





THE SUPERMARINE WALRUS BY THE SAME AUTHOR

Survival at Sea

# THE SUPERMARINE WALRUS

The Story of a Unique Aircraft

# Lieut-Commander G. W. R. Nicholl O.B.E., R.N.



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# PROLOGUE

'The time has come,' the Walrus said, 'To talk of many things: Of shoes—and ships—and sealing wax— Of cabbages—and kings— And why the sea is boiling hot— And whether pigs have wings.'

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### FOREWORD

TO THE LATE Rear Admiral Maitland W. S. Boucher, D.S.O., Royal Navy, goes the initiative for the introduction to the Fleet Air Arm of this somewhat improbable looking, yet highly successful flying machine.

He said to me one day in late 1933, 'I've just been to Supermarines. I've seen a small amphibian. It looks handy, tough and versatile . . . something the Navy needs. I want you to put it through its service trials. Off you go.'

With a Supermarine Southampton flying-boat course at Calshot and some tests at Felixstowe intervening, off I went to Woolston to collect Seagull V N.2 early in 1934.

There I met the great aircraft designer, R. J. Mitchell. He at once diverted my attention from amphibians to fighters by delicately removing a dust sheet from what was the mock-up of the prototype Spitfire—and proceeded to discuss the tactics that would be necessary to get the best out of its 8 guns.

I regained my composure and hurried on my way.

The gallant and honourable history of the Walrus is faithfully recorded in the pages of this book.

My lasting impressions are those of noise and confidence and affection. Noise from the open exhausts and the tremendous water clatter on the metal hull—confidence from the Bristol Pegasus engine and the physically robust character of the whole machine—affection because it seemed to possess a most friendly nature. The Walrus amphibian certainly served the Nation well.

> CASPAR JOHN, Admiral of the Fleet.

# INTO SERVICE

'Very interesting; but of course we have no requirement for anything like this.'

Remark by the Director of Technical Development, Air Ministry when inspecting the prototype hull at the Supermarine Works.

#### CHAPTER ONE

#### ANCESTRY

ON AN EVENING late in May, 1935, when the Home Fleet was gathered at Scapa Flow, a strange new seaplane beat its noisy way at deck level round the ships in that remote Orcadian anchorage-a harbour which, having been our main naval base in one world war, was soon to revert to that function in another and even greater clash of arms. Standing on the flight deck of the aircraft-carrier Furious, I watched her pass close down the port side; it was my first sight of the Vickers Supermarine Seagull V (the original name of the Walrus). It was in fact the first aircraft with a completely enclosed cockpit which the Fleet Air Arm was to acquire (in due course, for this was the very first of the line and already two years old). To show his fellow aviators in the carrier what such modern conveniences meant, the pilot, Lieut.-Commander E. O. Figuls Price, was wearing, with all the nonchalance of the business tycoon in his 'executive' aeroplane of thirty years on, a bowler hat! That delightful gesture was fortunately not prophetic, for the wearer survived long in the Service to retire honourably as a captain.

That was not quite the start of the Walrus story, of course. That small amphibian, which was to capture the affection of all who flew her, may not have been a thoroughbred in the conventional sense, but she came from a famous stable which reared outstanding thoroughbreds. She was, however, to establish a length of life never before, nor now ever likely to be reached by a front line aircraft. But by harking back nearly a quarter of a century from that day in 1935 to when her lineage was first established, it will be possible to trace the genes she was to inherit from one or the other side of the family. In an age when military aircraft have become complicated to a point almost beyond normal comprehension, and are becoming rapidly controllable only by electronic brains, it is perhaps as well to remember that not so long ago they could and often had to be flown from the other end of the human anatomy-the seat of the pants.

Noel Pemberton-Billing, one of the many colourful characters of

early aviation history, founded the firm of that name in 1912 at Woolston on the east shore of Southampton Water, where the great liners of the world passed to and fro within sling-shot. The site was chosen because of his intention to concentrate primarily on the building of seaplanes; and, as a trade name for his products, he reasoned that 'Supermarine' would be as appropriate as was submarine for underwater craft. Despite the fact that aviation was still in its infancy (or perhaps, looking back at its rapid growth, it would be more correct to say its 'teens) and there were still many inexplicable phenomena in the art of flying, he was nothing if not bold in conceiving what an aircraft could, or should, be capable of doing. Even as early as 1914, as an illustrated advertisement in the contemporary issue of the Royal Aero Club's Year Book showed, he offered for sale (yet seemingly without finding a customer with trust to equal his own) what was termed a 'Flying Lifeboat'; that is one which, like some gigantic hymenopterous insect, could shed its wings and tailplane after alighting on the sea and thereupon leap forward through the waves as a conventional surface craft. It was a scene which the illustrator depicted with more verve than credibility!

In 1916, when Pemberton-Billing became a member of Parliament, he sold his interests to Hubert Scott Paine, who changed the name of the firm to Supermarine Aviation Works. A year later there joined the company a young railway engineer of twenty-two who was to have a profound influence on its fortunes and whose name was to become ever connected (albeit posthumously), when war again broke upon this country, with 'The Few'. This was R. J. Mitchell of whom J. D. Scott, in his history of Vickers, has remarked that '(his) mind lived with the shapes that would move most effectively through the air'.

The year in which Supermarines had been founded also saw the continuation of significant advances in naval aviation. Pioneering experiments in the operation of aircraft from warships were already being carried out, both by the United States Navy and our own, but this is a subject to which further attention will be paid in Chapter Five. The Royal Flying Corps had also been formed with naval and military wings, the former under the control of Captain Murray Sueter as Director of Air Services at the Admiralty, a post which was up-graded on 31 January, 1917, to Board level, so that Murray Sueter became our first Fifth Sea Lord and Chief of Naval Air Services. And in 1912,

appropriately sited across the water from the Supermarine factory, Calshot was opened by the Admiralty under the command of Lieutenant Spencer D. A. Grey, R.N. as a seaplane training base; and it was to remain the chief centre for that purpose until it became redundant fifty years afterwards.

Yet another event which soon followed was the conversion of the battlecruiser *Furious* in 1917, the mighty 18-inch gun-turret forward being replaced by a flight deck from which aircraft could take off. One of the dates of great significance in naval history then occurred: on the 2 August Squadron Commander E. H. Dunning made the first successful landing on a ship under way. The *Furious* was steaming at about 26 knots into a 21-knot wind, and the momentous occasion is described in *Early Bird* in the casual words of the author, W. G. Moore, who was Dunning's second-in-command:

He took off, and after a circuit of the ship made his approach along the port side, side-slipping in and centring up over the deck in the right position. We dashed out and grabbed our appointed toggles. He then cut his engine. We had some difficulty hauling the aircraft down squarely on to the deck and holding it in the wind, but we did so and the aircraft was secured without damage and Dunning stepped out.

The prototype of the modern aircraft-carrier was launched on its way. As happened to so many great pioneers, however, Dunning was killed a few days later when, after a further successful landing, his third attempt ended in a crash over the side as a result of stalling when his engine choked. The obvious risk of this method, slipping an aircraft in before the high superstructure of bridge and foremast and then attempting to sit down safely on the deck immediately in front, was highlighted by this tragedy; Furious was therefore further modified by having her remaining after turret replaced with another flight deck. This was used solely as a landing-on area, fore-and-aft arrester wires being rigged to engage in side hooks on the undercarriage of the aircraft, which were fitted with skids instead of wheels. The constructors responsible had, nevertheless, curiously overlooked the effects of the dangerous air eddies swirling in the wake of the funnel and bridge. A high crash barrier, subsequently erected immediately abaft the funnel, was not entirely effective in reducing accidents to the Sopwith Pups which, Moore said, 'dropped on the deck like shot partridges' because of the suddenly reduced airflow. The experience thus fatefully gained led to the ss Conte Rosso, an Italian ship bought s.w.-2

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direct from the builders in this country at the outbreak of war, being converted into the completely flush-deck carrier *Argus*. By the time the Royal Air Force was formed on 1 April, 1918, consequent upon the Smuts Committee report, naval air strength stood at 100 air stations, 2,500 aircraft and over 55,000 officers and men.

In the year before the war ended Supermarines had built what was perhaps the true grandparent of the Walrus. A. N. Clifton, a member of the design team, describes this as a 'pusher' two-seat flying-boat fitted with wheels to enable it to take off from the deck of a battleship or carrier, the wheels being thrown clear of the hull in flight (an extravagance not unusual in those days, the aircraft themselves often being regarded almost as 'one shot' affairs if they could not make a shore base after being launched and carrying out their mission). The weight of this boat was only 3,567 lb, the wing span 50.33 feet with an area of 455 square feet, and the speed 100 mile/h.

Three years after joining, that is in 1920, Mitchell was appointed Chief Designer by Scott Paine; and in the autumn of that year the Government promoted a competition for a commercial amphibian, for it was becoming obvious that a future, uncertain in scope perhaps yet clearly discernible to those with eyes to see, lay in being among the first to pioneer the civil air line routes. For this competition Supermarines entered a version of their established Channel Type which gained second prize, the first going to the five-seat Vickers Viking III with a Rolls-Royce Falcon engine. The larger firm no doubt took particular note of the runner up, as will be evident later.

The following year an improved version of the Martlesham woodenhulled amphibian was developed with a tractor propeller and named the Seal. This in turn was succeeded by the Seal II, developed as a deck-landing amphibian and fitted with a 450 hp Napier Lion engine driving a tractor propellor, an aircraft for which a 'phenomenal operational life of twenty years' was a claim mentioned by Vickers' Chief Designer, J. Smith, writing about R. J. Mitchell in the May, 1954, issue of the *Journal of the Royal Aeronautical Society*. The name of this aircraft was changed to Seagull I, for two further marks were built later. While we will be returning in due course to the Mark III version, it is of interest to interrupt the sequence of these particular developments at this point in order to take a look at what was going on in the stable next door; the development starting there was undoubtedly to mark the turning point in the fortunes of the firm. While not directly related to our main theme, it emphasizes the experience and expertise which the firm were solidly building up in the design of seaplanes.

In 1912 the Aero Club de France had received an *objet d'art* valued at  $\pounds_{1,000}$  from M. Jaques Schneider, son of the founder of the great armaments firm, as a trophy for a speed contest open to aeroplanes of all types. It was decided that the course was to be either in a straight line or over a closed circuit of not less than a hundred and fifty nautical miles, the competitor who first won the event three times in five years to become the permanent holder of the trophy. The first win had appropriately gone to France in 1913; the following summer it had been Great Britain's turn, a Sopwith 'hydroaeroplane' covering the stipulated distance in a few seconds over two hours—and then the First World War had brought competition to a temporary halt.

So it was not until 1921 that Supermarine's story took its romantic turn. There was little money to spare at that time, but Scott Paine decided on a gamble: lying in a hangar was a Supermarine Baby, an experimental single-seat flying-boat which had been developed for the Admiralty in 1918, and to this hitherto neglected craft Mitchell was directed to give his attention. The well-tried 450 Napier Lion was installed to drive a pusher propeller, and the relatively simple conversion was then renamed Sea Lion and put on an intensive series of trials. Entered for the Schneider Trophy contest in the Bay of Naples in 1922, it wrested the trophy from the current holders, the Italians, at an average speed of 135 mile/h and a top speed of 145 mile/h. Two years later, when the American Curtiss CR 3 seaplane proved faster than the Sea Lion, drastic measures were taken by Mitchell and other designers which were to mark one of those great leaps forward which periodically punctuate aviation history-in this case the streamlining of airframe and engine to a degree more advanced than had ever before been achieved.

Thus were born those sleek, single-wing floatplanes that were to win the trophy outright for Great Britain, the renowned 'S' series. Although the pilots for the Supermarine and Gloster entrants were almost solely drawn from the R.A.F., with such famous names as Orlebar, Waghorn and Stainforth among them, naval connections were not entirely absent, for one member was Lieutenant Jeremy Brinton who, alas, was killed in a 'porpoising' accident during a practice run. It might also be mentioned that Earl Mountbatten of Burma, then a Lieut.-Commander, also took a great interest in Supermarine's preparations, often inviting Mitchell and others to watch the trials of the S.4 and 5 off Calshot from his Gar Wood speedboat (then, at forty knots, one of the two fastest in the country). In 1925 the S.4 (700 hp Napier Lion) set up a British speed record of 227 mile/h; in 1927 the S.5 took first *and* second places in the Schneider event at Venice, with a winning speed of 282 mile/h; in 1929 the S.6 won at 329 mile/h; two years later the S.6B won again at 340 mile/h; and in September of that year Flight Lieut. Stainforth raised the speed to 407 mile/h to set a new world's record. This was naturally a tremendous achievement and triumph for the Woolston firm, especially, to put it in perspective, when we consider that jet airliners would not have disdained such a speed in the 1950s. It was also to bode well for this country when the Second World War came.

Now to return to our main theme. In 1923 Squadron Commander James Bird, who had served in the war with the Royal Naval Air Service, had acquired the interests of the firm from Scott Paine (who had left to devote himself to the development of fast powerboats, for which he was to become well known). Bird was no newcomer either to the manufacturing side of aviation in general or the construction of experimental seaplanes in particular, for he had been Managing Director of a small firm named Forrestt at Wivenhoe in Essex. B. J. Hurren's book, *Perchance*, includes a photograph of one of their products, a flimsy, pterodactyl-like creation which was claimed to be the first British seaplane; whether it ever got off the water is apparently not known.

At this time, when the office of Fifth Sea Lord had suffered one of its periodical abolishments, the Board of Admiralty had no member with any practical air experience to advise them (nor were to have for many years to come) and had to rely on the new Air Ministry for guidance. With the advantage of hindsight, it is easy to be critical now; nevertheless, dual control was to remain a severe handicap to naval aviation for two decades. No little confusion of thought appeared to result from this system of divided management, as typified by the Seagull III trials. The *Eagle*, which had been converted to a carrier from the ex-Chilean battleship *Almirante Cochrane* and commissioned in 1920, embarked No. 444 (R.A.F.) Fleet Reconnaissance Flight in 1923 to evaluate the wooden-hulled amphibians, now fitted with the rather more powerful Napier Lion V engine; but after two years' experience, including a short period in the Mediterranean, they were ruled, at the highest level, as having no potential naval use. Yet it is on record that during the same period, *i.e.* 1924, the Admiralty asked the Air Board to consider, among other types under review, a small seaplane which could drop its hull or floats after take-off, a specification too closely akin to the Walrus's forebear already mentioned to be counted an original conception. Nothing, however, appeared to come of this request.

This is not to imply that there was a general lack of airmindedness in the Navy itself; on the contrary there were many senior as well as junior officers who were crying out for more aircraft as a result of proven results in the late war. But as Captain S. W. Roskill, the naval historian of the Second World War, has said of the earlier period, the flow of analyses, minutes, memoranda and such-like recommendations from the fleet tended to get 'lost in the limbo of departmental records' at the Admiralty, seemingly due to the overwhelming nature of the post-war problems which pressed heavily upon the Sea Lords. As soon as hostilities had ended, tasks with international complications required immediate attention; by the time one set of burdens showed signs of being lifted, others descended to take their place, not least being the cry for that financial stringency which follows all wars; so, during these hard-pressed periods, there was little time for searching the archives or reading heavy tomes to digest past lessons. But, Roskill continues significantly, it must not be forgotten that there was also fierce internal opposition from older schools of thought, many of whom occupied influential policy-making positions.

Decisions as to the type of aircraft-carrying ships we needed also had to be made. Apart from the Argus, Furious (now fully converted to a flush-deck ship) and the Eagle, we had the small carrier Hermes which, in 1923, was the first to be designed and built as such; in addition plans were in hand for converting two more huge cruisers, the Courageous and Glorious, for the same purpose. Wartime seaplane-carriers such as the 20,000-ton Campania, smaller vessels like the Engadine, Empress and others had been placed in reserve, scrapped or sold, although we had retained the Ark Royal, the 'hoist-in-and-out' tender which had stood us in such good stead during the Gallipoli campaign. Possession of the latter, together with a lack of money, was probably the reason why a suggestion for a new, small but fast tender of the same type was turned down. The suggestion, put forward by Thornycrofts, whose slipways lay hard by the Supermarine works at Woolston (could bright ideas have been exchanged between the two firms?) included the novelty of a ramp stern up which aircraft could taxi to a hangar inside the hull.

Yet there was at least one Government who was impressed by Supermarines, who had by then acquired a reputation combining, as J. D. Scott says, 'extreme professionalism with extreme unorthodoxy'. The Royal Australian Air Force ordered six Seagull IIIs in 1925 to replace the ageing Fairey IIID floatplanes they had in current use; and for them the Royal Australian Navy decided to build a tender. The Seagulls arrived at the R.A.A.F. Station, Point Cook in Victoria, in the middle of the following year; pending completion of the ship, they were allocated to No. 101 Fleet Co-Operation Flight for photographic and geological survey work. For that purpose they were moved up to Queensland early the following year to work in conjunction with the survey ship H.M.A.S. Moresby on those parts of the Great Barrier Reef and islands within range of Bowen, Mackay and Gladstone. In January of that year a further three airframes were bought cheaply from the Fleet Air Arm (an aftermath of the Eagle report); they were engined and then flown up to Papua for carrying out similar missions in the New Guinea area. These were remarkably long distances for an aircraft not specifically designed for that purpose. One flight, for instance, was made by Lieutenant (E) E. C. Wackett, R.A.N., from Melbourne to Actape and back, 13,000 miles in 150 flying hours '... stopping all ports', as Wackett says, 'and flying round all headlands higher than 50 feet (within) one hour after take-off." Vertical photography was carried out from 8,000 feet, the ceiling of the aircraft in the tropics, and Commander F. J. Crowther, R.A.N., recalls that it took one and a half hours of solid climbing to reach that altitude, yet he considered them delightful aircraft to fly and without vices.

Eventually the Seagulls were provided with their foster-mother, the *Albatross* of 6,000 tons displacement; beautifully constructed in Sydney's Cockatoo Dockyard from parts sent out from the United Kingdom, she was the first warship to be built in Australia. She commissioned on the 23 January, 1929, under the command of Captain D. M. T. Beresford, R.N., embarking six of the Seagulls on the 25 February at Geelong (although built to accommodate nine, not more than six ever appear to have been carried at one time). Rugged and capable of withstanding a lot of rough handling, the amphibians were not, however, strengthened for catapulting, cranes being used to hoist

them in and out. Very soon the ship was starting to take an active part in the Dominion's growing fleet. Lieutenant W. A. Dallmeyer, R.N., then serving in the cruiser *Dunedin*, flagship of the New Zealand Division, and later to be captain of *Albatross* during part of her time in the Second World War, was present at the combined fleet exercises in June which culminated in a regatta in Hervey Bay, north of Brisbane. An unusual feature Dallmeyer witnessed at this traditional naval sport on this occasion, however, was a special race for Seagulls, decided on a time basis, the full course being in view of all ships present. (It is difficult to imagine Their Lordships of the time approving a similar contest in the Royal Navy!) When, largely due to growing world depression, the ship paid off into reserve on 26 April, 1933, the remaining aircraft were transferred to the cruisers *Australia* and *Canberra*.

In this immediate predecessor of the Walrus, then, can be seen the further extensive experience Supermarines were gaining for future development. Attention is also drawn to the name of one town in particular from where these aircraft operated—Mackay. Over thirtyfive years later a Seagull V was still flying out from there to the Great Barrier Reef, a tribute to the foresight of the Australians in being the first to recognize the full potentialities of this type of amphibian.

The year 1928 saw yet another change in the direction of Supermarines. That growing mammoth, Vickers, with an ex-naval officer, Sir Charles Craven, managing it, took over at Woolston and the name was amended to Vickers Supermarine Aviation Works. Thus the leading contestants in the Government competition of eight years earlier were brought together under one flag; undoubtedly of benefit to both, for the costs of research, development and production were swiftly mounting to heights beyond reach of the small man, however industrious, however ingenious. R. J. Mitchell remained as Chief Designer, and among others allocated to his staff by the new parent company as one of his chief assistants on seaplanes was Squadron Leader H. J. Payn who, as a pilot and ex-R.A.F. engineer, was able to contribute much from practical experience, a man whose career, however, was brought to an abrupt end more by what seems to have been an over zealous application of officialdom than a miscarriage of justice. While interest in the Seagull III was shown by several foreign countries, notably Spain and Japan, further developments in this particular sphere appear to have become somewhat tentative, for the Mark IV never seems to have got beyond the drawing-board stage.

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Admiralty air planning now showed signs of crystallizing; though the Board may still have been in an indecisive state of mind about the exact types of seaplane needed, there was no doubt that they intended to have something, for by 1930 catapults were being fitted to battleships and cruisers capable of launching almost any existing type of naval aircraft. This policy was evidently put into force only in the face of much internal opposition. Early meteorological estimates, for instance, indicated that no more than ten per cent of days would be suitable for landings at sea, a pessimistic analysis which was to be proved wildly wrong in the years ahead. There were other arguments about the aircraft and launching equipment taking up valuable deck space and the damage that would be inflicted by weather and gun blast. The growing complexity of equipment in warships engendered an understandable scramble for available space by the various departments; yet a solution found by the U.S. Navy, who obviously faced the same clash of competing interests, casts an interesting light on the respective outlook of the two Services where tradition is concerned. The Americans did not hold the sanctity of the quarterdeck in as high regard as we had done for so long (some might say an even stronger prejudice against its 'desecration' was that our officers lived aft); they had accordingly fitted many of their battleships with cranes, catapults and hangars right aft-the U.S.S. Brooklyn, as an example, having hangars built below the quarterdeck which could house five or more aircraft. While this subject is dealt with more fully in a later chapter, it can be said here that certain operational advantages were to be found in that position in contrast to using the 'midships' area at the beamiest part of the ship. Nevertheless, installation went ahead in H.M. ships to such an extent that by 1934 the authorized complement of catapult aircraft amounted to more than a quarter of the total F.A.A. strengthalthough too much should not be read into those proportions, for naval air strength had wilted woefully compared with the figures for 1918.

The R.A.A.F., looking ahead as a result of their general satisfaction with the Seagull III, decided to draw up a broad specification for a replacement. Air Marshal Sir Richard Williams, then Air Commodore and Chief of Air Staff, states that the date was probably about 1929. The specification, sent the rounds of all British aircraft firms, was for a reconnaissance amphibian that could be catapulted with full military load; it was required, moreover to be capable of stowage in and operation from the *Albatross*. The requirements were admittedly

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demanding; so much so that C. G. Grey, the well-known editor of the *Aeroplane*, sarcastically commented to the effect that 'The Australians want everything but the little black boy to cook the meals.'

The Air Staff finally interested Vickers Supermarines in the design and, after drawings had been approved, work on a prototype was started. However, when the Chief of the Air Staff arrived in England early in 1933 he found it had been pushed to the back of a hangar because of orders for other aircraft from the R.A.F. With some firm persuasion, Supermarines agreed to proceed with the project. And so we arrive back at the central figure of this book.

On the 21 June, 1933, the Vickers Supermarine Type 236 Seagull V was test flown for the first time from Southampton Water. There can have been no one present on that unheralded occasion who could have foreseen her as developing into one of the most versatile aircraft ever designed.

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when Sir Richard Williams saw her. A later report in Flight had this to say about design: 'The hull of the Seagull is of the type which is coming more and more into use in this country; flat sides and straightvee bottom, with a flat towards the chine where formerly reverse curves used to be found on all British flying-boats', the article going on to point out that this method was in fact a reversion to earlier practice, thereby avoiding the necessity for panel beating. In view of the robustness that was to prove such an outstanding feature of this aircraft, it is to be noted that the wings and control surfaces were of composite construction, stainless steel spars and wooden ribs covered by fabric, except the rudder, which was spruce framed. The type of stainless steel initially used gave rise to some corrosion problems, but these were solved in due course. A. H. Shirval recalls that the tank tests were carried out at about two-thirds of the all-up weight, the reserve buoyancy therefore being low, which accounted for the aircraft making somewhat heavy weather when operating in a seaway; nevertheless, the tests proved quite satisfactory at the designed weight.

The Seagull V was the first military aircraft in the United Kingdom to have a fully retractable undercarriage (the first being the civil Airspeed Courier); and it was in fact achieved by an extremely neat engineering feat. When Mitchell was considering the feature, Clifton, as one of his senior technical assistants, suggested the idea of completely retracting the wheels into recesses under the lower mainplanes, thereby cleaning up the streamline even more, enabling a knot or two to be added to the speed. The engine selected was a Bristol air-cooled unit, the nine-cylinder radial Pegasus, initially the Type II L2P, mounted as a 'pusher'. Provision, however, had also been made for a water-cooled engine, such as the Rolls-Royce Kestrel. This method of siting the power unit had important advantages in an amphibian of this size: first, the airscrew was well shielded from spray; secondly, the pilot had a good forward view, of particular value during recovery when operating from a ship; thirdly, a safe working platform, clear of obstruction, was provided for the transfer of passengers or cargo over the bow under way; and, finally, safety for the hooker-on, who had to climb up on to the centre-section to prepare the slings for hoisting.

With the propeller so near the tail, a problem had first to be solved: that of avoiding a yaw being induced by the unequal force the corkscrew effect the slipstream would exert on one side of the fin. To off-set the latter would have been aerodynamically and structurally undesirable; the ingenious solution was to off-set the engine nacelle

#### CHAPTER TWO

#### THE FIRST OF THE LINE

THE DEVELOPMENT OF the Seagull V is usually quoted as being a private venture by Supermarines, but this is not strictly true, as we have already seen in view of the Australian specification. Nevertheless, despite that interest, the manufacturer must have continued with the project at some risk to himself, for there was, if not active opposition, a patent lack of enthusiasm on the part of senior Air Ministry officials, as is evident from the discouraging comment of the then Director of Technical Development when being shown over the prototype by A. N. Clifton, the remark of the former being quoted on page I as an introduction to this section of the book. This obstinate opposition continued, for reasons which at this date can only be termed dubious, in spite of highly satisfactory, even enthusiastic, trials reports that were to be made, as we shall see. But for Australia, therefore, it is probable that there would never have been a Walrus at all.

It is not the intention to go into full technical details here either of the development problems encountered or of the structure of the aircraft itself, but to confine the narrative to such points as affect historical or operational aspects or matters of general interest. The leading particulars of airframe and engine and other technical data of concern to the specialist will, however, be found in the Appendices. It is most unfortunate that Supermarines lost nearly all development and production records of the Walrus in a fire in 1962; however, with what little evidence that escaped destruction, augmented by many other official and private sources, it has been possible to build up a reliable sequence of events.

The project was not a mere matter of adapting or modernizing the Seagull III; development had to be started from scratch, although some features in the Mark V's predecessors which experience had shown were of value were naturally incorporated.

Photographs show that by February, 1933, the single-step alclad hull of monocoque construction was ready for the attachment of mainplanes, engine and empanage. This was probably the state reached 15

instead by two or three degrees. The rotation of the four-bladed propeller past the open exhaust ports produced a characteristic doublebeat sound which, in modern parlance, was to become her unmistakable signature tune. Two starting systems were installed; the R.A.E. gas starter, incorporating a compressed-air cylinder and a hand magneto, and the inertia wheel starter, both mounted on the nacelle. To start by the latter method, the heavy wheel was turned by a crank handle inserted through a hole in the starboard side of the nacelle. The normal procedure was for the pilot to operate throttle and main magneto switches from the cockpit while a crew member turned the handle, a tug being given to the dog-clutch toggle cable when the wheel was spinning sufficiently fast and 'Contact' had been given by the pilot. If flying solo, it was possible for the latter to do everything himself should the engine die on him after a landing, even if this occurred, for example, in confined waters with the aircraft perhaps drifting into danger. The latter emergency needed agility (and some luck), for the pilot had first to preset the throttle and make the switches, seize the handle from its stowage and leap nimbly up to the nacelle, crank rapidly, let in the clutch and then jump back to the controls again as soon as the engine fired.

Development of any project is almost invariably governed by that inexorable factor-time. True, for the amateur there may be all the time in the world to attempt the achievement of perfection by painstaking trial and error; for the commercial operator, the truism that time is money ever dominates his activities. He further realizes that however skilful he may be, not all the laboratory tests, not all the trials simulating actual conditions, not all the synthetic 'ageing' tests will reveal every flaw or defect; only actual experience will do that-and even then it is often extraordinary how long it is before some quite obvious fault in design or material takes to show up. The engineer can but do his best, and that best must be done against a date on the calendar. With so much to do, Supermarines must have been becoming anxiously aware that their date on the calendar for this particular project was drawing all too swiftly near-the second exhibition of the Society of British Aircraft Constructors at Hendon on Monday, 26 June, which was to follow the R.A.F. Display of the preceding Saturday.

It is not now possible to know what missing features may have been cloaked within the enveloping hull, certainly there was no time for fitting such external trimmings as navigational lights and other minor refinements when, on that 21 June, only five days before she made her important début before a public containing highly critical experts and potential customers, the first Seagull V was taxied down the slipway at Woolston by Joseph (Mutt) Summers, the Chief Test Pilot. That the maiden flight showed promise must have been obvious; that rapid adjustments were revealed as necessary as a result of the initial handling trials on the water, in the air and on Eastleigh airfield must likewise have been obvious although, remembering the time factor, they could only have been of a minor nature. Nevertheless, it was a close run thing, which makes the eventual performance put up by Summers on the 26th even more remarkable. No doubt he made discreet inquiries of the stress technicians beforehand, for it is no part of a good test pilot's job to take undue risks by 'showing off' in the adverse sense of that phrase. Yet, be that as it may, his flying demonstration made it quite clear that he, perhaps even more than Mitchell himself or his design team, had supreme confidence in their new product.

After a disastrously wet Saturday for the R.A.F. Display, following so many previously fine conditions, the 26th was bright and sunny when Summers flew N.I, the number allocated to the first of this new line, to Hendon and taxied it into the S.B.A.C. 'New Aircraft' Park. In the afternoon, when new and experimental aircraft were demonstrated, the *Aeroplane* included the following light-veined commentary on N.I's performance, its tenor, a kind of amused wonder that so strange a creature could perform the feats she did, setting the general tone of almost all subsequent accounts describing the exploits, however, dramatic, of this unusual aircraft:

For pure lighthearted cavorting, the new Supermarine Seagull V boat-amphibian, with a Bristol Pegasus engine operating as a pusher, provided a turn which must have astonished many. This boat made its maiden flight on 21 June, five days before its first public appearance, but Mr Summers proved its qualities by throwing it about in a most carefree manner. Of its performance little is known but there can be little doubt about its maniability [sic] and general handiness in the air and on the ground. One must be prepared to see all sorts of aeroplanes looping and rolling with abandon nowadays, but somehow one has, up to now, looked to the flying-boat to preserve that Victorian dignity which one associates with crinolines, side whiskers, bell-bottom trousers and metal hulls. The Seagull V destroyed all one's illusions.

Henry Knowler, Chief Designer of Saunders Roe (who were to

take over the production of the Walrus during the war) watched the display in the company of Mitchell and he has remarked on the latter's nervous but understandable anxiety as Summers looped the five-day old prototype at low altitude. The little amphibian had certainly made her bow with effect.

The aircraft had been designed for an operational crew of three pilot, observer and telegraphist air gunner (T.A.G.)—accommodated in remarkably commodious conditions, although a certain amount of crawling was necessary to get through the opening under the instrument panel to the hatch in the bow compartment as well as along the gangway to the after hatch. Beside the pilot to starboard was a collapsible seat which could be used for dual instruction; the spare wheel control column, stowed at hand, could be rapidly and simply connected by its horizontal shaft to the pilot's column, even in flight. The main rudder-bar had a permanent extension to which dual pedals were hinged so that they could be swivelled out of the way when not in use. Immediately behind the glass-panelled cockpit with its sliding roof and side windows was the navigator's compartment, a window each side permitting compass bearings to be taken or other observations made. Beyond this was the telegraphist's desk and wireless sets.

Impressive as the Seagull's debut may have been, much work naturally remained to be done. Back at Woolston on the 27th, testing was continued until she was eventually flown to the Marine Aircraft Experimental Establishment at Felixstowe, Suffolk, on 29 July for a series of intensive handling trials under Air Ministry auspices in which she was put through the full range of operations likely to be required of her in front line use. It might be interjected here that she had also undergone the first of three numerical metamorphoses, for soon after her return to Woolston from Hendon it had been discovered that the serial number N.I had already been allocated to another aircraft under test, so she actually arrived at Felixstowe as N.2.

Most of the trials at the M.A.E.E. are recorded in the logbook of C. H. Mapp (now a squadron Leader) and I am indebted to him for the information covering that period, which lasted until the middle of the following February, with some interruptions, such as returns to Woolston to correct defects or incorporate modifications. The trials during the last months of 1933 included altitude, climbing, pitching and stalling tests together with assessments of general handling on and off the water and land, the last-named taking place at Martlesham

Heath. The altitude tests were carried out at heights up to 17,000 feet, and it is noted that the engine tended to cut out regularly at about 10,000 feet, a defect cured by the installation of a petrol pump to overcome the air locks and lagging of the carburettor to prevent icing. It might be noted, incidentally, that even at 17,000 feet oxygen was not an aid provided in those days. One of the test pilots on these occasions was Flight Lieut. George Pickering, still serving with the R.A.F. but soon to join the Supermarine Company and eventually to succeed Summers, as Chief Test Pilot.

Photographs of the Seagull as N.I and when she was first renumbered as N.2 show that an additional fairing was fitted above the tail wheel to increase water rudder effect, but it must have become obvious during the water handling trials that it was redundant and it was accordingly removed. Mapp recalls only one serious trouble during the whole period; the hydraulic jack rods of the extension cylinders on the undercarriage were found to have bowed one day, rectification necessitating considerable work both at M.A.E.E. and Woolston. This trouble probably occurred early in September, as further test flights are recorded in Squadron Leader Payn's logbook, one on the 28th of that month evidently marking the return of N.2 to Felixstowe after completion of the repairs. During her time at Felixstowe there is also on record a demonstration flight being given, on 29 August, to the Under-Secretary of State for Air, Sir Philip Sassoon; and among other officials to pay periodic visits of inspection was Squadron Leader E. C. Wackett, of whom mention has already been made.

At the end of October N.2 returned to Woolston to be prepared for catapult trials at the Royal Aircraft Establishment, Farnborough. It can be safely assumed that these occupied two separate sessions, for Mapp states that, as a result, of 'dead engine' launchings, the top of the hull immediately aft of the wings showed signs of weakness which necessitated reinforcement with a strengthening patch, the compound curvature of which could only be carried out with the facilities available at Woolston. From Farnborough records and from an account in the journal *Flight*, live launchings were conducted at the end of January, 1934, when the pilot was Flight Lieut. Sydney R. Ubee of the Experimental Section.

The third and final series of trials at the M.A.E.E. took place over the first half of February and were concerned chiefly with the operational functioning of the aircraft, such as bombing, air firing and target towing. A brief description of the equipment is therefore desirable for a better appreciation of the rôles she later undertook. The circular bow hatch was fitted with a Scarff ring, while the rear hatch had a special mounting, both positions permitting the mounting of a Mark III Lewis or a Vickers' 'K' machine gun, the ammunition pans for which were stowed at hand. The bow position also housed the marine equipment-anchor, line, boat-hook and the 'muffin bell' (if caught on the water in low visibility, an amphibian naturally had to conform to the Rule of the Road at Sea by ringing this). The bombsight, when required for level bombing, was shipped on a bracket outside fitted on the nose of the hull; there the observer had to stand at almost knee-height to the Scarff ring, bent over the instrument and conning the pilot by hand signals, his only security in that vertiginous position being a safety belt and wire strop clipped to the aircraft's floor. Needless to say, his body caused highly unaerodynamic eddies to whistle in at the cockpit windows and through the access tunnel. The large and cumbersome drogue-towing apparatus, its reel containing over 7,000 feet of fine wire, was naturally carried only when required for that purpose. It was installed in the observer's compartment with the windlass arm projecting out of the starboard window. When so fitted, only two crew were borne, the operator streaming the drogue or target from one of two containers secured outside, one on each side of his position at the after hatch.

It was during this last series at Felixstowe that the Admiralty appointed the first naval trials pilot in preparation for fleet evaluation of the Seagull. This was Lieut.-Commander Caspar John, son of the artist, who, at the insistence of the Air Ministry, had first to pass out solo on a Southampton flying-boat at Calshot. Perhaps this appointment in particular could be claimed as another 'first' for the Seagull, for Caspar John was to become the first aviator to reach the rank of Admiral of the Fleet and First Sea Lord—the first and also, alas, in view of the centralization of the three arms within the Ministry of Defence on 1 April, 1964, the last aviator to hold that high office, it would seem.

#### CHAPTER THREE

#### FLEET EVALUATION

As THE HOME FLEET was to be based at Gibraltar for the Spring Cruise, it was necessary that the trials in No. 444 Flight should also be conducted out there. Caspar John, together with Lieut.-Commander W. T. Couchman as his observer (who also ended his career as a full admiral), flew to Portsmouth and were hoisted aboard the *Courageous* for the passage out to the Mediterranean, the ship at that time flying the flag of Rear Admiral, Aircraft Carriers, Rear Admiral The Hon. Sir Alexander Ramsay. On arrival off 'the Rock', the amphibian, which had naturally aroused considerable curiosity aboard the carrier, took its place behind a normal range of Fairey Seals and IIIFs and in due course made its first take-off from a flight deck.

The trials unit, its maintenance staff supplied by Supermarines and the Bristol Aeroplane Company, was based on the gunwharf in the dockyard although officially attached to the battlecruiser *Renown* for administrative purposes. From there a comprehensive programme of flying was conducted, covering rough weather take-offs and landings, evaluation of the aircraft's operational potential, fleet co-operation and other naval requirements of a like nature. Pilots and observers from other ships' aircraft in the fleet were also given flights to assess reactions, the consensus of opinion being summed up in the words of one of the observers concerned. 'It was', writes Vice Admiral Sir Arthur Pedder, recalling the occasion thirty years later, 'the complete answer to our prayers, but we gathered that the Powers That Be didn't think much of it.'

On completion of the Spring Cruise, the Seagull was embarked in *Renown* for return to home waters, where trials were continued from Sheerness and from the Solent until May. She was then returned to Supermarines by the crew on completion of this first phase for the recommended modifications to be carried out, the chief of which appear to have been the redesigning of the wing-tip floats to give better buoyancy and an improved lay-out of the observer's compartment. Lieut.-Commander D. W. MacKendrick then took over and flew N.2 s.w.-3

to the *Ark Royal* which had been converted for training aircrew, directing officers, handling personnel and all connected with the operation of catapults and the launching and recovery of catapult aircraft; in addition the ship devoted much time to trying out new or improving existing equipment and operating methods. After this phase, MacKendrick embarked N.2 in *Valiant*.

The Renown report, containing the views and recommendations of Caspar John and Walter Couchman, has unfortunately not been traced, but the gist of what was in it can be inferred from the succeeding Valiant report. It is a document worth quoting from as much for what can be read between the lines of a covering memorandum as for what is in the trials report itself. An agenda for a meeting of the Fleet Air Arm Advisory Committee, arranged for the 15 November, referred for discussion an Admiralty proposal to introduce the Seagull V into No. 444 Flight in the battleships Valiant, Barham and Rodney and in 447 Flight in place of the Fairey IIIF floatplanes. The illuminating part of this paper was a note by the committee secretary which was intended not only to inform but to influence the members regarding this proposal. 'I understand', the note says, 'that the Seagull is not intended in any sense to take the place of the "Light Reconnaissance" seaplane, of which two are now under construction at Fairey's works. The Seagull could not possibly take the place of the Light Reconnaissance seaplane, being much too heavy for the light type catapult, and in several other respects quite unsuitable.' This (and the final clause in particular) despite the fact that a following note was forced to point out that 'favourable reports [indicated] that the Seagull was greatly superior in seaworthiness to the IIIF, Seal and Osprey.'

That attitude is another reflection on the policy of divided control. The R.A.F. had major problems of their own to solve; to them, F.A.A. requirements must at best have been a distraction, at worst a side issue. In the marine sphere considerable effort was being put into the development of long-range flying-boats, large craft that could avoid overflying potentially or actually unfriendly territories. Sound arguments could be made that such activities were properly the prerogative of naval aviation; but, leaving that aside, how could the Air Ministry be expected to visualize the varied needs of the navy that flew, to put themselves into the skins of naval pilots and observers flying inadequately designed and equipped aircraft? With their eyes on more distant and totally different horizons, the Seagull must have seemed a toy, lacking all the virtues they were looking for. The Valiant report was dated 31 August, 1934, and started off by pointing out that, due to various delays, the Seagull was embarked only for a short period; in fact from 4 to 27 July. She had left Ark Royal on the 3rd of that month, disembarking to Lee-on-Solent, and had then been flown overland next day to join the ship at Rothesay in the Kyles of Bute, where MacKendrick was assisted during the trials by his observer, Lieut.-Commander R. Moore.

1. Taxi-ing Tests at Rothesay

The worst conditions experienced were four foot waves, with the wind blowing at 30 knots. The water rudder was not found necessary. The improvement in performance over that recorded in the *Renown's* report was attributed to the better shaped buoyancy of the wing-tip floats.

2. Rough Weather Take-Offs

6 foot sea,	no swe	ll, wind	30-35	knots	• 10110.00	Off in	5	secs.
4 foot sea,	no swe	ll, wind	droppe	d under	r 5 knots	Off in	13	secs.
Flat calm.	no swel	ll. no wi	nd		1996 - N.	Off in	10	secs.

3. Landings in Rough Weather In the above conditions.

4. Range (figures over period 3-31 July)

Petrol:  $25\frac{1}{4}$  gals./hour (The report in fact gave no actual distance) 5. Consumption Test

At 3,000 ft; load 6,850 lb; I.A.S. 80 kts; rpm 1,900; atmospheric temperature 17° C (63° F):

25 gals. only in port tank—Time in air 1 hr. 4 min.; consumption 23.5 gals./hour.

Report on Lay-Out

I. Pilot. Very satisfactory. A rear-view mirror recommended.

2. Observer. The redesign recommended by *Renown* has resulted in very satisfactory arrangements.

3. T.A.G. A better seating position is recommended.

Taxi-ing Recoveries

The aircraft was recovered under way on two occasions at speeds of 9 and 13 knots.

There was a final suggestion that, when hoisting the aircraft on to the catapult, it should first be loaded on to padded crutches and then jacked on to the trolley to obviate the risk of damage entailed by loading directly on to the trolley. The general tone of the report expressed great satisfaction.

We can now turn to the final phase in the life of the prototype.

Whatever may have been the situation at Board level at the Admiralty and Air Ministry in that autumn of 1934, the Australians, who had presumably been kept informed of progress through their own liaison staff in the United Kingdom, had made up *their* minds, for they had already placed a firm order, reputedly against Admiralty advice, for twenty-four aircraft.

In the meantime Supermarines had incorporated such modifications as had been approved as a result of the *Valiant* trials. These completed, N.2 was then allocated an official number, her third and last, by the Air Ministry—K4797. A short series of official 'acceptance trials' followed, first by the firm's own test pilots at Woolston prior to her being handed over once again to the M.A.E.E. And on New Year's Day, 1935, she was flown to Lee-on-Solent to be handed back to the Navy.

Those who had been pressing for the adoption of this amphibian at the Admiralty had at last won the day, and Sir Caspar John considers that was in no small measure due to the efforts of one man in particular, Captain Maitland Boucher, then serving in the Naval Air Division. In this search for an efficient catapult ship aircraft to replace the obsolescent or unsuitable types then in use, we were not only looking to the British Aircraft industry, as exemplified by the Light Reconnaissance floatplane (which was to emerge as the Fairey Seafox), but we had also apparently seriously considered the Vought Corsair, an excellent centre-float seaplane then going into service in the United States Navy. However, the potentialities, particularly the seaworthiness, of the Seagull were beginning to be recognized; a cautious order for twelve was therefore placed on Supermarines by the Air Ministry on behalf of the F.A.A. Nevertheless, this order, in contrast to that placed by the Australians with their much smaller air arm, indicated that our enthusiasm was still, officially at least, rather half-hearted. Indeed, in spite of the aircraft having been specifically designed for naval reconnaissance, spotting and bombing, and so proved by our own trials, she was allocated to No. 444 Flight in the Nelson, flagship of the Home Fleet, only as the 'personal craft' of the Commander-in-Chief, Admiral The Earl of Cork and Orrery, and for 'communication' purposes.

The prototype now made its second trip abroad, this time to the British West Indies for the Spring Cruise. Figuls Price, the pilot, Lieut.-Commander A. D. Torlesse, the observer, and Leading Telegraphist Johnson as the T.A.G. took over K4797 at Lee and, following a few days of familiarization flights and training, embarked in the flagship at Portsmouth on 9 January. As the ship was not fitted with a catapult, the normal stowage position was either on top of 'C' turret when on passage, with the great barrels of the triple 16-inch guns stretching out below the aircraft, or abreast No. 3 gun on the port side when in harbour. As she had to be hoisted in and out by special crane, this was a handicap virtually restricting operations to periods when the ship was in harbour. Flights were made to various islands and a number of exercises carried out, on one of which it is noted that she failed to get off the water off St Vincent with four people aboard when there was a heavy lop on the sea. When the fleet returned home, K4797 was flown back to Woolston in late March for a check over. Then, after operating from Lee for the next few weeks, she was reembarked in May for the Summer Cruise, which included a visit by Nelson to Southend and London in the middle of the month. The ship later proceeded north to the Orkney Islands, where we were first introduced to her in the opening paragraph of this story. A further brief visit was paid to Supermarines after this cruise before the flagship sailed for exercises at Portland, by which time Lieutenant J. de F. Jago had succeeded Figuls Price as pilot.

On 26 September Jago made two deck-landings on the *Furious*, the first time this operation had been attempted. Although the Seagull was not of course fitted with an arrester hook, all the older F.A.A. pilots at that time were well used to landing without such help, for arrester wires were a comparatively recent innovation and the flight deck of the ship still had the ramp, situated just beyond the halfway mark, which, by altering the angle of attack of the wings to the airflow as the aircraft ran up it, provided some braking pressure.

A memorable and dramatic incident followed on the 4 October, a story that spread through the Navy all over the world with a speed that could only have been lent wings by (unofficial) W/T chatter, gathering embellishments as it went. The new C.-in-C., Admiral Sir Roger Backhouse, had flown to London for a conference at the Admiralty, and on the return trip from Hendon Jago found the weather had deteriorated to the extent of forcing him to fly below cloud base, which was less than 2,000 feet. Now, there was at that time

a regulation in force requiring the wheels to be left down when operating over land and flying below that height, probably because it was not appreciated then that a boat-hulled aircraft could in most cases be forced-landed more safely on her hull on rough ground or in a restricted space than on her wheels. On reaching the Dorset coast the sky cleared and the Seagull swept out of the gloom into a beautiful evening. With Sir Roger sitting beside him, Jago brought the aircraft over the breakwater of Portland harbour, flattening out for what seemed would be a perfect landing close alongside the Nelson. Unfortunately, perfection was not to be. Torlesse, who had been acting as W/T operator for the trip, had just finished winding in his aerial and was about to strap himself into his seat, when he suddenly noticed that the wheels were still down-but too late! Flung against the bulkhead, dazed by the collision, he forced himself clear and started to scramble up the rapidly steepening angle of the gangway to get the after hatch open. Jago somehow-he never remembered by what extraordinary contortions in the flooding cockpit he could have got the admiral's seat wrenched out of the way-found himself in the observer's compartment, where he could feel his Commander-in-Chief struggling behind him. He grabbed him by his jacket and pulled him above the waterline inside the hull, both then clambering upwards, following Torlesse through the open hatchway.

The scene on the quarterdeck of the flagship can be imagined. Never, it was said, had so many senior officers vied with each other to man rescue boats. But it was a midshipman, diving over the side, who got there first and whom Torlesse found ready to help as he opened the hatch. The observer suffered a broken nose but, apart from minor cuts and abrasions, all were otherwise happily uninjured, although Sir Roger Backhouse was badly shaken. While the Commander-in-Chief was personally charming to the pilot about the accident, Jago found himself *persona non grata* and left the ship shortly afterwards. It should be recorded, however, that, apart from the height regulation which must have contributed in part to the cause of the accident, no warning Klaxon horn or undercarriage indicator lights were fitted at that date one example of the time it takes, as mentioned earlier, for the need of an obvious precaution to become apparent.

The accident had taken place so near the ship that it had been possible to salvage K4797 before she sank entirely; and she was in due course returned to Supermarines for overhaul and repair.

Lieutenant Jago was nevertheless to see her again. In the New Year

he was instructed to collect the aircraft, reconditioned and fitted with a new engine, and fly her aboard *Furious* for passage out to Gibraltar, where *Nelson* then was with other units of the Home Fleet, standing in readiness at the western entrance to the Mediterranean as a result of the alarums and excursions set going by Mussolini's war against Abyssinia. When striking the aircraft below, it was found necessary to let down the tyres and oleo legs in order to get her into the hangar, a procedure the Australians also found necessary in due course with their Seagulls in the *Albatross*.

On arrival at Gibraltar on the last day of January, Furious made fast alongside the detached mole, the Seagull being hoisted out and secured to the lower boom like any ship's boat. The new pilot in Nelson, Lieutenant D. C. V. Pelly (who had just received some hasty dual instruction from H.M.A.S. Sydney's pilot, Flying Officer C. W. Pearce, in that ship's Seagull A2-2) arrived aboard and taxied K4797 away. Looking back over the years, Captain Jago thinks the time must have been about 09.00 when Pelly left and that about two hours later, when he was sitting in the ward-room, a signalman came in and said, 'The Seagull has crashed, sir.' At first Jago thought someone had instigated a leg-pull-but the news was only too true. It seems that Pelly (who claims that a hoodoo had been put on K4797), while attempting a take-off with three passengers, swerved to avoid an ammunition barge and hit the anti-submarine boom between the detached and north moles. Happily again, crew and passengers escaped successfully, although Pelly and one of the passengers received cuts about the face which had to be stitched. This time it was the end of the progenitor of all the Seagulls and Walruses to come-appropriately it was also a sailor's grave she chose, two years and 224 days after her maiden flight, during which she had logged 242 flying hours.

This uninterrupted story of the prototype has brought us to the start of 1936, by when, as will have been evident, the first few of her successors had in fact started to come off the production line. So, before going on to discuss the handling qualities of the aircraft and the method of operation from catapult ships in the next two chapters, it will be as well to take some individual note of the first few.

The first production amphibian to go into squadron service was No. A2-1. Flight Lieut. J. Alexander, R.A.A.F., had been sent home in February, 1935, to take her over for the *Australia*, which ship had been sent to the United Kingdom on a two-year exchange agreement with H.M.S. Sussex. Alexander stood by the building of his aircraft, but delays held up her completion until June. After appearing at that year's Hendon air show, she went to Felixstowe and Martlesham for service trials, which were chiefly conducted by Flight Lieut. (later Air Vice Marshal) Tony Ragg, R.A.A.F., during which period Alexander made several flights, but only in the right-hand seat, although he did in fact make one landing from that position (he had previously carried out a conversion course on Saro Clouds at Calshot). In the meantime the Australia had been fitted with her catapult in Portsmouth dockyard, and in August the 'dead load' trials, which consisted of launching baulks of timber to test the functioning of the new equipment, were successfully completed. Alexander, having also done a course on the land catapult at the R.A.F. Station, Leuchars, in Scotland, was then called on to make not only his first launching from a ship but also his first solo flight in the Seagull; and it says much for that tranquil aircraft that, without impugning the pilot's skill, all went well, even though there was a forty-knot cross-wind and nothing down the catapult. The ship sailed for the Mediterranean on 12 September with Lieut.-Commander V. E. Kennedy and Leading Telegraphist Oxley as the other aircrew members along with the R.A.A.F. maintenance staff, all of whom had completed their respective technical courses in Britain.

At this time no comprehensive technical manuals or operating instructions had been written, so air and maintenance crews had largely to rely on their own initiative, resources and skill when unexpected problems arose. It might be mentioned that checking the rigging of the aircraft had previously involved a complicated system of trammelling, but Alexander was responsible for having a datum fixed on top of the hull below a corresponding plumbline hole in the bottom of the engine nacelle, which greatly reduced the tedium imposed by the former method; and the datum points were accordingly standardized.

Australia's new cruiser Sydney embarked A2-2 with Pearce as pilot, as we have seen, his observer being Lieutenant F. K. Fogarty, R.A.N. The commissioning took place towards the end of the same year, after which the ship proceeded, via Gibraltar, to join her consort at Alexandria to work up. As the remainder of the A2 series became available, they were shipped out to Australia direct for service with No. I Seaplane Training Flight at Point Cook in Victoria and, in April, with No. 101 Flight, now at Richmond, New South Wales; a total of twelve were taken on charge by the R.A.A.F. that year, the balance following in 1937. The first of the F.A.A's twelve aircraft, for which the name Walrus had been adopted, came off the production line in March, 1936, the first two,  $K_{5772}$  and  $_{5773}$  both going to the M.A.E.E. on the 28th. All these first Seagulls and Walruses except one were powered by the Type II M2 engine which, in fact, was of slightly lower rating than the II L2P on the prototype. The exception was  $K_{5773}$ , which had the first Type VI; with a rating of 775 hp at take-off, she had an advantage of about 125 to 150 hp. When available in quantity, it was to become the standard power unit.

The main features, apart from internal rearrangements of lay-out and other modifications already referred to, that distinguished production aircraft from the prototype was a slight rounding off of the nose, resulting in an outwardly inclined angle of the detachable towing bollards; the elongation of the observer's windows; the removal of the centre diagonal strut supporting the tailplane, thus leaving two each side; and the elimination of the bulbous fairing at the hull joint of the oleo legs. Another feature was the altered method of hinging the folding flaps of the lower wings out of the way when folding; instead of hinging downwards through 180°, they now hinged 90° upwards. The prototype had also been fitted externally on the starboard side of the nacelle with a Vickers-Potts cooler to supplement, under tropical conditions, the main cooling system for the oil tank, which was situated around the air inlet in the nose of the nacelle; but the former, having been found unnecessary, was removed.

Although basically the same aircraft, there were some differences between the Seagull V and Walrus. The most obvious externally visible fittings were the Handley-Page slots on all the former; effective as this device was, it is not quite clear why the Australians asked for it, because the aircraft responded well near stalling speed on all axes in any case. The Seagull retained the dual gas and inertia starting systems; however, the hand magneto, a part of the former system, was also incorporated in a few of the early Walruses. Another obvious external feature visible (or invisible, according to whether the wings were spread or not) on all Seagulls were the jury struts, which were only shipped to take the strain at the root ends when the wings were folded. But too much reliance could not be placed on these struts as infallibly distinguishing a Seagull from a Walrus; the design was basically singlebay, the only difference being that Walruses normally flew with the struts permanently in position, although photographs show that K5772 and 5773, for instance, at first did not. Other minor features

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quoted as distinguishing marks between the two likewise need to be treated with caution; flush riveting is one, for it was used on early Walruses as well as all Seagulls until the round-head became standard as making a stronger and more reliable joint.

The same reserve is necessary, of course, when considering the stage at which later modifications were incorporated, for some early aircraft were eventually equipped with them later when undergoing major overhauls, etc.—wind deflectors on the observer's windows, bow thermometers, pneumatic tail-wheels, landing lights, and so on. Grab-rails, which came to be fitted to the hulls of aircraft specifically used for air-sea rescue work, were removed when other operational duties were returned to. With the advent of radar, the A.S.V. dipoles on the wing struts became yet another feature.

Here, then, was this aircraft starting out on an operational career that was not only to be of outstanding duration, but she was also to surpass the hopes of her most fervent backers in the scope and rôle of duties she was to fulfil. If her ruggedness was a lasting tribute in both senses of the word to designer and makers, her dependability came to be a tribute to the maintenance personnel who looked after her in service, for on them fell the onus of ensuring that standard. Changing engines on a rolling ship when perched on the catapult with the spray flying and the wind howling round them was only one sort of job that had to be tackled in an emergency—in wartime many such occasions arose, often under appalling conditions, and it was not unknown for the aircraft to be blown bodily overboard off the catapult; Caspar John, at a time when he was Executive Officer of the York on Northern Patrol, lost two aircraft in that manner at different times.

Before the war, all maintenance in the F.A.A. was done by R.A.F. staff but, when the Admiralty assumed full control in 1939, they were gradually replaced by naval ratings as soon as the latter could be trained in the various specialist categories. But it was long and hard work before we could attain the very high standard set by the Haltontrained technicians. In single-aircraft ships, such skilled manpower was perforce wasteful in numbers, yet it was essential to carry the full complement of fitter, rigger, armourer and wireless mechanic until such time as those functions, in the case of wireless and weapons for instance, could be doubled by the equivalent ratings in the ship's complement.

Having got production moving, so to speak, attention can now be turned to the handling and operation of these amphibians.

#### CHAPTER FOUR

#### HANDLING CHARACTERISTICS

IT IS AN extraordinary reflection on us that we, a seafaring nation, did so little to exploit fully the commerical advantages of the seaplane in the form of the flying-boat. We brought them to an advanced stage of development with the completion of the Saro Princess boats—only to let those majestically graceful 140-ton hulls lie wastefully in cocooned idleness on the banks of the Solent, a monument either to gross national shortsightedness or political chicanery. Surrounded by sea and with adequate sheltered waters, all provided free by God, within reach of our major cities, we chose instead with singular obtuseness to spend huge sums of money spreading concrete over vast stretches of precious land—riches to impoverish the good earth.

There were, besides, two outstanding features which should have appealed to commercial operators: the commodious space a hull offered and the safety factor, for there can be no argument but that flying-boats offer greater luxury and safety of travel than landplanes over either land or sea. Increased maintenance costs, mainly due to salt-water corrosion, may once have been an argument against the flying-boat, but not for many years now. Having been closely connected for a number of years with the serviceability of landplanes on the one hand, both shore- and carrier-based, and with seaplanes on the other, it was never noticeable that one type was more serviceable than the other. Even when operating a Walrus from a small cruiser in which she sat up on the catapult for long periods without protection, she was ready for launching at short notice.

Speed was possibly a slight handicap so far as the flying-boat was concerned; yet it is ironical to reflect now that it was the seaplane which contributed most towards our knowledge of streamlining in the days when commercial aviation was in its infancy. The subsequent disparity in speed which developed between the two types would, from the travellers' viewpoint at least, have become less, not greater, with time, one reason being the proportionate increase in terminal delays as compared with airborne time. In the 1952 *Times Survey of* 

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British Aviation Henry Knowler lamented the low state into which our maritime aviation industry had fallen. Despite the protagonist views of such experts as Sir Harry Garner, Chief Scientist of the Ministry of Supply at the time, of Air Marshal Sir Frederick Bowhill, of Sir Miles Thomas (then Chairman of B.O.A.C.) and many others, despite the advent of the jet engine which could, as Knowler pointed out, more than redress any balance in favour of the landplane, especially when coupled with retractable hydro-skis for improved take-off performance, the decline has progressed to the point of oblivion.

If the age of the seaplane, especially the flying-boat, is therefore, alas, seemingly drawing to a close, it would appear worth setting down for the record some of the main handling characteristics of one of them, small though she might have been.

It is doubtful whether any Walrus pilot would accuse the aircraft of a particular vice. Some, of course, developed traits peculiar to themselves (as do some pilots), idiosyncrasies perhaps built in during manufacture due to one of those inexplicable departures from the norm which occasionally occur on every production line, especially under the stress and urgency of a war effort. These may, rarely, have amounted to producing a 'rogue,' which either had to be written off (in the book sense if not anticipated in the operational sense!) or sent back for major rebuilding; and of course errors occurred in flight and base maintenance units. Nevertheless, many examples of the controllability of this truly remarkable amphibian under adverse conditions will be found in this book; and in discussing the handling of her, the various points will be illustrated with instances from actual experiences, for in collecting and checking material for this story, much that was thought to be myth proved to be fact.

The Walrus could take in its stride the loss of large areas of fabric. During the latter stages of the Pacific campaign a R.A.A.F. pilot lost his way after an action in which he had been under fire and decided to land at a small strip in New Guinea to find out where he was. As he came in to land, observers noted that he appeared to be towing a small drogue at close stay, which in fact proved to be the fabric from the entire port side of the rudder; nevertheless, on being told where he was, he declined the offer of a rigger to sew the fabric back in place and took off again, unconcerned, trailing the material behind him like a tattered battle ensign. C. R. Dearman, when serving as an observer with No. 710 Squadron at Freetown readily acknowledges owing his life to the fact that this aircraft could sustain an incredible amount of damage and yet remain controllable. When on patrol one day, they dived out of cloud at 1,000 feet and were mistakenly fired on by a corvette. The propeller was shattered, bracing wires shot away, much fabric ripped off, aileron control almost lost and the starboard main spar nearly severed; yet a forced landing was brought off alongside the ship, the holes hastily patched up and the Walrus was then towed nearly thirty miles back to harbour.

A type of servicing lapse that could and did occur at one time before a modification was introduced to prevent it, was to mount the fourbladed propeller back to front, that is with the leading edges trailing. Engine revolutions and boost were no sure indication that all was not well when running up-the result, however, was an inability to advance at a greater speed than about 5 mile/h! This happened to W3022 in the County class cruiser Norfolk at Vjalfiord: the propeller, damaged by a crane hook during the previous recovery, had been hurriedly changed to bring the aircraft back to her normal wartime state of immediate readiness. The next duty was intended to be a survey of the ice edge for convoy routing purposes, but when the Walrus was catapulted, she thumped straight down on to a loppy sea, to the consternation of those watching from the ship and her crew. R. Wignall and his companions spent anxious moments while the ship manœuvred to pick them up, for they themselves could make little headway in the waves. It should be said in fairness to Bristols that, as a precaution against being totally immobilized should one type not be in stock when away from base supplies, two front or two rear blades could be used temporarily as a pair, but leading edges obviously had to lead for efficient screw effect. When thus used, the bolt holes in the hubs did not align exactly, an insurance against subsequently mistaking the assembly as a correctly matching pair because performance fell off at height. Another effect of this St. Andrew's Cross assembly was to give the characteristic engine noise an even more pronounced double beat.

Taking off and landing the Walrus ashore presented problems or required techniques little different from those entailed in handling a landplane by day or night. Once airborne, the wheels were pumped up by hand, the oleo legs then forming a short bracing strut each side. The pump handle had good leverage, but the effort required was not negligible (although not quite as long-winded an operation as, for instance, on the early version of that R.A.F. maid-of-all-work, the Anson). The tendency, therefore, was for some pilots to leave the wheels down if operating from a shore base on a short sortie over land; they could be forgotten . . . habits not to be encouraged in an amphibian.

Walrus aircrew, for all the affection they had for her, were not behind in coining such names as Shagbat, Steam Pigeon and worse. Were it not for her appearance, then, it could be said that her progression through the air was stately; it was certainly measured, for the speed range in normal flight and fighting trim could be varied little either side of 82 knots. Apart from the all-pervading noise of the engine in the sound-box of the hull, which reduced conversation to cryptic bellows, the ride was very comfortable compared with any front line naval aircraft then and perhaps (dare one say?) since in service. The wheel control column gave good aileron and elevator leverage, if a bit on the heavy side-the sort of feeling to be expected anyway from a shire horse not intended for skittish manœuvres. The word 'skittish', however, as with so many other apparent limitations of hers, needs qualification; liberties were taken and official limits exceeded successfully, always excluding foolhardy extremes. We have seen how Summers looped her at Hendon, and without detracting from the merits of such a feat, there were others who likewise indulged successfully (and some not so successfully) in aerobatics. W. R. J. Mac-Whirter once triple-looped her over Stornoway harbour, the autumn weather of the Western Isles possibly having something to do with it. Seeking relief from boredom as well as sheer joie de vivre could also evoke exuberance: H. J. F. Lane, originally trained as a fighter pilot, evidently found it difficult to overcome habit, for he found the tedium of a long patrol of two or three hours of spotting for practice shoots could be shaken off by loops, rolls or 'rolls off the top'. He gave up the straight-forward roll, he says, due to the disconcerting habit bilge water had of pouring down (or up !) the neck, the barrel roll therefore being a preferred and cleaner evolution.

The only special precaution needed for an airfield landing was in a strong cross-wind, when the high c.g. was liable to cause a 'wing in'. The travel of the oleo legs was not great, consequently the initial touch-down if on the heavy side, for instance, on a concrete runway, followed by the hellish din of the metal tail-wheel, could alarm a nervous passenger to the point of believing that the Forth Bridge was collapsing about his ears. But the introduction of the pneumatic tailwheel during production of the 'W' serial numbers made for quieter landings. As an amphibian, the Walrus was distinctly biased towards water—which, for a naval aircraft, was as it should be.

Versatile and ubiquitous the Walrus certainly was, neither the task not the terrain ever appearing too much for her. Yet it will doubtless come as a surprise to many of her surviving aircrew to hear that she also included among her varied talents a penchant for fire-fighting. The Hastings airfield at Freetown one day suffered a severe grass fire, threatening buildings and reserve aircraft. The quick-witted action taken was for the pilots, P. C. Bromwich among them, to range half a dozen Walruses tail first across the line of advance of the fire, run all engines at full throttle and blast the flames out.

She handled well on water in any direction in light winds, as the faired-over tail-wheel could be coupled to the rudder pedals in the cockpit by means of a small lever. This was intended for use when taxying; for take-offs and landings it was important to leave the two disconnected if serious trouble was to be avoided. The unexpected happened to G. R. Brown when he was serving in the *Birmingham* before the war: he was taking off from Hong Kong harbour in L2189 when the water rudder suddenly became engaged. The resultant swerve was too violent to respond to correction before a wing dug in and a crash resulted, the crew fortunately escaping, although the aircraft was lost.

If manœuvring in a strong wind, the natural tendency to weathercock had to be overcome with fairly strong bursts of engine, the slipstream enabling the air rudder to assist with turns or for holding a steady cross-wind course. A long 'reach' under those latter conditions could be extremely exhausting, as several later stories will show.

Trans-shipment of personnel or stores while afloat was not an infrequent requirement, including rescue or supply work in the open sea, off the coasts of lonely islands, in lakes, rivers or in lagoons—it mattered not where. If a motorboat was available, it could head into wind at moderate speed, the Walrus coming up from astern and laying her bow alongside the other's quarter with little difficulty, lowering her wheels if it became necessary to reduce speed to a minimum. Alternatively she could anchor or just stop and drift if the operation was likely to be protracted and if sea room permitted, then the boat could come alongside the bow or rear hatch entrance. The latter position was fraught with risk because of the vulnerability of wings and tailplane to damage, but it was the best place in and out of which to

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transfer bulky cargoes because of its lower freeboard and easier access to the gangway inside, especially where injured or otherwise incapacitated passengers were concerned. In the absence of outside help, the Walrus could always use her own inflatable dinghy or, if conditions were not unsuitable, lower her wheels and conveniently waddle ashore.

She had a remarkable ability for load-carrying, too. J. G. O. Hofman, when serving as a petty officer pilot in the Queen Elizabeth, remembers an instance when he ferried six other pilots, complete with parachutes, from Dekheila to Abu Sueir to pick up some squadron aircraft; that they failed to cross the Nile delta at a greater height than 500 feet in the middle of an Egyptian summer is not, in the circumstances, surprising. G. R. Brown, capping that, flew nine up all told on a similar ferrying flight before the war from Lee to Ternhill (and doubtless some of the old Walrus hands like H. C. Clarke, Izzy Grant and Henry Wright, who were dug out for the trip, will remember the game of solo played on the camera hatch to while away the time). That overload, however, was prudently recorded in Brown's logbook in pencil subsequently, for squadron commanders took a less lenient view of such things in those days. Other instances of a like nature are also recorded later on. If these are considered exceptional examples, it can only be repeated: the Walrus seemed not to accept restrictions. Novelties, once tried, tended to become matters of routine.

Take-off technique from water naturally had to be varied to suit prevailing conditions. One of the main precautions was the necessity, in strong winds at least, to keep the wind on the port bow to counteract propeller torque, which tended to dig in the wing-tip float on that side, thereby avoiding a swing that could be disconcerting. Disconcerting? Well, again that needs qualifying: E. E. McIllree of Sydney, who operated Walruses on charter in the New Guinea area after the war, has remarked, 'These aircraft did sterling work in that capacity, frequently alighting and taking off from uncharted coral lagoons which required dog-leg take-offs in order to avoid "nigger heads". The old Walrus is perhaps the only amphibian which was capable of being thrown into a 25° turn at 30 knots or more on the water and getting away with it'.

A flat calm enforced a long run, sometimes necessitating judicious 'pump-handling' to rock the hull on to the step and thence to 'unstick'. This was normally a manœuvre frowned on by the 'book'; with some



(Vickers Supermarine Aviation Ltd.) Seagull III (Napier Lion). The shape of things that were. The immediate predecessor of the Walrus. (Circa 1925)

Seagull (Rolls-Royce Griffon 20). The shape of things that never were. This intended successor to the Sea Otter and Walrus had variable incidence wings and contra-rotating propellers. It never got beyond the first prototype due to the abandonment of catapult ship policy. (1946)

(Central Press Photos Ltd.)



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(Vickers Supermarine Aviation Ltd.) Seagull V. The hull and engine nacelle of the prototype ready for fitting of the mainand tail-planes at the Woolston works. (*Feb.*, 1933)

Seagull V Prototype (Pegasus IIL2P). "The First of the Line", when originally numbered N.I, immediately prior to the SBAC Show at Hendon. Note the Potts air cooler on the nacelle, the small observer's window, the bulbous fairing over the oleo leg hull joint, and the extra water rudder (all subsequently absent from production aircraft). No catapult spools were fitted at this stage, nor were there H.P. slots on the top mainplanes, as there were on all Seagulls ordered for the RAAF. (*June*, 1933)



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floatplanes it could lead to uncontrollable 'porpoising'—but not the Walrus. Alternatively, if the crash-boat was in attendance, it could be sent ahead to create a wash, the disturbed water helping to break the suction effect on the hull of the Walrus. Under these conditions the lack of power of the early Mark II M2 engine was especially felt, which made the introduction of the Mark VI welcome indeed. Open sea conditions with a smooth swell required take-offs along the crest irrespective of such wind as there might be; but with waves, the run had of course to be into the wind. Hulls soon started to show their ribs after sea operations, yet the airframe stood up to an exceptional amount of pounding without ill effect so long as care was taken to keep the wing-tip floats clear.

When considering rough weather take-offs and landings, it is as well to bear in mind that the severity of the conditions sometimes reported often lay, like beauty, in the eye of the beholder! A brief examination of the main factors involved will therefore not be out of place when considering claims of prodigious rough weather feats.

Wave heights generally tend to be over-estimated (a natural inclination, as they are rarely quoted in a deprecatory sense), particularly when superimposed on a swell, perhaps even partially concealing the latter's presence. Long swells, of even quite considerable height, can be landed on with hardly more risk than on calm water if there is little wind, except that finer judgement is needed in the hold-off for reasons which will be apparent in a moment. Thus, when there happens to be a strong wind along the swell, perhaps creating three- or four-foot waves, estimates of landing in, say eighteen or twenty foot waves are likely to result. Swells are the result of prolonged storms and they may travel, like ripples along a flicked rope, at exceedingly high speed to areas well outside the storm zone, possibly thousands of miles from it, and may therefore bear no relation to local wind direction; consequently if landed into head on, the impact force can be tremendous. While waves can also travel swiftly, their relatively thin crests break or cushion the impact to some extent.

That said, it can be added that the Walrus was often landed safely in seas so rough that she could not take off again, or was able to take off in conditions that looked impossible for so small a craft—several examples of which will be found in this story. For example, the *Pegasus* (whose old name, *Ark Royal*, had been reserved for the new carrier foreshadowed in the 1934 Naval Estimates) was responsible for, among other requirements already mentioned, 'up to the limit' rough s.w.—4 weather tests of seaplanes. One of the test pilots was Lieut.-Commander I. R. Grant when the ship, using the Scilly Isles as a base, used to conduct the rough weather operations off the Wolf Rock Lighthouse; wave-recording and cine films being used for subsequent analysis of the trials. The maximum average height of waves in which it was found the Walrus could be landed was twelve feet (the highest running up to fifteen feet). And to move on in time and out to the tropics, there is the case of a Walrus from the Albatross on patrol off Sierra Leone in 1941. Two boats were sighted in bad weather and the pilot, Petty Officer Chester, flew low over them to see if there were any survivors. There were and they seemed in a bad way. C. R. Dearman, the observer, and Chester agreed that a landing should be attempted; but only when they were committed to the act did they appreciate how rough the seas really were. However, they got down safely, then having to spend much time taxi-ing about trying to locate the boats again among the obscuring waves. Finding them, they managed to take a line from one to the other, closer scrutiny showing that the occupants were indeed in very poor shape, but there was very little else that could be done except to pass across such meagre supplies as they had in the aircraft and give them a course to steer for Freetown. Then, in Dearman's words, ' . . . with our hearts in our mouths [we] drew away to take off. Many minutes later and many miles from the boats we were still trying-bashing from one crest to the next, with all seats and movable objects smashed and dead scared! Finally, we jettisoned everything possible (including . . . two depthcharges) and got off'. As a tailpiece he added: 'Naturally, a very large strip was torn off me, as senior boy in the aircraft. How was I to know we were short of depth-charges!'

The Walrus's ability to land safely in heavy seas was largely due to the exceptionally stable attitude she maintained at low speed (and stalling speed was about fifty knots); even after a heavy bounce there was little tendency for the nose to drop, thus the subsequent touchdown, still in the correct attitude, appeared to be made with hardly any speed registering 'on the clock'. Some pilots deliberately used this 'off the clock' landing technique in rough weather. It was essential, however, to keep her laterally stable, as already stressed. The following account demonstrates in another way again the sturdy construction together with her controllability in adverse conditions, or perhaps it would be better to say with regard to that last clause that the Walrus rarely took advantage of a pilot who maintained his faith in her in such circumstances. H. J. F. Lane found himself caught in a full northerly gale off Crete during the war: the bumps and downdraughts from off the hills around Suda Bay were so severe that he seemed to have little control of the aircraft; the only hope was to land in the harbour as quickly as possible if they were to survive. Just as he turned into wind to make his final approach a particularly fierce downdraught struck him. Although trying to counter with the stick hard back, full port aileron on and the throttle wide open, they hit the water. As he felt the impact, he cut his throttle and (Lane said) 'Bob's your uncle'.

As a result of the episode in which the Commander-in-Chief had been ducked in Portland harbour, a Klaxon horn and undercarriage indicator lights had been fitted as a warning to the pilot to check the position of his wheels before landing. Such devices, of their nature, cannot be fool proof, certainly not bloody fool proof. In the case of the horn, its very loudness engendered the urge to suppress it; the last movement of closing the throttle actuated a switch which brought the Klaxon to vociferous life, and at the end of the throttle quadrant was a cut-off switch designed to be operated by the heel of the pilot's hand, thereby obviating the need to remove the fingers completely from the control. It was a facility too facile not to be taken advantage of. The pilot could reach aft with the heel of his palm and depress the cut-off before the lever actually reached the 'on' switch, an action which could become almost reflex in order to save ear-drums, already deafened by engine noise, from further assault. Another method, if operating for prolonged periods over either sea or land, where the wheels could be left up or down as appropriate, was to remove the fuse in the Klaxon circuit. While these unorthodox practices may have avoided much aural annoyance, they did so at the expense of introducing more costly hazards.

One of the famous stories in this connection concerns an instructor, perhaps best left in nameless obscurity, attached to the naval air station at Lee-on-Solent, where the proximity of airfield and sea permitted alternate types of landing in rapid succession. He was demonstrating (very rightly) the stupidity of ignoring such safety devices as higher authority had thought fit to provide, when, possibly over-absorbed in his subject or forgetful of the element he had last alighted on, he perpetrated a graphic example of what not to do. A few pilots gained fame by performing a wheels-up landing ashore and a wheels-down landing in the sea at different times of their career; but it is believed that only one, a young sub-lieutenant, ever achieved the unique distinction of committing both errors on the same day.

As seaplane pilots well know, judgement of height can easily be miscalculated when flattening out to land on dead calm water, especially in mist; the greater danger being to fly straight in than hold off too high. The correct technique in such conditions is to let the aircraft down on its engine in a slightly nose-up attitude until hull or floats are felt to touch the water tail first, and then to cut the throttle; which is a technique applicable to night landings, of which more will be said in the next chapter. To this the Walrus was particularly amenable; few pilots found difficulty in landing, for example, at night in harbours without the aid of a flare-path if other lighting from ships or shore installations provided sufficient reflection on the water, although a crash-boat in attendance was obviously desirable to keep the area clear of small craft. Indeed, completely blind landings could be made without great risk, given a clear area; at about 1,550 rpm and 55 knots she virtually did the landing herself. On one occasion during the war, when carrying out a low-level searchlight exercise with the shore defences around Scapa Flow, I found myself caught in an unusually heavy rainstorm. Climbing up through it clear of the encircling balloon barrage was one solution quickly rejected because the extent of the squall could not be assessed in the dark; nor was that Walrus fitted with an accurate homing device. The only alternative was much less frightening-to land in the Flow. I was, fortunately, quite familiar with the lay-out of the balloons and the position of the fleet inside the boom-defence zone; what craft there might be moving about outside those nets and the location of the buoys had to be chanced. The glare of the searchlights was even more confusing in the rain, so an urgent message from us got them dowsed, immediately before which Geoffrey Hide, my observer, had noted our position near the Kirkwall shore-line, so that I was able to make a rough guess at the wind direction and start down in the prescribed manner, leaving the rest to W3082 (and luck)-which she did with hardly a bounce.

That was the Walrus ashore, afloat, aloft. She also had to operate from ships.

#### CHAPTER FIVE

#### SHIP OPERATION

As WE HAVE already seen in Chapter One, landplanes and seaplanes had been successfully operated from ships for a number of years. The first type represented the 'one shot in the locker' method, while the hoisting in and out of seaplanes entailed considerable delays. For ships which were not equipped, like carriers, with a flight deck, there were two essential requirements for the efficient use of reconnaissance aircraft: a means of launching and a method of recovery, both of which should not entail undue delay. The first was met by the catapult, which greatly reduced the disadvantages of the size of the aircraft and the war load it could carry imposed by earlier methods, so that even today in such huge vessels as the nuclear-powered U.S. super-carriers of 80,000 tons or more, the modern steam catapult, basically developed by the British, plays a vital part in getting a heavily laden jet into the air.

#### The Catapult

The history of the military catapult, regarded purely as a missile launcher, of course goes back to Greco-Roman times and earlier. Although the invention of gunpowder rendered it redundant as a weapon of war for many centuries, explosive power was in itself responsible for bringing it back into favour.

The idea of launching aircraft from ships appears to have originated in the United States. On 6 May, 1896, Professor Samuel P. Langley made his celebrated demonstration, launching a thirty-six lb, automatically controlled aircraft from a barge in the Potomac River near Quantico, Virginia, the mechanism being spring operated. In his report on the Rheims Aviation Meeting in 1909, Commander F. L. Chapin, the U.S. Naval Attaché in Paris, stated with great foresight his conviction that aircraft could play a useful part in naval warfare, noting that one method that could be used for operating them from battleships would be the Wright brothers' launching device (a land catapult actuated by a falling weight). It was not long before the U.S.

Navy were conducting experiments; and by 1911 Lieutenant T. G. Ellyson succeeded in taking off from an inclined wire rigged from beach to water at Hammondsport, New York State. Primitive as was this gear, it was but a beginning. The same officer made the first successful launching in an A-3 aeroplane from a compressed-air catapult mounted on a coal barge at the Washington Navy Yard on 12 November, 1912. From land and barge launchings, the next steps led to a ship; in November, 1915, Lieut.-Commander H. C. Mustin being launched from the stern of the North Carolina in Pensacola Bay in an AB-2 flying-boat (stern way on the ship being necessary, as the track pointed that way). Finally, after the installation of a 'permanent' catapult in the same ship, Lieutenant G. de C. Chevalier was shot off in an AB-3 boat on the 12 July of the following year, and he was acclaimed to be the first man to have done so with a ship under way in the normal manner. Gunpowder was being experimented with as the motive power; turntable catapults also came into being; and with the launching of Lieutenant C. McFall in a VE-7, carrying Lieutenant D. C. Ramsay as a passenger, from the Maryland off Yorktown on the 24 May, 1922, the Americans considered that the routine operation of catapults in ships had started.

Although aware of the U.S.N. experiments, we appear to have been late in investigating the uses of this device, for it was not until July, 1916, that a draft specification was prepared, initially resulting in two prototypes. The first was built by Armstrong Whitworths and tested from H.M.S. *Slinger*, a hopper barge; the second, a Weygood & Otis land type, was tested at Hendon in November, 1917. Although successful experimental launches were made from both, neither achieved the targets set for loads and launching speeds.

In the early 1920s, W. A. D. Forbes, of the Department of Naval Construction, became secretary of a body with the long title of the Joint Technical Committee on Aviation Arrangements in H. M. Ships. Studying all the available records, he drew up a specification for a new generation of Admiralty catapults with a stipulated maximum acceleration of  $2\frac{1}{2}$  g. This resulted in the development of two further types. One, made at the R.A.E., Farnborough, in 1924, was designed by P. Salmon (who was also responsible for the development of launchingcradles on all earlier catapults), the principle of telescopic arms being used to achieve acceleration of the aircraft carriage. The second type, designed by R. Falkland Carey, who had been responsible for the Weygood & Otis apparatus, and incorporating a ram, wire ropes and sheaves, was made in Chatham Dockyard. Both types could be energized by compressed air or cordite. It should also be recorded here that much of the practical testing, from the flying point of view, on these and subsequent versions was undertaken by the R.A.F's Coastal Area representative, Flight Lieutenant F. Kirk. If he was a somewhat taciturn man with a pronounced limp, it is not perhaps surprising; such tests were not without their hazards.

In 1925 the forward guns in the cruiser *Vindictive* were replaced by a hangar, which was large enough to take three or four aircraft and supported a Carey catapult on its roof. The trial launchings were made in a Fairey IIID floatplane piloted by Squadron Leader E. J. P. Burling. The *Vindictive* sailed on the 1 January, 1926, for a two-year commission on the China Station, during which period and for some time subsequent to her return, the aircraft of Nos. 401 and 444 Flights were operated without trouble. This catapult was designed to launch aircraft up to 7,000 lb loaded weight at a speed of 45 mile/h over a run of 34 feet. (A Carey catapult, incidentally, was also installed in the ill-fated submarine M.2, which carried the little Peto aircraft in a hangar.)

After trials ashore in November, 1927, the first R.A.E. air-operated catapult was installed in the *Frobisher* and the first cordite-operated version in the *York*. The *Exeter* also had a twin version of the latter type arranged in the form of a 'V' aft of the bridge and directed towards each bow. A third type was known as the slider, a ram driving a trolley at twice its own acceleration, the latter in turn driving a slider, also at double speed, on which the aircraft was mounted. The manufacture of slider types was placed in the hands of Ransome & Rapier.

But two designs subsequently became most commonly used, chiefly due to the necessity for even higher launching speeds, which in turn called for longer catapults. In ships with a wide enough beam, such as battleships and large cruisers, the 'D' or double-acting, fixed athwartships catapults, where the launching trolley could be swivelled in either direction, were installed. In smaller ships, accommodation of the long trackway naturally presented a difficult stowage problem. But this was neatly overcome by W. A. D. Forbes, who invented the 'E' or extended-structure turntable type, a patent for which was granted in April, 1929. These catapults were made by MacTaggart Scott's. Both 'D' and 'E' types could be operated by compressed air or cordite and could be modified for use with light or heavy aircraft. The largest 'D' type was designed to operate loads up to 15,000 lb at 70 knots; from which it can be seen that we had come a considerable way in our requirements for the type of aircraft now deemed necessary for fleet work. Before proceeding to a description of the launching procedure, better understanding will probably be obtained if a brief explanation is first given of how one of these many types of launching device worked.

Basically, the turntable catapult was of girder construction with a trackway along which the launching trolley ran, an extension at each end permitting compact stowage in the fore-and-aft direction (the 'E' type). A ram, on the Carey principle, operated a system of large pulley wheels and a wire rope, which in turn drew the wheeled trolley along the trackway. The trolley had four collapsible arms fitted with claw ends which engaged the four spools protruding from the hull of Walrus along the chines, suitably stiffened at those points. Locking bolts in the claws held the spools firmly in place. The catapult was revolved on its turntable by a small petrol engine or electric motor, which could also be temporarily coupled to the trolley for traversing it at slow speed. The Type E III H, for instance, could be extended from 53 to 90 feet; the rope reeving had a ratio of 6: 1; the maximum launching weight was 8,000 lb at a maximum speed of 56.5 knots (the latter of course depending on the aircraft weight when loaded for any particular duty.) The maintenance and working of the catapult was the responsibility of the ship's engineering staff with the exception, when cordite was the propellant, of the breech mechanism, which was maintained and operated by a member of the gunnery staff.

#### Launching

Most battleships and large cruisers had two hangars, each of which could house a folded Walrus, so that in some ships three aircraft were carried. For obvious reasons, drills varied in detail between ship and ship, but the main principles were rigidly adhered to. In overall charge was the Directing Officer, in telephonic communication with the bridge, from which the direction of launch and permissive order to carry on would come; and once the aircraft engine had been started, the resultant noise necessitated all local orders being given by red and green hand flags. The trolley would be run to the down-wind end of the trackway, there engaging a spade-grip device which prevented all forward movement due to propeller thrust or the roll of the ship until the moment of firing. When all was ready at the catapult, with a correctly weighted charge in the breech, the engineer officer would raise his green flag. The D.O. in turn raised his corresponding flag and looked towards the pilot, the signal for the latter to complete final cockpit checks, centralize controls and ensure that his crew were correctly seated and strapped in—the observer beside him, the T.A.G. in the observer's seat behind, back to the pilot. When the D.O. started to circle the flag above his head, the gunner would close the breech; the pilot would open to full throttle and boost, a sign for all three aircrew to brace themselves for the launch, the pilot and observer leaning back against their respective head-rests, the telegraphist laying his head on arms folded across the chart table. With the Walrus juddering and vibrating the trolley, the roar of the engine rebounding crescendo from the superstructure, the pilot would then hold up a thumb and, when satisfied that correct boost and revolutions were registering on the dials before him, cut it down and place the hand restrainingly behind the throttle lever.

It was at this point that the D.O. probably wished nature had endowed him with more than one pair of eyes. He now had to look to windward, ensure that the range was clear if other ships were in company, wait for the upward roll of the ship, then, snatching a final backward glance to see that all was still well with catapult and aircraft, drop his flag as the ship reached even keel. The gunner would fire the charge and the trolley would be whipped forward into motion, from rest to fifty-five knots in as many feet of travel; like a mechanical midget putting a mighty shot, it would throw the Walrus clear at flying speed. As the acceleration force might amount to 3 to 4 g, it can be seen that careful design not only had to calculate accurately the stress loads on the four spool attachment points but also ensure a petrol system that would not starve the engine at that crucial moment. For the aircrew, the motion did nothing to alleviate possible morningafter-the-night-before feelings.

The mechanical sequence of events, as the expanding gas started to extend the ram and pulley gear, was that the first movement released the spade grip and freed the trolley. At a mid-point along the track, cams would actuate withdrawal of the locking bolts, inertia then being the only force holding the spools in the claw ends. The retardation mechanism would start to function about nineteen feet from the end of the run, where the two foremost and the tops of the after arms of the trolley would collapse forward clear of the hull. Given a reasonable wind, the Walrus would therefore virtually be flying in the trolley before clearing the ship.

Of course it sometimes happened that all did not go exactly to plan.

Catapult drill allowed for such eventualities as could be foreseen: possibly an emergency cancellation by the captain or a last-minute hitch at the catapult. In either case the D.O. would stop rotating his green flag and raise a red one beside it, indicating to the pilot that all was not well but that he must, at that critical stage, still keep his engine at full power. If the fault could be rectified quickly, the procedure reverted to the green flag state; if prolonged delay was necessary, the engineer would lower his green flag and substitute a red, the D.O. following suit, signifying that the pilot could throttle back (an action taken by the latter, be it said, sometimes with sceptical reluctance).

However, not all eventualities (or stupidities) could be foreseen; yet the only record of an actual fatality appears to be that which occurred on 6 September, 1941, when Australia's Seagull A2-24 crashed into the sea as the result of a 'catapult failure'; the pilot, Lieutenant J. J. Hoath, R.N., unfortunately being killed, although observer and T.A.G. were rescued with minor injuries; which is otherwise quite a remarkable record in view of all that could go wrong. 'Puff shots,' due to defective cordite, could cause trickle launches, when only the robustness of the Walrus (and a lively reaction by the pilot) turned potential disaster into nothing worse perhaps than a heavy drop on to the waves or, at best, a bounce before flying speed was picked up; an event which could also happen through the D.O. inadvertently launching on the downward roll. The Cornwall, as an instance, once shot her Walrus into the Indian Ocean before the engine had been started; it seems that in the semi-darkness before a dawn patrol, someone at the catapult accidentally fired the charge (but no explanation is given as to why the breech was loaded at that stage). On another occasion W. R. J. MacWhirter was shot off the Cumberland with his rudder pedal locking strut still on; the aircraft, he says 'behaved very well, and the strut was duly unscrewed', adding, 'but not before my observer, Lieut.-Commander Hunt, had almost died of heart failure.' Yet another story concerns a launching from the Queen Elizabeth. R. L. Bigg-Wither, the pilot, describes the occasion:

A catapult shot was quite an event, and those off watch invariably used to crowd several deep either side of the ramp and on top of the hangars to get a good view. Smoking was of course strictly forbidden anywhere in the vicinity but... since smoking in the cockpit was permitted, my observer, 'Hoppy' (J. A. Hopking), with a long holder, and I used to play to the gallery by puffing nonchalantly away whilst the engine was ticking over and 'Torps' and his gang

were working feverishly to prepare for firing. On this occasion we were in the firing position, with two depth-charges aboard, and awaiting the signal to open up to full power, when suddenly our heads were knocked back against the head-rests and we started to move rather slowly down the ramp. I opened full throttle, the engine coughed, picked up and we half dropped, half flew off the end of the ramp with the stick hard back. If we had touched the water, fifteen knots sideways speed would have turned us neatly over, but I was told afterwards we missed by inches, and I put this down to the fact that my air-gunner, who was standing behind the co-pilot's seat ready to dive into the observer's seat for take-off, was shot backwards right into the tail, from which he managed to extricate himself ten minutes later. Perhaps his weight aft just got us off. Anyhow, my observer, who was C.O. of the flight, insisted I flew alongside the bridge as slowly as possible so that he could shake his fist at all and sundry.

Ironically, on the very next launch, when they had prepared themselves for another possible 'premature', a dud charge resulted in a misfire, and they had to wait tensely while the misfire procedure outlined above was gone through.

In those ships with more than one Walrus, the launching (and recovery) of the full complement in rapid succession was an evolution much practised in the early days as a routine preparation for war. The operation would entail getting the first one airborne from its normal stowed position on the catapult, then getting the other two out in turn from their hangars on their bogies, transferring each to the launching cradle, traversing the latter to the down-wind end, repeating the full launching procedure. Neville Cambell, a pilot of the *Cumberland's* flight in 1936, recalls that this was once done with such celerity on the China Station that the new Chief of Staff, watching the performance from the bridge for the first time, was declared to have hopped up and down with excitement, the while proclaiming it as the first high-speed evolution he had ever seen in the Navy which seemed to have some real value!

For night operations, coloured torches replaced the hand flags; and, under wartime darkened ship conditions at least, the scene would have been made eerie, due to the effect of multicoloured glow-worms flickering about their Cimmerian rites, had it not been for the shattering noise of the engine. Above all spluttered the corona of yellow-blue flashes from the exhaust stubs, a phenomenon, incidentally, that being lowered until the two automatically mated and the Walrus could be hoisted clear of the water.

In rough weather, a boom would be rigged out from the side of the ship and a line led through a block at its outer end for the second, or towed recovery, method. After accomplishing a slick landing, the Walrus would be taxied up and, while the T.A.G. was preparing the slings as before, the observer would stand in the fore hatchway, fish for the towline with his boathook, and make the end fast to the towing bridle. The pilot would then throttle back until the towline took the strain, adjustments being made from inboard until the aircraft was aligned under the crane. In small cruisers it was not always possible to rig the towing gear for fear of rolling the boom under, in which case the direct recovery method would be used. In fact some pilots preferred this method in any case; it was quicker, required less equipment, and of course obviated the need for using the fore hatch, which could ship a lot of water when open.

Whichever method was used, skilful station keeping alongside was essential, as recoveries at speeds up to fifteen knots or more were sometimes made. During a Malta convoy operation, for instance, the *Kenya* sank a German supply ship, which had been spotted by her Walrus (W2700) with a U-boat alongside, and it was obviously no place to linger at slow speed, so recovery was made at 15 knots in a 25-knot wind, MacWhirter remembering it as the roughest and wettest ride he had ever made. If the aircraft was too far out when the strain was taken on the purchase, a crash against the ship's side would result; if too far forward, or behind station, it could be dragged under like a paravane. In small cruisers which carried only a centreline crane, the overhang allowed a wing-tip clearance from the ship's side which was often not more than five or six feet, so there was little latitude for error during these recoveries at sea.

The pilot therefore kept his engine running until out of the water, then cutting it at once to avoid swinging about like a pendulum. Once clear, the handling party would fend off the swaying aircraft with long padded poles and turn her nose towards the ship. Two lines would be thrown to pilot and observer, who would secure them to the wing-tip steadying wires clipped along each lower mainplane, while a third could be secured if necessary to the after hatch if the weather was very rough. Under the control of the D.O., the Walrus would be hoisted inboard and the tricky operation of lowering her safely into the cradle accomplished, great care being necessary not to let one of the cradle arms pierce the vulnerable hull plating in the process. The pilot and his crew having done their bit, this last operation by the handling party, composed mainly of the aircraft's maintenance crew, necessitated wellco-ordinated drill, particularly on the part of the ship's crane driver, and it was upon them that largely fell the onus of ensuring that rapid and safe recovery which was so necessary in war, especially, as we have seen, when the ship could not afford to remain on a steady course a minute longer or one knot slower than necessary with U-boats possibly lurking hopefully for just that chance.

It is not surprising, therefore, that rough weather recoveries sometimes took a toll of wing-tips if nothing worse; but this provided a further example of the sort of treatment a Walrus might expect to undergo and yet survive to fight another day, even if reliance could only be placed on ingenuity and unorthodox materials, as was often the case with ships operating for long periods far from base supplies. The Devonshire's Walrus was severely damaged on one such recovery during operations against the Vichy French at Dakar, the upper and lower wing-tips being buckled and the leading edges holed in several places. As no spares were available, the curative action resulted in what was perhaps the only clipped-wing Walrus to fly against the enemy! The crumpled tips had first been removed and then, when steam-curved plywood failed to hold its shape in the tropical conditions, the ends and holes were stuffed with a sort of papier mâché concoction of cotton waste and aircraft dope, moulded to shape, set and then doped over with linen in the usual way. Eleven days later Petty Officer Parsons had the opportunity of carrying out his first test flight. He claims that L2268 flew rather better if anything than before this course of plastic surgery, and she was thereafter used for nearly a month before a visit to Cape Town enabled a replacement to be obtained from Wynberg.

Night landings and recoveries naturally had to be confined to periods when reasonable weather conditions prevailed—slicks, for instance, would not have been visible on a moonless night. Three or four lights hung in a line along the ship's side would enable a normal night landing to be made. In peacetime, as much lighting as was needed could of course be used during the recovery process; in wartime, however, lighting was at a minimum and then of the lowest wattage and shaded so as to shine over a limited arc. At the end of a night flight it was always a relief to the aircrew to feel the crane safely take the weight of the aircraft after hooking on.

#### CHAPTER SIX

### EARLY DAYS

THE FIRST FEW production Walruses were naturally earmarked for training purposes: pilots' conversion courses at Calshot and for observer training at Lee. The Pegasus, too, had not only to determine the most suitable launching and recovery methods for the new type, but to send her proposals to the Naval Air Division at the Admiralty so that they could be promulgated as instructions or guidance to the fleet. In due course, when her trials and training requirements reached a maximum at the outbreak of war, it was not unusual for as many as thirty catapult launches and slick landings to be carried out in a day, which further tested the endurance of the amphibian. And it is appropriate at this stage to mention two officers who played a large part in developing these techniques and training others in their uses, two who thereby came to be known personally to almost every Walrus aircrew and everyone directly connected with the operation of catapult aircraft. These were Lieut.-Commander R. J. T. Walker, the Directing Officer, and Lieutenant C. H. Tinker, the Catapult Engineer Officer; in their respective spheres they were experts among experts.

Despite the inauspicious start to 1936 with the crash of the prototype, as the year advanced the ubiquitous career of the Walrus was launched on an ever widening scale as ships departed on commissions all over the world. From among the initial contract for 12, the first ships to be equipped were *Nelson*, *Shropshire*, *Norfolk*, *Cumberland* and *Achilles*; following them, from a similar small order, were *Sussex*, *Exeter*, *York* and *Devonshire*. The serial numbers of these aircraft were in the 'K' series, of which 48 in all, excluding the prototype, were produced, still in tentatively small contracts. Yet before the year was out the first big order was placed on Supermarines under what was known as Scheme F; this was for no less than 168, delivery of which was scheduled to start, as the 'L' series, in the following July and continue throughout the succeeding two years.

In all (but possibly excluding a few of each which might have been



(Charles E. Brown

The prototype, as N.2, being hoisted aboard HMS COURAGEOUS in Portsmouth Harbour for passage to Gibraltar for the first naval evaluation trials. Lt. Cdr. Caspar John in the cockpit. (*Feb.*, 1934)

N.2 airborne during trials at Gibraltar. Note the diagonal tail-plane strut (absent from all production aircraft), the bombsight on the bow, and the hand-compass on top of the cockpit. Pilot: Lt. Cdr. Caspar John; observer: Lt. Cdr. W. T. Couchman. (*March*, 1934)




A2-1 (Pegasus IIM2). The first production Seagull coming in to land at Hendon for the SBAC Show. (*June*, 1935)



EARLY DAYS

sold to foreign governments pre-war), 26 Seagull V's and 765 Walruses were to be made.

At the end of the Abyssinian crisis, the Australia and Sydney returned to their own country in August. Before leaving the Mediterranean, however, an accident to A2-1, when testing out modified hoisting slings, resulted in severe damage and she had to be sent back to the makers for repair. A2-12 was sent out in replacement before Australia sailed from Malta. In the month that the two cruisers left the Middle East, Albatross received her first Seagulls.

The first ship to be equipped with the newly named Walrus appears to have been the *Achilles*, on loan to what was then termed the New Zealand Division. She commissioned on 31 March and, after working up, sailed in August for her new station with  $K_{5774}$  (it will be recalled that the two preceding serial numbers were sent initially to the M.A.E.E. at Felixstowe), the pilot being Lieutenant T. P. Coode and the observer Lieutenant J. E. Smallwood.

The next in sequence, K5775, was crated and dispatched to the flagship of the East Indies Squadron, the *Norfolk*, at Karachi, where she arrived in October. The senior pilot and Fleet Aviation Officer, Lieut.-Commander H. H. Caddy, and his maintenance staff assembled the aircraft at the R.A.F. Base, Drigh Road, the pilot being given the necessary conversion course by Lieut.-Commander D. McI. Russell, specially sent out from the United Kingdom for the purpose. During the absence of his ship in the Persian Gulf, Caddy had an uninterrupted period for familiarizing himself with his new charge and also making a long distance trip inland. Flying via Jodhpur, Delhi, Lahore and over the foothills of the Himalayas, he paid a visit to Peshawar, where the Walrus was the first naval aircraft ever seen so far inland. The round trip of over 2,300 miles was made without trouble, an encouragingly successful endurance test so early in the operational life of this new type of amphibian.

The Commander-in-Chief, East Indies, Vice Admiral The Hon. Sir Alexander Ramsay, who, as Rear Admiral, Aircraft Carriers, had taken a particular interest in the prototype when she took passage in *Courageous* for the Gibraltar trials, was considerably air-minded and took a personal hand in furthering the efficiency of the aircrew in his new command. This was not always easy of achievement on foreign stations beyond the Mediterranean when ships of the Squadron had of necessity to be scattered over vast areas; the opportunity of working together as a unit was limited, and reliance had mainly to be placed on s.w.-5 individual initiative. *Norfolk's* aircrew had perforce to develop, as most had to at first in the absence of training and technical manuals, their own day and night operational techniques and solve their own technical and maintenance problems. Other duties included such work as photographing out-of-the-way spots like Diego Garcia in the Chagos Archipelago; the station also presented strong contrasts in the places visited on 'showing the flag' cruises.

Near one extreme was Mauritius, at which the ship called in May, 1937, K5775 being flown on one occasion to Maheburg for a regatta as part of King George VI's Coronation festivities, at which Caddy and his observer, Lieut.-Commander P. C. L. Yorks, found themselves made guests of honour. At the north-eastern extreme of the station lay Burma, and during a visit to Rangoon the Walrus was flown from Mingladon airport up to Mandalay, if not via Kipling's road, at least along the brown ribbon of the Sittang river. One point of interest about this journey was that the refuelling arrangements en route were made by an ex-F.A.A. officer, E. Esmonde, then running a local air service; this was the Esmonde who, flying once again in the Navy, was to lead two memorable Swordfish attacks, one against the Bismarck and, in his last gallant effort on a chill February afternoon in 1942, against overwhelming odds in the torpedo attack on the Scharnhorst and Gneisenau, for which he was posthumously awarded the Victoria Cross. When the Norfolk returned to the United Kingdom in July to recommission, K5775 was disembarked to the R.A.F. Station, Mountbatten, virtually unscathed.

The *Exeter* commissioned in November, 1936, with K8340 and 8341 and sailed for the South America and West Indies Station, the fact that she was fitted with the twin-type catapult enabling her to carry two aircraft as compared with the one in her sister ship *York*. Her two pilots were Douglas Pelly and Geoffrey Lamb, and the observer was G. C. W. Fowler.

Not all flying was stern duty. When the C.-in-C., Admiral The Hon. Sir Mathew Best, who flew his flag in the York, decided to take a fishing holiday he chose to go in his ship's Walrus, K8343. Both York and Exeter were then at Mar del Plata in the Argentine, and the venue was the Chilean lakes at San Carlos de Bariloche, 7,000 feet up in the Andes, a trip which called for careful planning by the senior pilot, Lieut.-Commander A. A. Murray. It was not to be foreseen that the journey would, after a fashion, turn into a recruiting drive for the future Air Transport Auxiliary! The arrangements were made through Shell, that ever-helpful company even providing their Dragonfly to carry additional personnel and gear, Pelly going as second pilot in that aircraft. During the fishing, the Walrus was anchored in one of the lakes off a rocky foreshore; despite a gale which suddenly sprang up one night, forcing Murray to ride it out in the middle of the lake with the help of his flight sergeant fitter, Middleton, all otherwise went off happily until the return trip. A refuelling stop had to be made on a football pitch near a small place called Maquinchao, and the Walrus, with the C.-in-C. aboard, went down first. The landing on the sandy soil was safely made against a high March wind, but it was when Murray tried to turn at the end of his run that the tail-wheel dug into the ground and the hull was severely twisted near the fin.

The Dragonfly had followed the Walrus down without harm, and the remainder of the episode, set in the middle wilds of the Argentine, are best described in Pelly's succinct words.

We tied a few reefs in the controls and Murray then did one terrifying (test) circuit but managed to return safely to earth, but it was obvious the aircraft was entirely unsafe. The C.-in-C. decided to return to York in the Dragonfly, leaving Murray, Middleton and myself to do the best we could. We were just scratching our heads and wondering what to do next when an English voice proffered help, and to our amazement we found a charming family, the Dunlops, had arrived on the scene. They owned an estancia nearby and we stayed with them for ten days while the three of us dismantled the aircraft assisted by the youngest daughter, with whom I fell madly in love. Subsequently she became so keen on aviation that she came to England and became an ace woman ferry pilot and married a Wing Commander.

The Walrus was eventually loaded on to a train for Buenos Aires, from thence going by Admiralty tanker, together with the two pilots and flight sergeant to Rio de Janeiro, where the *York* was by then. Landed at Bermuda for repair at No. 718 Squadron's base, K8343 subsequently became Pelly's aircraft when his own, K8340, became due for overhaul.

It was not until much later that the recruiting sequel became known. In 1944-45 Murray, by then a captain, was commanding No. 2 Fighter Training School at Henstridge when a Spitfire was delivered one day to the station. The A.T.A. ferry pilot was none other than Maureen Dunlop. She then told him that immediately after the Maquinchao incident she had gone to Buenos Aires and learned to fly; and, when war broke out, she returned to England and joined the A.T.A. and was now qualified to fly anything from training aircraft to Halifax bombers.

The *Cumberland* was a three-aircraft ship; and her pilots, P. L. Jamison, C. E. H. Batham and N. K. Cambell, after their conversion course at Calshot, formed their flight at Mountbatten with  $K_{5776}$ , 5780 and 5781. The ship sailed to join the 5th Cruiser Squadron on the China Station in November, 1936, for a two-year commission, and it is a measure of the full training it was possible to give pilots in pre-war years that all three Walruses were to be returned safely to their home base, each having logged an average of about three hundred hours a year. Jamison was relieved as senior pilot shortly after arrival in China by Figuls Price, who was in turn succeeded by Caddy, the experience already gained by these two officers ensuring continuity of the high standards of training the Admiralty were calling for. It was in 1936 that, because of the impending increase in catapult aircraft, that the flight system of numbering units was succeeded by squadron designations.

Successive cruisers on the station became similarly equipped; the Suffolk, arriving in mid-1937 with the first Pegasus VI engines in her aircraft, was soon followed by the Birmingham. It was possible, on those occasions when the whole fleet assembled at Wei-Hai-Wei or Hong Kong for combined training and exercises, to muster as many as eight to eleven Walruses, formation flying then being another feature added to the aircraft's growing curriculum. As the Sino-Japanese 'incident' was in progress at this time, the Walruses in China, although never directly engaged, were the first to smell the fumes of battle; it can therefore be said that this fact must undoubtedly have influenced the type of training practised, high and low bombing in particular. Indeed, it is in China that the possibility of using her in the ancillary rôle of dive-bomber was first fully tried out. No sights or special instruments were ever fitted in her for this form of warfare; it became an art individually developed, each pilot evolving his own private method, even to the extent of making a rudimentary aiming mark on the windscreen with a bit of stamp paper. Ungainly as the amphibian was, practice soon enabled quite accurate results to be obtained (in spite of her being likened in this rôle to an undersized

Dutch barn harbouring a monstrous marrow falling down the sky). The presence of the carrier *Eagle* enabled deck-landing practice to be carried out, for it was considered that, in the event of war, it might not always be possible for ships to recover their aircraft in the heat of battle, which was in fact to happen on several occasions, but by then most of the pilots concerned were to make their very first landings on a deck.

Whilst visits to Shanghai were generally welcomed as a break in routine, flying was virtually prohibited in order to avoid the possibility of international incidents which might arise as the result of accidental involvement in the fighting going on around the boundaries of the International Settlement. There was, however, the alternative of learning something about air warfare at first hand, an opportunity of which Caddy, as Fleet Aviation Officer, took advantage whenever possible. Together with colleagues from catapult ships of the U.S. Navy, they used to climb to the top of the tall power house by the boundary, watching the Japanese through their binoculars as they landed, rearmed and flew off from the nearby airfield. Possibly such observations came known to the other side and may have been the cause of the sort of annoyance that occurred on Armistice Day, 1938. Representative detachments, drawn from the ships of all other foreign nations present, assembled in full dress for the annual parade. Just as the gun was fired for the two minutes' silence, a thunderous clangour broke loose as the Nipponese started dive-bombing a pontoon bridge across the way.

When the R.A.A.F. began re-equipping No. 101 Flight at Richmond with Seagull Vs in April, 1936, it was reorganised as No. 5 (Fleet Co-Operation) Squadron. Apart from the responsibility of providing aircraft, pilots and maintenance staff for H.M.A. ships, the squadron continued with its earlier survey work as soon as sufficient aircrew had been converted to the new type. By July further photographic surveys were being carried out of Gippsland to the north-east of Melbourne, while a month later another party was doing similar work on the North Queensland coast. One of these tasks later came the way of Alexander, who had reverted to shore duty on the return of the *Australia*. Leaving Richmond on 22 April, 1937, he flew A2-4 on a four-day trip to the Northern Territory, his stops causing quite a stir in the outback towns, where a flying-boat had never before been seen. Arriving in Darwin with his fitter, Sergeant Kerr, and wireless operator, Leading Aircraftsman Barnes, Alexander found his duties

were to co-operate with Dr Donald Thomson, an anthropologist, in his survey of Arnhem Land, which stretches to the west of the Gulf of Carpentaria. The scientist had been working among the aborigines for the better part of two years trying to determine tribal boundaries, often finding that what was on the ground conflicted with what the map showed. This, Alexander says, was not surprising, as the maps of that area were and, to some extent, still are based on the coastal surveys carried out by Mathew Flinders at the beginning of the nineteenth century. While Flinders' charts were otherwise surprisingly accurate, they erred longitudinally by seven miles due to a faulty chronometer, an error most marked when trying to reconcile coastal with land surveys, particularly when based on widely spaced traverses.

After putting in a few days' work with the survey vessel, *Moresby*, he drew a month's supply of stores from her and then set off for Millingimby Mission Station. There, initially, the Seagull operated by landing on the water and taxying up the beach, but later she worked from a rough airstrip which the Mission made on which the grass in places was as high as the lower mainplanes. Living conditions were better than expected, for they were able to set up camp in a disused Mission hut. Quite a lot of flying was done, and some important errors found in the maps, even to the extent of discovering that of two major rivers, one had been drawn fairly accurately inland but connected to the wrong mouth, while the other, shown only as a minor sea inlet, was not drawn on the map at all.

When they left Millingimby they went east to the Gulf to a rendezvous with the *Moresby*, living aboard and leaving the aircraft at a mooring. At the end of a week, work was suddenly stopped; a volcano had erupted at Rabaul and the ship was ordered there with all despatch. This she did most promptly, leaving Alexander and his party with some drums of petrol and a few words of encouragement. The fuel was certainly needed, for the supplies at Millingimby had been exhausted and neither Darwin to the west nor Normanton to the east was within range of normal tankage. The only way to get anywhere was to carry fuel drums in the hull.

They slept that night on the beach at Groote Island. The take-off at first light next morning entailed no little difficulty; loaded as she was with spares, camping gear, rations and personal effects, the extra load of fuel must certainly have brought their faithful A2-4 above her all-up weight, but stagger into the air she eventually did. From then on all went well. They landed safely at Mornington Island and spent the night there. Next day they crossed to the mainland, retracing their route through central Queensland—Normanton, Cloncurry, Long-reach—and so back at last to Sydney. A2-4 had done 120 hours of hard flying in 45 days.

One of the other interesting series of tasks No. 5 Squadron performed was with the Fisheries Section of the Government, who were then engaged in studying the migratory habits of pelagic fish, particularly tuna. On these occasions the aircraft would normally operate away from base for three or four weeks, the crew consisting of pilot, fitter and wireless operator, with the pilot having to do his own rigging. A few spares and an augmented cross-country kit made the party more or less self-supporting.

Alexander, only a month after his return from the previous trip, found himself detailed for such a task and again he took A2-4. The general mode of operation was to go to an area, such as the east coast of Tasmania, where it was estimated the fish might be at that time, and there team up with the Fisheries Protection launch, which would carry the fuel for the Seagull. In the remoter areas they operated from the water, sleeping aboard either the launch or the Seagull; at other times a coastal airfield might be available, or they might even enjoy the luxury of sleeping in an hotel.

The work itself consisted of endeavouring to locate shoals and then identifying them, which was normally done by leading the launch to the spot. At one time they thought an easy method of identification would be to bring stunned fish right to the surface by bombing them, but this proved largely ineffective because they soon found they were using the wrong time-delay fuses. However, to their own surprise, they became fairly skilled in recognizing the shoals from the air by appearance and habits, especially their broaching habits. It was highly absorbing work, on top of which they were on their own and often roughing it far from civilization. Alexander's spell on that particular trip lasted a month, at the end of which he once more brought his Seagull back to her home base.

But that is not the last we shall see of A2-4, whose birth flight from Southampton Water had been made on 3 December, 1935. She was to suffer several accidents in the life ahead of her, but it was not to be her good fortune to fly against the enemy from a ship, for she suffered severe damage from gun blast when embarked in H.M.A.S. *Perth* in the autumn of 1940 which was unhappily to relegate her thence onwards to second line, though none the less important, duties ashore.

1914–18 War. If the Walrus took the first aerial photographs ever taken of the island, the islanders certainly took a look of astonishment at their first aerial wonder—but more will be found on this episode in a later chapter.

The Commonwealth were not alone in using this aircraft; as early as the summer of 1937, for instance, the training cruiser *Ara la Argentina*, newly built in the United Kingdom by Supermarine's parent company, Vickers-Armstrongs, embarked two Seagulls.

While these accounts of the first year or two in the life of this new 'amphibious boat reconnaissance' aircraft form only a limited selection, it is felt that they cover a sufficiently wide field to be reasonably representative of the uses to which she was being put. Each fleet, each squadron, even each individual ship or shore unit was feeling its way, sometimes pioneering in directions that were to benefit all in the trying years that lay ahead.

Now the tramp of marching jackboots, Nazi and Fascist alike, were echoing louder and nearer.

### CHAPTER SEVEN

# THE CLOUDS OF WAR

WHILE ASSURANCES AND hopes of avoiding war were publicly expressed by statesmen and politicians, military policy was dictated by hard facts, late as was the hour for making good the 'locust years' of the Coalition Government during the first half of the decade. Where naval warfare was concerned, 'big gunnery' still dominated strategy and tactics; anti-aircraft gunnery, for instance, was lamentably, woefully ineffectual, even the evidence of their own eyes apparently not being believed by those responsible. Long after the day when a Hurricane had flown the four hundred miles from Edinburgh to London in one hour, naval aircraft (the Walrus among them) were spending dreary, unexciting hours towing sleeve targets at a set height, on a set course and at a set speed in the region of eighty knots for H.A. shoots. Only very, very rarely was a hit ever recorded.

Nevertheless, a more intensive purpose and aspect did at last begin to take shape in training.

Small as were the forces involved, the annual combined exercises of Australian and New Zealand ships, which had previously taken place in alternate years in each other's waters, were held off the New South Wales coast, the base at Jervis Bay offering greater facilities. The purpose of surveying Pacific Islands as staging posts for Imperial Airways started to be changed to that of finding suitable military airfields and emergency landing grounds.

On 11 July, 1938, Seagulls flew past in sad farewell as their mother ship, the *Albatross*, passed between Sydney Heads, bound for the United Kingdom. Her handing over to the Royal Navy was made as part payment for new cruisers to be added to the Australian Squadron, one of which, the *Hobart* (ex-*Apollo*), arrived out in the latter part of the year. The final payment for the twenty-four Seagull Vs was made in December; at the same time a forward order was placed for thirty-seven Walruses to supplement the estimated future requirements of 5 Squadron, which was once again, and finally, renumbered as No. 9 in the New Year.

As tension built up towards the Munich crisis in September, ships of all naval commands were alerted to stand by to take up their allotted war stations. The 2nd Cruiser Squadron of the Home Fleet—Southampton, Newcastle, Sheffield, Glasgow and Cornwall—moved to Scapa Flow, and all Walruses were bombed up in readiness with 100 lb anti-submarine bombs. One afternoon the Squadron Commander, Lieut.-Commander E. H. Shattock, lead his aircraft in a formation flight over the Flow; unfortunately this 'Balbo' (so named after the Italian Air Marshal who led a spectacular flight of flying-boats across the South Atlantic a few years earlier) was caught in a 50 mph gale which blew up without warning. The majority landed at Stromness, many being severely damaged.

An exception was Sub-Lieutenant J. W. R. Groves, who landed *Sheffield's* Walrus (L2269) in the Flow. The sea was too rough for the ship to recover him; the best that could be done was to stream astern a grass line to which the aircraft made fast; thereafter she had to ride out the weather from that afternoon until 09.00 the next day. Besides his T.A.G., Groves had two ratings with him who had gone aloft for 'air experience', which they proceeded to get; all, except the pilot, soon lost interest in their surroundings as they pitched and tossed in the short waves. This apparently suited Groves admirably, for the only sustenance that came from the ship was in a bottle labelled 'Tonic Water', looked like ginger ale and was, in fact, neat whisky!

Sheffield was one of the first ships to be fitted with that highly secret and magic device, RDF (Radio Direction Finder being the cover-name given to radar when first introduced). It therefore fell to the ship's Walrus to carry out the initial calibration trials, many hours being spent at heights like 13,000 feet before the embarked 'boffins' were satisfied with the results.

The newly built cruiser *Gloucester* commissioned in February and, after trials and a working up period at Malta, arrived on the East Indies Station in May, taking over the flag of the C.in-C. (Rear Admiral R. Leatham) from *Norfolk*. A two-hangar ship, she carried two initial equipment Walruses and a spare (L2297-8-9), the pilots being Lane, Sub-Lieutenant E. D. J. R. L. Whatley, and the observer was Lieut.-Commander A. S. Webb.

The British Empire was still a reality. Gloucester's movements on the station were not those of a foreigner in foreign lands engaged in idle travel but those of a representative of the protecting power (the emphasis being on the penultimate word). As such, they are among the last in naval records of an era that was to pass. Time was to show, too late, that the 'yoke' of British colonialism was not as heavy as that which 'freedom' was to bring to many unfortunate lands, at least to all except those who cracked the whip.

After a spell at Aden, the ship called at the Seychelles on the way down to East African ports. From Dar-es-Salaam Lane took his Walrus south along the coast to Lindi, flying en route over the Rufiji river. where he saw with especial interest the hulk of the Koenigsberg which an uncle of his had played a prominent part in sinking in the First World War. At Zanzibar, demonstration catapult launches were given before the Sultan. On a flight from Mombasa to Moshi he flew inland over the bush and had the stone cold sobering delight of seeing pink elephants, their dust-covered hides reflecting the glow of the setting sun. On another flight to Lamu, north of Mombasa, the District Officer considered the local sheik, Ali Bin Mohammed, would gain 'face' in the eyes of his followers if he were given a flight in the Walrus. The sheik was exceedingly fat and flabby, Lane remembers, and there was no little difficulty in getting him aboard from the boat that came out from the jetty; however, he took his adventure calmly enough except for the landing, when signs of alarm were visible on his face at the sound of the water swishing past the hull. But 'face' was apparently gained, for his peoples clustered round him when he got ashore, patting him on the back.

The Walruses from *Gloucester* and *Manchester* were invited to Nairobi to take part in the R.A.F. Display at Eastleigh Airport. Lane, as senior pilot, decided to give a converging dive-bombing exhibition, an event for which they had two days' practice. On the day, the item before theirs on the programme was the 'set piece', and a Wellesley bomber, diving on the target in the middle of the airfield, pulled its wings off and went straight in. The engine, torn loose, hurtled along the ground like a flaming ball of metal straight towards the spectators; then, just before reaching them, some obstruction caused it to bounce clear over their heads, to land in the car park beyond. The only casualty was the pilot. Lane, who was at that moment starting to lead his flight out, hesitated, wondering whether he should proceed with his turn. A squadron leader ran up, shouting 'For God's sake go ahead and keep their minds off the crash.' The Walruses proceeded to do so. By I August, 1939, both ships were at Aden, standing by to escort troopships carrying the Indian Army reinforcements to the Middle East, the Walruses ready to fly searches for possible Italian snoopers.

The era had passed.

By the middle of 1939 the Admiralty had made provision for seventy-one Walruses in catapult ships, built and projected, but already the development by Supermarines of a replacement, the Sea Otter, had also been put in hand. Commensurate expansion of training and other facilities was similarly taking place; all required aircraft, instructors, administrators. The training of observers, for example, had now been concentrated at the new naval air station at Ford, where some twenty Walruses formed part of the large establishment of aircraft. Greater numbers of Fleet Requirements Units were needed. An Admiralty Fleet Order on the 24 May, announcing that complete control of the F.A.A. had once more reverted to the Admiralty, entailed, among other things, the training and introduction of an entirely new range of rating categories; this long-sought event thus coming at a time when the strain necessitated by preparations for mobilization was already a tremendous burden.

In the last weeks before the outbreak of war, catapult ships equipped or soon to re-equip with Walruses were disposed as shown in the table below.

# DISPOSITION OF WALRUS CATAPULT SHIPS— AUGUST, 1939

(Figures in brackets indicate number of aircraft borne)

FLEET	CLASS OF SHIP	IN COMMISSION	REFITTING	
Home	Battleships	Rodney (1), Resolution (1)	Queen Elizabeth Valiant	
	Battlecruisers	Hood (1), Repulse (1)	Renown	
	Cruisers	Belfast (2), Cumberland (2) Edinburgh (2), Glasgow (2) Newcastle (2), Sheffield (2) Southampton (2), Effingham (1)	London Norfolk Suffolk	
Mediterranean	Battleships Cruisers	Barham (I), Malaya (I) Devonshire (2), Shropshire (I) Sussex (2)		
East Indies	Cruisers	Gloucester (2), Liverpool (2) Manchester (2)		

THE CLOUDS OF WAR

China	Cruisers	Birmingham (2), Cornwall (2)		
		Dorsetshire (1), Kent (1)		
America and Cruisers West Indies		Berwick (1), Exeter (2)		
		York (I)		
R.A.N.	Cruisers	Canberra (1), Hobart (1)	Australia	
		Sydney (1)	Perth	
R.N.Z.N.	Cruisers	Achilles (1), Leander (1)		

In addition the *Albatross*, which was being used as an overflow ship for mobilized ratings at Devonport, had her hangars hurriedly cleared, embarked the Walruses of No. 710 Squadron (due to shortages, she had no catapult installed), and sailed for Freetown, Sierra Leone, initially to act as a radio link with Whitehall.

Ships were once more alerted for war stations. This time there was to be no Munich, no anti-climaxial 'peace in our time.'

# INTO BATTLE

# Rear Admiral Clement Moody, Admiral, Naval Air Stations. December, 1941.

'These aircraft have played some part in nearly every operation and campaign, and have carried out every kind of duty. The bombing of shore objectives, as off Italian East Africa; shadowing and action observation, as at Calabria. Spotting in practically every sea action and shore bombardment. Anti-submarine patrols for their own ship and the Fleet. Photographic flights, as in Norway. Reconnaissance of enemy harbours, as at Narvik and Tobruk. Searches and patrols from disembarked bases, such as the Shetlands. What has probably been the major work of these aircraft was trade protection and ocean searches; they have flown throughout the war in every part of the world locating convoys, intercepting enemy ships, and ensuring protection against surface and underwater attack. Little is heard of the many long reconnaissance flights carried out, sometimes returning to adverse landing conditions. These flights have been boring and rarely borne the fruit of positive success. But it is as well to remember that this task is going on every day and is playing no small part in the protection of our commerce all over the world.'

### CHAPTER EIGHT

# OPENING ROUNDS

# 3 September, 1939–June, 1940

# South Atlantic

Although the Germans were introducing that new word, 'Blitzkreig' into general usage by the ruthless swiftness with which they were subjugating Poland, the Allied land and air forces were held in an unnatural state of suspended animation during the 'Twilight War' period. But at sea the story was very different. The enemy's naval dispositions had been planned and executed well in advance: the pocket battleships *Admiral Graf Spee* and *Deutschland*, together with their supply ships, were abroad and free in the wide Atlantic; U-boats had taken up their stations. Ten hours after the Prime Minister, Neville Chamberlain, proclaimed to the nation over the radio that we were at war, the first U-boat victim was claimed—the passenger liner *Athenia*.

One of the most obvious danger zones was the South Atlantic, and among the initial redispositions the Admiralty made were to dispatch *Achilles* from New Zealand and the *Cumberland* from home to reinforce that area. The latter cruiser, after a call at Freetown, was on passage towards Rio de Janeiro when, on 11 September, she was sighted by *Graf Spee's* Arado floatplane. The German ship was at that moment engaged in refuelling from the *Altmark* only thirty miles distant, but her aircraft was able on return to give timely warning of the British cruiser's presence. The fortunes of war.

That surface raiders were also early in action was to become only too evident, for with the sinking of the *Clement* on the 30th, the Admiralty knew by the next day that at least one pocket battleship was abroad, although, until brought to action, the *Graf Spee* was suspected as being the *Admiral Scheer*. A number of hunting groups, each capable of dealing with such a threat, was therefore organized. Initially six groups were formed to cover the Atlantic, with *Sussex* and *Shropshire* off the Cape of Good Hope, the *Glorious*, *Malaya* and *Ramillies* operating in the Gulf of Aden area, while *Cornwall*, *Eagle* and *Gloucester* were based on Ceylon. The dispositions and compositions of these

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units naturally varied as circumstances and the calls of other operations dictated.

Where aircraft-carriers were not present (and we had all too few of them), the full brunt of air search fell on catapult ship aircraft. This was their primary rôle, this was the real purpose for which they had been designed and for which their crews had been trained. When battle was joined, or in the confines of narrow waters where shorebased aircraft could offer a substitute service (if and when available, which they so often were not in the first years), catapult aircraft could become a serious embarrassment to their parent ships. But out over the great oceans the Walrus came into her own by extending the vision of search. At the farthest limit of a three-, three and a half- or even four-hour patrol she would be far from home, a lonely speck glinting like a mote above the waters. Wireless silence being imperative, most accurate navigation, entirely based on dead reckoning, was essential to enable her to wing her way safely back. Often visibility would lessen; a tropical storm might suddenly blow up, when she would have to ride down the canyons between towering cliffs of cumulo-nimbus, vivid forks of lightning revealing their black hearts, a speck seeking another remote speck. Then, indeed, good navigation-and good luck-was needed; the navigator checking his drift across the whitelashed waters below and hoping the half-hour's petrol in hand would be enough for a search if no parent ship loomed in sight at the rendezvous. It was rare, however, for an observer to fail to get his aircraft safely home. Many long hours were to be endured, many thousands of miles covered with rarely a sight of the enemy; the problem was as immense as the expanses of the ocean were immense. Yet some compensation lay in the fact that negative information was the next in importance to positive results.

Before December came, nearly a dozen merchantmen had been sunk or captured by German warships acting as raiders. All incidents had taken place in the Atlantic except for that concerning the *Africa Shell*, which had been sunk by the *Graf Spee* when she made a sortie round the Cape into the Indian Ocean. It was while searching for this raider that the Walrus from the *Sussex* never returned, no evidence ever coming to hand to account for her loss. While there would be no difficulty in recognizing a warship, it was the attendant supply ships which presented the problem; not every merchant ship sighted could be stopped and boarded to confirm or allay suspicions. Nevertheless, even a Walrus was not above attempting a boarding exercise. L2273 on dusk patrol from the *Albatross* on 11 December, sighted a suspicious yacht and landed beside it; while Petty Officer J. G. O. Hofman taxied close alongside, his observer, Lieutenant Gregory, managed—not without a ducking—to board, only to find all well.

Two days after this small incident came the sea action which electrified a waiting world, the Battle of the River Plate. Much has been written about it; all that need be mentioned here is that the honours of action observation fell to the *Ajax's* Seafox, for just as *Exeter's* two Walruses were about to be launched, they were hit by shell splinters from the *Graf Spee* and had to be jettisoned, while the *Achilles'* Walrus had been left ashore for overhaul. *Cumberland*, boiler cleaning at Port Stanley when the action started, hurried north from the Falkland Islands to replace the heavily damaged *Exeter*. Her two aircrew, under Lieutenant Glen Sidorski, had prepared themselves in every way for action when it should come; but, with the scuttling of the pocket battleship in the roadstead outside Monte Video, they were not called on. The ship later transferred L2236 to *Exeter* for the latter's passage back to the United Kingdom and was then herself ordered to Simonstown.

War fortunately has its amusing as well as its dramatic moments. It was while the *Cumberland* was at the Cape that the South African Air Force staged, as part of a recruiting drive, a fly past over Capetown of the old Wapiti and Hart aircraft which were then her mainstay. Uninvited, Sidorski took off from Wynberg airfield in L2326 and joined up, gaining an honourable mention in the local papers as 'a large flying-boat'. On another occasion he was given permission to take part in practice bombing on the ranges with a group of the same Wapitis. The latter were using small practice bombs, but Sidorski, never missing a chance to ensure that his men were fully conversant with handling the real thing, had bombed up with 250 lb H.E. The range party, it seems, were very annoyed.

Before the fall of France, *Albatross* stationed a small detachment of Walruses under the command of Lieutenant P. C. Bromwich, at Dakar, where they flew patrols in co-operation with the French aircraft at Ouakam airfield.

On the 12 February the *Dorsetshire's* Walrus sighted the German ship *ss Waikama* which had sailed from Rio de Janeiro the previous day. The ship, intercepted by the cruiser, scuttled herself.

On the other side of the Atlantic, determined action by one of the first 'all ratings' crew brought off another interception. It was again Hofman, who was on dusk patrol, this time with Petty Officer Robson as his observer and Petty Officer Dryden as T.A.G., when a signal was received from *Albatross* instructing them to search for a neutral passenger ship carrying German technicians, order her to Freetown if found, and to stay in company as long as possible. The ship was sighted almost at last light and ordered by Aldis light to act as directed. The signal was ignored. This was no easy problem, an aircraft faced by a neutral which knew her rights. A second and third order was also ignored. Then, after smoke floats had been dropped with a threat that 100 lb bombs would follow if the vessel still refused to comply, obedience was at last achieved. The Walrus stayed in company for a while and then made for base, which was reached after dark. The ship arrived at Freetown dutifully the next morning and, after the wanted passengers had been removed, was then allowed to proceed.

During the uncertainties after the fall of France, the reaction of her naval units was of much concern to us. The great battleship *Richelieu*, lying at Dakar, was a particular anxiety, and when she sailed without warning on the 25 June, it was imperative that we should know her destination. *Albatross* sent L2184 (Hofman, Lieutenant Nares and Naval Airman Sherlock) to shadow her the following day, which duty was maintained until she was relieved by *Dorsetshire's* Walrus. Counter instructions were evidently given to the French ship shortly afterwards, for she reversed course and returned to Dakar.

### North Atlantic

Now that Scapa Flow was once more the main base of the Home Fleet, a naval air station was established at Hatson on Mainland, the largest of the islands. In the first few months the one and only runway it boasted was also the main Kirkwall-Stromness road, which meant that it had to be closed to traffic when aircraft were being operated. The enemy were to bring the fight not only to our doorstep here but right into the parlour, for on the 13 October Lieutenant Otto Prien carried out his famous exploit in U-47. Entering the Flow by the one narrow entrance where the defences had not yet been completed, he sank the battleship Royal Oak in the early hours of the following morning, an act of outstanding daring and skill. Only by chance was the Pegasus, anchored nearby after bringing aircraft up from the south, spared the same fate. It was originally believed impossible that a U-boat could have been responsible, and at first light all available Walruses at Hatson took off briefed to search every one of the lowlying islands for signs of a stranded E-boat on tractors! The Flow was to remain untenanted for six months by the fleet until the defences had been even more elaborately strengthened.

On the 21 January, 1940, No. 700 Squadron was formed, embracing all existing catapult squadrons in battleships and cruisers, the front line strength then consisting of 42 Walruses, 11 Seafoxes and 12 Swordfish floatplanes. An exception was made of the all-Walrus unit in Albatross which retained its identity as No. 710 Squadron, and the title of No. 701 Squadron was reserved for units temporarily formed from time to time for special duties ashore. The headquarters were first at Hatson, moving in mid-1942 some miles away to a new naval air station at Twatt, where the H.Q. functioned as a self-contained unit with hangars, workshops, offices, and sleeping quarters at East Quoys. The successive Commanding Officers of the squadron were of lieut.commander's rank, and unusually wide powers were granted to them despite their relatively junior status. Although based ashore, they were accredited to the staff of the C.-in-C., Home Fleet, attending staff conferences when the flagship was in harbour. They were responsible for the training, operating techniques and general administration of all squadron aircraft, to implement which they were vested with authority to originate their own signals as from 'C.O. 700' whenever necessary; control, in other theatres of war, of specific administrative and operational requirements were naturally retained within the respective commands. After the start of the war, almost every Walrus and aircrew in the squadron spent some period at one time or another with the H.Q. Flight at that northern outpost. If Hatson had little to offer in off-duty amenities, the barrenness of Twatt had even less; yet despite that, as so often happens in isolated communities, self-entertainment, the occasional Ensa party and good fellowship did much to promote a high degree of comradeship, recompense in no small measure for the hardships. Besides, there was, for those returning from Arctic convoys in winter or other operations in far less inviting places, the always welcome contrast.

Disembarked aircraft found themselves engaged in intensive A/S patrols and raider searches, not all without their successes or tragedies. On the 10 April P5655 (Groves, Lieut.-Commander A. Fleming and Leading Airman Smith) attacked a submerged U-boat about ten miles east of the Orkneys. Oil, rising to the surface before the attack, increased in quantity, and A/S trawlers were called to the spot to complete the work, the resultant 'kill' being jointly awarded. Later in the month the Walrus on the southern patrol was shot down, and her

relief exchanged inconclusive fire at long range with what was presumed to be the culprit, a Dornier flying-boat.

In between these two episodes, on the 17th in fact, the Sheffield had launched the newly promoted Lieutenant Groves in P5670 on a photographic reconnaissance of Trondheim and the surrounding fiords prior to planned army landings in that area as part of the Norwegian campaign then being mounted. While flying over the town they spotted a number of Heinkel 115 floatplanes on the water, and the eager pilot shouted, with rather more enthusiasm than sense, to Lieut.-Commander G. Hare, 'Look, sir—let's go down and beat them up.' This produced the laconic reply from his observer (to which Groves later considered he owed his continued existence), 'Be your age, J. Groves, be your age. We're here to *photograph* them, not machine-gun them.' A reply hardly uttered when they saw fighters taking off from Vaernes airfield—and the Walrus accordingly fled at her top speed low over the hills towards Namsos, so low that they carried away their trailing aerial on the pine trees.

Three hours' flying, much of it at high speed, left them with barely any petrol by the time they made a water landing at Namsos, then in British hands. After interrogation by an intelligence officer, Major Peter Fleming (the author), they poured a few cans of benzine which they found into the tanks and taxied off in darkness down the fiord. Hare believed Sheffield would be somewhere off the entrance, which in due course proved to be the case, although they reached her not without an altercation with a belligerent British trawler en route. After being out of radio touch with the ship for seven hours, the relief with which they were received was tempered not a little by annoyance on the part of the handling party who, after a full day at action stations, were called from their hammocks at 23.00 to hoist the Walrus in. Groves thereafter christened P5670 'Terror of Trondheim', whose career was unfortunately to be brought to an untimely end later in the year off the Azores during an attempted rough weather recovery. There, in three hundred fathoms off Flores, the 'Terror of Trondheim' went to join, happily without her crew, the company of Sir Richard Grenville's Revenge.

On the day of Groves' Norwegian venture, *Suffolk* was in action further south, her orders being to bombard the Nazi-occupied airfield at Stavanger. In anticipation of retaliation by the enemy which might prevent recovery of her aircraft, the undercarriages of both Walruses had been removed to increase their endurance. They were launched

at forty-five minute intervals for spotting, their orders being that each should find her own way back to Aberdeen on completion of the task. Briefing appears to have been hurried, resulting in misunderstandings. When MacWhirter (now a lieutenant), with Petty Officer Snowdon and Naval Airman Stanesby as his crew, was shot off at first light in L2284, he was certainly under the impression that they were to do the first spell of spotting. Conditions were difficult, as the airfield was covered in snow; in addition it was bitterly cold in the Walrus at 6,000 feet, for a twin-engined, twin-finned aircraft, suspected as being an Me. 110, was sighted just before the shoot started and it had been thought prudent to get the guns ready in case a fight developed, with the result that there was the usual howling draught blowing through the hull. To their annoyance, the stranger was later identified as a friendly Hudson. A Blenheim, specially sent out with a naval observer aboard, to do the spotting was never seen by them. When his spell of duty was up, MacWhirter set course on the long trek back to Scotland, where, after  $3\frac{3}{4}$  hours' flying, landfall was made just north of Aberdeen. As his guages were not registering any fuel, the pilot seized the first opportunity to put his aircraft down on a small loch. Dipping his tanks, he found there was in fact just enough fuel left to make the thirty-minute flight to the R.A.F. flying-boat base at Invergordon. The total airborne time of five hours was a remarkable endurance record for a Walrus in fighting trim-this episode incidentally leading the pilot to christen her 'Virgin of Stavanger'. After refuelling, they returned to Hatson, where they learned that their flight commander, Lieutenant H. Bracken, in the other aircraft piloted by Petty Officer Elliot, had landed safely in Aberdeen Harbour.

The same evening MacWhirter did the routine A/S patrol and was greatly relieved to sight his ship off Fair Isle. Due to bad W/T conditions the *Suffolk* had never managed to make wireless contact with any of the spotting aircraft, and information after the war indicated that most of her shells had overshot the airfield, killing a number of German army staff officers billeted near the perimeter, which may or may not have had something to do with the extent of the air attacks unleashed against the cruiser. Out of range of fighter cover from the Skuas at Hatson, she had endured, unsupported, nearly seven hours of continuous action, 103 bombs falling close by and a 2,000-pounder making a direct hit on the after engine-room, only after that, in the afternoon, did the first of a strong escort force, a Hudson, reach her position to cover retirement. What those in L2284 saw, then, was a sad but stirring sight, for *Suffolk's* quarterdeck was awash and she was limping painfully but safely home.

Early in May the Admiralty ordered the organization of a special unit, designated 'Bishop Force', under the command of Commander R. S. D. Armour for communication and other duties in support of the long-deferred Allied assault on Narvik. The party comprised ten officers, one R.A.F. warrant officer, eighty-three other ranks and six new Walruses of the 'P' series; the aircrew, drawn from ships temporarily out of action, formed as No. 701 Squadron. Built up at Donibristle on the 7th, Bishop Force embarked in the *Glorious* at Greenock two days later, disembarking on the 18th at Harstad in the Vesteralen Islands flanking the Ofot Fiord approach to Narvik. This was the Allies' main base, and here the aircraft lay at moorings, being joined by the flights from *Glasgow, Southampton* and *Effingham* while those ships were engaged in support of the army landings.

Operations started in earnest on the 20th. The Germans enjoyed almost complete air superiority over such naval fighters as were available and one valiant squadron of shore-based R.A.F. Hurricanes. The long arctic days called for an intensive flying programme under continual air attack, and on the very first day MacWhirter, who had been assigned to No. 701 Squadron with the remainder of Suffolk's flight, had his Walrus P5702 sunk by bomb splinters at her moorings. A story, authentic in all but details, is particularly worth recording at this point, for it typifies a facet of the aggressive character of the Naval Commander of the joint Allied expedition. Just before the fall of Narvik, Admiral Lord Cork decided to inspect the situation for himself from a Walrus; before taking off, however, he had delivered to him a 20 lb H.E. bomb, which he held in his lap. 'The opportunity seldom occurs in modern war', he said, 'for a Commander-in-Chief to lead a personal attack on the enemy-I am not going to miss this chance.' And, while flying over the single-track railway that fed the town, he leaned out of the starboard window and dropped his bomb on the line.

Narvik was captured on the 28th, and on the following day Mac-Whirter, accompanied by a number of French Foreign Legion Officers, was aloft for a triumphant flight over the town, Their elation was somewhat damped by meeting seven He. IIIs bombing the French positions. On another trip to the town on the 31st, ferrying Lord Cork, they were bombed in the harbour by Ju. 88s, but such was the manœuvrability of the Walrus, MacWhirter had no great difficulty in avoiding being hit.

The capture of Narvik, short-lived though it was, was no Pyrrhic victory. The situation in France and the Low Countries had grown grave with unexpected swiftness, making it necessary to call off the Norwegian campaign. But first, in order to assist the evacuation of the Allied troops in the Narvik area, it was essential to have that port in our hands. By the time withdrawal from there had been completed, Dunkirk had come and gone; Winston Churchill had made his historic fighting speech.

The last major offensive action by Bishop Force was made on the 6 June; five Walruses carrying out a bombing attack on Solfolla. The surviving aircraft of the squadron and that from Effingham (which had run aground and been lost) flew aboard Ark Royal, for most of the pilots that being the first deck-landing they had ever made. Nevertheless, theirs was not the only initiation into the art; the R.A.F. Hurricanes carried out the remarkable feat of landing their fast aircraft aboard Glorious, breaking only one tail-wheel between them in the process. Their Group Captain was also ferried aboard her in Glasgow's Walrus. It was therefore a sad twist with which fate ended the story, the carrier and her two destroyer escorts, after an epic fight by one, the Acasta, falling by chance to the guns of the Scharnhorst and Gneisenau. Less than fifty men survived. Sir Winston Churchill records, in The Second World War, that 'the only message received from the Glorious was corrupt and barely intelligible, which suggests that her main wireless equipment was destroyed at an early stage.' In view of the vagaries of the ether, it is interesting to note that the carrier's enemy sighting report and her last message were picked up by a Walrus, on the water, 1,000 miles to the west. Sussex had launched P5669 (Sub-Lieutenant O'Neil Roe, Lieutenant D. J. Cook and Leading Airman Donnelly) to investigate reported enemy landings at Seidisfiord in Iceland. Fog had forced the Walrus to anchor in the fiord, and it was while Cook and his T.A.G. were keeping a listening watch for instructions from their ship that the fateful signals from Glorious were picked up.

In the eighteen days of operations the Walruses of Bishop Force had performed 223 ferrying flights (which earned them the title of 'Waltax'), carried out fifteen convoy and A/S patrols, investigated seven intelligence reports and mounted one bombing attack. inquiry. A curve search was thereupon started and, on the 12th, Seagull A2-3 was hoisted out; unfortunately the sea was too rough for a take-off, despite an oil slick being laid, so the aircraft was hoisted in again. But soon afterwards a look-out sighted the *Romolo*, who then took the action that was becoming all too familiar—as soon as she realized there was no chance for her when the chase started, she scuttled herself.

With the entry of Italy into the war on the 11th, the resultant freedom of action for British forces was a virtual relief after weeks of 'pulling punches'. At dawn on the 19th Flight Lieut. T. H. Davies in *Hobart's* Walrus L2321 dive-bombed the W/T station and pier on Centre Peak Island off the port of Massawa with 120 and 20 lb bombs. Italian submarines had become active in the area, sinking a ship off Aden; and on the 26th one of them, which had been depth-charged by one of our destroyers, beached herself on the Eritrean coast. *Leander's* Walrus L2330, sent to find and dive-bomb it, did so but without much noticeable effect. The only sign of life was a man, sitting crouched on a rock not far off; whether a dazed or crazed survivor of the depth-charge attack, he seemed oblivious of mere bomb bursts. In the westering sun, he cast a lonely shadow across the desolate beach, a pathetic remnant of war.

The Eastern Mediterranean Fleet bombarded Bardia on the 21st, the sole casualty in our force being, ironically enough, *Sydney's* Seagull A2-21 which, on spotting duty, was unfortunately attacked in error by R.A.F. fighters. She was so damaged that when Flight Lieut. T. McB. Price put her down at Mersa Matruh she broke up. It was obvious that aircraft recognition was lamentably poor at that stage of the war. And not only on our side, for Herman Gill has pointed out in *The Royal Australian Navy* that it was only a week later and barely sixty miles from the same spot that no less a person than Air Marshal Balbo, commanding the Italian Army in North Africa, was killed when his aircraft was brought down by his own A.A. batteries at Tobruk.

To round off this chapter on the opening rounds of the war, it might be mentioned that when *Gloucester* and *Liverpool* engaged three Italian destroyers at long range on the last day of the month, both cruisers in the excitement of their first surface action forgot to launch their Walruses for spotting!

### CHAPTER NINE

# DIVERSITY OF TASKS (July-December, 1940)

# Mediterranean

During the passage of an important convoy from Malta to Alexandria, the Eastern Mediterranean Fleet was covering the operation in force when it came, as had been hoped, into contact with the Italian Navy. Although Walrus aircraft were airborne for spotting duties, no particularly noteworthy incident concerning them occurred, but the episode is recorded here because this engagement on the 9 July, which came to be known as the Battle of the Calabrian Coast, was the first time battle fleets had met in action since the Napoleonic Wars. The setting for this stirring scene cannot be better described than in the words of F. Gerrard in *Malta Magnificent* when he was taking passage in the destroyer *Vampire*:

In the Royal Australian Navy things are slightly different to what they are in the Royal Navy. The Captain's servant was a very pally sort of cove, and he woke me the following morning with a cup of tea and the remark: 'I shouldn't lie around all day if I was you. Get up on deck. You'll like it. There's going to be a battle'.

'A battle!' I echoed stupidly. 'What sort of battle?'

'Just an ordinary bloody battle', he replied. 'The sea's lousy with ships. Looks like all the Med. Fleet's here.'

I went up on deck as I was, in a pair of pyjamas, with a cup of tea in my hand. Remember it was mid-July in the Mediterranean. The morning was fresh and glorious, with a brilliant young sun still painting the new sky with the full effulgence of his coming. The sea was sapphire, set with diamonds. The wake of the Vampire's passing was like coiled ropes of pearls. It was a morning for poesy. It was also a morning for something grimmer. The young Australian rating was right. The sea was lousy with ships.

The British Fleet, led by the C.-in-C., Admiral Sir Andrew Cunningham, consisted of 3 battleships, an aircraft carrier, 5 cruisers and

16 destroyers. The Italians had deployed 2 battleships, 16 cruisers and 36 destroyers. The action, conducted at long range by the major units on each side, was inconclusive, for the Italians' greatly superior speed allowed them to withdraw to safety, despite our pressing to within twenty-five miles of Calabria.

Much activity was now taking place in the Tideless Sea by Walruses, shipborne or temporarily shore-based. Sydney's Walrus had unfortunately not been replaced after the incident referred to in the previous chapter, so no aircraft was available for spotting at the Cape Spada action when she sank the cruiser Bartolomeo Colleoni. A temporary replacement, K8542, was however airborne for spotting at the bombardment of Scarpanto in the Dodecanese on 4 September, the aircraft later going on to dive-bomb the airfield at Mukri Yals. Cruisers, among others, were suffering much damage; a bomb on the Gloucester had killed a number of officers and ratings, the resultant lack of watchkeeping officers preventing her aircraft being used at the Calabrian Coast battle; Kent was torpedoed and put out of action one September night; the next month Liverpool was similarly damaged off Crete.

The Gloucester became privy, by a strange coincidence, to plans for an impending action which was to go down in history as the Fleet Air Arm's most famous exploit. Lane was standing on the bridge on Armistice Day talking to the gunnery officer, both staring out towards the lightening horizon, the ship being closed up at dawn action stations. Both simultaneously sighted what at first seemed to be a shadowing aircraft. When the light improved, they saw it was a Swordfish, apparently carrying out an A/S patrol. Ten minutes later the gunnery officer saw a splash, as if a depth-charge had been dropped, and he called Lane's attention to it. As no aircraft could then be seen, they concluded the splash must have been the result of a ditching. At that time Gloucester was flagship of the 3rd Cruiser Squadron (Rear Admiral E. de F. Renouf), so Lane obtained the Admiral's permission to investigate in L2299. When they got to the spot, there, sure enough, was a dinghy with three figures in it, and they accordingly landed and picked up Lieutenant G. R. M. Going, Sub-Lieutenant Keith and the T.A.G. On return to the ship, those on board learnt, from the survivors, of the attack to be made on the Italian fleet in Taranto harbour. Originally timed for Trafalgar Day, a slight mishap to the Illustrious had caused postponement to that very night. Careful preparations and much training had been entailed in working up for the audacious





#### DIVERSITY OF TASKS

attack, and Going was incensed at the thought that he might miss it, for he was down to fly. Lane therefore suggested ferrying the crew back to the carrier—at the same time warning his brother pilot that he had last served in carriers two years ago and, in any case, had never deck-landed a Walrus.

Going was not deterred, so L2299 was once more launched. Lane remembers, as he approached the round-down of the carrier, being rather annoyed at the antics of someone apparently trying to wave him off after he had clearly been given the 'Affirmative' from the bridge. He was not to be put off at the last moment, and he brought the Walrus to a safe halt on the flight deck. As he was being wheeled back preparatory to taking off again after disembarking his passengers, he mentioned the slightly irritating incident to one of the deck officers. 'My dear chap,' he was told; 'you *are* out of touch with carrier life. That was the "batsman", who is doubtless still congratulating himself on successfully getting his first Shagbat aboard!' It was Lane's first introduction to a Deck-Landing Control Officer in action.

Italy was by then also at war with Greece, consequently our Eastern Mediterranean Fleet had even more calls to answer—escorting convoys, warships themselves often acting as troopships, warding off the incessant and mounting air attacks. At the other end Force H, under Admiral Sir James Somerville, were running the gauntlet with convoys to Malta or escorting carriers which ferried Hurricanes to within range before flying them off for the defence of that battered island. On the 27 November, there was another brush with units of the Italian Navy when Force H, consisting of *Sheffield, Manchester, Berwick, Newcastle, Renown* and *Southampton*, took part in Operation 'Collar'. We were again unsuccessful in bringing the Italians to close action off Cape Spartivento. *Sheffield's* Walrus L2228 (Groves, Lieut.-Commander G. Fenwick and Leading Airman Pike), airborne for spotting duties, was shot at by enemy destroyers but escaped harm by taking refuge in the enemy's own smokescreen. *Berwick* was the only ship hit on our side.

In December, *Glasgow* and *Gloucester* were attacked at anchor in Suda Bay by two torpedo bombers, the former sustaining sufficient damage to necessitate repair at Alexandria, after which she was sent to join the East Indies Station.

When ships did not require their aircraft, a local flight was formed at Suda Bay, providing A/S patrols for ships entering or leaving harbour and for other miscellaneous duties. Lieutenant M. Bacon, the senior officer of Sydney's flight, was in charge until his ship was ordered s.w.-7 back to Australia just before the year's end, when Lane took over temporarily.

### North Atlantic

The last offensive sortie of the year by catapult aircraft against the Germans in Norway appears to have been the effort of *Australia's* Seagull (probably A2-24) to bomb Tromso in August, low cloud unfortunately preventing her from finding the target. In the same month, with invasion a serious threat, the Walrus was being tested for another rôle: L2271 was fitted in the bow with a fixed 20-mm cannon, the pilot being provided with a ring-and-bead sight, as an anti-E-boat measure. Experiments seem not to have got beyond the trials stage. The reasons are unrecorded, but it would be unkind to think that the recoil caused her to stall!

Pilot training at Lee proved too subject to interruption by air raids; No. 765 Seaplane Training Squadron was accordingly transferred to Sandbanks, Poole harbour, where preliminary training was given. More advanced flying and air gunnery instruction were given by No. 764 Squadron, initially at Pembroke Dock but later moved farther up Milford Haven to Lawrenny Ferry, where officers and ratings lived in the yachts Comilla and Zaza, the aircraft being moored out or run up on the mudbanks of the Haven. Later still, hard standings and a slipway were made ashore, personnel being quartered in Lawrenny Castle. Even so, life was far from being divorced from war; the docks and oil tanks offered attractive targets to the enemy. Two sublieutenant pilots, R. L. Bigg-Wither and J. H. McWhae, were returning from gunnery practice one August day when they saw two Ju. 88s pulling out of their dives right ahead of them. McWhae scrambled forward to the bow, just in time to get in a burst at the belly of one of the enemy as it passed close overhead. Even though no visible effect was apparent, it was a gesture to show the Walrus was no pacifist.

By September Walrus front line strength was up to fifty-eight. There was a dire need for maximum production of Spitfires; but that, however, could only be at the expense of Walrus output unless alternative facilities could be found. Not far from Woolston was another famous manufacturer of flying-boats, Saunders Roe; all production of Walrus aircraft was accordingly transferred to their factory at Cowes in the Isle of Wight, the change-over probably taking place in mid-run of the 'R' series. In June of the following year a percentage of the output was devoted to wooden-hulled aircraft, which were nominated Mark IIs. The design work was done at Saunders Roe's Anglesey factory in North Wales, where the prototype was also built. Although this hull entailed sacrifice in structure weight, there were two reasons for its employment: first, it was specifically intended for training aircraft, repairs being easier; secondly, it enabled woodworkers to be brought into the manufacturing side in greater numbers, so tapping an additional source of skilled labour.

In anticipation of possible enemy action in the western part of the Channel during the 1940 invasion threat, the Newcastle, among other ships, had been sent to augment our forces in that area. On the 17 October, in company with the old light cruiser Emerald and five destroyers, she was on a sweep between the Scillies and Ushant when four enemy destroyers were sighted. The British force, with paravanes streamed, gave chase at thirty-two knots; Newcastle launched the Walrus (Sub-Lieutenant A. H. D. Gough and Lieutenant C. Campbell-Meiklejohn) and then opened fire with her forward turrets. Although valuable spotting and enemy course reports were sent back by the observer, our ships could not get nearer than 18,000 yards. Then, just as Gough was preparing to land, a Dornier 17 dived on him but, despite a chest wound, the pilot landed safely and was recovered when ship's fire drove off the intruder. A possibly apocryphal sequel to this story has it that Gough, reputedly a rather touchy character, was later greeted by a brother pilot with the jesting remark, 'Hello, chum; I hear you were shot down'. This brought an expected explosion and a reply of, 'I certainly wasn't shot down; I may have been shot up, but the bastard wouldn't stay and give battle'.

Long-range Focke Wulf Condors were now menacing convoys far out in the Atlantic. Until sufficient merchant vessels were converted to 'Mac-ships' for launching their 'one-shot' fighter aircraft, the *Pegasus* was again taken off training duties towards the year's end and pressed into service for convoy protection.

# South Atlantic

The 25 September was the last of the three days of the British attack on Dakar in support of the abortive attempt to land General de Gaulle's Free French force in the face of determined Vichy opposition. Although we had inflicted damage on shore batteries and ships in the harbour, including a 15-inch shell on the *Richelieu* and two near bomb misses from Ark Royal's aircraft, we had also suffered casualties. the most serious being shell damage which had forced the Cumberland to withdraw. At 08.30, then, on that last day, Devonshire launched L2268 (Petty Officer Parsons, Sub-Lieutenant A. D. Corkhill and Naval Airman Evans) off Cape Emanuel to spot for the bombardment. The Devonshire, flying the flag of Vice Admiral H. D. Cunningham, the Naval Commander of the expedition, was supported by Australia, the battleships Barham and Resolution, the Ark Royal and destroyers. Corkhill vividly recalls the scene when Resolution was torpodoed. The Walrus was over the bombarding force when she saw a disturbance in the water indicating that torpedoes had been fired by a submarine. He sent out an alarm report at once and then watched the tracks racing towards our ships. Both battleships were in line ahead steering north at the time, with a screen of four destroyers to port, also in line ahead. One track appeared to pass immediately under the stern of the last destroyer, which at once went hard-aport and dropped a pattern of depth-charges, putting paid to the attacker. In the meantime Barham had turned, successfully combing the tracks; Resolution, following suit, was not so lucky, one torpedo hitting her aft of amidships.

The Walrus then had to close the target area because there was difficulty in seeing *Devonshire's* fall of shot. In doing so, both pilot and observer noted a flight of three Vichy Curtiss Hawk fighters some distance off; thereafter they had to keep a wary eye open in all directions. Some fifteen minutes later they saw two of the Curtiss Hawks moving towards another spotting aircraft, *Australia's* Walrus L2247 (her own Seagull having been left in the United Kingdom for overhaul after the Norwegian campaign). Parsons saw one peel off and make two attacks from above, diving out of the clear sky. At the second attack the Walrus suddenly plummeted towards the sea as if the pilot had been hit. She was lost with all her crew—Flight Lieut. G. J. I. Clarke, Lieut.-Commander Fogarty (who had been the observer in A2-2 when *Sydney* first commissioned) and Petty Officer Telegraphist C. K. Burnett.

Very soon after this the bombardment came to an end and *Devon-shire's* Walrus was ordered to land aboard *Ark Royal*, Parsons carrying out his first deck-landing without incident. For reasons presumably connected with the reassessment of the situation due to de Gaulle's overtures being repulsed, L2268 remained in the carrier until the 29th. During this time a signal appeared on the noticeboard thanking the ship for the alarm report regarding the torpedo attack. When Corkhill

sent out his alarm (which he later learned had been received), the rapid alteration of course by the threatened ships had naturally led him to believe they were acting on *his* signal; however, Swordfish were airborne at the time, so he had to conclude ruefully that one of them must have got its report in first.

General de Gaulle eventually established his base at Duala in the Cameroons. On the 7 November the Vichy submarine *Poncelet*. located sheltering in the small harbour of Port Gentil in French Gaboon, three hundred miles to the south, was seen to put to sea. The *Devonshire* was pursuing a peaceful patrol in that area late the same afternoon when Corkhill, in the middle of a game of deck hockey on the quarterdeck, suddenly heard 'Flying Stations' sounded on the bugle. Clad as he was, but grabbing his Mae West and helmet, he sprinted for the bridge. His instructions, direct from Admiral Cunningham himself, were brief, even curt, 'Out there'—the admiral pointed—'is a submarine. Get it'. He may even have said, 'Stop it', but whatever the exact words, the intentions were, to Corkhill's mind, quite clear. Taking a quick look at the compass to check the bearing, he hurried down to the catapult.

In a few moments the Walrus was airborne, carrying four 100 lb A/S bombs. The distance to the target was so short that none of the crew probably had time to worry about the aircraft, which had recently been severely damaged and was flying in its 'clipped wing' state, as referred to in an earlier chapter. In any case their minds were also occupied with the mission in hand. There was the submarine, travelling fast on the surface; what was more, falling short of her were shell plumes, and in the distance beyond was a small warship, also obviously in hot pursuit. As soon as the Frenchman saw the Walrus he crash-dived, but Parsons was just in time to straddle the flurry of water with his bombs. The *Poncelet* surfaced rapidly, and in due course her crew surrendered to the pursuing ship, which turned out to be the sloop *Milford*.

When L2268 was hoisted aboard, observer and pilot reported to the bridge, understandably feeling a glow of satisfaction at a job well and expeditiously executed. To Parsons the admiral said, cryptically, 'Well done. Your troubles are over; mine are about to begin.' The reception Corkhill received, however, was considerably disconcerting, to put it no higher. When the pilot had gone, Admiral Cunningham turned to the observer, and although the actual phrases he used remain confused and obscure to this day in that officer's mind, their purport was not in doubt. They were said at length and vehemently; and, at the end, a bewildered young sub-lieutenant found himself confined to his cabin with a sentry on the door!

A clear explanation of this unusual episode-the pilot commended, the observer reprimanded-is not easy to arrive at so long after the event, for admirals do not normally explain their actions, especially when provoked by matters of high policy, to very junior subordinates. The probable answer needs to take into consideration several factors. The feelings between Britain, at that time standing alone in the war, and Vichy France were in an extremely delicate state of balance, with the neutral United States using full diplomatic pressure to prevent the Petain Government throwing its military and naval power on the side of the Nazis. Oran was still an open wound in the side of France. It was essential, therefore, not to engender further ill-feeling by unnecessary acts of hostility. On the other hand, we had to try and forestall attacks on ourselves, and one of Devonshire's objectives at that period was to prevent interference with De Gaulle's forces ashore. Perhaps Admiral Cunningham had hoped the Poncelet would have surrendered without more ado when the Walrus appeared; yet if Corkhill had any doubts about how far he should have gone, they could only have been dispelled when he saw Milford firing on the submarine, and the latter's crash-dive on seeing the Walrus.

Although the matter ended satisfactorily, in that the observer was soon released with the admiral's apologies, no explanation was forthcoming. However, when L2268 had to fly an A/S patrol around *Milford* and the cruiser *Delhi* on the 29th as transfer was made from one to the other of *Poncelet's* crew, he noted that they were being treated as prisoners of war.

# Red Sea and Indian Ocean

At the outbreak of war, the *Amphion* had been serving on the America and West Indies station with a Seafox. On transfer to the Royal Australian Navy her name was changed to *Perth*, and at the beginning of this period she had been refitting at Sydney. Unusual for her class, a fixed athwartships catapult was provided for her Seagull, the first of which was A2-4 but, due to the damage from gun blast during working up, as mentioned earlier, this aircraft had to be landed for repair two months later. The ship in the end embarked A2-17 and sailed for the Mediterranean via the Red Sea.

In the meantime Hobart's Walrus had again been active in the Gulf of Aden. Italian CR42 fighters had strafed some of our Gladiators on Berbera airfield, and it was thought that the enemy had come from the Italian base at Zeila. L2321 had therefore been launched on 8 August in the hope of catching them refuelling. When no aircraft were seen there, Davies dropped two 112 lb G.P. 'visiting cards' close to the Residency in passing before circuiting the town a few times at 250 feet while his observer and T.A.G. fired at machine-gun posts and other targets. She eventually rejoined her ship in Berbera harbour with no more than a couple of bullet holes in the port lower mainplane. She again gave valuable help ten days later, reconnoitring passes on the Berbera plain for our troops during our strategic but temporary withdrawal from British Somaliland. After further convoy duties in the Red Sea, a refit at Colombo, a search for a raider among the Maldive Islands, the ship arrived at Fremantle soon after Christmas, fifteen months after leaving Australia.

'Cloak and dagger' work also fell to the lot of the Walrus. Early in November, while temporarily disembarked at Aden, *Leander's* Walrus L2330 was required to take a naval 'I' officer and an agent on a secret mission. An hour's flight brought the party to a lonely place called Ras El Ara which, like much of the landscape in that area, could have made a fitting backdrop for Dante's *Inferno*. A careful look at the hard-baked, boulder-strewn ground was necessary before a landing was attempted. A hasty conversation was held by the passengers with someone in Arab clothes who emerged from among the rocks; this was followed by a twenty-minute flight to an equally barren spot, an emergency landing ground at Khor Umeira, and another mysterious meeting. On return with the passengers to Aden, neither myself nor the T.A.G. were any the wiser about the clandestine intrigues we had been involved in.

On the 10 November the *Dorsetshire*, after handing over convoy WS3 to the escort which was to take it onwards through the Red Sea, proceeded to carry out Operation 'Rope', the bombardment of Dante in Italian Somaliland. The town stood at the end of a small isthmus which connected it to the mainland and it was reported as being defended by a  $5\cdot8$ -inch battery. The Walrus, with two 250-lb G.P. and six 20-lb anti-personnel bombs on her racks, first reported her ship's fall-of-shot and then dive-bombed fuel tanks in a nullah. Although she just missed the target, she had to engage in a machine-gun

duel with defensive posts close by. Nothing was found in the reported position of the  $5 \cdot 8$ -inch battery. Despite hits in the wing, one of which put the port tank out of action, she was launched for a second bombing attack, scoring near misses on another fuel tank close to the shore.

The arid Horn of Africa was not to be left without another sortie against it that month. Right at the tip, on the opposite point to Cape Gardafui, lay the scattered Italian community of Banda Alula, boasting a landing ground, wireless station and a fish-canning factory. It could, and did, keep an annoying eye on our Middle East convoys and other comings and goings. The C.-in-C., East Indies, considered a prick in the eye was merited. The Leander was therefore ordered to administer it on passage to Bombay for docking. Operation 'Canned' took place on the 29th. The Walrus, with her normal crew, was launched at 10.30, first to dive-bomb the W/T huts and then to strafe any aircraft seen on the landing ground, after which she was to spot for the bombardment. No aircraft were seen, and one of the 250 lb bombs fell about ten yards from a D/F hut; although the crater was just discernible in the barren soil, it was not near enough, it seems, to have put the other hut out of commission, judging by the excited wireless messages subsequently intercepted by the ship.

After signalling the Italians to evacuate the factory and firing two warning shots, *Leander* pumped ninety-six rounds into its flimsy structure, the Walrus finishing off with a few incendiaries for good measure. L2330 was launched again in the afternoon after the ship had resumed her passage to Bombay, returning for a further attack and scoring another near miss on the W/T hut. Despite the morning's effort, she was met with no more than some desultory rifle fire.

How worthwhile were the bombardments carried out during the war, whether against land targets or ships, using the term 'bombardment' in a wide sense? Consider first the respective missiles. The projectile is a mass of metal with good penetrative potential, but its explosive charge is very small; on the other hand the bomb carries, proportionately, a far larger charge, the blast effect being good but the penetrative power poor. And the respective targets? The ship offers a highly satisfactory target when hit in relation to the effort expended. It is compact, crammed with vulnerable machinery and delicate instruments; it is, moreover, fitted with highly self-destructive materials in the form of fuel tanks and possibly magazines conveniently spaced

along its length. When penetrated from above, enormous and spectacular damage can result, materially and to the personnel crammed within it; penetrate it from below the waterline, and the sea is only too eager an accomplice of destruction. The shore target is, on the contrary, the reverse of satisfactory, except for specialist objects such as oil tanks. To wreak havoc with bombs or shells among men and material in gun emplacements, in buildings or factories requires a tremendous economic effort if worthwhile results are to be achievedwitness the poor results against German industry until 'thousandbomber' raids could be mounted. The main purpose of ship bombardment of a shore target is therefore almost entirely one of demoralization. One man with a machine-gun can often achieve more against the enemy than many 15-inch broadsides, if it is remembered that materials are expendable and easily made good. Manpower, on the contrary, is a wasting asset from the moment the first bullet finds its objective. But to return to our narrative.

Yet another raider was loose in the Indian Ocean towards the close of the year. Among the ships engaged in looking for her was the A.M.C., H.M.A.S. Westralia with A2-11 aboard. We now know that the sinking of the Shaw Savill ship Maimoa eight hundred miles west of Fremantle on the 20 November and the Port Brisbane the following day were the work of the Pinguin (Ship 33 in the German code), which had not long before laid mines off the New South Wales coast and off Hobart in Tasmania. Canberra, in Fremantle at the time, immediately put to sea, heading for the first position when she heard the Port Brisbane's 'RRRR' alarm call. She altered course towards and, with the aid of A2-22, spent two days in fruitless search. Herman Gill attributes this failure to find the enemy by a fast cruiser in the immediate area as probably due to the Australian Broadcasting Company announcing the fact that a warship had been sent on the hunt, a laxity of censorship which resulted in a tightening of Government controls.

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# THE YEAR OF RAIDERS (1941)

# North Atlantic

For nearly the whole of this year we were to continue to stand alone with the Commonwealth; during it we were to suffer many grievous losses of ships, catapult ships prominently among them. As the Prime Minister predicted, the trickle of production was at last showing signs of flowing more strongly, although the sinews of war could still only be sparingly shared among the many commands. Nevertheless, despite reverses, we were to hit back at sea. The sinking of the *Bismarck* was one of the major blows; and of course even more momentous events were to occur—the invasion of Russia by Germany and Pearl Harbour.

In the Home Command, there were delays in Walrus deliveries, probably the delayed-action effect caused by the inevitable dislocation when production had been transferred to Saunders Roe the previous autumn. Front line strength for April and September of 52 and 51 respectively likewise being down on the preceding half-year.

June proved a happy hunting month for Walruses. On the 2nd Mac-Whirter and Sub-Lieutenant Welford in L2288, sent off from Kenya on a Denmark Strait patrol, intercepted the German supply ship Aase Maersk, which Kenya and her smaller consort Aurora duly sank. London caught the U-boat supply ship Esso Hamburg and the tanker Egerland in swift succession on the 4th and 5th, the latter event seriously disrupting the operational plans of the raider Orion in the Indian Ocean. On the 10th Sheffield sank the Freidrich Breme of 10,000 tons, one of Bismarck's tankers, well out in the Atlantic. Later in the year, on 3 October, when both Kenya and Sheffield were in company, Mac-Whirter was again airborne, this time in W2700. On an enemy search, with cloud height at two hundred feet, they found the Kota Pinang in the act of refuelling a U-boat west of Gibraltar. The cruisers hastened to the spot, the Kenya sinking the supply ship, which blew up with a spectacular explosion. In view of the U-boat's presence, this was the occasion when MacWhirter had to be recovered at fifteen knots in a

strong wind. As we shall see, raiders and supply ships were also to be sunk in other theatres of war.

Observer training had been transferred to the naval air station at Piarco, Trinidad, where, among other types, a large number of Walruses was still employed on this function. After the fall of France, a small flight had been detached to St Lucia under Lieut.-Commander J. Moore to keep an eye on French warships in Martinique and Guadaloupe in the Leeward Islands. Among the ships being watched was the carrier *Bearn*, which early in the war had formed, with the battleship *Dunkerque*, Group L for raider hunting purposes. It might be recalled in passing that these waters had first heard the double-beat of the Pegasus engine six years previously when the prototype was flying from *Nelson*.

### Mediterranean

During the course of Operation 'Excess,' the passage of a highly important east-bound convoy carrying aircraft for the Middle East Command, *Southampton* was so severely damaged by Stuka attacks off Malta on 11 January that she had to be sunk by a torpedo from the *Gloucester*. The latter, unable to recover one of her Walruses, L2299, which was airborne at the time, had to order a destroyer to sink it by pom-pom fire after taking the crew off.

Amid the stresses of the ever-expanding scale of events in the Mediterranean we tried to find means of bringing the war to the Italian mainland. The morale of the Italian people was said to be low, and a blow here would depress them still more and bring closer the collapse which we desired. On February 9 Admiral Somerville carried out a daring and successful raid on the port of Genoa. Force H, comprising the *Renown*, *Malaya* and *Sheffield*, appeared off the town and subjected it to heavy bombardment for half an hour. At the same time aircraft from the *Ark Royal* bombed Leghorn and Pisa and laid mines off Spezia.

The quotation is from Volume III of *The Second World War*. The raid had in fact been planned for 1 February, but bad weather had enforced postponement. For several weeks beforehand spotting aircrew rehearsed in *Renown* with an excellent model of the Italian port. Both *Sheffield's* Walruses were required, the senior crew in L2228 were the same as had taken part in the Spartivento action the previous

November except that the T.A.G. was Leading Airman Savill. They worked with the flagship, the *Malaya* having her own aircraft (then a Swordfish floatplane). Let Groves tell the story.

Officer aircrew were not excused ship's duties prior to the bombardment, and I remember I kept the First Watch on the compass platform; only four hours' rest was considered necessary, and we were not due to be flown off until 05.00. However, a full four hours' were not forthcoming because soon after midnight the Padre —with more zeal than tact—knocked on my cabin door to ask if there were any messages he could send my mother in case we did not return!

After an excellent breakfast, consisting of Lancashire Hot-Pot, in the ship's company galley, we were flown off before first light; the well-known 'Flying Gas-Ring' of the Bristol Pegasus VI engine being the only light in an otherwise darkened ship.

Spotting was carried out from a height of 10,000 feet and, by the time the Walrus had clambered to this height, dawn was breaking on a perfectly still and sunny morning, providing a wonderful view back to the snow-covered Alps. The bombarding ships were firing from a range of 23,000 yards, and the spotting aircraft were sitting just off shore.

It was broad daylight by the time the bombardment started and it was minutes before the Italian shore defences discovered what was happening. At first they thought they were being bombed, and a heavy barrage of A.A. fire was sent up immediately overhead, leaving the spotters unmolested. It was a good twenty minutes before they appreciated that they were being bombarded from the sea; and by that time the attack, which lasted thirty-five minutes, was three parts over. The shore batteries' reply to the bombarding ships and spotting aircraft was pathetic and must have caused far more alarm and despondency on board two Italian vessels which were steaming peacefully down the coast midway between warships and shore. One moment they went serenely on their way, and you could almost imagine their Sunday morning breakfast of spaghetti peacefully simmering in their galleys, and the next moment they were zig-zagging frantically in all directions. The view of the bombardment from L2228 was absolutely splendid, the most spectacular sight being the blue-green flashes when Ansaldo's electrical works were being hit. Two runs were made by all bombarding ships, one in each direction parallel to the coast, and approximately 360 rounds were fired each from *Malaya's* and *Renown's* 15-inch guns, and approximately 780 from *Sheffield's* 6-inch guns.

Aircrew from Sheffield had been instructed that the ship would be unable to slow down sufficiently to recover them after the operation; and we were thus either to make for Corsica and be interned, or if possible locate Ark Royal, whose aircraft were carrying out a diversionary raid on Leghorn, and land on her. The prospects of internment were not appealing, and Fenwick decided that sitting beside Groves on his first ever deck-landing (I had gone on to seaplanes without ever doing any D.L.T.) and subsequently spending a couple of days in what was then the main target ship of the entire Reggio Aeronautica was the lesser of two evils. So we duly located Ark Royal, as also did Ewing and House in the other Walrus, finding it in fact considerably more relaxing than landing on a 'slick' in rough weather. There we stayed for a couple of days en route back to Gib. with the rest of Force H, and listened to Churchill's account of the bombardment over the radio in the ward-room of Ark Royal with a comfortable-if slightly alcoholic-glow of satisfaction.

The embarrassments and difficulties of using catapult aircraft when ships were in action under the sort of conditions exemplified above have already been mentioned. Many ships, particularly the smaller cruisers, in the Mediterranean had thus been forced to base their aircraft ashore; a second reason being that room was then available for mounting more close-range A.A. weapons, for the combined air armadas of Germany and Italy were now harrying our depleted forces in increasing strength. The loss of the York, the part played by Gloucester's Walrus at the Battle of Matapan and the ship's eventual loss, with the Fiji, are recounted later. Perth's Seagull A2-17, which had been operating from Suda Bay since January, was shot down on 28 April during the evacuation of Greece; the crew, Flight Lieut. E. V. Beamont, Sub-Lieut. G. F. S. Brian and P. O. Telegraphist D. M. Bowden, took to their dinghy and were picked up by the destroyer Havoc.

In view of the increasing uncertainties of the Japanese situation as the year wore on, the anxieties of the Australian and New Zealand Governments were understandable. As already mentioned, the *Sydney* had already been recalled to Australia in the previous December (from where, however, she continued to carry out convoy and other duties in the Indian Ocean). The *Leander*, diverted to the Mediterranean in June after the fall of Crete, landed her aircraft and substituted a pompom for the catapult—only to have to re-install it a month later when recalled to Auckland (but there will be more to say about this ship's activities in the Indian Ocean prior to these moves). The *Perth*, too, had to return to Australia, the catapult from *Ajax* being fitted in her before she sailed.

The Queen Elizabeth, on conclusion of a temporary attachment to Force H for a special operation, joined the Eastern Mediterranean Fleet for the Battle of Crete, Sir Andrew Cunningham transferring his flag to her from the Warspite. Reports have been made that a Walrus carried out a successful night landing in Tobruk harbour under heavy fire. Although that was the intention, the operation never took place. It was thought, in the autumn of the year, that last-minute plans of the dispositions of our own and enemy forces might be required by our beleaguered garrison at Tobruk immediately prior to the impending 8th Army assault to raise the siege; and the intention was that these important documents should be flown in by a Walrus. The continual supply of materials by ships on the dangerous run to Tobruk had been reduced to a fine art, the work normally having to take place at night, a procedure with which the Walrus would have to conform. One of the flagship's aircraft, W2701, of which Bigg-Wither was now the pilot, was selected for the task. The prevailing wind at Tobruk unfortunately blew across the narrow harbour and not along its length, which meant that the landing approach would have to be made from over enemy territory followed by a drop over a two hundred-foot escarpment down on to the water. To drown the engine noise, the garrison were to put up a diversionary barrage; the Walrus was then to spend the day there under camouflage nets and fly out the next night. Bigg-Wither had W2701 painted black and fitted with flametraps on the exhausts, and frequent practices were then carried out at Berg el Arab, just outside Alexandria, using a flame float for a landing mark. In the end, however, a submarine was found available for accomplishing the mission.

Bigg-Wither was at sea on the occasion when *Barham* was sunk by torpedoes from U-331 with such rapidity that heavy loss of life resulted. She was the first British battleship to be sunk at sea. The event took place late in the afternoon of the 25 November; since radio silence had to be maintained, Bigg-Wither was launched at dawn the following morning to carry news of the disaster to Naval H.Q. at Alexandria so that arrangements could be made for survivors. Having delivered his secret dispatches, he repaired with his crew to the bar of the Cecil Hotel, only to find to his astonishment that everyone, even the taxi-driver, knew of the loss.

# South Atlantic

London, after her successes early in June, moved south of the equator and on the 21st, about 930 miles south-west of Freetown, she intercepted the mv *Babitonga* which, since leaving Santos in Brazil late in April, had been working with an armed merchant raider and was disguised as the Dutch *Japara*. The ship scuttled herself before a boarding party could be sent over.

Albatross with No. 710 Squadron were continuing their vigilant watch. The ship sometimes escorted important convoys, at other times her aircraft operated from her in Freetown harbour or from the airfield ashore at Hastings. The squadron had largely built and equipped the airfield themselves, including D/F arrangements which time and again proved their value when patrols at sea had to find their way back through mists or around tropical storms that could blow up with great suddenness in the rainy season. When eventually taken over by the Air Ministry Works Department, it was used by numbers of U.S.A.A.F. aircraft as a staging point to the Far East. For special courier flights over long distances, the squadron fitted their own type of long-range tank in the rear-gun position.

For the better part of the year the *Albatross* was still handicapped by lack of a catapult, but in April when Captain W. A. Dallmeyer was in command of the ship he had first stepped aboard so many years ago in Australia, a catapult was at last obtained through the good offices of Commander Caspar John, who called in at Freetown on his way home after the loss of the York at Suda Bay. H.M.S. Orion, damaged at Crete, docked at Simonstown for repairs, and it was her catapult that was later fitted in *Albatross*, although the trolley had to be sent out from the United Kingdom.

Of the many incidents dealt with by her aircraft during the year, two examples can be singled out. The first had occurred in January and concerned the rescue of survivors of the converted trooper ss *Eumaeus* after a battle with the first Italian long-range submarine to operate in the Atlantic, a valiant story dealt with at greater length in due course. The other episode took place on the 21 October when the neutral American ship ss *Lehigh* was torpedoed about a hundred miles

from Freetown. An intensive search was laid on to find the victim, and Dearman was the observer of R6552 which came to sight the two boat-loads of survivors at almost maximum range. Food and first-aid equipment were dropped together with a message giving the course to steer for port. This effort was mentioned by President Roosevelt at a Press conference and the crew were specially thanked.

As a grand climax to the year in this theatre of war, the raider *Atlantis* and the supply ship *Python* were caught respectively by the *Devonshire* and *Dorsetshire*, another story which will be found later.

# Indian Ocean

The Atlantis, however, was very much alive at the beginning of the year. After a self-refit in the Kerguelen Islands, she started on her tenth month of operations, choosing the north Indian Ocean. On the 2 February she captured the fast Norwegian tanker Ketty Brovig and put a prize crew aboard, for the raider was badly short of fuel. So, too, was the Admiral Scheer, with whom a rendezvous was made ten days later. Indeed it was a small armada that gathered together on the high seas, for the Atlantis also had with her the captured British freighter Speybank and the German Tannenfels. Moving to the calmer water of the Saya de Mahla Bank, an extensive area of almost shoal water a thousand miles east of the northern tip of Madagascar. The ships refuelled and remained in company for a few days before the pocket battleship headed north-west to the East African shipping routes.

Then, on the 20th and the two following days the *Scheer*, with the help of her aircraft, captured or sank four ships of British, Greek, British and Dutch registry in rapid succession, the last two bravely putting out alarm calls before being silenced. The Admiralty was already aware of raiders being in the Indian Ocean, but our straitened resources no longer permitted lengthy operations by the powerful hunting groups we had once deployed. Now, however, with positive evidence to hand, a great hunt was started, seven ships being diverted to the task—the carrier *Hermes* and the cruisers *Shropshire*, *Emerald*, *Capetown*, *Glasgow*, *Australia* and *Canberra*.

Glasgow was nearest the scene when the third victim, the Canadian Cruiser, raised the alarm on the 21st. The Walrus was launched for a search next day and towards the very extremity of range, 140 miles from her ship, she sighted the pocket battleship in position  $8^{\circ}$  30' S;  $51^{\circ}$  35' E. She remained shadowing for as long as possible but, with petrol running short, her vital task had to be abandoned. The Scheer.



Slick Landing Technique The Walrus touching down on the smooth water inside the "slick".



Station keeping alongside while preparing to hook on (ship's speed II-I2 kts.)

(Crown Copyright) Hooked on ready for hoisting clear.



#### THE YEAR OF RAIDERS

first feinting a course eastwards, turned south, rounding the Cape of Good Hope on 3 March and making a safe return to Kiel on I April,

Leander, now operating in this theatre, had taken over escort of the Australian/New Zealand troop convoy US9, bound for the Middle East via Bombay, from the Canberra when the latter had been detached for the hunt just mentioned. However, intelligence also reached the Admiralty that an Italian disguised raider had left Massawa that day and slipped undetected past Perim into what had obviously been hoped would be the freedom of the Indian Ocean. This small vessel of 4,000 tons, the Ramb I, was an ex-banana boat with a good turn of speed. Italy's first (and only) contribution to that form of warfare. After seeing the convoy into Bombay, Leander ran south again and carried out a reconnaissance off Portuguese Goa with K5782 in anticipation of the raider making for that area, but nothing was seen. Continuing on past the Maldives without air search, it being assumed that no enemy would expose himself in that region, she reached the equator on the 27th. Then, during the forenoon watch, a look-out sighted a suspicious vessel distantly to port. The report of the outcome of that encounter, as later signalled to Colombo, tells the bare story:

# To: C.-in-C.E.I.

reached the ripe

aving

## From: Leander

Sighted Italian Ramb I flying Red Ensign at 05.10z/27. On order to stop at 06.19 she hoisted Italian colours and opened fire from forecastle and poop guns.

Leander fired five salvos.

Ramb I struck her flag at 06.28 and abandoned ship. She set herself heavily on fire and sank at 07.18z in position of 01° 00' N: 68° 30' E.

Eleven officers and eighty-nine men prisoners. Italian casualties one seriously four slightly wounded.

No damage to Leander.

Intend transferring prisoners and guard to capacity of (oiler) Pearleaf.

The difficulties of dealing with disguised raiders are not to be under-estimated. At too great a range it was almost impossible to establish their bona fides; too close a scrutiny invited severe damage if not disaster. There were also the niceties of international diplomacy to think of where touchy neutrals were concerned. Everyone in Leander was of course at action stations, but the 6-inch turrets were s.w.-8

trained fore-and-aft, and she had in fact approached very closely before the other broke out her true colours and opened fire. Fortunately the Italian was not armed with torpedoes; her gunnery was poor, with nothing to show for it but a splinter through *Leander's* funnel. As the boarding party learnt, most of the *Leander's* salvos appeared to have passed clean through the small ship, almost at once starting a fire between decks below the foremost 4.7-inch guns.

The hunt for more important raiders was still on. After a call at Colombo, where the observer, Commander Logan, was relieved on promotion by Lieutenant H. A. I. Luard, Leander joined Canberra off the Seychelles on 2 March and started a systematic joint air and surface search eastwards to the Chagos Archipelago and then southwards. The Australian cruiser had previously embarked a Walrus (probably L2322) at Colombo, the crew being Flight Lieut. O. P. Laverack, Lieutenant C. V. S. Malleson, R.N. and Leading Telegraphist E. M. Hutchinson. Two days later she was searching the northern sector of the Saya de Mahla, and Leander the southern, when at 16.28 one of the look-outs in the larger cruiser reported smoke on the horizon. A few minutes later Malleson broke W/T silence to report two ships, one as an armed raider and the other as a tanker, in the same direction. These proved to be the German my Coburg (which had recently broken out of Mogadishu in Italian Somaliland) in the act of passing fresh water to the Ketty Brovig. As soon as the enemy sighted Canberra's masts, they parted company; disregarding signals to stop, Coburg headed north, the tanker south. Canberra, assuming the former to be a raider, chose her as target and opened fire at 17.06, prudently keeping her distance until hits were observed to have started a fire. Meanwhile the Walrus had gone after the tanker and dropped four bombs close alongside to make her heave-to, which she immediately did. From the air they could see that both ships had started to scuttle themselves, so Laverack landed beside the Ketty Brovig. Malleson, hoping he might be able to stop the ship from sinking, leapt overboard, swam to a rope ladder hanging over the side, which the crew had used for abandoning ship, clambered aboard and made a quick search of the darkened engineroom. Unable to find the sea-cocks, he hastened to the bridge, where he collected what papers he could find and then swam back to the Walrus. He immediately signalled his ship that there was still hope of saving the tanker.

The Leander, her Walrus just back from the afternoon's search,

received the *Canberra's* 'Enemy in sight' signal and altered course towards the position of the sinking *Coburg*, allowing *Canberra* to turn her attention to the tanker. The New Zealand cruiser arrived at 18.30 but not, unfortunately, before her intended charge had gone down. Nevertheless, as the sun dipped below the rim of the burnished ocean, there was plenty to do, getting the survivors aboard from their boats and starting interrogations; and it was notable that some of the men, such was the precarious life they knew they led, carried well-packed suitcases. The *Canberra* was no luckier; by the time she reached her, the *Ketty Brovig* was low in the water, the only action left being to hasten her end with a few rounds of 4-inch.

An incident which followed the next day is only recorded as a lesson of how easy it is for a person to be taken in by apparently seeing what he expects to see. Interrogation of the happily released Norwegian officers and men of the *Ketty Brovig* revealed the recent refuelling of 'a pocket battleship.' This meant that, as neither the tanker nor supply ship had sent out distress calls, the *Scheer* might still be in the vicinity. The surface and air searches by the two cruisers had been devised by *Leander*, as senior ship, but the zealous Malleson, believing his Walrus had better endurance than *Leander's*, decided to add an extra leg to his allotted search.

Whether that or dodging rain squalls was the cause of a navigation error, something of greater consequence resulted. Leander was just hoisting in K5782 at the end of the afternoon's patrol when over the ether came the signal, en clair, from Canberra's Walrus, 'Pocket battleship in sight.' The stir caused by that electrifying message spread far beyond the ships involved, the reverberations, if not the wireless waves themselves, reaching the ears of Their Lordships in distant Whitehall. It seemed that Malleson, on the last leg of his extended search, had suddenly seen in the distance the unmistakable bow view of a warship where, by his reckoning, no warship should be . . . ipso facto. It was only after he had manœuvred to a more favourable position closer to, that he realized his guarry was the Leander! In due course Malleson received well-deserved commendations from Their Lordships for his resourceful and intrepid actions of the previous day-rapidly followed by a 'blast' (dispatched, it can surely be thought, with reluctance) for breaking W/T silence, and in plain language, before confirming the accuracy of what he thought he had seen the day after.

One other incident might bear noting here. In itself it was of no great import other than to those immediately concerned, but the vessel

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in question was later in the year to bear tidings that cleared up the mystery surrounding one of the tragic 'disappearances' of the war at sea. The British tanker *Trocas* was overdue at an East African port and it was feared she might have fallen to the guns of a raider. *Leander*, who had been maintaining a surface and air blockade patrol off Vichy Madagascar, was sent to search for her on the 27 March. On the last search of the day the Walrus located *Trocas*, safe and sound except for the engine trouble which had reduced her speed.

Next to the Atlantis, the most successful raider was the Pinguin, one of whose audacious exploits had been to capture an entire Norwegian whaling fleet in the Antarctic and to succeed, moreover, in sending every ship safely back under guard to Occupied France. By May she had moved far away from the icefields and into the Bay of Bengal. On the 7th she accounted for her twenty-eighth prey, the British Emperor, who courageously raised the alarm before she was sunk. Cornwall hastened to the area, and the next day her Walrus reported a suspicious vessel a hundred miles away. The cruiser closed the suspect and a game of bluff was started. Then the raider, seizing a chance, opened fire. The response from her opponent's 8-inch guns was devastating, but the Pinguin fought on with great courage until sunk, only a small proportion of her crew surviving.

Now, the loss of the *Ketty Brovig* and *Coburg* had been successfully concealed from the Germans for two months, thereby seriously affecting their plans, of which one example is given in the following extract from the book by Mohr and Sellwood:

But it was thanks to the B.B.C. that in May, 1941, the Atlantis News Service secured two items of information that 'scooped' the Goebbels network—not necessarily by obtaining the news first, but by publishing it first! Our 'success' brought us small joy at the time; our 'scoops' were, indeed, of a profoundly depressing nature. First came the news of the loss of the Ketty Brovig . . . and Coburg . . . pounced upon by the British and Australian cruisers Leander and Canberra. The next, undoubtedly connected with this misfortune, was the announcement that our brother raider, Pinguin (Ship 33), had been cornered and sunk . . .

The closing months of the year were to witness a succession of staggering blows against our naval forces in this theatre.

On 11 November Sydney sailed from Fremantle as escort for the troopship Zealandia, on passage to Singapore. The old light cruiser Durban took over in the Sunda Strait on the 17th, and Sydney reported her estimated time of arrival back at Fremantle as p.m. the 19th or a.m. the 20th. Both days came and went with no sign of her. Attempts were then started to try and contact her by wireless, but to no avail; and on the 23rd an anxious Naval Board ordered a full-scale surface and air search. The next day the tanker Trocas reported by W/T that she had picked up twenty-five German naval men in position 120 miles W.N.W. of Carnarvon, a town lying five hundred miles up the coast from Fremantle. The worst was now feared and the search was concentrated around the Trocas area. By the 30th six boats and two rafts had either been picked up at sea or had drifted ashore at Shark's Bay near Carnarvon. In addition, another raft with twenty-six men on it had in fact been recovered by the ss Aquitania at 08.30 on the 24th but had not been reported until the ship reached Sydney, the Master assuming the cruiser herself would have made a report. Interrogation soon elicited the news that all survivors were from the raider Kormoran. The story of Sydney's desperate last fight was pieced together, but few assumptions can be made with certainty, for not one of her forty-two officers and 603 men lived to explain exactly what happened on board during those final tragic hours.

The Kormoran was fast and well built, a 9,000-ton ship of the Hamburg-Amerika Line converted to carry a main armament of six  $5\cdot9$ -inch guns and four torpedo tubes. She was the first of the second wave of raiders to be sent out by the High Command, leaving Germany the previous December by the favoured route through the Denmark Strait. On the day in question, Wednesday the 19th, disguised as the Dutch Straat Malakka, she was steaming quietly N.N.E. when the Sydney was sighted at 16.00 on a closing course. The Kormoran quickly turned south-west and increased to full speed; the cruiser, suspicions aroused, gave chase and asked the other to identify herself. The raider hoisted the correct four-flag signal of her assumed name and, for verisimilitude, sent out by wireless, again correctly, the alarm signal indicating that she was being chased by a suspicious vessel.

The evidence seems to show that by 17.15 the Sydney had somehow got herself into a most vulnerable position, almost beam on to the raider and less than a mile off. The Walrus (L2177) was seen to be ready for launching with engine running, and the turrets were trained on the raider when, at 17.30, Sydney's ultimate challenge, 'Show your

secret sign,' brought the only reply left to the Kormoran. Breaking her battle ensign, the German dropped gunscreens and opened fire at only 1,600 yards with four of her main armament, all 3.7-inch weapons that could be brought to bear, at the same time discharging two torpedoes. Within about four seconds hits were scored on the cruiser's bridge and director control tower. Sydney's first salvo was apparently over; then there was a pause, indicative of A and B turrets being out of action. With the Kormoran's fifth salvo, the Walrus was hit. Sydney's X turret came into action again and scored a hit, starting a fire in Kormoran's engine-room. Then a torpedo struck the cruiser, the force of the explosion, undoubtedly augmented by the magazine going up, blowing B turret completely out of its barbette and over the side. Down by the bows, she crossed her adversary's stern and fired four torpedoes without success.

And so the fierce battle raged on for nearly an hour. The enemy fired her last shot at a range of 11,000 yards at 18.25, for by now her opponent was drifting away to the south almost completely enveloped in dense smoke. The *Kormoran*, smashed beyond saving, put scuttling charges in action and abandoned ship at 21.00. The last seen of the *Sydney* had been a sudden flaring glow on the horizon after darkness fell.

The sad lessons relating to the sinking of the *Prince of Wales* and *Repulse* three days after Pearl Harbour Sunday have been much discussed, there is thus no need to redigest them here except to note that the report of a Japanese landing on the east coast of Malaya at Kuantang on the 9th had been proved false after an investigation by the ships' aircraft, but none of the Walruses was airborne at the time of the final attack by twenty-seven bombers and sixty-one torpedo aircraft.

One of the last acts of the year in which the Supermarine amphibian was engaged concerns the Seagull of the A.M.C., H.M.A.S. *Westralia*, when A2-14 was operating in connection with the landing of troops in Kupang Bay, Timor.

With Japan's entry into the conflict, war now lapped the shores of Australia and a myriad islands of the Pacific in savage earnest. At that time the total front line air strength of the R.A.A.F. was only 177 aircraft, of which nine were Seagulls augmented by no more than perhaps a similar number of Walruses.

Looking back over the past twelve months at operations over the great oceans, we had accounted for twenty-one enemy raiders or their

supply ships, ranging from the mighty *Bismarck* to the captured Norwegian tanker *Ole Jacob*, which the Germans had renamed *Benno*. In nearly all these actions the Walrus and Seagull had played prominent parts.

It was a year to remember.

it seems, when Thomson after a despairing six weeks managed to persuade the authorities to grant them proper baths and showers, when they found themselves introduced to the Russian custom of men and women using the same bathing huts. He recalls those Amazonian warriors as 'delightful but tough creatures.'

The main object of joining the Russians had been to try and initiate our Allies into the British method of conducting A/S patrols. The Red Air Force, however, had other ideas. They were using pusher floatplanes for patrol work, so the facility with which the Walrus could taxi up the slipway greatly intrigued them; nevertheless, even on the very few occasions when the Walrus was allowed to get airborne, Trinidad's crew found themselves hemmed in by the Russians in close box formation. Obstacles were not openly put in their way; their hosts behaved with friendliness towards them, but it was always some inconvenient 'mischance' which reduced flying to frustratingly few occasions. The Trinidad had sent 10,000 gallons of petrol to Vaenga, yet little of it got into the tanks of the Walrus. Thomson, however, had a shrewd idea of where the bulk of it did go; he suggested pointedly to the Commandant that the engines of the Russian-manned Hurricanes, shipped to them the previous August in the old carrier Argus, would behave less erratically if some fuel better than eighty-seven octane were used!

With her damage temporarily repaired, *Trinidad* embarked her Walrus and air crews and sailed from Murmansk on the fateful 13 May. She once more flew the flag of Rear Admiral Bonham-Carter and carried many survivors of the *Edinburgh*. The loss had occurred when escorting the homeward-bound QP11 convoy; *Edinburgh's* stern had first been blown off by two torpedoes from the U-456 on the 30 April, then further damage was caused by another torpedo from a German destroyer on the 2 May, as a result of which she had to be sunk by our own forces. It was an experience the survivors were to undergo yet again. The day after sailing, *Trinidad* was severely damaged by bombs in a concentrated air attack on the 15th and had to be sunk by her own escort, fortunately without great loss of life.

The success of this type of amphibian in its A.S.R. rôle evidently led the Admiralty and Air Ministry to consider increasing orders for the larger Sea Otter, and plans were therefore made to include the Blackburn Aircraft Company as a producer. However, this was never implemented, probably because the replacement, when it started to

# THE RUN-DOWN (1942)

# North Atlantic

From 1942 onwards the shipborne activities of the Walrus started to decline. This is not to imply that her use immediately became less important. Many perilous Arctic convoy patrols were yet to be carried out; the sterling work of the air-sea rescue squadrons had only just begun; her other shore-based operations were increasing; indeed, front line strength rose from 67 in April to a peak of 72 in September. But, so far as she was concerned, the character of sea warfare, in the European theatre at least, was changing as our other shore- and carrierbased forces multiplied; as the enemy, with his raiders and supply ships being swept from the oceans, began to be pressed back against his own coastline.

It can therefore be said with fair justice that the hey-day of the Walrus at war had been the year just passed. She was now nine years old and her replacement, as we have seen, had been put in hand. Nevertheless, whatever military circumstances dictated or whatever decisions were taken at high level, there was still an unexpectedly long life ahead of her.

When Nazi destroyers attacked the Russia-bound convoy PQ13 on the 29 March, the *Trinidad* was, ironically, damaged by one of her own torpedoes, the steering gear of which had gone awry. The ship managed to reach Murmansk safely, there to remain until May undergoing repairs, Rear Admiral S. S. Bonham-Carter, whose flagship she had been, in the meantime transferring his flag to the *Edinburgh*. During this period it was decided that one of the Walruses should be sent to work from the Russian air base at Vaenga. So Lieutenant J. R. S. Thomson, the senior pilot, led both his crews ashore, where they found the conditions hard and primitive at that extreme northern end of the Russian front. At first they lived in dug-outs until rooms, bare except for a stove, in a brick building were allotted to them. They messed with their Soviet colleagues, the menu appearing to be dominated by raw fish and vodka. Nor were the sexes segregated; not even, come into service during March of the following year, was found to lack the outstanding qualities of the smaller aircraft.

## Mediterranean

After the Queen Elizabeth and Valiant were damaged by Italian human torpedoes in Alexandria harbour in December, 1941, the aircrews of both ships had been disembarked to the F.A.A. base at Dekheila in the Western Desert. There, together with the Seafox crew from the Neptune, sunk by mines off Tripoli the same month, they started to form the nucleus of a shore-based unit of 700 Squadron which was to carry out much valuable work and take part in several triumphs against enemy submarines in the months that lay ahead.

Routine sweeps by disembarked Walruses along the coast to east and west of Alexandria had been given the appropriate names of 'Brush' and 'Broom' respectively. These duties were automatically taken over by the new unit. The two senior officers, Lieutenant K. Jolliffe, R. M. (pilot) and D. J. Cook had collected together five aircraft with two spares by January and had moved their headquarters to the R.A.F. Station at Aboukir, where the complement was soon increased to a dozen aircraft. By April they had become a fully selfcontained organization, complete with wireless van, petrol bowsers, Chance lights and all the other paraphernalia necessary to operate independently ashore. The numbers of personnel had by then grown to six officers and ten rating aircrew, one R.A.F. 'I' officer and a cypher officer, and a hundred ground staff. The main party moved up to Beirut, working wholly under the Command of No. 210 Group, R.A.F.; the area of their operations extending from Cyprus to Latika and the coast down to Port Said and, in addition, one aircraft was left to operate in the Western desert on a rota basis. The squadron was renumbered 701 in September.

One day early in June while returning from Egypt with a threetonner full of depth-charges, Cook saw Walrus wreckage lying beside the coast road just north of Haifa. It was W2706, full of bullet holes; and he later learnt that Jolliffe, with whom he normally flew, had been killed a few score yards off shore. At the inquiry, on which Cook sat, the evidence from the wreckage indicated that the firing must have been from land, but the true cause was never established; it might have been the Jews, it might have been the Arabs. Lieutenant P. Chorley joined the squadron as Jolliffe's successor.

Patrol, escort, ferrying and other work entailed long hours of flying,

but the crews had their moments. On 9 July the Flower class corvette *Hyacinth* made a contact just south of Beirut, a Walrus flown by Sub-Lieut. Tanner assisting in the hunt. On receipt of the news, Chorley and Cook took off to join them, arriving on the scene just in time to see the Italian submarine *Perla* surface and surrender to the corvette and her sister-ship *Gloxina*. This submarine had escaped from Massawa in March, after the fall of that port, and had made the long haul back to Italy round the Cape of Good Hope, no mean feat. 701 Squadron received a third share of a very large wine cellar, of superb quality, from the Italians' ward-room.

Two days after this incident, Cook took off with Sub-Lieut. Jordan in W2709 in response to another reported contact about fifty miles N.E. of Beirut. There they found the South African whalers *Southern Maid* and *Protea* still searching the area after dropping a pattern of depth-charges. Ten minutes later the *Ondina* surfaced and the Walrus found herself in the classic position—up sun at 1,500 feet and only half a mile off. Diving to the attack, Jordan released his depth-charges in a good straddle, and the submarine started to sink by the stern, the ships closing rapidly and hastening the end with gunfire. The *Ondina*, from which Cook saw 5 officers and 32 ratings picked up, had been *Perla's* relief.

Information received of an impending attack by human torpedoes on shipping at either Haifa or Beirut entailed day and night patrols by the squadron Walruses. On the 8 August Chorley and Cook, in W2789 were almost at the end of a patrol period in company with Hunt class destroyers off Haifa when the *Islay* dropped charges on a contact. A large submarine surfaced and was immediately the target for gunfire from shore batteries as well as from the destroyers. Before she sank, the one-man torpedo containers were clearly seen secured to her gratings.

Yet three more casualties occurred to catapult ships. In June the *Liverpool* was torpedoed by an Italian aircraft during a heavy air attack and had to be towed to Gibraltar, and the *Newcastle* was torpedoed by an E-boat off Derna and had to leave for repairs in the United States; two months later the *Manchester* was sunk off Tripoli by an E-boat.

At the western end of the Mediterranean similar work was being carried out as at the eastern. There, at Gibraltar, where stocks of Walruses were held as replacements for ships' flights, shore-based units were formed for A.S.R. duties, including the training and equipping

#### THE RUN-DOWN

#### THE SUPERMARINE WALRUS

of a Free French naval unit. Subsequent to the 'Torch' landings in North Africa and the advance along the coast from both directions, the Desert Army from their triumphant start at Alamein and the British and American forces from the west, there was much for No. 700 Squadron to do, operating out of the newly captured ports. Yet again the reliability of the Walrus to remain serviceable with the minimum maintenance was to prove of inestimable worth. One unit at Bougie, for instance, functioned successfully for two weeks before their ground crews arrived. Even then they had to continue without workshop facilities; in the turmoil of those operations, the ebb and flow of attack and counter-attack, 'scrounging' had to be resorted to (air raid periods, when sentries were scarce, were particularly opportune moments); much improvisation was sanctioned to keep the aircraft flying-valve springs off French Dewoitine fighters were found a good substitute for those that broke on the Pegasus; even army lorry petrol was not passed up.

These separate ships' flights often operated, from November to the end of the year, in a freelance manner, carrying out tactical reconnaissance for army units, A/S patrols off harbours, ferrying and any other chores that came their way. In the New Year, however, they were grouped under the control of No. 328 Wing of the R.A.F.

# Indian and Pacific Oceans

If the tide of war had at last shown signs of flowing with us in the European theatre, the Japanese aggressor was riding high on the crest to the east. On the Easter Sunday of April Captain A. W. S. Agar, V.C., in *Dorsetshire*, steaming between Addu Atoll and Ceylon with the *Cornwall* in company, reported sighting enemy reconnaissance aircraft. He refrained from calling for fighter cover from *Formidable* and *Indomitable* in order not to give away the position of our small East Indies Fleet, now under the command of Admiral Sir James Somerville, to the Japanese carrier force that lay between them. The end came swiftly in the hot afternoon from eighty bombers. Captain Agar records that the very first of several direct hits caught the catapult and hangar. It was all over in  $8\frac{1}{2}$  minutes for the two ships, 29 officers and 395 men, out of a total of over 1,500, perishing either in the attack or during the long wait in the sea before rescue ships arrived the following evening.

The ensign of the Rising Sun was advancing rapidly into the Indian Ocean, menacing our supply route up the east coast of Africa; it was imperative that Madagascar, in Vichy French control, should not fall to the enemy. The assault on Diego Suarez, commanding the northern tip of the thousand mile-long island, was accordingly made during the 5-7 May with high success. Two catapult ships were included in that amphibious operation, the *Devonshire* and the old battleship *Ramillies*. Captain A. D. Oliver in *Devonshire*, as senior officer of the force attacking from the west or 'back door,' found that his approach was overlooked by a stone tower atop each of two prominent mountains, marked on the chart as 'Windsor Castle' and 'Stirling Castle.' As ship's gunfire was ineffectual in knocking out these observation posts, McWhae and Jefford were sent off in the Walrus to bomb and strafe them. On the 30 May *Ramillies*, while anchored in Diego Suarez harbour, was damaged by a torpedo from a Japanese midget submarine and was out of action for several months; otherwise casualties to men and ships had been remarkably low in the circumstances.

The second phase of the assault to subdue the remainder of that large island started in September. Here, again, Walruses took a part. *Albatross*, having been moved round from Freetown, operated from Majunga, once that vital port on the west coast had been captured. Also attacking on that side was the *Birmingham*, who acted as temporary parent ship for one of *Gambia's* aircraft. This Walrus, W2731 (Lieutenants D. G. Thornley and R. Mellars and Leading Airman Perrins) reconnoitred for an armoured car patrol advancing north after the landings at Tulear, and it was while flying low over the small town of Manomba, forty miles up the coast, that the crew observed a white flag being waved at them by a group of inhabitants, two of whom appeared to be Europeans—probably the first Walrus ever asked to accept the surrender of a town. On the east coast, based on Tamatave, *Gambia's* other Walrus provided the only air cover.

The verve, dispatch and efficiency with which the whole Madagascan combined operations had been carried out were, as Winston Churchill said, 'a model for amphibious descents'—and, as he added, 'The news arrived at a time when we sorely needed success.'

Early in March, at the great Battle of the Java Sea against overwhelming odds, so memorably described by Ray Parkin in *Out Of The Smoke*, neither *Exeter* nor *Perth* (L2319) had an opportunity to use their aircraft, which went down in flames with their valiant ships.

The cruisers of the Anzac Squadron which were working with the United States Fleet in the South-West Pacific were Australia, Canberra,

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Hobart, Leander and Achilles. The Canberra was torpedoed and lost with her Walrus, A2-P5715, off Savo Island on 9 August in the Battle of the Solomon Islands, but she was quickly replaced by transferring Shropshire to the R.A.N.

### 1943-1945

Although ships engaged on Arctic convoys continued to use their aircraft for A/S patrols for some time during the first year of this final period of the war, the decline in the front line rôle of the Walrus steepened rapidly; from 55 in April it had dropped to 15 by September; to 2 in 1944; to nil in 1945.

All A.B.R. training came to an end in June, 1943. The *Albatross*, who had moved up to Bombay with 710 Squadron early in the year, returned home and paid off; and by the end of 1943 catapults were being removed from all H.M. ships.

Production had also come to an end in July that year on completion of outstanding deliveries. Indeed, the Admiralty was already looking well beyond the life of the Sea Otter: a specification, originally designated S.12/40, which had been placed on Supermarines for its replacement, had developed ambitiously to the stage where an amphibian with variable incidence wings and powered by a Griffon 20 or 51 engine driving contra-rotating tractor propellers was envisaged as a requirement for 1947, the revised specification number being S. 14/44. Although work on this aircraft, which was to be called a Seagull (with no suffix mark, apparently) was suspended in 1945, a prototype was in fact completed and flown.

Five aircraft, disembarked from ships, operated from Gibraltar during March and April but, together with the six across the water at Algiers, they were then disbanded; and No. 701 Squadron also discontinued their activities from Beirut shortly afterwards. Nevertheless, the Walrus ashore in her second line rôle continued to play an invaluable part, for the half-dozen or more squadrons which the R.A.F. had first started forming late in 1941 and to which Walruses had been allotted for A.S.R. and, later, mine-spotting duties, went on with their tasks until victory finally brought hostilities to an end, although some squadrons continued operating into 1946 before being disbanded.

On Addu Atoll, in the Maldives, the army had built an airstrip for use both as an operational base and as a staging post. The honour of being the first aircraft to 'inaugurate' the strip, on 8 February, 1943, appears to have been a Walrus; this was W2779 from *Gambia* with Lieutenant Keogh, Mellars and Leading Airman Wilkinson as her crew. A small naval air station was later based there and also operated a Walrus in her usual variety of rôles.

Then, on the 24 March, 1944, No. 700 Squadron, as a catapult ship unit, ceased to exist.

In the Pacific, on the other hand, R.A.N. ships continued to use their aircraft up to the end of the war against Japan, or at least those that were fortunate enough to survive. *Achilles* was hit by a bomb in January, 1943, and was sent back to the United Kingdom for repairs. On the 13 July her sister ship, *Leander*, was torpedoed at Kolombangara after taking part in the Kula Gulf Battle, and she had to retire to the United States for docking. The *Australia* and *Hobart* were working with the U.S. 7th Fleet when, on the 17 October, 1944, the larger cruiser suffered the fate of being the first Allied ship to be struck by a Kamakazi suicide bomber.

Walruses were now embarked in carriers of the British Pacific Fleet for rescue duties, as well as in those working with the East Indies Fleet, and they were of course still operating from shore bases, such as with the Forward Aircraft Pool on Pityilu Island. Australian Walruses and Seagulls were similarly engaged, and the R.N.Z.A.F. had likewise acquired ten for A.S.R. and for flying-boat conversion training. The latter, incidentally, wore a white overall finish, a change from the sombre camouflage that had so long cloaked their sisters.

And so, with the surrender of Japan in August, 1945, the long day of valour came to an end.

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Hudson thereupon decided to adopt baiting tactics. Patience was rewarded three hours later when the quarry surfaced only a few miles from the original position. The Hudson dived to the attack with depth-charges and guns, and several of the crew were seen to fall overboard. Z500, her main armament expended, started to circle watchfully.

A few minutes later, and before Patterson could do anything about it, another Hudson arrived suddenly from nowhere and made a gun attack on the U-boat. And then another colleague arrived and did the same. At this point the U-boat crew started wildly, and understandably, waving pieces of white clothing as positive indications of surrender, for she had stopped and twelve men could be counted in the water. The time was now 13.00; there was not another vessel in sight and Z500 was running short of fuel. Patterson was in a quandary, but there was only one thing he could do; he hurried back to base and, while the aircraft was being quickly refuelled, he telephoned the naval authorities, who promised to divert a destroyer to the position.

Taking off again, he was relieved when he got there to find his charge where he had left her. Once more he started his circling vigil. At 15.45 he was joined by a Walrus from the Algiers Harbour Patrol, with Sub-Lieutenants Blatchley and Bedford on board, sent out in response to the U-boat report. But the earlier incidents were to be repeated. A bare fifteen minutes later a naval Martlet appeared and gunned the U-boat despite the firing of Very lights and frantic signals from the watchdogs. An even greater outrage followed: an Albacore flew in low and dropped a torpedo. The Hudson watched its prize starting to sink, but there was nothing further she could do about it. The Walrus, however, had at last seen a destroyer in the distance and flew off to advise her of the direction to steer.

Arriving back in the area, Blatchley found that the U-boat had sunk, leaving a number of men swimming in the water. He landed and taxied among them, picking up fifteen in all. The swell was running heavily; in any case, with men crammed into the hull, sitting on the bow, festooned on the wings, there was nothing for it but to start taxi-ing in the direction of the invisible destroyer. Wallowing heavily, it was a long five miles before he at last reached her. The survivors, doubtless thankful for being picked up in the first place after the day's hazardous events, were even more relieved to be transferred after a ride that could not rightly have been called joyful. Taking off Blatchley and Bedford as well, the destroyer took the Walrus in tow s.w.-9

#### CHAPTER TWELVE

## AIR-SEA RESCUE

DUE TO THE operational flexibility of the Walrus, it was used on many occasions before the war for rescue or 'mercy' flights which other aircraft could not possibly have brought off. By the winter of 1941 the Royal Air Force had formed the first four of several squadrons to which Walruses were allotted for air-sea rescue operations. Some crews were temporarily seconded from the Fleet Air Arm for that purpose, but generally R.A.F. personnel flew those missions. From the many hundreds of rescues that eventually took place in all theatres of war, it is possible to select only a few examples. If the selection appears arbitrary, endeavour has been made to choose those that appear typical of the skill, endurance and courage of the crews concernedand, it must be added, that without the outstanding qualities possessed by the Walrus, few of the survivors could have been rescued, for we had no other aircraft capable of doing that particular type of work. Exact figures are not known, but they amounted to well over a thousand rescued around the British Isles alone, of which (as an example) one squadron, No. 277, accounted for 598.

# Full House

If a warship is standing off from a surfaced enemy submarine and no apparent action is taking place, it would be reasonable for a third party, coming upon the scene, to assume that the submarine had surrendered. The position is hardly so obvious when the victor is an aircraft; and for the latter to prevent further assault on the already vanquished by a third party intent on belligerent action is difficult to the point of impossibility.

After the 'Torch' landings in North Africa, No. 328 Wing of the R.A.F. had a squadron stationed at Maison Blanche, Algiers, and on the morning of 17 November, 1942, Squadron Leader Patterson and Flying Officer Du Vuyst took off in Hudson Z500 on patrol. At 09.25 a U-boat was sighted about forty miles north-west of the harbour but, before an attack could be delivered, it had crash-dived. The

and headed for Algiers. Unfortunately, as they arrived off the port and turned sharply into the narrow swept channel, a heavy swell rolled the Walrus right over and she was lost.

As a footnote to this story, it might be added that the Hudson squadron also had two Walruses of No. 700 Squadron attached to it who had been responsible for rescuing nineteen people in the first six weeks of operations from Maison Blanche airfield.

# All in the Day's Work

No. 277 Squadron's detached flight at Martlesham Heath was standing by for the return of the big bombers after a major raid on Germany on the 22 June, 1943. Two of the Spitfires, on standing patrol, were vectored by Control on a course of 100° from Orfordness for 25 miles; they were then told to steer 180° for 10 miles, and at 11.15 they saw below them an oil patch and a dinghy with nine men in it.

Warrant Officer Greenfield, the pilot of Walrus X9526 had in the meantime contacted the Operations Room and requested permission to take off. He left at 11.03 with Warrant Officer Horan and Flight Sergeant Leighton as his crew, but when they reached the area they found the Spitfires had already directed a high speed launch to the spot. The survivors, Lieutenants Peeles and Barade, 2nd Lieutenants Williams and Hicks, Top Sergeants Thomson and Osborne, and Sergeants Hatten, Zeigler and Swirz, all from a Flying Fortress, eventually being safely landed at Felixstowe. X9526, in response to another reported ditching, started a square search but, seeing nothing at the end of it, landed back at base at 14.20.

A further report was received of four Fortresses being down, so Spitfires were sent off on a ribbon search. The second Walrus, X9563, piloted by Warrant Officer Ormiston, took off at 14.35 and searched the area of the Kentish Knock for 45 minutes without success. She was then vectored on 100° for 15 miles and instructed to orbit the area pending further instructions from H.Q. Again, nothing was seen and the aircraft returned to base.

At 16.40 a telephone call from Operations Room informed Flight Lieut. L. J. Brown, the senior pilot of the detachment, that a dinghy had been sighted in area 02563, very near the Dutch coast; seven men were reported to be in it, which would therefore require both Walruses. Brown prepared his plans for the operation, briefed the crews and sent them off at 18.37 with two Typhoons of No. 198 Squadron as escort. The Walruses found the dinghy after a short search; by now the sea had got up and they had to make a heavy landing. The survivors were from a Halifax bomber, X9526 taking off Sergeants Honey, Dick and Haywood, while the other four, Ward, Tudberry, Brennan and Smith, scrambled aboard X9563. Both Walruses taxied about looking for calmer water for a take-off, their escort of four Spitfires, which had relieved the Typhoons, circling protectively overhead. It was thirty minutes before Greenfield in the first Walrus at last managed to get airborne and head for base. Ormiston, on the other hand, with his greater load in the other aircraft, found himself only fifteen miles from the Dutch coast and in danger of air attack, which in fact came from two FW 190s, heading out of the setting sun. But the Spitfires were ready for them; one, opening return fire at seven hundred yards, hit his target around the engine and cockpit, and shortly afterwards had the satisfaction of seeing a large splash in the sea some way off.

AIR-SEA RESCUE

Brown took over from Greenfield when he landed back at base at 21.00, and twenty minutes later he left with two more Spitfires to cover his colleagues still struggling on the water. Realizing the sea was now too rough to risk a landing, Brown located M.T.B. 16 and directed it towards the waterborne Walrus. Satisfied that he could do no more, he returned to base.

Ormiston could see very little of where he was heading, for he estimated the waves were running nine to ten feet high, consequently he had to ask continually of his air escort for directions to ensure steering clear of mines and other obstacles. As daylight faded, the M.T.B. took over escort from the Spitfires.

Time slowly passed into the early hours of the next day. Then, at 02.00, petrol ran out, leaving the Walrus surging helplessly in the waves, which had increased to nearly 15 feet. Such were the conditions, it took the naval craft some 20 minutes to get a line across before they could start getting the survivors and crew aboard. Abandoning X9563, the M.T.B. headed for Felixstowe, where it arrived at 06.30.

However, before the M.T.B. got back to harbour, news reached the anxious Brown that the abandoned Walrus had been seen to beach herself on a shoal; so, gathering together the necessary equipment, he decided to go out with a fitter in an H.S.L. on a salvaging expedition. They were some fifteen miles out when they met the destroyer *Mackay*; to their intense surprise she had their aircraft in tow. Brown first boarded the destroyer and then transferred to the Walrus, which he had seen was making heavy weather of it and lying ominously low in the water. Dropping into the cockpit, he found himself almost waistdeep in water, which an officer and two ratings were working hard to get under control with the bilge pump between bouts of seasickness as the craft yawed and tossed in the seaway. He quickly sized up the situation; the heavy tow-rope was led through the open hatch forward, so that the bows were being pulled under with almost every wave as the strain came on the line, more water pouring into the hull through the open hatch than could be pumped out. He rearranged the tow, securing the heavy hawser to the towing bridle, and replaced the hatch cover; at once the Walrus sat back on the step in an easier manner and the ratings soon started to get the water level down to manageable proportions. In due course they arrived at Harwich, from where Brown taxied the Walrus back across the estuary to Felixstowe for repair and overhaul.

Despite the vicissitudes she had undergone, X9563 was soon back in service; in fact, after doing a tour of duty with No. 288 Squadron, she survived the war and was bought back by Supermarines for a purpose which cannot thereafter be traced.

## The Dover Ferry

Lieutenant A. B. Edgar was one of four F.A.A. officers attached to No. 277 Squadron for air-sea rescue duties prior and subsequent to D-Day activities over the Channel. On the morning of Sunday, 11 June, 1944, he took off from Hawkinge in HD914 with two Sergeants Smith as his air gunners and escorted by two Spitfires. Most of their 'customers' were R.A.F. or U.S.A.A.F. fighter pilots engaged in bombing and strafing Nazi 'Doodlebug' sites in the Pas de Calais sector. Shortly after 11.00 they picked up a 'Mayday' distress signal and were given a vector from A.S.R. Control at Dover to a position off Berc sur Mer where an American Mustang pilot was reported to be baling out. The Spitfires went ahead and located the dinghy in the water, and by the time Edgar arrived at 11.30 there was a considerable amount of flak being fired from the German shore on the near-by coast.

As the wind was blowing onshore, it meant a landing approach uncomfortably close to the enemy 'hate,' which increased as soon as the Walrus was seen. Judging by the white horses, Edgar saw that it would be a difficult landing. As he prepared to go down, it crossed his mind that he might be unjustified in risking three lives for the sake of one who was being blown towards the shore and safety anyway; but after a brief consultation with his crew, he decided to make the attempt. The Spitfires did splendid work diverting attention from him as he landed. He bounced heavily in the rough water but managed to bring the Walrus down close to the dinghy. With shells falling around, there was no time to make a slow approach with the wheels down; so, with the spray flying, they plunged towards the yellow dinghy and, as it bumped alongside, hauled the pilot unceremoniously in through the rear hatch. Yelling to his crew to hold tight, Edgar slammed open the throttle for the take-off, but bounce followed bounce, the conditions preventing his gaining any flying speed. He tried again and again; after the sixth attempt he realized that the quickest, and safest, way home was by the route the Dover ferries used to take.

By then they were clear of hostility from the French coast and he had time to look aft to see how his passenger was. Lieutenant Ralston of 369 Squadron was lying in a pool of water stained bright green by his fluorescine dye marker, and it was obvious that he was seriously wounded, so they gave him a shot of morphia from the first aid kit. Then, while one of the sergeants manned the bilge pump to keep down the water entering through a sprung plate, the other brewed a welcome tin of self-heating soup apiece for all of them.

The radio had stopped functioning and they felt very lonely as the Walrus plunged slowly onwards through the narrow encirclement of turbulent seas, their one comfort being a periodic visit from one of the accompanying Spitfires, which indicated that help could not be far off. The hours seemed to pass like days, but it was in fact just after 15.00 when an H.S.L. hove in sight. They signalled the need of urgent attention for their wounded passenger; and, as the launch manœuvred alongside, a courageous sick-berth attendant leapt across on to the starboard wing and then slithered from strut to bracing wires as the aircraft pitched and tossed the spume over him; but he made it safely and crawled down the gangway to attend to the patient. With both craft rolling dangerously close to each other, several attempts were made before a line could be got across and the Walrus taken in tow. Edgar cut his engine and settled back in relief with a pipe and another tin of soup.

It was 17.00 before they reached Dover harbour. As a hopeful gesture of independence, Edgar sent one of the sergeants up to try and start the engine. It was thickly coated in salt, but when the starting handle was turned vigorously the faithful Pegasus burst into life at the first throw of the switches. Casting off their tow, they taxied across the harbour and triumphantly made their way up the slip under the towering majesty of Dover Castle.

### A Night Out

Strictly speaking No. 293 Squadron was formed at Foggia in 1944 for mine-spotting duties, but on the 11 September of that year word reached 'D' Flight at Piagliolino that a 'body' had been seen in the sea one to one and a half miles south-east of Rimini. Sergeant Young and Warrant Officer Kelly took off in L2266 and soon found the object of their search, which proved to be Captain Walton of 92 Squadron, U.S.A.A.F. Unfortunately, when they tried to take off again, the Pegasus would not give her full revolutions, so they taxied southwards in the evening light in the direction of Pesaro. Darkness fell, but the sea was fairly calm and they felt no anxiety.

At about nine o'clock they heard the engine of a boat and turned hopefully in that direction. Suddenly, to their utter amazement, fire was opened upon them. They seized the Aldis and flashed it urgently in the direction of the aggressor or, rather aggressors, for they found not one but two Royal Navy M.T.B.s revealed in the beam of light. Firing two-star red distress signals had no effect; trying to signal their identity with the Aldis must have amounted to an exercise in cryptography for anyone attempting to read the message (if anyone was), for the signaller had to keep dodging his head as the tracers flew past. L2266's hull was being turned into a colander and the engine was ablaze; there was nothing for it but to abandon ship. Not until the Walrus sank did the shells stop streaming in her direction; that crew and passenger had survived such a hailstorm of lead seemed a miracle.

In a few minutes one of the boats was alongside and they were helped aboard No. 633 to make their wrathful protests to the young lieutenant in command. He was deeply apologetic when he learnt who they were but explained that he had mistaken the noise of the Pegasus for that of an E-boat, which he suspected was laying mines. No doubt Kelly enlarged on the bitter irony of the situation, for on an earlier sortie only that day in L2266 they had in fact reported the sighting of over sixty mines to H.Q.!

But duty was duty for the M.T.B. skippers, who had their anti-Eboat patrol to complete; so, while the rescued were being given refreshments and dry clothing after their ordeal by fire, the boats continued their hunt. Nevertheless, the night's excitements were by no means over, and they were to be particularly reserved for M.T.B. 633, no doubt in honour of the guests. A few hours later there was a shattering explosion—they had been mined.

Badly damaged, the boat somehow made Ancona safely as dawn was breaking, there to put the three airmen ashore. Only their nerves, incredible though it seemed, were the worse for wear.

# River Rescue

Lieutenant J. Carter of the U.S.A.A.F. was following his squadron commander's Lightning west of Wewak, New Guinea, when a petrol stoppage caused both his engines to cut. The terrain immediately below was mainly covered by heavy scrub dotted with clumps of trees, making it too great a risk for a belly landing with full tanks, so he baled out at 3,500 feet. Except for minor cuts and bruises, he got down safely and at once set to, making his position as conspicuous as possible from the air by trampling down a wide circle of kunia and 'pit pit', over which he spread his parachute. That part of the island was still in Japanese hands, for the date was 5 July, 1944; but he was not greatly worried because he realized his squadron commander would inform the rescue centre. He settled down to wait, heavy clouds meanwhile gathering overhead.

It was not until 16.00 on the following day that two Mitchells, coming down through the thick overcast, relocated him. A Catalina followed, dropping a blanket and provisions, of which Carter, after being torn and scratched in his search through the scrub, only found the former. The next morning a further drop was made, this time successfully.

To Rescue Centre the problem was not easy, for photographs showed no clearing in the locality that would permit an alighting on land. The position was ninety-five miles west of Wewak, and the main hope would have to be centred on the Kariwari river, which snaked a narrow and muddy way through the jungle near-by; even so, the nearest point, via a swamp, was nearly half a mile from Carter's position. It would mean hacking a way through dense scrub, for no trails showed up on the prints. It was obviously a rescue that only a Walrus could bring off.

It was customary for the Anglo-American air forces to employ native boys for general labour or when any bushcraft was necessary, and this was a case where knowledge and experience of that art would be
#### AIR-SEA RESCUE

invaluable. Flying Officer N. Agnew was accordingly detailed for the mission, and he took off in his Walrus (probably A2-X9515) from Madang on the 6th for a preliminary survey of the area if weather precluded an immediate rescue.

The overcast was still heavy and low, particularly over the river. However, he sighted Carter's parachute and dropped a weighted message bag saying that an attempt would be made at 09.30 next day, when a rescue party would cut their way to him from the river. He circled a few times, watching Carter hunting for the message; then, when he saw him wave his arm in acknowledgement, he returned to an advanced airstrip near the coast.

The weather had cleared considerably in the morning, so Agnew set out full of hope with his two native boys armed with long machetes. He was escorted by two Beauforts and a Catalina, the former keeping a watchful eye on the surrounding country as the Walrus made her landing on the river near the swamp. After dropping anchor, the M-type dinghy was hauled out on the bow and inflated, then Agnew sat back to wait as the two boys paddled towards the near bank.

Carter had meanwhile spent a second uncomfortable rain-soaked night huddled in his blanket and the folds of his parachute. He was wakened by the sound of the aircraft buzzing him out of a sunny sky, and he watched the Walrus drop below the tree line near-by. After receiving the message the previous day, he thought he could help his impending rescue by trying to make his way to the river bank but, lacking a machete, he found progress difficult, he also discovered that he had forgotten in which direction the nearesr loop of the Kariwari really lay. He sat down again on his parachute, conserving his strength and listening in the quiet air. The sound of Brownings came to his ears, and he imagined some marauding party of Japs in the distance being dealt with by the Beauforts. About an hour and a half later he caught the first faint sounds of steel on wood; leaping to his feet, he blew loud and continually on his whistle, helping to guide the rescuers by sound. Not long afterwards the boys finally broke through and helped him back along the trail to the dinghy.

A few minutes later the Walrus was airborne, and the next evening Carter was landed back at Madang.

### What Battle?

Flight Lieut. J. A. Spence, R.C.A.F., was doing a tour of duty with No. 277 Squadron at Hawkinge when a ditching report was received on the 16 June, 1943. He took off in his Walrus with Sergeant Humphreys at 06.10 and soon found his objective, marked by a circling Spitfire from his own squadron, twenty miles out. The sea was very rough but he landed without damage and taxied towards the little single-seat dinghy being tossed high on the waves. Six attempts were made to get alongside without success; on the seventh, Spence left his controls and leaned out of the window himself in order to try and grab the survivor as he brushed by, but he missed. However, Humphreys was ready at the rear hatch, and this time he managed to grip the man by the wrists and haul him inboard. The survivor was Sergeant Ticklepenny of 3 Squadron.

Conditions were too bad even to attempt a take-off, so Spence started to taxi back. The R/T had ceased to function, but two H.S.Ls soon joined the Walrus as escort. The seas were so confused that Spence, assisted by his sergeant, had to concentrate mind and limb on trying to keep the aircraft heading the right way. Yet the H.S.Ls were not the only company the Walrus had.

A battle had in fact developed in full roar above their heads, for twenty FW 1905 were trying to prevent the rescue or sink the rescuer. The lone Spitfire had been joined by two others sent out by 91 Squadron, and between them they were frustrating the enemy at every turn. As the Walrus ploughed on in the rumbustious seas, the fighters swept to and fro across the sky in screaming combat, until the Nazis were at last driven off for the loss of four of their number and two of the Spitfires. from one of which Pilot Officer Seydell was picked up by one of the H.S.Ls.

The Walrus at last reached Dover at 08.00, and when Spence was safely ashore he was asked about 'the big dogfight.'

'What dogfight?' he asked.

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#### 1111393199 A.S.S.S.M.S.

# CLOSE-UPS

Some detailed accounts of operations, major and minor, serious and gay, compiled from official and private records.

### CHAPTER THIRTEEN

# THE LONG SORTIE

THE SUN WAS gilding the fretted skyline of the jungle beyond Freetown when the 'Submarine attacking' signal reached the wireless room of *Albatross*, lying to her buoy in the harbour. Immediately he was called, Captain W. G. Brittain hastened to the plotting office to discuss with his senior observer the action to be taken. The routine dawn patrol, airborne some time since, was contacted in the hope that she could be diverted to the position signalled, 110 miles almost due west of the Sierra Leone port. As they had half suspected, however, she had insufficient fuel in hand; it was maddening but it couldn't be helped. Additional crews were already being roused and, as rapidly as the handling parties could work, the first two Walruses were hoisted over the side, shattering the stillness of the morning as they set off on their mission. People ashore, who claimed they could set their watches by the times of departure and return of the dawn and dusk patrols, were evidently to have their day's routine mistimed for once.

The pilot of one of the aircraft was a young Royal Marine officer, V. B. G. Cheesman. Rudely awakened from a deep sleep, he was hoping this was not to be another wild goose chase or, appropriately, a stray whale hunt, for it had happened before now that distress calls had been sent out on no stronger evidence than the sight of that mammal's glistening back. Still, whales don't open fire at ships, and this message had clearly claimed attack by gunfire. Things sounded more hopeful; nevertheless, they had a long way to go yet and the submarine might be safely out of reach before they arrived on the scene. Petty Officer Knowles, the observer, shouted the answer in his pilot's ear: at 82 knots, with a slight head wind and a time of departure of 07.00, it was going to take nearly 90 minutes to get there.

Cheesman eased the throttle forward a fraction.

Arriving at the estimated position, nothing was to be seen. Knowles concluded that a shift of wind m ght have drifted them to port of their intended course. A search to the north was therefore started. Presently the T.A.G., Leading Telegraphist Dale, began to intercept signals:

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reports from other Walruses that they were attacking a submarine. The risen sun, bouncing bright lances off the sea, cut down vision to eastward; elsewhere the undulations of the swell were marked by swathes of contrasting blues.

A few minutes later, through the starboard window, Cheesman caught a glimpse of black dots in the far distance. It could be. He put the nose of the Walrus down as he turned and increased speed. Arriving over the objects, he circled lower: in the sea below were men in lifejackets, men packed in battered boats, men on rafts or clinging to floating debris.

At that point in time he was not to know it, but he was in fact gazing down on the scattered aftermath of one of the longest and bloodiest duels ever fought between merchantman and submarine.

The ss Eumaeus (Captain J. E. Watson) was a 7,500-ton liner of the Blue Funnel fleet which had sailed in convoy from Liverpool on the 29 December, 1940, for the Far East. She had made several voyages on this route since the outbreak of war, all uneventful except for a boiler explosion earlier that year, an occurrence that was to have repercussions. On this occasion she had been requisitoned by the Ministry of War Transport to carry a draft of about two hundred officers and men, all naval except for one R.A.F. sergeant. In passing out of what was then considered to be the main U-boat danger zone, the ship was detached on the 7 January to proceed independently to Cape Town.

Although acting nominally as a troopship, the Eumaeus was armed like most of our merchant ships in those years with only one gun as defence against surface attack and two Lewis guns for repelling aircraft. It had been arranged at the start of the voyage that the gun's crew would be formed from the draft, and a regular lieutenant, A. P. Culmer, was appointed gunnery officer. Among the draft, consisting largely of 'Hostilities Only' ratings en route to their very first appointments, were about a dozen Royal Marines, so it was from the latter that Culmer selected his crew, with an enthusiastic corporal in charge. Training could not amount to much more than 'stations only,' for the total outfit of H.E. ammunition was no more than thirty-seven rounds, while of practice shell there was hardly enough to clear the bore. As for the gun, it was, ironically, a Japanese piece, vintage 1897! Nevertheless, the crew put in frequent practice, confidence growing daily that they would be able to give a good account of themselves if the need arose. In the event of action, another regular lieutenant, J. L.

West, like Culmer a recently qualified navigating officer, was to direct the fire of the Lewises from the bridge.

A few days after parting company boiler trouble developed; the feed water supply dropped and, with it, the speed of the ship. The twenty-year-old *Eumaeus* was evidently feeling her age. Repairs were beyond ship's resources, so it became necessary to divert towards the nearest port, Freetown. In any case, she was now no longer fast enough for safe passage as an independent.

The exact time of the sighting on the 14th cannot now be established, but in the circumstances of morning twilight at that period of the year, it cannot have been much after 06.00 when Mr S. S. Howie, the Second Mate, heard a look-out calling his attention to a suspicious object broad on the port bow. Howie had no doubt at all what he was looking at when he focused his glasses. His instant course of action was clear: to get away fast before the other sighted him. Rapping out helm and telegraph orders to the helmsman, he pressed the Master's buzzer urgently. Captain Watson arrived on the bridge in seconds and swiftly took in the situation. Ordering 'Action Stations,' he sent Howie down at the run to take charge of the watch gun's crew on the poop.

Who saw whom first is not known with certainty; evidence indicates that the submarine was probably caught napping while charging batteries. If she had been stalking *Eumaeus*, waiting for first light to show her up against the eastern horizon, she would almost certainly have been on the other side. Nevertheless, the trooper's advantage was short-lived. Howie had only just got the gun's crew to lay and train on the target when there was a yellow flash from astern. Any hope the *Eumaeus* had of slipping away unnoticed had gone.

Culmer and West, who shared a cabin, had turned in late after spending long hours censoring mail against the ship's expected arrival at Freetown, and it seemed they had barely fallen asleep when the action alarm brought them sharply awake again. Dragging on dressing gowns, they were halfway on deck when they heard the first crack of the ship's gun. Calling out for his action gun's crew, Culmer found the corporal and others as he reached the deck and raced aft. West leapt up the remaining ladders to his station on the bridge. In the half light the deck seemed suddenly swarming with milling figures, men who had been sleeping in the open hurriedly trying to get their hammocks clear of the gangways as others came up from below. To some of those men war had often meant long periods of tenseness when nothing happened. To many of the younger ratings it meant something that happened to others . . . far away . . . or in a blitz on the next town; their feelings about it had been vicarious, induced by newspaper reports, broadcasts; at best no more real perhaps than firsthand stories in the local pub from servicemen on leave; it was something that had never involved them personally. Now it had happened to them, far out on a dark ocean. When war had begun to feel even more remote, it had reached out to them over thousands of miles with heart-stopping abruptness. They would know now, were knowing, what it felt like. Some felt only intense excitement; some a kind of numbness; some were still unbelieving, as if in a dream; some, with nothing to do, felt helpless frustration—and some felt fear. But none felt the softness of the cool tropical morning.

The corporal at the gun felt exaltation. This was what he had been trained for as a fighting man; this was his chance. He was, reported Culmer, magnificent. Some four or five rounds had been fired by the time the action crew reached the poop. Culmer relieved Howie so that the Second Mate could return to the bridge, and then, with the corporal as gun-layer, exhorting his men calmly by word and action, they settled down to deliberate fire. The submarine had quickly found the range, concentrating first on the bridge, scoring a hit with the third round. The light was improving rapidly, and Culmer could see now the enemy clearly, zig-zagging broadly to open the firing arcs of each of her two guns in turn.

The Commandante Cappellini, one of Mussolini's latest ocean-going submarines of the Marcello class, first commissioned in 1939. With a submerged displacement of 1,313 tons and a surface speed of 17.4 knots, she was armed with eight 21-inch torpedo tubes, two 100-mm guns, one before and one aft of the conning-tower, and four automatic weapons. She was now firing carefully, almost leisurely . . . infinitely sure of herself.

Havoc was being wreaked aboard the old cargo liner; hits were almost continuous—holing the side, splintering boats, starting small fires, throwing great blocks of masonry in the air as shells burst asunder the concrete slabs protecting the wireless cabin. And then the *Eumaeus* herself scored a direct hit, low down on the fore part of the conningtower. The *Cappellini* stopped firing for a few minutes, and Culmer noted that her captain was using his hydroplanes to reduce his target area during the lull. The Marines' spirits rose. So might Homer's Eumaeus have fought against great odds in that last battle of the Odyssey:

... At once their fiery lances flew: Great Demoptolemus, Ulysses slew; Fierce Elatus, by thine, Eumaeus, falls, Their fall in thunder echoes round the walls ... ... Again the foe discharge the steely shower; Again made frustrate by the virgin-power.

But no Ulysses, no Telemachus stood beside *Eumaeus* now, and the Gods were evidently looking elsewhere.

When West arrived on the bridge he found carnage. The direct hit had mortally wounded both the Chief Officer and Fourth Mate, an Australian; the wireless cabin had been wrecked, but fortunately not before Freetown had acknowledged their distress message and reported help on the way. Howie returned and assisted the Master manœuvre the ship, striving to keep the submarine astern; altering course as fast as the ship would respond, first port, then starboard, to throw off the enemy's aim. It helped a little, but the *Cappellini's* speed advantage enabled her to choose her position at will. Very soon Captain Watson realized the revolutions were dropping; ringing the engine-room to demand the reason why, he learnt that the Chinese firemen had deserted their posts. West at once hurried down among the men sheltering on the fore well-deck and collected a volunteer party, which he led below. Coal was soon being shovelled furiously into the boilers once more.

Apparently stung by the response from *Eumaeus*, the *Cappellini* closed the range to less than 1,500 yards and opened a devastating fire at the poop with her automatic Bredas, using tracer in a highly discomforting way. The 'steely shower' wrought fearful casualties among the gun's crew; yet, undeterred by the maimed, the dead and the blood around him, the corporal continued to exhort the combatants. In an effort to give like for like, Culmer got hold of one of the stripped Lewis guns and, using a ventilation cowl as a rest, returned the fire. He had emptied three magazines when he was slammed back against a locker, hit in the thigh by a Breda shell, fortunately only the fuse exploding; enough, however, to lacerate both legs.

And then the 4.7's firing pin broke.

Culmer sent for Howie to take over again while he went below to s.w.—10

#### THE LONG SORTIE

have his wounds dressed. Howie, with the help of the invincible corporal, found a new pin, had it fitted—and the gunlayer was back in action again, firing through open sights, shattered telescope discarded. The first round of the new series fell fifty yards ahead of the enemy, followed by two apparent hits on the hull aft, for clouds of black smoke arose. But that was the last effective action *Eumaeus* was to take, for the next three rounds, falling short, expended her meagre outfit.

West and Howie arrived back on the bridge almost together. The captain ordered a signal to be made to the submarine asking her to cease fire as they were going to abandon ship. The *Cappellini* took no notice. West gathered together a few more ratings and returned to the boiler-room, where steam was still being maintained. Shortly afterwards a hit on the waterline had water gushing into a bunker. He and the Chief Engineer tried to plug the hole, but the pressure was irresistible, the flooding so fast that they had great difficulty in escaping. With the forward boilers inaccessible, speed dropped to five knots. In the meantime Howie and other officers of the draft were making valiant efforts to launch what remained of shattered boats, rafts—anything that would float. Culmer, his wounds dressed, reported to the bridge to find the Master looking a terrible sight, covered from head to foot in caked blood and concrete dust. Wounded by splinters, he was still directing operations.

The behaviour of the 'H.O.' ratings was laudable; there were no signs of panic as they went about their tasks, trying to fight the fires, launching the boats. Inexperience naturally added to the confusion; one boat, mishandled, was being towed through the water half awash; two of the draft went down the falls in an endeavour to cut it free. An R.N.V.R. writer, Sandison-Smith, watched his two messmates. The man on the after fall—'a "Scouse," fair-haired, well-built, a comic with a fine sense of humour, always cheerful and a good leader'—lost his hold on the block as he unhooked it, fell and did not appear to come up again in the wash astern. The man on the other fall was more fortunate, but he too disappeared in the wake, sitting astride the bow of the water-logged boat.

At last the *Cappellini* ceased fire; for her own safety, she could obviously not prolong her stay. She circled to a better position. Both Culmer and Sandison-Smith from separate points watched her turn bow on a mile away and then saw two bubbling tracks. The first torpedo seemed either to miss ahead or, because the ship was down by the stern, pass under the raised bow; the second hit abreast the forward hatch where the Chinese stokers were cowering. Down below, another 'H.O.' rating, Gordon Bignall, was thrown by the force of the explosion he thought was 'somewhere before the engine-room.' It was probably the kindest action of that long engagement; battered by over forty hits and listing heavily to starboard, the old *Eumaeus* now started to sink more rapidly by the bow, being brought lower in the water on an almost even keel in the process, so that the task of abandoning ship was made easier. It was just on eight o'clock. Two hours after it had first started, the furious duel was over.

Batches of the more experienced recruits were being shepherded over the side, advised what to do by officers and senior ratings; yet it was now virtually every man for himself, each making for the remnants of boats or other flotsam within swimming distance. Culmer suddenly remembered a depth-charge aft, still set to 'fire'; because of the blazing deck in his immediate vicinity, he and a party of men had to try and work their way round by water in an attempt to set the charge to 'safe', but the stern was already rising high as the ship started to slip under bow first.

West, with the aid of a rating, carried the Chief Officer from the wheelhouse to the bridge deck in the hope that he would float off in his lifejacket, but he was probably already dead. West then somehow managed to make his way past the fires amidships to the poop; as far as he could tell, all survivors of the naval draft were by then clear of the ship. He let himself down a rope over the port quarter and started to swim clear.

Sandison-Smith and another writer named Ferguson, sharing a raft, were trying to kick themselves away from the ship's side, half suffocated by thick black smoke. Dropping flat in order to gulp purer air lower down, they clung tight, expecting any second to feel and hear a gurgling vortex that would suck them under. For two minutes nothing happened. They raised their heads and, to their intense astonishment, the *Eumaeus* had completely disappeared. Both Culmer and West, swimming not far off, felt the tremendous kick of the depthcharge but, so far as Culmer could later discover, no one suffered injury as a consequence. It was 08.30.

For a while the *Cappellini* had cruised among the debris, watching men leap over the side from the sinking vessel, and then she steamed off on the surface. She had her own wounds to lick.

Admiral Aldo Cocchia states in Submarines Attacking that the Cappellini's first war operations, under Commandante Salvatore Todaro, were conducted where no German or Italian submarines had so far penetrated, off the west coast of Africa between Rio de Oro and Senegal. He lists the first victim mistakenly as the Eumaeus, sunk off Cape Verde, and the second as the Shakespeare; whereas it was in fact the latter that was sunk first. There are also some embellishments in his account unwarranted by actual events. Although he generously concedes that '(Eumaeus) was evidently under the command of a gallant and energetic captain', he refers to Todaro's opponent as 'another cruiser . . . acting as a troopship . . . armed with three 4-inch guns and a number of quickfirers'. So fierce had been the reaction from Eumaeus, the admiral might perhaps be pardoned some of his inaccuracies. In thinking that the damage suffered by the well-armed submarine could only have been wrought by a more formidable foe than was the case, he seems to have accepted Todaro's version of the action without question.

Admiralty intelligence learnt that the *Cappellini* was forced to limp into Las Palmas almost a week later as a result of damage inflicted by gunfire and aircraft attack, the more serious being a damaged bow and a shot through the base of the conning-tower, while casualties included a dead officer. Cocchia also tells us that '... when she finally reached Bordeaux she was little better than a wreck. Four months' work was needed to put her into shape again.'

Among the ever-widening circle of wreckage, men swam or drifted or clung to anything that would give support, officers trying to get the more severely wounded aboard rafts or water-logged boats. The Chief Engineer, who had escaped safely from his engine-room, was drowned when the boat he was in capsized. Death and destruction were all around, but not the spirit of defeat. Ragged bits of song, floating over the waves from scattered groups, suddenly turned to concerted cheering when a Walrus appeared overhead, circling low. Although it disappeared in a few seconds, hope rose even higher here was the first tangible evidence of the promised help; surely more could not be far off.

Cheesman took in the scene as he flew round, scattered clusters of men waving as he passed over them. There seemed to be plenty of debris about but precious little that would give a dry platform on which the wounded or exhausted could rest in relative comfort. He knew a long wait lay ahead before help could reach them, and already the temperature was climbing towards the nineties. At least the Walrus had one piece of apparatus that would help a little. He gave Knowles instructions: as he flew low and as slowly as possible near a group that seemed most in need of it, the observer and T.A.G. threw the gas-inflatable dinghy out of the rear hatch.

The Walrus banked sharply away; about two miles clear of the main body of men the pilot had suddenly spotted two boats. Drawing near, he saw that one was empty, the other had two men in it, waving wildly. Here was something of immense value if he could do anything about it, for he realized two men alone could not row a lifeboat back in the prevailing swell, which was slowly drifting both craft farther and farther away. Cheesman had to make up his mind. The return trip down-wind to Freetown could probably be done in seventy minutes; checking his gauges, he reckoned that gave him twenty minutes petrol in hand. He decided to take the risk.

Warning his crew to hold tight, he turned on to an approach course parallel to the swell. As he started to hold off he saw how short and steep it was. The sturdy old crate stood it well . . . one bounce . . . then another . . . and she was safely down. Now, if he could get a line to the men and tow the boat back . . . it was a struggle taxi-ing across the line of the swell, Knowles standing in the bow hatch, heaving-line in hand. And then, as they got within throwing distance, the two survivors, misunderstanding his intentions, dropped over the side and swam towards the Walrus.

Cheesman throttled back as Dale went aft to help the men in through the rear hatch. One looked beaten by the effort; the other, 'a "Scouse," fair-haired, well-built . . .', on being told of the pilot's intended plan, professed himself still in good condition; with no hesitation he volunteered to return to the lifeboat with a line. He swam strongly but he had underestimated the difficulty of getting into a boat unaided from the sea; after several attempts he had to be hauled back. Time was passing; the main group was well out of sight. Anxious not to lose his bearings, Cheesman abandoned his intention and turned back to the scene of the sinking.

On his way he picked up two more ratings, but it was not until he was among the main throng that the full extent of their plight was brought home to him. Among all the wreckage littering the area, the only two boats in use were so badly holed that they floated awash with their tattered loads. In trying to manœuvre near one of them so that he could throw across the aircraft's first aid kit, a swell surged him broadside on to it, crushing the port lower wing-tip and damaging the float. Any hope of getting off again, if it had ever existed, was gone. He kept a worried eye on the float for some minutes and was thankful when it showed no signs of having been holed. They were now survivors themselves, but at least their craft was mobile. It was obvious that the empty lifeboat left behind was desperately needed.

At that time another Walrus was circling overhead. Cheesman got Knowles to call it up on the Aldis, asking for a course to steer to the boat. Setting off in the direction given, it was not long before the observer, now aloft on the centre-section, waved his arm, pointing. Cheesman knew that neither the observer nor T.A.G. were good swimmers, while the two original survivors, who were still with him, looked done in. There was only one thing for it; switching off the engine, he went over the side himself, Dale paying out the line from the aircraft. By good fortune, the lifeboat's painter was trailing over the side, so he made both lines fast and then hauled himself back, hand over hand. In a few moments the airscrew was once more turning and, with Dale tending the tow from the rear hatch, the return trip was started, slow, wallowing, jerked off course every few seconds as the dead load astern snatched at the Walrus.

Arriving again on the still widening fringe of survivors, the pilot shouted above the noise of the engine for three volunteers to man the boat while he towed it round to pick up others. The incongruous procession passed near Sandison-Smith, afloat with others on his raft, and to their amazement and delight they recognized their two messmates aboard the Walrus, the two whom they had never thought to see again. Cheery banter was exchanged. More men swam to the lifeboat; then, to Cheesman's concern, the tow was cast off. However, it did not greatly matter; there was by then a sufficient crew to man the oars and continue with the rescue work. Indeed, it left the Walrus with more freedom of action to concentrate on other matters.

It must have been well past noon. The heat beat down, the glare struck upwards from the burnished water. Salt-dried skins were blistering, some blowing up into large bubbles, hanging grotesquely like over-ripe oranges from the more tender parts of exposed flesh; they appeared to give no pain, even evoking ribald comment. A high spirit prevailed. Sandison-Smith and Ferguson had in fact managed to collect two rafts, tying them together, an invisible perch beneath the numbers struggling to keep waist-deep balance in the swell. Gordon Bignall had joined them, solemnly, soddenly clad in a naval raincoat. At a critical moment he mysteriously produced, like a conjuror, two bottles of soda-water from the pockets. A shout of laughter went up as the bottles were passed round for blessed 'sippers.'

West had joined twelve others in a small boat they had managed to get over the side just before the *Eumaeus* went under; damaged and overloaded, it was continually capsizing. Culmer, in another area, was heartened by the sight of the Walrus whenever it came taxi-ing into view, rolling crazily. Watching the man seated precariously on the upper mainplane, he was thankful they had so good a sheepdog and anti-shark patrol. One remarkable case he particularly noted was Lieutenant Fuller, R.N.V.R., who swam calmly round all through those hours, using a gentle breast stroke and clad in full tropical rig complete with 'solar bowler.' Six-foot four, black-bearded, Fuller resolutely retained binoculars and camera about his neck. Later, when landed at Freetown, he was found to have a perforated lung from a splinter wound.

The R.A.F. sergeant had been well drilled by his Service in survival training. Despite much chaff from his shipmates aboard *Eumaeus*, he had steadfastly kept waterproof torch, compass, rations and other items of his survival kit always close at hand. It had paid off. He had found himself sharing a boat's mast with a sailmaker and a young O.D., together with a beaker of water and a box of provisions. Securing themselves and their precious supplies to the mast, they had drifted about all day, gradually being carried beyond call of anyone else. Exhausted by the continuous motion, bruised by the beaker crashing first against one then another of them, chafed by the ropes that were literally their lifelines, they could do nothing but drift.

Occasionally another Walrus arrived overhead, dropping supplies. From his high vantage point on the centre-section, it was Knowles who first saw smoke on the horizon to the north at about 14.00. Dale quickly passed the Aldis up. The Walrus was stopped at the time, a precaution the pilot had been taking periodically to conserve fuel, but as soon as answering blinks were received he started up again and taxied in and out among the men with the cheering news. Presently another ship was sighted; both were trawlers, the *Bengali* and *Spaniard*, sent out from Freetown.

Rescue was a prolonged operation; lone men clinging to planks, small groups on rafts, larger numbers in boats, all inevitably spread

wide. It might have been three hours or more before the trawler skippers were satisfied they had rounded up all in sight. Those in the Walrus were feeling the strain of the long, jolting, rolling hours, but Cheesman was determined not to abandon the aircraft. He transferred all his party to one of the trawlers with the exception of Dale, who was very willing to stay, and then he put himself in tow as course was at last set for port.

But not everyone had been picked up.

The R.A.F. sergeant and his two companions had seen the trawlers in the distance, seemingly drawing nearer. They cast off their bonds in anticipation of being picked up; kicking feebly, they tried to push the mast towards help. To their horror they saw the ships turn away, moving off into the darkening east. Such hoarse cries as they were able to raise were never heard.

It was not until eight next morning that they were picked up—by sheer chance. A few destroyers, refuelling at Freetown, were sent to steam through the area of the sinking, which they were doing at high speed in view of the submarine danger. The First Lieutenant aboard the last in the line was just stepping on to the bridge to bid his captain good morning when his eye caught a glint of something, causing him to stop and raise his binoculars, focusing on the middle distance . . .

Pilot and T.A.G. got little rest in the Walrus, as was to be expected. For the first hour spray kept breaking heavily over the bow, and they had to work steadily in turns at the bilge pump. When conditions eased and the tow could be adjusted to a better length, they got some slight respite. Neither having eaten since supper the previous day, they seized the opportunity to broach their iron rations, which were also supplemented by a particularly welcome tin of fruit that had come their way during one of the late supply drops. In the early hours of the next morning the wind freshened from the north, and it needed the strength of both of them on the pilot's and co-pilot's starboard rudder pedals to hold even a rough course on the trawler's dimmed stern light.

Dawn was just breaking when they at last passed through the boom at the harbour entrance. Dale clambered stiffly out of the cockpit with the starting handle. Damp and rimmed with salt though it was, the ever-reliable Pegasus coughed into action once more after a few false starts. The tow was cast off and Cheesman, with the few remaining pints of petrol, was able to taxi back to the *Albatross* under his own power. Leaning over the guardrail, Captain Brittain was greatly relieved as he saw the Walrus, spurting water from sprung plates, hoisted inboard at long last.

The sortie had lasted nearly twenty-four hours.

# Author's Notes

1. It has not been possible to establish the exact times at which the various events occurred from the documents and personal accounts from which this story has been compiled; it was not always clear whether zone or G.M.T. times were being quoted, even official records not discriminating on this point. An arbitrary choice has therefore been made to fit the sequences and movements.

2. Out of a total of rather more than 300 officers and men, 8 out of 91 of the ship's company were lost, including the Chief Engineer, Mate and Fourth Mate, and 15 ratings of the naval draft, a remarkable survival list in the circumstances.

regarding the major event that forms the kernel of this account. Who knows what different turn of events might not have resulted had the sight of a group of ships conveyed more to them at the time than just three more enemy cruisers, of if their sighting report of this event had been treated with more importance by the recipients in *Gloucester*. The famous battle in which this incident occurred, at a period of the war when we looked anxiously for anything on the credit side, has since been dissected, debated and refought many times, but as we are treating the Walrus's part *in vacuo*, the event will be recorded as it occurred, briefly commented on in the light of hindsight and then—we shall continue to follow the fortunes of *Alice II*.

The Gloucester (Captain H. A. Rowley) had been seeing a lot of excitement since joining the Eastern Mediterranean Fleet from the Indian Ocean. On the 25 March, 1941, she was oiling from the tanker Pericles in Suda Bay, and on the other side of the tanker was another cruiser, the York. The harbour, its elongated expanse of deep water opening to the east, lies on the north coast of Crete, the ancient town of Canea hard by the head of the bay; and on the sheltering slopes of the hills on its three sides hang small hamlets and olive groves. Quiet and remote in peace, barely known to the outside world, this war was rudely to tear away the gentle mantle of anonymity and make its name as famous as Gallipoli. Already a refuelling base of great value to the fleet, it was as yet imperfectly defended against attack from the air and with inadequate boom-nets to keep out the marauder from the seanot, as it happened, that sufficient resources were ever to become available before it was too late. Just as dusk fell, an Italian reconnaissance aircraft flew over, the harbinger of a daring attack by explosive motorboats at four o'clock in the morning. This was the attack that so severely damaged York, while still alongside the oiler, that she eventually had to be beached and her ship's company taken off, subsequently becoming a total loss as the result of repeated air attacks. Pericles was also damaged but, although losing a lot of oil, she remained operational.

Gloucester had fortunately completed oiling just after dark, had cast off and anchored nearby, thus avoiding being directly involved. Nevertheless she had been having trouble with her port outer propeller shaft bearing and had recently been forced to run on three turbines with the defective shaft braked. This handicap was perhaps not to be wondered at; apart from much high speed steaming and violent manœuvring during high level and dive-bombing attacks by Ju. 88s

### CHAPTER FOURTEEN

### A CRATE NAMED ALICE

IT HAD LONG been the custom of the Services not to impart more information than was considered necessary to junior officers, and of course less to ratings or other ranks; certainly in regard to strategy, and sometimes where tactics were concerned even when battle was imminent. 'Theirs not to reason why . . .' said Tennyson of a famous occasion. This was not a question of revealing confidential matters; even the Top Secret movements of the enemy become commonplace knowledge to those concerned when action is joined. Apart from the question of morale and treating men as intelligent beings, this attitude was bound on occasions to defeat its own ends; for who is to say what vital bit of information might not be withheld or action not taken because the observer was not in possession of sufficient facts to assess the significance of what he saw or heard? Was not a tank battle fought in the Western Desert when manœuvring orders were given in code to our side, to the frustration of all but the enemy? The course of some battles might have been altered for the better had this policy been otherwise. The Navy was no exception to this rule in the early stages of the war, but the benefit, as well as the justice, of keeping all informed of impending events or of what was actually taking place soon began to be realized. It then became not uncommon for someone (the padre, for instance) to be detailed to give what almost amounted to a running commentary in the middle of an engagement, if this were possible; thus the stoker in the engine-room and the ammunition hand in the magazine, deep in the belly of the ship, often knew as much of what was happening as their shipmates in the spotting top or on the bridge. Certainly many captains and commanders eventually came to give periodical resumés to their ship's company of the progress of the war, even of the ship's own future movements and intentions when these could not be compromised, such as after leaving harbour.

This story of a Walrus from the cruiser *Gloucester* will therefore be related as if in a vacuum, for the aircrew were not previously made aware of what was impending in those months of 1940-41, particularly

and Stukas, which the Germans had been mounting with increasing force and ferocity, the ship had by no means come through unscathed on these other occasions. On the 8 July of the previous year, for example, she had been hit by a bomb which had most tragically caused a large number of casualties, killing in one blow, among other personnel, four key officers—the captain, commander, first lieutenant and the navigating officer. The result had been that at the Battle of the Calabrian Coast the next day, the acute shortage of executive officers, who were having to work 'watch and watch,' precluded the two Walruses being manned for spotting duties. The ship carried a complement of three aircraft, *Alice* (L2299), *Henry* (L2298), both named after the royal Duke and Duchess, and, for reasons that now remain obscure, the reserve was called *François* (2297), the names being emblazoned on the bows.

On another occasion, early in January when Operation 'Excess' was mounted to run an east-bound convoy through the Sicilian Narrows, Gloucester was rejoining the fleet in company with her sister-ship Southampton, after being diverted to Malta as escort for the minedamaged destroyer Gallant, when twelve Stukas suddenly screamed down at them out of the bright eye of the noonday sun. The ships, unequipped with R.D.F. warning, had been taken almost completely unawares. Southampton was hit twice and set so heavily on fire that her crew had to be taken off and ferried across to Gloucester by the destroyer Diamond. Gloucester had then sadly to dispatch her consort to the bottom with a torpedo. But she, also, had been hit; first by a bomb which passed right through the roof of the forward director control tower, then penetrating all bridge decks until it came to rest in the canteen flat, most luckily failing to explode; secondly, splinters from a near miss abreast the starboard hangar punctured the ship's side. The casualties from this attack on her amounted to one officer and eight ratings killed and fourteen ratings wounded.

The attack had been so sudden that Instructor Lieut.-Commander Cooke (who, incidentally, had been trained as a reserve aircrew observer) was abruptly wakened when trying to catch up on some lost sleep. All he became violently aware of from his bunk in the meteorological-cum-plot office below the bridge was a shattering noise of ripping metal, splintering woodwork, a gap in the deck beside him and a blizzard of whirling papers. 'Tubby,' he said afterwards to Lieutenant H. J. F. Lane, the senior Walrus pilot, 'I was frightened out of my wits.'

Alice was airborne at this time with the junior crew, but due to the absence of radar warning, it was considered too great a risk for the ship to slow down and recover her. She was accordingly ordered to ditch alongside Diamond, who then took off the crew (Lieutenant E. D. J. R. L. Whatley-the pilot being a natural target for chaff with those initials-Sub-Lieut. Starmer and Leading Airman Foster). So, after nearly four hundred hours of faithful service, Alice also had to be sent to the bottom, this time by the destroyer's pom-pom shells. Henry, stowed in the starboard hangar, likewise proudly wore battle-scars as a result of that day's work-for bullets from a Stuka's front guns had ripped through her elevator and tailplane. Francois, who had earlier been put ashore for safer keeping at Aboukir, could not be called upon for he, too, ironically enough, had fallen victim to bomb splinters during an Italian raid on the airfield. So Tubby Lane had, on return to Alexandria, to take over a new aircraft, P5668, which at once became Alice II.

It was no wonder, then, with all those violent stresses and strains, that Gloucester had become painfully aware, on that March night in Suda Bay, of her limp. She was accordingly ordered to the Piræus to effect repairs, sailing at dawn on the 26th and there joining the three 6-inch-gun cruisers of Vice Admiral Light Force (V.A.L.F.), the Orion, flying the flag of Vice Admiral Sir H. D. Pridham-Wippell, Ajax and the Australian ship Perth. If war had often meant long weeks, even months, of monotonous routine patrols of the oceans of the world for some ships, that didn't apply to those in the Inland Sea during those hectic years when Sir Andrew Cunningham's fleet was strained to the limit. Gloucester's engine-room staff, calling on such meagre resources as the port offered, had barely set to on the strained shaft when an urgent signal was received ordering V.A.L.F. to sail his force next day and rendezvous with the main fleet thirty miles south of Gavdhos Island the morning after, a point some 230 miles away. Exerting even greater effort, the 'plumbers' freed the bearing and got the shaft recoupled to its turbine at last, enabling the ship to sail on time.

At 07.00 on the 28th, then, the four cruisers with their destroyer escort found themselves at the appointed rendezvous south of Crete. It was a crisp, if hazy, spring morning, and as the eastern horizon brightened, tension started to relax, for ships' companies had been closed up at quarters for the routine precaution against dawn action. The watch below in *Gloucester* was stood down to enable the men to wash, change out of 'night clothing' and get a welcome but hurried breakfast. Lane, who had recently been promoted to lieut.-commander, went below at 07.30 mentally debating whether to have breakfast first or a quick wash and change. He decided on the former and sat down at the ward-room table. A freshening up may always be desirable, but food, when you don't know how far away the next meal might be, is a far more prudent choice. He had barely reached the toast stage when rattlers and bugle notes sounded over the loudspeakers, in dissonant chorus, their imperative call to 'Action Stations.'

There is, to the sailor, only one more urgent, pulse-throbbing summons on the bugle, the call to 'Repel Aircraft'—staccato, almost onomatopeoic notes with which the composer has brilliantly caught the noise, with just that degree of urgency in it, of boots clanging madly on the treads of iron ladders. Lane was outside the ward-room door even before the repeat call had started. Although it had not forewarned an air attack, he went first to the catapult to check rapidly that *Alice II* was all ready to go before continuing his sprint up the ladders to the bridge. There he found his observer and flight commander P. Milner-Barry, already taking swift notes of the information coming in. Three or more ships had been sighted bearing down from the north-eastward; soon they resolved themselves into three large and three small vessels; then they stood out quite clearly as 8-inch cruisers screened by destroyers.

V.A.L.F. knew himself outranged, yet it was essential to maintain contact until our main fleet arrived on the scene, and that obviously entailed a fight. Lane turned and retraced his steps, leaving his observer to await final instructions. Just as he hauled himself over the edge of *Alice's* cockpit the enemy opened fire. As the inertia starter was being cranked, the first salvo crashed into the sea, giant celery stalks sprouting high in the air, short and about a thousand yards to port. The Pegasus burst into clamourous life as the cradle was run back to the down-wind end of the trackway. The Italian shooting was good; very soon their salvos were straddling. V.A.L.F. was leading his ships in line ahead, *Gloucester* last, and as the next salvo fell, it certainly looked as if they were concentrating on her. She started to 'snake the line' to avoid such unwelcome attention.

Lane could not hear the whine of the overs through the roar of the engine, but he suddenly noted with amusement the catapult and nearby A.A. guns' crews ducking in unison. A head bobbed up beside him; young Foster, the T.A.G., had come forward from inside the hull to

see what was going on. 'I strongly object to being used as a target for Italian gunnery officers,' the pilot bawled in the other's ear. 'Well, sir,' came the reply, 'it's a change from their bloody airmen.' Just then Milner-Barry hurried down and climbed aboard. Now, *Gloucester* worked the system whereby the pilot gave the actual executive signal to 'fire' to the engineer officer in charge of the catapult, and this faced Lane with something of a problem at that moment. The direction of launch was straight towards the enemy; if he misjudged timing the fall of a 'short' he might find himself hurled right into the waterspout. Just as he dropped his hand, splashes did in fact spring up short of the ship, but fortunately the spray had almost subsided by the time *Alice* arrived over the spot. A lucky break.

Keeping up full boost, Lane swerved away, climbing *Alice* at her maximum rate; then, cutting the boost, he went on up at full throttle to eight thousand feet. He steered to put her slightly to one side of the line of fire so that Milner-Barry would have a clear view for spotting fall-of-shot. As the Walrus was in mid-climb, pilot and observer saw the grey belches from the triple-gun turrets of their ship as she opened return fire. A pause, then the salvo fell, beautifully spread but, alas, too short. Two more salvos from her guns also fell short and then, realizing 6-inch calibre was no match for the Italian's 8-inch at that range, she ceased fire. The enemy, for some reason, started to alter course away, and V.A.L.F. brought his force round to follow.

It was not long before those in Alice realized why the action had been broken off. Milner-Barry nudged Lane, pointing beyond and to the east of the retiring Italians-there, looming up out of the haze, was another enemy force of three large cruisers and four destroyers. The W/T set was tuned to the spotting frequency, its messages were therefore being relayed direct to the gun control officer in the ship, and on this wave the observer rapidly tapped out his sighting report. Gloucester, for reasons which never fully came to light later, failed to pass this vital bit of information on to the admiral in Orion. And this was the important event referred to earlier in this story. It might be argued that knowledge of the presence of this second force would not have, in the end, altered the course of the battle that had only just begun; it could equally well be argued that nothing is certain in war until tested. But what could have been put forward more convincingly was that, had the full importance of the events impending or expected been 'passed down the line' from the top, the crew of Alice might well have

been briefed differently. As it was, they had been instructed to spot; they accordingly remained ready to continue that duty after having reported the new danger. However, had they, too, been made aware of the possibilities of a major drama developing, it is almost certain, despite instructions obviously devised for another contingency, they would have used their own initiative, informed the ship that they intended switching to the reconnaissance frequency and would shadow the enemy forces, the second of which was still apparently out of sight from observers at sea level. Unknown to them at the time, the cruisers first engaged were the *Trento*, *Trieste* and *Bolzano*, while the newcomers to the scene were the *Zara*, *Pola* and *Fiume*, also 8-inch-gun ships. And this was the beginning of the great action, continuing all that day and into the early hours of the next morning, that was to develop into the Battle of Cape Matapan.

Lane sighted a Ju 88. He therefore had to use his eyes in all directions; watching for a possible attack while trying to maintain his position over the creaming wakes of his own ships in the blue sea below. In the meanwhile time was passing, petrol was getting low and the ship was obviously in no position to recover them. Then came a message giving the estimated position of the battlefleet and ordering the Walrus to land on the carrier *Formidable* and refuel. Lane turned on to the course Milner-Barry worked out, but on reaching the estimated area, nothing could be seen in any direction through the hazy air. A square search was carried out; then another.

They were now faced with a dilemma; their position was about halfway between Suda Bay to the north and Tobruk on the African coast to the south, a hundred miles to either. Lane was uncertain of the amount of petrol left; he had done much full-throttle flying and both petrol gauges were showing nearly empty, and he was not yet as familiar with *Alice II's* thirst as he had been with her predecessor's. However, basing an assessment on the latter's rate of consumption, he reckoned there was an hour's fuel left, perhaps less, at economical speed and height. Tobruk lay downwind; they therefore decided to head that way and hope for the best.

Hardly had they settled on course, gradually dropping height, when they sighted a lone destroyer, unmistakably one of the old 'V-and-W' class. It was the Australian *Vendetta* who had first seen action in the First World War and, because age was telling on her engines, had not been able to keep up as one of V.A.L.F's screening force, and she had accordingly been ordered earlier on to break away and join the battlefleet. Milner-Barry was just about to call her up by Aldis and ask for the battlefleet's position when he was anticipated by the destroyer getting in the same message first! At least this partly resolved *Alice's* problem if she had to ditch. Informing the other of their own predicament, they added that they would use her as a datum point and start searching again. On one of these searches Lane suddenly saw coming straight towards him a small flight of S.79s, the distinctive three-engined aircraft the Italians used for torpedo/bomber/reconnaissance purposes. 'When both lights you see ahead . . .' Lane muttered hopefully to himself, and he altered course 20° to starboard. Obeying the Rule of the Road in true nautical (or aeronautical) fashion, the Italians did likewise, and they solemnly passed each other, port to port, at a safe distance.

At last, on the far end of a search, the battlefleet was sighted, too far from *Vendetta* to risk going back to inform her and then retracing their steps to the *Formidable*. Feeling rather guilty, Milner-Barry flashed the Aldis urgently in the destroyer's estimated direction, hoping his message would be understood, and then *Alice* headed straight for the carrier and asked permission to land on. They were told to wait.

The wind was blowing from the opposite direction to that in which the fleet was pressing on with all speed towards V.A.L.F. and the fleeing Italians; delays enough had already been incurred in flying off the first strike of torpedo-bombers, and a further hold-up for one Walrus was unnacceptable. It seemed only minutes now before the Pegasus engine would cough its last, so Lane climbed gingerly to two thousand feet, selecting *Janus*, one of the destroyer screen, as the ship alongside which to ditch if need be. They were actually in the process of preparing for this emergency when they saw the strike aircraft return and the carrier turn into wind. *Formidable* eventually flashed 'Land on' at *Alice*.

So urgent was the fuel situation now that Lane went straight for the deck in a glide, keeping only sufficient throttle open to give him warning of an engine cut so that he would have time to sheer away and ditch instead. Without waiting for the final 'Affirmative,' not recalling later whether he even had to use his engine for the last stretch over the round-down, he put *Alice* safely on deck and rolled to a standstill.

An hour later, having snatched a hasty meal of sandwiches, the crew were airborne again, heading back to their parent ship. Instead of s.w.-11 being ordered to carry out reconnaissance, as eagerly expected, Gloucester instructed them to contact the destroyer Juno, patrolling the Kithera Channel which lies between Crete and the Greek mainland, and pass fresh instructions to her. They were then to proceed to Suda Bay. It took some time to find their objective in the decreasing visibility of evening; having done so and passed the message, it was close on sunset by the time they touched down in Suda harbour. In the process of taxi-ing to her buoy, Alice became liberally smeared with thick, heavy oil, aftermath of the damage to Pericles.

The A.A. cruiser *Carlisle* sent a boat over to them with a message from her captain requesting the latest progress report of the battle. The ship had been listening-in all day on every available channel and keeping a plot of all ships' movements, so *Alice's* officers, having seen the *Formidable's* plot, were able to bring them up to date. They were then given a welcome meal and the 'freedom of the wardroom chairs' for the night. And that, for them, was the end of the Battle of Matapan —but not of their current adventures.

All day on the 29th they waited vainly for orders. As the *Carlisle* had in the meantime sailed, that night was spent at the H.Q. Mess of the York and Lancaster Regiment, sleeping on the floor of a commandeered house, which in itself would not have robbed them of sleep but for the stertorous snores of the Second-in-Command from his camp-bed in the same room. Daylight came but brought no *Gloucester*, so they decided to fly back to Alexandria via El Adem, near Tobruk, and Mersa Matruh. It took some time to locate a boat to take them out to *Alice*; then Lane found a fault when doing his before-flight inspection—the inboard side of the starboard aileron was rubbing against the wing. He carefully checked the hinges and control rod, finding them correct; in any case he could do nothing, lying out there at the buoy, and the aircraft was otherwise serviceable.

Thus it was about noon before they actually took off on the threeand-a-half hours' flight to their first refuelling stop at El Adem. The desert outpost handsomely provided them, in good British fashion, with roast beef sandwiches and a whisky-and-soda. The jamming of the aileron had progressively worsened on the flight over, but there was no time for a thorough check if Mersa was to be reached before dark. Off they set again, the twisting coast road stretching below them like a thin grey crack along the desert's edge, dust clouds marking the passage of transports hurrying to and fro. Ports that were already place names in history came in sight and disappeared under the port wing—Bardia, Sollum, Sidi Barrani—and then, as night was setting in, their next stop. As Lane made his approach he had to use both hands on the wheel to overcome the jam. However, *Alice* thumped softly and obediently down on the sandy airstrip, trailing the inevitable dust-storm in her wake as she taxied to a parking spot.

Mersa Matruh had been a popular seaside resort in peacetime for the well-to-do of Cairo and Alexandria, now it was thronged by all three Services engaged in less playful pursuits. They put up for the night in the transit mess, and the smoke-filled air was only less thick than the rumours about the 'naval battle.' Wild estimates of casualties and the number of ships sunk—on which side was not clear—were being bandied about, so that the *Gloucester* officers were beginning to fear for the fate of their shipmates and ship, of whom they had heard not a reliable word now for over two days.

Early next morning, the last of the month, Lane went along to prepare *Alice* for the last lap to Alexandria. The Walrus, as has been remarked on more than once before in this book, is no oil painting, especially when poised in ungainly attitude on land; but an oil painting of a different kind certainly met his eyes. He winced almost painfully as he caught sight of her standing there, so very unlike Ruth 'amid the alien corn.' To her undercoat of thick oil there now clung a stubble of reddy-brown sand, giving her the appearance of some ill-shaved apparition from a surrealist world. Poor *Alice*!

Lane had brought with him an R.A.F. rigger, so he hastily turned to the main job in hand. When the control locks were removed, he found the recalcitrant aileron had become permanently jammed; no force on the wheel alone could move it. It was obvious that some strain had put the rigging out of true. The pilot pondered on what could be done—and then a bright idea occurred. He leapt from the cockpit and asked the rigger for his hack-saw. With concern growing visibly in his eyes, the latter watched the mad naval officer approach the aileron and proceed very carefully to saw a thin sliver off the jamming edge. The aileron moved freely; but the expression of horrified remonstrance on the rigger's face eased but slightly when the pilot said he would accept full responsibility by signing the inspection form.

Alice and her crew were soon airborne after that, and it was not long before the thin pencil of Ras-el-Tin lighthouse was sighted, and to the right and beyond lay the fertile delta of the Nile, its soil a dark background to the intervening desert. In a short while they were circling

the Seventh Wonder of the World in Alexandria harbour, but what was to them a greater wonder at that moment was the sight of their ship—*Gloucester* lying safe and undamaged at a buoy.

Never were there such expressions of relief from both sides; for the ship had also had her quota of rumours, started by a signalled enquiry to Suda which had brought the reply, without subsequent explanation, that no Walrus had landed there on the 28th. Perhaps not least of their delights at the homecoming was that they were able at last to 'change out of night clothing', clothes they had donned four nights previously; that and the long luxurious soak in a hot bath.

That is almost the end of *Alice II's* story, for both her pilot and observer were relieved shortly afterwards to take up other appointments in home waters. The eventual end can, however, be related in two brief postscripts, one, alas, tragic. Late on the afternoon of the 22 May, when the rising crescendo of the battle for Crete was reaching its screeching peak, the dauntless *Gloucester*, after fighting a ceaseless duel since the early morning, in company with the cruiser *Fiji*, was bombed to a battered halt in the Kithera Channel, her decks a shambles, fires raging, all A.A. ammunition expended. The *Fiji*, in little better shape and reduced to firing practice shell, was forced to steam on with her two destroyers, only to meet a similar fate a while later. Destroyers of Captain Lord Louis Mountbatten's flotilla returned to the area after nightfall and rescued over five hundred of the *Fiji's* complement, but when search was made for survivors from *Gloucester*, not one was found on the dark waters.

Finally, when corresponding about the details of this story, I was checking through my logbook and discovered I had flown Walrus L2298 on several occasions during June of the year in question. The late Captain Lane was therefore delighted to learn, over twenty-two years later, that, either because 'she' was airborne at the time of the final attack or else had been left ashore for some reason, *Henry* at least had survived.

#### CHAPTER FIFTEEN

# FLOWER POINT LILY TEN

OF ALL THE raiders in the last war, the one that took the greatest toll of Allied shipping was the *Atlantis*, commanded by Captain Bernard Rogge. The one-time ss *Goldenfels*, a seventeen-knot cargo liner of 7,860 tons, sailed from Kiel on a far from abortive mission the night before All Fools' Day, 1940. To the German High Command she was Ship 16; to the Admiralty she came to be plotted as Raider C.

Her apparently innocent exterior, a guise changed many times, hid six  $5 \cdot 9$ -inch guns, four torpedo tubes, mines, cannon and other automatic weapons. Perhaps her greatest asset, however, was the reconnaissance aircraft in her hold which were again and again to prove their worth—finding prey, warning of the approach of danger. Originally she had been equipped with two He 114 twin-float high-wing monoplanes, but they proved unsatisfactory for open sea work, so these were replaced by a far more reliable Arado 196 in April, 1941. The loss of that 'eye' was to be the greatest single factor contributing to her eventual destruction. But that end was far off; she was to range far and wide, back and forth across the Atlantic, Indian and Pacific Oceans without a break for nearly twenty months. During that time she averaged more than a victim a month, sunk or taken prize; twentytwo to be exact, totalling 145,697 tons.

Luck, good or bad, plays a part in all big adventures, but more than good luck (*Atlantis* luck, her crew came to call it) accounted for this raider's phenomenal success, hunted as she was from below, from the surface, from the air. Captain Rogge was no Nazi fanatic; a strict disciplinarian, an essential requirement for the success of such an operation, he was a naval officer of the traditional German school, and many of his prisoners later testified to his humanity. He did what he did almost invariably with the minimum force necessary to achieve his objective. There were probably exceptions, towards the end, not wilfully perpetrated but induced more by long-endured stress and strain, wondering how much longer *Atlantis* luck would hold out.

The major reason for Rogge's success undoubtedly lay in the extreme care with which he planned his moves before and after each attack, together with a meticulous attention to detail. He changed his ship's disguise three times, for instance, before she was even clear of German waters so that possible enemy agents ashore would be misled. Small details, such as a perambulator containing a doll, which a 'woman' would wheel solemnly along the deck if need be (and need did); the deck cargo 'packing cases' which hid the guns not only had their contents painted on the side, but the lettering was partly concealed by a tarpaulin in a natural manner; these and other deceptions were sedulously fostered. Whenever opportunity offered, Rogge personally inspected each new disguise from outboard, circling his command in the motorboat, noting the authenticity of each detail from truck to waterline. Neither were the disguises he adopted chosen at random; the assumed rôles fitted known facts of neutral vessels which might be expected to be in the same area of operations if at all possible; a bluff which worked more than once to get her out of a tight corner. As we shall see, this stratagem prolonged even the final drama, raising tension to its highest pitch on both sides before her bluff was eventually called.

This is not intended to be an account of the raider's career but of her end. Nevertheless, it is of interest to mention one major incident prior to her sinking, for it left a clue which, seven months later, was to provide an important piece of evidence towards positive identification.

On a pre-war visit to the Royal Naval College at Dartmouth, Rogge had noted the presence of two elderly Bibby liners in the harbour which, he learnt, were used as troopships; the particularly distinctive features of each which remained in his mind were the four tall masts. On the 16 April of the year following his successful break out into the Atlantic, the masthead look-out reported a ship on the horizon, a ship with four tall masts. Rogge adopted one of his favourite methods: to shadow throughout the night and attack at dawn. Here was a prize, he calculated, of special importance. She could be operating her normal rôle as a troopship, she might even be an armed merchant vessel, a naval auxiliary; in either case, reasoned Rogge, she would be well armed and therefore an adversary to be treated with extreme caution. At dawn the Atlantis attacked without any warning whatever. Her third salvo completely wrecked the wireless cabin-but not a shot was fired in return. Instead, to Rogge's consternation, he saw women and children crowding the rails as the lifeboats were lowered. This

was the famous incident which caused an international stir when the news became known, for the ship which Rogge had seen before the war had, in the meantime and unknown to him, been sold to Egypt, a neutral country at that date.

The unarmed Zamzam was carrying among her passengers over a hundred Americans, also neutrals at that stage, and among the survivors who were accommodated aboard Atlantis was David Scherman, a Life photographer. When Rogge realized his mistake, he promised to transfer the passengers either to a neutral vessel or a neutral port at the next opportunity. In the event, he trans-shipped them to the blockade runner Dresden with instructions to execute the latter plan; but some days later, however, that ship was in fact ordered by the Nazis to run for Occupied France. The point of recounting this episode is that David Scherman managed to smuggle back to his offices in New York photographs he had taken of the outside of the Atlantis which, together with a detailed report, were published in the 23 June issue of his journal. It was a major war 'scoop' for Life, and it was also to play an important part in the destruction of its subject.

The sinking of Zamzam in the South Atlantic was followed by four British ships in the same area, which had consequently become extremely dangerous waters for Raider C, for the hunters increased in numbers whenever the hard-pressed Admiralty could spare them from other operations. But the long days at sea were at last drawing to a close for the weary ship's company; *Atlantis* was given permission to return to base. The ever prudent Rogge, however, chose the long haul home, hoping for the hornets to disperse from the nest he had created in the very waters he must pass through if he wished to make a German port.

He accordingly sailed east-about through the cold waters far to the south of Australia, took one more prize in the Pacific, rounded the Horn and once more entered the South Atlantic—to be given another assignment. Against his better judgement, he was ordered by higher authority to refuel U-68 in a highly dangerous zone. His furious protests, and those of the U-boat captain, were acknowledged only to the extent of modifying the rendezvous to a slightly less conspicuous position, but still within striking distance of the U.K.–Cape Town convoy route. The operation was hastily and thankfully completed. *Atlantis* luck was still holding. To try it further, she was barely under way again when she was instructed to refuel U-126 in position Flower Point Lily Ten.

That, then, was the man and the luck that Captain R. D. Oliver of the *Devonshire* was up against when his Walrus returned ahead of time at 07.10 from her dawn reconnaissance patrol on the 22 November. Sub-Lieut. A. E. Jeffard, the observer, went straight up to the bridge to make the report which the enforcement of W/T silence had prevented him from making over the air; a suspicious merchant ship in position 4° 20' S: 18° 50' W. It had been *Devonshire's* practice, when on the way north from the Cape without a convoy to escort, to search out areas around the islands of St Helena and Ascension, for meteorological records showed that these parts enjoyed long periods of calm. Had this at last paid off? Oliver was highly suspicious; *Devonshire* accordingly altered course towards and increased speed to twenty-five knots.

It so happened that, after a reconnaissance off St Helena two days previously, the Walrus's propeller had been damaged during recovery when the observer's cap blew into it; and on the following day a blade of the replacement propeller had again been damaged, this time when a seaman threw a heaving-line into it, thus leaving no serviceable spares. The propeller now fitted to the Walrus had a patch on the leading edge of one blade consisting of plastic wood and copper gauze, which was perforce so rudimentary a repair that balance was upset, causing severe vibration. The aircraft had therefore been declared unserviceable except for action requirements, and Lieutenant J. H. McWhae, the pilot, had thus to nurse the engine very carefully on that morning's flight.

At 08.09 masts were sighted on the horizon and the Walrus was launched again, this time carrying photographs issued by Naval Intelligence of all known German raiders. From the account of this episode in Mohr and Sellwood's book, no mention is made of the Walrus having been sighted on the dawn patrol; indeed it will be obvious that she could not have seen. The raider's Arado seaplane had capsized on landing the previous day and had been lost; so no air watch was available as was customary during a refuelling operation. The first warning the raider got, therefore, was from her look-out: 'Feindlicher Kreuzer . . . Feindlicher Kreuzer in Sicht!' The sighting was made six minutes after *Devonshire's* own, and the look-out in *Atlantis* also reported seeing the Walrus being launched. The enemy had hitherto been so completely at ease, that Kapitan-Lieutenant Bauer, the U-boat commander, was actually aboard *Atlantis* taking a glass of sherry with Rogge when the alarm bells clanged. The second-in-command of the U-boat cast off warps and pipe lines and dived so rapidly that he left his irate captain behind.

McWhae arrived on the scene just too late to see the indisputable evidence vanish below the surface in a trail of bubbles. The game of bluff now began. 'The Walrus,' Mohr said in describing the tense situation, 'continued to encircle us, an infernal buzzing machine; an inquisitive wasp with poison for us all. But still we were instructed to hold our fire. Our motor launch came up to us like a frightened chick to its mother . . . briefly, (Rogge's) plan was to try one last desperate bluff. "We'll play for time," he said. "We will pretend that we are British." A fantastic notion? Not a bit of it. There was just a chance that the cruiser, puzzled by our bluff, might come in closer to investigate, in which case we could at least attempt something with our torpedoes. "We've got the U-boat as well," said Rogge.'

At the distance the *Devonshire* was, during those frantic moments in the raider when the U-boat was casting off, she naturally could not make out details. Nevertheless, Oliver became highly suspicious of the 'merchantman's' appearance and subsequent behaviour after the mutual sighting. In his possession on the bridge, to supplement his intelligence reports and the faithful 'Talbot Booth,' was a carefully preserved copy of the *Life* article. Well appreciating the possibility of U-boats, *Devonshire* reconnoitred at twenty-six knots on a zig-zag course, varying the range between twelve thousand and eighteen thousand yards, striving to get a broadside view of the other. Raider C, for her part, turned a complete circle, altering course and speed in an endeavour to foil that attempt.

Devonshire flashed 'NJD' on her 18-inch lamp. In response the other ran the 'L' flag up to her yardarm meaning, in the International Code, 'Stop. I have something to communicate to you.' A little later Rogge, perhaps realizing he had overstepped the mark in naivety, played for yet more time against the odds he knew would be overwhelming once his identity was established. He hoisted 'MJ' (My engines are stopped'). To none of Oliver's signals was a direct answer given.

A rapid decision was not simple. The suspect might just conceivably be a neutral ignorant of war procedure; on the other hand she might be what he was then strongly becoming to suspect she was, a raider; yet aboard her might be many prisoners, including women and children, possibly British at that. (There was in fact only one American

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casualty, from the Zamzam, aboard at that time.) He decided to try and force the issue by provoking the other into more positive action.

At 08.37, twenty-eight minutes after first sighting, *Devonshire* fired two rounds from her 8-inch guns, spread ahead and astern of the target, hoping that his opponent would either return the fire or else abandon ship and thereby save useless bloodshed. But the wily Rogge, outgunned and out-ranged, tried a last desperate trick: he stopped engines, put his helm hard over to keep himself end on, and at the same time he flashed the name *Polyphemus*, using a captured British Aldis lamp to do so (another example of the careful attention to detail, which even in those last minutes he gave thought to). On top of that he sent out the emergency W/T raider call on International distress frequency, 'RRR ... RRR ...' together with his position. Surely this ruse, Rogge hoped, would induce the cruiser to close within range of his guns or torpedoes—or within reach of the somewhere lurking U-boat. The bowstring of tension aboard *Atlantis* was drawn shoulder taut.

But Oliver was falling into no such trap (a trap, almost identical in detail with that which had led the *Sydney* to her destruction at the hands of the *Kormoran* only three days earlier, but a tragedy at that date still unrevealed). Oliver had also noted two important errors in that distress call: no identification letters had been included and the 'Rs' had not been made in groups of four. A quick check through the records showed that a ship of that name, and remarkably similar in appearance, had sailed recently from Balboa in Spain and could possibly be in that area; but the records also showed that the real *Polyphemus* had a 'counter' stern. Oliver radioed the C.-in-C. South Atlantic (Admiral Sir Algernon Willis) at 09.05 asking if this vessel could be what she claimed. He then ordered the Walrus to check the suspect's stern.

McWhae and Jeffard had in the meantime been continuing their scrutiny, flying low round and round the suspect trying to pierce the disguise. Both were by then equally sure they had a raider and not a supply ship under surveillance, for there were, apart from the tell-tale oil drips spreading over the sea from the hastily hidden pipelines, and the motorboat in tow alongside, large packing cases in suspiciously sited positions. As soon as he got his captain's signal, Milsom, the T.A.G., tapped out Jeffard's reply at 09.31, 'Cruiser stern—hull similar to *Atlantis.*' Three minutes later naval H.Q. also made their reply, a positive 'No (repeat) No.' At 09.35 *Devonshire* opened fire with full broadsides at sixteen thousand yards.

The *Atlantis* went full ahead and broke her battle ensign at the peak as shell splinters and spray from the first ranging salvo fell around her. She turned away under full helm, laying a heavy white smoke-screen from her chloro-sulphonic plant which completely surrounded her in four minutes. The Walrus climbed to spot fall of shot. The fourth salvo hit No. 2 hold and started a fire. Rogge steered south-east, still hoping to draw his opponent across the U-boat's path. To return fire was useless, so he concentrated on getting his men away in the boats under cover of his smoke-screen.

Oliver was not to be drawn. With the fall of shot corrections from the Walrus, salvos continued to find their mark; the rate of sustained fire was tremendous, and of thirty-two broadsides A and B turrets never missed a salvo. At 10.02 the *Atlantis*'s magazine blew up; a further explosion followed ten minutes later; at 10.16 Raider C sank below the waves near the point marked Flower Point Lily Ten on the war charts of the German Admiralty.

The Walrus had been airborne for two hours and Captain Oliver's main concern now, in view of reported severe vibration from her, was for his aircraft. A failure might cause a forced landing at a crucial moment in a highly dangerous area. He could see lifeboats picking up those in the sea, and he guessed that U-boats would eventually surface or arrive to rescue the survivors. Given a fully serviceable aircraft, it would have been worth while arming her with depth-charges against the almost certain chance of attacking a rescue U-boat. As it was . . .

Devonshire headed into the offing and recovered her Walrus under way. It was a good day's work done.

So far as the Royal Navy was concerned the greatest raider scourge of the Second World War had been eliminated. So far as Captain Rogge was concerned, with ten dead but over 300 survivors, their personal luck was still holding, for U-126 eventually surfaced and took the boats in tow. The hard decision was then taken to try the long journey westwards towards Brazil, 900 miles away, hoping that aid would arrive in answer to the U-boat's signal without their having to endure the full horrors of the contemplated journey. In fact the Uboat refuelling ship *Python* made contact after Rogge and his men had suffered three gruelling days of broiling sun alternating with chilly nights. *Atlantis* luck again? The sequel was to follow.

In the latter half of 1941 the Germans had been preparing plans for a large-scale attack by U-boats on the South Atlantic convoys, for which purpose refuelling ships would be essential. The Admiralty, becoming aware of this plan, made special efforts to find the ships; it would be like looking for a needle in a haystack, but the attempt had to be made.

H.M.S. Dorsetshire, who had delivered the final coup de grâce to the Bismarck earlier in the year, was one of the ships involved in this hunt. Captain A. W. S. Agar, V.C., now in command, had realized the difficulties of searching such vast expanses of water, so he had, along with his brother captains in the Devonshire and other ships concerned, concentrated on those regions of relative calm referred to earlier. On the 26 November the ship sailed from Freetown to search one of those areas, 720 miles south and west of St Helena.

Excitement rarely falls thick and fast; this was another of the routine searches on which the ship had already spent nearly a hundred days during the last four months. This time she had also disguised herself as a German warship in the hope that, should she sight an enemy, valuable time might be gained in closing the range.

On Monday the I December, the Walrus, with Petty Officer Stamp and Sub-Lieut. A. N. Smith as pilot and observer respectively, had not long been dispatched on the second triangular search of the day ahead of the ship when the bridge look-out sighted the masts of a ship at 16.23. This was right in the suspect zone. *Dorsetshire* altered course towards and shortly afterwards saw a belch of smoke emitted by the other, probably indicating a sudden getting under way or increase in speed. Agar increased to 30 knots and the chase was on.

An attempt was made to recall the Walrus, low power transmission being used in the hope of it not being picked up by the suspected enemy. The action was successful in the latter respect, but the message was unfortunately not heard by the aircraft.

Unknown of course to those in the cruiser, the suspect was actually the *Python* with the *Atlantis* survivors still aboard. She had been engaged in refuelling two U-boats and supplying them with stores by ship's boats. The commotion which occurred among the enemy at such a time can well be imagined. For Rogge and his men it was like living through the same nightmare again, a deliberately delayed act of retribution by Fate, for as near as they could judge, here was the same three-funnelled cruiser seeking to complete an act of annihilation started nine days before. At 17.08 those in *Dorsetshire* sighted alongside the stranger what seemed to be a conning-tower; eventually small craft in tow of a powerboat were also clearly identified. While there seemed no doubt now that they had in their sights a raider or supply ship engaged in refuelling U-boats, Agar was faced with the same quandary as Oliver had been: what if the ship were full of British or neutral prisoners? No answers were received to repeated light or flag signals, nor did the other attempt to make an emergency raider report, which she would almost surely have done had she been other than an enemy in view of *Dorsetshire's* German disguise.

From a range of 12 miles *Dorsetshire* fired the customary warning shots, right and left, and then closed the range further, ready to open fire with all four 8-inch turrets, yet maintaining a zig-zag course at high speed because of the U-boat danger, a precaution well justified in the event because, although no one aboard her saw any tracks, one of the U-boats did in fact try a long chance.

The response to the warning shots was immediate. The *Python* was seen to stop and lower boats and a white smoke-screen started to billow around her. The latter action, as given in Mohr and Sellwood's account, was in fact due to a panic move, an unauthorized act on the part of a German seaman which infuriated his officers, who imagined that the cruiser might think they were making an attempt to escape and would thereby be provoked into opening fire in earnest. By this time, however, Agar was close enough to see almost exactly what was happening. It was not in his nature to cause unnecessary carnage among an already beaten foe who had offered no resistance; if they wished to scuttle themselves, then that saved him shot and shell for another day.

At 17.51 the enemy was seen to be on fire, scuttling charges detonating with heavy explosions a few minutes later. Almost exactly ninety minutes after her masts had been sighted, the *Python* sank. *Dorsetshire* turned her attention to getting her 'lost' Walrus back, homing her by radar and eventually picking her up under way shortly after 19.00. Within twenty minutes she was refuelled and launched again. Having lulled the Germans into believing he had left them with no further interest in the subsequent activities, Agar was intent on sending Smith and Stamp back to the scene of action to gather all possible information.

Although she swept in low out of the darkening sky, the Walrus was sighted just too soon for her to catch the two U-boats on the surface before they submerged, leaving the hapless survivors' boats

bobbing about in the swirling waters of the crash-dives. Defenceless, the enemy cowered as they waited for the blast of bombs among them, the feathery manes of raking fire. But that was not the aircraft's mission. Flying round at four hundred feet, observer and pilot took full note of what they could in the fading light—the two groups of boats, one packed with men and secured to a large red inflatable buoy, the other still in tow of the powerboat sighted earlier by the *Dorsetshire* and well-laden with stores obviously intended for replenishing the U-boats. The Walrus banked and set course back to her parent ship.

If it could be called so in the conditions they were undergoing, 'Atlantis luck', of a kind, still seemed to hold, even to spreading its mantle over the *Python's* men. Days of hardship were to be undergone, cramped in the hot confines of two submarines already with little enough comfort for their own crews, or else in the boats towed astern. Three weeks later a rendezvous was reached off the Cape Verde Islands, where four Italian submarines assisted with the final journey back to St Nazaire in Occupied France.

Although these actions might not have been comparable to more famous battles, their ripples were to extend beyond the immediately visible horizon. The preliminary plans of the German High Command to build up a major disruptive force had been brought to naught before it had properly started. Naval intelligence reports, the sifting of intercepted enemy wireless signals, the plotting of U-boat and supply ship movements from scant sighting reports—all these, meagre in content individually yet collectively revealing a trend when painstakingly fitted together in operations' rooms ashore, all these had set in train the counter movements of our warships. Although only two links in the chain had been knocked out, they had been sufficient to wreck the whole enemy operational machine in those waters.

#### CHAPTER SIXTEEN

# PQ 17

THE MOST DISASTROUS losses suffered by any of the long series of Arctic convoys by which the Allies kept the Russian supply lines open was that inflicted on PQ 17. The higher direction and over-all effects of that have been described in official dispatches and war histories. While this is the story of one Walrus and her crew on that ill-fated voyage, it is necessary to paint in something of the background the better to appreciate the violent spectrum of events into which she was literally hurled from her catapult late one summer evening.

Thirty-six merchant ships, many flying the American flag, and three rescue ships sailed from Hvalfiord in Iceland on 27 June, 1942. Three minesweepers and four trawlers accompanied them as close escort for the first part of the journey; six destroyers, four corvettes, two antiaircraft ships and two submarines joining soon after as the long-range escort. For reasons to be explained, this was one of the most important of these northern convoys; and in an endeavour to deceive the enemy, a false convoy had set out earlier but, ironically enough, it was never spotted as had been hoped. PQ 17 took the north-about route through the Denmark Strait and all went well at first; even though U-boats and search aircraft located it on the 1 July, attacks were driven off. Again, the next day, an attack by nine torpedo bombers was repulsed without loss to the convoy, while one of the attackers was shot down. With heightened spirit, the convoy pressed on, its projected route lying north-eastward between Bear Island and Spitzbergen-as far north as the summer ice edge would permit in order to maintain maximum distance from the Nazi air forces grouped in northern Norway.

In the meantime a further powerful covering escort sailed from Seidisfiord on the east coast of Iceland on the night of 30 June/1 July the 1st Cruiser Squadron, consisting of the 10,000-ton *London* (flying the flag of Rear Admiral L. H. K. Hamilton), *Norfolk* and the U.S. ships *Wichita* and *Tuscaloosa* and three destroyers. The Americans were part of the large Task Force 99 temporarily working with our

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Home Fleet. Between the Walruses and the American Northrop Kingfisher floatplanes there were sufficient aircraft to maintain a standing twenty-four-hour patrol, there being no hours of darkness to shield the convoy in those high latitudes at the mid-year. And on the 3rd, contact was made between cruisers and convoy.

As this was the first joint Anglo-U.S. venture of the kind, the Admiralty were anxious that no effort should be spared to give the fullest protection to so valuable a target; so, over and above the escorts mentioned, an even more powerful battleship and carrier force was disposed in the offing as distant cover. This force was under the direct control of the Commander-in-Chief, Home Fleet (Admiral Sir John Tovey) and included the U.S. battleship *Washington* (Rear Admiral R. C. Giffen). Their main object, however, was to try and intercept heavy units of the German Fleet and bring them to battle. It was a chance that had long been awaited by us, but now hope was high, for lying in the northern fiords was gathered the largest group of major units that the enemy had ever mustered for one operation: the great battleship *Tirpitz*, the pocket battleships *Scheer* and *Lutzow*, the cruiser *Hipper* and ten destroyers, all ready, as intelligence reports indicated, to sally forth against PQ 17.

The scene was thus set for a potential action of the first magnitude in the event, it was a long and bloody massacre that was to follow. This was undoubtedly brought about, as can be inferred from the naval historian's account in *The War At Sea*, by intervention from afar in the conduct of the operation by the commanders on the spot with dire results. It was to be another sorry reminder that long-range communication has its curses as well as its boons.

In the early morning of the 4th came the first casualty: an American merchantman was sunk by torpedo from a single enemy aircraft which penetrated through a break in the cloud layer. This was followed that evening by twenty-four more torpedo aircraft which, for the loss of four of their number, hit three freighters, two of which had later to be sunk by the escort. Battle had now been joined in earnest.

At 21.00 Norfolk launched P5706 for the routine three-hour patrol, the crew being Lieutenant R. Wignall, Sub-Lieut. G. Riley and Leading Airman Gibbons. Three hours? It was to be as many months before they were to see Norfolk again.

A mist, extending from about five hundred feet to within twenty or thirty feet of the surface, made for poor visibility, but the weather conditions were otherwise quite good now, as they were to remain, Wignall recalls, for the remainder of the trip. The patrol area lay ten to fifteen miles ahead of the mean line of advance of the zigzagging convoy; thither the Walrus headed, her crew all unaware of the impending events below.

PQ 17

At the moment the aircraft was launched, concern for the fate of the whole operation was mounting rapidly 1,800 miles away in the war room at the Admiralty. The latest intelligence implied that the German heavy surface forces were only then about to leave, later than expected; it therefore appeared that Sir John Tovey's squadron, which had been compelled to remain at a distance to avoid giving its position away to search aircraft, could not now intercept in time. In anticipation of any such hitch, Admiral Hamilton had previously been instructed in his sealed orders not to take his cruisers beyond Bear Island if he was likely to meet superior surface opposition, the Admiralty evidently being reluctant to risk an engagement against such odds as now seemed to be building up against PQ 17. Anticipation of all foreseeable eventualities at the planning stage is a normal precaution; direction of tactical moves from long range is a very different matter. In this case both the Commander-in-Chief and Admiral Hamilton had their own air reconnaissance with which to assess the situation. Be that as it may, just as P5706 took up her patrol position, the Admiralty made three momentous signals in rapid succession.

At 21.11 a Most Immediate signal ordered the cruisers to withdraw westward at high speed. Twelve minutes later an Immediate signal informed the convoy commodore that, owing to a threat from surface ships, the convoy was to disperse and proceed to Russian ports. And, finally, at 21.36 another Most Immediate message, referring to the previous one, ordered the convoy to 'Scatter'. While the Admiralty seemingly intended the last instruction as a technical correction to the other, the operative word carrying a more imperative meaning in the signal book, Admiral Hamilton interpreted it as an indication of imminent attack by surface forces, leaving him with no option but to withdraw at once as ordered, for he concluded that his superiors were in possession of last-minute knowledge denied him.

Although we are not concerned directly with the full implications of the events that followed, the touching in of the background cannot be left half finished. The *Tirpitz* and her consorts (less the *Scheer*, *Lutzow* and three destroyers, which had run aground temporarily when leaving Narvik) were not in fact sighted until the next evening, when the Soviet submarine K21 reported *Tirpitz* outward bound s.w.-12 beyond North Cape; while three and a half hours later the British submarine  $P_{54}$  reported the full force heading north-east. The Germans, however, learning that they had been sighted and possibly fearing that they might be cut off at the last moment, returned to their anchorage on the instructions of their High Command before our battlefleet could make contact.

Norfolk had sent out an urgent recall to her Walrus, but probably because they were flying low below the mist at the time, Gibbons heard nothing over his W/T. To the cruiser's captain there were probably two possible solutions for loss of contact: either the Walrus had suffered an emergency forced landing or else she had been shot down before a message could be sent. In view of orders, Norfolk could neither search nor wait. To Wignall and his crew, on the other hand, all was apparently as it should have been, and they accordingly continued their patrol oblivious of the mounting tension among the convoy and remaining escorts. Even an echo which suddenly appeared on their A.S.V. (radar) screen turned out, when homed on, to be nothing more exciting than a small iceberg. The monotony of that patrol dragged on in incredible contrast to the drama which, during those few hours, was spreading itself over thousands of square miles of the northern ocean. If being left out on a limb needed an illustration, nothing could have been more apt than their predicament.

As midnight registered on Riley's wristwatch, he gave Wignall the course to steer back to where his dead reckoning estimated the *Norfolk* should be. Arriving there, they found the area completely bare below the mist; above, the sun thrust out long beams of golden light from the horizon. An A.S.V. search was started and ships were eventually sighted—but no *Norfolk*. With visibility restricted, it was not brought home to them that what ships they did see were in far from orderly convoy formation; in any case they knew that air and U-boat attacks had already strained the strict discipline of accurate station keeping beyond normal bounds. They banked this way and that, homing hopefully on each new echo. At last they found one of the small escorts and flashed a message by Aldis light asking the whereabouts of their ship. An indication of the course taken came in reply, so P5706 was climbed to 5,000 feet and headed in that direction.

It was in fact correct, but three hours steaming at thirty knots had taken their parent ship out of A.S.V. range. It was a desperate gamble, that hastily taken chance of finding her; fuel, already largely exhausted on patrol, was alarmingly low by this time. After a few barren minutes had passed, Wignall discussed the alternatives with Riley: uncertainty lay in both directions, but astern the target was larger. Wignall once more banked steeply, reversing course, while the Arctic mist stretched in lonely blankness all round.

PQ 17

When the last pints of petrol were running down the feed pipes from the wing tanks, an echo appeared on the screen. In a few minutes there loomed up ahead what they felt could only be accounted for by something more than just good luck, a ship they recognized—H.M.S. *Palomares*, an old MacAndrew's Middle East freighter, converted at the outbreak of war into an A.A. escort, the only one of two with the convoy. Wignall eased his throttle and put the Walrus into a gentle glide, conserving every remaining ounce of petrol. Then, to their intense concern, *Palomares* opened fire! Hastily they checked that their I.F.F. identification signal was switched on, at the same time swerving this way and that at the highly unfriendly reception; but, as suddenly as it had started, the firing stopped. Wasting no more time, Wignall brought P5706 down in the calm sea alongside the ship, expecting to have to swim for it.

But not a bit of it. *Palomares*, ignoring U-boat danger, stopped and streamed astern a towline. Standing in the bow, as Wignall taxied up, Riley fished for the line with the boat-hook and hauled the end inboard. It was a large warp, too thick for the bow bollards, so he led it back under the instrument panel into the cockpit, where the pilot and Gibbons made it fast to the base of the control column after securing the latter with its locking struts. All was battened down from the outside as securely as possible and the crew were taken aboard their rescuer. *Palomares* quickly got under way again.

They learnt the reason for their being fired on. Coming in close on their tail through the mist had been one of the convoy's perpetual shadowers, a Blom and Voss flying-boat, which, undoubtedly chagrined as well as surprised at finding a wolf in sheep's clothing in the *Palomares*, had beaten a quick retreat when fired on.

Thankful as they naturally were to be safe aboard a ship again, the aircrew found they had descended from a calm, sunlit heaven above to a hell below—and the trite phrase was not banal in the context of their situation. The decimation of the now scattered and almost defenceless merchantmen was just getting into its stride, U-boats, Ju 88s, He IIIs ranging wide and harrying furiously over the Barents Sea. Of the thirty-six freighters which had sailed from Hvalfiord, only eleven were to reach their destination; and to the bottom went

130,000 tons of costly war material. For three days the ship's company of *Palomares* remained almost continuously closed up at action stations, under repeated attack from above and below; astern, P5706 yawed wildly from one side to the other whenever the ship had to make frequent evasive turns.

Temporary sanctuary was at last found in the barren Matochkin Strait in Novaya Zemlya. Incredibly, the Walrus was still safely in tow astern after the long, perilous haul.

That was early on the 7th; by evening, the few remnants that had made the same landfall were reorganized by the senior officer present and sailed again for the White Sea, still four days' steaming away. The Walrus, only slightly battered, had been hastily transferred to the *Ocean Freedom* and lashed to the top of a hatch after guns, A.S.V. set and other valuable equipment had been removed for safe keeping aboard *Palomares*. Wignall, Riley and Gibbons then took passage in a small minesweeper for the last leg of the journey. Again the air attacks were merciless, but whether the Walrus was the guardian angel or whether the ship's name defied irony, the *Ocean Freedom* was the only merchant ship in that group, and the only one of two British freighters in the whole convoy, to reach Archangel safely after that fantastic voyage. So, too, did *Palomares* and the aircrew in their tiny minesweeper.

Wignall and his companions, despite a fruitless attempt to thumb a lift in a home-bound Catalina flying-boat on one occasion, did not in the end get away until a return convoy was formed late in September. Thanks mainly to defending fighters operating from a small converted 'banana boat' escort, and some help from the brief darkness that had by then returned to the middle hours of the night, they were safely landed in England once more—the longest three-hour patrol, they felt, they ever wanted to endure.

Walrus P5706, her luck at last having run out, was not, alas, so fortunate. She had been deposited on a quay on the other side of the Dvina from Archangel, and there, stripped of all operational equipment, she eventually suffered the anti-climaxial fate of being officially 'written off.'

### CHAPTER SEVENTEEN

### BRIEF SORTIES

# The Fight in the Fiord

The day before Bishop Force landed at Harstad (on 18 May, 1940), the *Devonshire* was taking part in operations farther north near Tromso; and at the late but still daylit hour of 23.30 Lieutenant Benson-Hare was launched in P5647 to investigate a U-boat report in Melangen Fiord. While flying up the fiord the Walrus suddenly encountered a Heinkel III. Benson-Dare dived to sea level while Midshipman A. D. Corkhill and Leading Airman Hill struggled quickly to their respective gun positions. Instead of attacking them head on, the German's chief tactics was to make passing runs so that he could bring all his guns to bear, to which the Walrus responded by violent alterations towards each approach. An early hit carried away Corkhill's foresight, so that he was reduced to 'hose-piping,' using his tracer shots to get on target; expensive in ammunition, it was the only hope he had of hitting.

The fight raged inside the fiord for fifteen minutes or more. About three-quarters of the way through, Hill was hit in the head. Corkhill was also cut about the face and legs by flying splinters, but in one of his hose-piping efforts before he expended the last of his six pans of ammunition, he had the satisfaction of noting that the enemy's upper rear gunner was failing to take any further interest in the action. One of the Walrus's tanks had been holed and petrol was streaming aft. Corkhill, hit in the head at about the 17th or 18th attack, was sitting partially dazed on the step in the bow when another burst of fire came from the Heinkel. There was an explosion as the petrol ignited; at the same time the Walrus nosed into a dive as if the pilot had been hit and fallen on to the stick. P5647 went straight in.

The biting cold water must have wrenched Corkhill back to full consciousness, for he found himself doubled under the instrument panel. A disc of pale daylight glowed from the direction of the Scarff ring and he immediately struggled through it to the surface.

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Debris floated everywhere, so he clung in the lee of a wing-tip float until the Nazi, after making a final passing run, disappeared down the fiord. None of Corkhill's companions was in sight, so he struck out for the shore; and he must have been swimming for two painful minutes when, looking back, he saw Hill come to the surface. The T.A.G. appeared semi-conscious and unable to swim, so the observer went back to support him on a piece of wreckage.

Corkhill just then saw two men ashore, who must obviously have heard the fight. They were running towards the crest of the hill. He shouted and waved and shouted. Time passed, and he was at the limits of endurance when a rowing boat, with presumably the same two men in it, arrived and picked them up, Hill unconscious, Corkhill nearly so. They were transferred to a small motor fishing boat and taken up the fiord, being transferred again to a Norwegian auxiliary which looked like a large sea-going trawler. Corkhill was told later, when he had recovered more fully, that the trawler skipper, when the fishing boat had come alongside, had shouted down, 'Are they German or English? If they're German, throw them back.' When one of the seamen had asked the observer in English how he felt he had replied, 'I'm—cold!' At which the other had shouted back to the skipper, 'They're English all right.'

Benson-Dare's body was never recovered and Hill died. After the war Corkhill managed to trace one of the nurses who had attended him at the Tromso hospital and was touched to learn that Hill's grave was still carefully tended by the local people.

# A Naval Occasion

In November, 1938, the Imperial Airways flying-boat *Canopus* landed on the waters of the Waitemata at Auckland, and her first and second pilots embarked in *Leander* to visit some of the islands that had been surveyed as possible bases or staging posts for the trans-Pacific route.

After first looking at what the main island of Viti Levu in the Fiji group had to offer, we headed for a spot lying just north of the equator at about 158° west longitude. We raised the low-lying island on one of those halcyon Pacific mornings and prepared to launch L2222 with Mr Wimbush as passenger (those were the days before first pilots were called captains). Guns was acting as Directing Officer that day and, when he raised his green flag, all had appeared normal at the catapult. So far as we in the aircraft were concerned, the launching itself seemed to go off without a hitch, for the Walrus responded in her usual manner as we shot off.

We had hardly climbed to a suitable reconnaissance altitude when the ship radioed 'Make fast astern on return.' As I had expected to be hoisted straight in after landing, the order caused mild speculation. However, the immediate task was to give our passenger a glimpse of the potentialities of the island. There it lay below us, a coral horseshoe set in jade, temptingly laid out on a jeweller's cloth of royal blue velvet. A collector's piece—almost. Cluttered among the palms on one horn of the land that swept round the lagoon were the tin shacks of an English copra company, and on the other was a French counterpart. As a complement to incongruity, the one was named London and the other (inevitably) Paris. And nearly two decades later that spot was to become familiar as our base for the testing of atom bombs, for this was Christmas Island.

Completing our mission, we returned to the ship, now anchored off the entrance to the lagoon. Circling round, waiting for the 'L' flag to be hauled close up at the yardarm as permission to land, there was something puzzling about the 'midship appearance of the ship; it looked bare. And then we saw why—no trolley was visible on the catapult. We duly landed and made fast astern to a grass line, hearing the story when we got inboard.

Watching the launching that morning, as a professionally interested spectator was the second pilot of the *Canopus*, the various phases of the drill being explained to him by one of the ship's officers. As the Walrus was flung from the end of the catapult, such loud exclamations of surprise as might have been raised were drowned by the roar of the departing aircraft. For, instead of pulling up all standing at the end of the run, as the designer had intended and all previous experience confirmed should happen, the trolley flew on after the Walrus. Several hundred pounds, avoirdupois and sterling, of metal, followed by some hundreds of feet of flexible steel wire rope, described a graceful parabola through the bright air and disappeared into two hundred fathoms of ocean. The *Canopus* pilot turned to his companion, who was somewhat out of countenance, and remarked, 'Rather an expensive way of launching an aircraft, isn't it?'

For the remainder of that trip the Walrus was forced to roost on a counterfeit trolley, a stout wooden contraption artfully contrived by the 'chippies.' All of which led to the composition of these lines:

# THE WALRUS AND THE PLUMBERS

'The time has come,' the Walrus said, 'To take the air once more.' The Plumbers smiled behind their hands (From Guns a loud guffaw) For they knew well, those engineers, What prank was held in store.

Derisive snorts from Fanny<sup>1</sup> burst; The ship came beam to sea; The flag fell on the upward roll . . . The Plumbers hopped with glee As skyward leapt the graceful bird As innocent could be.

The Walrus flew both high and low Across the coral spur, A-basking in the tropic morn With deeply muted purr. But soon she banked and made for home For food awaited her.

The Walrus circled dreamily, Then gave a sudden lurch— Could she believe her bulging eyes?— Where *was* her ruddy perch? Unknown to her the Plumbers had It cast beyond a search.

# *Envoi* And now the Walrus has to rest, A cuckoo in a phoney nest.

### Wrens Under Fire

Johnnie Groves was detailed to fly a senior W.R.N.S. officer and her assistant from the Orkneys to the Shetlands on a recruiting mission just after the outbreak of war. The first lady was indeed senior, for

<sup>1</sup> Petrol engine.

she had up her 1914–18 war medals, disposed, moreover, with dignity on a figure which made the use of a Mae West redundant and the fitting of a parachute impracticable. In all chivalry, Groves felt obliged to follow suit.

They left in L2239 on an extremely murky November day. The distance between North Ronaldsay and Sumburgh Head is no more than fifty miles, with Fair Isle slightly east of the course, but soon after take-off nothing was to be seen but the grey- and white-flecked waves a few hundred feet below. As time passed the senior officer, in her seat beside him, patently became sceptical of the pilot's navigational ability. 'Have you any idea where you are, young man?' she interjected.

After nearly an hour's flight against a head wind of unknown strength and still no sign of land, grave doubts were beginning to assail the pilot. However, looking down at the featureless waves beneath his wing he said with a display of confidence far from felt that they were 'dead on schedule.'

Just then the weather lifted, and there was Sumburgh Head. Pointing away slightly to the west, Groves thankfully made for Sullom Voe. But his relief was short-lived, for a few minutes later the sky ahead became pock-marked with black smoke puffs. He suddenly realized they were under fire from the A.A. cruiser *Carlisle*.

'What are they doing, young man?' inquired his passenger.

'Just practising, Ma'am,' Groves replied, frantically fumbling for the Very pistol and two-star identification cartridge. With the appearance of the correct recognition stars of the day, the firing ceased in their direction and concentrated itself on a stray He III which had started strafing Sullon Voe simultaneously with the arrival of the Walrus.

Groves put L2239 down on the water without further molestation and made fast to a buoy. The 'skimming dish' from *Carlisle* came alongside and, before he had a chance to notice the female passengers, the A.B. coxswain said 'Cor, sir, *laugh*! They thought you was a— Jerry!' It then took Groves some embarrassed and apologetic moments explaining to 'Ma'am' that she had actually been under fire.

The recruiting drive apparently resulted in no more than the addition of one cook to H.M. Navy, and the Walrus returned to Hatson with her passengers the same evening. However, it is alleged that the following monologue was overheard in a Kirkwall pub a few days later '... and then the pilot drew a revolver; and I guessed, as I suspected, he had lost his way and we had arrived at Heligoland and he was now prepared to shoot me to save me from a fate worse than being shot down in flames.'

# The Stranded Warriors

On the 23 September, 1941, when the *Queen Elizabeth* was at Alexandria, Captain T. M. Brownrigg was required to attend a conference at Ismailia, to which he set off in W2701. The pilot was Richard Bigg-Wither, who had with him his observer J. A. Hopking and the pilot of the second aircraft, Petty Officer J. G. O. Hofman.

While cruising along at a comfortably cool height of 6,000 feet there was a loud report followed by a frightening vibration. The pilot throttled back immediately, only to find the shaking got worse, so he looked hurriedly for a suitable spot for a forced landing. They had just cleared the Nile delta and below lay the desert. From that height the terrain looked light yellow in colour, like soft sand, so Bigg-Wither decided to keep his wheels up and, despite the increasing vibration, managed by great skill to bring off the landing on a thin topsoil of sand between rocky outcrops.

As the Walrus came to rest there were the sounds of a few rounds of hesitant rifle fire from nearby. That anyone should mistake the Walrus for a German or Italian aircraft may sound incredible, but the reason will be apparent in due course. As it turned out, the Walrus party soon made their identity clear to the aggressors, some men of No. 9 Water Tank Company in charge of two young lieutenants, who quickly made amends by extending a warm welcome to the Navy.

An examination of  $W_{2701}$  soon revealed the reason for the accident. This was the aircraft which Bigg-Wither was intending to use for flying the secret dispatches into Tobruk (before the mission had been cancelled), and a missing flame trap was quite obviously the cause of some six inches having been sheared from the tip of one blade.

Hofman discovered that, by coincidence, their position was not far from his brother's army unit, roughly east-south-east of them some thirty miles off, and he was sent there in a truck while Bigg-Wither and Hopking made arrangements for the Walrus to be dismantled and taken in due course by road and rail back to Dekheila. However, the stranding of the Walrus at that particular spot was to have an even more providential result.

In the course of conversation that evening, Brownrigg learnt that the two lieutenants, who were straight from public school, were quite concerned about the remainder of their Company, of which neither the Commanding Officer, the adjutant, sergeant-major, most of the men and none of the water tanks had yet arrived. He therefore promised on his next visit to Cairo to find out from H.Q., Middle East Land Forces, what had happened to them. When, in time, he did so he was told categorically that No. 9 Water Tank Company, far from arriving in Egypt, had never left England. He assured the Brigadier (Movements Control) that, on the contrary, he had positive and personal evidence that part of the unit at least was already in Egypt, and he gave the position. A more thorough investigation then revealed the answer. It appeared that the Company had been stopped back in England but that the advanced party, in charge of the two lieutenants, missed the cancellation, for they had already embarked and sailed. On landing at Suez, they had been given a map reference and told to set up camp there in preparation for the remainder of their party. Being young and inexperienced, they read the map wrongly and, instead of being near Ismailia, they had finished up in the desert.

But for the timely arrival of the Walrus in their midst, therefore, and Captain Brownrigg's intervention, that belligerent section of No. 9 Water Tank Company might still be fighting the war in their lonely desert outpost.

# Lame Duck

P. T. Lawman was an observer in one of a detached flight of Walruses temporarily based at St Lucia in the Windward Islands in June, 1941. On a particular occasion, they had not long taken off to make a reconnaissance of French Martinique when there was a loud noise like a sharp burst of machine-gun fire followed by a tremendous vibration. The pilot, Charles Scott-Moncrief, had no option but to switch off the magnetos and prepare for a 'dead stick' landing in a heavy swell some twelve miles from base.

The landing was brought off successfully despite a succession of heavy bounces—so prolonged, Lawman remembers, that he and the pilot even had time for a rather gloomy conversation between the first and second. Once safely at rest, they found the tips missing from two blades of the airscrew, the cause of which was never discovered. The T.A.G. managed to get through by W/T to Piarco, as the main base in Trinidad was in touch with the old light cruiser *Caradoc*, requesting that ship's help, Lawman knowing she was somewhere on patrol in their area. The reply came in due course stating that the cruiser

expected to reach them in about four hours' time. It was then nearly 08.00, the coast of Martinique was hard by and they had no wish to be picked up by a French vessel and interned. The engine was therefore started again and, in spite of continous judderings, course was set for home at cautiously low revolutions.

Heading across wind and swell, the pilot needed constant help from his observer on the rudder bar to maintain his heading as they rose high on the crests and then plunged into the green valleys between, the T.A.G. at the inevitable task of working the bilge pump, as they struggled back towards the harbour of Castries. Near their destination they met a small sailing boat and shouted to the native crew to take a message ahead, requesting assistance from their harbour launch, but the only answer was white-toothed laughter and a waving of hands. Their words, drowned by engine noise, merely conveyed to the recipients that the lame duck was in reality carrying out a routine exercise, which the gestures of her crew indicated was being thoroughly enjoyed!

Just outside the harbour the launch, alerted by Piarco, did in fact appear on its mission of rescue; a gesture which the aircrew felt justified in ignoring at such a late stage; so they toiled on to their anchorage unaided. It was then just on noon; twelve miles in four hours had been achingly achieved by a badly strained aircraft and an exhausted but relieved crew. An hour later, from the comfort of their hotel above the harbour, they saw *Caradoc* arrive at high speed, doubtless to the detriment of her old boilers, at their earlier position.

### A Visit to Pitcairn

Showing the locals the latest wonders of science can sometimes end disconcertingly. While on her way out to the New Zealand station in August, 1937, the *Leander* was required to survey, as has been mentioned earlier, some uninhabited but likely looking atolls and islands (all firmly labelled 'Br.' on our charts) dotted about the Pacific as possible bases on behalf of Imperial Airways. And so she came, after the manner of Chesterton's travellers, to Glastonbury by way of Goodwin sands, or rather by way of Ducie, Oeno and Henderson to Pitcairn.

Standing lonely and chin deep in the blue ocean, its rich carpet of topsoil pegged down by trees to hard rock against the occasional tempest's blast, Pitcairn was naturally not on the survey itinerary. Indeed, it couldn't have provided a level enough place for the Walrus to land on let alone a lumbering Handley Page Hannibal of Imperial Airways; and certainly its greatest length could not today be bulldozed into a long enough runway for jet airliners. No, we were just showing the flag, making a friendly call on that tight, cheerful little community composed almost solely of Adamses, Christians and Fletchers.

Our arrival, we were assured, marked the first visit of a warship since 1913. Not that Pitcairn is quite as cut off as that might imply. for ships of the New Zealand lines called fairly regularly to land clothes and stores in exchange for the products of the island, mere coin having little significance in that isolated spot. There was a lot we could have done for them that had to be left undone, like blowing up a rock which menaced the one and only landing place on a steep-to coastline. But the day of our visit was a Saturday and, being Seventh Day Adventists, the Sabbath taboos were firmly enforced. Well, pretty firmly. Some of those who went ashore from the ship were treated to a surreptitious nip round the corner by their host when the hostess was out of the way. There was also the small radio station with some small defect in the power supply-that was emergency work and therefore didn't count as a taboo. Then there were the carved woodwork, basketware, and fruit (and Pitcairn's oranges and bananas have a subtle flavour unmatched elsewhere); these couldn't be sold on the Sabbath, nevertheless there was nothing against giving them away-and if the recipient liked to make some small gesture, well . . .

We had made our arrival in Bounty Bay early in the morning, and for the first time in their history, or as far back as the older inhabitants could remember, there had been no church service that day, for the senior Mr Christian led a welcoming group on board. Captain Rivett-Carnac later repaid the call and was given a splinter of wood from the original *Bounty*, the rudder of which had been salvaged only a couple of years previously.

The forenoon's libertymen had been joyously welcomed, so we threw a party on board for the residents in the afternoon to which, so far as could be judged, all 120 of them came. The longboats plunged out through the surf loaded to the gunwales, boats based on a design favoured in Bligh's day in which men would think nothing of sailing nonchalantly to Henderson or Oeno, dust specks a hundred miles or more away, for beche-de-mer or copra. There they were now, young and ancient, male and female, halt and hale, scrambling aboard. Tea, lowerdeck-size sandwiches and buns were laid out on trestle tables amidships for rejuvenation after gun-turrets, engine-room and messdecks had been visited. For the thirsty, soft drinks were to be had topsides to divert attention while the apostate found something harder in the wardroom below.

Chatter filled the air, largely parochial, for matters of world import shrank miserably in value before these islanders to whom Pitcairn was the centre. Even their wanderers returned, as one woman, who had spent her middle life school-marming in San Francisco, told us. However, to round off the marvels of modern science they had been shown, K8541 was catapulted as the *pièce de résistance*.

After photographing the island, I did the best I could with her by way of demonstration—a roar past the bridge at all of 95 knots, a tight climbing turn, cutting the throttle at the top and coming down to a landing off the glide (fortunately without the trace of a bounce). We taxied alongside and hooked on; the crane hoisting us back to the trolley again, the handling party carrying out the drill smoothly, swiftly, without a hitch. The launching was incredible, the Fletchers said, the Christians and Adamses agreeing; the flying of so ponderous a thing was miraculous; but the return to the nest . . . well, they were very polite, but it had obviously proved an ignominious anti-climax. After all, any bird could land on its perch again without all that fuss.

# INTO RETIREMENT

It was twelve years since the Walrus had first appeared on the scene; more than that number still stretched before her.

#### CHAPTER EIGHTEEN

# FAREWELL TO ARMS

SCATTERED AROUND THE world on desolate airstrips, half forgotten and already half reclaimed by Nature, lay the abandoned impedimenta of war. Among the remains the bones of many a Walrus lay rotting in desert sun or jungle shade; and below the seas lay many more. Others had been disposed of officially before hostilities came to an end, like the ten of the 'W' series which the R.A.F. sold, as 'Ns', to the Egyptian Navy. But there were also many people who remembered the qualities she had shown in battle and who foresaw uses for her in civil life.

United Whalers, preparing for the 1946/47 Antarctic whaling season, decided to experiment with the amphibian as a whale spotter. John Grierson, who was engaged to manage the team, has told the full story in his book, *Air Whaler*. While things were done in no parsimonious manner, they were done against a background of much distrust and opposition on the part of the old hands, for Norwegian whaling folk are deeply conservative in methods, outlook and practice. The factory ship *Balaena* was fitted with the catapult and crane from the *Pegasus*; and Lieut.-Commander Walker returned temporarily to his old rôle for the purpose, supervising their installation and the training of operators and aircrew.

Five Walruses were bought from Supermarines; all were put on the civil register, although it was intended to carry only three for whaling. While working up his team, Grierson entered for and won the Folkestone Air Trophy Race in September in G-AHFL at over 120 mile/h. This aircraft had been built before the war, her Air Ministry number having been L2246, and she had seen service with the Navy as well as with Nos. 275 and 276 (A.S.R.) Squadrons. Her athletic prowess, despite a face lift, was therefore all the more creditable. The second operational aircraft, G-AHNF (ex-L2336) was also of course of prewar vintage and well used to rough weather flying into the bargain, as many naval pilots who served at Sullom Voe, among other places, will remember if they look up their logbooks. The third, G-AHFM S.W.-I3

(W3070), was, at the youthful age of five, the baby of the trio; she, too, had been inured to rough usage in both senses of the term, suffering many a heavy landing with pupil pilots undergoing their conversion course at Sandbanks, and later finishing her service career with No. 276 Squadron in 1945.

On the whole the Walruses were moderately successful in spotting whales but, while they did only one season, Grierson was certain that with the knowledge and experience gained they could have done even better next time. Normally they were flown without undercarriages, a factor which, together with slow speed and the low barometric pressure of those southern latitudes, enabled good endurance to be obtained. The record was a flight of five and a half hours.

The Dutch factory ship *Wilhem Barendsz* also carried two, one of which crashed at Cape Town on the outward journey. It is understood that even deeper prejudices prevented the surviving aircraft from being used at all on the whaling grounds.

Numbers of ohters had been purchased by foreign Governments, commercial concerns, small air-lines, aero clubs and private individuals. Having started with Seagulls in their training cruiser *La Argentina*, the Argentine Navy took up a number of Walruses, possibly nine, after the war, some of which they used during the 1946/47 Antarctic Expedition which surveyed the Deception Island and Discovery Bay sector.

The Royal Canadian Air Force operated eight for a time, four of which had been obtained from the Royal Canadian Navy. Five were sold on the commercial market, although only one of these appeared on the civil register. This was Z1781, which was bought by G. R. Wooll on behalf of D. A. MacFadyen, Managing Director of Kenting Aviation Ltd. In 1948 she was registered as CF-GKA, operating out of Oshawa and enjoying several adventures transporting foresters, geologists on survey missions in Labrador, around Goose Bay or in Newfoundland, as well as for private fishing and other jaunts. The registration was eventually cancelled in 1952, when the aircraft ended her days as a mobile houseboat at Gander.

Of nearly forty sold in the United Kingdom (not all of which acquired civilian registry, for many were used as spares) two were later resold to a small Norwegian airline, Vestlandske Luftfartsselskap, which used them mainly for flying heavy cargoes from the sea coast up to mountain lakes. One of these was the victor of the Folkestone Air Race, and as LN-TAK she met her end on one of those lakes when landing on a day of glassy calm in the autumn of 1949, perhaps a fitting end to a long life. The other had first seen service in *Anson's* flight as W3049; thence, via Machrihanish, among other naval air stations, and A.S.R. duties with the R.A.F., she was bought direct from the Air Ministry by the Essex Aero Club in 1947 and became G-AJJC. As LN-SUK she apparently served her Norwegian owners faithfully for nearly four years before being taken out of harness for the last time in 1954.

The Royal New Zealand Air Force sold five aircraft to private buyers in 1947. R. Exton of Auckland bought NZ158 (X9512), in excellent flying condition, and one other for spares. Although the first was registered as ZK-AMJ, it appears that the cost of conversion later proved too expensive for him to proceed with his venture and the registration was cancelled in 1952. M. Gould bought two and went to the R.N.Z.A.F. station at Blenheim in South Island to collect them. He seems to have been a gentleman of some character and determination; despite their not being licenced to fly, he took off in one for his home town of Paraparaumu near Wellington in North Island. The incident caused a local furore but, only slightly deterred, he returned for his second Walrus and proceeded to taxi her across the boisterous forty-mile stretch of Cook Strait to Wellington (with, according to reports, his wife as passenger). Both aircraft remained as exhibits on the beach at Paraparaumu until disposed of for scrap following Gould's death in a Tiger Moth accident in December, 1947, and there is no record of either of them having made another flight.

When the Australian National Antarctic Research Expedition sailed from Sydney in October, 1947, H.M.A.S. *Labuan*, an ex-L.S.T., carried HD874 in the full glory of an overall top coat of orange dope. Flight Lieut. M. D. Smith and Warrant Officers P. C. Swan and G. Dunlop, pilot, photographer and W/T operator respectively, formed, with two R.A.A.F. fitters, the crew. After calling at other mainland ports, the expedition reached its base at Heard Island in December.

HD874 was soon in service, brief as this was to be. The island's dominating volcano, Big Ben, which has so far resisted all attempts at being climbed, was the object of oblique photography on the 13th at heights ranging from one thousand feet to eleven thousand feet. It was also her last flight. Gales were severe and frequent; picketed firmly on the beach, she had already withstood two fierce blows in

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the region of 85 mile/h, but four days before Christmas the wind reached a velocity of 120 mile/h and HD874 was torn from the steel cables holding her down and wrecked beyond repair. Those who had experience of tethering Walruses in the open in high winds will not be surprised at the result of such a blast.

In 1947 E. E. McIllree of Sydney bought two Seagulls and two Walruses from the Australian Commonwealth Disposals Commission. By mid-1949 Seagull A2-3 and Walrus P5664 completed conversion and were registered as VH-BGP and -BLD, ready for operation in dark blue livery as the charter aircraft of Amphibious Airways of Rabaul, New Britain. McIllree, flying as the pilot of one of them, had also obtained a licence to carry the astonishing load of ten passengers and two crew! Special dispensation had been given for the second crew member to be a native boy, his duties confined to assisting with navigation in uncharted lagoons, where his local knowledge proved invaluable, cranking the starter and pumping up the wheels. He made, says McIllree, a splendid sight in all his primeval savergy, his entire uniform, a lap lap cloth, contrasting with the blue trousers, white shirt and gold epaulettes of the pilot. The Walrus had indeed moved into a Robinson Crusoe world.

The area of operations extended from New Guinea as far west as the Solomons. Charters were principally connected with the movement of native recruits from the copra plantations in Bourgainville, mainly from the beaches out of Sohana, back to Rabaul, where the boys were transferred to other aircraft for the final lift back to their villages in the New Guinea mountains. Much effective and profitable work was also done in searching for lost small vessels, while the advantage of being able to fly out spare parts and land alongside stricken ships was a tremendous asset. Mercy flights for the Health Department was yet another major source of business.

The war had made the natives of the British Solomons among the first in that part of the Pacific to become quite sophisticated about aircraft, with whose hurtling passage through the air above their heads or the impressive noise they made on landing strips they had long been familiar. However, their first encounter with the amphibious dexterity of the Walrus was, it seems, too much for one group of them. The alighting on water drew astonished crowds to the beach, but when VH-BLD taxied towards and then up the sandy shore and the pilot brought her quivering mass of metal to a silent halt before them, the head man shouted to his following: 'This fella 'im 'e savvy too plurry much.' Whereupon they all took to their heels and disappeared into the jungle.

Captain C. G. Fox of Qantas Empire Airways, who was himself an old Walrus pilot, remembers seeing these craft on one of his flights through Port Moresby, and he also has an anecdote concerning them. One of the aircraft landed on a Sunday morning at Kandrian in New Britain and, after church, the natives hurried down, full of curiosity, to look at the new 'Balus' (bird). Some trouble was evidently being experienced with starting up, and after watching several unsuccessful attempts at winding the inertia wheel, one of the bystanders proffered his expert opinion: 'No got battery.'

McIllree eventually wound up his charter line; it neither became possible for him to stay on in the islands and direct matters personally, nor could he attract reliable management or the type of crew to cope with such operations. Both aircraft were accordingly withdrawn from the civil register on 16 June, 1954. Nevertheless, he still had one aircraft left in Sydney; this he sold to Captain P. J. Gibbes of Melbourne along with what remained of the others. This was our old friend A2-4; of the 790 or more Type 236 amphibians produced since 1933, she was to be the last in active service. CHAPTER NINETEEN

# THE LAST OF THE LINE

CAPTAIN GIBBES, IN collaboration with H. O'Hara, a former R.C.A.F. pilot, and A. Whiter, an amateur pilot, spent a considerable amount of time, effort and money converting A2-4 to their purpose. Among the major alterations were the addition of a window each side, just aft of the undercarriage radius rod, the installation of seven comfortable passenger seats with a blue and silver interior decor, a new instrument panel and more modern radio equipment. The external colour scheme was silver wings and engine nacelle above a light blue hull and tail unit. The insignia of a walrus, with helmet and goggles, was painted on the bow, but this was later removed-no doubt when it was appreciated that the aircraft was really a Seagull, a fact not readily apparent except by a study of her history sheet; although flown without jury struts, she was not fitted, for example, with H.P. slots. After a final water test, then, at Pittwater, A2-4 metaphorically donned her bowler hat as VH-ALB on 14 April, 1960, and was flown down to Melbourne.

Originally registered in the private category for recreational and other personal uses, she was changed to charter, operating as Amphair (Amphibious Air Charter) Pty Ltd. Gibbes, as Operation Manager of Ansett/ANA, held a full commercial pilot's licence and was therefore qualified to fly parties on fishing and other expeditions plus many bay-side joy rides. After a while she became a familiar sight around Port Phillip Bay. It never failed to startle the odd fisherman, however, in the seclusion of his boat far out at sea, to be suddenly accosted by an amphibian whose crew asked for 'a loan of some bait to do a bit of fishing, please.'

It is notable that one person who took a special interest in 'The Last of the Shagbats' was Air Marshal Sir Richard Williams who, so long ago, had largely been responsible for the first.

What may be termed the 'uneconomics' of running a military aircraft on a commercial basis have been remarked on. The syndicate in due course found the expense too great and, early in 1962, ALB was offered for sale at  $\pounds A_{5,000}$ . As Gibbes said in a letter, '... I had been the proud owner of the only Walrus in captivity for approximately two years,' and it was obvious that he was parting with her only with great reluctance.

In September ALB passed to a new owner, Robert W. Shute, who, after taking a conversion course under the tutelage of Gibbes, received the necessary endorsement to his licence. This change of ownership had a particularly significant result; it brought the Seagull V back to the town from where her immediate ancestor, the Mark III, had operated thirty-five years previously-Mackay in Queensland. There Shute formed the Barrier Reef Flying Boat Service and started to lift passengers, mainly holiday makers, and cargoes out to the islands of the Great Barrier Reef as well as up and down the coast. Only once, due to the failure of an oil pipe line which had inadvertently been omitted from a pressure test during overhaul, did an engine failure occur; happily no casualties or further harm resulted, for she was brought down on the sea with her usual facility and towed to port. Apart from that, no major troubles were experienced. Shute maintains that, even among more modern amphibians of comparable type, he has yet to see her equal on and off the water.

What seems to have been the final change of ownership took place in mid-1964, when ALB's hull was exactly twenty-eight and a half years old. Mr J. Nichols acquired her for private use. It is understood that the new owner, who is not a pilot, plans to be flown in her on holidays around the Barrier Reef and then to hand her over to a museum.

A2-4 was, however, to have a reunion of particular significance to herself. In August of the same year, Jim Alexander, now a manager with Qantas Airlines, visited Mackay, there to see the aircraft he had flown on those geological and piscatorial missions all those years ago. 'I had a good crawl all over her,' he said, 'and found she was in surprisingly good condition.'

With all the advances in marine and aeronautical science and technology, all the abstruse calculations, all the tank and wind tunnel tests of scale models, all the data abstraction from computers that are now marshalled to evolve the shape that will move through water or air with greatest fluency to meet given requirements—with all these things that have to be done, there is no doubt but that the final touch which imparts near perfection remains, as it always has done, an art. What, for instance, were those precise characteristics that made the little Tiger Moth or the Dakota just that much better than others in their respective spheres? No computer or telemetry instrument will reveal that.

Starting in Pemberton-Billing's day, the long years of skill and experience which the Woolston firm's design team had acquired in both fields is where that 'something' can be expected to show itself occasionally. It can be said with certainty, and as a fitting epitaph, that the Supermarine Walrus was one of those unusual examples.

Fitting, too, that 'The Last of the Line' should end her days breathing Australian air and feeling the tang of the Tasman Sea.

# APPENDIX 1

## ACKNOWLEDGEMENTS AND SOURCES

A WORK OF this kind is naturally dependent on information from many sources, and I would therefore like to express my great appreciation of the considerable help given by the following authorities (particularly by the personnel concerned therein) who were kind enough to give me access to records or to help in other ways, and also to those private persons who assisted with material from their logbooks or other records. Any views expressed in this book are mine and not necessarily concurred in by others.

Reference footnotes were excluded from the text to avoid distraction; they are now given in the form below, the numerals indicating the relevant pages where specific material has been recorded. Limitations of space prevented the use of all material supplied; nevertheless, the absence of a reference does not mean that information was not used. The Navy and Air Departments of the Ministry of Defence and other authorities, for example, very kindly provided help and facilities for research which covered the whole field. In other cases attention was drawn to events, etc. hitherto outside my ken which often resulted in fruitful data.

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### **APPENDIX 2**

AIRFRAME—LEADING PARTICULARS (Extracts from A.P. 1515 A & B, Vol. I, Dec., 1937)

Walrus I—Metal Hull Walrus II—Wooden Hull

				38 ft	0	in.	
ofair	screw	,u/cd	lown	)16 ft	10	in.	
dow	m)			15 ft	2	in.	
	<b>.</b>			45 ft	10	in.	
			۰.	7 ft	0	in.	
		1.0		8 ft	0	in.	
				17 ft	6	in.	
	. 1		÷.	7 ft	7	in.	
s, top	o and	botto	m.		$7^{\circ}$		
, top					1°		
, bot	tom				3°		
					$7^{\circ} 3$	o'	
	ofair dow	of airscrew down)  s, top and s, top . s, bottom	ofairscrew, u/cc down) 	of airscrew, u/c down down) s, top and bottom. top .		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

### Tank Capacity

Fuel	11.10			•	2/75 gals.
Oil.		•	•	•	$14\frac{1}{2}$ gals. (Air space $1\frac{1}{2}$ gals.)

### APPENDIX 3

### ENGINE AND PERFORMANCE DATA

			В	ristol Pegasus	
Engine Data			$II L_2P$	II M2	VI
Туре			9-Cylinder air-	-cooled radial	poppet valve
Supercharger			Low N	Medium Si	ngle speed
Bore and stroke		•	5.7	75 in. × 7.5 in.	
Swept volume			I,753	cu. in. 28.7 li	tres
Airscrew reduction gear r	atio		0.60	66 engine spee	d
Airscrew rotation .			I	.H. Tractor	
Diameter over cylinders		10.1		55.3 in.	
Fuel specification .				DTD 224 DT	D 87 octane
Oil specification .				1.	DTD 472
Weight, bare					995 lb (dry)
R.P.M		1.1	2,000 Norm.	2,300 Max.	See below
Take-off BHP at norm, r	pm—	-Sea		el l'estado	
level			610/635	600/620	
Rated BHP at norm. rpm	at 20	boo ft	580/600		
Rated BHP at norm. rpm	at so	boo ft	_	560/580	
Max. BHP at max. rpm a	t 250	o ft	630/650		
Max. BHP at max. rpm a	t 650	o ft		615/635	

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#### THE SUPERMARINE WALRUS

Max. Output to A.P. 840 Corrections	Mark VI					
Take-off	ал ал	BHP 750/775	<i>RPM</i> 2,200	Boost <i>lb/sq. in</i> + 2.0	Alt. <i>ft</i> S.L.	
Climb (International rating)		690	2,200	or F.T. +0.5 or F.T.	S.L. 3500	
All out level (5 min. limit) Cruising at economic consumption	:	750 580	2,525 2,200	+0.2 -1.0	4750 6750	

### Consumption—Max. economic cruising Fuel 0.500 Pts/bhp/hr Oil 6/10 Pts/hr

			Airscrew
Type .			Wood (Supermarine), 2 part, 4-bladed, R.H.
Diameter			10.0 ft
Pitch .	1.0	•	8.0 ft

### Performance Data

Maximum speed at 4,750 ft					135 mile/h (117 kts.)
Cruising speed at 3,500 ft	1.1				95 mile/h ( 82 kts.)
Landing speed					57 mile/h ( 50 kts.)
Initial rate of climb .					1,050 ft/min.
Service ceiling			1.00		18,500 ft
Range					600 miles
Weight (tare)	1.15	MAR	19.6	11	4,900 lb
Weight (3 crew and full loa	d)				7,200 lb

### APPENDIX 4

# EQUIPMENT AND ARMAMENT Equipment

Initial Fitting

Anchor (30 lb) with manilla rope of	on Fi
drum)	N
Bilge pump	Pa
Boathook (Grabit type)	R
Camera, F.24	R
Covers for engine and airscrew	Si
Detachable bollards	Sl
Drogue and drogue stowage	Te
Dual control	Te
Engine starter	W
Fire extinguishers	W

First-aid kit Navigator's seat and table Parachutes and stowages Rear-view mirror Refuelling pump (Zwicky) Signalling lamp Slinging gear Tool kits Towing bridle W/T installation W/T operator's seat and table

# APPENDICES

Thermometer Type 'M' inflatable dinghy Wind-deflectors (nav. windows) Windscreen wipers

# Armament

Guns: 2 Vickers 'K' on Mk. III Lewis ·303 in Ammunition: 10 pans (1 add. on guns during war) Bombs: Universal and light series carriers for alternative or combination load (not exceeding total of 760 lb) of: Mk. VIII depth-charges 250 lb bombs 100 lb bombs 40 lb bombs 20 lb bombs Navigation markers or flares

**Pyrotechnics** 

Signal pistol Cartridges Marine distress signals 195
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