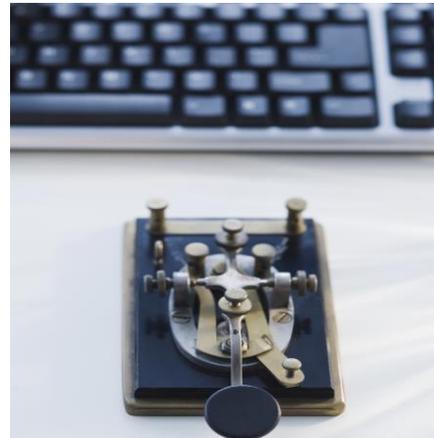




Electric Messages: Then and Now





What will we do today?

- Send a message
 - using yesterday's technology

- Send a message
 - using today's technology



The Titanic Story

On the evening of 14 April 1912, in the wireless room of the Titanic, Jack Phillips was sending messages to Cape Race, Newfoundland, working to clear a backlog of passengers' personal messages that had accumulated when the wireless had broken down the day before. Bride was asleep in the adjoining cabin, intending to relieve Phillips at midnight, two hours early.



The Titanic Story

Shortly after 9:30 pm, Phillips received an ice warning from the steamship *Mesaba* reporting a large number of icebergs and an ice field directly in the path of *Titanic*. Phillips acknowledged the *Mesaba's* warning and continued to transmit messages to Cape Race. *The Mesaba's* wireless operator waited for Phillips to report that he had given the report to the bridge, but Phillips continued working Cape Race. The warning was one of the most important warnings *Titanic* received, but for reasons no one is sure about, the warning was never delivered to the bridge.

+ The Titanic Story

After 11:00 pm, Phillips was again interrupted by another ship, this time the SS *Californian*. The *Californian's* only wireless operator, was reporting that they were stopped and surrounded by ice. The *Californian* was very close and the signal was strong and loud in Phillips' ears. Phillips quickly sent back, "Shut Up! Shut Up! I am working Cape Race," and continued communicating with Cape Race while Evans listened a while longer before going to bed for the night.



The Titanic Story

The *Titanic* struck an iceberg at 11:40 pm that night and began sinking. Bride had woken up and began getting ready to relieve Phillips when Captain Edward Smith came into the wireless room and told Phillips to prepare to send out a distress signal. Shortly after midnight Captain Smith came in again and told them to send out the call for assistance and gave them *Titanic's* estimated position. Phillips began sending out the distress signal, code CQD, while Bride took messages to Captain Smith about which ships were coming to *Titanic's* assistance. At one point Bride jokingly reminded Phillips that the new call was SOS and said "Send SOS, it's the new call, and it may be your last chance to send it."

+ The Titanic Story

After taking a quick break, Phillips returned to the wireless room, reporting to Bride that the forward part of the ship was flooded and that they should put on more clothes and lifebelts. Bride began to get ready while Phillips went back to work on the wireless machine. The wireless power was almost completely out when Captain Smith arrived and told the men that they had done their duty and that they were relieved. Bride later remembered being moved by the way Phillips continued working.

+ The Titanic

- The “unsinkable” ship
- They received warning messages, but
The Titanic did sink
- Help was very near, but
Call for help was not received by the
Californian, only 10 km away

+ History of Telegraphy

- Ancient: Optical: Smoke signals
- 1800: Optical: Semaphore
- 1832: Signal over Electrical Wires
- 1837: Morse Code: Morse & Vale
- 1891: World-wide cables
- 1896: Radio telegraph: Marconi over 6 km

Codes, modulation, multiplexing

- 1910: Printing telegraph
- 1920: Telex network
- 1970: Internet - Email
- 1991: World-wide web



Messages

- Give examples of messages that are sent in everyday life today.
- Explain and discuss
 - Importance
 - Reasons for secrecy and security
 - How is security achieved?
 - Accuracy requirements.
- How do today's messages differ from yesterday's messages?
 - Technology used
 - Social requirements
 - Spam and advertising