The Transatlantic Cable: A Revolution to Technology

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Paper Category

The Transatlantic Cable was a revolution to technology that was used to unite the continents. Although it took many tries to establish a connection with all the continents, in the end it made communication much easier and faster. A message that may have taken two weeks to receive overseas now would be almost instantaneous, something that was never heard of before.

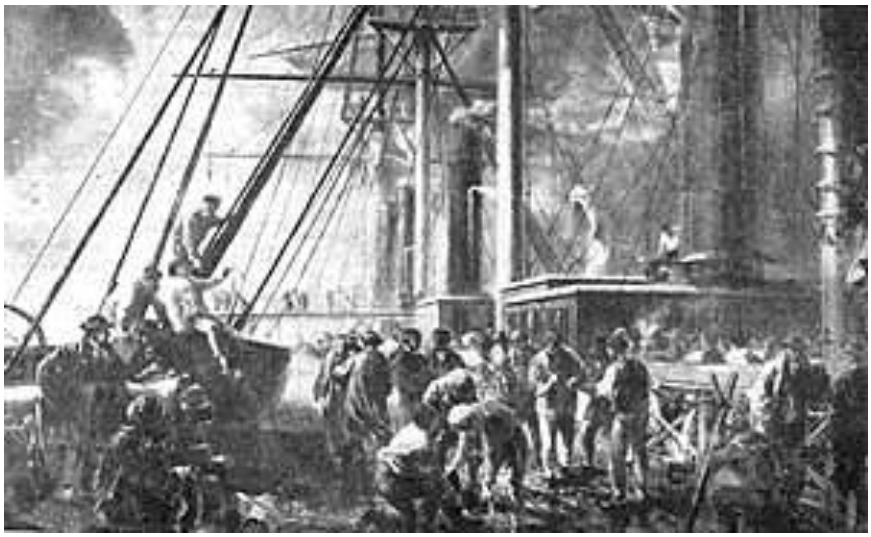
Many people were involved in the idea of a Transatlantic Cable but the name Cyrus Field is the one that always comes up. Cyrus Field was an influential New York businessman who arranged the funding for the Transatlantic Cable. In 1854, Cyrus Field came into the picture of the Transatlantic Cable and convinced many people to invest into the cable, creating the New York, Newfoundland, and London Telegraph Co. Without this company the Transatlantic Cable would not have had enough funding to succeed. The only reason that people may not have wanted the cable to be built was because of all the funding and money that it would have required but it easily paid for itself in terms of all the profits it made when it was built.

Hauling in the line of the Transatlantic Cable.

http://www.atlantic-cable.com

Before the Transatlantic Cable was put into effect the fastest means of communication was your fastest ship. But what if an event occurred that needed to be reported immediately? The fastest ship may take more than two weeks to deliver the news and by then it may have been too late. In 1812 that is exactly what happened. The Battle of New Orleans fought in 1815 was "a decisive victory for the US but . . . The Treaty of Ghent ending the war had been signed about two weeks prior to the battle" ("The Transatlantic Cable"). Although that was nothing out of the

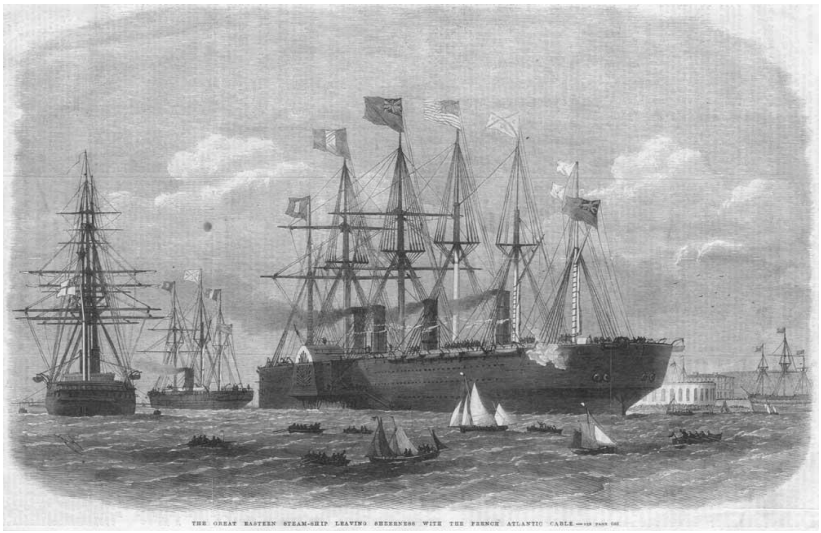
ordinary for the time, things needed to change. In 1866, after many failures, the ways of communications did change. The first cable to be created into the Transatlantic Cable was made in 1857 and stowed on an American ship called *Niagara* and a British ship *Agamemnon*. While the two ships were laying the cable, it snapped, resulting in a failure. Of course, the ships had to go back to Ireland and receive more cable. In 1858, the two ships once again went out to try to lay the cable, meeting each other in the middle of the Atlantic. This attempt was even more of a failure, the cable breaking almost immediately. Then, the two ships tried again to lay the cable under the ocean. This time the ships were able to lay down only 40 miles of cable before the cable broke again, another failure to add to the list. The fourth time that the two ships met in the Atlantic to lay the cable, they were able to go out and it was "146 miles before the cable was lost yet again" ("The Transatlantic Cable"). Once again the two ships sailed back to Ireland with another failure, but even with much of the cable lost, there was still enough cable for one more trip. On July 29, the fifth attempt to make the Transatlantic Cable work was accomplished, successfully uniting the two continents, Valentia Harbor in Ireland and Trinity Bay in Newfoundland. It was a time of celebration for the first three weeks until the cable ceased to work. Wildman Whitehouse, the engineer in charge, was applying very high voltages to the cable instead of very weak voltages, causing the cable to be damaged and not work.



Men making a cable aboard the Great Eastern as it lay off Valencia harbor in Ireland.

http://www.history-magazine.com/cable.html

The first five tries may have ended in failure and a loss of a lot of money but in a few years another attempt to unite the continents using the Transatlantic Cable was started. The difference this time was the use of a single ship named the *Great Eastern*, the biggest ship of its time. The ship succeeded in laying "1,200 miles before the cable snapped" ("The Transatlantic Cable") and the end of the broken cable was not able to be found for quite awhile. Hopefully the seventh time was the lucky time, after more companies investing $2,500,000 in another cable, the *Great Eastern* set off to finish the cable that had been broken during the sixth attempt to establish the Transatlantic Cable.If the end was able to be found, there was enough cable to be laid from Ireland to Newfoundland. Surprisingly, on July 27, 1866 the *Great Eastern* was successful in its mission; the cable had been laid ("The Transatlantic Cable"). The first message that was sent across the cable was on telling of a peace treaty between Austria and Prussia. The next was the Queen of England, Queen Victoria, saying "The Queen congratulates the President on the successful completion of an undertaking which she hopes may serve as an additional bond of Union between the United States and England." The Transatlantic Cable not only was a means of communication but also a way to strengthen the bond between countries. A message of only a few words that would have taken weeks to be sent from England to the United States now only took one day, almost immediate to the people all over the world. The slight delay was caused by a static reaction in the cable not from the long path the information had to travel. *The Ladies' Repository* stated that "communications between the most distant points of the earth would be instantaneous" ("Faster Than the Sun"). Not only did the *Great Eastern* achieve success in laying the first cable under seas but it also found the missing end of one of the cables and in September of 1866 the second cable was laid.



The Great Eastern Steam-Ship Leaving Sheerness With The French Atlantic Cable.
The Illustrated London News, June 26, 1869

http://www.atlantic-cable.com

Since the cable had been triumphantly laid over seas, it immediately went into business. Despite the fact that the cable was now working not many people could afford it, only the wealthy people were able to. At the beginning, the rates for sending a message through the cable was $1 a letter, to us that may not seem like much but in the late 1800's it was a lot, considering that "a monthly wage for a laborer might be $20" ("The Transatlantic Cable"). At that time the number of messages being sent annually produced a profit of $2,000,000. Some of the operators of the Transatlantic Cable's messages were often fascinated at how it seemed as though the messages were being received hours before they were sent. At first it may have seemed like magic although it was really only the different time zones.

The Transatlantic Cable was only capable of performing due to the strong cable connection the continents. If the cable holding all the electronics was to break, the Transatlantic Cable obviously wouldn't work. If the inside of the cable was to get wet from the sea water than the project would cease to work, even the chance of the salt corroding through the cable was something the creators of the cable had to be aware of. The cable was constructed of only three materials, copper wires, gutta percha, and wood tar. The use of seven copper wires was to increase the flexibility of the cable so while it was being laid or while it was just in the ocean it

would not snap or split. The copper wires were insulated by the gutta percha and the wood tar held everything together. When the Transatlantic Cable was put in the ocean "the copper conductor forms the interior coating, the gutta percha the insulator, and the water the exterior coating" (*How the Atlantic Cable is Worked*) and that is how the cable was able to withstand the currents of the ocean and the saltwater.

A group of men unrolling the cable used for the Transatlantic Cable.

http://www.atlantic-cable.com

Although we no longer use the Transatlantic Cable in our current lives it has influenced technology today. Without the use of the cable from the 1800's to the 1900's technology today wouldn't be the same. Who knows whether we would have been able to figure out how to establish an Internet connection or even underground telephone wires. The Hibernia Atlantic idea is one like the Transatlantic Cable. The Hibernia is a transatlantic submarine communications cable owned by the US that was first built in 2000. It connects Nova Scotia, Canada, Dublin, Ireland, Southport, UK, and Massachusetts, USA. Those areas are not the only places that the submarine cable transmits to though; they are only the cable landing stations. The Hibernia Atlantic takes the Transatlantic Cable's speed to a new level. Instead of taking a day for certain information to travel from London to the US, it only takes about 65 milliseconds for a message to travel from Dublin to the US using the Hibernia Atlantic.

The Transatlantic Cable was a resource that the world had never seen before. It revolutionized technology in a way so that information was able to travel faster than ever before.

The only other technology able to travel fast was by using a telegraph that could only communicate over land and only by using Morse code. Not only was the Transatlantic Cable used for more than a few years it was able to be renovated into a technology that we can use today.

Bibliography

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This was to help me research how the Transatlantic Cable contributes to us even to this day.

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This source helped me find illustration that accurately described what was going on while they were building the Transatlantic Cable and I was impressed at how they were actually from those years.

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This source was able to make me realize how difficult it was to build a cable able to withstand the ocean's severity and told me how you would go about building that type of cable.

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This was a source that helped show me how woman felt about the Transatlantic Cable.

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This source told me the reasons why the Transatlantic Cable took a day to transmit between London and America and also how much money the Cable brought in after it was put in use.

"The Transatlantic Cable." *History Magazine*. Web. 05 February 2012.

This was a source that explained every one of the failures of the Cable and what ships contributed to which voyage across the ocean to unite the continents.