

# **Titanic: Failed Communication on the Icy Seas**

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**Junior Division**

**Group Exhibit**

**Exhibit: 498 words**

**Process Paper: 324 words**

## Process Paper

We chose the topic of Titanic because the topic interested us plus we learned that failed communication was a big factor in the outcome. If the communication would have been taken more serious then maybe more people would have survived. Our topic fits into the theme Communication: Key to Understanding since the ship's telecommunication system was new along with the new SOS distress signal that ships were starting to use.

Our online research was done on the Library of Congress and the National Archives websites. We visited our local library for books, but the ones we wanted were unable to get on interlibrary loan due to Covid restrictions. The information we found was recorded in our research journal. We looked for information on the radio system and the events that happened that day. Also pictures and quotes were found and put in the research journal. We then decided what information we would use and put it in google drawings to print out.

We decided to create an exhibit to best present our project. We choose the colors blue for the color of the ocean. We painted our exhibit boards and printed out our title on the cricut machine. We printed out our information on cardstock and cut it out. Then we created a layout on the exhibit board before attaching it. Finally we finished up with our Annotated Bibliography and Process Paper. We split up our duties evenly as possible, but worked on most everything together.

The lack of communication between ships at sea, seaports and within Titanic's own radio operations led to disaster in the icy Atlantic waters of 1912. Although the Titanic had the newest radio system installed just a week before it sailed, radio operators and crew didn't totally understand how to best use it for safety instead of pleasure. Out of tragedy so many came new international navigation rules and more consistent SOS emergency systems that exist today.

# Annotated Bibliography

## Primary Sources

Titanic Quotes • Titanic Facts. (2020, July 13). Retrieved January 07, 2021, from <https://titanicfacts.net/titanic-quotes/>

On this website we learned that Charles Lightoller took him 14 days to find his way around the ship.

## Secondary sources

From the archive: The Titanic is sunk, with great loss of life. (1912, April 16). Retrieved December 21, 2020, from

<https://www.theguardian.com/news/1912/apr/16/leadersandreply.mainsection?scrybrkr=0dab0369>

On this website we learned that the Titanic started the trip from Southampton for New York on Wednesday. Six hundred people were saved off the ship

Gainey, C. (2019, August 30). Titanic: The Reboot. Retrieved December 21, 2020, from

<https://blogs.scientificamerican.com/observations/titanic-the-reboot/?scrybrkr=4e287124>

On this website we learned that the Titanic was built between 1909 and 1912. Using preserved pieces of the ship, DREA scientists recognized two major material failures

History.com Editors. (2009, November 09). Titanic. Retrieved December 21, 2020, from

<https://www.history.com/topics/early-20th-century-us/titanic>

On this website we learned that in 1909 they started building the titanic. There were 29 giant boilers.

Retrieved December 21, 2020, from <https://www.livescience.com/titanic-sunk-by-aurora.html>

On this website we learned that Eyewitnesses described aurora glows in the region as the Titanic went down. Auroras form from solar storms, when the sun expels high-speed streams of electrified gas that hurtle toward Earth

Return to Titanic. (n.d.). Retrieved December 21, 2020, from

<https://www.immersionlearning.org/return-to-titanic/history.html>

On this website we learned that they were built in Belfast, Ireland, by Harland and Wolff Shipbuilders, it took two years, 3,000 men and \$7.5 million. As tall as the 11th floor of the Chrysler Building—and had four funnels

Rogers, J. (2020, September 27). The Titanic disaster may have been influenced by space weather, researcher says. Retrieved January 07, 2021, from

<https://www.foxnews.com/science/titanic-disaster-space-weather?scrybrkr=ed56c7cc>

On this website we learned that the Titanic struck an iceberg in the North Atlantic at 11:40 p.m. ship's time on April 14, 1912. Ship's time on April 14, 1912, during its maiden voyage from Southampton to New York

Secret of How the Titanic Sank. (n.d.). Retrieved December 21, 2020, from

<https://www.usnews.com/news/national/articles/2008/09/25/the-secret-of-how-the-titanic-sunk>

On this website we learned that there was no fault in the ship, it was the captain's fault he was going 22 knots. It flooded 6 compartments in the ship. The rivets on the ship were weak.

Smith, O. (2017, April 11). Titanic: 40 fascinating facts about the ship. Retrieved December 21, 2020, from <https://www.telegraph.co.uk/travel/lists/titanic-fascinating-facts/>

On this website we learned that the Titanic was the largest passenger ship. There were 246 injuries and two deaths recorded

The Titanic. (n.d.). Retrieved December 21, 2020, from

<https://www.si.edu/spotlight/titanic?scrlybrkr=ab9b3cb0>

On this website we learned that the cost of the Titanic was \$7.5 million. Lost at sea were 1,522 people.

They Said It Couldn't Sink. (n.d.). Retrieved December 21, 2020, from

<https://www.archives.gov/publications/prologue/2012/spring/titanic.html>

On this website we learned they interviewed 82 witnesses. 2,223 on board and about 1,517 parishes.

Weisberger, M. (2020, September 21).

On this website we learned that an aurora that lit up the sky over the Titanic might explain why it sank.

Marconi - Marconi History. (n.d.). Retrieved February 23, 2021, from

<http://www.seas.columbia.edu/marconi/history.html>

On this website We learned that Marconi was the first person to send a message over 100 years. Yet, it's a moment in time that inspires us today, because it shows us that technology can empower people to do amazing things.

[www.sciencemuseum.org.uk/objects-and-stories/titanic-marconi-and-wireless-telegraph](http://www.sciencemuseum.org.uk/objects-and-stories/titanic-marconi-and-wireless-telegraph).

On this website we learned that the new mode of transmission had to compete with existing cable networks. Marconi sold his earliest systems to lighthouses and ships, which could not access the cable network and yet had most need of rapid communication.

Sos signal with life ring 3d symbol vector image on vectorstock. Retrieved February 23, 2021, from

<https://www.vectorstock.com/royalty-free-vector/sos-signal-with-life-ring-3d-symbol-vector-3086367>

On this website we learned that one of the major problems is the strong disorientation of parents who, beyond descending into the piazzas of Rome or gathering for demonstrations against those principles and teachings, as is happening all over Italy, they do not know what else to do.

Radio system Communication. (n.d.). Retrieved February 23, 2021, from <https://titanicnhd.weebly.com/communication.html>

“Communication.” The Titanic, [titanicnhd.weebly.com/communication.html](https://titanicnhd.weebly.com/communication.html).

On this website we learned that the Titanic had two wireless operators, John "Jack" Phillips and Harold Bride. It was built with state-of-the-art wireless, and had the most powerful set in use at the time.

The history of amateur radio. (n.d.). Retrieved February 23, 2021, from <http://www.astrosurf.com/luxorion/qsl-ham-history-titanic.htm>

The History of Amateur Radio, [www.astrosurf.com/luxorion/qsl-ham-history-titanic.htm](http://www.astrosurf.com/luxorion/qsl-ham-history-titanic.htm).

The iceberg that sank titanic. (n.d.). Retrieved February 23, 2021, from [https://americanhistory.si.edu/collections/search/object/nmah\\_1416178](https://americanhistory.si.edu/collections/search/object/nmah_1416178)

On this website we learned that the Titanic struck a North Atlantic iceberg at 11:40 PM in the evening of 14 April 1912 at a speed of 20.5 knots (23.6 MPH).

The iceberg that sank titanic. (n.d.). Retrieved February 23, 2021, from [https://americanhistory.si.edu/collections/search/object/nmah\\_1416178](https://americanhistory.si.edu/collections/search/object/nmah_1416178)

On this website we learned that the berg scraped along the starboard or right side of the hull below the waterline, slicing open the hull between five of the adjacent watertight compartments. If only one or two of the compartments had been opened, Titanic might have stayed afloat, but when so many were sliced open, the watertight integrity of the entire forward section of the hull was fatally breached.

Passengers sending messages and jamming up the system

By: Dan Maloney, Maloney, D., Says:, J., Says:, R., Says:, S., Says:, M., . . . Says:, D. (2020, March 06). Raising the Titanic's radio room. Retrieved February 23, 2021, from

<https://hackaday.com/2020/03/04/raising-the-titanics-radio-room/>

On this website we learned that The Titanic was not only the most elegant ship afloat but also the most technologically advanced.

The history of amateur radio. (n.d.). Retrieved February 23, 2021, from <http://www.astrosurf.com/luxorion/qsl-ham-history-titanic.htm>

On this website we learned that there was a commercial war between Marconi and his German competitor, Telefunken, that extended down to the individual radio operators.

The history of amateur radio. (n.d.). Retrieved February 23, 2021, from <http://www.astrosurf.com/luxorion/qsl-ham-history-titanic.htm>

On this website we learned that at 7:30 PM, Harold Bride picked up a new warning transmitted by "SS Californian" that spotted three large icebergs at 42°N and 49°W.

Titanic, Marconi and the wireless telegraph. (n.d.). Retrieved April 06, 2021, from

<https://www.sciencemuseum.org.uk/objects-and-stories/titanic-marconi-and-wireless-telegraph>

On this website we learned that More than 1500 of the 2224 passengers and crew on board were lost, but four days after the sinking, the Cunard liner Carpathia steamed into New York carrying over 700 survivors.

# Titanic

## Failed Communication on the Icy Seas

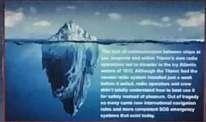
### background

In 1898, Guglielmo Marconi registered the patent with the Marconi Telegraph and Signal Company in 1897 and 4 years later received with the first Transatlantic signal from Boston to London.



The first cable ship in the world was the Great Eastern, which was used to lay the first transatlantic cable between Europe and America.

### Thesis



The Titanic had a great radio system with a range of 200 miles. The ship was equipped with a radio system that could communicate with other ships in the area.



There are many stories about the Titanic's radio system. Some say that the ship's radio operator, Jack Phillips, was the only one who could operate the system.

Although it was linked to the Marconi system, it wasn't a true radio system. The ship's radio operator, Jack Phillips, was the only one who could operate the system.

Many passengers were killed in the disaster. The ship was carrying 2,201 people, but only 706 survived.



Jack Phillips was the radio operator on the Titanic. He was the only one who could operate the system.



Jack Phillips was the radio operator on the Titanic. He was the only one who could operate the system.

### Impact

The impact of the iceberg on the Titanic was catastrophic. The ship was traveling at 20 knots per hour and struck the iceberg on the starboard side, 300 feet from the bow.

The impact caused the ship to list to the right. The ship struck the iceberg on the starboard side, 300 feet from the bow. The impact caused the ship to list to the right.



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# SOS

# Titanic: Failed Communication on the Icy Seas

# Left Top Panel Photo

## Background

In 1896 Guglielmo Marconi registered his patent with the Wireless Telegraph and Signal Company in 1897 and in 4 years saw success with the first Transatlantic signal from Britain to America.



Marconi Coherer and Admiral Pattern Decoherer~ 1900-1910~ Science Museum Group Collection



Guglielmo Marconi~ c1902~ Science Museum Group Collection

## Background

**In 1896 Guglielmo Marconi registered his patent with the Wireless Telegraph and Signal Company in 1897 and in 4 years saw success with the first Transatlantic signal from Britain to America.**



Guglielmo Marconi~ c1902~  
Science Museum Group Collection



Marconi Coherer and Admiral  
Pattern Decoherer~ 1900-1910~  
Science Museum Group Collection



# Left Center Panel Photo

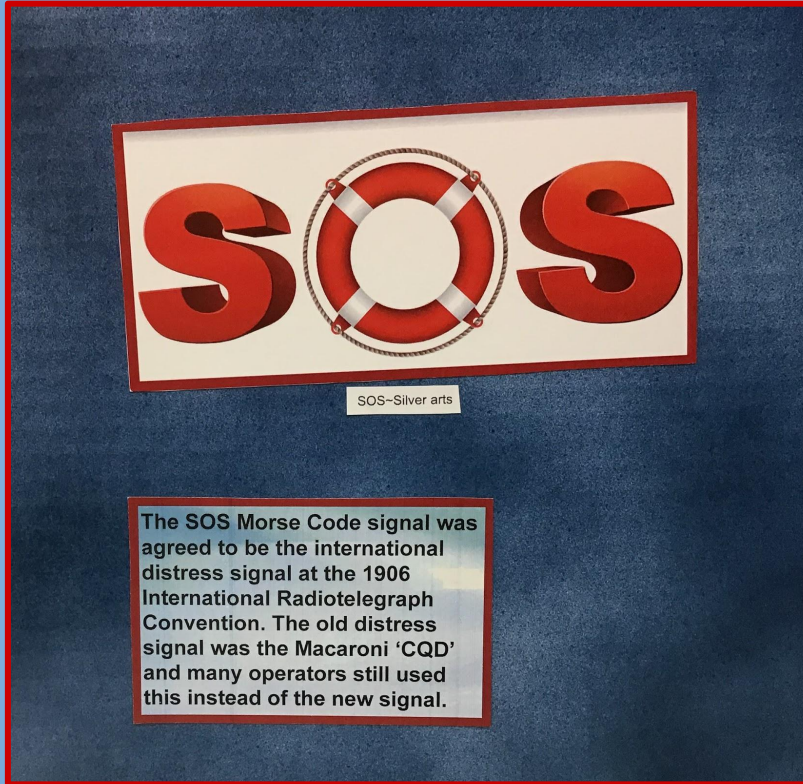
By 1900 most ships in the north Atlantic had Marconi radio and radio operators aboard. The messaging system was used to communicate with other ships as well as sending/receiving messages ashore for ship business.

Unfortunately, there were no guidelines set up for who could use the telegraph "channels" or keeping one channel for emergencies only. Anyone could use the system which could clutter the airways.

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# Left Bottom Panel Photo

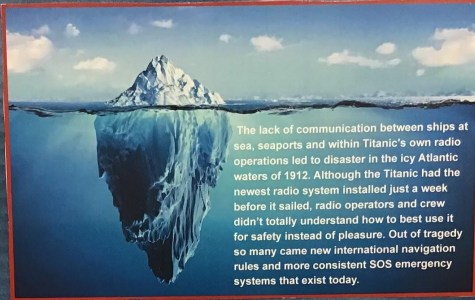


**The SOS Morse Code signal was agreed to be the international distress signal at the 1906 International Radiotelegraph Convention. The old distress signal was the Macaroni 'CQD' and many operators still used this instead of the new signal.**

# Center Top Panel Photo

## Thesis

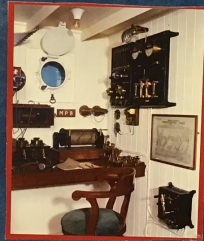
"Although you cross the Atlantic for years and have ice reported and never see it, at other times it's not reported and you do see it."  
-Charles Lightoller, Titanic Second Officer (speaking at the public inquiry into the sinking)



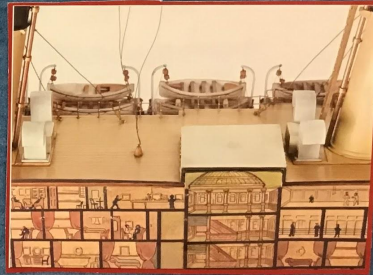
The lack of communication between ships at sea, seaports and within Titanic's own radio operations led to disaster in the icy Atlantic waters of 1912. Although the Titanic had the newest radio system installed just a week before it sailed, radio operators and crew didn't totally understand how to best use it for safety instead of pleasure. Out of tragedy so many came new international navigation rules and more consistent SOS emergency systems that exist today.



RMS Carpathia ship- found at shipwreck world



Reconstruction of a ship's radio room  
~1910~Science Museum Group Collection



Titanic cut off model- Science Museum Group Collection

The Titanic had a great radio system with qualities of a guaranteed working range up to 250 miles, and could maintain communication up to 400 miles during the day and during the night it could maintain communication up to 2,000 miles.



Reconstruction of a ship's radio room  
~1910~Science Museum Group  
Collection

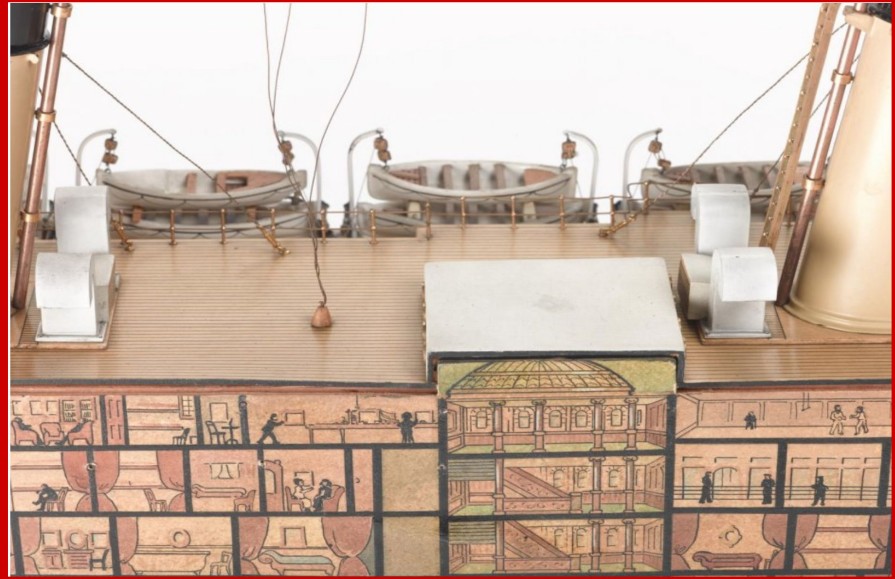
A large iceberg floats in the ocean, with a significant portion submerged below the water line. The sky is blue with scattered white clouds. The word "Thesis" is written in a large, white, serif font with a thin black outline, positioned in the upper right quadrant of the image.

# Thesis

**The lack of communication between ships at sea, seaports and within Titanic's own radio operations led to disaster in the icy Atlantic waters of 1912. Although the Titanic had the newest radio system installed just a week before it sailed, radio operators and crew didn't totally understand how to best use it for safety instead of pleasure. Out of tragedy so many came new international navigation rules and more consistent SOS emergency systems that exist today.**

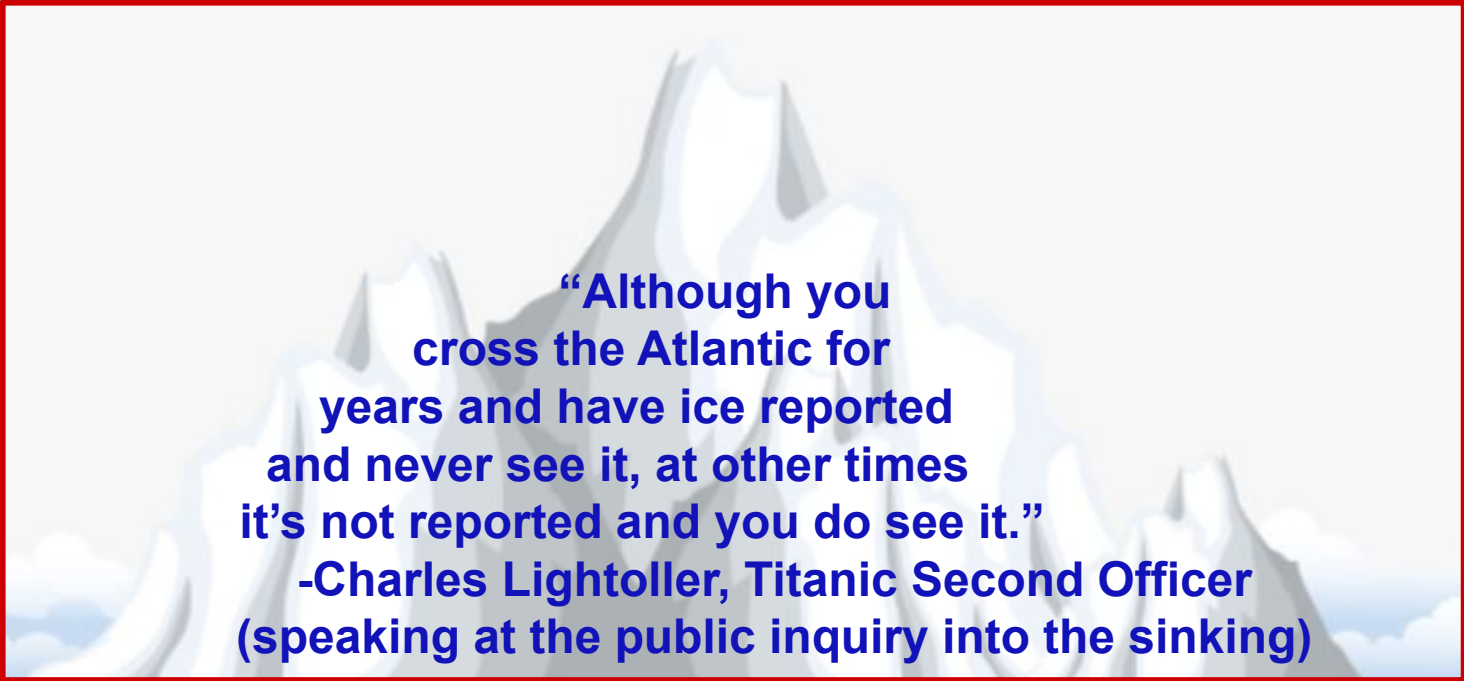


RMS Carnathia ship- found at shipwreck world



Titanic cut off model- Science Museum Group Collection

**The Titanic had a great radio system with qualities of a guaranteed working range up to 250 miles, and could maintain communication up to 400 miles during the day and during the night it could maintain communication up to 2,000 miles.**



**“Although you  
cross the Atlantic for  
years and have ice reported  
and never see it, at other times  
it’s not reported and you do see it.”**

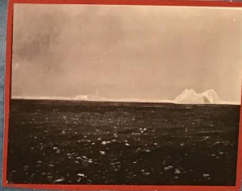
**-Charles Lightoller, Titanic Second Officer  
(speaking at the public inquiry into the sinking)**

# Center Bottom Panel Photo

during the day and during the night it could maintain communication up to 2,000 miles.

Although it was linked to the telephone system, it wasn't to the bridge where the Captain or crew could get instant messages.

When the radio went down, they couldn't fix it and that led to most miscommunication from early iceberg warnings. There was at least one warning sent out to the bridge, but not acted on.



Iceberg that sank the Titanic- National museum of American history

Many passengers sent Marconigrams from the middle of the Atlantic Ocean. Harold Bride and Jack Phillips sent out 250 Marconigram to a land station the day of the accident. This caused a backlog of messages in which the other warning messages were not taken directly to the captain.



Jack Phillips radio operator- Titanic

"Shut up! Shut up! I am busy. I am working Cape Race."

-Titanic Operator Jack Phillips; 1912



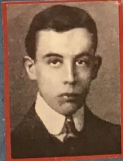
Captain Stanley Lord-1912

"that's field ice, Mister Groves. I'm not trying to find my way around that until daylight!"

-Captain Stanley Lord captain of the SS Californian; 1912

"Send SOS. It's the new call, and it may be your last chance to send it."

-Harold Bride, April 14th; Titanic Assistant Operator



Harold bride- radio operator- Titanic

Bride survived with minor injuries, but Phillips died of exposure during the long wait for RMS Carpathia that was responding to the distress call that he himself had hammered out only hours before.




Iceberg that sank the Titanic- National museum of American history

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A stylized illustration of a jagged iceberg with a white top and a grey base, set against a light blue background.

**“Send SOS. It’s the new call,  
and it may be your last chance  
to send it.”**

**~Harold Bride; April 14th;  
Titanic Assistant Operator**



Harold bride~ radio operator Titanic

**Bride survived with minor injuries, but Phillips died of exposure during the long wait for RMS Carpathia that was responding to the distress call that he himself had hammered out only hours before.**



**“that’s field ice, Mister Groves. I’m  
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**~Captain Stanley Lord captain of  
the SS Californian;1912**



Captain Stanley Lord~1912



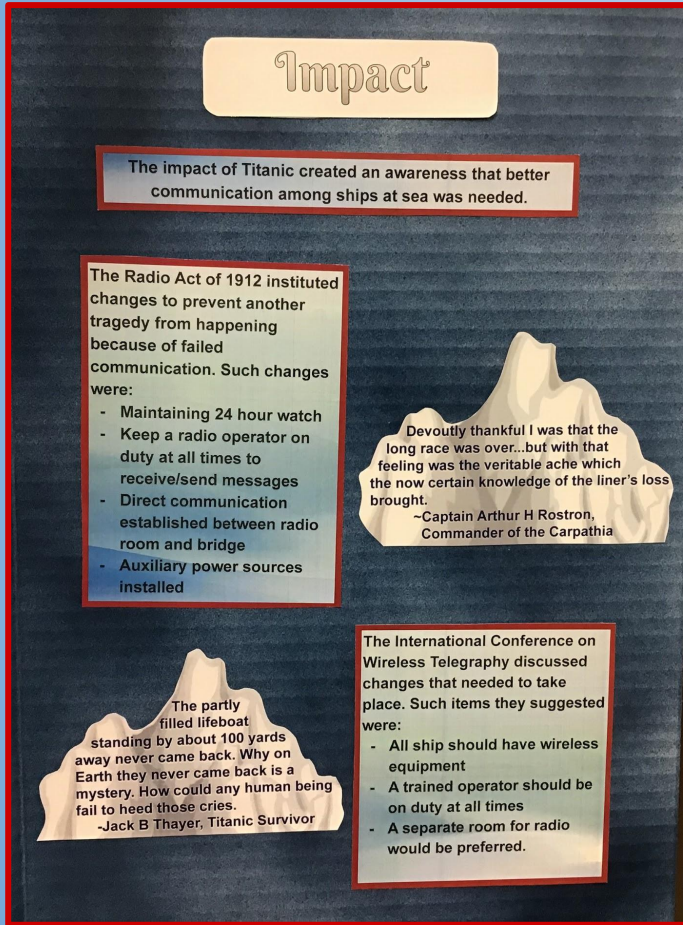
Jack Phillips radio operator~ Titanic

A stylized, white, jagged iceberg graphic with a red border, set against a light blue background. The iceberg has several sharp peaks and is positioned in the center of the right-hand side of the slide.

**"Shut up! Shut up! I am busy. I  
am working Cape Race."**

**~Titanic Operator  
Jack Phillips; 1912**

# Right Top Panel Photo



# Impact

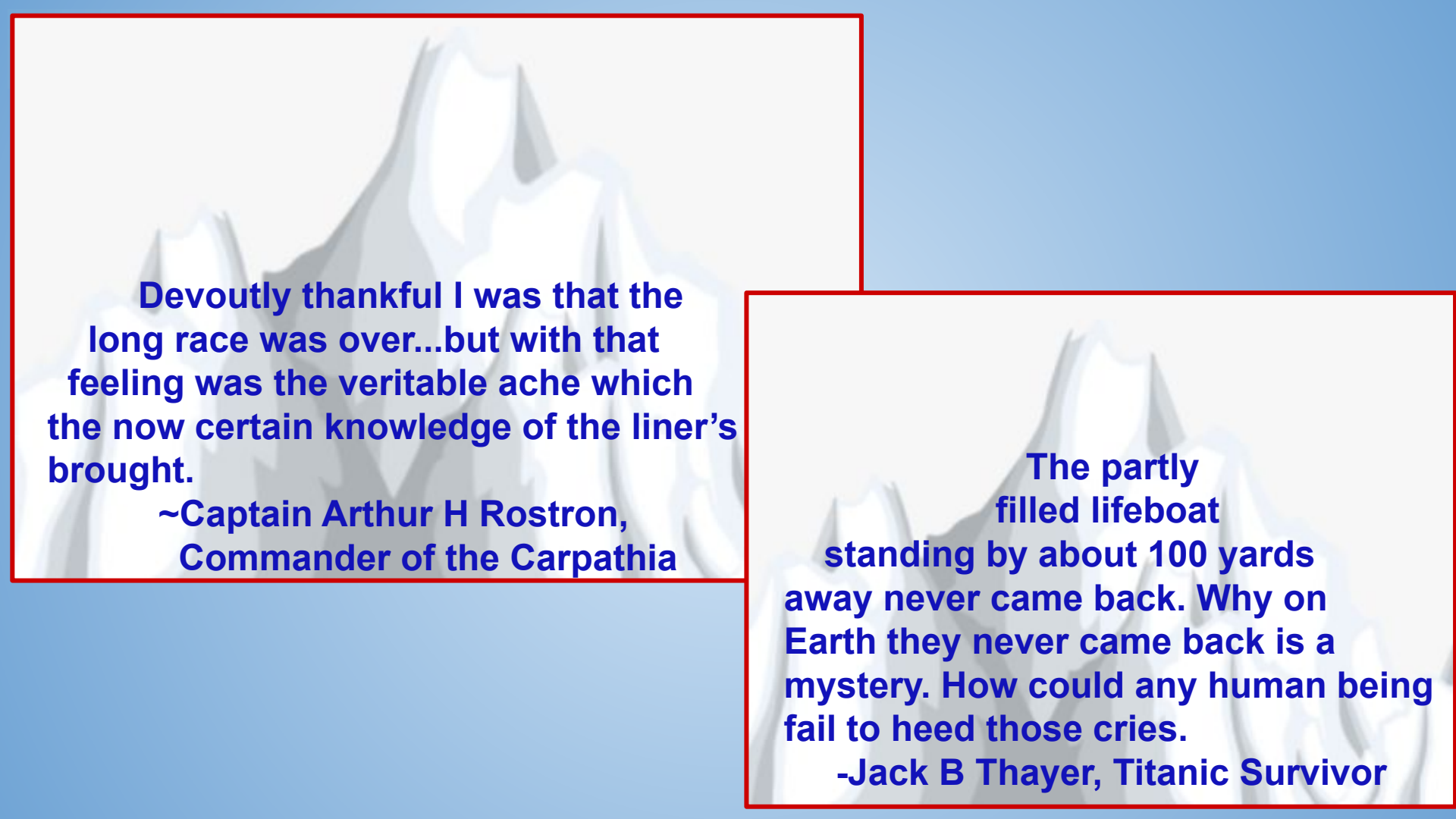
**The impact of Titanic created an awareness that better communication among ships at sea was needed.**

**The Radio Act of 1912 instituted changes to prevent another tragedy from happening because of failed communication. Such changes were:**

- Maintaining 24 hour watch**
- Keep a radio operator on duty at all times to receive/send messages**
- Direct communication established between radio room and bridge**
- Auxiliary power sources installed**

**The International Conference on Wireless Telegraphy discussed changes that needed to take place. Such items they suggested were:**

- All ship should have wireless equipment**
- A trained operator should be on duty at all times**
- A separate room for radio would be preferred.**



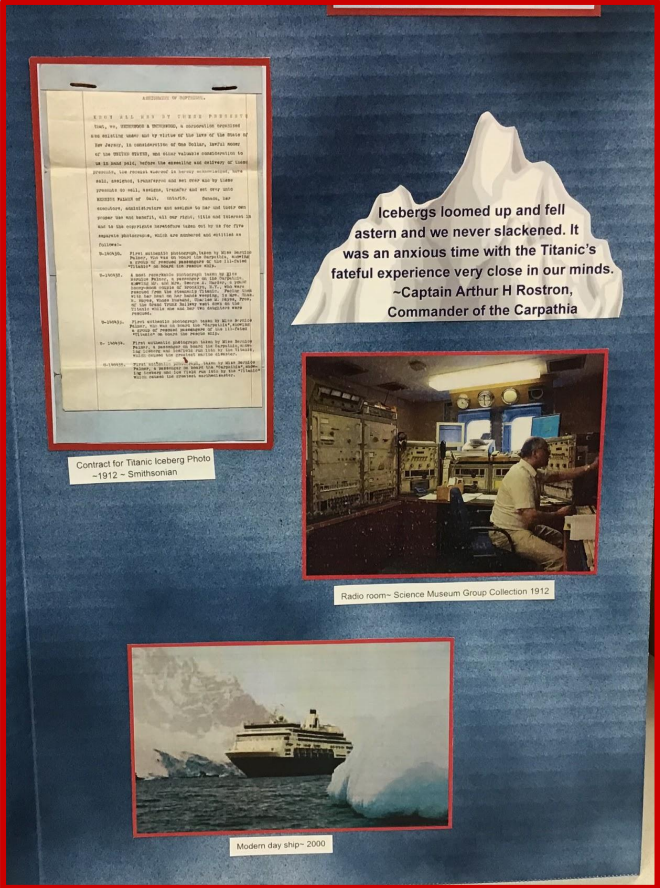
**Devoutly thankful I was that the long race was over...but with that feeling was the veritable ache which the now certain knowledge of the liner's brought.**

**~Captain Arthur H Rostron,  
Commander of the Carpathia**

**The partly filled lifeboat standing by about 100 yards away never came back. Why on Earth they never came back is a mystery. How could any human being fail to heed those cries.**

**-Jack B Thayer, Titanic Survivor**

# Right Bottom Panel Photo



Contract for Titanic Iceberg Photo  
-1912 - Smithsonian

Radio room - Science Museum Group Collection 1912

Modern day ship - 2000

**Icebergs loomed up and fell astern and we never slackened. It was an anxious time with the Titanic's fateful experience very close in our minds.**  
**~Captain Arthur H Rostron, Commander of the Carpathia**

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and existing under and by virtue of the laws of the State of  
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of the UNITED STATES, and other valuable consideration to  
us in hand paid, before the ensueing and delivery of these  
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BERNICE PALMER of Galt, Ontario, Canada, her  
executors, administrators and assigns to her and their own  
proper use and benefit, all our right, title and interest in  
and to the copyrights heretofore taken out by us for five  
separate photographs, which are numbered and entitled as  
follows:-

- U-140430. First authentic photograph taken by Miss Bernice Palmer, who was on board the Carpathia, showing a group of rescued passengers of the ill-fated "Titanic" on board the rescue ship.
- U-140432. A most remarkable photograph taken by Miss Bernice Palmer, a passenger on the Carpathia, showing Mr. and Mrs. George A. Harder, a young honey-moon couple of Brooklyn, N.Y., who were rescued from the steamship Titanic. Facing them with her head on her hands weeping, is Mrs. Chap. M. Hayes, whose husband, Charles M. Hayes, Treas. of the Grand Trunk Railway went down on the Titanic while she and her two daughters were rescued.
- U-140433. First authentic photograph taken by Miss Bernice Palmer, who was on board the "Carpathia", showing a group of rescued passengers of the ill-fated "Titanic" on board the rescue ship.
- U- 140434. First authentic photograph taken by Miss Bernice Palmer, a passenger on board the Carpathia, showing iceberg and icefield run into by the Titanic, which caused the greatest marine disaster.
- U-140435. First authentic photograph, taken by Miss Bernice Palmer, a passenger on board the "Carpathia", showing iceberg and ice field run into by the "Titanic" which caused the greatest marinedisaster.



Modern day ship~ 2000

Radio room~ Science Museum Group Collection

