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A War Fleet Built for Peace

British Naval Rearmament in the 1930s and the Dilemma of Deterrence versus Defence

Eric J. Grove

The first point to make about British naval rearmament in the 1930s is that the Royal Navy was preparing not for war, but to deter war, at least until after March 1939. The Admiralty's responsibility for Imperial communications meant that no other office of state had a clearer appreciation of the British Empire's inability to cope with the worldwide threats to its security. A war would be a disaster from which it was unlikely the Empire would recover (as indeed it did not), and it must be stressed that it was the Empire, and not just the United Kingdom, that was being protected. Moreover, that protection was provided by deterrence rather than defence. At the end of 1937 the clear-sighted Admiral of the Fleet Sir A.E.M. Chatfield, First Sea Lord and Chairman of the Chiefs of Staff Committee, put it thus: ". . . we should make an agreement with Germany because in view of our Imperial responsibilities we cannot afford to prolong our enmity with that country. . . . If we have to fight her it will probably mean war with Japan and possibly Italy—a world war which may last for years with enormous loss of lives and money and general misery in the world. What are we to get out of such a war and should we feel in a strong moral position in being a partial cause of this war because we had refused to concede anything to her 20 years after the Great War? And what should we gain at the end of it other than the retention of certain German colonies which we won 20 years ago."¹

This was a commentary on a paper by the Naval Staff's Director of Plans, Captain Tom Phillips, a document which drew attention to Britain's inability

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to build a fleet to fight Germany and Japan simultaneously, as well as an air force equal in strength to any within striking distance, and an expeditionary force to fight in Europe. Too often specialists in one arm of service made the mistake of forgetting Britain's overall strategic predicament at this time. The threat was three-dimensional as well as global. Continental-based bombers threatened the Empire's industrial and administrative centre with a knockout blow that had to be deterred by a threat in kind, or defended against by investment in a sophisticated air defence system. The independent air force that was required for this duty not only had first call on Britain's scarce aviation resources, but also had a negative bureaucratic impact on the evolution of Admiralty air policy. That this was a necessary price to pay is difficult to dispute.

In the views of both the government and its critics, the air threat took priority. Encouraged by the best contemporary military advice,² Britain abandoned the concept of sending direct military support to France. The Army became primarily an air defence organisation. Britain could not, however, so easily abandon the protection of her maritime arteries. Here, the might of the Japanese Navy was clearly the main threat. Even if one assumed good intentions of the Japanese government, and that was difficult enough, Japan's ability to restrain its armed forces was doubtful in the extreme. This is not to say that the Admiralty welcomed the prospect of a Far Eastern war—only that it regarded it as the primary threat to be faced. Germany had to be given the benefit of the doubt and Hitler's *Mein Kampf* and its protestations of Anglo-German friendship taken seriously—despite the distasteful features of its author's regime. Having used arms control successfully to contain the power of one rival, the USA, why not use it against Germany too? The Anglo-German Naval Agreement of 1935 was designed to keep German strength to a level that could be coped with by a European-based navy that not only was affordable, but also provided a main fleet to contain Japan. The agreement, which assumed a political consolidation of Anglo-German friendship, became even more significant when the British government, under popular pressure, increased rather than decreased the number of its enemies by what seemed to the Admiralty the gratuitous alienation of Britain's former ally, Italy, over Ethiopia. Then, in 1937, came clear indications that Britain could not afford even the fleet required to deal with both Germany and Japan. This "New Standard of Naval Strength" pressed by the Admiralty that year received a cold reception from the rest of Whitehall. No wonder the Admiralty entered upon the year of Munich even more committed to the "general settlement" with Germany, which Chatfield had suggested the previous year to Sir Robert Vansittart, his counterpart at the Foreign Office.³

Britain's naval rearmament remained governed by the so-called DRC standard of naval strength, which was coined from the Defence Requirements Sub-Committee of the Committee of Imperial Defence, or CID, that first

convened from November 1933 to February 1934 to discuss remedying the grossest deficiencies in Britain's defences. In the month following, the Admiralty prepared a memorandum that set forth the standard of naval strength to be aimed for in the currently darkening international scene, and which formed the basis for British policy at the forthcoming London naval conference. The standard defined in this memorandum, designated the "DRC Standard," was also to be used as the naval yardstick for the recommendations of the DRC when the latter met again in the second half of 1935 to draw up "programmes on the assumption that by the end of financial year 1938-39 each service should have advanced its state of readiness to the widest necessary extent in relation to the military needs of national defence and within the limits of practicability." The DRC standard read as follows: "We should be able to send to the Far East a Fleet sufficient to provide 'cover' against the Japanese fleet; we should have sufficient additional forces behind this shield for the protection of our territories and mercantile marine against Japanese attack; at the same time we should be able to retain in European waters a force sufficient to act as a deterrent to prevent the strongest European Naval Power from obtaining control of our vital home terminal areas while we make the necessary redistributions."⁴

Quantified, this meant a fleet by 31 March 1939 of 15 capital ships, 6 aircraft carriers, 65 cruisers, 144 destroyers and 45 submarines. By 1942 there were to be two extra carriers, five more cruisers and ten more submarines. The target for sloops and minesweepers was 120 vessels. As for the Fleet Air Arm, its 1935 strength of only 190 aircraft was to rise to 357 by 1939 and 504 by 1942.⁵

The battleship would remain the core of the British fleet—the only certain answer to the capital ships of Japan and Germany. Britain not only engaged in a programme to reconstitute her battle fleet, but gave considerable thought to development of the air menace. In the summer of 1936 the CID set up a subcommittee to consider the vulnerability of capital ships to air attack.⁶ Chatfield relished the opportunity to cross-examine critics of the continued construction of traditional capital ships. In conversation with Lord Halifax, a sympathetic Committee member, on their way back from Epsom race course after having seen Mahmoud win the Derby, the First Sea Lord produced the formula that was to be written into the report to justify the new capital ship programme: "If we rebuild the battlefleet and spend many millions in doing so and then war comes and the airmen are right, and all our battleships are rapidly destroyed by air attack, our money will have been largely thrown away. But if we do not rebuild it and war comes, and the airman is wrong and *our* airmen cannot destroy the enemy's capital ships, and they are left to range with impunity on the world oceans and destroy our convoys then we shall lose the British Empire."⁷

The following year five new 35,000-ton battleships were laid down, the first, *King George V*, on the first possible day allowed by treaty. These ships were armed with 14-inch guns, rather than with larger weapons, to give them the maximum possible protection for their displacement.⁸ The latter was limited by the 1936 London Treaty, a desperate attempt to limit the other naval powers to the battleship size that Britain preferred. Chatfield, to whom Beatty, at Jutland, had expressed his famous remark about the quality of British ships, was determined that the superior quality of British ships' companies should never again be thrown away by ship designs that sacrificed protection for armour. The "KGVs" devoted 15,000 tons, 42.5 percent of their displacement, to protection.⁹ Modernisation of older ships was also important to the capital ship programme. Only three existing capital ships, *Nelson*, *Rodney* and, a little optimistically, *Hood*, were considered adequate without rebuilding. Four old ships, *Barham*, *Malaya*, *Royal Oak* and the battle cruiser *Repulse* had received partial modernisations. *Warspite* and *Queen Elizabeth* were to receive radical modernisation as was the *Renown*. *Valiant* was later also selected for the same treatment which involved guns with improved elevation, the latest fire control systems and, except in *Warspite*, new dual-purpose secondary armament to deal with the air threat. Much was expected for AA guns as the primary defence of capital ships from the air threat. As the Commander in Chief Home fleet put it in 1938, "modern gunfire makes air attack of fleets uneconomical."¹⁰

It is easy to be wise after the event in assessing the British Admiralty's attitude toward aviation. There is no doubt that in the 1930s British naval aviation began to lag seriously behind the naval air arms of the other two major naval powers. This however was fundamentally a problem of money. In both the United States and Japan, the navy operated a portion of the "air force." Both navies had equal first-call on the resources their respective authorities made available to military aviation. The U.S. Navy was spending over 40 percent more per major surface ship than was the Royal Navy during the 1930s, much of which was for naval aviation.¹¹ When one examines the doctrines of the three main navies in the 1930s, he sees that there is not much difference among them. Each saw the air arm as an essential but supporting component of the battle fleet. Aircraft were crucial to finding the enemy, slowing him down, and throwing his line into confusion; to spotting for one's own guns and shooting down the enemy's spotters; to sinking the enemy's carriers; mounting attacks on his light forces; frustrating his submarines; and discovering his surface raiders. The differences among the aviation arms of the three navies lay not in the planned roles, but in the number and quality of aircraft available to carry out those roles. Both the Japanese and American navies found that they could operate aircraft in sufficient quantity and quality so that those aircraft would become important weapons, but even this was an evolving and dynamic process only consummated in 1940-41. When Britain

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was configuring her new navy, the potential of aircraft was much more dubious.¹²

That aircraft were crucial, however, was accepted. Chatfield repeatedly used the threat of his resignation to obtain full control over the Fleet Air Arm, so that he would be free of the manning limitations and the reluctance to fund shore infrastructure that the existing system of dual RAF/RN control involved. The decision to grant the Admiralty full control of the Fleet Air Arm was finally taken by Minister for the Co-ordination of Defence Sir Thomas Inskip in 1937, and put into effect in 1939. The Naval Staff accepted, however, that sea-based aircraft could never be of sufficient performance to stand up to land-based aircraft, nor, given their small numbers, could they be specialised in a particular role.¹³ The Admiralty simply did not believe that the Americans could operate aircraft from their ships in the numbers that they claimed. (Each U.S. carrier bore four 18-plane squadrons plus a few odds and ends.) Also, tactical experience seemed to show that it was dangerous to put too many aircraft in a single, vulnerable hull. Hence, the perplexing decision taken in early 1936 to abandon the high-capacity *Ark Royal* type of carrier (72 aircraft nominally) laid down the previous year, and build instead a larger number of ships with armoured hangars and half the aircraft complement. This approach also corresponded with Chatfield's view on the importance of protection in ship design. Despite the well-publicised success of these ships in withstanding wartime damage, it must be emphasized that operational experience caused the Royal Navy to abandon the concept during the Second World War because of its limiting effect on the offensive power of the carrier. Four armoured hangar ships were laid down in 1937. While under construction, the last of them was modified to increase aircraft capacity.

The Admiralty considered the cruiser essential both to defend trade from the threat of cruiser warfare and to support the battle fleet. The DRC standard reasserted the 70-cruiser figure that the USA had finally succeeded in convincing the Macdonald government to abandon in 1930. As one of his first decisions, Chatfield insisted that Britain adopt large "light" cruisers, each armed with twelve 6-inch guns in order to deal with the four Japanese ships of the *Mogami* class, each of which carried fifteen 6-inch guns.¹⁴ Ten were laid down between 1934 and 1936 in three groups of steadily increasing size (from 9,100 tons to 10,550 tons, standard) and protection. There then followed, from 1937, eleven small ships of the *Dido* class, built for fleet work and designed with 5.25-inch dual-purpose guns useful against both bombers and destroyers. To take advantage of the hoped for limits of the 1936 London Treaty, a more economical, 8,000-ton large cruiser design was also prepared, the first being laid down in early 1938. Originally, these ships were to be armed with 5.25-inch guns, but the 6-inch mountings for which production capacity was already available were ultimately installed. There were also the fifteen 8-inch-gun cruisers (ships that Churchill had fought so hard to cancel

in the 1920s) to balance Japan's dozen ships of this type. Modifications were made to improve protection, AA armament, and aircraft arrangements. The rest of the cruiser force consisted of a dozen relatively modern 6-inch-gun ships built in the early 1930s and the 23 surviving World War I programme ships, some of which were to be rearmed for trade protection with anti-aircraft or dual-purpose guns. The old ships were to be retained until 1942, when most of the new ships would be ready.

Just as impressive Japanese capabilities dictated more powerful British "light" cruisers, Japan's large destroyers dictated new, well-armed British counterparts. Suitable 2,000-ton "V-class leaders" were designed in 1935, and the Admiralty considered a new rating for them, as they were more than destroyers but not quite cruisers. "Corvette," "Support," "Torpedo Gunboat," "Scout" and "Frigate" were all considered, but eventually they became "Tribal"-class destroyers.¹⁵ They were armed with twice the number of 4.7-inch guns compared to conventional British destroyers, eight instead of four, but sacrificed torpedo tubes—four instead of eight. Seven were laid down under the 1935 programme. In addition to these large and expensive ships, a full flotilla of nine smaller 1,350-ton destroyers of more conventional design was built. In 1936 the Admiralty used the Ethiopian crisis to increase the tempo of destroyer construction, and in addition to the originally planned full flotilla of nine Tribals, an extra flotilla of smaller ships was added. These were of a new 1,650-ton intermediate design with three-quarters the gun armament of a Tribal, and much heavier torpedo armament, ten tubes. These J-class ships turned out to be more expensive than the Tribals, but the Admiralty was reconsidering its destroyer policy, and after a review it was decided to build two "repeat J" flotillas in 1937. Given doubts over the strength of Britain's future battle line, it made sense to provide destroyers with the maximum torpedo capability against heavy enemy surface units. From the J class onwards, flotilla size was reduced to eight vessels to compensate for the increased cost. The second of the 1937 flotillas, the L class, was to carry new dual-purpose main armament.

The Admiralty was now running too far ahead of both the naval standard the government had accepted and the country's productive abilities. The DRC standard called only for twelve modern and four overage (i.e., World War One vintage) destroyer flotillas. By 1937 the Admiralty had revised this upwards to its own "New Standard" target of twenty-two flotillas, sixteen of which would be modern. The 1937 destroyer orders reflected this private ambition which could not be sustained when the Admiralty's programmes came in for closer scrutiny. Thus Chatfield could not justify any new destroyers for 1938. This omission has been much criticised, but it must be seen in the context of the Ls being delayed (the last was not launched until October 1941) and half the class being completed without the designed main armament. The 1937 ships were not all in the water before the two sister

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flotillas of the 1939 programme were slipping down the ways. Therefore, earlier ordering would have made little difference. The J-N class ships proved successful in service, but the design proved too lavish for wartime emergency construction. Moreover the enhanced torpedo armament, reduced to eight tubes from the L class onwards to compensate for the weight of the new guns, had to be halved during the war to permit increased anti-air protection.

In addition to fleet work, destroyers were to be used for convoy escort if the situation warranted. There is no doubt that if the Admiralty had been granted the gift of second sight it would have ordered its 1930s priorities differently, giving greater emphasis to convoy escort. Yet it was not totally unwise to reason that since Germany was only building a small fleet of submarines, and since she had lost the previous war because she had engaged in unrestricted submarine warfare, that an unrestricted submarine campaign was not such a major threat in comparison to the other dangers that faced the Admiralty. On the technical front, Asdic (sonar) was apparently giving excellent results as a submarine detection device. In 1935 the Admiralty went so far as to state publicly that it did not intend to institute convoy on the outbreak of war, but two years later it reaffirmed that convoy would be used in the event of the Germans engaging in *unrestricted* submarine warfare. Convoy was also to be used if required by the scale of the Japanese *guerre de course* in the Indian Ocean. The Admiralty thought it knew what the requirement was—100 ASW vessels for convoy escort in a European war—but, given the need to rebuild the battle fleet to deter Japan, Britain could only make minimum provision. A few escort ships and patrol vessels were to be built to provide a basis for emergency expansion, but in the event, neither type proved suitable for mass production. In addition, it was planned to fit trawlers with Asdic and to convert 36 old destroyers with new AAW and ASW armament for use as escort vessels.¹⁶

It is salutary to quote the Admiralty's staff historians on this sensitive point: ". . . no plans existed of a vessel suitable for wartime production as a convoy A/S escort. The experience of earlier wars in our naval history had not been taken to heart; in particular the relatively recent lesson taught by the experience of the First World War, that 'the fast vessels needed for escort against submarine attack cannot be improvised.' It was this failure more than any other single factor, which was to lay a heavy handicap on our fighting services in the succeeding war."¹⁷

This, combined with the lack of training in convoy defence operations, can easily be assessed as the Admiralty's greatest failure during this period. Just as today, it was hoped that a threat that appeared to be virtually beyond solution with any practical peacetime fleet could be coped with, in the unlikely event of its happening. It was, at a great price and in circumstances of strategic disadvantage that would have seemed outrageous to pre-war planners. The Admiralty cannot be faulted for making its first priority the

buildup of the main fleet, both to deter Japan and to provide the cover necessary to protect the escorts from superior forces, but a more wholehearted recognition of the necessity for convoy operations for the defence of shipping in almost any wartime circumstances might have at least helped mitigate the problems that gave the U-boats their "Happy Time" in 1940. Even now, one wishes he could be more confident that this lesson of history has been fully learned.

Not encouraging a buildup of German U-boats was good reason to limit the Royal Navy's own fleet of submarines to the absolute minimum. The DRC standard specified 55 submarines, with 20 required to inhibit the activities of the Japanese Fleet in the Far East until the British Main Fleet arrived. The other submarines were required for North Sea patrol (10), minelaying (6), operations with the fleet (3) and training (14), plus 2 in maintenance. Construction of boats of three classes, a large patrol type of 1,100 tons, a small patrol type of 670 tons, and a very small training boat continued as scheduled in order to realize the target figure.

Initially the Admiralty was able to speed up the rate of new building and modernisation of ships of all types when the government conceded an accelerated programme in the summer of 1936. The "peak year for the placing of rearmament contracts" proved to be 1937.¹⁸ Naval estimates increased by over 70 percent, and the government resorted to borrowing to prevent too much deflationary impact on the economic recovery. The Admiralty hoped that the coffers would be opened sufficiently for its full "New Standard" which had been endorsed but not officially approved by the DRC to supersede the old "DRC Standard." Such was not to be. As Dr. Andrew Gordon has shown, the Treasury felt that the loan was a "one off" and not a permanent abandonment of sound finance. It did not want the nation saddled with a fleet it could not afford to maintain in the long term (after all, the name of the game *was* deterrence), and, rightly, it doubted the ability of Britain's industrial base to produce the necessary material. (Some of the armour that Chatfield and the Naval Staff wished to spread over their ships had to be bought from Czechoslovakia.) The Treasury also did not want to use capacity in the depressed areas that would soon be disused once again.¹⁹

The result was the "rationing" system whereby the Admiralty and the War Office had to make do with what was left after the Air Ministry budget had been allocated. In reality, given the nation's inadequate industrial capacity, little was actually lost to the navy. The Admiralty recognised that in effect it was working towards the new standard as fast as was practicable. Nevertheless the 1938 programme was reduced to the bare minimum of ships which were intended primarily to deter Japan: two 40,000-ton 16-inch-gun battleships, one carrier, seven cruisers, three submarines and three fast minelayers.²⁰ No wonder Chatfield wished the government to appease Germany.

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Although the government followed the Admiralty's advice at Munich, the crisis demonstrated that not enough priority had been given to trade protection and convoy escorts. To replace the existing unsatisfactory patrol vessels, Cabinet approval was given to order new ships for this duty, and the result was two types—a small escort destroyer and a slow variant of a whale-catcher. The 1939 programme included 20 of the former and 56 of the latter. Both were better than nothing, but each reflected the contemporary emphasis on coastal rather than ocean convoys. Neither the Hunt-class destroyers nor the Flower-class corvettes proved to be satisfactory ocean escorts, and the former was too much like a fleet destroyer to escape the limitations of production bottlenecks.²¹

In 1938 the long-awaited dockyard at Singapore finally opened to provide the Eastern Fleet with its forward operating base against Japan.²² Early the following year, even before the occupation of Czechoslovakia led the Chamberlain cabinet, reluctantly, to confront Hitler, the Admiralty was having serious doubts about whether the plan to send ships to the Far East was practical. The new First Sea Lord, Sir Roger Backhouse and his dynamic deputy Sir Andrew Cunningham felt Italy could no longer be ignored as a likely ally of Germany and that the German threat alone would reduce the Eastern fleet below the viable level. Chatfield, now Minister for the Co-ordination of Defence, defended the old priority and the ability of even a small fleet to do its job as a fleet in being.²³ Nevertheless the dominions were told that there "were so many variable factors" that it was not possible to assure them how soon and in what strength the Eastern Fleet would arrive—if at all.²⁴ The Admiralty spent the summer toying with idea of rapidly knocking Italy out of the war by the application of what might now be called a "forward maritime strategy," and Cunningham was sent off to the Mediterranean as fleet commander-in-chief to apply it. But almost immediately the Tientsin crisis, in which the Japanese humiliated the British living in that Chinese city, and its reassertion of the need to send seven capital ships to Singapore caused second thoughts.²⁵ All this continued to emphasise the overriding priority of the main fleet, and in July 1939 the CID was still discussing how capital ship production bottlenecks might be overcome by using old turrets and mountings.²⁶

The simple fact was that Britain could not afford and could not physically build, in peacetime, the fleet needed to fight all the wars with which she might be faced. The Admiralty therefore followed a rational policy of concentrating on building a fleet that had the maximum peacetime deterrent effect, while urging the government to follow a congruent foreign policy that would not involve the Empire in a war against too many opponents. If this policy failed, the navy would be forced to fight as best it could with inferior and inadequate forces. They were, however, forces that had a much

improved supply infrastructure than beforehand, and which had rarely been at a higher standard of training or morale.

This study has concentrated on the outward and visible side of rearmament, but perhaps even more important were the less obvious developments. As Andrew Gordon has shown, millions were spent on re-equipping the necessary naval infrastructure. "Between April 1936 and April 1939 the Admiralty spent over 12 m [million]—the value of four fleet carriers—on the direct provision of new plant to provide contractors, Admiralty factories and the Royal Dockyards."²⁷

At the operational level, night-fighting techniques were developed in the 1930s, second only to the Japanese Navy's. Unlike both their Japanese and American counterparts, British naval pilots could operate effectively in darkness. British long-range fire control and, hence, gunnery—in modern ships at least—was, at last, second to none, and her destroyers were well trained in surface action and much better led than they had been in the First World War. Compared to the fleet that fought at Jutland, the Royal Navy of 1939 was a much more finely honed weapon. This made British fleets, squadrons and flotillas, even if outnumbered and outgunned, often the most formidable of opponents, just as they always had been. As Chatfield put it, "we should have lost the battle of Trafalgar on a staff appreciation."²⁸ He had hoped the Royal Navy would not have to fight against the odds, but it was not to be. His Admiralty may have been unable to provide all the materiel with which to fight the war of 1939-45—the DRC standard was not reached in time²⁹—but it did provide a fleet that could cope—just—with what it had and with what could be improvised. Given Britain's strategic and economic predicament, there was simply no realistic alternative.

Notes

1. Comments on a Memo by Director of Plans, 10 November 1937 in "Naval Policy & Expenditure: Papers Collected in Private Office," Public Record Office, ADM116/3631 (London).

2. For example, Liddell Hart. See John Mearshmeier's excellent revisionist study, *Liddell Hart, The Burden of History* (New York and London: Cornell Univ. Press and Brassey's, 1988).

3. Chatfield to Vansittart, 5 January 1937, Chatfield Papers, National Maritime Museum, CHT6/2. For the New Standard, see S. Roskill, *Naval Policy Between the Wars: Vol. 2, The Period of Reluctant Rearmament* (London: Collins, 1976), chapter XI. The Admiralty's problems in obtaining financial sanction for their plans are clearly shown in the file cited in note 1.

4. The misprint in the DRC's Third Report that this originated in 1932 was noticed by Norman Gibbs in his official history, *Grand Strategy: Vol. 1, Rearmament Policy* (London: HMSO, 1976), p. 371. In reality it seems to have been drafted by Captain King, Director of Naval Plans on 5 March 1934 and after approval by Chatfield was officially forwarded in an Admiralty memorandum to the Foreign Office on 14 March, "Disarmament Conference of the League of Nations: Preparations for the 1935 Naval Conference," ADM116/2999. See also Gibbs, p. 120. The papers of the DRC are at CAB21/434.

5. DRC 37, CAB21/434, also a Board Memorandum of 9 October 1935, ADM167/92; Gibbs, pp. 334-335.

6. Sub-Committee on the Vulnerability of Capital Ships to Air Attack. Sub-Committee papers are at CAB16/147.

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7. Lord Chatfield, *It Might Happen Again* (London: Heinemann, 1947), p. 99. See the very similar wording in the section "Weighing the Balance" in the Committee's report dated 30 July 1936, CAB16/147.

8. See G.A.H. Gordon, *British Sea Power and Procurement Between the Wars* (London: Macmillan, 1988), p. 173.

9. *Ibid.*

10. Quoted in the Admiralty Staff History of Naval Aviation, Volume 1.

11. Calculations from figures in Roskill.

12. For the two best studies of Admiralty air policy see G. Till, *Air Power and the Royal Navy* (London: Janes, 1979) and N. Friedman, *British Carrier Aviation* (London: Conway Maritime, 1988).

13. See discussions on that unlikely aircraft, the Three Seat Spotter Fighter, AIR2/1748.

14. Chatfield, pp. 61-62.

15. Board minutes, 3317/9; and supporting memoranda, ADM167/92.

16. Memorandum, "Protection of Scaborn Trade, War with Germany," CAB53/30; Director of Plans paper of 8 April 1937 in Board Minutes and Memoranda, ADM167/99. See also Gordon, pp. 273-274.

17. Naval Staff History, *The Defeat of the Enemy Attack on Shipping*, p. 18.

18. Gordon, p. 175.

19. *Ibid.*, pp. 176-177.

20. Gibbs, pp. 345-350.

21. See *The Defeat of the Enemy Attack on Shipping*.

22. For the Singapore base see W. David McIntyre, *The Rise and Fall of the Singapore Naval Base* (London: Macmillan, 1979) and *The Singapore Naval Base and the Defence of Britain's Eastern Empire* (Oxford University Press, 1981).

23. See the meetings of the CID in CAB2/8 and of Strategic Appreciation Sub-Committee in CAB16/209.

24. Memo by Cunningham, (DCNS) CAB 16/209.

25. Chiefs of Staff discussion in June 1939, CAB53/10.

26. CID discussion, 364th Meeting, 6 July 1939, CAB2/9.

27. Gordon, p. 233.

28. At the 348th Meeting of the CID, 24 February 1939, CAB2/8.

29. At the outbreak of war there were in service 12 capital ships, 6 carriers, 58 cruisers, 100 destroyers, 101 escort vessels, and 38 submarines; two cruisers, another small carrier, one cruiser-minelayer and five destroyers were in reserve; and three capital ships, six cruisers, fourteen destroyers and an escort vessel were under refit. Under construction were five capital ships, six carriers, nineteen cruisers, thirty-two destroyers, twenty-four escort vessels, four fast minelayers and eleven submarines. The Fleet Air Arm had 232 first line aircraft. S.W. Roskill, *The War at Sea, Volume I*. (London: HMSO, 1954), pp. 32, 50, 583-587.

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