ways of communication do you know ?

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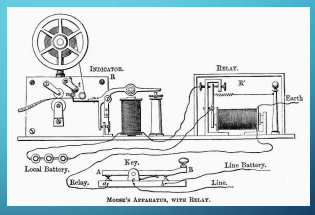
And in 1837, Samuel F.B. Morse changed the history of telecommunications with the invention of the Electric Telegraph






Morse's Apparatus, with Relay.

Morse sent his first message in May 24, 1844 from Washington to Baltimore:

"What hath God wrought?"

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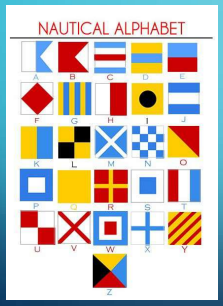
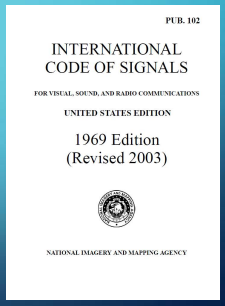
## Nautical Flags

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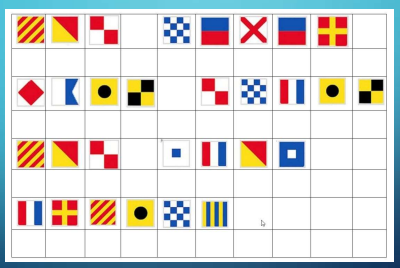
## Let's decode this message



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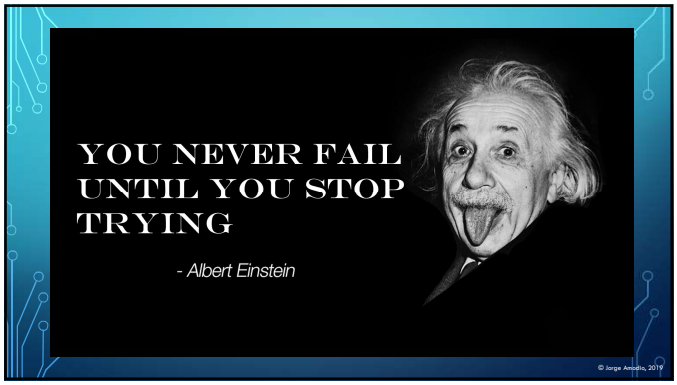
YOU NEVER FAIL UNTIL YOU STOP TRYING
- Albert Einstein
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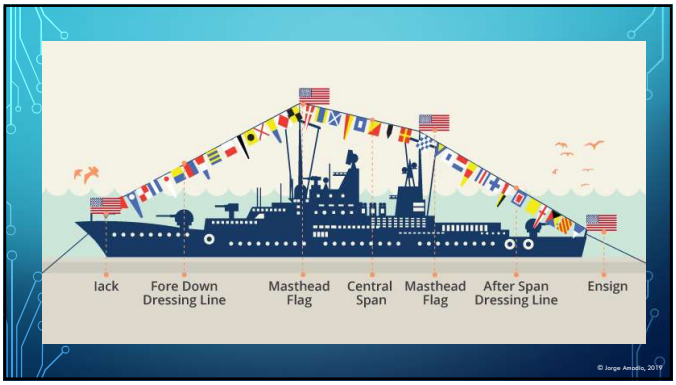
Jack
Fore Down Dressing Line
Masthead Flag
Central Span
Masthead Flag
After Span Dressing Line
Ensign
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QUESTIONS
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