

To: Rear Admiral Robley D. Evans, USAF
From: Captain Tobias Yonge, Department of Naval Intelligence
Subject: British *Destrier*-class Sky Cruiser Analysis
Date: 25 April 1910
Classification: Restricted

Admiral:

As you have requested, here is my analysis of the new *Destrier* light cruisers being deployed by the Royal Air Fleet. The information has been assembled from a variety of sources, including James' Fight Leviathans, declassified after-action reports obtained in Britain and France, and observations made by our own agents. As a result, we believe to have as complete a picture as possible without actually being able to thoroughly analyze an actual ship.

If you will forgive an indulgence, I would like to give a bit of background history on the class. Since about 1900 the standard British light cruiser has been the County-class. Well armored and carrying what was once a heavy armament, these ships served well in many different roles. The problem was they were so successful that the British were loathed to replace them until it was too late. The appearance of the French *Liberté* class in 1904 almost immediately rendered the Counties obsolete and outclassed. A gun-heavy refit of several ships failed, and the British stood to lose a fair bit of pride and territory. While the Admiralty was looking at other methods of improving the Counties, Vickers Shipyards funded the design and construction of a new type of light cruiser, which became the *Destrier*. The central idea of the design was a fast vessel that could charge into close range and pound the torpedo-heavy *Liberté* ships into scrap with its two large and six small guns. The British, hideous traditionalists and extremely hidebound, accepted the ship with great reservation, but with two victories by these vessels over French ships within six months of their commission the Admiralty relented and ordered. It is generally believed that these ships will be assigned to the Home and Channel Fleets, leaving the less capable Counties for overseas duty, where they are still generally useful vessels. Three, the *Destrier*, *Courser*, and *Rouncey* are currently in service.

In that infuriating and typically British fashion, there are two distinct types of light cruiser subsumed under the *Destrier* class designation. Since the two types differ only in engines and armament, general observations about both types can be made. Below are the basic statistics for the ships.

Displacement: 5,100 tons
Length: 301 feet
Width: 55 feet
Height: 60 feet (excluding funnels and masts)
Speed: 46 knots
Armor: 1" gun shields, .5"-1" deck, .5"-1.5" belt

Those armor figures are accurate, sir. In order to achieve their higher speed the designers stripped the ship's armor to the barest minimal. In comparison, our *Chester*-class ships have armor that is approximately 50 percent heavier in all areas, and the remarkably well-armored County-class ships that they are suppose to replace has armor almost twice as thick. What is worse, with the replacement of the coal-fired engines with oil-fired ones they lost the additional protection of the coal bunkers. This has made the *Destriers* damage sinks. Although none have been loss, they tend to return from combat operational in the barest sense of the word.

Also, we have reports that, despite Vickers' claim that the vessels would be able to outmaneuver their French counterparts, *Destrier*-class cruisers have a turning radius more in line with an armored cruiser or battleship. In practical terms, this means that French cruisers can and will outmaneuver the *Destriers*. This has forced the British to rethink their tactical doctrine with light cruisers, and it is believed that squadrons of three or more cruisers, or one cruiser supported by two-to-four destroyers will become standard.

The good news is that the *Destriers* are extremely well-armed for a light cruiser. Central to this are the two massive BL 7.5-in/50 Mark V guns mounted in single turrets on the bow of the craft. Outranging and more powerful than the 6-inch and 138-centimeter guns used by most other light cruisers, they are central to the designated mission of the class. Supporting these guns in close-range engagements are six of the excellent QF 3-in 20 cwt (45cal) Mark V guns, three in each broadside. Capable of 15 rpm, these guns are intended for use against destroyers but can damage even armored cruisers at close enough ranges.

The main drawback of this weapons complement is that there are absolutely no guns on the stern of the ship. When combined with the lack of maneuverability and light armor this is a serious weakness to what had the potential to be a powerful, if quirky, design.

As I mentioned previously there is a second sub-class of the *Destrier* design. Designed by Yare Shipworks, the *Charger* sub-class is the British response to the French *Faucon* class.

(A minor digression here, sir. It amuses me to hear Brits boast that they are on the cutting edge of Leviathan technology and design, but their most recent designs have been direct responses to new French designs. Not even a preemptive response, but a reactive response.)

In order to solve the *Destrier's* abysmal maneuverability, the *Charger* was fitted with more powerful and efficient geared turbines, increasing speed without increasing size or weight. Now capable of making 51 knots, the *Charger* was also fitted with larger maneuvering fins, based on recent French innovations, which improves her turning radius greatly. However, the enlarged fins are more vulnerable to damage, and when damage the *Charger* is just as hard to turn as standard *Destriers*.

The other major change is in the armament. Instead of the mix of large and small guns, the *Charger* standardized it weapons to seven BL 6-in/45cal Mark VII guns. A twin and single mount are on the bow, while each broadside has two single mounts. Though again leaving the stern annoyingly unarmed (though with the larger maneuvering fins mounting a gun there might have posed too much of an engineering challenge, though our architects are telling me that it is more than possible) the standardization of the weapons allow for more accurate fire control.

Furthermore, though less damaging the 6-in guns have a range almost equal to the 7.5-in guns on the earlier ships and have a slightly heavier broadside at range (500 pounds as opposed to 400 pounds) and in close combat (500 pounds to 448 pounds). The *Charger* has only recently been completed, and it remains to be seen if anymore ships of this type are built.

In conclusion, sir, the *Destrier* is a mixed bag. Both sub-classes offer good speed and firepower, but their armor is very much on the thin side, and the primary type suffers from poor maneuverability as well. These last two factors compromise its ability to handle its primary objective- closing with and killing French cruisers- and also means that these ships spend as much time in the repair yards as they do on active service. The British would have been better served fitting improved engines on the Counties to increase their speed, and sacrificing some of the County's armor for additional (and heavier) guns.

As to countering *Destriers*, I think the *Omaha*-class should be able to fill that role. The *Omaha*, as you remember, was designed primarily to counter the French vessels, and is in fact very similar to the *Charger*. Our ship is more maneuverable, only slightly slower, better armored, and carries an extra 6-inch gun, though her structural integrity is lower.

[Sir, for comparison purposes I have included Captain Winchester's report on the *Liberté* cruisers. It is colorful, to say the least, but informative nonetheless. I have had to make minor additions to bring the report up-to-date with the most current information.]

To: Rear Admiral Robley D. Evans, USAF
From: Captain Gabriel Winchester, Department of Naval Intelligence
Subject: French *Liberté*-class Sky Cruiser Analysis
Date: 24 March 1905
Classification: Restricted

Though this may sound like hyperbole, damn do those Frenchies know how to build a cruiser. I've said it before, the British may rule the sky with their battleships, but the French could rule the world with their cruisers. The *Liberté*-class of light cruisers marks a distinct shift in cruiser design and theory. Previous French light cruisers had emphasized guns, with torpedoes as secondary weapons. The *Liberté* does the opposite, carrying twice the number of launch bays and only two gun mounts, specifically the 138mm/43cal (approximately equivalent to the British BL 6-in/45cal Mark VII), with a single mount fore and aft. These design choices suggest that the French are starting to adapt elements of the Jeune École school of naval warfare into their Air Fleet. Torpedo-armed light cruisers and destroyers would provide suppressive long-range fire to support armored cruisers and battleships [as well as the new Faucon-class gun cruisers-TY] keeping with the theory's focus on using larger numbers small but powerfully armed vessels to counter-act individually large ships.

The other thing that must be noticed about the *Liberté* cruisers is their maneuverability. Roughly a third faster than the British County-class cruisers, the addition of several sets of large maneuvering vanes give the ship the capability to literally turn in place with minimal thrust. This means that the *Libertés* can fire off torpedoes, spin, and fire off two more in quick succession. Imagine two or three *Liberté* cruisers and eight to twelve destroyers doing this and you get the picture. This also means that the *Libertés* will have no problem dodging counter-fire, as they can run away like no other ship can.

Before I forget, here are the specifications for the *Liberté* class.

Displacement: 5,360 tons

Length: 296 feet

Width: 62 feet

Height: 72 feet (excluding funnels and masts)

Speed: 46 knots

Armor: .75" gun shields, 1" deck, 1.75"-2.75" belt [I need to note that these values are approximate. Captain Winchester converted the measurements from metric and did a haphazard job of rounding them. Also, there is reports that French armoring practices may be slightly superior to British methods, increasing the protection offered from a given thickness-TY.]

Obviously *Liberté* vessels are optimized for fleet duties. This is curious, as the Jeune École theory also advocated long-range commerce raiding. *Libertés* are not suited for this role. First, the aerial torpedo is useless against blue-water shipping. Second, it achieves its speed through the use of turbines, which are notoriously inefficient in terms of fuel consumption [these

ships predate geared turbines-TY]. The *Conquérant* class of armored cruisers can pull duty as convoy raiders, but are better used to show the flag and discourage adventurism by the British, Germans, and Italians.

So, in conclusion, the French have scored a major tactical victory over the British without a shot being fired. The venerable County-class cruisers are going to be too slow and too lightly armed to deal with these ships, especially during fleet engagements. No armor on a ship currently in service will be able to withstand the sheer number of torpedoes the *Libertés* will send into the air, so the question becomes what will the British do?

At the same time, however, the French may have also shot themselves in the foot. *Liberté* cruisers will undoubtedly prove to be too short on the legs and lacking enough gun power to be convoy raiders. Without convoy raiders the Jeune École theory simply does not work. Armored cruisers are too valuable elsewhere, and the older *Pothuau* class of light cruisers is simply pieces of junk.

[About two years after Captain Winchester submitted this report, accurate intelligence was acquired on a variant of the *Liberté* class. Only two ships of this type, the *Pontbriand* and *Lafayette*, were built, which led us to believe that they were test configurations for a new type of cruiser, which later materialized in the form of the *Faucon* class. These ships retained the armor and 138mm guns of the standard type, but replaced the torpedo bays and maneuvering fins with an impressive eight 65mm/43cal quick-fire guns. This powerful, but short-ranged battery makes these two ships far more effective in the commerce raiding role. Furthermore, they were the first two ships equipped with extraordinarily powerful geared turbines, and an innovative engine and rudder configuration maintained their ability to maneuver like a light cruiser should. Due to their sheer power, though, these engines remained a fuel hog, which is what probably led to the adoption of high-power triple expansion engines for the first run of *Faucon* class ships-YT.]

Bob, I took the liberty of forwarding you the advanced copy of Captain Yonge's analysis of the new Faucon-class light sky cruiser. Although not his final draft, it is substantially complete and very thorough.

- Hugh

To: Rear Admiral Robley D. Evans, USAF
From: Captain Tobias Yonge, Department of Naval Intelligence
Subject: French *Faucon*-class Sky Cruiser Analysis
Date: 13 June 1910
Classification: Restricted

Although I am not going to indulge in hyperbole like some of my colleagues, the French do seem to have a clear idea of what makes an effective light cruiser. The *Faucon* class is an almost perfect complement to their older *Liberté* class of cruisers. The standard type is a well-balanced and generally effective design, and the gun-heavy Block II ships are superb long-range commerce raiders and patrol ships. In addition, a "half-variant" one-off design will be analyzed.

To start, here are the basic stats of the *Faucon* class.

Displacement: 4,850 tons

Length: 250 feet

Width: 72 feet

Height: 80 feet (excluding funnels and masts)

Speed: 38 knots

Armor: 1" gun shields, 1" deck, 2"-3" belt

As you can see, they are shorter, wider, light, slightly slower, but slightly better-armored than the previous class. After-action reports obtain by our agents in Britain suggest that the unusually thin profile of her bow and stern makes the *Faucon* slightly harder to target from the front or rear. This feature would be incredibly useful against the British *Destriers*, the standard tactics for which involve maneuvering into the enemy's rear arcs. Also, despite the stumpy design, the French ships are still more maneuverable than the British ships, a testament to the French engineering ability.

The original configuration, which I have designated the Block I, carries a mix of aerial torpedoes and guns. Specifically, two torpedo bays are deployed, and the ship mounts a twin QF 100mm/55cal gun forward, two single QF 47mm/40cal guns fore and after, and two QF 75mm/40cal cannons on each broadside. The biggest problem here is that all of the guns are

more suited to engaging destroyers than cruisers, and with the exception of the 100mm guns all are extremely short-ranged. Obviously the French intend these ships to operate in conjunction with the *Liberté* class in fleet engagements.

Unlike the typical *Liberté*, however, the *Faucon* is also armed for anti-shipping duties, which is where that massive number of quick-firing guns truly shines. The use of triple-expansion engines and coal fuel are also indicative of this use. However, it has been discovered that the overpowered engines are prone to excess wear and breakdown much quicker than expected, especially when using lower-quality coal.

The French have always shown a penchant for experimenting with their Leviathans, which has led to a one-off design that I am calling the Block IA. The *Ardent*, third ship of the class to be launched, replaced her torpedo bays with additional 75mm guns, increasing her short-range firepower. When she first appeared we assumed that she was a test platform for a new configuration, and we were shortly proven right.

The first Block II ship of the *Faucon* class appeared less than six months ago, causing a stir among the British intelligence community. We were slightly less surprised. The biggest change was the replacement of the triple-expansion engines with much more powerful geared turbines, increasing her top speed and cruising range. These turbines, derived from those used on the *Grenouille* class of destroyers, have proven very reliable and very efficient. The adding of enlarged maneuvering fins has given the new ship the maneuverability of a destroyer, and even if these extra fins are damaged it still can match or outmaneuver British cruisers.

The ships also suffered a slight reduction in armor, but as it is still equal to the *Libertés* I would not dare to call them under-armored. What should be more worrisome for captains is the reduction in firepower. Though the 100mm guns are retained, two 75mm and one 47mm gun are removed. For commerce raiding this is still more than sufficient, but against other cruisers this is woefully inadequate.

Overall, the *Faucon* should be considered a dangerous adversary, but all variants of the class have weaknesses. The best counter to them will be long-ranged guns, such as the 6-inch cannon mounted in many on our ships as well as British ones. Their armor means that it will take a lot of firepower to destroy one, especially with the apparent difficulties in targeting their bow and stern. To the best knowledge of our agents, the French are simultaneously producing *Liberté* cruisers alongside Block I and Block II *Faucons*. Composite squadrons of these ships will be very difficult to counter. I recommend that a special think-tank be assembled to develop strategies for handling such a formation and to suggest improvements to the *Omahas* to account for the unique abilities of these ships.

To: Rear Admiral Robley D. Evans, USAF
From: Captain Tobias Yonge, Department of Naval Intelligence
Subject: British County-class Sky Cruiser Analysis
Date: 21 May 1910 (Original Dated 4 January 1903)
Classification: Restricted

I apologize for the delay in getting this to you, sir. It took longer than I expected to find the original briefing Commodore Carlton wrote seven years ago, and then I had to sort through all of the intelligence reports since then to update it. Updates will be in **bold**.

The British, despite their rather dogmatic and traditionalist attitudes, have proven again that when they want to they can be great innovators when they want to be. The County-class is proof of this. These ships are fast, heavily armored, and well-armed, and should be able to serve both as scouts for the battle fleet and in commerce protection/raiding roles.

Before I get into the specifications, I need to note that the 21 ships of the County-class are actually divided into five separated sub-classes. Though this had the potential to greatly complicate this briefing, it was determined that the different sub-classes generally only differed in the type and arrangement of their guns (i.e. the *Nottinghamshire* sub-class carries Mk V main guns, while the rest of the ships carried Mk VII, etc), placement of the armor on the ship, and engines. **This still is generally the case; however the two ships of the *Hertfordshire* subclass have since been refitted with extra guns in place of the torpedoes. This is discussed later in this document.** All ships remain superficially similar, which makes distinguishing the sub-classes without identifying the ship itself almost impossible. **Again, the modifications to the *Hertfordshire* subclass make visually identifying the two ships easier.**

Here are the general specifications of the Counties.

Displacement: 5,100 tons

Length: 290 feet

Width: 55 feet

Height: 65 feet (excluding funnels and masts)

Speed: 30 knots

Armor: 1.25" gun shields, 1"-1.5" deck, 1.5"-2.25" belt

As you can see, the ships are fairly compact and well-armored. Their thirty-knot speed, while not the fastest you will find in a cruiser, is more than adequate for their intended roles **until the introduction of the much faster *Liberté* and *Faucon* classes by the French.** Their triple-expansion engines are remarkably efficient, which allows the ships to travel quite far without coaling. This supports their roles as convoy escorts and also as commerce raiders. In fleet actions the heavy armor should allow them to absorb some damage as they scout ahead of the main battle fleet, and will also protect them against the guns of destroyers and other cruisers. **This is still true, especially when compared to the "tinclad" *Destrier* class.**

The ships are well-armed for a light cruiser **of their time period**. Their primary guns are single BL 6-inchers mounted fore and aft, and four QF 3-inch cannons mounted along the broadsides. The model and caliber of these guns varies between the various sub-classes, but generally speaking they all have equivalent gun power. For long-range combat each ship is also equipped with an aerial torpedo bay along each flank.

As mentioned previously, the *Hertfordshire* and the *Cheshire* were modified in 1908 in an attempt to counter the *Liberté* class. The aerial torpedoes were removed, and in their place two QF 4.7in/45cal Mark V guns were installed. These guns have a shorter range but are almost as powerful as 6-inch cannon, and have a much higher rate of fire. It was discovered later that the ships also landed two of their QF 3-inch guns in favor of strengthened belt armor. This last modification has our analysts completely baffled, as the minor increase in armor has no affect against aerial torpedoes. Then again, now that I am looking at it, it seems likely that the extra armor is meant to defend against the light guns of the newest French cruisers and not their torpedoes. Personally, I would consider this refit a successful failure, as it obvious influenced the *Destrier* design but failed to significantly improve the Counties themselves.

In my opinion, the County-class is a well-balanced design that should be able to perform all of their intended roles without much difficulty. As built they shouldn't pose a threat to a battleship or armored cruiser, but should be an effective deterrent against other cruisers and destroyers. **This generally remains true. County-class ships are still equal or superior to German, Japanese, and Italian vessels. We expect to see more of these ships sent to overseas stations as sufficient numbers of *Destriers* are completed.**