The Birth of Naval Aviation.

Some five years before the outbreak of WW1 a French engineer –Clement Ader- published a book entitled "L'Aviation Militaire" in which he wrote "An airplane-carrying vessel is indispensable. These vessels will be constructed on a plan very different from what is currently used. First of all the deck will be cleared of all obstacles. It will be flat, as wide as possible without jeopardising the nautical lines of the hull and it will look like a landing field"

Most military experts ignored these prophetic words, but not the US Naval Attaché in Paris who had read many of Ader's previous papers on aviation and who recognised their worth. He sent the full report to Washington but it provoked scant interest until, in 1910, a civilian named Eugene B.Ely persuaded the US Navy to erect a temporary deck on the fore end of *USS Birmingham* to accommodate his Curtis biplane. The ship steamed slowly out to an anchorage and Ely flew off the ship and returned to a shoreside airfield. A few weeks later he again persuaded the navy to build a rather longer deck at the after end of *USS Pennsylvania* and, with the ship again at anchor, he flew from a nearby airfield and *landed* on the ship.

The navies of the world were, by this time, taking a very great interest in "naval aviation" and, early in 1912, Lieutenant Samson R.N. flew off a deck built on the forward end of *HMS Africa* in his Short S38 biplane with the cruiser secured to a buoy. Later that year he confused the sceptics who refused to accept that an aircraft could fly off a ship when she was underway by flying off *HMS Hibernia* when she was steaming at some 15 knots.

Now, the Admiralty needed no further proof and they converted a merchant ship as a *seaplane* carrier –and called her *HMS Hermes*. The flight deck was approximately 100 feet in length and the aircraft were stowed in a hold abaft this served by a number of cranes capable of lifting them up to the flight deck and subsequently recovering them from the sea after landing. The concept was developed and in the early months of WW1 a bigger merchant ship, Cunard's *Campania* of 18,000 tons, was converted for the carriage of a dozen seaplanes. Her flight deck was rather longer but the aircraft took off using a trolley system – the trolley falling away as the aircraft became airborne.

Later that year another merchant ship was converted and she entered service in December 1914 named *Ark Royal*. This ship remained operational until the outbreak of WW2 but by this time she had been renamed *HMS Pegasus* to facilitate the naming (in 1937) of another *HMS Ark Royal*.

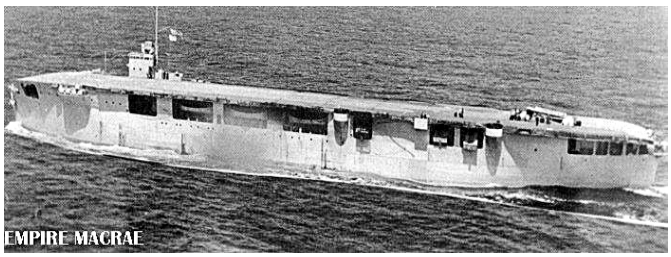
Undoubtedly, the Admiralty was convinced that shipborne aircraft were here to stay and early in WW1 several merchant ships were converted to aircraft carriers. Tests had proved that faster ships were better suited for the role and so a number of ferries were converted. Research continued apace and now it was agreed that it would be much more advantageous to construct a vessel on which conventional land-based aircraft could land – and take off again as needed.

HMS Argus entered service as WW1 ended but prior to her commissioning the Royal Navy had adopted a take-off system known as the "gun turret system" whereby a short deck was erected over the full length of a forward turret and from this the small Sopwith Pup fighter aircraft took off and engaged the enemy – and returned to ditch close to a friendly ship. Indeed, this wasteful and dangerous system prevailed in a broadly similar manner throughout WW2 when naval aircraft were catapulted from specially equipped merchant ships and, after engaging the enemy, they also ditched in the midst of the convoy with the hope that someone would stop and rescue the pilot.

Development continued and this led to the construction of the carrier in the form familiar to those who served during WW2 and thereafter. Long flight decks, arrester wires, steam catapults and many other innovations were introduced leading eventually to the introduction of the "through deck cruisers" equipped with the famous Harrier (Short /vertical take-off and Landing) aircraft which contributed so much during the Falklands campaign.

WW2 saw the introduction of the Escort Carrier – popularly known as Woolworth Carriers to reflect the meagre budget allocated for the construction of some 30 in the USA and 6 in the UK.

Merchant Aircraft Carriers were built to supplement the "Woolworth carriers" (some of which spent long periods being repaired and refitted) and these were modified bulk carriers and tankers. The advantage of using ships like these was that they were easily converted for the carriage and operation of aircraft but could also carry cargo. They were manned by merchant seamen augmented by Fleet Air Arm personnel and RN gunners.



Empire Macrea

One of four such "MAC" ships managed by The Hain Steamship Co. on behalf of the Ministry of War Transport. Hains lost all but one of their 27 pre-war fleet and, unable to re-build fast enough, were entrusted to manage 30 vessels by the MoWT.

As a boy growing up in Northern Ireland our farm adjoined HMS Shrike, the RNAS base at Maydown,Co.Londonderry and it was from here that the aircrews and aircraft of the "MAC ship Wing" operated. Some of them were Dutch (there were several Dutch flag Mac ships).

I clearly recall my parents and our neighbours entertaining aircrew members on many occasions and it was probably this early association that made me consider a career in the Fleet Air Arm – an ambition which soon dissipated when I joined HMS Conway in 1944.

Today there is considerable confusion surrounding the future of the two super-carriers being built for the Royal Navy at a time when the Defence budget is being drastically curtailed. The two huge aircraft carriers are being built in sections throughout the United Kingdom and will finally be assembled in Scotland but there are fears that only one will enter service – and that that ship will not be equipped with fixed-wing aircraft for at least ten years. Happily, the French and United States navies have indicated that they will supply aircraft for operational use from the Royal Naval carrier -subject to numerous controls and restrictions – but not everyone is convinced that this is the best option.

Despite the reservations of most Royal Navy members and many others involved with the defence of the realm it is probable that Monsieur Ader and Mr. Ely would have greeted the news with acclaim!

CRK 31/10/10

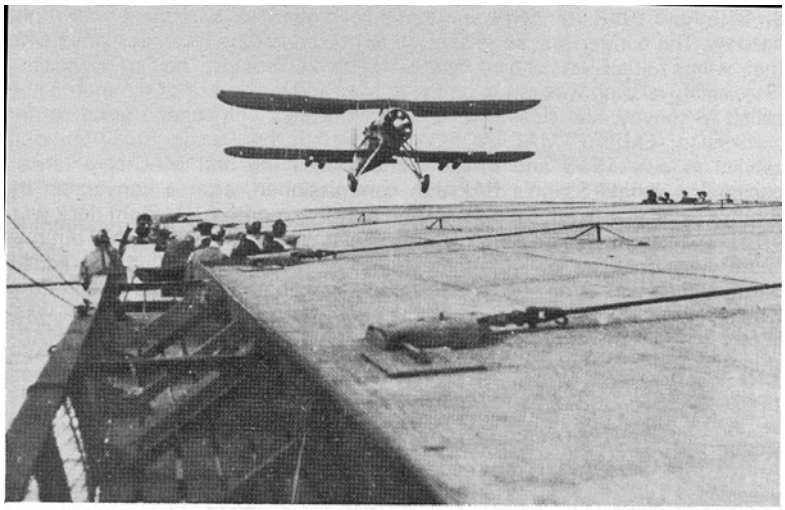
A piece in the last edition has prompted this contribution from Cachalot Reg Chave.

Reg Kelso's article on Naval Aviation took me back a bit - to sometime in 1943, in fact.

"That's not one of Dinah Shore's best", said my pilot. We had just left the eastbound convoy, I had closed down the operational radio channel, and we were listening to AFN as we went into the circuit of RNAS Maydown, HMS Shrike.

Little did I know that we were flying over the farmlands of the Kelso family, where our doyen Reg would have been working away as a lad on the farm pending his transition to HMS Conway.

However, I was reminded of all this when reading Reg's article in the December *Cachalot*. I served as a Fleet Air Arm observer on both the *Empire Macallum* and the *Empire Macalpine.* As Reg said, these were both bulk carriers, purpose built with flight decks, crewed by MN and DEMS personnel, with 3 or 4 Swordfish anti-submarine aircraft and their flying crews and maintenance personnel. We were part of 836 Squadron flying from these MAC ships and based at Maydown, N.I. We saw little action: neither our rockets nor our depth charges scored a kill. We had to satisfy ourselves that our dicing with heaving flight decks did keep the U boats down and gave some security to the convoy. As Reg has said, the flying crews included some Dutch personnel. I remember that "return to moving base" was the essential exercise for an observer during training. We, too, had to observe radio silence.



Swordfish aircraft landing on **EMPIRE MACALPINE.** This photograph is believed to show the first landing of an aircraft on a "MAC" ship *Fleet Air Arm Museum*

The MAC ships had to turn into wind to operate aircraft. This involver breaking from the convoy lines, sometimes on a reciprocal course. To secure this manoeuvrability and "catching up" ability, the MAC ships were uneconomically over powered. They did not last long in service after the end of WWII.

At the Western end we used the RCAF base at Dartmouth, on the outskirts of Halifax, Nova Scotia, where we rested(?) and watched our eastbound convoy forming up in Halifax harbour. RC