

Hard a-starboard

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ET Research

[Tuesday 12 February 2002](#)

Reconsidering Titanic's Encounter with the Iceberg

"Iceberg, right ahead!"

These three words were spoken by Lookout Frederick Fleet at 11:40 p.m. on 14 April 1912 from the crow's nest of the ill-fated RMS *Titanic*. The story has come down that, reacting to this three-word warning, First Officer William Murdoch ordered "hard a-starboard." The ship started to turn left, but its bow grazed the iceberg.

Murdoch's "hard a-starboard" order in response to the iceberg has become so ingrained into the traditional *Titanic* story that it has never been questioned. It has been assumed that "hard a-starboard" was the natural last-ditch evasive maneuver to prevent the ship from striking the iceberg. Authors and filmmakers have heavily romanticized this version of the accident for 90 years.

Surprisingly, testimony and circumstantial evidence collected by the two national investigations into the tragedy show that *Titanic* might have innocently steered into history's most famous maritime tragedy while actively trying to avoid a large field of ice. The eyewitness evidence implies that while Murdoch did alter the liner's course to port prior to the collision, this was done in response to a large icefield blocking the ship's path, not the lookouts' warning of the lone deadly iceberg. In fact, this course change probably brought *Titanic* head-on with the fatal iceberg.

The image of a solitary iceberg floating on a calm sea is a major ingredient in *Titanic*'s traditional history. Of all the places the iceberg could be, it happened to float right into the liner's path. *Titanic* histories have placed an incredible amount of focus on The Iceberg. Unfortunately, the solitary iceberg myth is not true. There was a substantial amount of ice on the ocean that night. At the US Senate Hearings, Captain John J. Knapp of the Hydrographic Office submitted charts depicting the location of icefields and icebergs in the North Atlantic shipping lanes. A large icefield existed south of latitude 42° and between longitudes 51° and 50°. East of the icefield, but still south of latitude 42°, were many icebergs, some intermixed with low-lying ice. There was an imposing amount of ice in *Titanic*'s track when she encountered the one deadly berg. Knapp gladly interpreted the ice charts for the Senators:

In this connection the attention of the committee is especially invited to the report made by the master of the steamship Mesaba, wherein he reports on April 14, at 2 p.m., in latitude 42° north, longitude 50° west that he 'passed another field of pack ice, with numerous bergs, intermixed, and extended from four points on the starboard bow to abeam on the port side. Had to steer about 20 miles south to clear it. Ice seemed to be one solid wall of ice at least 16 feet high, as far as could be seen. In latitude 41° 35' north, longitude 50° 30' west, we came to the end of it, and at 4 p.m. - April 14 - we were able to again steer to the westward.'

The ice so reported by the master of the steamship Mesaba was directly in the tract on which the Titanic is reported to have been steaming when she met with the accident.[\[1\]](#)

The ice that *Mesaba* steered south to avoid was probably the same ice that *Titanic* encountered on 14 April 1912. Fleet testified that "a sort of slight haze"[\[2\]](#) could be seen on the horizon "about 2 points on each side."[\[3\]](#) The source of this "haze" was most likely light reflecting off the ice. This condition, known as

iceblink, was described by Master mariner Edwin G. Cannons as "an effulgence thrown off the berg or ice because the ice absorbs the light of day, and throws it off at night. It would look like a large mass of luminous paint."^[4] It is not surprising that a "slight haze" existed distant on the horizon. There was a *massive* amount of ice on the ocean that night. It is strange that *Titanic* did not meet ice *sooner* than the 11:40 p.m. accident.

On April 14, 1912 the North Atlantic was a dangerous place. Passing steamers reported numerous icebergs and a large quantity of field ice lying almost directly across the usual shipping lanes. RMS *Titanic*, the White Star Line's newest leviathan, received many ice warnings throughout her maiden voyage. On the night of the accident, Second Officer Charles Lightoller had instructed lookouts stationed in the crow's nest to watch for field ice and growlers (small icebergs). On a typical night, an iceberg can be spotted a few miles away by the white surf breaking against it. Nonetheless, the British investigation concluded that the iceberg was initially seen far too late for any evasive action to be successful. The summary of the collision found in the Final Report of Mersey's British Board of Trade Inquiry ("British Inquiry") has survived in nearly the same fashion for almost 90 years:

Mr. Lightoller turned over the ship to Mr. Murdoch, the first officer, at 10 o'clock, telling him that the ship was within the region where ice had been reported. He also told him of the message he had sent to the crow's nest, and of his conversation with the Master, and of the latter's orders.

The ship appears to have run on, on the same course, until, at a little before 11:40, one of the lookouts in the crow's nest struck three blows on the gong, which was the accepted warning for something ahead, following this immediately afterwards by a telephone message to the bridge "Iceberg right ahead." Almost simultaneously with the three gong signal Mr. Murdoch, the officer of the watch, gave the order "Hard-a-starboard," and immediately telegraphed down to the engine room "Stop. Full speed astern." The helm was already "hard over," and the ship's head had fallen off about two points to port, when she collided with an iceberg well forward on her starboard side.

Mr. Murdoch at the same time pulled the lever over which closed the watertight doors in the engine and boiler rooms.

The Master "rushed out" on to the bridge and asked Mr. Murdoch what the ship had struck.

Mr. Murdoch replied: "An iceberg, Sir. I hard a-starboarded and reversed the engines, and I was going to hard a-port round it but she was too close. I could not do any more. I have closed the watertight doors."

From the evidence given it appears that the "Titanic" had turned about two points to port before the collision occurred. From various experiments subsequently made with the s.s. "Olympic," a sister ship to the "Titanic," it was found that travelling at the same rate as the "Titanic," about 37 seconds would be required for the ship to change her course to this extent after the helm had been put hard a-starboard. In this time the ship would travel about 466 yards, and allowing for the few seconds that would be necessary for the order to be given, it may be assumed that 500 yards was about the distance at which the iceberg was sighted either from the bridge or crow's nest.

That it was quite possible on this night, even with a sharp look-out at the stemhead, crow's nest and on the bridge, not to see an iceberg at this distance is shown by the evidence of Captain Rostron, of the "Carpathia."

The injuries to the ship, which are described in the next section, were of such a kind that she foundered in two hours and forty minutes.^[5]

Following the lead of Mersey's British Report, journalists and authors have generally assumed that the lone iceberg was identified too late for any evasive maneuver to be successful. Unfortunately, the British Inquiry failed to consider the possibility that *Titanic* may have maneuvered to avoid the field of ice before the lookouts' warning. Much of the testimony suggests that Murdoch attempted to dodge the larger field of

ice, but as a result brought *Titanic* head-on with the deadly berg. Or, as he explained to Captain Smith, Murdoch brought the ship "too close" to the iceberg.

After the disaster, an immense amount of criticism was heaped upon *Titanic*'s lookouts for failing to spot the berg in sufficient time. However, Fleet and Lee deserved no blame. Bertram Hayes, a White Star Line commander, defended the beleaguered lookouts by saying, "I have known the two men, and there is no carelessness."^[6] If Fleet and Lee were not derelict in their duty, then how did the ship manage to strike the iceberg? Master mariner Bertram Hayes had the answer: "*There must have been some abnormal conditions which misled them.*"^[7]

Indeed there were strange conditions on the North Atlantic that night: no wind, a flat calm, a perfectly clear night and no moon. Any one of these conditions on the North Atlantic would be unusual, to have them all at once - rare. Second Officer Lightoller, the senior surviving officer, attributed the ship's loss to these abnormal conditions when he claimed fate was against *Titanic*. He attempted to deflect blame away from a simple navigation error that brought the ship too close to the lethal iceberg. Yet, despite the unusual sea conditions described by Lightoller, the men on *Titanic* should have seen the iceberg in time to avoid a collision.

The berg's alleged dark appearance was suggested in 1912 to explain why *Titanic* failed to clear it. A "black" iceberg would have remained invisible on the ocean (with no breaking water at the base to aid in identification) until it was too late. Apparently, dark icebergs are found when an ordinary berg suddenly capsizes. As the iceberg rolls during its melting process, the orientation of the above-water portion is bound to change. Wet ice recently brought to the surface reflects less light than older, dry ice. Between the numerous Master Mariners examined at the British Inquiry, only one had seen an iceberg that was darker than usual. None had seen a so-called "black" iceberg:

(Sir Robert Finlay). Have you ever seen a black berg? - (Edwin G. Cannons) No.

In your experience are icebergs dark or black? - I have seen them much darker. Might I explain an experience of mine some years ago which will give you possibly an idea of the difference in colour.

If you please? - When I was Chief Officer of our "Michigan" I saw an iceberg capsize in the daytime. What appeared prior to the iceberg capsizing as a white glistening mass, after the sea had subsided and the water run off the portion that was then exposed, was apparently dark blue...

Have you ever seen another iceberg of that dark colour? - No, only that one that capsized.^[8]

Frederick Passow, another of the Master mariners examined during the British Inquiry, was unable to account for the "black" iceberg:

(The Commissioner). If you are right, and if this was - as we have been told by a great many witnesses it was - a perfectly clear night, how do you account for the collision? - (PASSOW) I cannot account for it at all. They say it looked like a black iceberg, but I have never seen a black iceberg. I never saw anything but a white one, and that you can see on the darkest night. You can see field ice, too, on the darkest night in time enough for you to get out of the way of it.

We have an explanation given of it by Mr. Lightoller. He said that the sea was absolutely flat - there was not, as I understood him, even a swell - and that the consequence of that was that there was no surf of any kind round the base of the iceberg...What do you think about that? - I think you would see the surf round it at a shorter distance than you would see the iceberg, if it was a large one. The ice has a phosphorescent appearance.

I should have thought that, as a seaman, you would have had some sort of explanation to suggest? - I cannot think of anything, because they say the ice was dark blue, almost black. I never saw an iceberg like that in my life, and I have seen a good deal of ice too.^[9]

Quartermaster Alfred Olliver said he was just entering *Titanic*'s bridge when he managed to catch a glimpse of the iceberg. He told senators at the US Hearings that, "it was not white, as I expected to see an iceberg. It was a kind of a dark-blue hue. It was not white."^[10] Passow later informed the British Inquiry that he had never even *heard* of a black iceberg "[until he] read of it in the papers."^[11] The iceberg that *Titanic* encountered may have been relatively dark compared to the more common white bergs, but it certainly was not black. The myth of a "black" iceberg was most likely a fantasy of the 1912 press, and the sensationalist writers who descended upon the disaster shortly after it occurred. Therefore, another theory must be considered to explain why *Titanic* collided with the iceberg.

An iceberg outside *Titanic*'s course may have been of little consequence to the lookouts and the watch officer. Edwin Cannons, a seasoned Master Mariner, explained to the British Inquiry that ice outside the steamer's track might go unnoticed:

(The Attorney-General). There is only one thing I want you to explain to us a little more fully. According to the view that you have expressed, you may have passed dark bergs quite close without seeing them? Is that right? -

(Edwin Cannons) Well, it would be possible.

It would follow from your evidence? - We are not looking out for ice that is out of the steamer's particular track.^[12]

Lookouts Fleet and Lee were entrusted with the duty of spotting and reporting any dangers in the ship's path. It is possible that the iceberg had been spotted by the lookouts, but it was far enough off the liner's course to go unreported. They would not have considered something well outside *Titanic*'s track significant enough to require a report. Moreover, the deadly iceberg might have gone unnoticed by the bridge until something was done to put the ship directly in front of it. That something appears to have been Murdoch's deliberate course change to avoid the field of ice.

Testimony indicates that *Titanic*'s bow was rotating to port before the lookouts' warning. However, this turn was most likely performed in response to the icefield, not the lone iceberg that Fleet reported. Lightoller relates the incident in London:

(Mr. Scanlan). Well, they [the lookouts] ultimately discovered the ice you know, and the men on the bridge did not? - (LIGHTOLLER) You say the men on the bridge did not. I may say I discussed that immediately on the "Carpathia" with the look-out men - not necessarily discussed it, but asked them questions whilst their minds were perfectly fresh, and the look-out man told me that practically at the same moment he struck the bell he noticed that the ship's head commenced to swing showing that the helm had been altered probably a few moments before the bell, because the ship's head could not have commenced to swing at practically the same time he struck the bell unless the ice had been seen at the same moment or a few moments before he saw it.^[13]

From this conversation it appears that Lightoller believed *Titanic*'s helm had been altered "distinctly before the report."^[14] Quartermaster Robert Hichens (*Titanic*'s helmsman during the collision) offered a description of the accident that later became the traditional story. He claimed that Murdoch's only order was "hard a-starboard." Though Hichens' version was accepted by the British Inquiry, Fleet's version is most likely correct for reasons that will later become apparent.

There is good reason to believe that Murdoch would have seen ice before the lookouts. He had an advantage that the lookouts did not - binoculars.

Senator Smith. Do you know whether the officer on the bridge had glasses?

Mr. Fleet. Yes, Sir.

Senator Smith. Did you see him using them?

Mr. Fleet. Yes, Sir.^[15]

Though Murdoch had access to binoculars, his 1912 vintage glasses were not much better than the unaided eye at night. Master mariner Richard Jones told the British Inquiry, "...if the glasses are not properly focused the man might as well have a blank tube to look through." [16] Murdoch might have misjudged the distance between the liner and the iceberg, or what was beyond. As an experienced deck officer, Murdoch surely knew how to use binoculars. However, it would not be surprising if his view was blurred. At the British Inquiry, Edwin Cannons questioned the efficacy of binoculars "because they are so easily blurred." [17] Murdoch would have been unable to form a clear mental picture of the berg's size and relative location if binoculars had blurred his vision. His eyes would have deceived him.

When Fleet was asked what he had seen prior to ringing the warning bells, he informed the Court that there was "...a black object" [18] rising "high above the water." [19] The Master mariners that testified in London might have obtained information concerning *Titanic*'s loss from the newspapers, especially descriptions of the iceberg. Nonetheless, Frederick Passow remained baffled as to how the berg (even if it was dark) could escape notice and prevent *Titanic* from safely clearing it: "...I was not there and I did not see what they looked like. But I have never seen an iceberg of that size [probably 60 - 70 feet tall] that you could not see on a perfectly clear night, and far enough off safely to clear it. I have seen a piece, quite a small piece, that you could see some distance off." [20]

There is testimonial evidence that the iceberg was seen much earlier than examiners at the British Inquiry believed. During Fleet's examination in London, he was asked if the iceberg was very small when he first saw it. For a sixty to seventy foot tall iceberg to appear very small, it must have been spotted a great distance away. Fleet gave no answer, but the Attorney-General noticed "an eloquent look." [21] What did this "eloquent look" mean? For a question so central to understanding the *Titanic* story, the "eloquent look" was not properly explained. Coming from a man who claimed that he was unable to provide *any* estimate as to how far away the berg was when initially seen, the "eloquent look" is very suspicious. After a brief series of exchanges between Mersey and the lawyers, Fleet admitted that the iceberg was indeed a small object when he first noticed it. [22] This was also a turning point in Fleet's examination; he was a very uncooperative witness after the "eloquent look" incident. He bitterly concluded his testimony saying, "Is there any more likes to have a go at me?" [23]

Considering Fleet's admission that the iceberg was a small object when first seen, one must wonder why *Titanic* could not clear it. If the iceberg was spotted before the lookouts provided a warning, then *Titanic* should have steamed safely past. A man standing on *Titanic*'s bridge would be expected to see the berg soon enough to easily clear it. Second Officer Lightoller informed the British Inquiry that "I should have seen it in sufficient time to clear it quite sufficient." [24] While Lightoller would not admit that he would have seen the berg before the lookouts, another mariner did. Edwin Cannons, an experienced Master mariner, said, "...We always see everything before the look-out men do." [25] Despite this admission, Cannons insisted that "they had a good look-out there [on *Titanic*]" [26] and "they should have seen the berg in time to clear it." [27] Captain Rostron of the rescue ship *Carpathia* indicated that he and the officers on the bridge identified ice before the lookouts:

(Attorney-General.) You were on the bridge with your Officers, I presume? - (ROSTRON) Yes, the whole time.

And each time, if I follow you, that an iceberg was seen, you picked it up first on your bridge? - Either one of my officers or myself, before the lookouts.

Did you pick it up by sight, or by the naked eye, or with binoculars? - At first with the naked eye.

Do you find that you pick them up better with the naked eye than with binoculars? - It all depends. Sometimes yes, at other times not; it depends.

How was it neither of the lookout men saw it or reported it to you? Why did not they see it before you? - Well, of course, they had all had warning about keeping a look-out for growlers and icebergs, previous to going on the look-out, and on the look-out also. You must understand, unless you know what you are looking for, if you see some very dim indistinct shape of some kind, anyone could take that as nothing at

all - merely some shadow upon the water, or something of that kind; but people with experience of ice know what to look for, and can at once distinguish that it is a separate object on the water, and it must be only one thing, and that is ice. [28]

Thus, no one was able to account for the collision. However, Cannons was able to provide insightful speculation:

(The Commissioner). A perfectly flat sea, no swell, no ripple? - (CANNONS) They are extremely rare in the North Atlantic.

But still such circumstances are sometimes found? - Yes, my Lord.

How far do you suppose you would see an iceberg in those circumstances? - I should say a mile.

A vessel going 22 knots an hour, sighting an iceberg a mile away, can, I suppose, clear it? - Yes.

Now can you explain to me why the "Titanic" did not clear this iceberg? Have you formed any theory? - It is possible for the iceberg to extend under the water a considerable distance from the portion seen above. [29]

Based on the experiences of other mariners on 14 April 1912, it appears almost certain that Murdoch must have identified the ice ahead of *Titanic* well before the lookouts' famous warning at 11:40 p.m. What Fleet and Lee described as "haze" was most likely the field of ice stretching across the liner's path. This is borne from the lookouts' own admission that what they called "haze" did not inhibit their ability to see. Murdoch would have perceived the "haze" to be the massive icefield in the ship's path because he expected to encounter ice around this time. Considering the density of the ice, he certainly would have taken evasive action. Moreover, he knew that if *Titanic*'s New York arrival time were to be maintained, the liner would have to deviate from its present course, turning south to avoid the icefield. Had he not decided to go south, *Titanic* could have become trapped by ice on all sides, steaming for hours to find a clear path out.

To avoid the ice that was parallel to the ship's track, Murdoch would have most logically ordered a turn to port, taking the ship south around the icefield. *Titanic*'s captain, Edward J. Smith, would not necessarily have had to be on the bridge for Murdoch to do this, though the Captain might have been there at the time. When Fourth Officer Boxhall arrived on the bridge after the collision, Smith was already present. Whether Smith was there or not, Murdoch had the authority to change course in response to the ice. Lightoller pointed out in London that "...[h]ad we come across ice, as I just said, in any degree, whether the Commander had been on the bridge or not I should have acted on my own initiative." [30]

Before ordering this course change, Murdoch would have been obliged to inspect the area he wished to enter. Both the alleged "dark" appearance of the iceberg, and its position relative to the ship, become factors. At this point, the berg was probably off *Titanic*'s port bow, maybe $\frac{3}{4}$ mile to a mile away, but certainly no farther. Although Murdoch's location on the bridge cannot be pinned down, if he was standing in the starboard bridge cab, *Titanic* would have appeared to be farther away from the iceberg than it really was. This condition is known as parallax, or "the apparent displacement or difference in apparent direction of an object as seen from two different positions not on a straight line with the object." [31] Parallax might have prompted Murdoch to believe that *Titanic* had a greater distance to clear the iceberg than actually existed.

Realizing that the actual angle needed to clear the berg was slightly less than what he was seeing, Murdoch might have ordered a course change he thought was just sharp enough to pass the berg and the icefield on *Titanic*'s starboard side. A steeper turn, taking the liner farther south, would have been undesirable because of the extra miles it would have added to the trip. Also, the ship did not have an abundant coal supply. Third Officer Pitman told Senator Smith: "...we had to study the coal. We had not the coal to do it [reach 24 knots]." [32] There were plans to drive the vessel at full speed before reaching New York [33], but *Titanic* did not have enough coal for such a sprint. Murdoch would have been hesitant to take *Titanic* farther south than necessary because of the coal situation. Extending the distance to New York would also

have delayed the ship's arrival.

Changing course by turning north would not have made sense. From the numerous ice warnings the ship had received, Murdoch knew that more ice would be found north of *Titanic's* current position than south. Mersey's Final Report cited the "United States Pilot (East Coast)," Part 1 (second edition, 1909, p.34) in describing the threat of ice:

To these vessels one of the chief dangers in crossing the Atlantic lies in the probability of encountering masses of ice, both in the form of bergs and of extensive fields of solid compact ice, released at the breaking up of winter in the Arctic regions, and drifted down by the Labrador current across their direct route. Ice is more likely to be encountered in this route between April and August, both months inclusive, than at other times, although icebergs have been seen at all seasons northward of the parallel of 43° N., but not often so far south after August. [34]

Since ice warnings received by *Titanic* indicated the presence of ice south of 42° N, it would therefore be foolish to turn north where the probability of encountering ice increased. Safety and proximity to New York influenced the decision to change *Titanic's* course to the south upon encountering the icefield.

Although parallax would dictate a sharper turn than was really necessary, Murdoch would not have issued a wide turn because he knew the actual angle to the berg was less than what he perceived. Too a sharp turn would have disturbed sleeping passengers. Thus, Murdoch's course change to port was not "hard a-starboard" (a sharp left turn in 1912) but simply a slight course alteration intended to take the ship farther south. Most likely, he wished to clear the iceberg and the icefield beyond it to his starboard.

Further evidence that *Titanic* made a slow course change to port is found in the testimony of a man whose nearby ship was trapped in ice. When his ship had stopped for the night in a seemingly endless icefield, Third Officer Charles V. Groves of the Leyland Line Freighter *Californian* expected to have an uneventful watch. Captain Stanley Lord ordered Groves to "let him know if [Groves] saw any ship approaching us." [35] Around 11:10 p.m., Groves discerned a steamer "coming up a little abaft our starboard beam." [36] As the ship neared, Groves judged that she was "slowly" changing her bearing to the "south and west." [37] This would have been the course alteration to port that Murdoch ordered before the collision.

Reporting to his captain, Groves remarked that the ship must have been a passenger liner because he could see so many deck lights. Lord instructed the Third Officer to "'Call her up on the Morse lamp, and see if you can get a reply.'" [38] Groves signaled the approaching ship but received no reply. During this time, the steamer under observation seemed to stop and put her lights out. Now, the only visible lights were masthead lights, a red port sidelight, and a few small, indistinct lights. Although *Titanic* had only one masthead light, Groves said there were two. Navigation lights could be misread (from a distance, they might resemble the light pattern of a smaller ship), but he could not have misinterpreted the ship's bearing (which happens to match *Titanic's*). Because of the numerous deck lights, Groves was very certain that the ship he had observed was a passenger vessel.

Lord went to the bridge and looked at the steamer with Groves. The Captain suggested that the ship they were watching was not a passenger vessel and then he retired to his quarters. Groves attempted to raise the stranger by Morse. After failing to receive any acknowledgment from the steamer, Groves paid no more attention to her. Second Officer Herbert Stone later relieved him. Stone and Apprentice James Gibson kept the steamer under observation throughout their watch. They witnessed the mystery steamer fire eight white rockets; *Titanic* fired eight white rockets. They witnessed the mystery steamer disappear around 2:20 a.m.; *Titanic* sank at 2:20 a.m. Even though some claim that *Californian* never saw *Titanic*, there is overwhelming evidence that *Californian* did see the sinking liner.

At 11:40 p.m., the ship Groves was keeping under observation stopped and "put her lights out." [39] Instead of seeing luminous deck lights, Groves saw the masthead lights (again, *Titanic* had only one), a red port sidelight and a few other minor lights. Prior to joining *Californian*, Groves had worked on ships that customarily turned out the lights before midnight, thus encouraging the passengers to go to sleep. However, Groves told examiners at the British Inquiry "when I saw the ice I came to the conclusion that she had

starboarded to escape some ice." [40] Most histories of *Titanic* agree that she struck the iceberg at 11:40 p.m. Is this when Groves "saw the ice"? Groves related his interpretation of the change in the lights:

(Mr. Robertson Dunlop). You have told us the deck lights had gone out? - (GROVES) Yes; when I say that the deck lights had gone out I mean they had disappeared from my view.

They disappeared from your view, and apparently some of them again came into view? -Yes. [41]

After the deck lights had disappeared, Groves saw "[t]wo masthead lights and a side light, and a few minor lights" reappear. [42] Examiners at the British Inquiry were quick to ask the Third Officer if a two point turn to port would have been sufficient to obscure the liner's deck lights from his view:

(Mr. Rowlatt). I want to ask you a question. Supposing the steamer whose lights you saw turned two points to port at 11:40, would that account to you for her lights ceasing to be visible to you? - (GROVES) I quite think it would.

The question was asked a second time:

The Commissioner: A change of two points to port would conceal the lights in the ship?

(Mr. Rowlatt - To the Witness.) Did you say "would" or "might"? I do not want to put it too high? - In my own private opinion it would. [43]

It was concluded that a two point turn to port as a result of Murdoch's "hard a-starboard" order would have obscured the deck lights:

Mr. Rowlatt: He accepted my suggestion, my Lord, that if the vessel did change her course it might shut her lights out; it would shut her lights out.

The Commissioner: I think you are right. What he said was the change of two points to port might, or, as he said, would, obscure the lights. [44]

Turning either toward *Californian* or away from her would have exposed one of *Titanic*'s ends to the freighter. A "hard a-starboard" order would have turned *Titanic* to its left, exposing the stern to Groves. However, Groves saw the other ship's port sidelight. He could only have seen a red port light if *Titanic* had turned right, her bow pointing right at him.

So, if the traditional "hard a-starboard" response to the lookouts warning is true, then Murdoch must also have ordered "hard a-port," turning the bow to the right, towards *Californian*. But Groves only saw ONE turn, not two. When the turn was completed, the ship Groves was observing was no longer brightly lit (a few "minor lights" were visible). Since *Titanic*'s bow sits upright on the ocean floor approximately facing a bit east of north, we know that the ship must have turned to starboard at some point during the night.

It appears likely that Murdoch's course change to avoid the field of ice is what brought *Titanic* in line with the deadly iceberg. Seeing that an iceberg previously outside the liner's track was now coming dead ahead because of the course change, Fleet rang the warning bell. The ship was still completing her turn to port while Fleet was on the phone.

To complete the course change, Hichens would have applied opposite rudder to stop the swing of the stern and steady the ship on its new course. Reverse rudder is implied in a course change; Murdoch would not have given a direct order for Hichens to do so. Since *Titanic*'s steering gear was so massive and would not respond instantly to helm changes, the bow would still swing to port until enough opposite rudder was applied to halt the bow's rotation and steady up on Murdoch's ordered course. The movement of the bow to port that the lookouts noted while Fleet was on the phone, occurred as *Titanic*'s course was being steadied. After the ship was steadied, she was no longer turning to port, and she appears to have been unwittingly aimed directly at the iceberg.

Most traditional sinking theories maintain that *Titanic* was still turning to port as the collision occurred. From the crow's nest, Fleet had a perfect vantage point to see the ship turn away from danger. Though Fleet does not deny the port turn, neither does he positively confirm it. The following exchange in London is rather revealing:

(The Attorney-General). You saw her head turn to port, I think I understood you to say? - (FLEET) Yes.

Was the vessel still turning to port when she struck the berg, can you tell us?

(After a pause.)[\[45\]](#)

Instead of simply answering the question with his typical "Yes," "No," or "I don't know," Fleet provides no answer. This was such an important question in discovering what had happened to *Titanic* that Fleet's failure to render an alacritous response forces one to consider why no answer was given. How truthful is his subsequent response? The answer is not a lie, but neither is it the truth:

(The Commissioner). Do not say if you cannot? - She went to port all right, and the berg hit her on the starboard bow.[\[46\]](#)

Fleet's statements are all true but have nothing to do with the question he was asked. Note his use of the verb "went" (it is the past tense of the verb "go.") His response is not in the same verb tense as "still turning" in the Attorney-General's question, "Was the ship still turning to port?" Fleet's response suggests that *Titanic* was NOT "still turning to port" when she encountered the iceberg. His verb tense implies that the turn to port had already occurred ("she WENT") and was not occurring as *Titanic* struck the berg. Nonetheless, Fleet was given a second chance for confirmation:

(The Attorney-General). She was still going to port when the berg struck her? - On the starboard bow.

Fleet's response here is hardly reflective of confirmation that *Titanic* was still turning to port while she struck the berg; he only indicates where the berg struck, which is not a sufficient answer to the question asked. Moreover, he was given a *third* chance to confirm the ship's turn prior to the collision and once again fails to provide a positive answer:

(Sir Robert Finlay). Did the "Titanic" answer the helm, going to port, while you were still at the telephone? - I don't know.[\[47\]](#)

By this time, Fleet was clearly agitated by the lawyers. Finlay had to coach him through a series of questions before he confirmed once again that the ship was turning while he was on the telephone. Fleet is not artlessly recalling what happened. This can be sensed. It *appears* that he says the ship was turning left, but in reality he never actually confirms it.

Ordering "hard a-starboard" (a two-point turn to port) would have brought the stern and propellers into danger. Positioned near the aft docking bridge, Quartermaster George T. Rowe was in a perfect position to notice contact against the stern. While being examined in the United States, Rowe reported that the stern was never against the ice:

Senator Burton: Do you not think that if the helm had been hard a-starboard the stern would have been up against the berg?

Mr. Rowe: It stands to reason it would, sir, IF [my emphasis] the helm was hard a-starboard.[\[48\]](#)

Though *Titanic* was not turning away from the iceberg when the collision took place, she did not strike the above-water portion of the berg. *Titanic* cleared the portion of the iceberg above the water. As the ship moved past the iceberg, Fleet thought it was a "narrow shave."[\[49\]](#) Unfortunately, the underwater portion of the berg contacted the ship's bottom. On *Titanic*'s bridge, Murdoch must have been hoping that the ship would slip by. When contact with the iceberg was made, he was left with three options: turn to port and

sacrifice the stern/propellers, or turn to starboard and sacrifice the bow, or do nothing, resulting in damage along the liner's entire length. Murdoch had faced difficult situations before and made the correct decision. He was perhaps the most experienced 'Olympic-class' ship-handler on *Titanic*. Unfortunately, there was no "right" decision that could be made on 14 April 1912. The slight course adjustment in response to the icefield ahead was not sufficient to simultaneously clear the iceberg.

As the relief quartermaster when *Titanic* struck the iceberg, Alfred Olliver had many duties, one of which was to trim the lights in the "standing [*sic*? "standard"] compass." Upon hearing the warning bells struck by the lookouts, he left his "errand" for the bridge. Olliver "was just entering the bridge just as the shock came"[50] and managed to catch a glimpse of the iceberg - "about the height of the boat deck; if anything, just a little higher." He was surprised by the iceberg's "dark-blue hue." Since Olliver was on the bridge when the ship struck, he would have been cognizant of any helm orders. Amazingly, his account is completely opposite of the traditional story. Instead of "hard a-starboard," Olliver says the order was "hard a-port":

Mr. Olliver: What I know about the wheel - I was stand-by to run messages, but what I knew about the helm is, hard a-port.

Senator Burton: Do you mean hard a-port or hard a-starboard?

Mr. Olliver: I know the orders I heard when I was on the bridge was after we had struck the iceberg. I heard hard a-port, and there was the man at the wheel and the officer. The officer was seeing it was carried right out.

Senator Burton: What officer was it?

Mr. Olliver: Mr. Moody, the sixth officer, was stationed in the wheelhouse.

Senator Burton: Who was the man at the wheel?

Mr. Olliver: Hichens, quartermaster.

Senator Burton: You do not know whether the helm was put hard a-starboard first, or not?

Mr. Olliver: No, sir; I do not know that. [51]

Examiners at the Senate Hearings and many *Titanic* authors concluded that Olliver was not on the bridge soon enough to hear the "hard a-starboard" order. However, according to Robert Hichens (virtual father of the conventional collision theory) Olliver was standing right next to him when the "hard a-starboard" order was given:

*...The Chief Officer [*sic*] rushed from the wing to the bridge, or I imagine so, sir. Certainly I am enclosed in the wheelhouse, and I can not see, only my compass. He rushed to the engines. I heard the telegraph bell ring; also give the order "Hard astarboard," with the sixth officer standing by me to see the duty carried out and the QUARTERMASTER STANDING BY MY LEFT SIDE [my emphasis]. Repeated the order, "Hard astarboard. The helm is hard over, sir." [52]*

Hichens' testimony indicates that Olliver was located in a position where he was bound to hear the "hard a-starboard" order. Why he failed to hear this command is a mystery. Olliver *should* have heard Murdoch yell "hard a-starboard." If that order was not given, then Hichens' testimony is suspect. Hichens may have seized upon the original course change, which called for starboard helm to turn the ship to port, as a way to twist the story. It would look better for the White Star Line if their officer had given a hard over command in response to the iceberg instead of steadying his course directly at it.

Like Olliver, Fourth Officer Joseph G. Boxhall said he was not on the bridge when three bells were struck. However, he "was just approaching the bridge"[53] from the officers' quarters when the ship struck the

berg and "heard the first officer give the order 'hard a-starboard'..." [54] According to the traditional story, *Titanic* turned to port over a period of 37 seconds. It would have taken Boxhall about 11 seconds (perhaps even less) to walk from his position right outside the officers' quarters to the bridge. Obviously, there is a disparity here; it could not have taken Boxhall 37 seconds to walk from the officers' quarters to the bridge after hearing the warning bells. The iceberg must have been looming very close to *Titanic* when the bells were rung, much closer than the 500 yards suggested in Mersey's Final Report. Even at a brisk pace Boxhall could not reach the bridge before the collision.

While Boxhall said he was not quite to the bridge when the collision occurred, on the other side of the ship Olliver "was just entering the bridge." Therefore, based on the testimony, Olliver was CLOSER to the bridge, and as a consequence, to Murdoch. Quartermaster Olliver was in the perfect position to hear Murdoch shout "hard a-starboard" yet he reported to the American senators that he never heard the order given. Unfortunately, investigators in 1912 gave more weight to Hichens' version of events, possibly because Boxhall claimed that he had heard "hard a-starboard," too. Murdoch's "hard a-port" order in response to striking the berg was further worked out of the *Titanic* history during the British Inquiry (from which the traditional story previously cited is derived). Significantly, Olliver was never called as a witness at the British Inquiry.

Despite the fact that Olliver's testimony is missing from the British proceedings, another member of the crew indicated that *Titanic*'s helm was "hard a-port" during the collision. Able-bodied seaman Joseph Scarrott was on the forecabin when he heard the warning bells. Rushing below deck to inform his mate that something was happening, Scarrott missed the collision with the iceberg. However, when he returned to the open deck, Scarrott saw ice on the starboard side of the "forewell deck." He told Mersey's Board of Trade Inquiry that, "...I saw an iceberg that I took it we had struck. It would be abaft the beam then - abaft the starboard beam." [55] Scarrott revealed that the berg was not very close to them, "it seemed the ship was acting on her helm and we had swung clear of the iceberg." [56] Asked what helm *Titanic* responded to, Scarrott replied, "...port helm. Her stern was slewing off the iceberg. Her starboard quarter was going off the icebergs [*sic*], and the starboard bow was going as if to make a circle around it." [57]

Captain Smith's actions are also strong circumstantial evidence that during the accident *Titanic* turned right under port helm, not left on starboard helm. Following the collision, Boxhall, Smith and Murdoch rushed to the starboard side of the bridge where they peered into the darkness, hoping to catch a glimpse of the iceberg. Boxhall thought he "saw, about a ship's length away from the ship's bridge... a low-lying black mass." [58] The Fourth Officer would have been quite unable to see this "mass" (had it indeed been the iceberg) if the only helm order had been "hard a-starboard." Had the ship made a two point turn to port, the iceberg would not have been "a ship's length away" from the bridge. If the helm had been "hard a-starboard" as Hichens claimed, then *Titanic*'s own stern would have hidden the berg from officers on the starboard side of the bridge. Captain Smith, Murdoch and Boxhall would have gone to the port bridge wing to view the berg if the only helm order was "hard a-starboard."

The traditional collision theory, first developed by Quartermaster Robert Hichens and later corroborated with the testimony of Fourth Officer Boxhall, holds that "hard a-starboard" was the only helm order given. However, the honesty of Boxhall's testimony is doubtful. At the US Hearings, he reported a conversation between Murdoch and Smith after the collision occurred:

SENATOR SMITH: What if, anything, was said by the captain?

*MR. BOXHALL: Yes, sir. The captain said, "What have we struck?" Mr. Murdock [*sic*], the first officer, said, "We have struck an iceberg."*

SENATOR SMITH: Then what was said?

*MR. BOXHALL: He followed on to say - Mr. Murdock [*sic*] followed on to say, "I put her hard a starboard and run the engines full astern, but it was too close; she hit it..."*

*MR. BOXHALL: Mr. Murdock [*sic*] also said, "I intended to port around it."*

SENATOR SMITH: "I intended to port around it"?

MR. BOXHALL: "But she hit before I could do any more."

SENATOR SMITH: Did he say anything more?

MR. BOXHALL: "The water-tight doors are closed, sir." [59]

Murdoch's report was confusing. Boxhall was later prompted to explain what the first officer meant by "porting around" the iceberg. According to the US Senate Hearings published in 1912, "Mr. Boxhall explained on a diagram the meaning of the term referred to." [60] Unfortunately, Boxhall's diagram was not included in the hardbound serial. However, author Leslie Reade elucidated the meaning of "port around" in his book *The Ship That Stood Still*. It "meant that first having put her to port, he would turn her again to starboard to get around the iceberg." [61] Despite the endorsement of some *Titanic* authors, the Fourth Officer's testimony is, shockingly, the only source for Murdoch's "port around" maneuver. Without any corroboration, Boxhall's US Senate Hearings testimony should be treated with caution.

Oddly enough, Boxhall's story changed upon examination during the British Inquiry. His testimony in London suggested that Murdoch never even *attempted* the "hard a-port" maneuver:

(MR. RAYMOND ASQUITH). What conversation took place between them [Murdoch and Smith]? - (BOXHALL) The First Officer said, "An iceberg, Sir. I hard a-starboarded and reversed the engines, and I was going to hard a-port round it but she was too close. I could not do any more. I have closed the watertight doors." The Commander asked him if he had rung the warning bells, and he said "Yes." [62]

Boxhall seems to have indicated that Murdoch wanted "to hard a-port round it" but never issued the order. Because *Titanic* was "too close" to the berg, a "hard a-port" maneuver would have been unsuccessful and was therefore not ordered. The Fourth Officer's British Inquiry testimony reinforced the "hard a-starboard" version Hichens developed, especially since Quartermaster Olliver was not called to the stand.

Surprisingly, Hichens' testimony about Murdoch's conversation with Smith was slightly different than either of Boxhall's versions:

(THE ATTORNEY-GENERAL). Tell us what you heard in the way of command? - (HICHENS) Just about a minute, I suppose, after the collision, the Captain rushed out of his room and asked Mr. Murdoch what was that, and he [Murdoch] said, "An iceberg, sir," and he [Captain Smith] said, "Close the watertight door." [63]

In Boxhall's version, the "hard a-starboard/hard a-port" dialogue comes in between Murdoch's iceberg comment and Smith's watertight door command. Hichens never mentioned the helm order dialogue at either inquiry. The only other person who could have heard the "hard a-starboard/hard a-port" orders was Quartermaster Olliver, whose story also differs from Boxhall's. According to Olliver, Murdoch simply "reported" that the watertight doors were closed. [64] Murdoch did not explain the ship's maneuvering to Smith. Since Olliver was never called as a witness in London, Murdoch's "hard a-port" command was missing from the traditional story. Even though Boxhall's testimony was not corroborated by any other witness, the British Inquiry (and virtually every *Titanic* history written afterwards) accepted it as fact.

The evidence presented indicates that *Titanic* never made an emergency hard left turn of two points to escape the iceberg. Instead, it appears that she made a gentle course change to port that was completed almost simultaneously with the famous "Iceberg, right ahead!" warning. The ship that *Californian's* Groves observed slowly changed its bearing to "the south and west." No survivors noticed a dramatic lean or other indicators of a "hard a-starboard" turn. The course change was likely a shallow turn because Murdoch would have wished to avoid disturbing sleeping passengers. He also wished to avoid the icefield that was surely in *Titanic's* path. Unfortunately, Murdoch's turn to port brought the iceberg right on the ship's bow.

The conclusions are simple. The famous "hard a-starboard" order, so much a part of the movies and myths,

never happened. By the time Fleet rang the bell, *Titanic* was apparently too close for any evasive maneuver to be successful. The evidence indicates that there were less than 15 seconds between the lookouts warning and the collision; Murdoch only had enough time to stop the engines and close the watertight doors. When the berg struck, Murdoch ordered "hard a-port," thereby preventing *Titanic*'s entire bottom from being ripped apart. A few heartbeats later, it was all over. The stern had swung free, but six watertight compartments were opened to the sea. *Titanic*, the allegedly unsinkable ship, foundered 2 ½ hours later.

John Keegan, author of *The First World War*, wrote "Consequences, of course, cannot be foreseen"^[65] - as fitting a conclusion for a history of World War 1 as it is for a history of *Titanic*.

[1] "Titanic" Disaster Hearings Before a Subcommittee on Commerce, United States Senate. Senate Document No. 726, 62nd Congress, 2nd Session (Washington, 1912), 1115. Hereafter cited as "US Hearings" followed by page number.

[2] "Formal Investigation into the Loss of the S.S. Titanic." Evidence, Appendices and Index, (London, 1912), question 17250. Hereafter cited as "British Inquiry" followed by the question number.

[3] British Inquiry, 17256.

[4] British Inquiry, 23801.

[5] "Report of a Formal Investigation into the Circumstances Attending the Foundering on April 15, 1912, of the British Steamship Titanic, of Liverpool, After Striking Ice In or Near Latitude 41° 46' N., Longitude 50° 14' W., North Atlantic Ocean, Whereby Loss of Life Ensued," (London, 1912), 41-42. Hereafter cited as "British Report."

[6] British Inquiry, 21843.

[7] British Inquiry, 21843.

[8] British Inquiry, 23804-23810.

[9] British Inquiry, 21882 - 21884.

[10] US Hearings, 528.

[11] British Inquiry, 21905.

[12] British Inquiry, 23819.

[13] British Inquiry, 14394.

[14] British Inquiry, 14893.

[15] US Hearings, 324.

[16] British Inquiry, 23713.

[17] British Inquiry, 23817.

[18] British Inquiry, 17276.

[19] British Inquiry, 17277.

[20] British Inquiry, 21881.

[21] British Inquiry, 17388.

[22] British Inquiry, 17389.

[23] British Inquiry, 17479.

[24] British Inquiry, 14340.

[25] British Inquiry, 14340.

[26] British Inquiry, 23844.

[27] British Inquiry, 23846.

[28] British Inquiry, 25433 - 25437.

[29] British Inquiry, 23836 - 23840. See also "[White Paper on the Grounding of Titanic](#)," by David G. Brown and Parks E. Stephenson.

[30] British Inquiry, 14389.

[31] Merriam Webster's Collegiate Dictionary, 10th ed., s.v. "parallax."

[32] US Hearings, 273.

[33] US Hearings, 3.

[34] British Report, 34.

[35] British Inquiry, 8133.

- [36] British Inquiry, 8135.
- [37] British Inquiry, 8163 - 8166.
- [38] British Inquiry, 8182.
- [39] British Inquiry, 8211.
- [40] British Inquiry, 8265.
- [41] British Inquiry, 8489 - 8490.
- [42] British Inquiry, 8484.
- [43] British Inquiry, 8223 - 8224.
- [44] British Inquiry, 8267.
- [45] British Inquiry, 17296.
- [46] British Inquiry, 17297.
- [47] British Inquiry, 17472.
- [48] US Hearings, 523.
- [49] US Hearings, 321.
- [50] US Hearings, 526.
- [51] US Hearings, 527.
- [52] US Hearings, 450.
- [53] US Hearings, 227.
- [54] US Hearings, 228.
- [55] British Inquiry, 351.
- [56] British Inquiry, 352.
- [57] British Inquiry, 355.
- [58] British Inquiry, 15499.
- [59] US Hearings, 229 - 230.
- [60] US Hearings, 932.
- [61] Leslie Reade, The Ship That Stood Still, ed. Edward de Groot (New York: W.W. Norton & Company, 1993), 25.
- [62] British Inquiry, 15355.
- [63] British Inquiry, 1025.
- [64] US Hearings, 531.
- [65] John Keegan, The First World War (New York: Alfred A. Knopf, Inc., 1998), 426.

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