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THE LESSONS OF MANILA BAY.

The brilliant operations of the American fleet in Manila Bay have served to emphasize several well established principles of naval warfare, the truth of which has been recognized through many centuries of struggle for the mastery of the seas. We believe it was Napoleon who said that Providence was on the side of big battalions. That may be true on land, but the history of sea fights without number has taught us that Providence is on the side of forethought, good judgment, discipline, dash, well-timed audacity and above all straight shooting. All of these qualities were conspicuously present in the compact little squadron of half a dozen ships which in the gray dawn of that eventful morning circled around the bay before the astonished gaze of the enemy and at a predetermined hour and on a predetermined plan began to blot the Asiatic fleet of Spain out of existence.

The two most important facts brought out by the Manila fight are the ability of modern ships, even of the unarmored types, to engage land fortifications, and the incomparable value of accurate gunnery as a means of defense against the shell-fire of the enemy. The astonishingly small casualties to our ships and their crews during several hours of fighting is not all to be credited to poor marksmanship on the part of the Spanish gunners. It was largely the result of the rapidity and deadly accuracy of the storm of shells thrown by our vessels, which rendered the gun positions untenable and probably disabled the crews faster than they could be placed at the guns. A crack marksman behind a modern high-powered rifle is worth whole inches of armor protection to the ship on which he serves, and it begins to look as though the theorists might prove to be correct who contend that modern fights will be decided by killing off the gun crews rather than by penetrating belts and demolishing unarmored ends and upper works.

Not less remarkable is the fact that half a dozen unarmored cruisers should have run past shore batteries of considerable strength and blown out of existence a fleet that held a strong position under the guns of a powerful battery. The supreme confidence with which this supposedly impossible feat was undertaken is only equaled by the splendid audacity and cool deliberation with which it was carried out. If the Spanish fleet was taken unawares, it was because its admiral judged—as by all the canons of naval warfare he was justified in doing—that the American fleet of cruisers would never dare to undertake an attack for which only heavily armored battleships are supposed to be available. The success with which the fortifications in Manila Bay were attacked is certain to enhance the value of the swift cruiser as against the more cumbersome battleship. The danger will be that critics will lose sight of the fact that the forts and probably the guns were not of the latest description, and will push too far the lessons that have been taught by the reduction of Cavité arsenal.

The battle has shown again the absolute necessity of removing from a warship every piece of woodwork that can possibly be spared. Our shells loaded with common brown powder served to set fire to the Spanish ships early in the fight, and had the shells been loaded with high explosives, the conflagration would have started sooner and burnt even more fiercely. Fires were started in two of our ships by exploding shells, and, though they were speedily extinguished, they emphasize the necessity for rigidly excluding all unnecessary combustible material from a warship.

The fight again demonstrated the futility of torpedo boat attack when carried out by daylight and in the open. Three separate attempts were made by these little craft to run out from the harbor and dash within firing range of the American ships, but in each case they were speedily crippled by the 6-pounder and 1-pounder rapid-fire batteries of our cruisers. The only possible danger from torpedo boats by day would be when the attack was made by a larger fleet of boats than a ship's rapid-fire guns could cover. In such a case the survivors would probably sink one or two ships of a fleet before they were themselves destroyed. Attacks by isolated boats, such as were made by the Spanish, were necessarily as futile as they were splendidly heroic.

And this suggests the reflection that mere courage and heroism can never atone for the lack of skill and efficiency. Had the Spanish crews been as skilled as they were courageous, our ships and men would never have come so scathless out of the fight. It is to the combination of both qualities in our navy that we must look for an explanation of the amazing disparity in the losses sustained on this memorable day.

We close with mention of a pleasing episode, one that is highly characteristic of the man and in accordance with the best traditions of the navy. We refer to the message which, according to an Associated Press dispatch, was sent by Commodore Dewey to the admiral of the beaten fleet: "I have pleasure in clasping your hand and offering my congratulations on the gallant manner in which you fought." True courage is ever magnanimous; and every acknowledgment of the

undoubted bravery of the vanquished is an indirect tribute to the courage and skill of the victor.

FOREIGN EXPERT OPINION ON THE "MAINE" DISASTER.

It is gratifying, though not surprising, to note that the English technical press has given a practically unanimous indorsement of the finding of the Naval Court of Inquiry on the "Maine" disaster. At a time when sentiment or prejudice is dominating men's minds and rendering them incapable of cool judgment, it is to the professional expert that we must look for opinions that count for much. To him the political aspects of such a disaster as happened to the "Maine" are altogether subordinate to its scientific and technical side, and it is safe to say that the findings of our board, as against those of the Spanish commission, would not be indorsed except after an exhaustive and impartial review of the evidence.

The Engineer, of London, says: "The evidence appears to have been taken with great care and with the utmost impartiality. Whether the officers constituting the court had or had not any preconceived notions, we cannot say; if they had, they carefully concealed the fact. Indeed, throughout the whole of the evidence we fail to find expressions of opinion on the part of the witnesses, and the court carefully abstained from putting leading questions. . . . The principal value of this most elaborate and temperate inquiry lies in the lessons that can be drawn from it. It is not possible to read what the divers have to say, or to examine the sketches which they have made, without arriving at the same conclusion as the board."

The other leading technical journal, Engineering, says: "The court was of opinion that this forcing up of the bottom of the ship could only be caused by the explosion of a mine situated beneath the vessel; and at first sight it may appear difficult not to accept this view." It suggests, however, another possible way in which the bottom plating could have been bent into an inverted V, by referring to the fact that after the decks had been blown out the bow sank, while the after half of the ship was still water-borne. This, Engineering suggests, would bend the bottom plating somewhat into the shape in which it was found; but it frankly admits that "it may be objected that this is a somewhat bold flight to account for an upheaval of the keel 34 feet in such a way, and we only advance the hypothesis as possible rather than probable." It concludes by stating that "whatever may have been the primary cause of the terrible catastrophe of February 15, there is one fact that stands out with remarkable prominence. The conduct of the whole ship's company was worthy of the best traditions of the American navy; which is as high praise as could well be given. The suddenness of the catastrophe, far more trying to discipline than the time of battle, the rapidity with which the vessel sank, the continuance of smaller explosions after the great outburst, the darkness of the night, and the fact that many of the crew were asleep, all tended to put the morale of the ship's company to as severe a test as could well be imagined; but throughout not a man failed in his duty."

Industries and Iron, London, has devoted two editorials to the subject, the second of which is called forth by the publication in its columns of a letter from a distinguished English engineer indorsing the findings of the "Maine" Court of Inquiry. Speaking of this letter, which we republish on another page, the journal in question says: "Our correspondent in opening his letter remarks that he is 'an old and experienced engineer,' and that he is also 'an expert on explosives.' Thus modestly one of the greatest living authorities, whose name and fame are known the world over, chooses to describe his experience and abilities. We regret that the world at large is precluded from appreciating the high value and true weight of his opinions, owing to the unfortunate circumstance that etiquette and policy require the suppression of his great name."

After discussing the points brought out in the letter, our contemporary concludes as follows: "We believe, after extremely careful consideration of the evidence, that the destruction of the 'Maine' was premeditated, that it was caused from the outside, and that if the Spanish government itself must be acquitted from actual participation in the dastardly deed, then the blame of the crime must be borne by some person or persons not remotely connected with the government. That such a disaster should have occurred at all is dreadful enough, but that it should occur through treachery when the vessel was resting in every confidence under a friendly nation's protection, is more terrible. America would have had our sympathies had the destruction of the 'Maine' proved to be accidental, and now that it has, by evidence and calm judgment, been proved to be due to a willful and premeditated act, our detestation and horror of the foul deed is absolute."

These are fairly representative quotations from the English technical journals, all of which have commented at considerable length upon the disaster, and they indicate the practically unanimous approval of