

TIME AND TIME AGAIN *(Revised and Expanded February 08, 2011)*

By Samuel Halpern

On the night of April 14, 1912, at 10:25 p.m. in New York, a spark-excited radio transmitter blasted out a stream of radio waves into the night air. To wireless operators stationed on the steamships *La Provence*, *Mount Temple*, and *Frankfurt*, and to the wireless operator stationed at Cape Race, Nova Scotia, there came the staccato sounds of a series of dots and dashes that read:

CQD DE MGY Require assistance. Position 41.44 north, longitude 50.24 west. Come at once. Iceberg.

It was a general call of distress (CQD) to anyone who could hear from the steamship *Titanic* (call letters MGY) on her maiden voyage to New York.

Ten minutes later, at 10:35 p.m. New York time, *Titanic* sends:

MGY CQD, Here corrected position 41.46 north, longitude 50.14 west. Require immediate assistance. We have collision with iceberg. Sinking. Can hear nothing for noise of steam.

For 73 years, the wreck of the *Titanic* remained a mystery, lying at the bottom of the Atlantic ocean some 13 nautical miles to the east of the so called “corrected” distress position of 41° 46’N, 50° 14’W. Yet, back in 1912, all of *Titanic*’s surviving officers, as well as Capt. Rostron of the rescue ship *Carpathia*, believed *Titanic* had gone down in the position worked out by *Titanic*’s Fourth Officer Joseph Boxhall. In 1985 Robert Ballard proved that they were all wrong.

A TIME GONE WRONG?

At 4 p.m. NY time, Monday, April 15, 1912, *Carpathia*’s Capt. Rostron sent a wireless message to *Olympic*’s Capt. Haddock that read:¹

Capt. Haddock, *Olympic*: South point pack ice 41.16 north. Don't attempt to go north until 49.30 west. Many bergs. large and small, amongst pack. Also for many miles to eastward. Fear absolutely no hope searching *Titanic*’s position. Left Leyland SS *Californian* searching around. All boats accounted for. About 675 souls saved, crew and passengers; latter nearly all women and children. *Titanic* foundered about 2.20 a.m., 5.47 GMT, in 41.46 north 50.14 west; not certain of having got through. Please forward to White Star, also to Cunard, Liverpool and New York, that I am returning to New York. Consider this most advisable for many considerations. - Rostron.

The reported foundering time, “about 2:20 a.m., 5:47 GMT” implied that time carried on *Titanic* was 3 hours 27 minutes behind Greenwich Mean Time (GMT), or 1 hour 33 minutes ahead of mean time in New York. In the official Senate report that came out of the American investigation into the loss of the SS *Titanic*, they wrote that *Titanic* struck an iceberg “at 11.46 p.m. ship's time, or 10.13 p.m. New York time.” They listed the foundering time at 12:47 a.m. NY time. Their conclusion was based on the 1 hour 33 minute time difference that was implied in the testimony given by *Titanic*’s surviving officers, and contained in the content of that wireless message sent by Capt. Rostron to Capt. Haddock.

Were they right? Could a time difference of 1 hour 33 minutes really have been the case? Or was a mistake made when trying to put down the ship's foundering time in GMT, just like a mistake was made in calculating where it was that *Titanic* had foundered?

TIME KEPT AT SEA

On land, time is based on a mean (or fictitious) sun that takes exactly 24 hours to go around the earth each day. However, time on board a ship in the early part of the Twentieth Century was based on the position of the true sun and needed to be adjusted every day, an adjustment that was necessary because of the movement of the ship eastward or westward and something called the equation of time.² Time kept by the apparent position of the true sun was called Apparent Time Ship (ATS).

Titanic and other White Star Line ships in 1912 set their clocks in accordance with the International Mercantile Marine (IMM) Company's "Ship's Rules and Uniform Regulations (July 1907)" that were in effect at the time:

Rule 259. *Ship's Time.* – The Officer of the Watch [OOW] will see that the ship's time is changed between the hours of 10 p.m. and 6 a.m., the clocks to be set for Noon before 6 a.m. The Engine Room Clock must at all times agree with the Clock in the Wheelhouse, and must be corrected accordingly.

The operative words here are "the clocks to be set for Noon." On White Star Line ships, clocks were adjusted close to midnight each night so that at local apparent noon (solar noon) the next day, when the true sun crossed the ship's local meridian, the clocks will read 12:00. For westbound ships, such as the *Titanic* on her maiden voyage, the clocks had to be put back each night near midnight. For eastbound ships, the clocks had to be put forward each night near midnight.

As further explained in a 1924 White Star Line brochure given to passengers on westbound voyages:³

On the voyage from Europe, owing to the alteration in time as the ship proceeds Westward, it is necessary to put the clock back every 24 hours. The alteration in time is made at about midnight, and the clock is usually put back from 35 to 45 minutes on each occasion, the exact amount of time depending upon the distance the ship is estimated to make by noon the next day. During the first 24 hours, however, owing to the change from Mean time to Apparent Time, the alteration is likely to be considerably more than 45 minutes, especially while Summer Time is in use.

Once again we find that time carried on board these ships were adjusted to "Apparent Time."

And ships of the IMM Co. were not the only ones who adjusted their clocks at night so that they read 12:00 at local apparent noon the next day. As explained by Sir James Bisset, former Commodore of the Cunard Line, and who was Second Officer on *Carpathia* under Capt. Rostron when *Titanic* went down:⁴

Going east clocks are put on, going west clocks are put back. The amount depends entirely on the speed of the ship and the distance run. In very fast ships they are usually altered 40 or 45 minutes at midnight, and the remaining few minutes in the forenoon when the ship's position has been determined. Notices are always displayed in some prominent place informing passengers of the amount of alteration, so they can adjust their watches before retiring...The navigating officer, knowing to within a mile or two the ship's position, has already put the clocks right for noon, and

if he has done this well and truly, the apparently stationary period [when the sun reaches its highest point of the day and is said to be on the local meridian] should coincide with eight bells (twelve o'clock).

Do we have any direct evidence that it was done that way on *Titanic* in compliance with those IMM Company rules that were effect? The answer is yes, and it comes directly from two of *Titanic's* surviving officers, Second Officer Charles Lightoller and Third Officer Herbert Pitman.⁵

Lightoller – “The clocks are set at midnight, but that is for the approximate noon position of the following day.”

Pitman – “They are corrected in the forenoon, perhaps half a minute or a minute; that is all.”

Titanic, like most crack passenger steamers of the time, adjusted their clocks at midnight so when the sun would reach its highest point in the sky at local apparent noon the next day the clocks would show close to 12:00. Some time in the early morning, when the navigating officer would get a sun line to determine his longitude more precisely, he might find that he had to make a slight time correction so that the clocks would be accurate when the sun actually reached its highest point in the sky at noon. As Pitman pointed out, that correction was typically ½ to 1 minute if at all necessary.

At local apparent noon, Sunday, April 14, 1912, *Titanic* was approximately at longitude 44° 31' W, having traveled 1549 nautical miles since taking departure off the Daunt's Rock Light Vessel outside of Queenstown harbor on April 11.⁶ The time of local apparent noon for that longitude on that Sunday was 2:58 p.m. GMT, or 9:58 a.m. mean time in New York. *Titanic's* clocks, having been corrected in the forenoon, would show 12:00; exactly 2 hours and 2 minutes ahead of clocks in New York.

This is not a recent discovery. In the early 1960s, Leslie Harrison, a friend and supporter of Capt. Stanley Lord of the *Californian*, had argued that *Titanic* was keeping apparent time for a longitude of 44 ½ degrees west thereby putting her clocks 2 hours and 2 minutes ahead of those in New York. He was absolutely correct, but few people wanted to accept that fact because it destroyed some of the time coincidences that the British Wreck Commission came up with in a clumsy attempt to indict Capt. Lord of failing to go to the aid of *Titanic*.

TITANIC'S CALL FOR HELP

Recent articles by proponents of a 1 hour 33 minute time difference between *Titanic* and New York have put forward arguments based mostly on the testimony of *Titanic's* surviving Junior Wireless Operator, Harold Bride. To make their case, they spend much time leading the reader through their own interpretation as to what was said by this star witness, while overlooking other critical evidence presented by this same witness, as well as others, that completely negates their conclusions.

The proponents point out that Harold Bride said that he awoke before midnight to relieve Jack Phillips who was working long hours finishing up a backlog of messages to Cape Race. Looking at Bride's testimony, that much is true. But they then place a time on Bride's awakening at 11:45 p.m., just five minutes after the ship collided with an iceberg, even though Bride himself was not at all sure as to what time he awoke other than believing that it was before midnight. Bride said he did not feel the collision but learned about it from Senior Wireless Operator Jack Phillips after he got up to relieve him.

The proponents of a 1 hour 33 minute time difference also brings up Bride's first-hand account given to a *New York Times* reporter on April 18 that took place on board *Carpathia* after she had docked in New York. They correctly point out that Bride spoke of Capt. Smith coming into the wireless cabin to explain that the ship had struck an iceberg, that he was going to have an inspection made to see what damage was done to the ship, and that the wireless operators should get ready to send a call for assistance but not to send it until he tells them to.⁷ The proponents then point out that Bride estimated that Capt. Smith was away for about 10 minutes, and when he came back, he told the operators to send the call for assistance which Phillips did immediately. Using the argument that Bride awoke at 11:45 p.m. when Smith came by the wireless cabin the first time, and then came back 10 minutes later, at 11:55 p.m., the proponents conclude that the first wireless message, which was logged at 10:25 p.m. NY time, supports a time difference of 1 hour and 33 minutes between ship's time and New York time. (Adding 1 hour 33 minutes to 10:25 p.m. NY time gets you to 11:58 p.m. ship's time for the first wireless transmission.)

If the 1 hour 33 minute time difference advocates are right, then the first distress call from *Titanic* was sent out within the amazingly short time of 18 minutes after the ship impacted the iceberg. But let's first look at what Bride actually said at the American Inquiry concerning the time he awoke:

Senator SMITH. Do you know what time you arose from your bed?

Mr. BRIDE. It must have been about a quarter to 12, sir; about 5 minutes to 12, ship's time [correcting himself].

Senator SMITH. Five minutes to 12, ship's time?

Mr. BRIDE. Yes, sir.

Senator SMITH. What time did the collision occur?

Mr. BRIDE. I could not say, sir.

Senator SMITH. You remained in bed until 12:05?

Mr. BRIDE. I think it was this side of 12, sir; it was about 5 minutes to 12 [correcting Senator Smith].

Senator SMITH. Then you must have been aroused some- what by this impact?

Mr. BRIDE: No; I had promised to relieve Mr. Phillips earlier than usual, you see.

Bride then explained that he had awakened himself and went out to speak to Phillips while still in his pajamas before he even got dressed. He asked him how he was getting on and Phillips said that he had "a big batch of telegrams from Cape Race that he had just finished." Bride then said he did not remain there but went back to the bedroom to get dressed. He was asked if Phillips told him that the ship was damaged, to which Bride replied, "He told me that he thought she had got damaged in some way and that he expected that we should have to go back to Harland & Wolff's."

After Bride finished dressing, he came back out to the operating room and took over from Phillips who then went into the bedroom to get undressed and retire for the night. Just as Phillips got into the bedroom, according to Bride, Capt. Smith came into the wireless cabin and told them, "You had better get assistance."⁸

But the question came up as to exactly what time it was that Capt. Smith came to the wireless cabin to tell them to send that call for assistance,

Mr. BRIDE. I have no recollection of the time these various incidents took place, but I can give you a fairly good estimate of the times between the incidents.

Senator SMITH. No; but you have fixed as best you could the interval between the time of the collision and the time the captain came to your room and told you to send out the C.Q.D. call?

Mr. BRIDE. Yes, sir.

Senator SMITH. You have fixed that, to the best of your recollection, as 10 minutes?

Mr. BRIDE. Yes, sir.

But then Senator Smith asks about the times recorded by *Carpathia* and *Mount Temple* as to when they first received *Titanic's* call for assistance. And it looked to Senator Smith, based on the times that were stated, that it was quite a bit more than ten minutes after the accident that the call for assistance was sent out.

Senator SMITH. ... In view of all this I would like to know whether you care to modify or elaborate or change your statement that the captain came to the operating room 10 minutes after the accident, or about that, and told you to put out the C.Q.D. call? Think it over.

Mr. BRIDE. I said the captain came to the cabin 10 minutes after the accident. The captain came to the cabin after I had turned out 10 minutes, and I turned out after the collision had occurred.

Senator SMITH. I assume you were in bed?

Mr. BRIDE. Yes sir.

Senator SMITH. Between the time you turned out and the captain gave the order to send this message -

Mr. BRIDE. It was just about 10 minutes.

Senator SMITH. I do not know that I care to press that matter any further. Your statement stands that it was about 10 minutes. It might have been a little more.

Mr. BRIDE. As far as I recollect; Mr. Phillips did not tell me when it was that he felt the ship striking; but to the best of my recollection it was 10 minutes after I had turned out that the captain came in and told us to get assistance.

Notice that Bride first told Senator Smith that Capt. Smith came to the wireless cabin 10 minutes after the accident. But then he changed that to say that Capt. Smith came to their cabin about 10 minutes after he awoke and turned out to relieve Phillips. Furthermore, Bride had no idea whatsoever when the collision happened because Phillips never told him that.

It should be pointed out that Bride never said he looked at a clock when he awoke. For all we really know, it could have been some time after midnight when he got out of bed to take over from Phillips. Maybe Phillips decided not to wake Bride at midnight as planned so he could get more than 3 hours of sleep. It seems that he and Phillips were up very late the previous night trying to repair the leads from the secondary winding of a transformer in the transmitting equipment that burnt up. Bride said he went to bed between 8:30 and 9 o'clock that Sunday night. Normally, he would have worked from 2 a.m. to 8 a.m., but this night he told Phillips he would take over 2 hours early to let Phillips get some extra sleep. When he awoke it was on his own accord. He was not awakened by Phillips or by the collision. It would be natural for him to think he awoke before the promised time, thus his "*I think it was this side of 12, sir;*" but he offers no hard evidence that he really did so.

It is also interesting to note that Bride became even less sure of when it was that Capt. Smith came into the wireless cabin to tell them to send that first call for assistance when he was called to testify later before the British Wreck Commission. When specifically asked to give his best estimate as to how long it was after he came out to relieve Phillips that Capt. Smith came by telling them that he wanted assistance, Bride said, "I do not think I could."⁹

During the US Senate investigation into the loss of the *Titanic*, Bride also made a statement where he said, "As far as I recollect Phillips had finished working with Cape Race about 10 minutes before the collision with the iceberg." But was this accurate?

At the British Inquiry, Bride said that when came out to relieve Phillips, he was told that all traffic to Cape Race had been cleared. He was then asked by the Attorney-General, "Now, the only other thing I want you to tell me is, did he tell you - can you recollect, whether he said when it was that he had finished relaying the telegrams to Cape Race?" Bride's answer was, "He did not say."¹⁰

In that exclusive *New York Times* interview taken the day *Carpathia* docked in New York, Bride had this to say:

There were three rooms in the wireless cabin. One was a sleeping room, one a dynamo room, and one an operating room. I took off my clothes and went to sleep in bed. Then I was conscious of waking up and hearing Phillips sending to Cape Race. I read what he was sending. It was a traffic matter. I remembered how tired he was and I got out of bed without my clothes on to relieve him. I didn't even feel the shock. I hardly knew it had happened after the Captain had come to us. There was no jolt whatever.

I was standing by Phillips telling him to go to bed when the Captain put his head in the cabin. "We've struck an ice berg," the Captain said, "and I'm having an inspection made to tell what it has done for us. You better get ready to send out a call for assistance. But don't send it until I tell you."

The Captain went away and in 10 minutes, I should estimate the time he came back. - We could hear a terrible confusion outside, but there was not the least thing to indicate that there was any trouble. The wireless was working perfectly.

"Send the call for assistance." ordered the Captain, barely putting his head in the door. "What call should I send?" Phillips asked. "The regulation international call for help. Just that."

Notice that in this account, given the very day *Carpathia* docked in New York and before any inquiry started, Bride said, "I was conscious of waking up and hearing Phillips sending to Cape Race." At the inquiries he was to say that Phillips had finished working Cape Race *before* he woke up. So just when did Phillips complete his batch of messages with Cape Race? Was it before or after the collision? We know Phillips was still busy with Cape Race at 9:45 p.m. New York time. And from a report sent to *Olympic* from *Asian*, *Titanic* was heard working Cape Race up to about "10 p.m. Local Time."

After seeing all of this, is it any wonder why the Attorney-General at the British Inquiry had passed the remark "that one likes to be satisfied we have got hold of the same gentleman who gave evidence in America?" The only thing Bride seemed certain about is what he wrote on April 27th in a report to H. R. Cross, traffic manager of the Marconi Company:

I regret to say my memory fails me with regard to the time of the occurrence or any of the preceding incidents; but otherwise I am sure of all my statements.

DIGGING DEEPER INTO THE EVIDENCE

Annie Robinson was a stewardess on *Titanic* the night of April 14, 1912. At the time of the collision, she was in bed. She got up and dressed and came out on E deck when she saw a mail man pass along at first, only to return some time later with Purser McElroy and Capt. Smith as they headed in the direction of the mail room. A few minutes after, she saw Capt. Smith come back from the mail room with Thomas Andrews, the head of Harland & Wolff's design team that built *Titanic* and her sister ship *Olympic*. Annie then went to see what it was that they had been looking at and found "two mail-bags and a man's Gladstone bag, and on looking down the staircase [the one by the side of the squash racquets court] I saw water within six steps of coming onto E deck." The time "was about half an hour after she struck."¹¹

The time that Capt. Smith was on his inspection below is further supported by bathroom steward Charles Mackay. At the time of the accident Mackay was playing bridge in his quarters on the port side of E deck. "A matter of about a quarter of an hour" after the accident happened, Mackay heard Second Steward Dodd give an order to close the hand-operated watertight doors located on F deck below.¹² Mackay then "saw the Captain a matter of about 20 minutes after that...I saw him come down the working staircase and go along, I presume, to the Chief Engineer's room. About 10 minutes after that I saw him come back." The next order Mackay hears was for all bedroom stewards to get out and go "to their passengers' rooms to tell passengers to get on warm clothing and proceed to the top deck, the boat deck."¹³ We also know from other first hand accounts, such as Assistant Second Steward Joseph Wheat, that Mr. McElroy gave an order to get the passengers out and on deck with lifebelts on at "about a quarter-past twelve," a time that is consistent with Annie Robinson's account that McElroy was seen a little before with Capt. Smith heading for the mail room shortly before Smith met up with Andrews there.¹⁴

Fourth Officer Joseph Boxhall testified that he saw Capt. Smith leave the bridge after reporting to him about the flooding in the mail room after he came back from a second inspection below. According to Boxhall, the time was "approximately 20 minutes to half an hour" after the ship struck the iceberg.¹⁵ After reporting to Capt. Smith and seeing him leave the bridge, Boxhall was sent to call out the off-duty officers. Second Officer Charles Lightoller thought it was "about half an hour perhaps" after the collision when Boxhall came by;¹⁶ and Third Officer Pitman thought it "must be 20 minutes" after the collision when Boxhall came by.¹⁷ It was about the same time that Boxhall also heard the order given to uncover the boats. The time was about midnight, or a little after. It was the time that Captain Smith prudently decided to get the boats uncovered before going on his personal inspection of the ship.

The start of the uncovering of the boats was also noticed by second class passenger Lawrence Beesley. As Beesley was heading back to the second class staircase to go down from the boat deck he noticed that some officer [most likely James Moody] starting to strip the cover off lifeboat No. 16, the aft most port-side lifeboat. After getting back down to his cabin, he "put on some underclothing, sat on the sofa, and read for some ten minutes." Beesley then heard through the open door a loud shout from above, "All passengers on deck with lifebelts on."¹⁸

Quartermaster Robert Hichens was the man at the wheel when the accident happened. He heard a number orders given that night, including Capt. Smith ordering the ship's carpenter to sound the ship. He also heard Capt. Smith say, "Get all the boats out and serve out the belts." Hichens could not remember the exact time, but he said "that was after 12." Hichens was sent away from the bridge at 12:23.¹⁹

So there is a wealth of evidence that Capt. Smith did not even start his inspection of the ship until some time after midnight at the earliest. During the time he was below, the crew was being called out to get the

boats uncovered. It was a wise preemptive move in case it became necessary to transfer passengers off the ship if the damage proved worse than what they were hoping it would be.

Considering all the evidence from different sources, we can see that Capt. Smith was below on an inspection of the ship about a half hour after the collision had occurred. In one case, Steward Mackay estimated that he saw Smith going up the working staircase as late as 45 minutes after the accident happened.²⁰ As we shall see, it was about 45 minutes after the accident, or about 12:25 a.m., when the order was given to actually load the boats with women and children.

But the 1 hour 33 minute time difference, so vehemently argued for, is further blown away by the testimony of none other than Joseph Boxhall, an advocate, if not the originator, of the 1 hour 33 minute time difference blunder.

Boxhall gave the impression that the first call for help went out, not 18 minutes after the ship struck ice, but 35 minutes after the ship struck ice. It happened during the questioning of Harold Bride where there was great deal of confusion as to what time the first wireless message was actually sent out by Phillips, the exact same issue we are talking about here.

Carpathia's Capt. Rostron had previously testified that he was first informed about a distress signal from *Titanic* at 12:35 a.m. *Carpathia* time. Rostron also testified that when it was 12:35 a.m. on *Carpathia*, it was 10:45 p.m. back in New York, a 1 hour 50 minute time difference, just like the difference between *Californian* time and NY time that Capt. Lord had given in evidence. Senator Smith could not understand how ships might carry a different time if they were in the same vicinity of each other. He, as well as many others, just didn't understand how adjustments to apparent time were made on board ships traveling the high seas. And so one thing led to another, and the confused senator from the state of Michigan requested the help of Joseph Boxhall to sort it all out during his questioning of Harold Bride.²¹

Senator SMITH. Let us take the ship's time. By ship's time the *Titanic* struck the iceberg at what hour?

Mr. BRIDE. Twenty minutes to 12.

Senator SMITH. At 11.40; everybody seems to be agreed on that. The captain of the *Carpathia* received the wireless message from the *Titanic* at 12.35, ship's time. Officer Boxhall, you were astir that night, as I recollect it?

Mr. BOXHALL. Yes, sir.

Senator SMITH. And I have an impression that you said in your testimony that the C.Q.D. call was sent out about 35 minutes after the ship struck?

Mr. BOXHALL. Approximately about that time, sir, as near as I can tell. The *Carpathia's* time you mentioned there a few moments ago as 12.35. That was the apparent time, and his [Rostron's] clocks had been altered at midnight. That ship was bound east, and his clocks had been altered.

Senator SMITH. Twenty-five minutes?

Mr. BOXHALL. No; it would be more than 25.

Senator SMITH. The first time they were changed?

Mr. BOXHALL. His clocks were altered probably about thirty-odd minutes at midnight that night.

Senator SMITH. That may account for this one message. But your testimony shows that the first C.Q.D. call went out about 35 minutes after the collision.

Mr. BOXHALL. Yes, sir.

It is interesting that Boxhall would agree that the impression he gave Senator Smith earlier was that the first distress call went out about 35 minutes after the ship struck ice. If that were true, that means that the first call for help came at 12:15 a.m. *Titanic* time, 35 minutes after impact, not 18 minutes after impact as the 1 hour 33 minute time difference would have it. Worse yet, since we know the first call was logged at 10:25 p.m. NY time, the difference between 10:25 and 12:15 is exactly 1 hour 50 minutes, the same time difference that the British Wreck Commission decided for *Titanic*, the same time difference that was carried on *Californian* according to Capt. Lord, and the same time difference carried on *Carpathia* according to what Capt. Rostron had said.²² This is a major inconsistency in the testimony of Joseph Boxhall, who would use a 1 hour 33 minute time difference just a few minutes later when he was asked specifically what time was it in New York when *Titanic* struck ice.

NAVIGATIONAL CONFIRMATION

Is there some other way we can check what the difference between *Titanic* time and NY time really was? The answer is yes.

On the night of April 14th, clocks on *Titanic* were supposed to have been turned back by 47 minutes at midnight.²³ Because of the accident, that adjustment had not taken place.²⁴ However, we know the following:

- *Titanic* struck the iceberg at 11:40 p.m., 20 minutes to midnight, *Titanic* time.
- We also know *Titanic* was steaming about 22 knots on a heading of 266° true on a rhumb-line course toward the Nantucket Shoals Light Vessel.
- We also know the exact location of the wreck, 41° 43.5' N, 49° 56.8' W.
- We also know, assuming the accident had not happened, that local apparent noon for April 15 would have come 13 hours and 7 minutes after the 11:40 p.m. collision time, or a distance of 289 nautical miles beyond the wreck site location.²⁵

Knowing all this, we find that *Titanic* would have reached a longitude of 56° 21.5' W at noon on April 15 if the accident had not happened. Looking up the time for local apparent noon on April 15, 1912 for that longitude, we find that local apparent noon, 12:00 p.m. ship's time, would have come at 3:45 p.m. GMT (10:45 a.m. NY time). As previously noted, local apparent noon for *Titanic* on April 14th came at 2:58 p.m. GMT when she was at a longitude of 44° 31' W. The difference between local apparent noon on April 15 (3:45 p.m. GMT) and local apparent noon on April 14 (2:58 p.m. GMT) is 3:45 – 2:58 = 0:47, exactly equal to the 47 minutes of time that *Titanic's* clocks were to have been put back the night of the accident. This is clear navigational proof that *Titanic's* clocks were adjusted to carry Apparent time based on her noontime longitudes as required by White Star Line rules and procedures.

HISTORICAL EVIDENCE FOR CARRYING APPARENT TIME

Is there some other way to check that *Titanic* would carry Apparent time on her clocks that Sunday, April 14, 1912? What we can do is look back a year to June 1911 when her sister ship *Olympic* sailed on her maiden voyage.

The *New York Times* on Tuesday, June 20, 1911 quoted a wireless dispatch sent by Capt. Smith the day before to the offices of the White Star Line in New York. It read:

On Board *Olympic*, via Cape Race, 9:30 A.M., June 19, 1911.

Up to this hour the *Olympic* has exceeded the speed promised by her builders, her average from noon Saturday to noon Sunday being 21.89 knots.

But how does this relate to the time carried on board the ship? We happen to have a copy of the log card for that maiden voyage westbound that summarized the daily runs of *Olympic* from the time of her departure off Daunt's Rock Light Vessel at 4:22 p.m. GMT on Thursday, June 15; to her arrival at 2:24 a.m. local time on Wednesday, June 21, off the Ambrose Channel Light Vessel outside of New York harbor.²⁶ On the log card they list *Olympic's* noontime coordinates for each day as well as the distance run to noon each day from noon the previous day. An extract from the card is shown below.

DATE	WIND	LAT.	LONG.	MILE	REMARKS.
16	SE.	50,22	19,17	428	STRONG TO LIGHT SE. WINDS, ROUGH TO MOD. SEA
17	SE. & NE.	47,51	32,20	534	LIGHT TO STRONG SE. TO NE. WINDS, ROUGH SEA
18	NE. & SE.	43,45	43,52	542	FRESH NE. TO LIGHT SE. & S. WINDS, MOD. SEA

Fig. 1 – Extract from *Olympic's* maiden voyage log card.

At noon Saturday, June 17, 1911, *Olympic* was at 47° 51' N, 32° 20' W. At noon Sunday, June 18, 1911, *Olympic* was at 43° 45' N, 43° 52' W. The run from noon Saturday to noon Sunday is logged at 542 nautical miles as shown. Given the *Olympic's* noontime coordinates for the given dates, we can easily look up the time of local apparent noon in GMT for each one of them. What we find is that local apparent noon for Saturday came at 2:10 p.m. GMT, and local apparent noon for Sunday came at 2:56 p.m. GMT. The difference in time between noon Saturday to noon Sunday was 24 hours 46 minutes, or 24.77 hours. (That Saturday night, clocks would have been put back 46 minutes.) If we now take the recorded distance run between those two given positions, 542 miles, and divide it by 24.77 hours, the time from local apparent noon Saturday to local apparent noon Sunday, we get a speed made good of 21.88 knots, almost precisely what Capt. Smith sent out in his wireless dispatch of June 19.

What we have here is direct evidence that Apparent time, based on the ship's noontime longitude, was being carried on *Olympic* during her maiden voyage in full compliance with White Star Line rules and procedures. There is no reason to believe that Capt. Smith would have done any differently when he took *Titanic* out on her maiden voyage the following April.

DIRECT FIRST HAND EVIDENCE

Is there any direct first hand evidence that *Titanic* time on April 14 was 2 hours 2 minutes ahead of New York mean time, and not 1 hour 33 minutes ahead? The answer is yes, and it comes from none other than Harold Bride himself when Senator Smith asked him if there was a clock in the wireless cabin.²⁷ It was one of the few times that Bride seemed very sure about something.

Senator SMITH. Did you have a watch or clock in your room?

Mr. BRIDE. We had two clocks, sir.

Senator SMITH. Were they both running?

Mr. BRIDE. Yes, sir; one was keeping New York time and the other was keeping ship's time.

Senator FLETCHER. The difference was about 1 hour and 55 minutes?

Mr. BRIDE. *There was about 2 hours difference between the two.* [MY EMPHASIS]

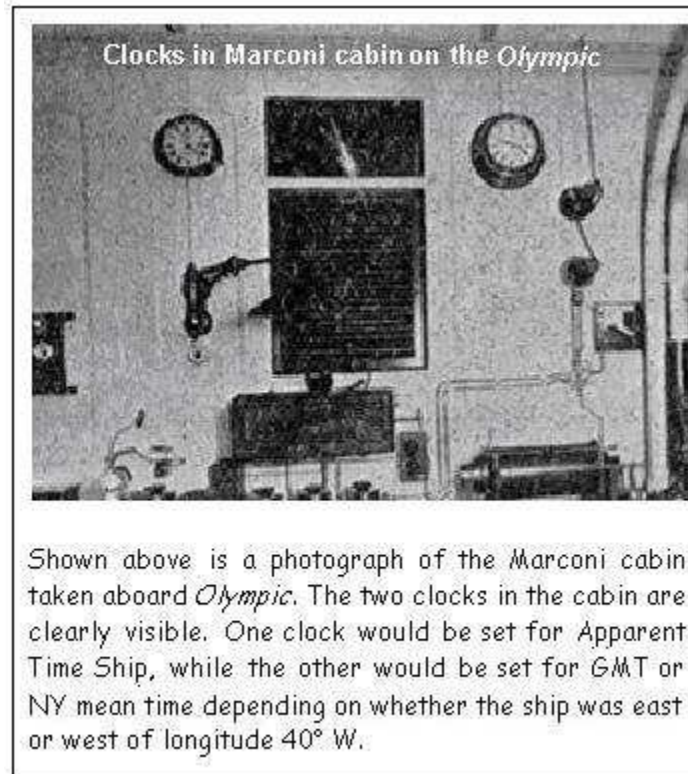


Fig. 2 – The wireless cabin had two clocks.

The question asked by Senator Fletcher came about because 3 days earlier Fletcher had heard from *Californian's* wireless operator, Cyril Evans, that an ice related message was sent to *Titanic* “at 11 o'clock, approximately; 9.05 New York time.” That works out to a 1 hour 55 minute difference. Of course Evans was referring to 11 o'clock *Californian* time on a clock he kept in his cabin. But Fletcher assumed that the *Californian* and *Titanic* would have kept the same time because they happened to be near each other on the night of April 14. So when Fletcher suggested a 1 hour 55 minute time difference, Bride immediately corrected the senator and said there was about a 2 hour difference between the clock keeping *Titanic* time and clock keeping New York time in the wireless cabin.²⁸ If *Titanic* time was 1 hour 33 minutes ahead of New York, would he not have said that there was about an hour and a half difference between the two? There is no way one can stretch a difference of an hour and a half into 2 hours.

It is quite plain to see that a time difference of 1 hour 33 minutes just does not stand up to the navigational evidence available, to the method by which clocks were adjusted at sea on White Star Line vessels, or to a direct first-hand observation of the two clocks in *Titanic's* wireless cabin, one keeping ship's time and other keeping New York time.

SOME ASTONISHING IMPLICATIONS FOR A 1 HOUR 33 MINUTE DIFFERENCE

Is there any other way to show that a 1 hour 33 minutes time difference has to be a mistake?

In articles advocating the 1 hour 33 minute time difference, the argument is made that Capt. Smith wasted no time in sending out a call for help just 18 minutes after the ship collided with an iceberg, and that sending a distress call about 45 minutes after the collision would be too late. We will address this shortly, but for now consider the following.

In the report that Harold Bride wrote to H. R. Cross of the Marconi Co. on April 27, 1912, we find:

Smith entered the cabin and told us to get assistance immediately. Mr. Phillips resumed the phones, after asking the captain if he should use the regulation distress call "CQD." The captain said "Yes," and Mr. Phillips started in with "CQD," having obtained the latitude and longitude of the *Titanic*. The *Frankfurt* was the first to answer. We gave him the ships position, which he acknowledged by "OK, standby." The second answer was from the *Carpathia*, who immediately responded with his position and informed us he was coming to our assistance as fast as possible. *These communications I reported myself to the captain, who was, when I found him, engaging in superintending the filling and lowering of the lifeboats.* [MY EMPHASIS]

We know that the first CQD went out at 10:25 p.m. NY time, and the *Frankfurt* was the first to respond back almost "immediately." According to Bride, Phillips told him to report that to Capt. Smith. Bride then went out and found Capt. Smith on the boat deck. He told Smith that *Frankfurt* had replied to their CQD, and that Capt. Smith then told him to go and find out the *Frankfurt's* position.

Senator SMITH. You received a reply within three or four minutes, but you only know that from what -

Mr. BRIDE. Mr. Phillips told me.

Senator SMITH. Just what did he tell you?

Mr. BRIDE. He told me to go to the captain and report the *Frankfurt*.

Senator SMITH. What do you mean by the *Frankfurt*?

Mr. BRIDE. He was in communication with the *Frankfurt*. sir, he had sent the *Frankfurt* our position.

Senator SMITH. Was the *Frankfurt* the first ship that picked up the C.Q.D.?

Mr. BRIDE. Yes, sir.

Senator SMITH. And you delivered that message to the captain?

Mr. BRIDE. Yes, sir.

Senator SMITH. Personally?

Mr. BRIDE. Yes, sir.

Senator SMITH. Where was he at the time?

Mr. BRIDE. He was on the boat deck, sir.

Senator SMITH. On the boat deck?

Mr. BRIDE. Yes, sir.

Senator SMITH. Not on the bridge?

Mr. BRIDE. No, sir.

At the British Inquiry, Harold Bride said that he found Capt. Smith on the starboard side of the boat deck "superintending the loading of the lifeboats."

With a 1 hour 33 minute time difference, the CQD would have gone out at 11:58 p.m. *Titanic* time. Yet we know that the order to uncover the lifeboats came no earlier than about 20 minutes after the collision,

or about 12:00 a.m. ship's time, when Boxhall was sent to call out the off duty officers. This was about 10 to 15 minutes *before* the order was given to have passengers come on deck with lifebelts on.

Charles Lightoller:

Yes; I met the Chief Officer [Wilde] almost immediately after, coming out of the door of the quarters. First of all the Chief Officer told me to commence to get the covers off the boats. I asked him then if all hands had been called, and he said, "Yes."

Lightoller was also asked if any of the boats were uncovered when he came out. His reply, "None, with the exception of the emergency boats," the two boats that were always kept uncovered and ready for lowering.

And how much time does it take to get a lifeboat uncovered and swung out and ready to load with passengers? Once again we can get a very good feel for this from Lightoller:²⁹

Well, it would take us from 15 minutes to 20 minutes to uncover No. 4; then to coil the falls down, then to swing out and lower it down to A deck would take another six or seven minutes at least.

Thus we see a total of 21 to 27 minutes before a lifeboat could be ready to load with passengers. And then, depending on how long it took to find and load a boat with passengers, it might take perhaps another 10 to 15 minutes before the boat was actually ready to be lowered.

It should be very clear from all of this that if Bride saw Capt. Smith supervising the loading of the boats, let alone the lowering of boats, when he went out to tell him about the *Frankfurt*, then it had to have been *after* the order was given to load the boats with women and children. But we know from Boxhall, Pitman and Lightoller, that the earliest they were called out was 20 minutes after the collision, and it was then that they first started to get the boats uncovered. And from Lightoller we know it would take another 21 to 27 minutes before a boat could be ready to take passengers. Add this up and we see that it must have been about 40 to 50 minutes after the collision, if not a little more, when Bride found Capt. Smith on the boat deck to inform him about the *Frankfurt*. This fits perfectly with a 2 hour 2 min time difference, not a 1 hour 33 minute difference.

But there is more. Consider what some people refer to as the end game. Once again let's look at what Harold Bride wrote:

Again Mr. Phillips called "CQD" and "SOS" and for nearly five minutes got no reply, and then both the *Carpathia* and the *Frankfurt* called. Just at this moment the captain came into the cabin and said, "You can do nothing more; look out for yourselves."

So what time would that be? Looking at a compiled list of wireless messages sent to and from *Titanic*, we find that at 11:55 p.m. NY time, the *Carpathia* acknowledged the last message it received from *Titanic*, and also logged at 11:55 p.m. NY time, the *Frankfurt* started another exchange with *Titanic*. That means, if we are to believe a 1 hour 33 minute difference, Capt. Smith came to the wireless cabin – now get this – at 1:28 a.m., *52 minutes before Titanic sank*, to release the two wireless operators. Would anyone believe that Capt. Smith would give up calling for assistance that soon?

Need more proof of how untenable a 1 hour 33 minute time difference makes? Take the evidence given by *Californian's* second officer who was watching the display of distress rockets being sent up from *Titanic* all night. Second Officer Stone testified that the last rocket seen was about 1:40 a.m. *Californian* time, about 20 minutes before he sent James Gibson down to tell Capt. Lord “we had seen altogether eight white rockets and that the steamer had gone out of sight to the SW.”³⁰ But the *Californian* was 1 hour 50 minutes ahead of New York. This means that *Titanic's* last distress rocket was sent up at 11:50 p.m. NY time. Adding 1 hour 33 minutes to 11:50 p.m. NY time, and we get 1:23 a.m. on *Titanic* when they stopped firing distress signals. That’s almost *a full hour before the ship split apart and sank*. Once again, would anyone believe that Capt. Smith would stop sending up distress signals an entire hour before the ship sank? Proponents of a 1 hour 33 minute time difference would have you believe just that.

SPLITTING A TIME ADJUSTMENT IN HALF

Up to now we have been talking about a clock adjustment of 47 minutes that was planned for *Titanic* at midnight on April 14. However, because of the accident, this adjustment was not carried out. As Third Officer Pitman said, “we had something else to think of.” The 47 minute clock adjustment was to be carried out on a master clock that controlled slave clocks located in public places throughout the ship. It is known that there were people who purposely stayed up and waited in the smoking room for the clock to change so they could set their personal time piece to the new time.³¹ But for the deck and engineering departments of the crew, the 47 minute setback was to be equally split between two watch sections so that no one section would have to work more than half the total extra time in their watch. Those working the 8 to 12 watch (the First watch) were to get 23 minutes extra time, while those working the 12 to 4 watch (the Middle watch) were to get 24 minutes extra time.³² This was to be done by putting the wheelhouse clock back 23 minutes a little before midnight, the same time that clocks in public places were to be put back the full 47 minutes. This partial adjustment would delay the striking of 8 bells, the signal that the watch on deck had ended, by 23 minutes. The second change to the wheelhouse clock was to come when it showed close to 4 a.m. when it was to be put back the remaining 24 minutes, thereby delaying the striking of 8 bells by that amount at that time.³³

There are some people that have suggested that the first of these two partial adjustments to what the IMM Co. rule book called “Bridge Time” was made before the collision had taken place. Some even suggesting that it took place as early as 10 p.m. in unadjusted April 14th hours. However, it is easily shown that this was not the case. There is strong navigational evidence that shows *Titanic* ran about 260 nautical miles from her noontime location to the location where she came to a stop averaging 22.3 knots in 11 hours and 40 minutes; a performance consistent with what she did the previous day, consistent with an increase in engine revolutions noted by many late Sunday night, and consistent with a two-hour log reading that was taken at 10 p.m. showing that the ship was then making about 22.5 knots. However, the most overwhelming evidence that there was no clock adjustment comes from passengers and crew alike who looked at some time piece when the accident happened. Most put the time of the accident between 11:40 and 11:45 p.m.³⁴ There was no dichotomy between most passengers or crew as to the time of the accident, or the time of foundering. This would *not* have been the case if a partial clock adjustment was actually made beforehand. As boatswain’s mate Albert Haines testified, “The right time, without putting the clock back, was 20 minutes to 12.”

But even if they had put the clock back 23 or 24 minutes as suggested by some, the time difference between ship’s time and New York time would have been 1 hour 39 minutes, or 1 hour and 38 minutes, not 1 hour 33 minutes.³⁵ There is just no foundation whatsoever for a 1 hour 33 minute time difference except for an error being made by whoever worked out *Titanic's* foundering time in GMT. Could it have

been the same person who miscalculated the location where *Titanic* came to a stop?

SO WHAT REALLY HAPPENED ON *TITANIC*?

To answer the question of what really happened and when, let's start with Boxhall's return from his second inspection below to report seeing flooding in the mailroom. When he met Capt. Smith on the bridge, Smith already knew that the collision was somewhat serious, and that the ship was taking water in her forward holds. He knew that shortly after telling Boxhall to go below again to find the carpenter to sound the ship. As Boxhall was going down the stairs from the bridge he met the carpenter coming up to report that the ship was taking water in the forward holds. Boxhall then decided to go below again to investigate and he met John R. J. Smith, one of the mail clerks on his way to the bridge, who told him that the mail hold was filling. That is why Boxhall went directly to the mailroom where he saw water within 2 feet of G deck. But was the ship in danger of sinking? And was it immediately necessary to start asking other ships to come to the aid of a ship that many considered to be practicably unsinkable?

Norman Chambers was awakened down in his stateroom, E-8, on the starboard side when the ship collided. At the request of his wife he went up on deck to investigate and returned with nothing unusual to report. He then went back up on deck again, this time with his wife, and still found nothing too unusual going on except that the ship had taken on a slight list to starboard. They then went below again to return to their stateroom. When he got back down to his deck, Chambers noticed a couple of mail clerks wet to their knees, having brought up some registered mail from the deck below. He then went to see what was going on and found that water had risen to within 2 feet of the F deck below them. Then,³⁶

While we were standing there three of the ship's officers - I did not notice their rank or department - descended the first companion and looked into the baggage room, coming back up immediately, saying that we were not making any more water. This was not an announcement, but merely a remark passed from one to the other.

So even though the ship was obviously wounded, it was the impression of one of the officers that the flow of water into the ship's hull had been checked or at least reduced. Even when Bruce Ismay went down to see Chief Engineer Bell shortly after first finding and speaking to Capt. Smith on the bridge, Ismay was told by Bell that the ship was seriously damaged but that he was quite satisfied that the pumps would keep her afloat.³⁷ Based on the water level that Chambers observed at that time, and based on the water level that Annie Robinson saw a half hour after the collision, we can estimate that Chambers' observation came a little after 12:00 a.m. after he came down from the boat deck a second time and seeing nothing too unusual going on up there. It was well known by *Titanic's* designers that *Titanic* would remain afloat even if all four watertight compartments ahead of the machinery spaces were completely open to the sea.

From a timeline perspective, it appears that Capt. Smith worked out the initial distress coordinates before Boxhall came back from his second inspection below. It is likely that when Boxhall saw Smith leave the bridge Smith went to tell Chief Officer Wilde to call all hands to start uncovering the boats, and then went to get Purser McElroy and the mail clerk, who Boxhall met earlier, to tell them that he wanted to go with them on a personal inspection of the flooding forward. It is likely that Capt. Smith then went to the wireless cabin to let the operators know that they may have to send out a call for assistance, as the reports he was then receiving were becoming somewhat more alarming. He then would have given them the coordinates he worked out, and told them not to send it until he completed his inspection to see just how badly damaged the ship really was. It is obvious that he would not take such drastic action as asking other ships to rush to his aid unless it was absolutely necessary. After all, the ship was designed to be her own

lifeboat under the worst imaginable calamity. And that is why he wanted the inspection completed before any call for assistance was sent out. At the time he started on his inspection, the ship was starting to trim down by the head, but it was barely perceptible to most people.

It is difficult to trace all the movements of everyone, or the precise times that they were seen at various places. But we know from Night Watchman James Johnson that Thomas Andrews was seen headed toward the stairs that led to the mail and baggage rooms after first heading to the engine room presumably to speak to Chief Engineer Bell. When Johnson looked down the stairs to the mailroom, he saw water coming onto G deck. It was then that Steward Joseph Wheat met Johnson on F deck, and Johnson told Wheat, "I think it is a bit serious." This must have been a few minutes after Boxhall showed up because Boxhall said the water was coming with 2 feet of G deck when he was there, and now it was seen coming onto G deck. So it seems Andrews must have been there shortly after Boxhall, and would see the water rising from the mail hold into the sorting and baggage rooms. A little while later, Chambers saw the water coming up near F deck when he saw those three officers there. We know from Annie Robinson that Capt. Smith came by a little later and met Andrews by the those stairs. By then, the water had risen to about 4 feet over F deck from what she described seeing. It seems that soon after Capt. Smith returned to the bridge, he gave that order that was overheard by Quartermaster Robert Hichens to get the boats swung out and serve out the belts. Previously, before going on his inspection, the order was given to get the boats uncovered. We have evidence that the order to get the passengers called out occurred about 12:15,³⁸ and we know from Hichens that he left the bridge at 12:23.³⁹

Although Capt. Smith went back up to the bridge following his inspection below, Thomas Andrews remained below. His detailed work was not finished. He knew that the ship would not be in danger of sinking if the flooding could be contained to the first four compartments. And in the first compartment, it was only the peak tank that had flooded, everything above it was still dry. Andrews knew that the ship would trim down by the head to about 1 ½ degrees, and the rise of water in front of watertight bulkhead D, where the mailroom was, would continue to slow down and stop when it became level with the outside waterline. It would stop rising before coming over E deck at that location. But that optimistic view assumes that any flooding in the machinery spaces aft of that bulkhead could be well controlled.

It is likely that soon after departing company with Capt. Smith, Andrews found out from Chief Engineer Bell, or one of the other engineers, that the flooding in Boiler room No.6 could not be controlled with the pumps, something that could only be confirmed after the lights came back on in the stokeholds. He and Bell would then know that the ship was more critically damaged than they initially thought. Once Andrews saw water coming onto E deck by those stairs leading down to the mailroom, he would know for certain that the ship he helped design was lost. About 40 to 45 minutes after the collision, Andrews was seen rushing up the Grand Staircase taking three steps at a time with "a look of terror" on his face. Among those witnessing this were Mrs. Frank Warren and Mr. William Sloper.⁴⁰ It was at this time that it became clear to Andrews that the damage to *Titanic* was fatal.

As reported by Fourth Officer Boxhall:

The Captain did remark something to me in the earlier part of the evening after the order had been given to clear the boats. I encountered him when reporting something to him, or something, and he was inquiring about the men going on with the work, and I said, "Yes, they are carrying on all right." I said, "Is it really serious?" He said, "Mr. Andrews tells me he gives her from an hour to an hour and a half." That must have been some little time afterwards. Evidently Mr. Andrews had been down.

We know that Boxhall had come back onto the bridge after first spending some time clearing some boats on the port and starboard sides, personally taking covers off some of them. As they were swinging out some of the aft boats on the port side, someone reported that a light was seen ahead. Boxhall then went to bridge to have a look. But he also said that before he saw this light, he went to the chart room to work out the ship's position which he showed to Capt. Smith before taking it to the wireless cabin.⁴¹ This was the so called "corrected" position transmitted 10 minutes after the initial distress position had been sent out. Boxhall's conversation with Smith obviously was after Andrews told Smith the bad news. Once Andrews told Smith that *Titanic* had from 1 to 1 ½ hours left, Smith would certainly have gone to Phillips and Bride to tell them to send out that call for assistance. At the same time he would have given the order to start loading the boats with women and children and send them away out onto the open sea.

Able Bodied Seaman John Poingdestre was standing just outside the crew's mess room on the port side when the collision happened. He, like many others, rushed up on deck and saw ice in the well deck. He even brought of piece back down to the mess room with him. While below he met the carpenter who was busy sounding the ship. The carpenter told him that there was 7 feet of water in the firemen's compartment, the second watertight compartment forward. After remaining below for some time, Poingdestre heard the boatswain pipe "all hands up and get the lifeboats ready." He then went up to the boat deck to start taking the covers off, first on the port side, then on the starboard side. Having assisted to clear about 10 boats, Poingdestre went back down to the seaman's quarters on the port side under the forecandle to get his boots. As he was coming out of there, a wooden fore-and-aft bulkhead separating the seaman's quarters from third-class passenger space gave way flooding the place. He then got out of there as fast as he could and went back up to the boat deck.

I was going up on to the boat deck to go towards my own boat, and I heard the Captain pass the remark, "Start putting the women and children in the boats," and then I went to my boat, No. 12.

When asked how long it was after the collision that this took place he said, "Well, about three-quarters of an hour, my Lord."⁴²

In his book, *The Truth About the Titanic*,⁴³ Archibald Gracie wrote,

From my own conclusion, and those of others, it appears that about forty-five minutes had now elapsed since the collision when Captain Smith's orders were transmitted to the crew to lower lifeboats, loaded with women and children first.

So we see from separate and independent accounts that the order to load and lower the boats with passengers came about 45 minutes after the collision. The time would be about 12:25 a.m. *Titanic* time. It was estimated by Andrews that the ship had from an hour to an hour and a half left. As it turned out, the ship lasted a little longer, almost two hours from that point in time before it foundered. At 12:27 a.m. *Titanic* time, the first call for help was being sent out by wireless in juxtaposition with the order to send passengers away in the boats and onto the dark, cold sea.

Now proponents of a 1 hour 33 minute time difference like to point out that Harold Bride had stated in evidence that Phillips had finished working Cape Race about 10 minutes before the collision, which would put the time at 11:30 p.m. ship's time. They then point out that the wireless operator on *Californian* heard *Titanic* working Cape Race till 11:35 *Californian* time [9:45 NY time], *Virginian's* operator had an entry in his wireless log that Cape Race was working *Titanic* at 9:45 p.m. NY time, and that *Asian* had

told *Olympic* that he heard *Titanic* working Cape Race up to about 10 p.m. as we mentioned before. Now if you put all of this together using a 2 hour 2 minutes difference, we have *Titanic* still in communications with Cape Race at 11:47 p.m., which is 7 minutes after the impact which, according to proponents of a 1 hour 33 minute time difference, is “impossible” because Bride implies that Phillips finished with Cape Race at 11:30. Of course, as I had pointed out before, Bride told the *New York Times* reporter on April 18 that he heard Phillips working Cape Race when he awoke before coming out to relieve him, and that he never felt the collision or knew about it until Phillips told him that there was some sort of accident.

Harold Bride was asleep when the collision happened, as were so many other people on board *Titanic*. Phillips, who was busy with Cape Race, knew that something had happened to the ship, and that the ship had come to a stop. But he was not aware that the ship had been in any way seriously damaged. Many stewards who were awake in their quarters down on E deck, in what was called the Glory Hole, thought that the ship had lost a propeller. And like Phillips, many of them speculated that the ship may have to return to Belfast for repairs. There was no reason for Phillips not to finish his business with Cape Race or even exchange messages with operators on other nearby ships.⁴⁴

Bride admitted that the collision did not wake him up, and neither did Phillips. The truth is that we really don't know what time it was when he came out to relieve Phillips. Maybe it was the sound of steam blowing off? We have but four somewhat different versions of a story taken from this one person to go by.⁴⁵ But what is more certain comes from piecing together the evidence from many other sources, in particular that which is not as subjective in nature or dependent on the inconsistent memory of any single eye witness.

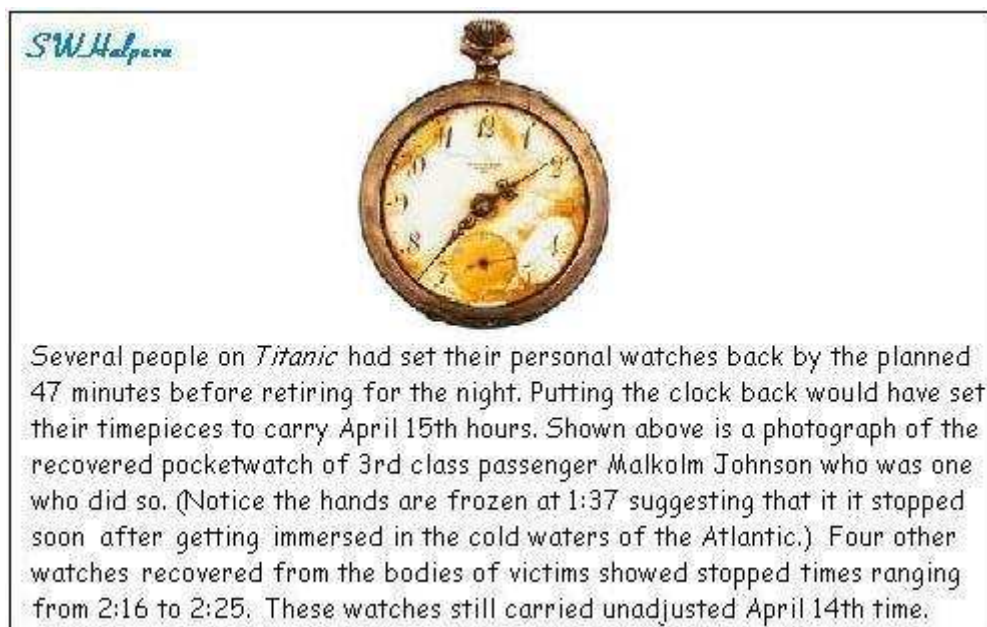


Fig. 3 – Recovered pocket watch showing a stopped time of 1:37.

As I pointed out in my article, “Rockets, Lifeboats and Time Changes,”⁴⁶ the 1 hour 33 minute time difference came about when Capt. Rostron sent a wireless message on April 15th at 4 p.m. NY time to Capt. Haddock informing him the time that *Titanic* foundered. It was the result of a simple error that was made in the confusion that immediately followed that great tragedy when trying to determine the time *Titanic* sank in Greenwich Mean Time.

It should be understood that there simply is no basis whatsoever for *Titanic* to have carried a time that was 1 hour 33 minutes ahead of New York mean time. It does not correspond to the longitude of any of the CQD positions sent out by wireless, or to the longitude of local apparent noon for April 14th or to the projected longitude of local apparent noon for April 15th or to any expected clock adjustments that were planned to take place that night.

LAST CONTACTS

Opponents of a 2 hour 2 minute time difference continue to draw attention to two wireless messages that were recorded in the wireless log of *Virginian* as being sent by *Titanic*. One received at 12:20 a.m. NY time, and another received at 12:27 a.m. NY time. They claim that this is proof that *Titanic's* clocks could not have been set 2 hours and 2 minutes ahead of New York. But as I had pointed out in my "Rockets, Lifeboats, and Time Changes" article, these isolated transmissions were only assumed to have come from *Titanic* by *Virginian's* wireless operator. The *Virginian* operator wrote that the faint spark he heard sounded "similar to *Titanic's*," not that it was the same as *Titanic's*.⁴⁷ The 12:20 a.m. transmission of the letter "V" sent twice is what a wireless operator did while adjusting the spark on their equipment when turning on, before trying to establish contact with other stations. The 12:27 a.m. transmission of the letters "CQ," not a "CQD," was nothing more than the transmission of the general call-up signal that was used worldwide to establish communications with other wireless stations that were within communicating range.⁴⁸ What is interesting to note, is that the *Virginian* was about three times farther away from the *Titanic's* SOS position than either *Carpathia* or *Mount Temple* were when the *Virginian's* operator first heard *Titanic's* call for help. Neither wireless operator on those two other vessels reported hearing what the *Virginian's* operator heard, and they were both much closer to where *Titanic* really was than *Virginian*.⁴⁹ Furthermore, *Virginian* was not the last ship to report what they thought to be a wireless transmission coming from *Titanic*. In the wireless log of *Mount Temple* there is an entry for 1:58 a.m. NY time that read:

S.B.A. [*Birma*] thinks he hears M.G.Y [*Titanic*], so sends "Steaming full speed to you; shall arrive you 6 in the morning. Hope you are safe. We are only 50 miles now."

This would be about 4 a.m. *Titanic* time, about the time that *Carpathia* was getting close to lifeboat No. 2, the first boat to be picked up. Two minutes later, at 2:00 a.m. NY time, *Carpathia* also tries to call *Titanic*, and like *Birma*, gets no reply. Sometimes in desperation, people tend to hear what they want to hear.

According to Harold Bride,⁵⁰

Mr. Phillips sat down again at the telephone and gave a general call of C. Q. D., but I think that our lamps were running down; we did not get a spark. We could not tell, because the spark of our wireless was in an enclosed room. We could not hear at any time whether it was sparking.

So according to Bride, they could not really tell if they were getting a spark, and there is no mention of them trying to adjust the spark which would require them to open the door to the enclosed "Silent Room" which housed *Titanic's* rotary spark generator. As Bride said, they could not hear if they were getting a spark, and other ship's did not reply to the last transmissions that they sent out.

The last lifeboat to be lowered from *Titanic* was Collapsible boat D on the port side of the boat deck just aft of the bridge wing. The water was just 10 feet below the level of the boat deck when Second Officer

Charles Lightoller lowered the boat around 2:05 a.m.⁵¹ The water was just starting to spill onto A deck below. After lowering the boat, Lightoller went up to the top of the officer's quarters to work on unlash Collapsible boat B which was stored there on the port side of the forward funnel. When Bride left the wireless cabin, he too climbed on top of the officer's quarters and found men working to free the collapsible boat. He arrived just in time to help Lightoller and others push that boat down onto the boat deck below. It was only moments before a large wave swept aft as the bow took a sudden surge forward washing many people off and setting the overturned collapsible boat adrift. Bride estimated that he and Phillips left the wireless cabin about 10 minutes before the ship went under.⁵²

Now consider this. Assume the last wireless transmission from *Titanic* was at 12:27 NY time, and furthermore, assume a 1 hour 33 minute time difference between ship's time and NY time. That means that Bride and Phillips would have abandoned the wireless cabin at 2:00 a.m., while Lightoller was still in the process of loading Collapsible D with people on the boat deck, and the water was still below the level of A deck more than 10 feet below him. This is a situation that is totally inconsistent with what Bride described when he wrote to W. R. Cross of the Marconi company. Bride said that they "could hear the water washing over the boat deck" when he and Phillips cleared out of the wireless cabin to climb on top of the officer's quarters. According to Bride, the last message that Phillips sent out was a general "CQD MGY" distress call. Upon hearing no response, the two operators vacated the cabin having received permission from Captain Smith to do so several minutes earlier. It appears that this last transmission may have been the one that was sent out at 12:10 a.m. NY time and described by *Virginian's* operator as, "Hear MGY calling very faintly, his power greatly reduced." With a 2 hour 2 minute difference, this would have taken place about 2:12 a.m. *Titanic* time, just about 10 minutes before the ship went under. As Bride told Senator Smith, "The motor and alternator that was working with our wireless set were running when we left the cabin, 10 minutes before the ship went down." It was just enough time for him to climb to the top of the officer's quarters and help push Collapsible B off the roof and onto the boat deck below as he said he did. It was only moments before he and the overturned boat were swept off when the ship took that sudden surge forward.

HOW DID THE 1 HOUR 33 MINUTE TIME DIFFERENCE COME ABOUT?

At 3:15 p.m. NY time, Monday, April 15, 1912, *Carpathia's* Capt. Rostron sent a wireless message to *Olympic's* Capt. Haddock that read:⁵³

Capt. Haddock, *Olympic*: 7.30 G. M. T. Lat. 41.15 north, long. 51.45 west. Am steering south 87 west, true. Returning to New York with *Titanic's* passengers. - Rostron.

What is interesting about this particular message is that it was sent to *Olympic* just 45 minutes before the one containing *Titanic's* foundering time, and it gave *Carpathia's* coordinates for 2:30 p.m. NY time. In those coordinates we see a longitude of 51° 45' W, a longitude that has a Local Mean Time of precisely 3 hours 27 minutes 0 seconds behind GMT, or 1 hour 33 minutes 0 seconds ahead of mean time in New York. Is this some sort of coincidence? Not likely. It is entirely possible that it was this time difference that was used in deriving the erroneous 5:47 a.m. GMT foundering time for *Titanic* that was put in the message sent out at 4:00 p.m. NY time by Capt. Rostron. It was in direct response to a request from Capt. Haddock received at 3:35 p.m. NY time asking for "particulars" about *Titanic* so that *Olympic* could then report to Cape Race. Just like the erroneous distress coordinates, the 5:47 a.m. GMT foundering time was an error that escaped recognition.

TIME.	REMARKS.	Call Letters.	Duration.	Condition.
	<u>Monday 15th April continued.</u>			
3.15 p	M.P.A. gives me his Z.P. and several notes for Capt.			
3.35	Sent msg. to M.P.A. asking for particulars of msg. so that we can report immediately via M.C.E.			
4.0	M.P.A. sends short account of disaster to Captain.			

Fig. 4 – From handwritten Proces-Verbal of SS *Olympic*.

SUMMARY

This article was concerned with the difference between *Titanic* time and New York time. In particular, I have addressed the question of a 1 hour 33 minute time difference that originally showed up in a wireless message sent on April 15, 1912 from Capt. Rostron of the *Carpathia* to Capt. Haddock of the *Olympic*.

In this article I have shown the following:

- A 1 hour 33 minute time difference for *Titanic* has absolutely no solid basis whatsoever. It does not correspond to any noontime longitude, expected or otherwise, or to any planned clock time change, partial or full, or to the location of the distress coordinates that were sent out from *Titanic* by wireless. It was the result of an error made while trying to put down *Titanic*'s foundering time in GMT in a message sent from *Carpathia* to *Olympic* on April 15.
- A 1 hour 33 minute time difference would imply that the first wireless transmission would have been sent out at 11:58 p.m. *Titanic* time, just 18 minutes after the collision. This was about the time Capt. Smith started his personal inspection of the flooding below, and before it was known that the damage inflicted on the ship was fatal.
- *Titanic*'s fourth officer, Joseph Boxhall, gave Senator Smith the impression that the first distress message was sent out about 12:15 *Titanic* time, or almost twice the 18 minute time interval that a 1 hour 33 minute time difference would imply.
- A 1 hour 33 minute time difference would imply that Capt. Smith would have released wireless operators Phillips and Bride as early as 1:28 a.m. *Titanic* time, more than 50 minutes before *Titanic* sank.
- A 1 hour 33 minute time difference would also imply that Capt. Smith had ordered the firing of distress rockets stopped as early as 1:23 a.m. *Titanic* time, almost one full hour before *Titanic* sank.

In this article I have also shown that *Titanic* would have been carrying Apparent time on her clocks based on her noontime longitude for April 14, 1912.

- IMM Co. rules that were in effect required that clocks be set at night so they would show 12:00 at local apparent noon the next day.
- Surviving officers Charles Lightoller and Herbert Pitman explained that clocks on *Titanic* were adjusted at midnight with a possible minor correction the next forenoon so that they would be accurate at noon the next day.
- A White Star Line brochure given to westbound passengers said that Apparent time is carried on the ship while at sea, and that clocks are put back at midnight each night the amount depending on the expected distance the ship was going to make up to noon the next day.
- Log card evidence from *Olympic's* maiden voyage and an intercepted wireless message from Capt. Smith prove that *Olympic* was carrying Apparent time on her clocks based on her noontime longitudes in June of 1911. *Titanic* would have done the same.
- The time difference between GMT of local apparent noon for *Titanic's* April 14th longitude and GMT of local apparent noon for her projected April 15th longitude was exactly 47 minutes, the reported planned clock adjustment for the night of April 14. This once again proves that *Titanic* was keeping Apparent time based on her expected noontime longitude as required by IMM Co. rules.
- Local apparent noon for *Titanic* on April 14th was at 2:58 p.m. GMT, putting *Titanic's* clocks 2 hours 2 minutes ahead of clocks in New York. This fact was identified in the early 1960s by Leslie Harrison, a friend and supporter of Capt. Stanley Lord of the *Californian*.
- *Titanic's* first wireless CQD message was sent out at 10:25 NY time, or 12:27 a.m. *Titanic* time, within a minute or two of when the order was given to load and lower the lifeboats to the sea with women and children. It came after Capt. Smith had completed his personal inspection below and after Thomas Andrews was seen rushing up to the bridge with a look of terror on his face. It fits perfectly with Harold Bride finding Capt. Smith supervising the loading of the lifeboats when he went out to report that they received a first response from the *Frankfurt*.
- The last CQD from *Titanic* may have been sent out at 12:10 a.m. NY time, or 2:12 a.m. *Titanic* time. After hearing no reply, Phillips and Bride vacated the wireless cabin and climbed to the top of the officer's quarters just in time for Bride to help push Collapsible lifeboat B off the roof and onto the boat deck below. It was just moments before Bride and others were swept off the deck by an induced wave when the bow took a sudden plunge forward.
- A 2 hour difference, not an hour and a half, was seen first hand on the two clocks carried in *Titanic's* wireless cabin by surviving wireless operator Harold Bride. One clock showed *Titanic* time and the other clock showed New York time.
- There is a very good possibility that the 1 hour 33 minute time difference came about when someone accidentally used the 3 hour 27 minute time difference between Local Mean Time and GMT for *Carpathia's* reported longitude that was put in a message sent from Capt. Rostron to Capt. Haddock just 45 minutes before he sent out the message reporting the time and location where *Titanic* foundered.

¹ From copy of detailed wireless log made by *Olympic's* operator E. J. Moore furnished to Senator William Alden Smith, May 25, 1912. American Inquiry, p. 1138.

² The time it takes for the real sun to go around the earth is not uniform throughout the year because the orbit of the earth is an ellipse, not a circle, and the earth's axis is tilted with respect to the plane of its orbit.

³ Courtesy of Mark Chirnside.

⁴ Commander James G. P. Bisset, R.D., R.N.R., *Ship Ahoy!! Nautical Notes for Ocean Travelers, With Charts and Diary*, Third Edition, Charles Birchall Ltd., Liverpool, 1924.

⁵ American Inquiry, p. 294.

⁶ Samuel Halpern, "Keeping Track of a Maiden Voyage," Irish Titanic Historical Society's *White Star Journal*, Vol. 14, No. 2, August 2006.

⁷ In his subsequent testimony and written report to the Marconi Company, Bride never mentioned that Capt. Smith came twice to the wireless cabin before the first CQD call went out. But in this first account, taken down on April 18, 1912, he did.

⁸ American Inquiry, pp. 144-146.

⁹ British Inquiry, 16511-16512.

¹⁰ British Inquiry, 16490-16492.

¹¹ British Inquiry, 13272-13282.

¹² This 15 minute time period is supported by Assistant Second Steward Joseph Wheat. (British Inquiry, 10936-10937.)

¹³ British Inquiry, 10675-10701.

¹⁴ British Inquiry, 13229.

¹⁵ British inquiry, 15379.

¹⁶ British inquiry, 13781.

¹⁷ British inquiry, 14949.

¹⁸ Lawrence Beesley, *The Loss of the SS Titanic*, Houghton Mifflin Co., 1912.

¹⁹ British Inquiry, 1017-1041.

²⁰ Fifteen minutes after the collision the order came to close the watertight doors on F deck, twenty minutes later Capt. Smith was seen coming down the staircase, and 10 minute later he was seen going up the staircase. Thus, 15+20+10=45 minutes.

²¹ American Inquiry, p. 905.

²² The actual time difference between *Carpathia* ATS and New York mean time was 1 hour 57 minutes. See: Samuel Halpern, "12:35 A.M. Apparent Time *Carpathia*," *Great Lakes Titanic Society* website, July 2010, http://www.gltts.org/articles/halpern/1235_ats_carpathia.html.

²³ American Inquiry, p. 451.

²⁴ American Inquiry, p. 294.

²⁵ The accident happened at 20 minutes to midnight, and from midnight to local apparent noon would have been 12 hours and 47 minutes for a total of 13 hours and 7 minutes of travel from the accident location to noon the next day.

²⁶ See Mark Chirnside and Sam Halpern, "Olympic and Titanic: Maiden Voyage Mysteries," *ET Research* (ref: #5540), http://www.encyclopedia-titanica.org/maiden_voyage_mysteries.html.

²⁷ American Inquiry, p. 906.

²⁸ Marconi operators logged wireless messages in New York time if their ship was west of longitude 40° W, and in GMT if east of longitude 40° W.

²⁹ British Inquiry, 13855.

³⁰ See British Inquiry, 7935, and Stone's written report to Capt. Lord of April 18, 1912. Apprentice Gibson testified that the steamer "disappeared" at 2:05 a.m. by their wheelhouse clock (British Inquiry, 7533 & 7565). This would correspond to 2:17 unadjusted time on *Titanic*, about the time all her lights went out when she started to break apart.

³¹ From the account given by A. H. Barkworth to the New York Sun, April 25, 1912.

³² American Inquiry, p.451.

³³ Samuel Halpern. "Changing Watch Schedules," <http://www.titanicology.com/WatchSchedules.html>.

³⁴ Samuel Halpern, "The Mystery of Time," Titanic Historical Society's *The Titanic Commutator*, Vol. 31, No. 178 and No. 180.

³⁵ It is interesting to note that the longitude of Boxhall's erroneous SOS position, 50° 14' W, gives a time that is 1 hour 39 minutes ahead of New York mean time. This was the time difference that was used by lawyers for the White Star Line during the Limitation of Liability Hearings held in New York in 1915.

³⁶ American Inquiry, p. 1042.

³⁷ American Inquiry, p. 3.

³⁸ British Inquiry, 13229.

³⁹ British Inquiry, 1017.

⁴⁰ See endnote 56 of Chapter 6 in J. Kent Layton's, *Atlantic Liners, A Trio of Trios*, Lulu Press, 2009.

⁴¹ British Inquiry, 15385.

⁴² British Inquiry, 2844-2874.

⁴³ Colonel Archibald Gracie, *The Truth About the Titanic*, Mitchell Kennerley, 1913.

⁴⁴ *Carpathia's* Harold Cottam placed an entry in his reconstructed wireless log that said "5.30 p.m. signals exchanged with the 'Titanic' at frequent intervals until 9.45 p.m." (British Inquiry, 17067.) The 9:45 p.m. NY time is interesting in that it would conflict with Phillips being in communications with Cape Race at that time as implicated by the *Californian*, *Virginian* and *Asian* accounts.

⁴⁵ In chronological order these would be the story Bride told to a *New York Times* reporter on April 18, his testimony before the American inquiry on April 20, his written report to H. R. Cross of the Marconi Co. on April 27, his continued testimony before the American inquiry on April 29 and May 4, and his testimony before the British Wreck Commission on May 23.

⁴⁶ Samuel Halpern, "Rockets, Lifeboats, and Time Changes," Titanic International Society's journal *Voyage 70*.

⁴⁷ It is interesting that Cyril Evans, the wireless operator on *Californian* who interrupted *Titanic* at 9:05 p.m. (NY time) on April 14, while the latter was busy communicating with Cape Race, said: "I believe, he had a rotary spark - got a musical note. I never got a musical note [from him]; but I think he had a rotating spark there." (American Inquiry, p. 742.) *Titanic* was indeed equipped with rotating spark-gap generator and would have produced a musical sounding type signal compared to the older and less powerful transmitting equipment with induction coils installed on vessels such as *Californian*.

⁴⁸ In England a general call on the landline wire was “CQ.” It preceded time signals and special notices. “CQ” had been generally adopted by telegraph and cable stations all over the world. It also went with the operators to sea where it also was used for establishing initial communications. (See: <http://www.stormy.ca/perc/sos.html>).

⁴⁹ In his testimony before the British Wreck Commission, Harold Cottam, *Carpathia's* wireless operator, said that he thought that the last two messages recorded by the *Virginian's* operator were false, and that the signals from *Titanic* “were good right away to the end.” The last message heard by Cottam was at 11:55 NY time. (British Inquiry 17145-17147.)

⁵⁰ American Inquiry, p. 159.

⁵¹ Bill Wormstedt, Tad Fitch and George Behe, “Titanic: The Lifeboat Launching Sequence Re-Examined,” Revised April 2010, <http://wormstedt.com/Titanic/lifeboats/lifeboats.htm>.

⁵² American Inquiry, p.158.

⁵³ From copy of detailed wireless log made by *Olympic's* operator E. J. Moore furnished to Senator William Alden Smith, May 25, 1912. (American Inquiry, p. 1138.)