

LONDON NAVAL TREATY OF 1930

ABSTRACT OF TESTIMONY ON CERTAIN
SALIENT QUESTIONS OF THE LONDON
NAVAL TREATY GIVEN BEFORE THE
COMMITTEE ON NAVAL AFFAIRS
OF THE SENATE

MAY 14 TO 29, 1930



PRESENTED BY MR. HALE
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LONDON NAVAL TREATY, 1930

The Senate Naval Affairs Committee has held hearings extending over the period from May 14 to May 29.

The purpose of these hearings was to bring out for the use of the Senate and for the information of the country the effect of the London treaty on the national defense of the country, and the reasons for making the radical change in our naval policy involved in the treaty.

The testimony taken, comprising some 500 pages, is now available in printed form.

The following 25 witnesses appeared before the committee and are listed below in alphabetical order for ready reference:

- Adams, Hon. Charles F.: Secretary of the Navy.
- Bristol, Rear Admiral Mark L.: Chairman of the executive committee of the General Board since March, 1930. Commander in chief, Asiatic Fleet, September, 1927, to September, 1929. Commanded naval forces in Near East and high commissioner to Turkey January, 1919, to May, 1927.
- Chase, Rear Admiral Jehu V.: Member of General Board. Assigned as next commander in chief of United States Fleet. Commanded Battleship Division Four September, 1926, to July, 1928.
- Cole, Admiral William C.: Commander Scouting Fleet. Commanded Battleship Division Four July, 1928, to May, 1929. Chief of Staff, United States Fleet, August, 1923, to October, 1925.
- Coontz, Rear Admiral Robert E. (retired): Technical expert general at Washington conference. Former commander in chief United States Fleet August, 1923, to October, 1925. Chief of Naval Operations October, 1919, to July, 1923.
- Day, Rear Admiral George C.: Member of General Board since September 13, 1929. Commanded submarine division, Pacific, September, 1923, to July, 1925. Commanded Light Cruiser Division June, 1927, to July, 1929.
- Hopburn, Rear Admiral Arthur J.: Chief of Staff, United States Fleet. Assigned to Naval War College. Director Naval Intelligence July, 1926, to September, 1927. Naval adviser Geneva conference, 1927. Member naval technical staff at London conference.
- Hough, Rear Admiral Henry H.: Member General Board since March, 1928. Commanded Yangtse Patrol October, 1925, to December, 1927. Director Naval Intelligence December, 1923, to September, 1925.
- Hughes, Admiral Charles F.: Chief of Naval Operations and thereby ex officio president of General Board since November, 1927. Commander in Chief United States Fleet, September, 1926, to November, 1927. Commander in chief Battle Fleet, October, 1925, to September, 1926. Director Fleet Training July, 1924, to October, 1925.

- Jones, Rear Admiral (retired) Hilary P.: Naval adviser at London Conference. Delegate to Geneva Conference of 1927. Naval adviser at Geneva Preparatory Disarmament Commission since its inception in 1926 with exception of the fourth session, to which the United States did not send the regular delegation. Former commander in chief of United States Fleet.
- Leahy, Rear Admiral William D.: Chief of Bureau of Ordnance since October, 1927. Commanded battleship *New Mexico* June, 1926, to October, 1927.
- McLean, Rear Admiral Ridley: Budget Officer Navy Department since August, 1929. Commander submarine divisions, Battle Fleet, June, 1927, to June, 1929. Director Naval Communications April, 1924, to June, 1927.
- Moffett, Rear Admiral William A.: Chief of Bureau of Aeronautics since July, 1921. Member technical staff at London Conference. Member Technical Staff at Washington Conference.
- Nulton, Rear Admiral L. M.: Commander in chief Battle Fleet since May, 1929. Commander Battleship Divisions, Battle Fleet, June, 1928, to May, 1929. Commander Battleship Division Three, June, 1923, to January, 1925.
- Pratt, Admiral William V.: Commander in chief United States Fleet. Assigned as next Chief of Naval Operations. Technical Expert-General at Washington Conference. Naval adviser at London Conference. President Naval War College, 1925-1927.
- Pringle, Rear Admiral J. R.: President of Naval War College. Recently assigned command Battleship Division Three. Chief of staff Battleship Divisions, Battle Fleet, and chief of staff Battle Fleet, October, 1925, to September, 1927. Member technical staff at London Conference.
- Reeves, Rear Admiral J. M.: Member of General Board since June, 1929. Command aircraft squadrons, Battle Fleet, October, 1925, to May, 1929. Duty Naval War College August, 1923, to May, 1925. Naval adviser Geneva Conference of 1927.
- Robison, Rear Admiral Samuel Shelburne: Superintendent Naval Academy since June, 1928. Commander in chief United States Fleet October, 1925, to September, 1926. Commander in chief Battle Fleet June, 1923, to October, 1925.
- Rodgers, Rear Admiral (retired) William L.: Member Advisory Committee at Washington Conference. Commander in chief Asiatic Fleet December, 1918, to September, 1919.
- Smyth, Capt. W. W.: Assistant to Chief of Bureau of Ordnance. Naval adviser Geneva Conference of 1927. Member naval technical staff at Washington Conference.
- Standley, Rear Admiral William H.: Assistant Chief of Naval Operations since May, 1928. Director fleet training November, 1927, to May, 1928. Command of U. S. S. *California* February, 1926, to October, 1927. Director war plans July, 1923, to February, 1926.
- Taylor, Rear Admiral M. M.: Director War Plans since July, 1929. Commander Scouting Fleet July, 1928, to June, 1929. Commander Battleship Division Three June, 1927, to June, 1928. Director fleet training September, 1925, to May, 1927. Commander control force May, 1923, to September, 1925.

Train, Commander Harold C.: On duty with General Board. Naval adviser at Geneva Conference. Member naval technical staff at London Conference. Technical expert at Geneva Preparatory Disarmament Commission at third, fifth, and sixth sessions 1927, 1928, and 1929.

Wiley, Rear Admiral (retired) H. A.: Former commander in chief United States Fleet November, 1927, to May, 1929. Duty with General Board October, 1925, to November, 1927. Commanded battleship divisions Battle Fleet May, 1923, to October, 1925.

Yarnell, Rear Admiral H. E.: Chief of Bureau of Engineering. Command aircraft squadrons Scouting Fleet April, 1924, to September, 1926. Staff Naval War College September, 1926, to July, 1927. Command of U. S. S. *Saratoga* November, 1927, to September, 1928. Member of naval technical staff at London Conference.

The testimony gathered from the above 25 witnesses covers some 500 printed pages which is now available for the use of the Senate and the public. The following shows the gist of the naval testimony on certain salient questions which arise in connection with the treaty.

OBJECTIVE OF LIMITATION OF NAVAL ARMAMENTS

Rear Admiral JONES: In approaching the subject of reduction and limitation of naval armaments, there are two fundamental objectives:

1. Peace objective: Reducing the probability of war and thereby helping to promote universal peace.

2. Economic objective: Materially reducing the burden of taxation.

Secretary ADAMS: The prime objectives of the United States delegation to the London conference:

1. To cooperate with other delegations in terminating naval competition by limiting all classes of warships.

2. To assure equality of combatant naval strength for the United States with Great Britain.

3. To arrange a satisfactory relation between our Navy and that of the Japanese.

4. To bring about reduction in tonnage wherever practicable.

Admiral PRATT: The London treaty should be judged on three governing factors:

1. Good will.

2. Naval effectiveness.

3. Costs.

The weights to be given the three factors depend upon—

(a) Whether a country is faced with immediate need for preparing for war.

(b) Whether a country is in a state of peace, with a hope of continuing this state of peace

BASIS FOR DETERMINING PARITY

PARITY MEANS PARITY IN COMBATANT
NAVAL STRENGTH

Subscribed to by—

Secretary Adams.

Admiral Pratt states this
and carries it further.

Rear Admiral Jones agrees
to this but brings in other
elements.

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Secretary ADAMS: Combatant naval strength seems to be the only means of comparison. If you go outside this and take into account such national assets as merchant marine or military bases; such other balancing assets as fuel, population, wealth, assured food supplies, and raw materials for construction must be considered, and a measure of agreement to stop competitive building would never be reached. Parity is equal fighting force in all cases and can not include the above without giving Great Britain the right to consider many things on our part.

The course of trade in time of war can not be foretold. How supplies are to reach this country in time of war will be a matter to be arranged in some ways which are not strictly naval ways. Our shipping will probably be largely turned over to neutrals. The direction of shipping routes as they exist to-day may not be

IN DETERMINING PARITY, COMBATANT
STRENGTH ALONE SHOULD NOT BE
CONSIDERED

Subscribed to by—

Rear Admiral Jones.

Rear Admiral Coontz.

Rear Admiral Pringle.

Admiral Hughes.

Vice Admiral Colo.

Rear Admiral Standley.

Rear Admiral Taylor.

Admiral Nulton.

Rear Admiral Chase.

Rear Admiral Bristol.

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Rear Admiral JONES: United States must have equality of opportunity in areas vital to its physical and economic life. In seeking equality of opportunity where its trade lines and interests lie, United States needs certain types of units because of geographical position or lack of bases. These factors necessitate carrying out unit operations in distant areas, and operations at long distances from own bases and near those of possible enemies. In seeking parity these factors must be considered.

Rear Admiral COONTZ: Combatant strength alone is not all that should be considered. Should be careful to get all we need outside the combatant fleet. Should build ships we can use, not only with the battle fleet, but for other needs, such as defending commerce and keeping open lines of communication.

Rear Admiral PRINGLE: Cruisers are needed outside the battle

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necessary in war. The problem goes beyond naval knowledge and into other problems.

Admiral PRATT: Supported the view of Secretary Adams and further stated that in effecting actual parity and in securing desirable ratios in combatant ships the problem can be looked at from two viewpoints: (a) "Naval sea strength in the broad"; (b) "fleet combat strength." Naval sea strength in the broad is not permissible, a more restricted view must be taken, and we must view our problem from the angle of fleet combat strength, which is a definite measurable quantity. Naval sea strength in the broad introduces intangible quantities the insertion of which others will easily class as superiority, and which in truth can never be measured accurately.

If during peace we inject the question of trade routes, either of the enemy to be broken down, or our own to be protected, can we hope to secure parity in naval combatant types which are the subjects of limitation? The arguments which can be advanced by one set of claimants, in opposition to the views of another, are so many that the problem becomes too complicated for solution and amicable agreement. An agreement along these lines may be forced, but will probably not be amicable.

The measure of fleet combat strength is a tangible thing; it can be made with reasonable accuracy, and in the endeavor to attain parity between nations in naval strength, it offers probably the best road along which limitation can travel and arrive at agreement. It was the estimate of fleet combat strengths which was used in attempting to arrive

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fleet for exercise of control of sea communications by dispersed operations. In regard to basing equality with Great Britain on combatant equality of the fleets, the most important issue is that the United States preserve to herself the right to build within the imposed limits the ships best suited other own needs and necessities, and that each nation should have the right to do the same. In arriving at parity we should consult our military needs.

Admiral HUGHES: Only aim of the United States should not be to reach combat equality, but we have to protect our commerce and maintain ourselves at sea. The ships so required are combat ships but not battle line or fleet ships. United States should build as she chooses within allowed tonnage limitations and other nations should be allowed the same privileges.

Vice Admiral COLE: Combat parity between the fleets alone is not all that is essential to parity. Bases in area of operation are important. Nations should be permitted to build as they see fit within the tonnage limitations.

Rear Admiral STANDLEY: Protection of commerce and interests should enter into considerations as well as combat force when seeking parity. A war may be settled without any battle of fleets. During entire life of a war our commerce and trade routes must be protected and war making material brought into the country. This requires not only a combat force which must be ready at all times, but an additional force to patrol our trade routes. The naval strength of a country is made up of combat ships, merchant marine and bases. Parity in combat units does not

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at agreement through the instrument of this treaty.

The purpose of the Navy in time of peace is to train for war. Our Navy is one of the best guarantees of peace that we have. The purpose of the Navy in time of war is to destroy the enemy's sea power. If that is accomplished you can maintain your will on the seas.

The cruisers of the United States should not be scattered, but the whole fleet should be concentrated as a combatant unit.

Rear Admiral JONES: Parity in actual combatant tonnage is the only practical basis for agreement. This has always been the attitude of the United States in all conferences between two countries. (See opposite column.)

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give parity in sea power. Parity in merchant marine does not give parity in bases. Parity in everything is essential. Combat parity alone can not bring real parity as far as the domination of the sea is concerned.

Rear Admiral TAYLOR: Parity in sea power can not be acquired by limitation in but one category of sea power. Sea power is made up of navy, merchant marine, and bases. In London treaty parity was based on combat parity and no attention paid to the task thrown on the navy by lack of bases and merchant marine, and need for the protection of trade. Each nation should build as it sees fit within the set tonnage limits.

Admiral NULTON: Combat parity in the combat fleet alone should not be the basis in seeking parity. Ultimate determination is combined resources. Large proportion of war activities are in protection of commerce, destruction of enemy commerce, protection of own lines of communication, scouting, etc. Each nation should have the right to build as it sees fit within the tonnage limitations allotted.

Real Admiral CHASE: Duplication of ships to obtain parity is fundamentally unsound. Identical ships do not fill the naval needs of two nations equally well, on account of different conditions under which they operate. Fighting strength or naval strength is not susceptible of exact computation. Only equitable means of establishing parity are: (1) Each nation should be allowed equal amounts of tonnage from which to construct its category of ships under consideration; (2) Each nation must be free to utilize its tonnage allotted in the manner it deems will best meet its

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particular needs. This does not prevent imposition of limits as to maximum size of unit or maximum gun caliber.

Rear Admiral BRISTOL: Combat parity between the two fleets is not the only basis necessary for parity. Our commerce carried in neutral bottoms would require that our cruisers be at different places to see that no advantage was being taken to interfere with our trade in neutral bottoms within the limits established by international law.

DOES THE TREATY GIVE PARITY BY THE END OF 1936?

THE TREATY GIVES PARITY WITH GREAT BRITAIN

Subscribed to by—
Secretary Adams,
Admiral Pratt,
Rear Admiral Yarnell,
Rear Admiral Moffett.

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Secretary ADAMS: The treaty gives parity with the fleet of Great Britain in every category. Under the treaty we can get parity if we want to. We have secured parity in fighting strength. It is possible that we have not created a Navy so satisfactory to us as the Navy might be if it has a larger number of 8-inch gun cruisers. Effort was made to get twenty-one 8-inch-gun cruisers. United States delegates believed it advantageous to postpone completion of two 8-inch gun 10,000-ton cruisers until after 1936 in order to profit by experience gained in building the preceding 16 and get better ships. Delay in laying down the last 8-inch-gun cruisers was of interest to Great Britain, but she did not insist upon it. It was agreed as a compromise to Japan as Japan was insisting on a 10:7 ratio. British claims were based partly on their need of having cruisers in various parts of the world, far-flung possessions, naval bases, and probably that they have a merchant marine. Ultimately

THE TREATY DOES NOT GIVE PARITY WITH GREAT BRITAIN

Subscribed to by—
Rear Admiral Hepburn,
Admiral Hughes,
Rear Admiral Reeves,
Rear Admiral Hough,
Rear Admiral Day,
Vice Admiral Cole,
Rear Admiral Standley,
Rear Admiral Wiley,
Rear Admiral Bristol.

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Rear Admiral HEPBURN: Treaty does not give us parity by the end of 1936.

Admiral HUGHES: If the United States elects to build eighteen 8-inch gun ships she will not have parity in tonnage.

Rear Admiral REEVES: During the life of the treaty Great Britain can have 19 subcategory (a) cruisers to 16 for the United States. The treaty gives Great Britain a superiority in 6-inch gun cruisers. At the expiration of the treaty Great Britain can have 425,350 tons of cruisers built and building; the United States 337,600 tons; Great Britain having a superiority of 87,750 tons. This is arrived at by considering that the tonnage for which replacements are being built is not scrapped at that date. The United States will be in an inferior position. Great Britain has superiority in battleships. Our only chance for superiority since Washington Treaty is by replacement of new ships for old ones. Placing more armor on decks of *Colorado*, *West Virginia*,

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the United States will have superiority over Great Britain by three 8-inch-gun cruisers.

Admiral PRATT: If it were not for the fact that two of the 8-inch-gun cruisers can not be completed until after 1936, the United States would have better than 10 : 10 : 7 at the expiration of the treaty. If United States Navy were equal, ton for ton, to the British we would have equal combat strength so far as it is humanly possible to obtain it. If it be granted that the total figures reached in the treaty mean parity, in 1936 we are one year shy on one 8-inch-gun cruiser and two years shy on another 8-inch-gun cruiser of total completion, but both have been started. The 8-inch-gun ship is better than the 6-inch-gun ship, but if we build all 8-inch-gun ships and the British all 6-inch-gun ships, we would have superiority, while we seek parity. The treaty does not reduce the tonnage of a single ship. He has never agreed to a 7,000-ton ship. To get an option to take 339,000 tons of cruisers, which is absolute equality of tonnage, and never reduce the size of a single ship below 10,000 tons, is a better bargain than the General Board's proposition.

Rear Admiral YARNELL: By strengthening the decks on the *West Virginia*, *Colorado*, and *Maryland* the capital ship fleet of the United States will be about equal to the British. If these decks were strengthened and we built a *Rodney*, we would be superior.

We have parity under the treaty. We are allowed to build up by the end of 1936. Building up along the lines taken by Great Britain is the price of parity.

Rear Admiral MOFFETT: London treaty gives us substantial

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and *Maryland* would be a patch job; and would not bring them to equal the *Rodney* and *Nelson*. This treaty brings us nearer parity.

Rear Admiral HOUGH: Treaty does not give parity. In capital ships we have inferior tonnage and are left with one lone 12-inch gun ship which has no place in a fighting line composed of 14-inch and 16-inch gun ships. In cruisers we can not obtain parity during the life of the treaty because we can complete but sixteen 8-inch gun ships. If we should build fifteen 8-inch gun ships we could get parity in tonnage but we would also have a lot of ships which we do not consider best suited to our needs and would not have the sense of national security, and therefore, not parity. This would also be true if we were allowed to build eighteen 8-inch gun cruisers before the end of the treaty. The treaty method of scrapping battleships brings us near parity.

Rear Admiral DAY: Treaty does not give parity with Great Britain. Battleship situation is near parity. We have not parity in cruisers, but could get a ton-for-ton parity in ships we do not need.

Vice Admiral COLE: The treaty arrangement does not give parity by end of 1936.

Rear Admiral STANDLEY: Under the treaty, England remains mistress of the seas. In the matter of battleships we have not parity. The four battleships scrapped by Great Britain had a speed of 21 knots. The speed of a fleet is the speed of the slowest unit, therefore the speed of the British fleet is now 23 knots. Our fleet speed is not altered. Speed is a decided tactical advantage, and the British immediately gain an advantage of 2 knots. Speed per-

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parity with Great Britain. Both limitation and reduction are accomplished. United States would not get parity until 1942, while this treaty gives parity in battleships as soon as the designated battleships are scrapped.

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mits the fast fleet to decide whether it will accept battle, and to accept battle only on terms advantageous to itself.

Rear Admiral WILEY: The treaty does not in any sense give the United States parity with Great Britain. Great Britain scrapping 5 capital ships and the United States 3 does not give parity. The slowest British battleship now has 23 knots, and our fleet speed is 21 knots. We have one lone 12-inch-gun ship.

Rear Admiral BRISTOL: We do not get parity with Great Britain; if it were only a question of a difference of a few tons, a few cruisers one way or the other, and not a question of establishing a precedent in regard to the definition of parity, it amounts to little. In battleships we have practical parity, although we are left with one lone 12-inch-gun ship. On the theory that we can have 17 cruisers on January 1, 1937, Great Britain can, on the same theory, have 86,000 tons of extra cruisers.

WHAT IS THE RELATIVE VALUE OF THE 6-INCH AND THE 8-INCH-GUN CRUISER TO THE UNITED STATES

GENERAL STATEMENT OF THE SITUATION BY SECRETARY ADAMS

There has been a diversity of naval opinion as to the relative merits of the 6-inch and 8-inch-gun cruisers. The 30,000 tons involved is less than 10 per cent of the cruiser fleet allowed by the treaty, and less than 3 per cent of the total fleet allowed by the treaty. The question is one of expert opinion where there is real doubt. It is wrong to say that the 6-inch-gun ship is not a ship we desire. Naval opinion supports the belief that for many fleet purposes the 6-inch-gun ship is highly desirable. The advantage of the 8-inch-gun ship is possibly for detached duty. The 8-inch-gun ship has not been tried in battle. It has a frail hull not armored in any sense. She is subject to damage by fire from all sorts of guns. The latest design of 8-inch ship has quite an element of armor. It is difficult to evaluate properly between the 6-inch and 8-inch-gun ships. At every different range and condition of visibility the problem changes. To-day when different armaments are likely to be faced, a 6-inch gun is better than an 8-inch gun. The 6-inch gun can be got on the mark quicker, can fire twice as fast as an 8-inch, and is more effective. For many purposes the 6-inch-gun ship is superior. The General Board recognizes the advantage of the 6-inch-gun ship over the 8-inch-gun ship for certain purposes. Inside of 10,000 yards the 6-inch-gun ship is better than the 8-inch on account of rapidity of fire and other reasons. At longer ranges the situation is reversed.

FAVORING THE 6-INCH-GUN SHIP

Subscribed to by—
Admiral Pratt.
Rear Admiral Yarnell.
Rear Admiral Hepburn.
Rear Admiral Moffett.

FAVORING THE 8-INCH-GUN SHIP

Subscribed to by—
Rear Admiral Jones.
Rear Admiral Pringle.
Captain Smyth.
Commander Train.
Rear Admiral Chase.
Rear Admiral Bristol.
Admiral Hughes.
Rear Admiral Reeves.
Rear Admiral Hough.
Rear Admiral Day.
Rear Admiral Leahy.
Vice Admiral Cole.
Rear Admiral Standley.
Rear Admiral McLean.
Rear Admiral Wiley.
Rear Admiral Taylor.
Rear Admiral Coontz.
Admiral Nulton.
Rear Admiral Robison.

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Admiral PRATT: Is not against the 8-inch-gun ship. The 8-inch gun is a better shooting gun than the 6-inch. Would like to have a number of 8-inch-gun ships. The 8-inch gun is no more useful in a night attack than a 12-inch gun; 8-inch gun not as fast shooting as the 6-inch. Must have 8-inch-gun cruisers to send off long distances, but the 6-inch-gun cruisers are needed for night situations and to defend the fleet in a body. In case of a raid the screening ships must fire rapidly. The 8-inch-ships can not do it, but must be protected like a battleship. It is not self-protecting. In a long range action between the 6-inch and the 8-inch gun ship, the 8-inch would defeat the 6-inch; but at night the result would go the other way on account of the rapid fire of the 6-inch. The 6-inch-gun ship is superior to the 8-inch-gun ship close in and at long range. If 6-inch guns are mounted in turrets, as should be done, the 6-inch gun will fire twice as fast as the 8-inch. The reason is because the 6-inch gun is hand loaded. The 6-inch-gun cruiser is preferred close in to the fleet.

Rear Admiral YARNELL: Is aware of the fact that the department has a design for putting better armor on our 8-inch-gun cruisers; unfortunately, we have eight ships not so armored, and which could be defeated in close action by ships with 5-inch guns. The present 8-inch-gun ships have practically no armor, while, although the 5-inch ship could not be armored against them, would have the advantage of volume of fire, especially at night or in misty weather. The 8-inch-gun ship would be superior at ranges over 18,000 yards. The

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Rear Admiral JONES: Considering the necessity of United States to operate units at long distances from home bases, this country required vessels of great sea endurance, offensive power, and as much protection as possible. The convoy system will probably be necessary in war. The escort of a convoy can not run away. She must fight in order to allow the convoy to scatter and escape, therefore the unit must be powerful enough to meet whatever will be brought against her with some hope of success. Besides the material, we must give the men on those ships a fair chance. In case of a war in the western Pacific our lines of communication west of Hawaii must be kept open for 5,000 miles to the Philippines. This requires the strongest units we are allowed to build under the Washington treaty. Eight-inch-gun ships have the greatest power of survival, particularly in working in distant areas. The use of 6-inch-gun cruisers is in the protective screen for antidestroyer and submarine attack, in close range where rapidity of fire counts. The 8-inch-gun 10,000-ton cruiser is far superior to the 6-inch-gun cruiser where you have to operate in distant areas, be alone, escort convoys through infested areas.

Rear Admiral PRINGLE: The cruiser with the battle fleet is intended to back up your own destroyers going in to attack enemy battle fleet, and to break up attacks by enemy destroyers on your own battle fleet. Must be armed to deliver a rapid and well-directed fire. Should carry a gun a little in excess of that carried by the destroyer. Should carry twelve 6-inch guns, and should be

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6-inch gun is as effective within 18,000 yards as the 8-inch gun against an unarmored ship, but we are to put more armor on our future 8-inch-gun ships.

Rear Admiral HARBURN: The injection of the 8-inch-gun cruiser into the armaments of the world is to the distinct disadvantage of the United States. We would be much better off if there were no 8-inch-gun ships in existence. If we had gotten rid of the 6-inch-gun cruisers, the United States should have all 8-inch-gun cruisers, but since there are both, our interests lie in eliminating the 8-inch-gun ship. The 8-inch-gun cruiser is good for only one purpose that the 6-inch cruiser is not, and that is to fight a 6-inch-gun cruiser on her own terms as regards range and visibility. The only reason for 8-inch-gun cruisers is that others have them. Believes that the British see that the 8-inch-gun cruiser is a disadvantage to them. The 6-inch-gun cruiser can fight an 8-inch-gun cruiser if it gets within range. In dispersed operations the 8-inch-gun cruiser is a disadvantage to us. Character of operations in war is such that the 8-inch-gun cruiser is at a disadvantage.

Rear Admiral MOFFETT: Question of 8-inch and 6-inch gun cruisers was decided at a time when aviation was not considered very much. Under many circumstances the 8-inch-gun cruiser is better than the 6-inch-gun cruiser. We always try to carry the heavier gun, but long-range shooting is dependent on aircraft spotting. The value of the long-range big gun is not as great as it was. Placing landing decks on 6-inch-gun cruisers will make them equal or superior to any 8-inch-gun cruiser without landing decks. The designed 10,000-

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handy ships of about 30 knots speed.

Cruisers which act in groups or singly away from the fleet should be 10,000-ton 8-inch-gun ships. They will meet 8-inch-gun ships of other nations. They should have high speed to escape from battle cruisers and speed to overhaul and run down smaller ships with less speed. After satisfying the need of the battle fleet, every ton should be worked into 8-inch-gun cruisers for dispersed operations. Eight-inch-gun cruisers can better perform the duties with the fleet than 6-inch cruisers can perform the duties of 8-inch cruisers in dispersed operations. In dispersed operations the value of the 6-inch-gun cruiser is nowhere nearly commensurate with the value of the 8-inch-gun cruiser.

Captain SMYTH: Prefers 8-inch gun cruisers. The cruiser we designate as a fleet cruiser is the one which normally operates where it can drop back on the battleship force if it needs superior power. In a fleet action its normal opponent is a vessel of equal type or a destroyer. Under this condition superiority of gunfire considerably overcomes deficiency in caliber. A 6-inch gun can deliver more shots per gun per minute than the 8-inch gun. At low ranges, 4,000 to 5,000 yards, the 6-inch gun will probably penetrate the armor of any ship which would be the normal target for a light cruiser. Outside that range you enter one where the 8-inch gun will penetrate and the 6-inch gun will not. In the zone 4,000 to 10,000 yards the penetrations are about equal. At the longer ranges, outside of 16,000 yards, the 6-inch gun is inferior to the 8-inch gun, because the 6-inch splash can not be seen from the

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ton 6-inch-gun cruiser has better defense than present 6-inch-gun cruisers. The design is merely a blue print at present, but thinks that our 8-inch-gun cruisers have little protection.

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ship while the 8-inch can. It becomes a matter of fire control and the 8-inch gun ship can see where its shots are falling and the 6-inch gun ship can not, and can not control its fire, thus giving the 8-inch gun ship a 100 per cent advantage. The 6-inch gun ship loses the effectiveness of its fire control at over about 16,000 yards, while the 8-inch gun fire control remains effective for about 5,000 yards more. At short ranges, at dawn or dusk, the 6-inch gun cruiser has the advantage of volume of fire. In a close attack through fog or at night, the 6-inch gun ship might deliver such a hail of shot as to get in a lucky shot and put the 8-inch gun ship out of commission, but Captain Smyth prefers the 8-inch gun ship. That has been obviated in the new design of 8-inch gun cruiser where the armor protection has been increased. The damage effect of the 8-inch and 6-inch shells after penetrating the armor is in proportion to the weights of the shells, or about 2½ to 1. Prefers the 8-inch gun cruiser for all operations where the cruiser is not able to fall back on a stronger vessel if the cruiser meets a stronger opponent.

Commander TRAIN: Prefers the 8-inch gun cruiser to the 6-inch gun cruiser.

Read Admiral CHASE: Under the guns of the fleet, the 6-inch-gun cruiser may supply the needs of the fleet a little better than the 8-inch-gun cruiser. Would not build 6-inch-gun cruisers if we were unlimited because he does not believe in two classes of vessels. Would have all 8-inch-gun cruisers. Fleet work is the only duty a 6-inch-gun cruiser can perform with any great degree of efficiency. The 6-inch-gun cruiser would be defeated by the 8-inch-

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gun cruiser in dispersed operations. Lessons of war show that the larger gun has always won. If a 6-inch-gun ship escorting a convoy met an 8-inch-gun ship the former would be at a great disadvantage; while if the escort ship were an 8-inch-gun ship she could fight with equal chances. The 6-inch-gun ship can not effectively control the fire of her guns at ranges beyond 16,000 yards, while the 8-inch-gun cruiser could control at least 6,000 to 8,000 yards beyond that. The 8-inch gun's splash can be seen farther than the 6-inch can be seen. With the new design of 8-inch-gun cruiser, the 6-inch gun will not be as effective as the 8-inch gun under 16,000 yards range. If the outer line of the fleet screen were composed of 8-inch-gun cruisers, enemy destroyers could not break through, come up to the destroyers, and break through their line. There is always one thing that must redound to the advantage of the 8-inch-gun cruiser—if she sights an enemy she knows that she has a chance. The 6-inch-gun cruiser has not that assurance.

Rear Admiral BRISTOL: Does not believe in any 6-inch-gun cruisers. Would be better off to have all 8-inch-gun cruisers so that they can be interchanged and sent from one duty to another, with the fleet or in distant operations. Knows of no study at the present time which justifies the 6-inch-gun cruiser. During war he would use only 8-inch-gun cruisers for convoy duty.

Admiral HUGHES: In dispersed cruiser operations the 8-inch-gun cruiser has the advantage over the 6-inch-gun cruiser. In such operations the cruiser must be capable of meeting any ship of her own type coming against her, and the

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8-inch-gun cruiser is the only one that can do it. For dispersed cruiser operations in the western Pacific the 6-inch-gun cruiser would be of little use. She could not get out and get back. They would be of value going out with the battleship fleet, for protective screening. The scout should be the 8-inch-gun cruiser well ahead. The 6-inch-gun cruiser unattached is of little use, for she may meet an 8-inch-gun cruiser. Unattached ships must be strong enough to meet anything sent against them except battleships, then they can run. On detached duty the 6-inch-gun ship is a sort of toy ship. In a night attack the ranges are less and the value of the 6-inch-gun cruiser increases, also in fog. That is a special circumstance. A 6-inch-gun cruiser would probably be a little more efficient against light ships. On a dark night it might be clear and star shell would do away with low visibility. An 8-inch-gun cruiser can do everything that the 6-inch-gun cruiser can do, but the 6-inch-gun cruiser can not do everything that the 8-inch-gun cruiser can do. There are circumstances where the 6-inch-gun cruiser can do better than the 8-inch-gun cruiser with the fleet, but not enough to warrant building many of them.

Rear Admiral REEVES: Commerce can be and it always has been adequately protected only by ships that carry guns superior in power and size to the guns of those ships raiding commerce. The 8-inch-gun cruiser, and not the 6-inch, is the only type that can effectively protect commerce in distant areas where it is fundamentally a single unit operation. If we build only 6-inch-gun cruisers, the value of the merchant ship carrying 6-inch guns, increases automatically. The strik-

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ing force of a 6-inch gun fired from a merchant ship is the same as that fired from a cruiser. An unprotected 6-inch-gun cruiser can be sunk by a merchant ship carrying 6-inch guns. It is impossible for us to build special types of ships to meet special situations. We would have numerous types. It is uneconomical, and there is no assurance that the special type would be present when you want it. Fog might occur when the "fog cruiser" might not be present. We must build to meet the general situation and the 8-inch-gun cruiser meets the situation. It is effective at night, in fleet action, in repelling destroyer attacks. Our 8-inch-gun cruisers will carry nine 8-inch guns and eight 5-inch guns. The 5-inch gun is as destructive against the destroyer as the 6-inch gun. The 8-inch-gun cruiser can offer in a destroyer attack nine 8-inch guns and eight 5-inch guns, while the 6-inch-gun cruiser has 6-inch guns and a smaller number of 5-inch guns. In a fleet action the destroyers occupy attack positions in the advance of the fleet and on the engaged bow. The 8-inch-gun cruisers will cause the destroyers to occupy a more remote attack position than will the 6-inch-gun cruisers. Therefore as the destroyers come in to attack they must traverse a greater distance and be longer under fire before they reach the point to fire their torpedoes. Only the 8-inch-gun cruiser can form an efficient escort for the aircraft carriers, as the carrier must be protected against destroyers and cruisers. Since the battle cruisers were given up at the Washington Conference, the 8-inch-gun cruiser becomes more important. Keeping up a line of communication is a detached operation, and only 8-inch-

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gun cruisers can perform such duties.

Rear Admiral HOUGH: A 6-inch-gun cruiser on commercial lanes may be able to give a good account of herself if she meets a 6-inch-gun ship, but if she meets an 8-inch-gun cruiser she is out-classed. The 8-inch-gun cruiser can perform all the functions of the 6-inch-gun cruiser, but the 6-inch-gun cruiser can not perform all the functions of the 8-inch-gun cruiser. He would recommend all 8-inch-gun cruisers. The 6-inch-gun cruisers at very close range has the advantage of rapidity of fire because it has hand loaded guns, but when you mount them in turrets the rate of loading slows up. But the 8-inch gun is so far superior in other respects that it is preferable. The 8-inch-gun cruisers also carry 5-inch guns which can be used at short ranges.

Rear Admiral DAY: The 8-inch-gun cruiser with its 5-inch guns can do fleet work. So can the 6-inch-gun cruiser at less cost. An 8-inch-gun cruiser would have a decisive advantage over a 6-inch-gun cruiser of the Omaha type. It would be impossible to armor a ship of the Omaha tonnage to resist 8-inch-gun cruisers and have it retain its speed. And if an Omaha could be protected with the same armor as an 8-inch-gun cruiser the 8-inch-gun cruiser would tear her to pieces while a 6-inch gun could not pierce the vitals of the 8-inch-gun ship. Outside of 12,000 yards the 8-inch-gun ship would be safe. Inside of that an 8-inch shell would go through anything on the 8-inch ship, but it would go through the 6-inch-gun ship at any range. This is if the 8-inch ship is armored as our last ones will be. Does not believe

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that in fog or low visibility the 6-inch-gun ship with its high rate of fire would destroy the 8-inch-gun cruisers. The 6-inch-gun cruisers during the battle and during the night following the Jutland action did nothing.

Rear Admiral LEAHY: There is a band of about 13,000 yards where an 8-inch gun will penetrate 4 inches of vertical armor and a 6-inch gun will not. There is a band of about 4,400 yards where an 8-inch gun will penetrate 3 inches of horizontal armor and the 6-inch gun will not. The 8-inch-gun ship can take a range of 15,000 to 20,000 yards from the 6-inch-gun ship and the latter could not penetrate the armor of the former. The 6-inch gun fire would be difficult to control because of the size of the splash. In future all 6-inch guns will be mounted in turrets. The 6-inch shell weighs 105 pounds and has from $2\frac{1}{2}$ to $6\frac{1}{4}$ pounds of high explosive. The 8-inch shell weighs 260 pounds and has from 6 to 11 pounds of high explosive. The 8-inch gun range is 7,000 yards greater than that of the 6-inch. The muzzle velocity of the 6-inch and 8-inch gun is the same. The striking energy of the 8-inch gun is about three times that of the 6-inch gun. In low visibility where the 6-inch gun cruiser could get within 10,000 yards of the 8-inch-gun cruiser, she would have a good chance. Is not convinced that a 6-inch-gun cruiser is superior to an 8-inch-gun cruiser at short range because of the greater destructive effect of the 8-inch shell. At a range where the 6-inch shells can penetrate the armor of the 8-inch-gun ship, she has a greater advantage than at any other range, and if she has sufficient guns she might be equal to and even superior to the

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8-inch-gun cruiser, in the particular situation. This would be an unlikely happening in disperse cruiser operation. It could happen in fleet action or attack on destroyer screen. Can visualize a situation where the 6-inch gun cruiser might be as good as the 8-inch-gun cruiser, but thinks it unlikely to occur, and under any circumstances would prefer to have the 8-inch-gun cruiser. The Bureau of Ordnance expects to get 4 shots per gun per minute from the 8-inch-gun turrets. At long ranges where the roll of the ship must be given consideration, the fire may be slowed to 3 shots per gun per minute. Six-inch guns in the open fire about eight times per minute, and in turrets about six times per minute. At short ranges the ratio of the fire of the 6-inch gun to the rate of fire of the 8-inch gun is 2 to 1; at long ranges it is about 1½ to 1.

Vice Admiral COLE: Wants 8-inch-gun cruiser for all around work. Arguments for smashing effect of the 6-inch-gun cruiser under conditions of reduced visibility is a special pleading, inasmuch as it provides for those particular cases. The 8-inch-gun cruiser can do the fleet work. They would alone form an effective defense if the enemy attacked the destroyer screen. In a fleet action the 8-inch-gun cruisers could take care of themselves and prevent enemy destroyers from breaking through the screen. The 8-inch-gun cruiser is superior to the 6-inch-gun cruiser for dispersed operations.

Rear Admiral STANDLEY: Without any limit placed on cost or tonnage, would build all 8-inch-gun cruisers. The 8-inch-gun cruiser can do every possible thing that the 6-inch-gun cruiser can do and do it better. The 8-

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inch-gun cruiser can do things the 6-inch cruiser can not do. The 6-inch-gun cruiser can not operate in the outer screen because she will have to fight 8-inch-gun cruisers, for this same reason she can not operate on trade routes or protect convoys. Six-inch-gun cruisers are of no use except under the big guns of the fleet. Has conversed with many naval officers and all favor the 8-inch-gun ship. The smaller cruisers should be used with the fleet, because they are of no use against 8-inch-gun cruisers unless they are under the protection of heavier guns. A 6-inch-gun cruiser against a 6-inch-gun cruiser has an equal chance. If you are operating in an area where the enemy has 8-inch-gun cruisers, 8-inch-gun cruisers are necessary. If enemy 8-inch-gun cruisers come out, the 6-inch-gun cruisers will be sunk or must be driven back under the heavy guns again. Eight-inch-gun cruisers are always useful because that is the biggest cruiser except battle cruisers. The 8-inch-gun cruisers will operate on lines of communication and on trade routes. There is no question as to the 8-inch-gun cruiser being able to take care of herself against the 6-inch-gun cruiser.

Rear Admiral McLEAN: Strongly favors the 8-inch-gun cruiser. There is no doubt but that the 8-inch-gun cruiser can defeat the 6-inch-gun cruiser. It is sound that some 6-inch-gun cruisers are needed with the fleet for work in the destroyer screen where they are under the guns of the fleet. The 8-inch-gun cruiser escorting a convoy could keep off a 6-inch-gun cruiser. One 8-inch-gun cruiser might take care of herself against two 6-inch-gun cruisers. At 15,000 to 20,000 yards the 6-inch gun is hard to control

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because of the small splash, while at that range the 3-inch splash is visible.

Rear Admiral WILEY: The 6-inch gun fires twice as fast as the 8-inch gun, but the 8-inch shell is heavier, and the gun has a greater range. Control of fire depends upon ability to spot the fall of shot. If you can not spot the fall of shot you can not tell whether you are hitting, and you can not see the splash of a 6-inch-gun salvo to spot is accurately over 16,000 yards, while an 8-inch-gun salvo can be spotted accurately at at least 20,000 yards. Airplane spot improves all spotting. Is in favor of 8-inch-gun cruiser for all purposes, because combatant ships are built to be effective under all conditions under which they will operate in war. The 8-inch-gun cruiser can perform efficiently all the duty that can be assigned to a 6-inch-gun cruiser, but a 6-inch-gun cruiser can not perform efficiently all the duties which may be required of an 8-inch-gun cruiser. This is true in the destroyer screen. The more rapid fire of the 6-inch gun in the destroyer screen does not make it more valuable than the 8-inch gun. Does not consider that the 6-inch-gun cruiser is any better or as efficient as the 8-inch-gun cruiser under any circumstances. They fire more rapidly but have greater dispersion. No 6-inch gun is as effective as the modern 8-inch gun. No improvement can be made in the 6-inch gun which can not be made in the 8-inch gun. The statement that a 6-inch-gun cruiser would "eat up" an 8-inch-gun cruiser if it met it about dark or coming out of a fog sounds very alluring, but you want combat ships to fight under normal conditions and you

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take your chances if you have not normal conditions. No one but a weak enemy seeks night action. The 8-inch-gun ship and the 6-inch-gun ship may be compared with a man with a rifle and one armed with two revolvers. He may shoot his revolvers from the hip, but if he can not reach the man with the rifle, he is throwing his ammunition away. On the commerce lanes the 6-inch-gun cruiser would be destroyed by the 8-inch-gun cruiser.

Rear Admiral TAYLOR: The 8-inch-gun cruiser is needed to protect commerce. The 6-inch-gun cruiser for that work would be wasted. Our cruisers to protect our commerce have to operate a long ways from base, which requires very large radius of action. She has to have defensive and offensive power to fight and defeat her enemy without suffering damage to herself that will force her to come home. If a 6-inch-gun cruiser meets a merchant vessel armed with 6-inch guns, the 6-inch-gun cruiser will win, but with equal batteries the cruiser will sustain so much damage that she will have to come home. With an 8-inch-gun cruiser that will not be the case.

Rear Admiral COONTZ: Wants all of the 8-inch gun cruisers we can get. We need 8-inch gun cruisers even if we do not use them in the fleet, on our lines of communication. We want 8-inch gun cruisers for scouts, steady platforms, long range, and endurance. To have long range guns, the ability to lie on station two or three weeks and do whatever damage is necessary, then rejoin the main body and go to fueling station, is a big asset. The 6-inch gun has not developed any effectiveness over the 8-inch. The 8-inch gun can be developed as

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much as the 6-inch gun. Wants the 8-inch gun cruiser for dispersed cruiser operations. If allowed full liberty of action would build all 8-inch gun cruisers. Instead of the treaty allowance of cruisers, prefers the provisions of the fifteen-cruiser bill for twenty-three 8-inch gun cruisers.

Rear Admiral NULTON: Security abroad requires vessels with a long cruising radius, and considerable offense and defense, and from the point of national defense the 8-inch gun 10,000-ton cruisers are better suited to the needs of the Navy. If there were no limit, would want some 6-inch gun cruisers, but if limited, would take all 8-inch gun cruiser because of their suitability for interchangeability of duty. Every merchant vessel is a potential 6-inch gun cruiser. The more we come down to the 6-inch gun basis the less advantageous it is to this country. There are certain phases of fleet work for which the 6-inch gun cruisers are suited, but if the total number of cruisers is to be limited, the 8-inch gun cruiser is preferable. The 8-inch gun 10,000-ton cruiser is the ship for dispersed operations. There has been nothing in the fleet operations to lead him to believe that small cruisers are better than large ones. Practically no naval opinion favors the small cruiser.

Rear Admiral ROBISON: The high rate of fire of the 6-inch guns is at short ranges only, firing one gun at a time, and not in controlled salvo firing or firing from turrets. The 6-inch guns of the *Omaha* class fire twice as fast as the 8-inch guns of the aircraft carriers. The rates of fire approach equality as the range increases until they are nearly equal at 12,000 yards, due to the time

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of flight of the projectile. You can not control a shot until you know where the previous one has gone; and if it takes 20 seconds for the shot to travel from gun to target, you can not fire faster than 3 shots per minute. At the range at which the two guns have equality in rate of fire, the 6-inch gun will pierce less than half the armor pierced by the 8-inch gun. This discrepancy increases as the range decreases. It decreases as the range is lengthened. At 6,000 yards the 8-inch gun pierces nearly 10 inches of armor, and the 6-inch gun about 4 inches. At 12,000 yards the chances of hitting with an 8-inch gun and a 6-inch gun are about as 7 to 4 in favor of the 8-inch gun. The damage due to explosion of the shell varies nearly as their weights. The only place a 6-inch-gun ship has the advantage over an 8-inch-gun ship is in a surprise attack where the 6-inch gun can fire faster. The 5-inch antiaircraft guns of the cruisers are effective against destroyer attack. At night, by using star shells, the 8-inch gun is more effective than the 6-inch gun. A liberal allowance for action in a fog is 5 per cent. We can not afford to build ships for such encounters. A 10,000-ton cruiser can be armored against 6-inch gun fire without great reduction in speed, but neither it nor one of lesser tonnage can be armored against 8-inch-gun fire without reduction of speed. There is no ship in existence that can bring as many 6-inch guns to bear as the *Salt Lake City* can bring 8-inch guns. In a fleet action against fast wing tactics the 6-inch-gun cruiser is helpless, but the 8-inch gun will pierce the armor belt of any battle cruiser at 11,000 yards and all other armor on the battle

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cruiser up to 15,000 yards. Neither the Japanese nor the British agree with statements that 6-inch-gun cruisers are to be preferred to 8-inch-gun cruisers, or they would not have taken care to prevent the United States from building the 8-inch-gun cruisers provided by Congress. The 8-inch-gun cruiser can take care of a destroyer attack attempting to break through the screen as well as a 6-inch-gun cruiser can. For dispersed operations you must have a cruiser that no other cruiser can drive in. You must be able to meet on equal terms anything that can come after you. The 8-inch-gun cruiser is the ship for dispersed cruiser operations.

CAN A 10,000-TON SHIP ARMED WITH 6-INCH GUNS EQUAL A 10,000-TON SHIP WITH 8-INCH GUNS?

THE 6-INCH-GUN SHIP WILL EQUAL THE 8-INCH-GUN SHIP

Subscribed to by—

Rear Admiral Yarnell.
Rear Admiral Hepburn.

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Rear Admiral YARNELL: You can put more 6-inch guns than 8-inch guns on the same tonnage. On a 10,000-ton ship you could probably put twelve 6-inch guns and protection against 6-inch shells, which is more protection than the 8-inch-gun cruiser has to-day. The 6-inch gun is as effective as are 8-inch guns against unarmored ships within 18,000 yards range.

Rear Admiral HEPBURN: Intrinsically on a 10,000-ton displacement a ship can be designed with 6-inch guns that is intrinsically better than an 8-inch gun uiser.

THE 6-INCH-GUN SHIP WILL NOT EQUAL THE 8-INCH-GUN SHIP

Subscribed to by—

Rear Admiral Jones.
Rear Admiral Pringle.
Rear Admiral Day.
Rear Admiral Leahy.
Rear Admiral Standley.
Rear Admiral Coontz.
Rear Admiral Robison.

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Rear Admiral JONES: The 10,000-ton cruiser armed with 6-inch guns is not equal to the 10,000-ton cruiser armed with 8-inch guns.

Rear Admiral PRINGLE: If you assume a 10,000-ton cruiser armed with 6-inch guns and one armed with 8-inch guns and both having the same protection, then as far as fighting value goes, the 6-inch-gun cruiser has no chance with the 8-inch-gun cruiser.

Rear Admiral DAY: There is no advantage in building a 6-inch-gun cruiser of 9,000 or 10,000 tons displacement. They could not operate effectively against 8-inch-gun cruisers. They could carry the same armor, but with their 6-inch guns would have no chance against 8-inch guns.

Rear Admiral LEAHY: It would be exceedingly difficult to build a 6-inch-gun cruiser that would have the same speed, superior armor protection, and more guns in sufficient mounts, to make it equal to the 8-inch-gun cruiser.

Rear Admiral STANDLEY: A 6-inch-gun cruiser with 9,000 or 10,000 tons displacement could

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not be built which would hold her own against an 8-inch-gun cruiser under any but very special situations. At close range she might have the advantage of rapidity of fire. For general work you can not conceive of a vessel of that type which could cope with the 8-inch-gun cruiser. The striking force of the 6-inch guns would be less than the 8-inch guns and the 8-inch-gun cruiser would have the advantage.

Rear Admiral COONTZ: The fact that her guns are inferior to the guns of an 8-inch-gun cruiser would make less effective a 9,000 or 10,000 ton cruiser with 6-inch guns.

Rear Admiral ROBISON: If 6-inch guns are placed on ships of 9,000 or 10,000 tons displacement you could put so much armor on that neither a 6-inch gun nor an 8-inch gun could pierce her, but she would be useless for any purpose. If 6-inch guns were mounted on a ship of exactly the same type, armor, and displacement of an 8-inch-gun ship, she could not compete with the 8-inch-gun ship.

DIVISION OF CRUISERS INTO CATEGORIES

Secretary ADAMS: There is one category of cruisers divided into two parts. The two parts are: With guns of more than 6.1-inch; with guns of 6.1-inch or less.

The naval policy of the United States, submitted to and approved by President Harding in 1922, and practically the same policy approved by President Coolidge in 1928, provides under "Building and maintenance policy":

Cruisers: To protect the fleet and protect our commerce, replace all old cruisers with modern cruisers of 10,000 standard tons displacement carrying 8-inch-guns and, in addition, to build cruisers at a rate that will maintain effective tonnage in conformity with the capital ship ratios as established by the Washington treaty limiting naval armament.

Small cruisers and gunboats: To build no small cruisers; to build replacement gunboats as required.

The Secretary assumed that there has been a departure from this policy. The delegation found, upon its arrival in England, every nation, except Italy, which did not express an opinion, desiring to divide the cruiser category, separating 8-inch-guns from 6-inch-gun ships, not merely by size of gun but by tonnage. This was resisted by the United States delegation. The British wanted a cruiser of about 6,000 tons. We had to make a compromise. I think that the naval opinion supports the belief that for many purposes a 6-inch-gun ship is highly desirable. There was an attempt made to secure twenty-one 8-inch-gun cruisers. Both Great Britain and Japan objected. Perhaps they had no right to, but the delegation was trying to reach a fair arrangement, and he believes that they have.

Rear Admiral JONES: The cause of the failure of the Geneva conference in 1927 was, generally speaking, large figures proposed by the British as their minimum necessities, and their desire to standardize in the type of cruiser most suitable to her condition and least suitable to ours. They insisted on limiting down to a very low limit in vessels we considered most suitable for our needs, but to place a large limit on other units which we could not accept. Great Britain has maintained this view consistently and our view has been maintained consistently.

The position of the United States delegation at Geneva is that during the period ending on December 31, 1936, we would require full liberty of action to build 10,000-ton cruisers up to a total of 250,000 tons, recognizing at the same time the full right of other powers to build cruisers of similar characteristics up to tonnages in accordance with the principles of the Washington Treaty. We do not see any reason for limiting the caliber of gun in the smaller class of cruisers to anything different from that in the larger class.

When at Geneva the question of the small cruiser came up, the British spoke of the 10,000-ton 8-inch gun cruiser as being essentially an offensive weapon, and of the smaller cruiser as being essentially a defensive weapon. We maintained our stand that we would not

consent to any tonnage of the smaller cruiser which would not permit of the mounting of an efficient 8-inch battery. The Japanese supported us, that there was no reason for dividing the cruiser category into two types by the size of the guns, although they did state that it was not their intention at that time to build more than their announced program of 8-inch gun cruisers.

Our stand has always been that within the total tonnage in each category, each nation should be allowed to build as her needs dictate.

Dividing of the cruiser category into subcategories is a misnomer, in that you can hardly consider them subcategories. They are types within a category, but not really or rigidly subcategories. If they are subcategories, then that is contrary to all of the stand that we have been taking consistently up to this time.

Rear Admiral CHASE: One of the principles for obtaining parity is that each nation should be allowed to use its allotted tonnage as it deems will best meet its particular needs. This conception of parity absolutely forbids the subdivision of categories into classes of armament, size, speed, or other characteristics, but in no way prevents the imposition of limits as to maximum size of unit or maximum caliber of gun.

Rear Admiral BRISTOL: We should be given a certain number of tons of cruisers, and make that a parity with Great Britain. Then we should be allowed to build that in any way we please, either as 8-inch gun cruisers or as 6-inch gun cruisers. That policy which we established and which we are willing to abide by also is based on allowing England to do exactly the same thing.

Rear Admiral MOFFETT: Sorry that there has been a change of principle we have always followed, that there should not be categories within a category. Does not believe that there could have been an agreement unless we did as we did do. If you decide that there are to be both 8-inch-gun cruisers and 6-inch-gun cruisers, it makes no difference whether you call it two categories or one category. The United States should have the right to do anything it pleases with its tonnage, but there would not have been an agreement. Unless the number of 8-inch and 6-inch-gun-cruisers by the end of 1930 was definitely stated, we would not have gotten an agreement.

Rear Admiral REEVES: The London treaty eliminates the fundamental recommendations of the General Board: The right to decide ourselves internally the type of ship that best meets our needs; and that categories should not be subdivided. The London conference subdivided the cruiser category into large and small types to the great disadvantage of the United States.

In the letter of the General Board of September 11, 1929, the board did not intend to subscribe to a division in the category. The General Board explicitly stated in that letter that they adhered to the principle of no subdivision of categories, and repeated and reiterated that opinion and principle.

Rear Admiral COONTZ: It is a mistake to change our position and give up the right to build the kind of ships we want in the cruiser category. We will not be able to get away from the division of categories in another conference.

WHAT IS THE RATIO WITH JAPAN AND IS IT SATISFACTORY?

RATIO IS SATISFACTORY

Subscribed to by—
Secretary Adams.
Admiral Pratt.
Admiral Moffett.
Admiral Hepburn.

RATIO IS NOT SATISFACTORY

Subscribed to by—
Admiral Jones.
Admiral Pringle.
Admiral Yarnell.
Admiral Chase.
Admiral Bristol.
Admiral Hughes.
Admiral Reeves.
Admiral Hough.
Admiral Day.
Admiral Cole.
Admiral Standley.
Admiral McLean.
Admiral Wiley.
Admiral Taylor.
Admiral Coontz.
Admiral Nulton.
Admiral Robison.
Captain Smyth.
Commander Train.

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Secretary ADAMS: In 8-inch cruisers, 6-inch cruisers, Japan has a great superiority on her side in ships built and building. Japan has steadily built destroyers and her fleet is far more modern than ours. Our destroyers are on the whole probably more valuable than hers, but are not enough to offset her superiority in cruisers. Japan's submarines are newer than ours. With an auxiliary fleet of the same or perhaps less value than theirs, we had to ask them to stop building, let their fleet deteriorate, and permit us to build to relation of 10 to 7.

Under the circumstances we made a fair compromise; 10 to 7 in destroyers; 180,000 to 108,400 in 6-inch-gun cruisers; about 10 to

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Admiral JONES: In 1927 informed the Japanese that it was his firm conviction that 5:3 under the existing conditions was in reality a 5:5 plus. At present the 5:3 ratio is in reality a 5:5 plus.

Our lack of bases in the western Pacific gives the Japanese an advantage in strength over us. In operating there we would have to have at least 2½ to 3 units of cruisers to keep on operating in that area.

Admiral PRINGLE: Can not subscribe to increasing the ratio with Japan to anything above 5:3. With the 5:3 ratio we would have a chance of conducting a successful campaign, but if the ratio is altered in favor of the

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6.5, with the final decision postponed until 1936. In submarines there was a compromise. We wanted chiefly low tonnage for naval reasons. We got a reduction of 13,390 tons in her fleet built; 5,000 tons built and building. We could have gotten superiority of tonnage at a higher total figure but deemed this settlement better. On the whole the treaty is just and it offers parity with England and a fair relation with Japan.

Japan is a little strengthened in capital ships.

Even though we have agreed to a 10:10 ratio with Japan in the submarine category we may be able to cut it down at a future time.

Admiral PRATT: In battleships the numbers have been reduced to the proportion 15:9. The tonnage proportions in this class are as equitable as it is possible to make them. Destroyer tonnage has not been reduced below a safe margin. Its proportions are 10:10:7. It is a type easily built at reasonably short notice and it is a type which in war we would hardly have enough of. The concession of 10:10:7 in this type does not materially affect fleet combat strength in time of war. In submarines the proportions in tonnage are 10:10:10, but by this concession total tonnage is reduced. Total abolition of submarines would be an excellent thing for the United States naval policy, but failing this the tonnage figure set at 52,700 tons is not below our irreducible need in case the submarine is not abolished.

In 8-inch cruisers the proportions are 10:6. In the 6-inch type the proportions are 10:7. From the viewpoint of fleet combat

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Japanese our chances are reduced thereby and become less than what you could possibly call an even chance. This is because of our necessity of projecting our operations across the Pacific ocean. Any raising of the 5:3 ratio in favor of Japan operates to our disadvantage. In the tentative proposal the suggestion was made we should have 60,000 tons of submarines to the Japanese 40,000 tons. That would not have been to our disadvantage. It is to our advantage to hold the Japanese to as low a submarine tonnage as possible.

Because a nation is 3,000 miles from the seat of war is no reason for giving that nation a lesser ratio than it had in reference to battleships, but rather to give it a larger proportion in cruisers.

Admiral YARNELL: Japan entered the conference with a superiority in submarines so it was futile to talk to her about a reduction to 5:3 when she had these ships and we did not.

If she has parity with us in any type of vessel she is liable to claim it in the next conference, and the chances are if she has actual equality in tonnage she will get it. It is difficult to establish any other ratio than that which actually exists in tonnage built and building. She will not want a lesser ratio at the next conference than she got at this conference. She will claim the ratio she actually has in ships built and building as she did in this conference.

If we want any assurance of going to the Philippines in time of war with a reasonable chance of success, we need to build dry-docks and a base in the Philippines and proper fortifications, and need a fleet perhaps 2 to 1 with regard to Japan.

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strength the treaty is most satisfactory.

The Japanese stated that if we could give them 70,000 tons we could take anything we liked.

The United States was lucky to come out 10:7 by yielding on some things.

Admiral MOFFETT: Under the circumstances, to get agreement, is willing to give up the Japanese ratio of 5:3. The treaty does not sacrifice our safety or security.

If we went to war with Japan, in order to have a reasonable chance of success on the outbreak of war, we should have twice as much sea power as Japan. Does not think that 5:3 would give us a protective ratio. When we raise the ratios to 5:3½ we are not helping ourselves. Japan may ask in future for a ratio of 10:7 or 10:8. The fact that we have given in in this case will encourage Japan to increase her demands at the next conference.

Thinks the treaty takes care of our interests. It is important to get Japan stopped.

The treaty gives Japan a ratio of slightly more than 5:3 in some categories.

The agreement as made does not in any way jeopardize the safety and security of the United States. In case of trouble in the Pacific we are not far below the ratio we are supposed to have in aircraft carriers with Japan.

Admiral HARBURN: We have 5:3 ratio with Japan if we have 18 cruisers. Japan served notice before she went to the conference that she was not going to take 5:3.

We have not a 5:3 ratio with Japan.

We could afford to give Japan a better ratio than 5:3 in submarines, depending on how far

In order to reach parity with Japan the United States fleet should be about 2 to 1.

Captain SMYTH: The London treaty raises the ratio with Japan beyond the agreed ratio in the Washington treaty. This is a disadvantage to the United States.

Commander TRAIN: An increase over the 5:3 ratio is to the military disadvantage of the United States.

Admiral CHASE: The ratio with Japan on the 31st of December, 1936, provided the United States will build eighteen 8-inch-gun cruisers, will be as follows:

Total cruisers.....	5 to 3.44
Destroyers.....	5 to 3.5
Submarines.....	5 to 5
Aircraft carriers.....	5 to 3
Total in the foregoing auxiliary class.....	5 to 3.45
Capital ships.....	5 to 2.9
Grand total of all categories.....	5 to 3.26

The Washington treaty ratio of 5:5:3 is maintained exactly only in the aircraft carrier category. In the capital ship category the United States is slightly above the ratio. In all other categories the United States is below the ratio.

Although by actual tonnage the Japanese are a little below the 5:3 ratio, Admiral Chase believes they fully have their 5:3.

Nothing new has come up to justify an increase of the cruiser ratio for Japan since the Washington treaty. If the battleship ratio is 5:3 the cruiser ratio should be the same. Any increase or decrease is an advantage or a disadvantage to the nation receiving the increase or decrease. If we were allowed to develop our naval bases in the Pacific, our ratio would be increased. If the bases are given up and the ratio of a possible enemy in-

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down she was willing to put the total tonnage.

Not satisfied with the ratio, practically 10:7, in destroyers:

The treaty does not give us a ratio of 5:3 with Japan, but it increases our relative status as it exists now and it has existed for a long time, and it is the best that we could get. We could not ask or expect Japan to agree to do anything more than to stop where she is. Due to the fact that we have raised Japan's ratio at the present time, in the future she will probably ask for more. Does not think that we should ask her to go below what we have given her at this conference.

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creased, we accentuate in two ways the advantage which that nation has.

The ratio of 5:3 with Japan if operations are carried on in the western Pacific would not amount to equality for the United States. Increasing the 5:3 ratio for Japan adds that much more to her superiority. We are not on equality with Japan, considering the ratio that has been reached in this treaty.

The most objectionable clause in the Washington treaty is the one relating to the United States giving up the right to fortify her bases in the western Pacific.

Admiral BRISTOL: Without question our agreeing not to fortify our islands in the Pacific was the reason for the Japanese accepting a 5:3 ratio.

We gave up our sovereign rights when we agreed not to fortify the Philippines or to increase Navy facilities in Guam and in its islands, and for that reason we are hampered in the Orient.

For operations in the Orient our ratio with Japan, considering fortifications and naval bases, should be in order to give us equal strength, 5:3.

Under the provisions of the London Treaty the ratio has been changed.

Submarines for the United States are a defensive weapon, not only for our interests at home, the Panama Canal Zone, and Hawaii, but for the Philippine Islands; if we reduce the number of submarines we have got to substitute other ships for the defense of those places. That is, you not only reduce the submarines but you reduce your fighting force to take the place of submarines.

We should have maintained the ratio of vessels on the prin-

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ciple that at the time of the Washington Treaty we established those ratios. Japan agreed that they were fair. Since that time nothing has occurred which would warrant a change of those ratios. The security of Japan is not disturbed.

On account of the Kellogg pact any reduction that is made should be proportional. The London treaty changes the ratio with Japan. Japan did not give us anything in concession for our relinquishing the 5:3 ratio under this treaty. Due to the change of ratio the United States will not be in as good a position hereafter as we would have been if the ratios had been maintained and the good feeling and mutual respect resulting therefrom had been continued.

Once having changed the ratio you have started the ball rolling and it is probable that the Japanese will demand more in the next conference.

It would be much better for the good feeling between the two countries to maintain that which we had agreed to in the Washington Treaty, unless some decided reason to change the agreement.

Admiral HUGHES. The Washington Treaty established the ratio we should have with Japan as 5:3. We are not now going to have it. We are going to have equality in submarines, and something higher than 3 in cruisers and in destroyers. In battleships we come near to 5:3 and in aircraft carriers we have 5:3.

For operations in the Pacific our relative strength compared with that of Japan to put them on an equal footing is 5:3; 5:3 will about make up for our lack of bases and a long distance from our country. Even if we had the right to fortify our bases in the

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Pacific, 5:3 would have been about a fair basis. When we gave up the right to fortify our bases we gave up more than a 5:3 basis.

Admiral REEVES: Ratio with Japan in cruisers during the life of the treaty is 5:3.44. The ratio with Japan at the conclusion of the treaty in cruisers built and building is 5:3.3 plus.

The ratio in submarines is parity, 5:5. This increase in the ratio with Japan imperils our interests in the Pacific and the Far East. With the sacrifice of the defense of our possessions in the Far East our ratio should be 10:5, or two to one. The ratio 5:3 gives us a bare chance of success.

The advent of aircraft gives Japan an advantage in the defensive position which she occupies in the Far East. Because in naval warfare she will be able to bring into that warfare in certain areas shore based aircraft, which privilege is denied us. Aviation gives Japan an advantage, and, as affecting the 5:3 ratio, that ratio should be reduced to less than 5:3 to offset it.

Admiral HOUGH: The 5:3 ratio with Japan would give us a fair chance during war for operations in the Far East.

It would not give us more than an even chance because we have to operate long distances from our home ports and home bases, and we have only in the Philippines the base at Manila. We would be at a great disadvantage on account of our lack of bases. It was a decided detriment for us to give up our bases, and the question of bases is related to the 5:3 ratio. Japan was made to accept the 5:3 ratio at Washington by our promise not to extend our fortifications in the Pacific. Japan at the London Conference

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has been claiming a much greater ratio but nothing was said as far as he knows as to repealing or modifying the clause in the Washington Treaty as to our bases.

The Japanese apparently have the 80 per cent ratio and besides that have the restriction on our bases.

In the final outcome, Japan gets practically a 10:7 ratio because she has parity in submarines; 5:3.44 in cruisers; 5:3.5 in destroyers; 5:3 in aircraft carriers; total auxiliary 5:3.45; capital ships 5:2.9; grand total, 5 for the United States and 3:26 for Japan.

Admiral DAY: The distance our submarines would have to operate from base in a war with Japan gives Japan enormous superiority. The proximity of her bases to the operating area is of great value to her, and she could have many more submarines in the operating area than we could. It is advisable to have Japan's submarine tonnage as low as possible, but not to the point of having equality with us. The present arrangement of 5:5 ratio in submarines is not satisfactory.

Admiral COLE: If hostilities are to be carried on in the Far East, in order to have a fair chance with Japan, the United States ratio to Japan should be 5:3 in all categories.

The ratio has been raised for Japan and this is disadvantageous to us.

If speaking of work for the United States Fleet in the western Pacific, it is deplorable to freeze us into a situation where we start with a handicap even on 5:3 basis.

Admiral STANDLEY: The ratio with Japan should be at least 10:5 or 2:1.

The lack of undefended bases in the Far East puts us at a disad-

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vantage. We are practically helpless to defend our policies and commerce in the Far East.

Anything we do to allow the Japanese Navy to increase at the expense of our own will cause our influence in the Far East to gradually disappear.

Admiral McLEAN: Our Philippine possessions are within 300 miles of one of Japan's bases and within 1,500 miles of all of them, whereas their possessions are 4,000 miles from our nearest real base at Honolulu and 6,000 miles from our west coast. Our small base in the Philippines is inadequate to care for a large submarine force in war, even if Manila did not fall to the enemy. This condition is a direct result of the Washington Conference, whereby we are stopped from increasing our military facilities at Manila, which was the price we paid for the 5:3 ratio with Japan. It is important that we have a 5:3 ratio in submarines because they must operate from a base. In case of a large submarine force operating in Asiatic waters, they would have to do major overhaul at Pearl Harbor, while the enemy would be operating from a near-by base. The Japanese could bring their whole 52,700 tons of submarines against our fleet. Considering the other points at which we would have to put submarines, it is doubtful if we could operate half of our 52,700 tons in Asiatic waters.

The Japanese could operate all of their submarines against our surface fleet and keep their capital ships in the inland sea.

The 5:3 ratio should extend to submarines. If the tonnage were cut to 25,000 we might accept parity.

Admiral WILEY: Japan accepted 5:3 on condition we would not

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further improve our fortifications beyond Honolulu.

The ratio has been increased. Japan should have not more than 5:3 ratio. It would give us no advantage, and an increase gives Japan an advantage.

The defense of the Philippines should be by submarines.

We should have at least 5:3 ratio in every class of combatant ships.

The price paid in 1922 for a 5:3 ratio was too high, and the present ratio makes it worse.

Admiral TAYLOR: On a 5:3 ratio with Japan we have a sporting chance.

Any raising of that ratio puts us in a bad position. We have gotten nothing for increasing the Japanese ratio above 5:3.

In giving Japan parity to get her tonnage down, we paid too high a price.

Would not have been willing to give parity to Japan on basis of 25,000 tons. The ratio should be 5:3.

That should be the ratio in all types.

Admiral COONTZ: Ratio with Japan should be 5:3. Taking into consideration our lack of fortified bases we would have just about an equal chance.

An increase in the ratio places us at a disadvantage in the Far East.

In submarines the ratio should be 5:3 with 90,000 tons for us.

Admiral NULTON: In order to operate in the Far East the ratio with Japan should be 5:3. This gives us no advantage, due to our lack of bases.

An increase in the ratio acts to our disadvantage. It is against our interests to maintain the provision that we will not fortify our bases.

Ratio in submarines should be at least 60:40.

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Admiral ROBISON: Under the London treaty, in total cruiser tonnage, the United States can not get a 5:3 ratio with Japan. We can get 5:3 in 6-inch-gun cruisers, provided we accept 5:4 in 8-inch-gun cruisers.

The ratio in destroyers is 5:3.5. This gives Japan ten 1,500-ton or twelve 1,200-ton destroyers over the 5:3 ratio.

We have abandoned the 5:3 ratio with Japan in all classes of ships except battleships (and aircraft carriers), but no change has been made whereby we agree to take no measure to increase facilities for repair and maintenance of naval forces in the Far East. Japan did not give up her secondary bases in Caroline and Marshall Islands, stretching more than half the distance from the Philippines to Hawaii. Japan's minimum gain over the 5:3 ratio is two 8,000-ton cruisers, twelve 1,200-ton destroyers, and twenty 1,000-ton submarines. We hold the Philippines on suffrance as the result of these concessions.

If we build eighteen 8-inch-gun cruisers, Japan will be in excess of the 5:3 ration at the end of 1936, four 8,000-ton cruisers, and in 1938, two.

Japan having authority to have 52,700 tons of submarines built at end of 1936, and 12,000 tons nearly completed, has an advantage.

Japan hopes that we will never build beyond fifteen 8-inch cruisers, which will give her 80 per cent instead of 70 per cent.

With 5:3 ratio we are about on a par.

To get Japan to 52,700 tons in submarines is not sufficient reason to surrender the 5:3 ratio.

The 5:3 ratio for Japan is very liberal.

We can not afford to be below the 5:3 basis.

**IS IT TO THE INTERESTS OF THE UNITED STATES TO GRANT PARITY
IN SUBMARINE TONNAGE TO JAPAN IN ORDER TO DECREASE HER
SUBMARINE TONNAGE?**

**IT IS TO THE ADVANTAGE OF THE UNITED
STATES TO GRANT SUBMARINE PARITY
WITH JAPAN**

Subscribed to by—
Secretary Adams.
Admiral Pratt.
Rear Admiral Moffett.

**IT IS NOT TO THE ADVANTAGE OF THE
UNITED STATES TO GRANT SUBMARINE
PARITY WITH JAPAN**

Subscribed to by—
Rear Admiral Jones.
Rear Admiral Pringle.
Rear Admiral McLean.
Rear Admiral Day.
Rear Admiral Wiley.
Rear Admiral Nulton.
Rear Admiral Coontz.
Rear Admiral Bristol.
Rear Admiral Standley.
Rear Admiral Robison.
Rear Admiral Reeves.
Rear Admiral Cole.
Rear Admiral Yarnell.
Admiral Hughes.
Rear Admiral Hough.
Captain Smyth.
Commander Train.

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Secretary ADAMS stated: "In submarines there was also a compromise. We wanted chiefly low tonnage for naval reasons. We got a reduction of 13,390 tons in her fleet built and 5,000 in built and building. We could have got superiority of tonnage at a higher total figure, but believed this settlement better."

Admiral PRATT stated concerning the submarine ratio with Japan: "The proportions in tonnage are 10:10:10, but by this concession total tonnage is reduced. The total abolition of submarines would be an excellent thing for naval policy, but failing this the tonnage figure set at 52,700 is not below our irreducible minimum in

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Admiral MOFFETT stated his belief that the progress in aviation and in devices for locating submarines had greatly reduced their value as a weapon; that the concession made enabled an agreement on a tonnage materially less than that now in the possession of the countries concerned, and that the reduction in Japanese submarine tonnage compensates us for the loss in the relative ratio.

Admiral JONES stated (in his memorandum of February 13, 1930, printed in the hearings) that generally speaking, a low tonnage limit on submarines will best serve the interests of the United States, providing it is not below the tonnage necessary to provide

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case the submarine is not abolished." Admiral Pratt stated he had changed his mind in the last few years on the question of the minimum submarine tonnage necessary for the United States, the question of the abolition of the submarine, and the question of the necessity of maintaining the 5:3 ratio in submarine tonnage with Japan, due to the development of aviation. He has concluded that it would be to our best interests to have no submarines in the probable theater of operations as we are going to have many more tons of combatant vessels in such areas subject to enemy submarine attack than we can use our submarines against. Failing the total abolition of submarines he believes it is to our best interests to reduce their numbers providing we do not go below our irreducible minimum. When he favored 80,000 tons as an irreducible minimum it included a large tonnage for protection of our coast and coastal shipping lanes, the Panama Canal, and island possessions. This work can better be performed by air power and our submarine tonnage requirements have been reduced by the amount of submarine tonnage formerly required for protection of coastal lanes, the Panama Canal, etc. The submarine tonnage we are using now and would use would be used aggressively. He stated that we could have had the ratio on a higher total tonnage basis, i. e. "* * * the Japanese naval officers came and said: 'If you can see your way clear to giving us 70,000 tons we don't care what you take. Take 70,000, 80,000, or 90,000 tons, so as to keep the ratio.' The ratio is a fancy piece of paper. It don't amount to 2 cents because we haven't any-

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a sufficient number of submarines of the size necessary for the United States to operate in the areas in which they would be called upon to operate. The tonnage required to cover our critical areas, that is, the Philippines, Hawaii, the Panama Canal, and the Caribbean, he put at 60,000 tons. He stated his conviction that allotting Japan 36,000 tons on this basis, in the ratio of 5:3 gives the advantage to Japan. Nevertheless as a concession we might admit an allotment to her of 42,000 tons which is in the ratio 10:7.

Admiral PRINGLE stated that in his opinion any alteration of the 5:3 ratio in favor of Japan operates to our disadvantage; that a slight alteration of the submarine ratio, as suggested in one of the tentative proposals whereby the United States would have had 90,000 tons to Japan's 60,000 tons, or 60,000 tons to Japan's 40,000 tons, of minor importance. He agrees that it is to our advantage to hold Japan to as low a submarine tonnage as possible, but does not believe it is to our advantage to grant her submarine parity unless by so doing we could persuade her to reduce to a very low figure, somewhere around 25,000 tons.

Admiral McLEAN stated his belief that the total abolition of submarines would be advantageous to the United States, because in event of war we have a very large surface Navy which we would carry into waters where they would be exposed to submarine attack. For example, in event of war with Japan it would be possible for her to conduct submarine warfare against our fleet and keep their surface vessels unexposed. He does now, however, believe that failing abolition

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thing to use our submarines against aggressively, and they have lots of tonnage to use it against." He stated that he has tried to bring submarines into a fleet action, but outside of the big V-boats he never could do it.

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of submarines that we should grant her parity unless we can by so doing reduce her tonnage to about 25,000 tons, because in event of war with Japan she could bring 52,700 tons to operate against our fleet from near-by bases, whereas due to our requirements for defense of Pearl Harbor, Canal Zone, etc., we could not bring over half of our submarines to operate in the probable theater of operations and they would be dependent for repairs on a base 4,000 miles away.

Admiral DAY said that submarines are necessary for defense of Hawaii, the Philippines, and the Canal Zone, for coast defense and to act as distant scouts. He believes that it is advisable to have Japan's submarine tonnage as low as possible, but does not believe it should be at the expense of granting her parity in order to attain such a reduction. He thinks the treaty arrangement is unsatisfactory. And does not believe the general abolition of submarines advantageous to the United States.

Admiral WILEY favors abolition of submarines providing all nations agree, but does not believe it to our advantage to grant parity to Japan in order to get her to reduce to 52,700 tons.

Admiral NULTON favors abolition of submarines providing all nations agree, but believes failing this 5:3 ratio should be maintained.

Admiral COONTZ believes submarines are needed for defense of Panama Canal, Hawaii, and Philippines and that 5:3 ratio should be maintained.

Admiral BRISTOL believes submarines are needed for defense of Panama Canal, Hawaii, and the Philippines, and that 5:3 ratio should be maintained.

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Admiral STANDLEY believes submarines are needed for defense of Panama Canal, Hawaii, etc., and that when these requirements are met very few will be left for other purposes.

Admiral ROBISON does not believe it is to our advantage to grant Japan submarine parity even if by so doing Japan would consent to reduce to 25,000 tons. He does not believe it to our advantage to abolish the submarine even though all nations agreed. He believes submarines are required for defense of Panama Canal, Hawaii, and the Philippines.

Admiral REEVES stated that the increase in Japan's cruiser and submarine ratio imperils our interests in the Pacific and Far East.

Admiral COLE did not comment directly on this subject, but thinks to have a fair chance in event of hostilities in the Far East we need a 5:3 ratio in all categories.

Admiral YARNELL did not comment directly on this subject, but believes treaty as a whole will be a splendid thing for the United States Navy. "Japan entered the conference with a superiority of submarines, so that it was rather futile to talk to her about a reduction to 5:3 when she had these ships and we did not."

Admiral HUGHES, Admiral HOUGH, Captain SMYTH, and Commander TRAIN did not touch on this subject directly, but believed any increase of the 5:3 ratio in favor of Japan operated to our disadvantage.

DOES ARTICLE XXI KNOWN AS THE ESCALATOR OR ESCAPE CLAUSE ALLOW THE UNITED STATES TO BUILD AN EQUAL TONNAGE OF 8-INCH-GUN CRUISERS IN CASE GREAT BRITAIN TAKES ADVANTAGE OF THIS CLAUSE TO BUILD 6-INCH-GUN CRUISERS

Secretary ADAMS. "I understand categories allows the United States to build an 8-inch gun ship even if Great Britain builds a 6-inch-gun ship." Admiral Jones subscribed to this view.

Admiral PRATT interpreted this clause to mean that in case Great Britain builds 6-inch-gun cruisers thereunder we were restricted to building an equal tonnage of 6-inch-gun cruisers. Captain Smyth and Commander Train subscribed to this view.

Tonnages and ratios on December 31, 1936, on assumption that the United States will build eighteen 8-inch cruisers

	Tons built, December, 1936			Ratios		
	United States	Great Britain	Japan	United States	Great Britain	Japan
Cruisers.....	1 303, 500	339, 000	208, 850	5	5.58	3.44
Destroyers.....	150, 000	160, 000	105, 500	5	5	3.5
Submarines.....	52, 700	52, 700	52, 700	5	5	5
Aircraft carriers.....	135, 000	135, 000	81, 000	5	5	3
Total auxiliaries.....	041, 200	676, 700	448, 050	5	5.28	3.45
Capital ships.....	1 453, 000	1 472, 550	266, 070	5	5.2	2.9
Grand total.....	1, 094, 700	1, 149, 250	714, 120	5	5.2	3.28

¹ This includes only 160,000 tons of 8-inch-gun cruisers, as under the terms of the London treaty 20,000 tons of these cruisers can not be completed before the date of its termination, Dec. 31, 1936.

² These figures exclude the projected modernization of 3 United States battleships and 2 of Great Britain

Cruisers December 31, 1929

	United States			Great Britain			Japan		
	Built	Build- ing	Total	Built	Build- ing	Total	Built	Build- ing	Total
Subcategory (a).....	Tons 10, 000	Tons 120, 000	Tons 130, 000	Tons 149, 428	Tons 36, 800	Tons 186, 228	Tons 68, 400	Tons 40, 000	Tons 108, 400
Subcategory (b).....	70, 500		70, 500	177, 685		177, 685	98, 415		98, 415
Total.....	80, 500	120, 000	200, 500	327, 111	36, 800	363, 911	166, 815	40, 000	206, 815

Ratios

	Ships built			Ships built and building		
	United States	Great Britain	Japan	United States	Great Britain	Japan
Subcategory (a).....	5	74.7	34.2	5	7.16	4.19
Subcategory (b).....	5	12.6	6.9	5	12.6	6.98
Total category.....	5	20.3	10.3	5	9.07	5.16

LONDON NAVAL TREATY OF 1930

Destroyers (less than 16 years of age) December 31, 1929

	United States		Great Britain			Japan		
	Built	Total	Built	Building	Total	Built	Building	Total
Destroyers.....	<i>Tons</i> 226,313	<i>Tons</i> 226,313	<i>Tons</i> 157,585	<i>Tons</i> 26,786	<i>Tons</i> 184,371	<i>Tons</i> 107,275	<i>Tons</i> 15,300	<i>Tons</i> 122,575
Ratio.....	5	5	3.45		4.07	2.37		2.7

¹ Excludes 61 destroyers of 63,991 tons on disposal list.

² Excludes destroyers listed for disposal.

Submarines (less than 13 years of age) December 31, 1929

	United States			Great Britain			Japan		
	Built	Building	Total	Built	Building	Total	Built	Building	Total
Submarines.....	<i>Tons</i> 59,400	<i>Tons</i> 5,460	<i>Tons</i> 64,860	<i>Tons</i> 45,534	<i>Tons</i> 14,750	<i>Tons</i> 60,284	<i>Tons</i> 66,068	<i>Tons</i> 11,774	<i>Tons</i> 77,842
Ratio.....	5		5	3.8		4.6	5.58		6

¹ Excludes 16,120 tons listed for disposal, but includes experimental hulk S-4, of 790 tons.

² Excludes boats on disposal list and those converted to target use.

Cruisers May 21, 1930

[Same as on Dec. 31, 1929, except that United States has completed since that date one 10,000-ton subcategory (a) cruiser]

	Ratios of ships built now		
	United States	Great Britain	Japan
Subcategory (a).....	5	37.35	17.1
Subcategory (b).....	5	12.0	6.9
Total category.....	5	18.0	9.2

Destroyers (less than 16 years of age) May 21, 1930

	United States		Great Britain			Japan		
	Built	Total	Built	Building	Total	Built	Building	Total
Destroyers.....	226,313	226,313	157,585	26,786	184,371	107,275	22,100	129,375
Ratios.....	5	5	3.45		4.07	2.37		2.85

¹ Excludes 61 destroyers of 63,991 tons on disposal list.

Submarines (less than 13 years of age) May 21, 1930, same as December 31, 1929, except that United States had laid down one additional of about 1,550 standard tons.

Guns on United States and British capital ships

Size of gun	United States		Great Britain	
	Number of ships	Total guns	Number of ships	Total guns
16-inch.....	3	24	2	18
15-inch.....			13	100
14-inch.....	11	124		
12-inch.....	1	12		