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Colin Hinson

In the village of Blunham, Bedfordshire.

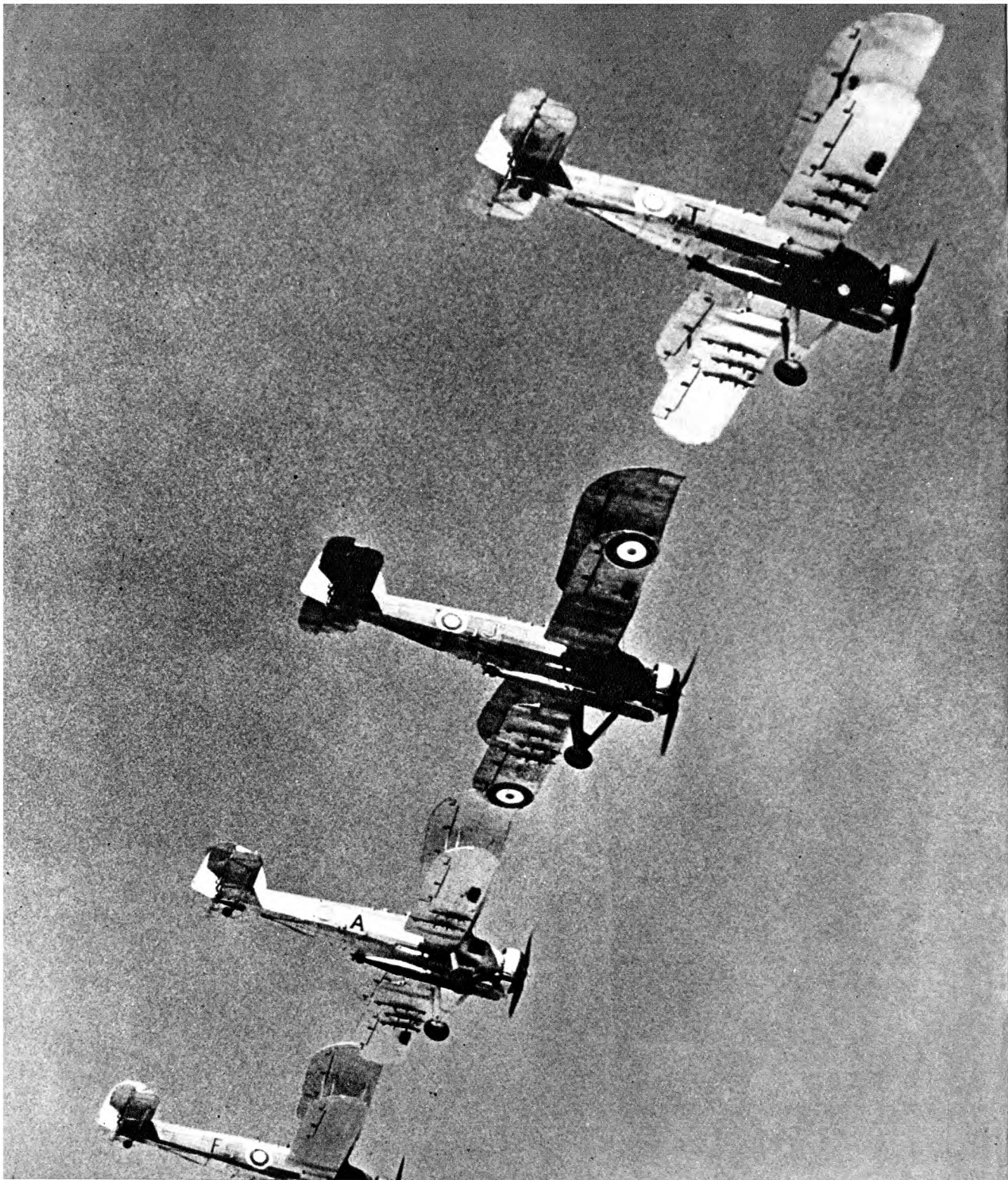


# ARK ROYAL

THE ADMIRALTY ACCOUNT OF HER ACHIEVEMENT



"AND THE ARK WENT UPON THE FACE OF THE WATERS"

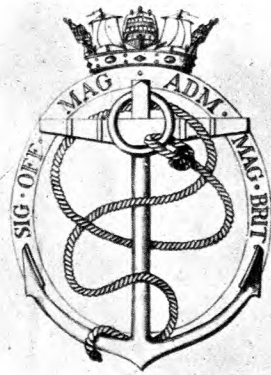


STRIKING FORCE

# ARK ROYAL

ISSUED FOR THE ADMIRALTY BY THE

MINISTRY OF



INFORMATION

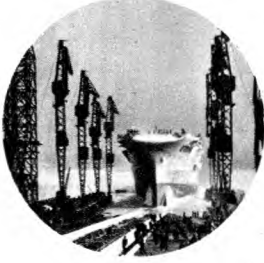
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LONDON: HIS MAJESTY'S STATIONERY OFFICE

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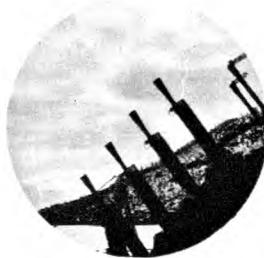
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# 1. "Where is the Ark Royal?"

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26th SEPTEMBER 1939

ON 26TH SEPTEMBER, 1939, three British warships were steering westward across the North Sea, escorting a damaged submarine back to port. They were His Majesty's battleships Nelson and Rodney, and the aircraft-carrier Ark Royal, steaming in close order behind their destroyer screen.

Two of the Ark Royal's reconnaissance aircraft were on patrol over the ships. It was a bright morning, with high clouds patching the blue sky, a fresh breeze flecking the waves with white. For a long time the watchers in the air saw nothing unusual. Then, just before eleven o'clock, one of them sighted, ten miles away to the south-east, three German Dornier 18 flying-boats shadowing the Force.

Immediately this report reached the Ark Royal the "squealers" sounded and the command "Hands to action stations" was piped over the ship's broadcaster. As the ratings doubled to their positions a fighting force of nine Blackburn Skuas, waiting fuelled and armed in the hangars below, were brought up in the lifts and ranged on the flight deck.

By the time the pilots had been given their instructions and reached their aircraft the engines had been started up and were ticking over. The fitters left the cockpits; the pilots and the air-gunners climbed in. The great ship turned into wind. From the bridge

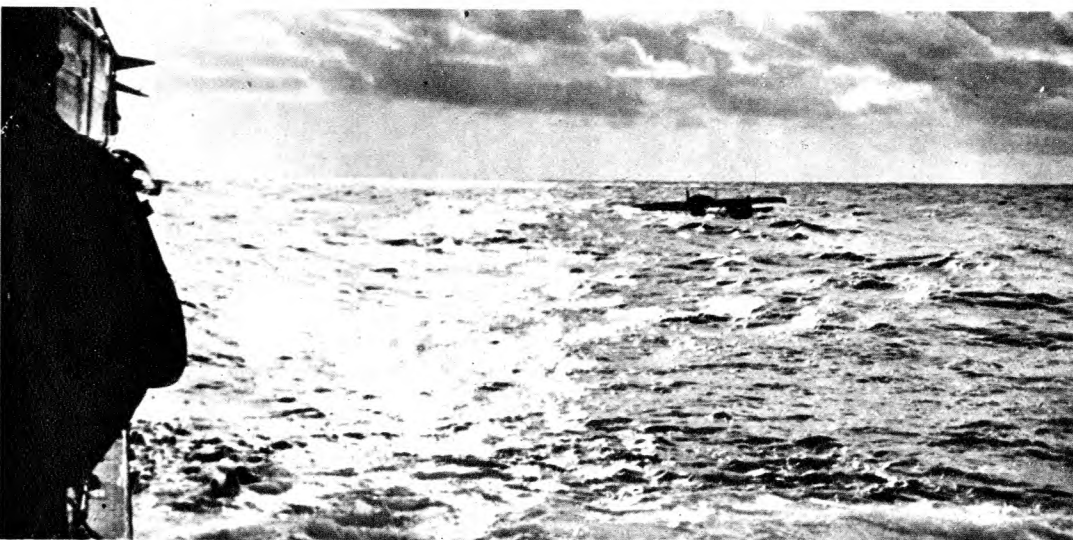
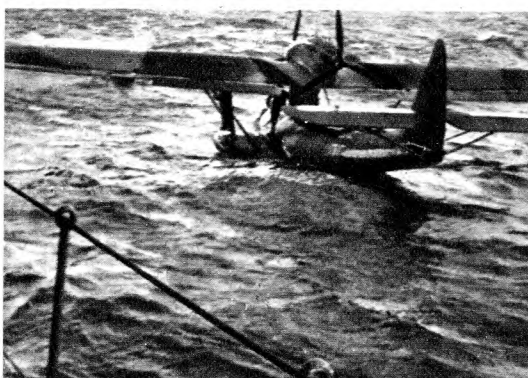
the Commander Flying waved his green flag. The Flight Deck Officer repeated the signal to the leader of the squadron, Lieutenant A. T. Kindersley, R.N. The ranging party snatched away the chocks from the wheels, and the first Skua moved forward down the long flight deck, took off and lifted. Half a minute later another followed, then a third, like monstrous cards being dealt into the sky.

The section formed up over the ship, to be followed at intervals by the second and the third, and flew off to the attack. It was the moment which the fighter pilots had been awaiting for the past three weeks: the first naval air combat of the war.

The three Dorniers kept low over the water, their dark blue and green camouflage making them difficult for the Skuas to find. But at last each section sighted its target and attacked. Although the Dorniers were heavily armed, two of them retired damaged, their superior speed enabling them to escape. The third was shot down by Lieutenant B. S. McEwen, R.N., and his air-gunner, Acting Petty Officer Airman B. M. Seymour. This was the first enemy aircraft to be destroyed by any Service in the war. H.M.S. Somali picked up the crew of four and sank the flying-boat.

The attacking force returned safely. The Commander-in-Chief, Home Fleet, signalled





**THE ARK OPENS HER TALLY.** The first enemy aircraft destroyed in the war by any Service was this Dornier 18 flying boat, shot down into the North Sea by a Skua from the Ark on 26th September, 1939. The photographs show (1) her crew of three preparing to launch their rubber boat, (2) the boat broken away, (3) the two stranded airmen about to swim for it, (4) H.M.S. Somali hauling them to safety.

# „Schwerpunkt des Angriffs: Der Flugzeugträger“

So lautet der Angriffsbefehl, der durch den vernichtenden Bombentreffer, den Leutnant Francke auf einen englischen Flugzeugträger am 26. 1. 1939 erzielte, erfolgreich durchgeführt wurde



Leutnant Francke

Es gelang ihm, in der Nordsee einen englischen Flugzeugträger zu versenken. Er wurde für seine Tat von Generalmajor Hermann Göring zum Leutnant ernannt. Leutnant Francke ist mit dem Eisernen Kreuz I. und II. Klasse ausgezeichnet.

## Zur Tapferkeit vor dem Feinde

10. Oktober (P.K.)

Die letzte britische „Präzision“ gelang am einem britischen Kampfflugzeug, eines britischen Zerstörers, eines Bombertieres und im Prinzip, in dem er die Kampferfahrung der britischen Flotte gelehrt haben. In der Flugzeugträger ist eine britische Zerstörerflotte, bei dem die letzten Angriffe aus, nicht mehr gebildet wurden.

Generalmajor Hermann Göring rühmte an ihm erfolgte den Kampfflugzeug, Leutnant Francke, nachdrücklich persönliche Tapferkeit.

„Ich beglückwünsche Sie in diesem mit Geduld geführten, von hohen Offizieren geleiteten Bombenangriff auf den britischen Flugzeugträger. Die Sie durchführten, haben den Feind in der Nordsee zum Maßstab aller Tapferkeit und Mut gemacht. Wegen hervorragender Tapferkeit hat Ihnen der Reichspräsident das Eisernen Kreuz I. und II. Klasse verliehen.“

Leutnant Francke gibt über den erfolgreichen Bombenangriff folgende Schilderung: „Wir haben uns entschlossen auf einen Flugzeugträger in der Nordsee an dem 26. 1. 1939 mit einer Bombenlast von 1000 Kilogramm zu greifen. Gegen 12 Uhr trafen wir auf den britischen Flugzeugträger. Die ersten Bomben trafen den Flugzeugträger in der Nordsee. Die ersten Bomben trafen den Flugzeugträger in der Nordsee. Die ersten Bomben trafen den Flugzeugträger in der Nordsee.“

„Schwere rasende Bomben trafen den britischen Flugzeugträger. Die ersten Bomben trafen den Flugzeugträger in der Nordsee. Die ersten Bomben trafen den Flugzeugträger in der Nordsee. Die ersten Bomben trafen den Flugzeugträger in der Nordsee.“



Die des „Völkischen Beobachters“ gezeichnet von Adolf Bach. Deutsche Luftstreitkräfte zerstören in der Nordsee einen englischen Flugzeugträger und belegen ein Schlachtschiff und Zerstörer mit Bomben.

DR. GOEBBELS SINKS THE ARK. This page is reproduced from the Nazi Party newspaper *Völkischer Beobachter* of 11th October, 1939. The drawing shows the notorious "sinking" of the Ark Royal in a German bombing attack in the North Sea on 26th September, 1939. The text includes a telegram of congratulation from Göring to the pilot, Leutnant Francke, who was awarded the Iron Cross for his supposed success. The headline across the drawing means: "Heart of our attack was the aircraft carrier."

his congratulations, and there was great jubilation in the Ark. But the excitement of the day was not over.

The surviving shadowers had reported the position of the Force. At 2.20 that afternoon, half an hour after the last Skua had landed on, a Heinkel 111 approached under the cover of cloud at a height of 6,000 feet, dived steeply upon the Ark Royal from stern to bow, released a 2,000-lb. bomb and roared away in a climbing turn.

The officers on the bridge, with upturned faces, watched the bomb come wobbling down from 1,500 feet above the ship. One of them thought it looked like an Austin Seven. To another it looked more like a London bus. The Captain gave an order to alter course, and as the Ark Royal turned away to starboard the bomb exploded in the sea 30 yards from her port bow.

A solid wall of water rose as high as the flight deck and cascaded over the fore-end. The Ark lifted her bow and seemed to shake herself, then plunged down again, took a list of five degrees to starboard, and righted herself a moment later as she turned back upon her course. The only damage in the ship was some broken crockery.

The Heinkel flew back over the flight deck, spraying it with machine-gun bullets, then sheered off in the face of the anti-aircraft fire.

The German pilot, Leutnant Adolf Francke, reported that he had dive-bombed an aircraft-carrier in the North Sea. He believed that his bomb had scored a direct hit, but he was not certain, and made no claim to have sunk the ship. The German Ministry of Propaganda made it for him. Next morning the newspapers throughout the Reich proclaimed the sinking of the Ark Royal in enormous headlines, some of them printed in red. Highly-coloured pictures of the Ark's end appeared in the magazines. Field-Marshal Göring sent Francke a telegram of congratulation, decorated him with the Iron Cross, and promoted him to the rank of Oberleutnant. Before long Dr. Goebbels's

Ministry published an illustrated children's booklet "How I sank the Ark Royal," purporting to have been written by Francke.

It seems that the German claims did not deceive Francke's brother officers. They knew that he was wearing a decoration he had not earned, and he soon became the laughing-stock of the Luftwaffe. This ridicule preyed upon his mind until he felt that the only way to save the honour of his family was to take his own life. An American journalist, Mr. William Bayles, to whom he confided his troubles in Berlin, suggested that if he chose to denounce the Ministry of Propaganda suicide would become unnecessary.

Meanwhile the German broadcasting stations continued to ask "Where is the Ark Royal?" in spite of the British Admiralty's repeated denials that she had been damaged, and although the United States Naval Attaché attended divine service on board and wrote an official report of his visit which was made public. The question was hailed with derision by the ship's company, who roared in answer, "We're here!" The officers sent Oberleutnant Francke an invitation to become an honorary member of their Mess, addressed c/o A. Hitler, Esq., Berchtesgaden. But the German people believed the story implicitly. Months afterwards, when the Ark Royal was in Rio, the German colony protested that she must be another ship of the same name.

Nevertheless, during the next two years both the Germans and the Italians were to have good cause to know that the Ark Royal was still upon the face of the waters, for, in the words of Zechariah, she passed through the sea with affliction. Her fighters were to shoot down or damage over 100 enemy aircraft, and to protect many a convoy in the Atlantic and the Mediterranean, while her torpedo-bombers were to bring havoc to the aerodromes of Sardinia, to wound the Italian fleet, and—in the words of the First Lord of the Admiralty—to encompass the destruction of the Bismarck.

## 2. The Building of the Ark

16th SEPTEMBER 1935—MARCH 1939

NO SECTION of the British public heard the Admiralty assurance that the Ark Royal was safe with greater satisfaction than the shipyard workers of Merseyside. They regarded the ship with particular affection, for they had built her, and the order which the Admiralty had placed with Messrs. Cammell Laird of Birkenhead had been the more welcome because it had come at a time when unemployment was widespread.

The Ark Royal was the third ship of her name in naval annals. The first was built at Deptford for Sir Walter Raleigh. He christened her the Ark, but she also bore the name of her owner, as was usual in Tudor times. Ships were needed to defend England against the menace of Spanish invasion, and before the Ark Raleigh's launch in 1587 the Crown took her over and renamed her Ark Royal. The price paid was £5,000. Her displacement was nearly 1,500 tons—that of a modern destroyer—so that she was as big as any ship of her period. She was commissioned as the flagship of Lord Howard of Effingham, Lord High Admiral of England, and took a leading part in the destruction of the Armada. Later she was rebuilt and renamed Anne Royal, in honour of James I's uninteresting queen, and served periodically as a flagship until she was wrecked in 1636.

It was not to be expected that there would be an Ark Royal under the Commonwealth, but it is singular that the name should not have been revived until 1914, when the Admiralty appropriately chose it for the first large seaplane-carrier, a converted merchant

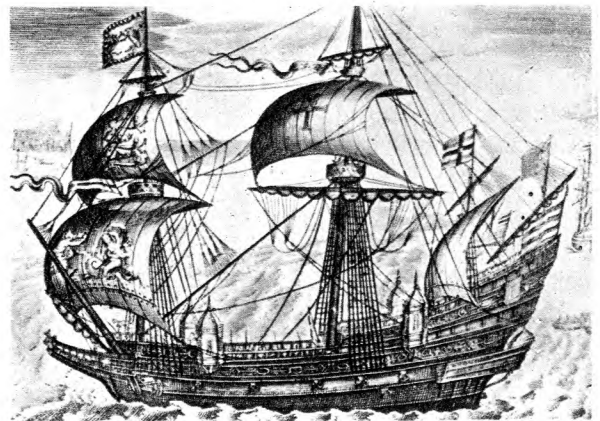
vessel, which served in the Gallipoli campaign; in 1935, when the Admiralty decided to build the third Ark Royal, she was renamed Pegasus, and is still in service for experimental aircraft work.

The keel of the third Ark was laid on 16th September, 1935. Two thousand men were employed continuously on her construction. After H.M.S. Hermes, completed ten years previously, she was the first ship to be planned and built as a carrier, and she embodied all the improvements suggested by experience.

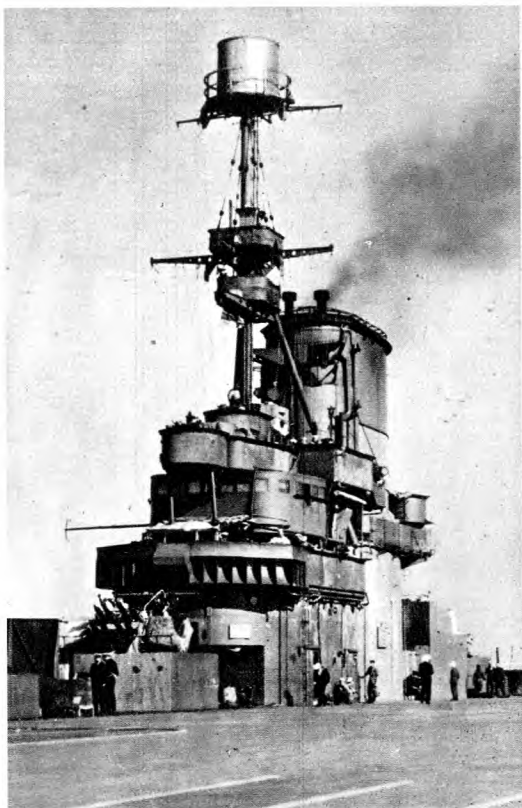
On 13th April, 1937, the Rev. W. Webb, Vicar of St. Mary's, Birkenhead, pronounced the old blessing, "May God protect this ship and all who sail in her," and Lady Maud Hoare launched her in the presence of 60,000 people. There must have been those among the cheering crowd who had in mind the words of Genesis: "And the waters increased and bore up the ark, and it was lifted above the earth."

Those responsible for the design of the Ark Royal's badge were also mindful of the first sea-going vessel of which we have record: on a field blue an ark silver, crowned gold, upon three wavelets gold (naval heraldry

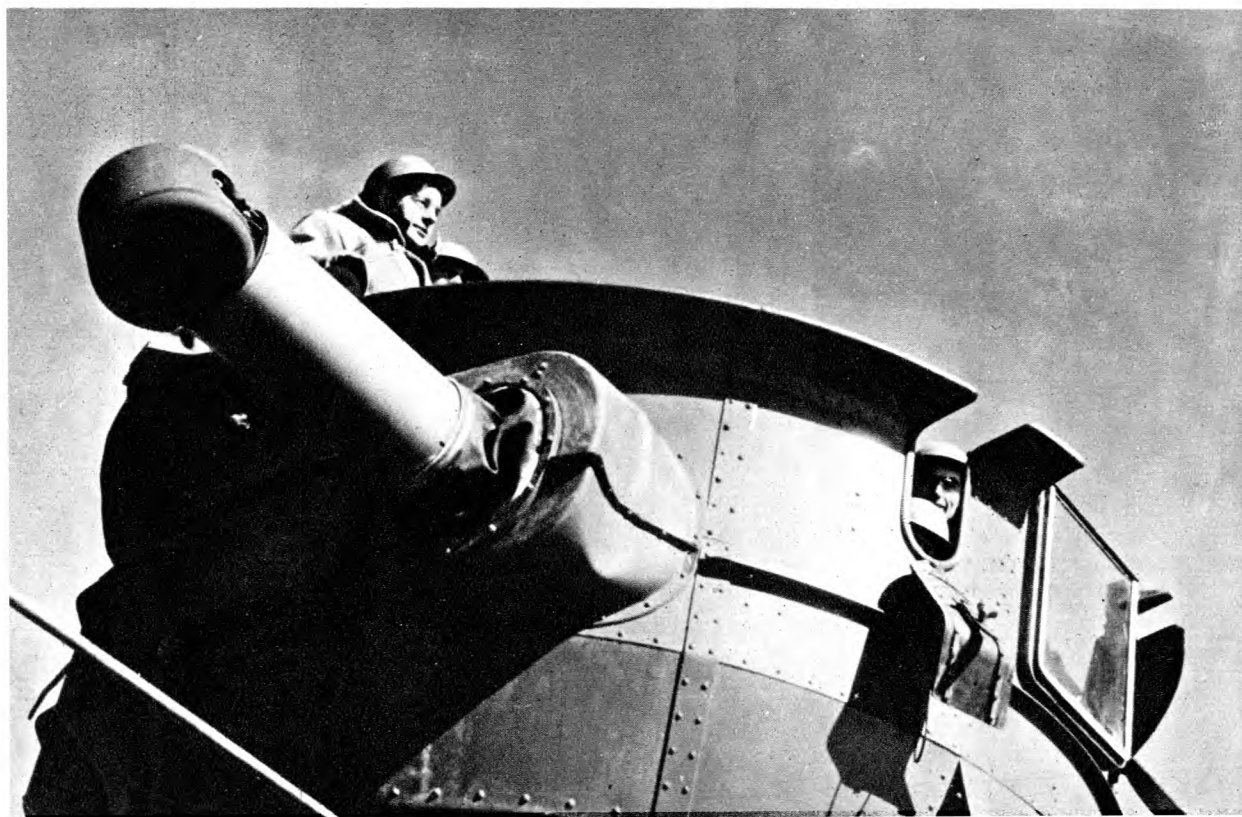
THE ARK IS LAUNCHED on Merseyside, 13th April, 1937. Her huge bows tower to her iron flight deck 800 feet long and 94 across. She took three years and three months to build and cost £2,330,000. The first Ark Royal looked like the picture below. She fought against the Armada and the threat of Spanish invasion. She was of 1,500 tons, and launched in 1587.







ON BOARD THE ARK. *Above left*, the "Island"—bridge, mast, and funnel—the only superstructure above the flight deck. *Right*, a close-up of the mast. *Below*, on watch in one of the Ark's anti-aircraft direction and range-finders.



blazons colours and metals in modern terms), with Lord Howard's own motto, "*Désir n'a répos,*" which may be translated "Purpose knows no rest"—as good a motto for naval airmen as could well be found. The ship's company paraphrased it more succinctly as "Flat Out."

The Ark Royal cost £2,330,000—it was the most valuable contract the Admiralty had given out since 1918—and she was the longest ship ever built on Merseyside. She had nine decks. Her iron flight deck was 800 feet in length, with a beam of 94 feet. It lay like a gigantic lid over the ship, with three double-decker lifts to the vast hangars, the only superstructure being the "island," which rose amidships above the starboard edge of the deck and gave the ship a curious lop-sided appearance.

On the island were the navigating bridge, the mast and the funnel. The Captain's sea-cabin was immediately below the bridge, with the Chart Room, Air Intelligence Office, and Wireless Control Office near by. The wireless masts on either side of the flight deck could be lowered when aircraft were operating. The ship's armament consisted of sixteen 4.5 guns, four multiple pom-poms, and eight multiple machine-guns. Her speed was 30.75 knots and her fuel endurance exceeded that of any previous carrier.

The Ark Royal was first commissioned on 16th November, 1938. Her Commanding Officer was Captain (now Rear-Admiral) A. J. Power, C.B., C.V.O. She was completed on 16th December and ran her trials on the Clyde.

With her flying personnel the Ark's total complement was 1,575. She had twenty cooks and six months' supplies.

She carried sixty aircraft: five squadrons, composed of Blackburn Skuas and Fairey Swordfish. The Skuas were two-seater fighter dive-bombers with a speed of 200 m.p.h., armed with four .303 front guns and one rear gun; when not on fighter duty they could carry a 500-lb. bomb-load. Later

these were replaced by Fairey Fulmars, with eight guns fixed in the wings to fire forward and a higher speed; like the Skuas, they carried a pilot and an air-gunner.

The Swordfish, which the Ark Royal carried throughout her career, is a torpedo-spotter-reconnaissance biplane, with a single engine, a fixed undercarriage, and an open cockpit. When used for attack it carries one 18-inch torpedo or a 1,500-lb. bomb-load. Its defensive armament is a fixed gun in front and a free gun in rear. It has a crew of three: pilot, observer, and air-gunner.

A ship-plane represents certain constructional problems which entail a sacrifice of speed owing to the limited length of the flight deck. It must have a quick take-off, a low landing-speed, the strength to take a heavy load, and folding wings, so that it can go down the carrier's lift.

The Swordfish satisfied all these requirements and are some of the most successful aircraft ever produced. By those who fly them they are affectionately known as "String-bags," from the "bits and pieces," which support them in the air. Although sadly slow, they are excellent torpedo aircraft and good bombers: the smallest self-contained fighting units in the world which can wreck an aerodrome or cripple a battleship. They and their successors are the only effective means the Royal Navy has of slowing a vessel faster than a pursuing force and compelling it to give action.

Torpedo-spotter-reconnaissance aircraft may be employed on patrols against submarines or to spot for the gunfire of a fleet; they may also carry out attacks on ships in harbour or on land objectives which our shore-based aircraft cannot reach. But their chief duties are to find, fix and strike. Having sighted the enemy ship, the Swordfish must shadow her until the carrier can send out a striking force to bomb or torpedo her while she is still beyond the range of the fleet's guns, so that if alone she will be unable to escape, or, if sailing in company, her consorts

will either be forced to leave her or to reduce speed to give her protection.

The duties of the Swordfish pilot and observer have their peculiar difficulties. The naval pilot has the additional hazard of taking off from, and landing on, a moving deck. He must also possess the skill and technique required for successful torpedo attacks. The observer is responsible for the navigation and must be able to guide his aircraft over vast stretches of sea and then return to a moving spot in the ocean. On reconnaissance his duty is to act as the Admiral's spyglass and to provide him with accurate information.

Naval pilots and observers are drawn chiefly from commissioned officers and midshipmen, though a smaller number of rating pilots and observers are employed. The telegraphist-air-gunner—the name is now shortened to "air-gunner"—is a rating, originally recruited from the ship-telegraphists. He is trained to a very high standard of efficiency in wireless telegraphy and air gunnery, and on him the passing of vital information to the Admiral, as well as the safety of the aircraft, may well depend.

The first aircraft to land on the flight deck of the Ark Royal were the Swordfish of 820 Squadron, led by Lieutenant-Commander A. C. G. Ermen, R.N., which flew off from Southampton on 12th January, 1939, after the ship had completed her trials.

The carrier at once proceeded on her maiden cruise to the Mediterranean. Her entry into Valetta Harbour at Malta created almost as much stir as the first motor-car that appeared in the streets of London. Officers from the aircraft-carrier *Glorious* flocked on board to examine her new contrivances with expert eyes. Others made scathing references to her "great ugly snout" and drew caustic comparisons between her well-found cabins and their own Spartan quarters.

At Alexandria she carried out night and day flying training, exchanging torpedo and bombing attacks with the *Glorious*, and sailed for home waters at the end of March.

The maiden cruise left the Ark Royal with her character still unformed. With so large a complement the ship had been slow to shake down. She had been regarded as a figure of fun rather than as a dazzling debutante and had not had time to acquire that personality which was so outstanding throughout her war career; perhaps because many of her flying personnel had as yet little experience of service at sea and it took time for squadrons straight from shore-training to identify themselves with the ship.

The aircraft-carrier was still the Cinderella of the Navy, and the capabilities of a floating aerodrome were not generally appreciated; many thought that naval aircraft must be restricted to scouting and reconnaissance. The airmen themselves knew better and awaited their opportunity to prove themselves.

It was not long in coming.

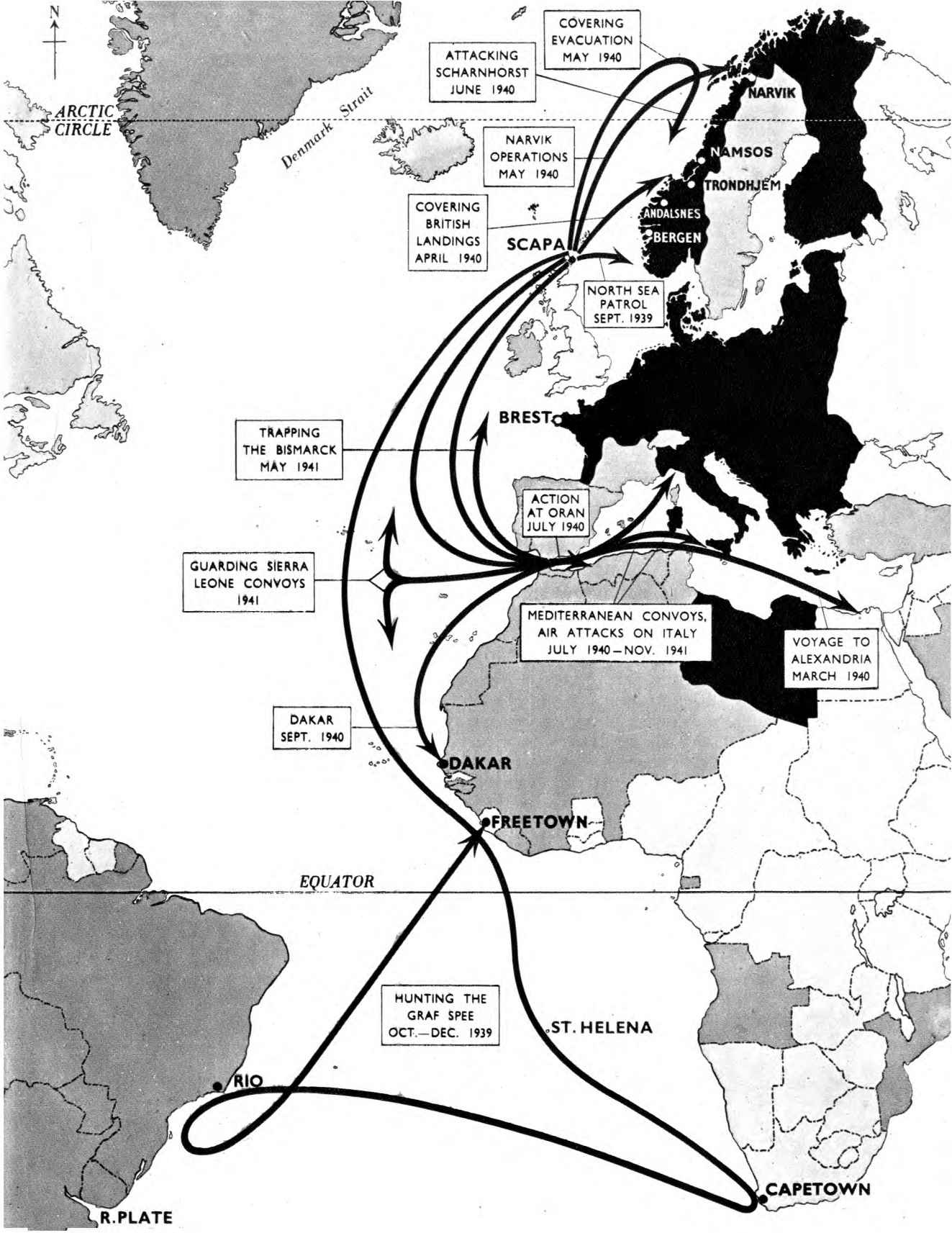
### 3. The Ark goes to War

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6th MAY—27th SEPTEMBER 1939

DURING the uneasy summer of 1939 the Ark Royal remained in home waters. Her last public appearance in peace time was on 6th May, when four squadrons of her aircraft dived in salute to the King and Queen off St. Catherine's as Their Majesties sailed on their Canadian tour in R.M.S. *Empress of Australia*. The Ark Royal was then wearing the flag of Vice-Admiral G. C. C. Royle, C.B., C.M.G., Vice-Admiral Aircraft-carriers,







**NORTH SEA RESCUE.** The crew of the torpedoed Fanad Head waving to one of the Ark's Swordfish which, with Skuas, bombed the attacking submarine.

who was relieved by Vice-Admiral L. V. Wells, C.B., D.S.O., on 26th July.

While the world was speculating on the possibilities of averting war, the Royal Navy was quietly making its preparations lest war should come, and on 31st August the Ark Royal put to sea with the Home Fleet to patrol the waters between the Shetlands and Norway.

On the following day one of the Swordfish, on reconnaissance in bad visibility, made a forced landing on a Norwegian fiord and sank. The crew paddled to the shore in their rubber dinghy. They were not a cheerful party, for war seemed imminent and they were faced with the prospect of spending it interned in Norway. Fortunately, they landed near a Norwegian aircraft base. The officers were sympathetic and, realising the consequences of delay, sent them by seaplane to Bergen, whence they were able to ship to England a few hours before the declaration of war.

Shortly after eleven o'clock on 3rd September, while the Ark Royal was still on patrol with the Home Fleet, the Flag-Lieutenant received through the pneumatic tube which connected the main Wireless Telegraph Office with the bridge a sealed envelope addressed to the Vice-Admiral, marked "Urgent Priority." It contained a pink signal slip on which were written the two words, "Total Germany"—the Admiralty cipher message sent to every ship of the Royal Navy on the outbreak of war.

The Flag-Lieutenant took the signal to Vice-Admiral Wells, who was on the flight deck. At the time the ship was busy operating aircraft, and it was not until an hour later that the Boatswain's Mate went to the microphone below the bridge and shouted "D'ye hear there?"—the preliminary call for all announcements. Captain Power followed him.

"This is the Captain speaking," he said. "I have just received the signal 'Commence hostilities against Germany.'"

That was all. The news had been expected for days. The ship's company heard it with composure, and then went about their duties again.

The Fleet was ready to put the planned defensive measures into operation and for the first days of the war cruised to the east of the Orkneys, most of the time in thick fog. At dawn each morning the Ark Royal flew off a reconnaissance towards the Norwegian coast, as part of the Commander-in-Chief's plan to prevent the enemy either leaving or entering the northern part of the North Sea.

No German vessels appeared, however, until, on 14th September, the Ark Royal, while engaged on an independent submarine hunt with four destroyers, was suddenly attacked.

That morning she received a signal that S.S. Fanad Head had been torpedoed in a position 200 miles to the south-west. She went at once towards the scene of the attack. At 2.40 she turned into wind to fly off three

Skuas, and before she could resume her course Leading Signalman J. E. Hall saw a torpedo running straight towards the ship. His prompt and accurate report enabled the Officer of the Watch to put the helm over to port in time.

The destroyers took up the hunt while the Ark steamed out of danger. The first pattern of depth-charges jumped the U-boat's engines off their beds; the second blew her to the surface in a sinking condition. When she broke surface she was identified as U-39. The destroyers opened fire, then ceased as men began to appear on deck. The whole of the submarine's company, including her captain—forty-three in all—abandoned ship and were taken on board H.M.S. Faulknor. They appeared to be relieved when they found they were not to be shot. The U-boat sank a few minutes after surfacing.

Meanwhile the three Skuas had sighted the Fanad Head lying stopped, with her passengers and crew in the lifeboats. The ship was being shelled and on her port bow the observers saw a patch of oil 50 feet in diameter with a dark object in the centre. The Skuas went down and released their bombs over this patch. The submarine (later ascertained to be the U-30) crash-dived, leaving a couple of her gun crew swimming in the oily patch, but two of the Skuas fell into the sea. Their pilots, in their anxiety to go as close to the target as possible, had dived so low that the bombs had blown off the tails of their aircraft.

Twenty minutes later the submarine reappeared on the Fanad Head's starboard quarter with her conning-tower above water. The surviving pilot dived again from 2,500 feet, firing his front gun and expending 1,150 rounds in a single burst. The U-boat submerged once more and the Skua returned to the ship alone.

Later in the afternoon six Swordfish sighted the submarine as she was firing another torpedo at the Fanad Head. They attacked her and believed they had sunk her,

but later evidence showed that she returned to Germany after landing one of her wounded men in Iceland. With her she took the crews of the two crashed Skuas, the Ark Royal's first casualties, and the first naval airmen to be made prisoners of war.

The directions given by the Swordfish observers enabled the destroyers to pick up the passengers and crew of the Fanad Head the same evening.

Three days later H.M.S. Courageous was torpedoed while searching for submarines. The Admiralty then decided that aircraft-carriers were too vulnerable to be employed independently on such hazardous duty, and the Ark Royal was recalled to port, to operate again with the Home Fleet.

On her return to Scapa on 27th September, after being missed by the Heinkel flown by Leutnant Francke, the quantities of stores that were taken aboard convinced the ship's company that she would soon be leaving home waters.

## 4. Ocean Search: the hunt for the Graf Spee

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2nd OCTOBER—27th DECEMBER 1939

WHEN THE ARK ROYAL put to sea at short notice on 2nd October, 1939, in company with the battle-cruiser Renown, no one on board but Vice-Admiral Wells and Captain Power had any inkling of her destination. All that the ship's company knew was

that the *Renown* and the *Ark Royal*, with a screen of four destroyers, were to be known as Force K and that they were steering south. It was not until they were well out to sea that Captain Power told them that the first port they would sight would probably be Freetown, Sierra Leone.

It was the beginning of a long and eventful partnership between the two ships. Each had her own function. That of the *Ark Royal* was to operate in areas which could not be reached by shore-based aircraft; that of the *Renown* to give the carrier the protection of her guns, and to complete the work the aircraft had begun.

Officially Force K's mission was Trade Protection and Ocean Search in the South Atlantic, where a surface raider, at first believed to be the pocket-battleship Admiral Scheer, had broken out and was attacking merchant shipping.

The Force reached Freetown on 12th October. By then both officers and ratings were making shift with any cool clothes they could find, for there had been no time to procure tropical rig before sailing. The Officer of the Guard, coming on board the *Ark Royal* in immaculate whites, was astonished to find the Paymaster-Commander on the quarter-deck in drill shorts, an aertex vest, and carrying an umbrella.

Having refuelled at Freetown, Force K left the destroyer screen and sailed on to the southward, for a sweep towards St. Helena.

From that time onwards the *Ark's* Swordfish were constantly employed. Every day when flying was possible two searches were sent out. The routine varied little. Each reconnaissance would be designed by the Commander Air Staff, who would brief the observers of the dawn search at an early hour in the Air Intelligence Office. He would tell them how far they were to go, the area they were to cover, the action they were to take in accordance with what they sighted, the time they were to be back. The normal search took about four hours; although a Swordfish

should be safe in the air for five, and its endurance has been known to last for six.

The dawn search entailed crews and ground staff starting their preparations at least an hour before daylight.

Men who work on the aircraft of the Naval Air Arm are divided into three main categories: Air Artificers, Air Fitters and Air Mechanics. Air Artificers are capable of dealing with any problem which may arise regarding the engine or the air-frame. Air Fitters and Air Mechanics specialise in individual work, and there are four branches, (A) for Air-frames, (E) for Engines, (O) for Ordnance (Armourers), and (L) for Electricity. Roughly speaking, a squadron has two Air Mechanics per aircraft; an Air Fitter looks after two, and there are one, or perhaps two, Air Artificers.

When a squadron is preparing for a reconnaissance, the ground staff bring the aircraft from the hangar to the flight deck in the lifts, which are operated by stokers. The ranging party, composed of seamen, then take over and push the aircraft aft, assisted by a small "pin party" to spread and secure the wings. They lash the wooden chocks together with heaving line, then hand over to the fitters and mechanics, one man remaining at each wheel and holding the chocks until the aircraft is ready to fly off. These deck parties, who have to work in all weathers, sometimes exposed to a 40-knot wind, are provided with windproof overalls, gym shoes and woollen caps.

Each squadron has its own time-keeper, who acts as a look-out until all his machines are airborne. One of the ranging party, in an asbestos suit, does duty as a fire-guard, standing beside the crash-box (containing axes, crowbars, hacksaws, tube-cutters and other rescue appliances) under the pom-pom in the island. Distributed round the nets are phomene generators from which hoses can be run out to a fire anywhere on the flight deck.

By the time the flying crews reach their aircraft the engines have been started up, and

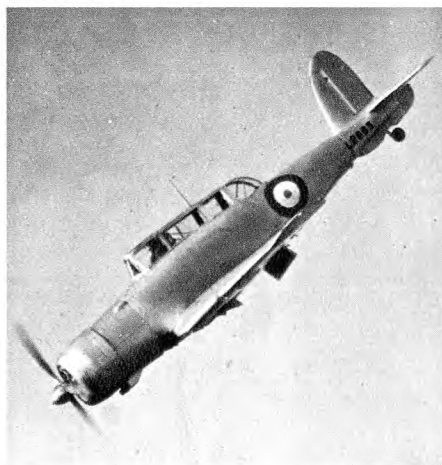
the fitters help to strap the pilots in. When the pilots have run up the engines and all is ready the Flight Deck Officer signals—arm outstretched and thumb up-pointed—to the Commander Flying, who is responsible for flying off the aircraft and stands on the port wing of the navigation bridge, whence he can see the whole length of the flight deck.

Aircraft must fly off and land on into wind. The required wind-speed over the deck depends on the type of aircraft and the load carried ; when there is little natural wind the carrier must steam fast, and slow when the wind is high. When the force of the wind is over 45 knots it is difficult to keep the aircraft on deck as their flying-off speed is little more. Even in a wind of 45 knots they tend to rise vertically from the deck and have to be brought right for'ard lest they should strike the island.

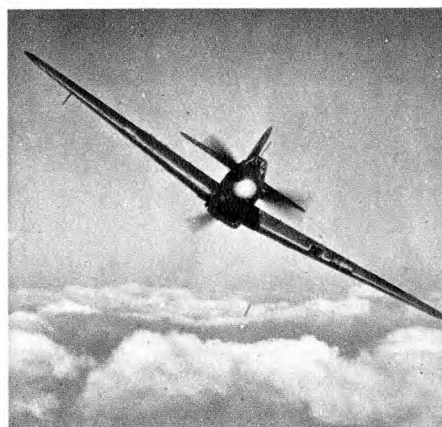
As soon as the Commander Flying receives the signal from the flight deck he gives the order "On steam jet" to the Flying Control Room ; also "Down wireless masts," if these are up. The jet is on the centre line at the fore-end of the deck, and as the ship turns into wind the steam is driven back. The carrier manœuvres until this trail of steam, like a long twist of cotton-wool, is directly above the centre line of the deck, showing that she is steering dead into wind.

By this time the first aircraft, with squadron ratings holding her wing-tips, is waiting in the take-off position on the port side of the centre line, so that its starboard wing may clear the island : this is particularly important at night. The Flight Deck Officer gives the signal to remove the front chocks. The Commander Flying waves his green flag—a green torch at night. The Flight Deck Officer repeats the signal to the pilot. The ratings remove the rear chocks and leap with them to the nets at the side of the flight deck as the aircraft moves forward and takes off.

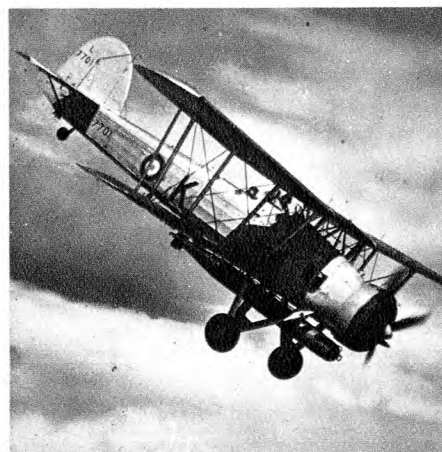
As soon as the Flight Deck Officer has waved off the first aircraft he brings the next



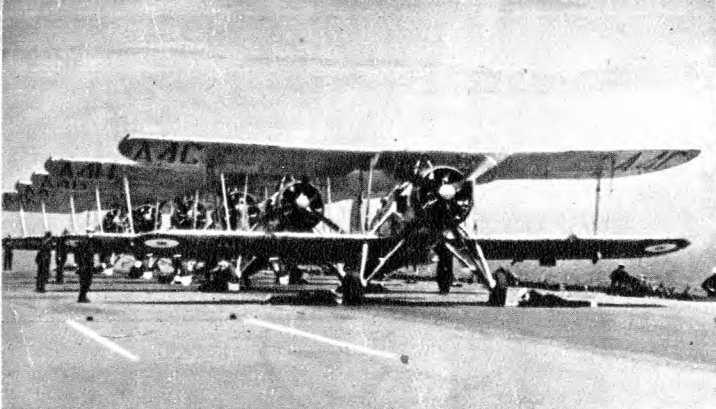
WINGS OF THE ARK. The Ark carried Skuas, Fulmars and Swordfish. The Skua, above, is a fighter-dive-bomber, carrying a pilot and air-gunner.



FULMARS later replaced the Skuas. They are faster and carry eight guns firing forward from the wings, with a crew of two.



SWORDFISH were the Ark's reconnaissance and torpedo-biplanes. With a crew of three, they carry an 18-inch torpedo or a 1,500-lb. bomb load.



1 FLYING OFF THE PATROLS. The Swordfish are ranged aft. Men of the ranging party are holding the wheel chocks fast.



2 With the carrier dead into wind, as the steam jet set for'ard in the deck shows, a Swordfish flies off.



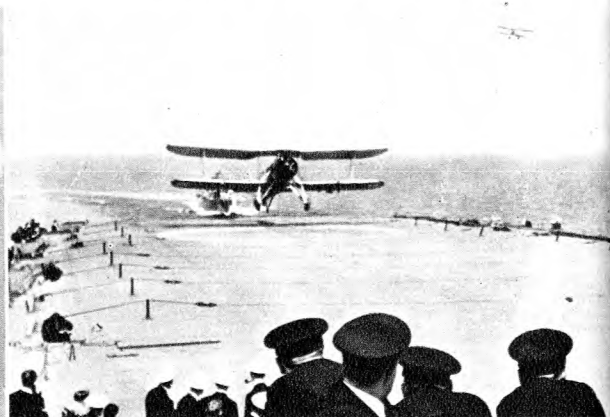
3 All now in the air and in formation, the aircraft circle round the carrier. They must land on from astern and into wind.



4 The "round down" at the stern of the Ark, over which the pilot comes in to "land on." He cannot see the deck very well—



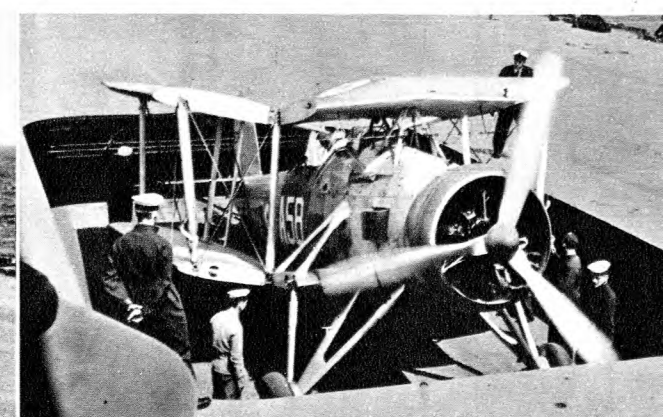
5—so to the returning pilot the Control Officer signals with his "bats" that the approach is correct.



6 The Swordfish is about to touch down, with its hook lowered under the fuselage to catch one of the arrestor wires stretched across the deck.



7 The pilot taxis forward, and the wings are folded back by the "pin party," so that the aircraft can descend in the lift shaft.



8 Her wings folded back, the Swordfish is struck down in the lift to the hangars below the flight deck.

into position, and so on until he has flown off all the aircraft on deck. As soon as they have checked the wind they fan out on their allotted courses for the search.

In the South Atlantic the dawn search would return about ten o'clock, to be followed by the afternoon search at two, with orders to be back before dark to save the hazard of a night landing.

When a reconnaissance is returning, the squadron parties are piped by the ship's broadcaster: "Stand by to receive aircraft." While waiting on the flight deck in bad weather they shelter behind the gun positions in the lee of the island.

As the ship turns into wind the Deck-land-

ing Control Officer directs the aircraft in their approach until they touch down on the deck. At the same time the Captain ensures that the wind is kept a trifle on the port bow, so that the smoke from the funnel may be blown clear of the aircraft as they come in from astern to land on.

The pilot is unable to see much of the deck as he comes down, for his engine obscures his view, but he follows the signals given by the "bats" of the Control Officer. As he touches down, the hook he has lowered from his fuselage catches in one of the arrestor wires which are raised horizontally across the after-part of the deck, and he throttles back his engine as the wire stops him. At a given

signal he releases his brake and allows the wind to blow him back a few feet, thus easing the strain on the wire and enabling two of the ranging party to disengage the hook and clip it back into position.

The aircraft having been brought to rest, the pilot, watching the directions of the parking officers, taxis forward, applies his brakes, and waits with his engine idling while the wings are folded by the pin party, and the next aircraft is signalled on.

As soon as all have landed, the ship resumes her normal course and the aircraft are struck down to the hangars by the lifts as quickly as possible, the steel windscreen at the fore-end of the deck being raised as

a protection if the wind is strong from ahead.

In all these operations speed is essential, for a carrier is then most vulnerable, since she cannot fire her guns or manoeuvre without endangering her aircraft.

Thus, day after day, the Ark Royal's Swordfish flew, many of the crews going into the sky twice a day. Besides the searches, the ship maintained a constant patrol of one or two aircraft over the Force in daylight, relieved at intervals of two or three hours.

The Skuas spent far less time in the air than the Swordfish, but as a search returned they would go up to meet them for a practice fight, or might be used to make dummy

attacks upon the ship to train her guns' crews. At times they, too, were used for more limited reconnaissance.

An aircraft flying over the South Atlantic is the most solitary object in the world. It ranges the sky as lonely as a cloud, beyond the view of its fellows or its parent ship. Hour after hour would go by without the sight of so much as a soap-box, yet each member of the crew had to keep constantly alert. In fair weather there would be little diversion beyond a spouting whale or an occasional flurry of flying-fish. In foul weather—and with tropical storms flying conditions were often terrible—the crews faced the perils of the air and sea, dependent upon their single engine or, if that were to fail, upon their rubber dinghy. At all times they lacked the excitement that the crews of the fighters or the bombers know. Week after week they flogged huge areas of salt water, morning and afternoon, straining their eyes for the raider which never came within their range.

Early in November, however, a Swordfish sighted a prize at last—the German steamer Uhenfels. When intercepted she was found

to have on board, besides a general cargo of hides, nuts and copra, a consignment of opium valued at £250,000. Force K took her in to Freetown.

On the following day the Commander-in-Chief, South Atlantic, received a report that the raider had worked round the Cape of Good Hope into the Indian Ocean. This information was confirmed by the news that S.S. Africa Shell had been sunk in the Mozambique Channel. Force K accordingly sailed on 18th November to patrol a line south of the Cape, to intercept the raider should she try to double back into the Atlantic.

The weather was so bad that from 27th November to 2nd December there was only one day on which it was possible to operate aircraft, and since it seemed unlikely that the patrol line could extend far enough to the southward to intercept a raider bent on evasion, Force K put in to Capetown on 3rd December.

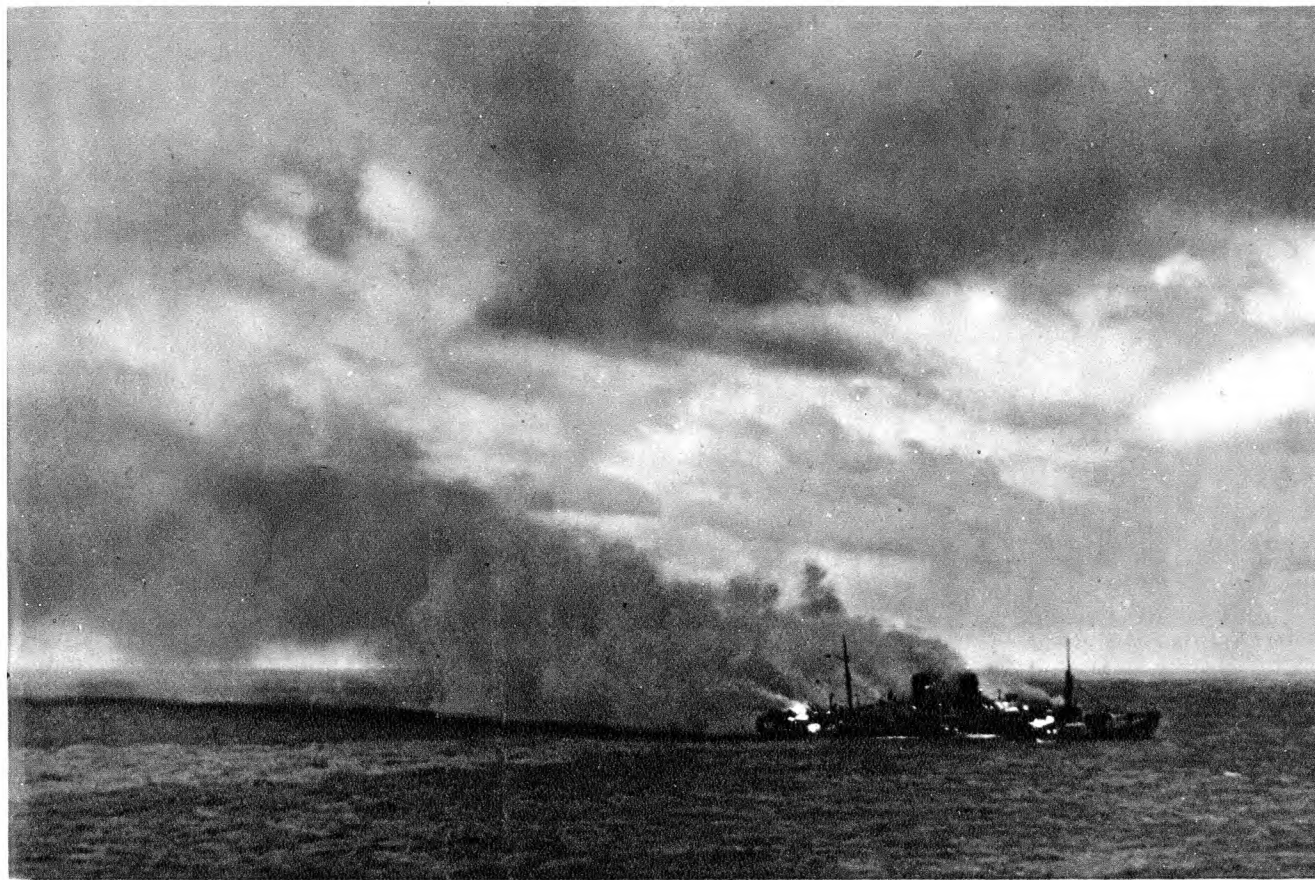
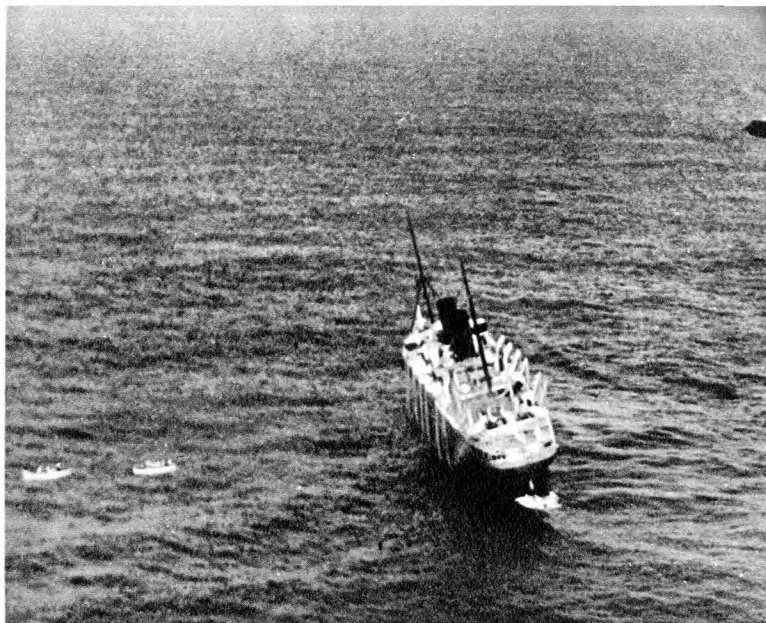
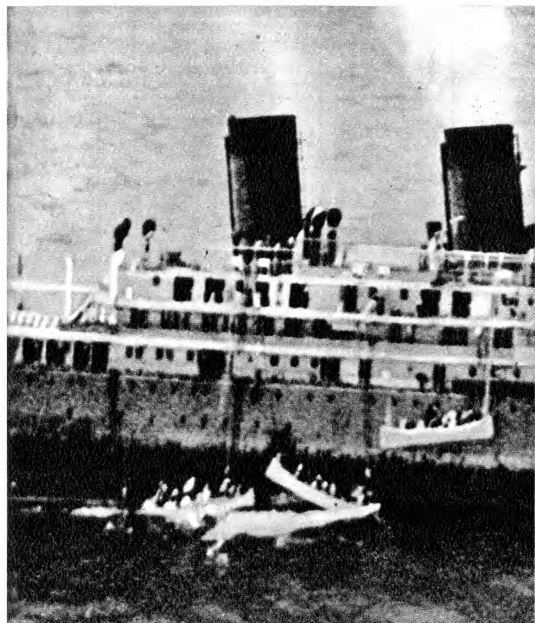
The Ark Royal's entry into Capetown harbour caused great excitement, for it was her first public appearance since the Germans had claimed to have sunk her. The South Africans showed their feelings by their hospitality. Every officer and rating who went ashore received an invitation to one private house or another.

The ship's company were expecting a spell of rest, but they were to remain in port only twenty-four hours, for news came in that S.S. Doric Star had been attacked to the southward of St. Helena: the raider had returned to the Atlantic and was believed to be steering west. Force K immediately sailed to take up a central position in the South Atlantic, whence it could proceed to Freetown, the Falklands or Rio without refuelling, should the situation develop.

On 13th December the raider, at last identified as the Admiral Graf Spee, was engaged by the cruisers Ajax, Exeter and Achilles off the River Plate and sought refuge in Montevideo. Force K was ordered to refuel at Rio and then to proceed to the Plate.



**FULMAR IN TROUBLE.** Flying from carriers is not easy, and risks have to be run. This Fulmar missed the landing wires, began to take off again, banked too steeply, and caught its wing tip. The crew of two were both flung clear and rescued unhurt from the water.



**END OF A GERMAN LINER.** Caught by South African bombers on 2nd December, 1939, south of Cape Point, the 9,521-ton Watussi was scuttled and fired by her crew. These pictures, taken from one of the Ark's aircraft, show (i) the crew taking to the boats, (ii) the ship listing as the boats draw off, (iii) the fire blazing fore and aft. The Watussi was sunk by gunfire from the Renown.



The two ships reached Rio at dawn on 17th December and were welcomed by an enthusiastic Brazilian crowd. No one was allowed to land. Near the ship was a large Neon sign advertising beer, and during the Ark's brief stay in harbour the flight deck was crowded with sailors licking their lips and pawing the ground: even Tantalus was only denied water. But every hour counted. By six o'clock that evening the Ark Royal had refuelled and sailed for the Plate at 25 knots; the Renown followed four hours later.

Everyone in the Force was expecting the Graf Spee to put to sea again. The Swordfish crews were looking forward to showing what they could do with their torpedoes after their long search. But shortly before midnight a signal told them that, rather than fight, the Germans had scuttled their ship outside Montevideo harbour. The long hunt was over and the Swordfish had been balked of their prey. An unsuccessful attempt was made to locate the Graf Spee's supply ship Altmark; then Force K shaped a course for Freetown.

During the hunt the Ark Royal crossed the Equator several times, but owing to the exigencies of war Father Neptune's ritual passed almost unobserved at sea. On one occasion when the ship was in Freetown, however, tradition was allowed to have its way. Neptune, represented by a stout cook, accompanied by his minions carrying barber's chair, gigantic wooden razor and buckets of lather, set up his court on the flight deck and laid hands upon all who had not crossed the Line before the hunt began.

It so happened that the Captain had never been initiated. He appeared on deck in a shirt and a pair of shorts. He was lathered, shaved and ducked with the rest.

It is doubtful whether a Commanding Officer in any other navy in the world could thus join in the rough-and-tumble of the Lower Deck. The incident, seemingly trivial, has its significance, for it was one which ratings do not forget. It set the seal on the Ark as a

happy ship, and so she remained until the end.

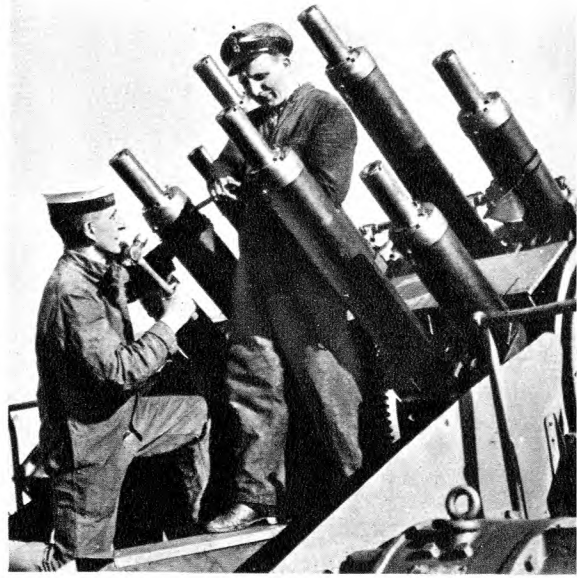
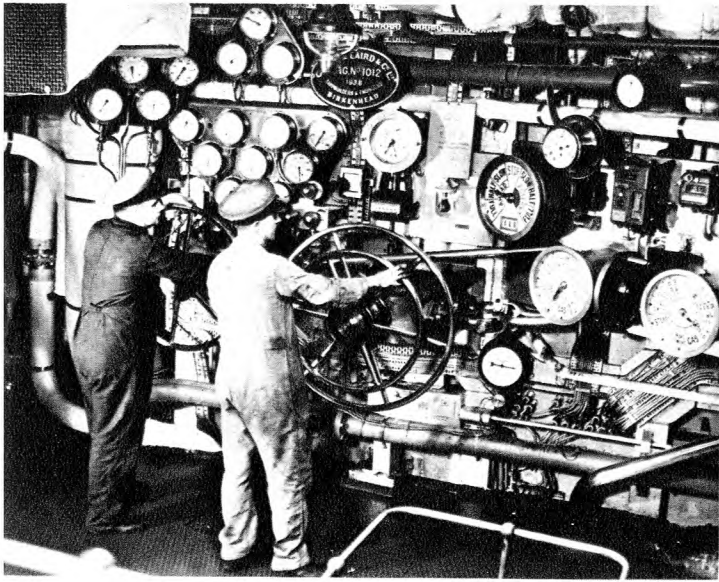
It is not easy to say what makes a happy ship. Comfortable quarters are not necessarily the cause. Big ships are more comfortable than small ones, and the Ark was more comfortable than most, but ratings commonly prefer to serve in destroyers rather than in battle-cruisers. A ship is made happy by the men in her, but the lead must come from the top: from the Captain, perhaps even more from the Commander. During the long zig-zags in the South Atlantic the officers and ratings of the Ark Royal had learned to work together and to play together. Seamen and airmen had shaken down and had become a team.

"It was the mucking-in spirit," said one of the Petty Officers. "There wasn't a lot of bull. And we liked being told what was going on."

As time went by the ship's company was to know many changes, and two Commanding Officers were to follow Captain Power. But the spirit of the Ark did not change, and the Chaplain, whose finger is on the pulse of the Lower Deck, said that the only moans he ever heard were from men who were to be transferred to another ship.

There was a happy Christmas jollification in which all joined when, her long search over, the Ark Royal reached Freetown on 27th December. Presents were distributed on the quarter-deck by a Captain of Royal Marines, disguised as Father Christmas, but wearing a very small bowler hat.

The ship's company had earned their holiday. During the chase of the Graf Spee the Ark Royal had steamed 75,000 miles and her aircraft had flown nearly 5,000,000. Between 18th November and 27th December she had spent only thirty-six hours in harbour, with steam on her main engines all that time. The endurance of the Swordfish crews had been tested and their experience tempered. The ordeal of the Skua crews was close at hand.



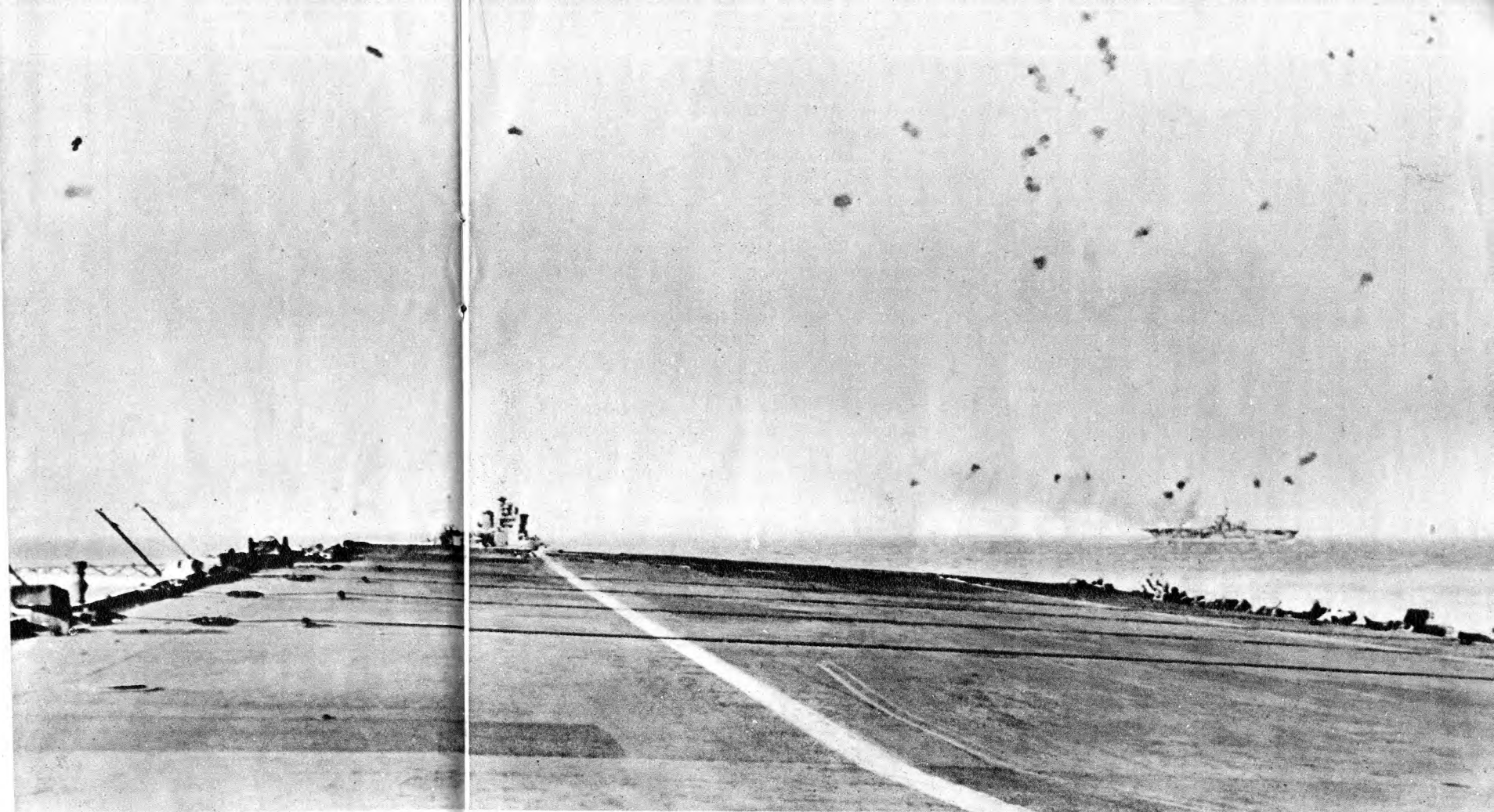
THE HAPPY SHIP. The men of the Ark "learned to work together and play together." "It was the mucking-in spirit" said one of the Petty Officers. "There wasn't a lot of bull, and we liked being told what was going on."

## 5. Norway: at grips with the Luftwaffe

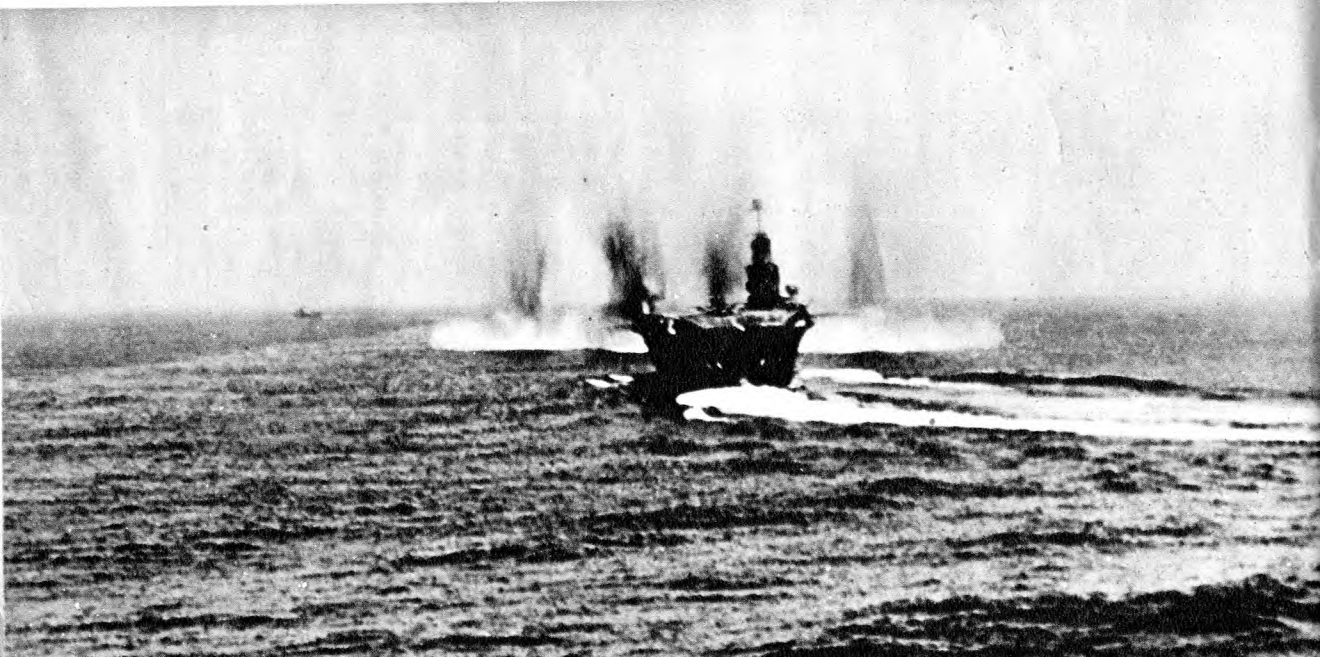
22nd MARCH—13th JUNE 1940

THE ARK ROYAL returned to England to refit on 15th February, 1940, while the ship's company went on leave—the first they had had since the outbreak of war.

On 22nd March she sailed for the Mediterranean with three squadrons of Swordfish on board to work up night flying over the desert, and arrived at Alexandria in company with H.M.S. Glorious. For a week her aircraft crews carried out intensive training ashore. Then, on 10th April, the day after Germany invaded Norway, the Ark Royal and the Glorious were recalled at best possible speed to Gibraltar, where they were ordered to rejoin the Home Fleet. On the 23rd the two



BATTLE ROYAL. Taken from the deck of the carrier Glorious during an air attack off Norway. The Ark can be seen filling the sky with her shells. Below, the Ark "takes a fence."



carriers left Scapa for the Norwegian coast. Captain (now Rear-Admiral) C. S. Holland joined the Ark Royal on 20th April, and took over command from Captain Power on 1st May.

The carriers' object was to protect the naval ships and convoys, to give cover to the troops at the landing-places, and to attack the German-occupied air bases in Norway. Swordfish and Skuas are limited in performance and speed, and it is not a carrier's proper function to operate against shore-based aircraft, but

the Admiralty had accepted the risk, since the Royal Air Force had no aerodromes in Norway and the distances were too great to send any but long-range fighters from the United Kingdom. Not many of these were available and they could not spend more than an hour in the combat area, allowing for the distance they had to fly there and back.

From the outset of the campaign, therefore, both the Ark Royal and the Glorious were faced with grave hazards. They had to operate within hostile aircraft range of the

coast, and between them they had only four squadrons of fighters, against the latest enemy types, which were faster and more powerful. These intensive operations were possible only for four or five days at a time, after which, having stirred up the enemy on the mainland, the carriers would, as Admiral Wells put it, retire into the long grass.

Between 24th and 28th April the Ark Royal gave fighter protection over the Namsos and Andalsnes areas, where British forces had landed to attack Trondhjem from the north and south. The Skuas flew to the limit of their endurance, fighting many gallant combats, sometimes against odds of six to one. Outnumbered and outdistanced though they were, they established moral ascendancy over the enemy and shot down at least twenty German aircraft, damaging twenty more. The German pilots soon learned to respect them, and in the later combats used their superior speed and climb to evade the Skuas by taking refuge in the clouds.

On 27th April five Skuas attacked two Junkers 88's which were dive-bombing a convoy entering harbour. Both turned away with their engines on fire, losing height. The Skuas then attacked a number of Heinkel 111's, two of which made off in flames. Having driven off two Dornier 17's, they engaged fifteen more Heinkels which were approaching in ragged formation, severely damaging one. By this time the Skuas had expended their ammunition, but rather than abandon the convoy they started dummy attacks on the enemy aircraft, putting them to flight and making them jettison their bombs.

During this period only one Skua was shot down in battle. Eight others were lost by trying their endurance too hard and not having enough fuel to rejoin the ship.

Swordfish are not designed for raids on heavily-defended land positions, but while the Skuas were attacking German shipping and float-planes in Trondhjem harbour, the Ark's homely String-bags bombed Vaernes

aerodrome near by, destroying all the hangars and many buildings. The raid was made in daylight, at 6,000 feet, and one of the pilots described the flak as "so close that you could smell it."

Like the Skuas, the Swordfish had no rest. Day after day they went bumbling up and down unimaginably lovely fiords looking for targets, embarrassed by the permanent escort of Heinkels and Junkers overhead. Once a pilot was constrained to send back the laconic signal "Delayed by three Heinkels." On one occasion a Swordfish was chased by a Heinkel 111, another by a Junkers 88. Both escaped by skilful manœuvring, the first flying low round a mountain, the second coming down almost to water level on the edge of a fiord and then flying out to sea.

Many of the Ark's air crews returned to the ship only after forced landings on frozen lakes, in snowdrifts, or in the sea. Sometimes ships that were close at hand gave prompt assistance. Sometimes the crews reached safety after trudging many miles over mountains and through deep snow, fed, clothed, hidden and guided (more than once through the enemy lines) by friendly Norwegians.

A Skua on fighter patrol over the Andalsnes area, having shot down a Heinkel 111, was forced to land owing to lack of petrol, and came down within a mile of the crashed German aircraft. Both crews sought refuge in a house near by. An armed Norwegian then appeared. Knowing neither English nor German, he had some difficulty in deciding between friend and foe: but at last the Skua crew succeeded in establishing their identity, and one of the Germans who produced a hidden automatic was promptly shot. Eventually, after borrowing skis, which neither of them had ever used before, the British pilot and observer reached safety on the coast fifty miles away.

Another Skua pilot (a midshipman), flying alone, found himself separated from his section after air combat. Shortage of petrol

compelled him to land on a frozen lake alongside a damaged R.A.F. Gladiator, but he was advised to leave at once owing to the presence of German aircraft and the anticipation of a fresh attack. He filled up with petrol from the wrecked Gladiator, borrowed a Norwegian school atlas, and after flying unaided across 350 miles of sea made a good landfall in the Shetlands, where he refuelled and then joined a naval air station.

Although a carrier's aircraft have the advantage in mobility over those of the R.A.F., they have no secure base and may be more vulnerable in their hangars than in the air. When the crews returned to the ship, cold and tired out, they were often heavily bombed. During the campaign the Ark Royal became the Aunt Sally of the Luftwaffe. Once she was attacked almost continuously for twelve hours by Heinkels and Junkers, which scored ten near misses but no hits.

On 1st May, after a particularly fierce bombing attack, during which the Skuas destroyed one enemy aircraft and gunfire damaged others, the Ark Royal returned to Scapa. By then the British forces had been withdrawn from the areas north and south of Trondhjem, and the Germans had established contact with the garrison holding the port. The Ark sailed again for the Norwegian coast on 4th May with orders to give air protection to our troops attacking the iron-ore port of Narvik until R.A.F. fighters could be based ashore.

She cruised about 100 miles from the coast, and for the next fortnight was almost incessantly in action. There was no night. Flying began at midnight and went on until 11 p.m. Fog and low cloud hampered the fighters. Sometimes the swell was so deep that the motion on the ship made flying impossible. The requests for protection were numerous and insistent, but the distances were such that it was impossible to maintain patrols over all the areas at once unless the carrier operated so close inshore as

to endanger her safety unwarrantably.

The Skua pilots fought many combats, but found that the enemy aircraft now showed more spirit when attacked and were better handled; the improved performance of the Heinkels of Mark V type enabled them to avoid battle unless surprised. Constant cloud favoured evasion, so that there were fewer successful engagements than off Trondhjem, for the Skuas lacked the speed to press their attacks home.

"The performance of the aircraft crews was nevertheless as fine as ever," wrote Vice-Admiral Wells, and when forwarding this report the Commander-in-Chief, Home Fleet, observed: "Our Fleet aircraft are out-classed in speed and manœuvrability, and it is only the courage and determination of our pilots and crews that have prevented the enemy from inflicting far more serious damage."

One day five Heinkels took advantage of their speed and engaged the Skuas on patrol over the Fleet anchorage at 18,000 feet. After a determined dog-fight, during which the Skuas attacked both head-on and from astern, one Heinkel was set on fire. The leading pilot, Lieutenant W. P. Lucy, D.S.O., R.N., with Lieutenant M. C. E. Hanson, R.N., as his observer, then dived after two other Heinkels which had dropped to water level. He went in close to attack, fired a burst, then swung away: one Heinkel's port engine was seen to be smoking. Then Lieutenant Lucy's aircraft appeared to explode at 50 feet above the surface and crashed into the sea. One of his section directed a destroyer to the spot. His body was found, but there was no sign of his observer. Lieutenant Lucy had distinguished himself many times in the campaign, both in bombing raids and air combats; in his last fight he had broken up the attack by his resolute leadership and had caused the surviving aircraft to jettison their bombs.

The last section on this patrol sighted four Junkers 88's dive-bombing. Two Skuas

followed one of them down in its dive and attacked as it pulled out, putting both the Junkers' engines out of action. It crashed into the sea and the crew of five swam ashore ; as one of the Skuas dived to make observations, the Germans fired at it with their revolvers.

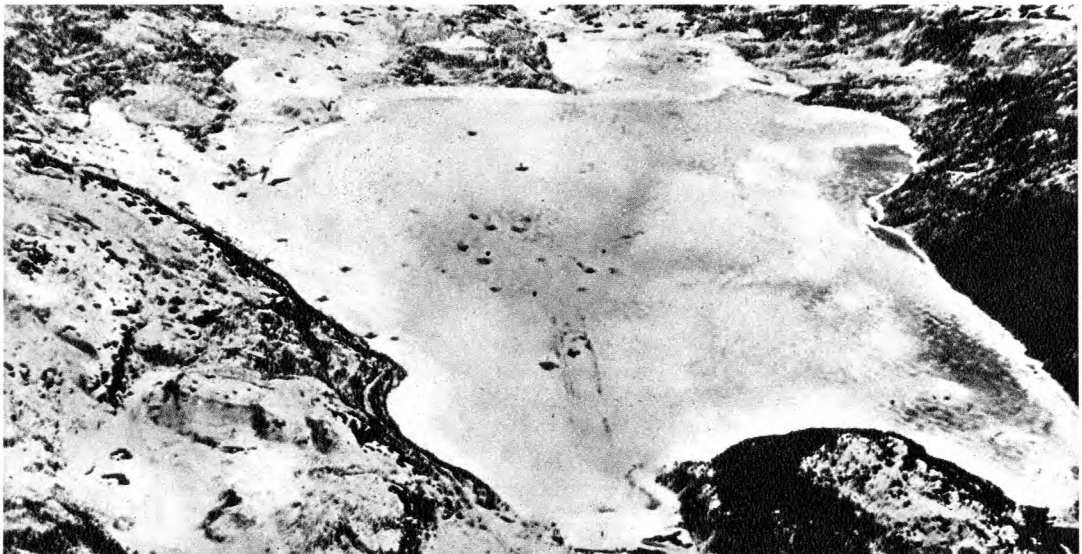
Meanwhile the Swordfish were also in constant action, taking photographs of enemy positions, patrolling over the Fleet, and bombing shore objectives, notably railway communications.

On 9th May six Swordfish attacked the railway line east of Narvik. The wind was so strong that it took them over two hours to reach the area. When they arrived they were encouraged to find a fighter patrol of Skuas overhead. The striking force then split up into two sub-flights and proceeded independently to their targets. One bombed the Nordalshoen Viaduct near the Swedish border, scoring two magnificent hits in the centre of the track, and placing a salvo in the mouth of the tunnel. The second sub-flight overturned a train in Hunddallen rail-

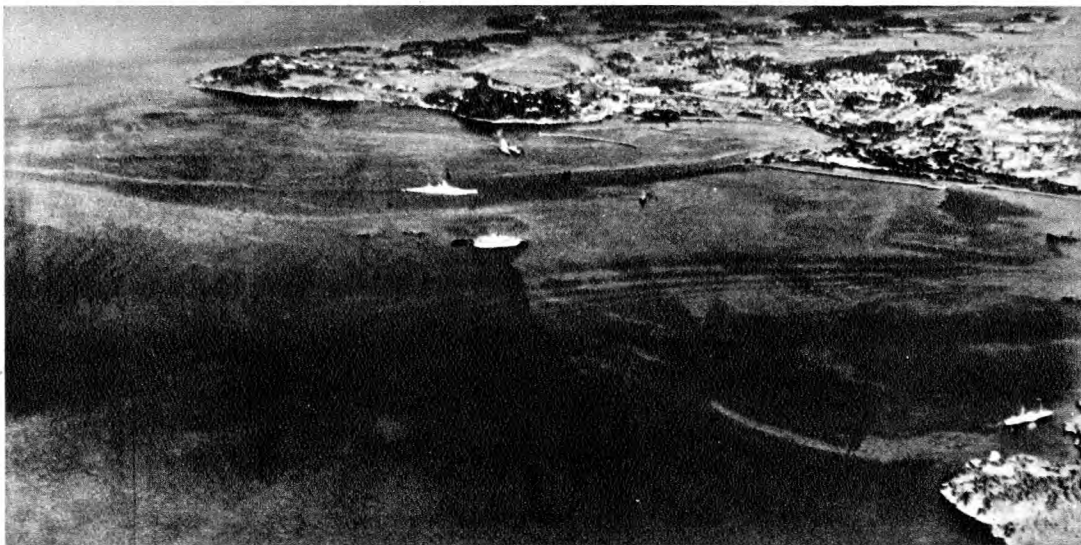
way station and inflicted heavy damage on the sidings. Two Swordfish were hit by anti-aircraft fire, one so repeatedly that its port mainplane looked like a cheese-grater, but both returned to the ship. One of the supporting Skuas force-landed over Rombaks Fiord, but the crew walked across country through the German lines to the coast and were taken on board a destroyer.

During this phase of the campaign the Ark Royal's Skuas destroyed or damaged six enemy aircraft, and probably nine more, with the loss of nine Skuas (including one crash on deck) and five Swordfish ; casualties to the crews were two killed and two slightly wounded.

On 25th May the Ark Royal left the Norwegian coast for Scapa. British troops captured Narvik on the 29th, and, having destroyed the facilities of the port so that the export of iron-ore would be impossible for some time, prepared to evacuate northern Norway. The Ark Royal returned with the Glorious to provide fighter protection during the final stages of the evacuation, and to



FROZEN LAKE HARTRIG, four miles S.W. of Narvik, where on 14th May, 1940, aircraft of the Ark Royal bombed and shot up enemy transport planes, seen scattered over the ice.



IN DAYLIGHT, and with no possibility of surprising the strong defences, 15 of the Ark's Skuas attacked the Scharnhorst and her protecting Messerschmitts at Trondhjem on 14th June, 1940. Eight aircraft—out of 15—were lost.

cover the homeward-bound troop convoys. On 8th June the Glorious was sunk by enemy gunfire, and at midnight on the 13th the Ark Royal flew off a striking force of fifteen Skuas, each armed with one 500-lb. bomb, to attack the battle-cruiser Scharnhorst in Trondhjem harbour.

Trondhjem lies snugly tucked away in a deep fiord, 50 miles from the coast. The Skuas had 160 miles to fly. The perpetual daylight and the distance they had to travel overland made surprise almost impossible. The morning sky was clear except for some light cloud, and it was estimated that watchers on the coast gave the alarm twenty minutes before the striking force arrived over the target, by which time the enemy fighters and the anti-aircraft gunners were ready for them.

On approaching Trondhjem at 11,500 feet they sighted the Scharnhorst, with two cruisers and four destroyers, lying at anchor off the town. They met with intense anti-aircraft fire from the ships and the shore bat-

teries, and were attacked by Messerschmitt 109's and 110's. They were thus forced to take violent evasive action and had to attack as best they could. Lieutenant-Commander J. Casson, R.N., who was leading the first squadron, carried out a shallow dive and attacked the Scharnhorst from bow to stern at 3,000 feet. The last section of his squadron attacked along the deck in the opposite direction and reported a near miss 15 feet from the stern. The second squadron, led by Captain R. T. Partridge, D.S.O., R.M., pressed home the assault with equal determination, although exposed to the most intense anti-aircraft fire any of the crews had experienced. The splash from a near miss was observed close to the ship's port quarter, and two vivid flashes were seen abaft the funnel.

From this sortie eight Skuas failed to return. The crews were lost, including the two leaders. The survivors escaped by flying low in the ground mist, except Sub-Lieutenant (A) G. W. Brokensha, D.S.C., R.N.,

who circled the area twice to see if he could help any of his comrades.

That night there was little laughter in the Ward Room or on the mess decks of the Ark Royal. The justifiable claim of one, possibly two, hits on the Scharnhorst was but a mournful compensation for the loss of sixteen gallant pilots and observers: the heaviest loss the Ark had known, or was to know, in a single operation.

The same day the ship's company learned that the evacuation was complete and that their activities off that inhospitable coast were at an end.

## 6. "This Melancholy Action"

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18th JUNE - 6th JULY; 21st - 30th SEPTEMBER 1940

ON 18TH JUNE, 1940, the Ark Royal sailed from Scapa to join Force H at Gibraltar, arriving on the 23rd. By that time Italy had entered the war and France had capitulated. The future of the French Fleet was causing the British Government grave anxiety.

France's two new battle-cruisers, the Strasbourg and the Dunkerque, were lying with two battleships, several light cruisers, destroyers and submarines at Oran and its adjacent military port of Mers-el-Kebir on the Moroccan coast. It became essential to ascertain the attitude of the French Commander-in-Chief, Admiral Gensoul, and to use all possible diplomatic persuasion to pre-

vent the force under his command from falling under the influence of the enemy.

For this delicate mission the Admiralty selected the Commanding Officer of the Ark Royal, Captain C. S. Holland, who until the outbreak of war had been Naval Attaché at the British Embassy in Paris and subsequently Liaison Officer to Admiral Darlan. Captain Holland had been on friendly terms with Admiral Gensoul: they had last met some months previously in Toulon, when the Admiral had given a luncheon party in Captain Holland's honour.

On 3rd July Force H, under the command of Vice-Admiral (now Admiral) Sir James Somerville, K.C.B., D.S.O., who was flying his flag in H.M.S. Hood, approached Oran. Captain Holland proceeded to the port in a destroyer. The French authorities gave him permission to pass the boom, and leaving the destroyer outside he continued his journey in a motor-launch. Admiral Gensoul, however, declined to receive him on board the Dunkerque. This was an unfortunate beginning, since it precluded any possibility of amicable discussion between the French Commander-in-Chief and the officer whom the British Government believed would be most acceptable to him.

Captain Holland was therefore reluctantly compelled to transmit to the Admiral a document setting forth the British proposals. These were, that the French Fleet should either agree to continue operations with the British Navy, or to sail under British control to a British port, the crews to be repatriated on arrival, and the ships to be restored at the end of the war. A further alternative was that the Admiral should undertake to have the ships demilitarised at a port in the French West Indies. The note added that, should the Admiral decline the offers, the British Government must, with profound regret, require him to sink his ships within six hours, otherwise the Flag Officer, Force H, had orders to use "whatever force might be necessary" to prevent the ships



from falling into German or Italian hands.

Having studied these proposals, Admiral Gensoul received Captain Holland. The parleys continued for several hours. The Prime Minister was able to assure the House of Commons next day that no effort had been spared to persuade the French to accept "the offers made in terms of friendship."

Those offers were finally refused. Captain Holland returned. At 5.53 p.m. Force H opened fire on the French ships. The bombardment lasted for ten minutes, the Ark Royal's Swordfish spotting for the Force. Five others, with an escort of Skuas, dropped mines at the entrance to Mers-el-Kebir harbour. The battleship Bretagne and two destroyers were sunk; the Dunkerque was damaged and ran ashore.

Shortly before this melancholy action (as Mr. Churchill described it) began, the Strasbourg, with a screen of six destroyers, broke out of the harbour at dusk, a feat of fine seamanship. She eluded Force H and made off at full speed to the eastward.

Six Swordfish from the Ark Royal were sent in pursuit. Their bombs straddled the Strasbourg but scored no hits. On the return passage two aircraft force-landed in the sea owing to petrol shortage, the crews being picked up by the destroyer Wrestler.

At 8 p.m. a second striking force of Swordfish, armed with torpedoes, was flown off. They sighted the Strasbourg steaming at 28 knots three miles off the African coast, making clouds of black smoke. She opened on them with accurate anti-aircraft fire. They swung down to the surface, and, working round in a wide sweep, flew ahead of her. They lay up and down the shore a hundred feet above the water, keeping her in sight and waiting until sunset, when the target would be silhouetted against the afterglow. Twenty minutes after sunset they went in to attack, keeping low against the loom of the land.

This was the first time that the Ark Royal's aircraft had attacked a capital ship at sea with torpedoes, and the pilots, still unaware

that they could penetrate the destroyer screen, dropped their torpedoes outside it. So far as they could observe, in the twilight and through the pall of smoke, they scored only one hit. That did not stop the Strasbourg and she disappeared into the gathering darkness.

Next day reconnaissance over Oran harbour showed that the Dunkerque, although grounded, was not permanently out of action. As an alternative to further bombardment, two squadrons of Swordfish were ordered to attack her with torpedoes.

They took off in the dark at 5.15 a.m. on 6th July and arrived off the harbour at sunrise. As soon as the first rays struck the Dunkerque above the haze that lay upon the water the Swordfish made a shallow dive from 7,000 feet in line astern, flying over the breakwater in the path of the sun. Four of the six torpedoes hit the target.

As they re-formed over the harbour they met the second squadron going in to the attack, which was made in three waves. The first achieved complete surprise and was unopposed; the second and third encountered fierce opposition, but all the aircraft returned, although one had a large hole aft, made by an unexploded shell which had ripped out the rear gun. It was now certain that the battle-cruiser had been immobilised for a considerable period.

These painful incidents require mention because they were significant to the history of the Ark Royal and the Naval Air Arm. The pursuit of the Strasbourg proved that aircraft could successfully attack a moving ship with torpedoes. The immobilisation of the Dunkerque proved that when the target was a ship in harbour airborne torpedoes could be no less effective and far more economical than a fleet bombardment. The torpedo had been shown to be more deadly than the bomb when used against a heavily-armoured ship, for the torpedo opened her up below the water-line, where she was most vulnerable. The operations ended the

discussion as to whether night attacks were possible, for the take-off in the dark ensured surprise, even though the actual attack was made in daylight, and it was now clear that torpedo-carrying aircraft were a potent force at night.

Both actions helped the naval airmen to perfect the technique of the night raid, and they felt that they had made history. They had gained confidence and experience, although their sense of achievement lost much of its savour because it had been won against former allies, of whose capabilities they had formed a high opinion earlier in the war.

The immobilisation of the Dunkerque ended the operations against the French Fleet, and the Ark Royal returned to Gibralt-

tar with Force H. Later in the year, however, she had to take part in an equally unhappy incident, when General de Gaulle and a Free French Force, accompanied by a British naval squadron, arrived off Dakar with the object of rallying the population to his flag.

In company with Force M, the Ark Royal sailed from Freetown on 21st September with twenty Free French flying personnel on board and two French Luciole training aircraft. At daylight on the 23rd, when approaching Dakar, she flew off three Swordfish and the two Lucioles. One Swordfish acted as a guide, the remaining two carried three Free French officers as passengers.

The mission of these officers was to

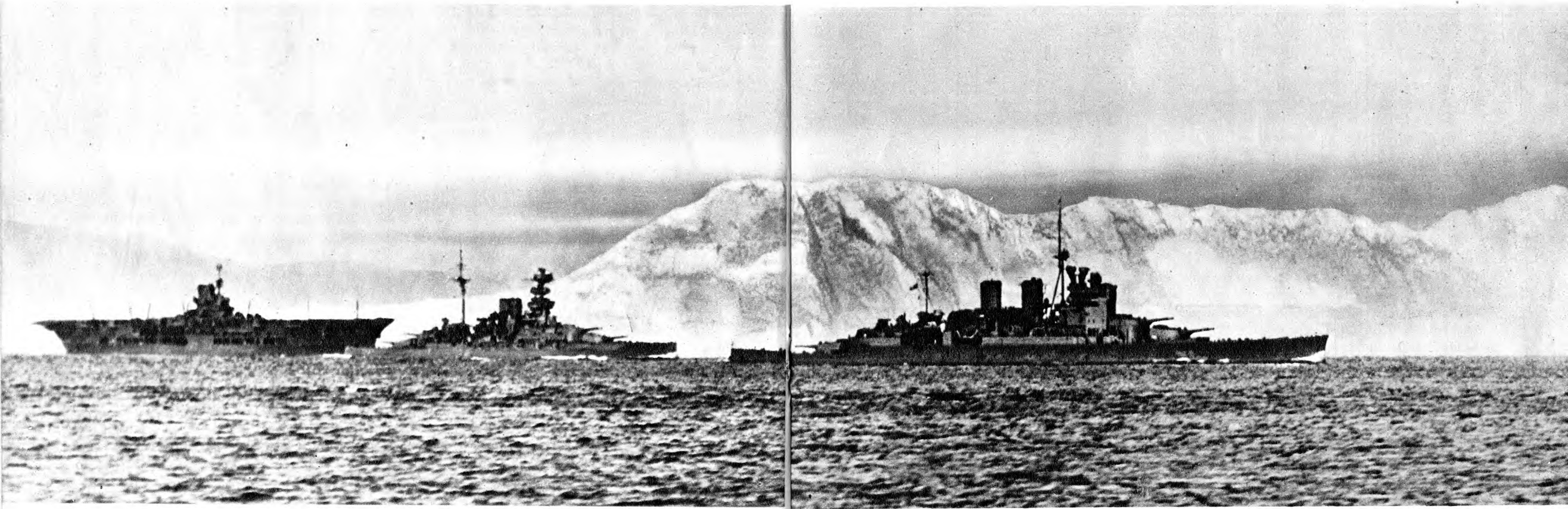
announce the arrival of General de Gaulle's force. Like all their comrades, they were sanguine as to the result, and at first it seemed that their optimism was to be justified. The Swordfish and the Lucioles were allowed to land without opposition. The Lucioles taxied to the hangars, and the Swordfish, having disembarked their passengers, returned to the ship.

Later in the morning, however, the situation deteriorated. The Dakar French fired on General de Gaulle's emissaries, who were approaching the town, unarmed, in a motor-launch flying a flag of truce. Two were seriously wounded. Reconnaissance aircraft from the Ark Royal, taking photographs and dropping leaflets, were fired on by the French

battleship Richelieu. Others were attacked by French fighters. When General de Gaulle tried to land his troops peacefully from three French ships the shore batteries opened.

As the day wore on the attitude of the Dakar French became more hostile, and Force M, which was standing by to support General de Gaulle, was attacked by gunfire, submarines and aircraft, but General de Gaulle, being unwilling that his troops should be led against their fellow countrymen and should shed French blood, requested that the action should not be continued, and accordingly Force M was ordered to withdraw on 25th September.

A few days later the Ark Royal sailed to the United Kingdom to refit.



SHIPS OF THE FAMOUS FORCE H, under Vice-Admiral Sir James Somerville, leaving their base, Gibraltar. In the picture are the Ark Royal, the Malaya and the Renown.

## 7. The Long Arm of Force H

9th JULY 1940 — 9th FEBRUARY 1941

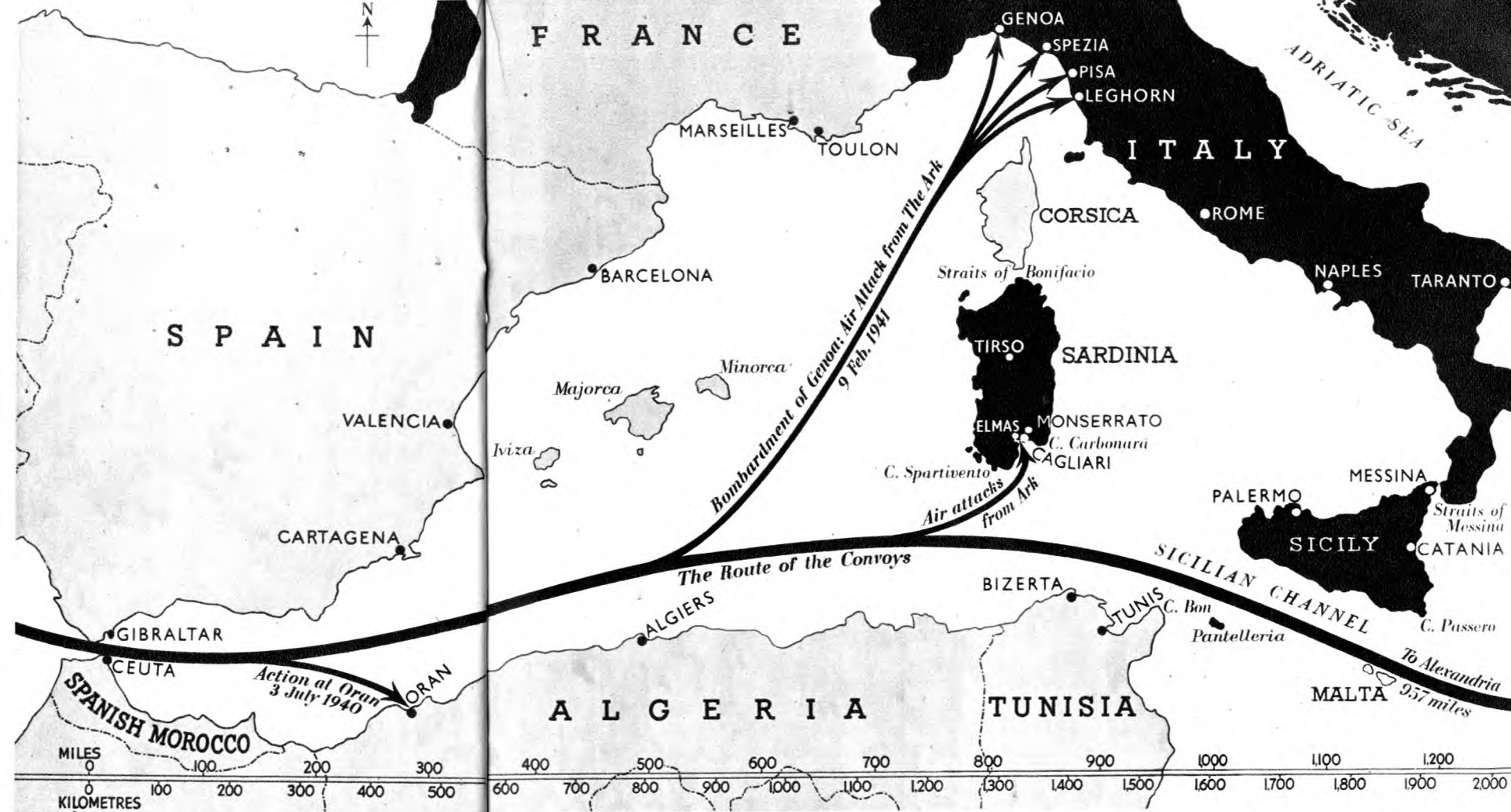
THREE DAYS AFTER the operations off Oran, the Ark Royal's aircraft fought the first of their many combats with the Regia Aeronautica.

While covering convoy movements in the Western Mediterranean on the afternoon of 9th July, a section of Skuas on patrol, led by Lieutenant R. M. Smeeton, R.N., sighted an Italian aircraft fine on their starboard bow, three miles distant, flying at 12,000 feet. The section went into line astern and altered course to close. The Italian immediately turned, but the Skuas chased him for half an hour, and gained slowly until they were within 800 yards, when they identified the enemy as a Cant 506 float-plane. Lieutenant Smeeton fired three short bursts in the hope of slowing it down; the remaining Skuas took up the attack and forced it down to the sea.

During the afternoon forty Savoia S.M. 79 bombers attacked Force H in three waves, dropping over 100 bombs. The Ark Royal's Skuas shot down one and damaged two others, forcing the remainder to drop their bombs and turn away. The Italians claimed that the Ark Royal had sustained a direct hit during these raids and that H.M.S. Hood had been set on fire, but this was untrue. No damage was inflicted on Force H and there were no casualties.

Several combats followed, during which the Skuas destroyed three shadowing aircraft, and on 2nd August the Swordfish made their first attack upon Italian soil. Before the raid the Flag Officer, Force H, made the following signal to the Ark Royal:

"The object of this operation is to test the quality of the ice-cream."



THE ARK'S MAIN BATTLEGROUND. Except for spells of duty elsewhere, the Ark served for eighteen arduous and successful months in the Western Basin of the Mediterranean.

The target was Cagliari, on the southern coast of Sardinia. The striking force flew off at 2.30 a.m., nine armed with bombs and three with mines. In flying off one of the bombing aircraft hit the island with its starboard wing and crashed into the sea.

It was a fine night, with no cloud, but a strong head-wind reduced the aircraft's speed of approach to about 60 knots. Owing to the intense darkness it was difficult to recognise the coastline, and the bombing force at first

mistook Cape Spartivento, the eastern horn of the bay, for Cape Carbonara, then flew back along the coast in the increasing light. It became evident that the projected dawn attack must be made in full daylight.

Meanwhile the minelaying aircraft, led by Lieutenant R. N. Everett, R.N., had also lost their way, but chance provided synchronisation, and as the bombing force approached Cagliari they saw the minelayers being heavily engaged by the coastal batteries.

One was firing 6-inch shells in the hope of swamping the diving aircraft with the splashes. But the mines were neatly dropped from a height of 50 feet, and as the minelayers turned away the eleven dive-bombers went screaming down to their target, Elmas aerodrome, in the face of intense anti-aircraft fire.

Led by Lieutenant-Commander G. B. Hodgkinson, R.N., they attacked the hangars and buildings of the aerodrome in line astern,

the rear aircraft bombing the seaplanes lying at moorings in the harbour. The main assault was completed in about sixty seconds. By that time Italian fighters were in the sky, but only one made an attack : upon the rear aircraft, which suffered no damage. In fact, the fighter's presence was rather welcome to the Swordfish, for the Italian gunners, who had been putting up a fierce barrage at short range, were compelled to cease fire to avoid hitting their own aircraft. After expending its ammunition the fighter flew alongside the Swordfish so that its rear gun could not bear. The Swordfish observer (a midshipman) drew his revolver and engaged the fighter with that. The Italian turned away and did not renew the attack.

The raid was extremely successful. The bombs wrecked four hangars, set the aerodrome buildings on fire, and destroyed two large aircraft on the sea-wall and two float-planes at moorings, damaging others. One Swordfish was lost. The pilot, his engine hit, made a forced landing on the enemy's airfield in the middle of the battle ; the crew were taken prisoner.

The remainder of the striking force returned to the ship independently, with one observer slightly wounded, a squadron of Skuas providing cover and forcing down one Cant 501. The Swordfish had 150 miles to fly and the last did not land on until after seven o'clock, having been over four and a half hours in the air. Three reached the ship with less than five gallons of petrol in their tanks.

A month later, on 2nd and 3rd September, the Swordfish made two further attacks on Cagliari, led by Lieutenant-Commander Mervyn Johnstone, R.N.

In the first (officially known as " Operation Smash ") the striking force established their position by dropping parachute flares, although these soon became unnecessary, for the aerodrome was lighted by the quantities of " flaming onions " which the Italian gunners shot into the sky. Hits were observed on the barracks and on the aircraft

dispersed round the aerodrome. One wing of the military headquarters was destroyed. During the dive to the attack the damage caused by the previous raid could be clearly seen. Three hangars were in ruins, and a fourth was being rebuilt.

The weather was unfavourable for the raid on the following morning (" Operation Grab "), the night having been dark and hazy. When the striking force approached Cagliari the valleys were filled with mist and low clouds. For forty-five minutes the observers dropped flares in the hope of identifying their targets, but without success. Four aircraft attacked the searchlights and put one out of action. Two dropped their bombs on what they took to be a flare-path for night landings : seen from the sky it glowed like a gigantic gas-fire. The remainder jettisoned their bombs into the sea.

The striking force returned to the ship safely, to find that one of the Ark's cats had had kittens. They were christened Smash and Grab, the Cagliari Twins.

Naval air operations are not usually an end in themselves, but are, as it were, stones in the mosaic of maritime strategy which forms the basis of sea-power ; and these two raids, although not so successful as the first, fulfilled their object in helping to cover the passage of a large naval force to the southward of Sardinia.

The Swordfish made yet another raid on Cagliari on 9th November, when the Ark Royal had returned to the Mediterranean after her refit. Hangars and a factory were hit, in spite of what one pilot called " all sorts of fanciful disruptions " : the anti-aircraft defences had been strengthened and the bombers came under the fire of a hundred guns.

The Ark Royal had brought out with her a squadron of the new Fairey Fulmar fighters. Their first victim was a Savoia 79—a shadower—on 8th November, and on the following day Fulmars and Skuas shot down one Cant 506 and another Savoia 79.

Before the end of the month the Fulmars

ere in fiercer action. On the morning of 7th November, Force H was escorting an east-bound convoy carrying tanks and military stores. South-west of Sardinia the force met H.M.S. *Ramillies*, which was to take the convoy on to Alexandria. Before the escorts had parted company a *Swordfish* reconnaissance patrol reported having sighted the Italian Fleet south of Sardinia : two battleships, six cruisers, and sixteen destroyers.

Another *Swordfish* was sent out to relieve the shadower. The pilot flew at 2,000 feet, protected by cloud, two or three miles from the enemy, reporting every movement, while Force H turned into line, with battle ensigns up and guard-rails down. It seemed that an uneventful convoy trip was to be transformed into the long-awaited engagement with the Italian Navy.

But the enemy warships were still far beyond the range of the *Renown's* guns and it was necessary to slow them down. This was the function of the Naval Air Arm. At eleven o'clock the *Ark Royal* flew off a force of eleven *Swordfish*, armed with torpedoes, led by Lieutenant-Commander Mervyn Johnstone, R.N. It was one of those clear, brittle Mediterranean days : the sun shining in a cloudless sky, the sea as smooth as a piece of satin. The striking force had as little cover as a battalion marching across a meadow.

After flying for twenty minutes they sighted the Italian cruisers steaming in two columns, then, 25 miles to the eastward, the two battleships, screened by seven destroyers. The cruisers were being engaged by the advanced units of Force H. At 12.40 the *Swordfish* dived to attack the battleships out of the sun. As they went down the cruisers to the westward opened fire in short bursts as though to warn the battleships of their danger.

Selecting as the target the leading battleship, the *Vittorio Veneto*, one of the new and powerful *Littorio* class, the striking force pressed through a formidable anti-aircraft

barrage and dropped their torpedoes inside the destroyer screen, at a range of 700 yards. The leader found himself too close to the *Vittorio Veneto*, so turned to port and fired at her consort, one of the *Cavour* class.

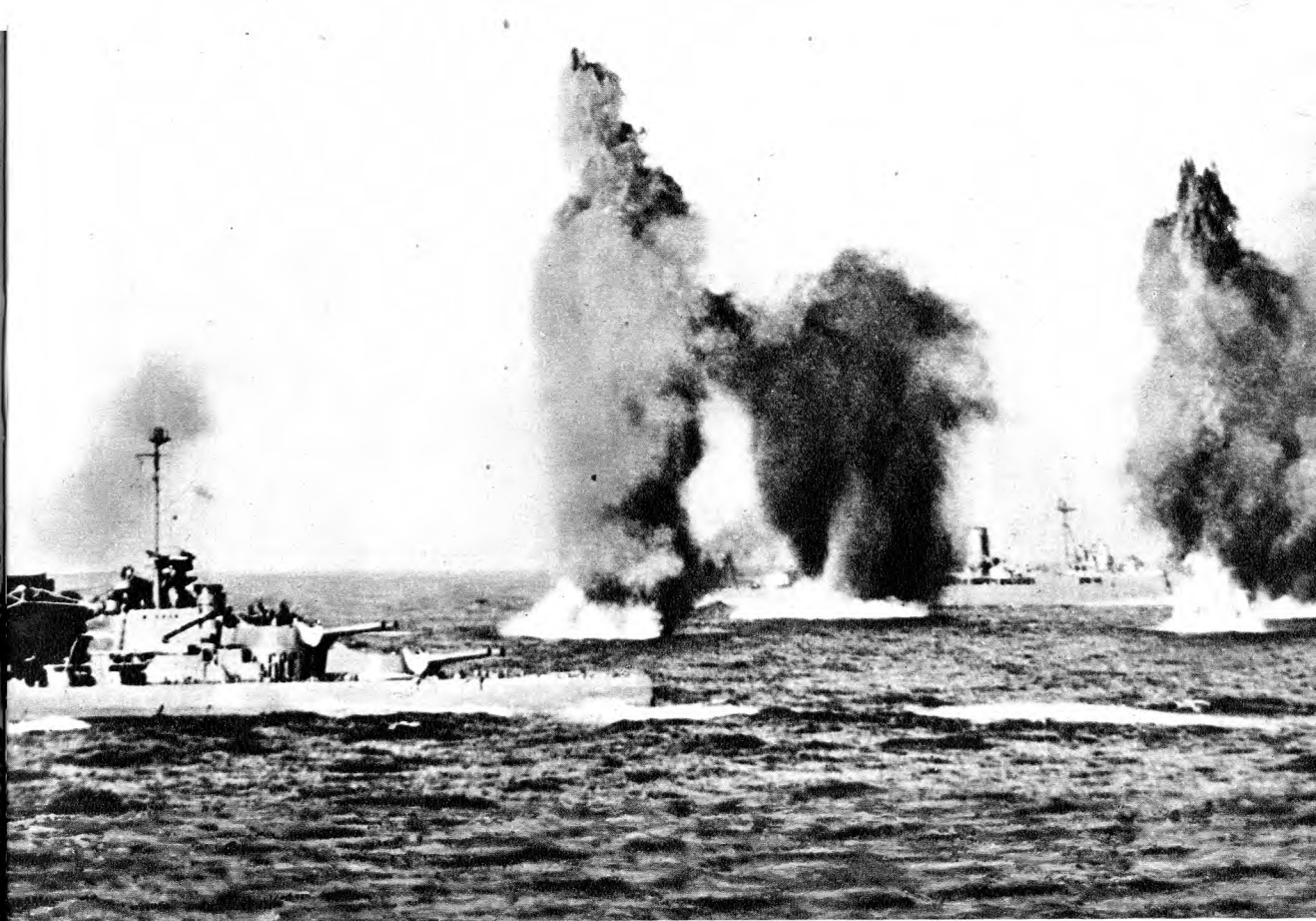
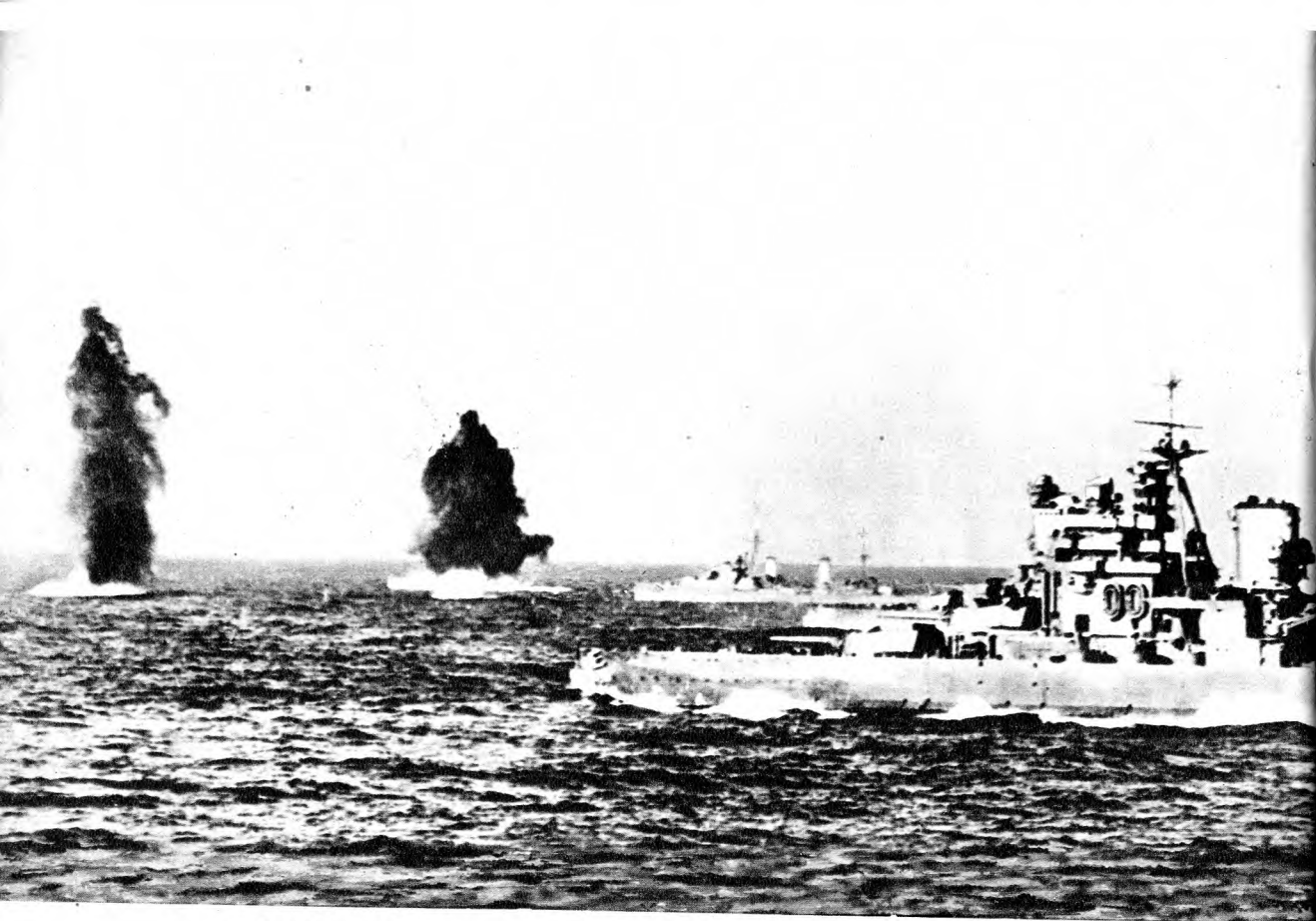
A great column of brown smoke and water rose above the *Vittorio Veneto* and she was seen to have been hit abaft the after funnel. There was another explosion astern, and a third ahead of the second ship. As the striking force pulled away, the air-gunners opened fire on the bridges of the battleships and the destroyers.

In the meantime the enemy cruisers, without waiting for the slower battleships, were retiring towards the shelter of the Sardinian coast, and although the *Renown* did her utmost to bring the battleships to action, the attack by the *Swordfish* had not impaired their speed sufficiently to enable her to come within effective range, and they too withdrew, so that soon after one o'clock Force H was compelled to abandon the chase.

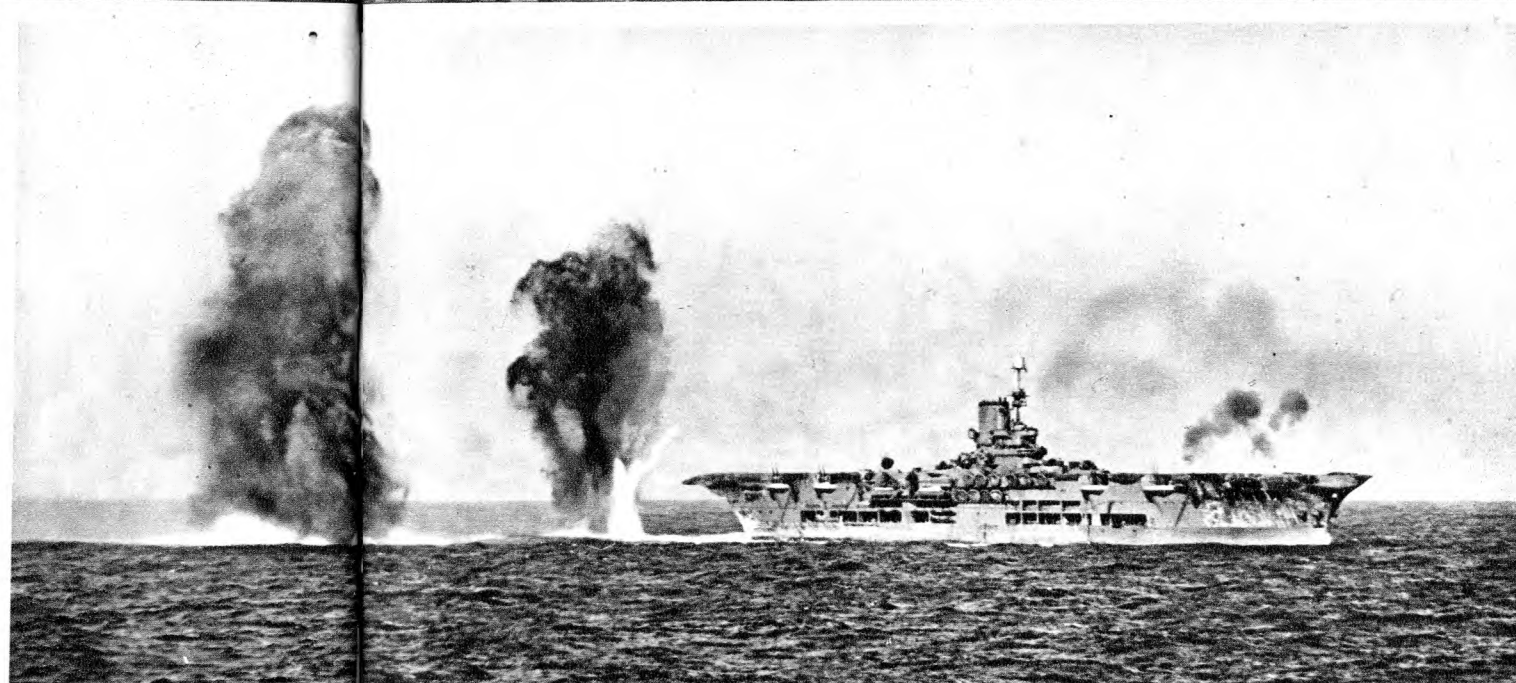
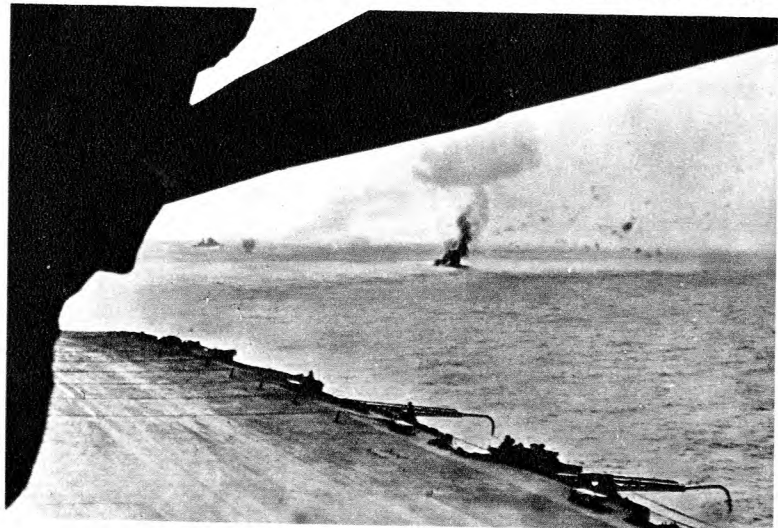
An hour later a second striking force of nine *Swordfish*, led by Lieutenant-Commander J. A. Stewart-Moore, R.N., was flown off in pursuit. They sighted three of the cruisers first, then the battleships, to the southward of Cape Carbonara. Monserrato aerodrome in Sardinia was only 40 miles away, and the enemy already had fighters in the air. An immediate assault was therefore essential and the cruisers offered the better target.

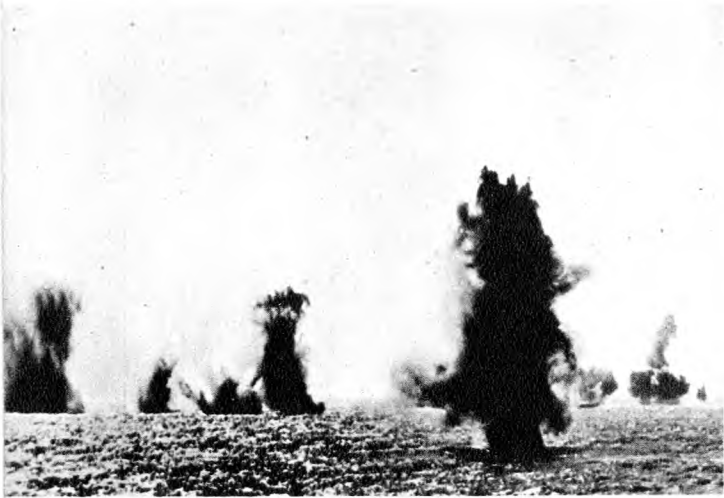
The striking force went down in line astern, but as they were committed to their drop the cruisers turned away to starboard. There was an explosion under the rear cruiser and a mound of water rose as high as her bridge ; immediately afterwards she started making smoke from her foremost funnel. Two of the *Swordfish* had attacked the leading cruiser and reduced her speed.

The enemy put up what might have been an effective barrage, but it was a minute too late to cause any serious damage to the striking force, and the Italian gunners fired



AFTERNOON OF BATTLE. *Above*, Force H steams unscathed through a rain of 100 bombs dropped in an Italian air attack on 9th July, 1940. The ship curtained in water on the right is the Hood. In the centre is the Valiant; beyond her, bows just showing, is the Resolution; beyond again the cruiser Arethusa; ahead of the Arethusa, a destroyer. *Right*, the steady old Ark, her guns firing. *Below*, an Italian bomber, shot down by the Ark's gunfire, blazes on the water





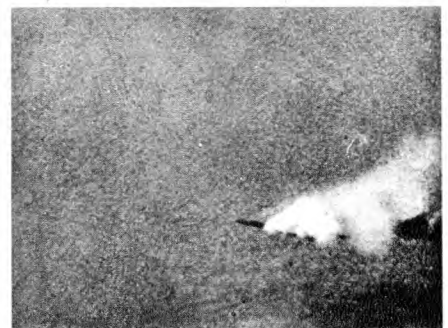
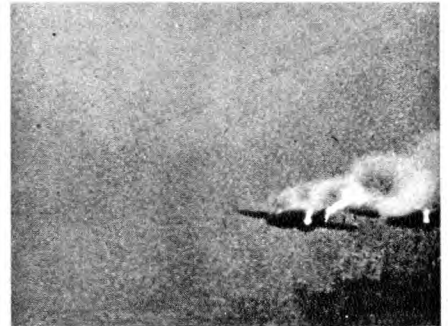
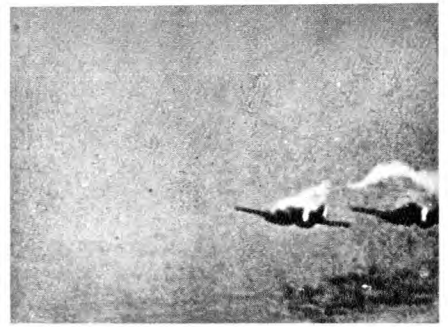
*"The Ark disappeared from the Force's sight behind a wall of water flung into the air by 30 bombs falling around her. Admiral Somerville thought she was gone."*



*"Then he saw the fore-end of her flight deck emerge."*



*"She came out undamaged, all her guns blazing, like a great angry bee."*



An Ark Royal fighter pilot's camera-gun was taking these vivid pictures while he was firing at two Italian Savoia torpedo-bombers, attacking a convoy in the late summer of 1941. They show hits on both aircraft, and one bursting into flames just before it crashed.

in every direction, regardless of danger to their own ships, so that salvos from close-range weapons were bursting alongside each of the cruisers. Two Swordfish were hit, but all flew back to the ship in formation.

Later in the day seven Skuas, led by Lieutenant R. M. Smeeton, R.N., were despatched to bomb the damaged cruiser. They failed to find her, but sighted three of the Condiottiere class, steering north in line ahead. A thin layer of cloud enabled the Skuas to achieve complete surprise; the cruisers took no avoiding action and did not open fire until the assault was over. Only near misses were claimed. The Skuas suffered no casualties and shot down an R.O. 43 float-plane on their passage back to the ship.

During the afternoon squadrons of Savoia 79's repeatedly bombed Force H. The Ark Royal, always an irresistible target, was operating three miles from the main Force and attracted most of the attention. The bombers came over in wave after wave for about an hour, attacking with great determination. As one of the ratings said, "Every time the Wops dropped a stick it was a straddle." The flight deck was drenched with water from the near misses. At one time the Ark disappeared from the Force's sight behind a wall of water flung into the air by thirty bombs falling round her, some no more than 20 yards from her side. Admiral Somerville, watching from the bridge of the Renown, thought she had gone. Then he saw the fore-end of her flight deck emerge, and she came out undamaged, with all her guns blazing, like a great angry bee.

These operations typify the functions of the Naval Air Arm. The reconnaissance aircraft, acting as the frigates of the air, had found the Italian Fleet and shadowed it until a striking force could be flown off to the assault. Although it was but the second time that the torpedo-carriers had attacked ships at sea, they had hit their targets and it was only the enemy warships' superior speed that

saved them from destruction. The fighters had intercepted the Italian bombers, destroying two and compelling others to jettison their bombs; they had also kept a protective umbrella over the convoy and thereby helped to ensure its safe passage, which was the primary duty of Force H. That evening the convoy was taken on by H.M.S. Ramillies, while Force H returned to Gibraltar.

Those were the gala days of battle. But the Ark also carried out the journey-work of war faithfully and efficiently week after week.

"At sea with Force H. Covering movements. Air reconnaissance and search. Anti-submarine and fighter patrols maintained. Fulmars shot down one Savoia 79 shadowing aircraft."

Thus would run many entries in a diary of the Ark Royal's war service at this period. There was constant training: the Swordfish practising flying off and forming up in the dark, following with dummy attacks at dawn, the Skuas working up their dive-bombing and night flying, the Fulmars having mock encounters.

Admiral Somerville would himself sometimes fly with them. By taking part in torpedo-running exercises and practice fighter combats he would learn to appreciate the pilots' and observers' problems, and by climbing to high altitudes would renew his own flying experience and find refreshment after the cares of his command.

The Fulmars had many opportunities for action against the Italians in the days that followed. One of these gallant combats may be described. On 2nd January, 1941, a Fulmar squadron, on patrol over the Force south of Sardinia, sighted formations of enemy bombers approaching. The leader of the squadron, Lieutenant-Commander R. C. Tillard, R.N., sent two sections to intercept them and himself went off to engage two detached aircraft, thinking that they might be fighters and intending to keep them occupied so that his squadron might be free to attack the bombers.



On closing them he identified them as Savoia-79's. Both jettisoned their bombs as the Fulmar approached. He attacked from astern of the rear bomber, at a range of 450 yards, closing to 260 yards. The Savoia caught fire and exploded. One of the crew escaped by parachute and was rescued by H.M.S. Foxhound. The Fulmar then attacked the second bomber at 170 yards, setting it on fire and forcing it down into the sea. Two of the crew were picked up by H.M.S. Forester. In the destruction of these two aircraft the Fulmar expended only 320 rounds per gun.

On 2nd February the Ark's Swordfish were given a new type of target: the Tirso dam in Sardinia. There was a strong, gusty wind blowing and the motion on the flight deck made ranging difficult in the dark, but by 6 a.m. a striking force of eight had flown off without mishap.

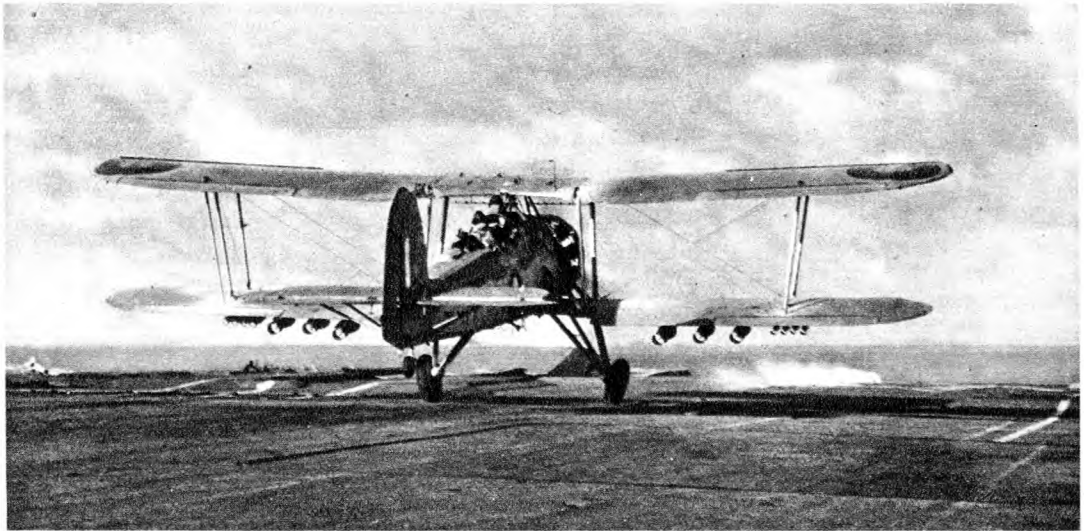
When they reached the Sardinian coast it was raining hard, with showers of hail. It was still dark, and ice began to form on the wings in a cloud level of 5,000 feet. They turned out to sea to wait for daylight.

One Swordfish became lost in cloud and had to return to the carrier. The remaining seven approached the target individually. The ground defences were unusually alert, and all the force but one came under heavy fire, which grew intense as they reached the dam. Two were forced to jettison their torpedoes owing to the ice on their wings. Another was shot down, the pilot and observer being taken prisoner. Four launched their torpedoes at the target.

The most successful drop was made by Sub-Lieutenant (A) R. S. Charlier, R.N., who flew at about 50 feet the whole way from the coast, so low that he was not fired at until he had made his attack, when he turned sharply away and went out at ground level. The last pilot flew over the target at a height of 60 feet after the attack, machine-gunning the defences, but could observe no damage on the face of the dam.

A week later the Swordfish took part in a more successful though no less hazardous operation while Force H was engaged in the bombardment of Genoa.

At 5 a.m. on 9th February, the Ark Royal,



OFF TO ATTACK. With bombs in her racks a Swordfish flies off the Ark to attack Italian bases during the bombardment of Genoa.

detached from the main Force and screened by three destroyers, flew off a striking force of fourteen to attack the Azienda oil refinery in Leghorn, one of the largest plants in Italy. Four more Swordfish followed, carrying mines to block the harbour of Spezia. The Ark Royal also sent three Swordfish, with an escort of Fulmars, as stand-by spotters for Force H during the bombardment, which was carried out by indirect fire. Lieutenant V. N. Graves, R.N., earned high praise for the precision with which he performed this duty when called upon; the reports he sent back contributed materially to the success of the operation, although observation was made difficult by two changes of targets to widely-separated areas and by the clouds of smoke from the explosions and the burning oil tanks.

Eleven of the striking force attacked the refinery at Leghorn, diving from 9,000 feet to open up the building with 250-lb. bombs and following them with incendiaries. An explosion was heard, but the observers could not form any definite estimate of the damage. The enemy were taken completely by surprise, and scarcely a gun opened until six minutes after the raid had begun. The Swordfish had to come out through the balloon barrage, which one of them seems to have struck. The crew were killed. They were buried by the Italians with full naval honours.

Two of the force bombed the aerodrome and the railway junction at Pisa. One pilot considered that they might have straightened the Leaning Tower. Meanwhile the mine-laying sub-flight approached the shore where Byron and Trelawney had once made a funeral pyre for Shelley, and dropped their mines.

As they returned to the ship the bombardment of Genoa was in full blast. It was a relief to see the Ark safe below them in the light of dawn. But the enemy had made no preparations to guard against an invasion of the Gulf, and Force H had descended upon

Genoa as unsuspectedly as the Swordfish upon Leghorn.

"The scene off Genoa immediately before opening fire was almost dramatic in its contrasts," wrote Admiral Somerville. "A fine, calm morning, the foreshore hidden from view by haze above which the mountains stood out, turning from grey to rose with the rising sun—nothing to break the peace and silence of the Sunday morning until Renown fired her first salvo. In spite of what the Italians may have to say, this bombardment must have had a shattering effect on the morale of the people of Genoa, as it would on the people of any other town whose defenders had been so criminally negligent in the performance of their duty."

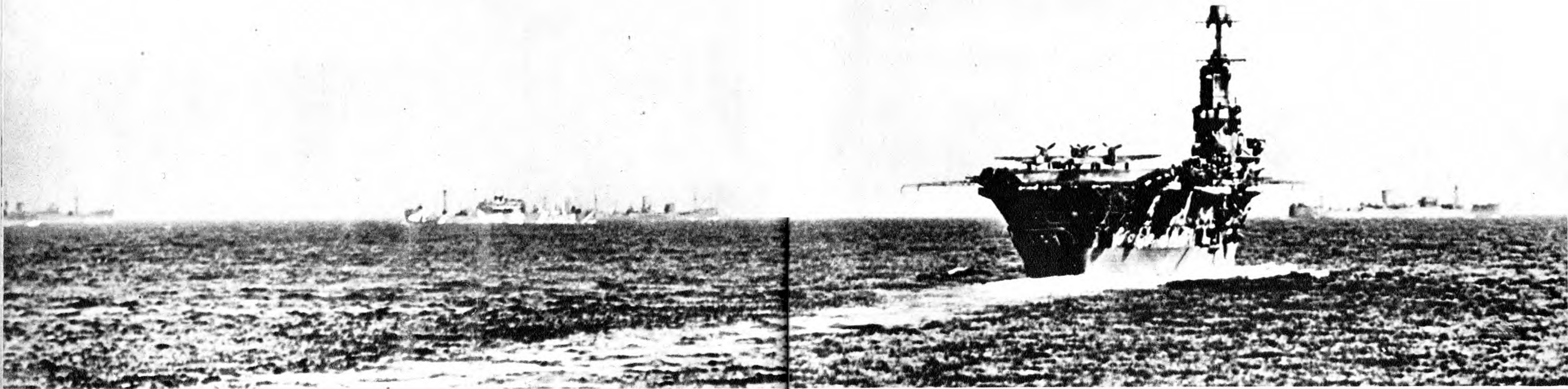
## 8. "The Convoy Must go Through"

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6th MAY—30th SEPTEMBER 1941

DURING the early part of 1941 the Ark Royal was frequently employed with Force H in the Eastern Atlantic escorting outward and homeward bound Sierra Leone convoys.

An aircraft-carrier and a battle-cruiser, operating together, form an ideal force to cover the passage of an important convoy. The carrier can stretch out her reconnaissance aircraft round the horizon like fingers, and her fighters intercept shadowers and give the merchant ships protection against hostile bombers, while the guns of the battle-cruiser can deal with surface raiders.



THE GUARDIAN ARK. The convoy steams through the Mediterranean. The Ark keeps watch and ward. Fulmar fighters are ranged aft ready to take off to the attack.

During one such passage a Fulmar sighted the Scharnhorst and the Gneisenau at extreme visibility. Unfortunately, the aircraft's wireless failed, and by the time the pilot returned to the ship to report it was too dark to send out a striking force; next morning bad weather made flying impossible. But later the Swordfish intercepted three of the raiders' supply ships. One of them was a captured British tanker, the San Casimiro, with a detachment from the Gneisenau in charge. To attract the attention of aircraft, the ship's baker had contrived to write "S.O.S." in flour on the after-part of the deck, and another of the crew waved a swastika flag through a porthole as the Swordfish approached. Rather than allow the tanker to be taken, the Germans scuttled her; the British crew were rescued and the

Germans taken prisoner by the Renown. Deprived of their supply ships, the Scharnhorst and Gneisenau made for Brest, where they remained until they put to sea on 11th February, 1942.

The Ark Royal's most important covering work, however, was passing convoys of military transports through the Mediterranean. These convoys carried large quantities of stores and armaments, from flour to guns, barbed-wire to wireless sets. It was before sailing on one of these operations that the Flag Officer, Force H, made his famous signal "The convoy must go through," as part of a message sent to all ships under his command.

The covering-force always had to be strong enough to defend the convoy against opposition by the Italian Fleet. There was also the

certainty of heavy air attack, particularly while any convoy was to the southward of Sardinia and near the Sicilian coast.

The passage of the convoys lasted several days. On the second day Italian reconnaissance aircraft would make their appearance and the Fulmars (which by that time had replaced all the Skua squadrons) went out to intercept as many as possible before they could send back information. The third day was always the most critical of all. The surviving Italian shadowers would report the position of the Force and the convoy early in the morning, and a couple of hours later the high-level bombing attacks would begin, often synchronised with torpedo attacks. These would last continuously throughout the day.

Although the Ark Royal remained close to

the main Force during such operations, she had to some extent to work independently in order to have freedom of movement for operating her aircraft; for making the best use of her guns, and for manoeuvring to avoid torpedo attacks. When the day was calm and high speed was necessary for flying off aircraft, those on board would pray for a breeze ahead. When the wind shifted, she had the choice of flying off her aircraft down wind, or of heading into wind with the risk of becoming separated from the Force and the protection it gave her. On one occasion when she was compelled to accept the first alternative, there was barely enough wind to enable the Fulmars to clear the sea as they left the bows of the ship.

During the critical hours she always had to keep as many fighters over the convoy as

possible, directing them on to the incoming enemy formations. On one passage sixteen Fulmars were kept in the air for over four hours after the first enemy bombers had been sighted: some of the pilots had to make four sorties in one day. It was always a race to fly off the aircraft, to land on those which had been damaged in combat, or were short of fuel and ammunition, strike them down to the hangars, fill them up and re-arm them, bring them back to the flight deck, and then, the pilots and observers fed and a little rested, to fly them off into the sky again.

All this could be done only when the guns and the manœuvres of the ship would allow. A bombing attack had to be engaged by the ship's artillery on the most favourable bearing, which was seldom in the direction of the wind, and even if it had been, the blast from the guns would have prevented the aircraft from being flown off or landed on. Sometimes it was possible for the ship to dash into the wind to take on a fighter which needed an emergency landing, but one at least was compelled to come down in the sea while the Ark's guns were firing, the crew being rescued by a destroyer.

The Italian torpedo-aircraft would attack most gallantly, particularly in the beginning of the operations, flying in tight formation and coming in among the ships only a few feet from the surface of the sea. Their losses were consequently very heavy: during one attack they lost eighteen out of thirty-six aircraft by action of the Fulmars and by gunfire of the Fleet. Italian fighters, Fiat C.R. 42's, accompanied the bombing formations, and although they usually kept beyond range of the warships' guns, their superior speed accounted for several of the Ark's Fulmars.

"The fight shown by the pilots in all these operations is beyond praise," said Captain L. E. H. Maund, who took over command of the Ark Royal from Captain Holland on 19th April. "They certainly took the spirit of the ship with them into the sky. In one combat two of them tackled a squadron of

enemy bombers—a sight for all Britain's eyes. They literally hurled themselves upon the enemy, almost colliding with them, until they were both shot down, by which time they had destroyed two bombers, damaged a third (it was finished off by their comrades), broke up the formation, and caused all the survivors to jettison their bombs, thus giving security to the convoy."

These combats were followed with immense enthusiasm by all hands in the Force. Some ships had their broadcasting systems connected with the radio-telegraphy wavelength, so that they could hear the Ark sending her Fulmars in to the attack, then the "Tally-ho" of contact, the intercommunication of the pilots, and finally the "Whoopee" of success.

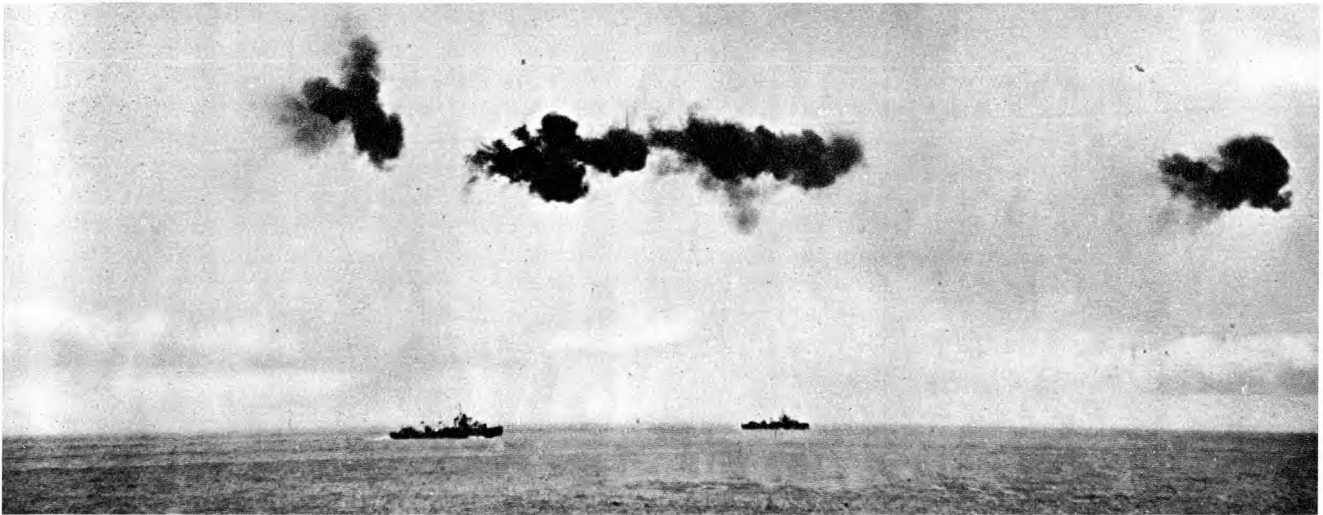
After the second day the fighters' demands upon the flight deck and the resources of the ship were always so heavy that the Swordfish were seldom employed, but during one passage a report—which proved to be unfounded—was received that the Italian Fleet had been sighted 60 miles distant. The Swordfish were needed.

Orders for a striking force were piped, and over the microphone the ship's company were told the opportunity that lay ahead. A reconnaissance was flown off and twelve Swordfish, fuelled and armed with torpedoes and ammunition, were ranged on deck, with four Fulmars ranged behind them. A few minutes later all were in the air. The reconnaissance aircraft searched for the enemy until the fighters had to return for lack of fuel, some landing on with no more than a couple of gallons in their tanks. The Swordfish returned after dark with their torpedoes still slung below, although many of the pilots had never made a night-landing before.

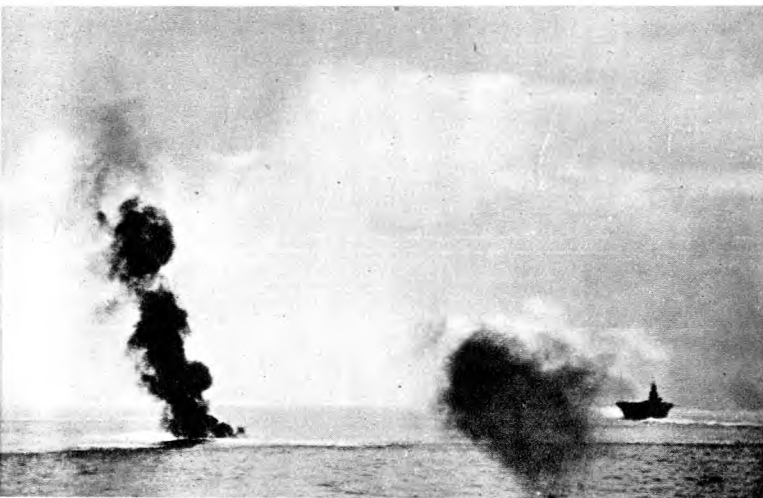
Each passage provided its peculiar excitements, but one day's engagements are typical of many. The Ark Royal started the day with twelve Fulmars. Combats soon reduced the number serviceable to seven, then to five. But by rapid re-equipment and repair the



GUNFIRE BURSTS from the Ark Royal and the Renown as Force H defends a convoy steaming through the Sicilian Channel in April, 1941. Between the two ships are bomb bursts. *Below*, the destroyer escorts throw up their barrage of fire. These two pictures were taken from H.M.S. Sheffield.



NEAR THE ARK (*below*) a column of black smoke rises from yet another Italian torpedo-bomber shot down by her fighters. The Ark was protecting a large convoy in the Mediterranean in September, 1941. Scraps of wreckage, a strip of oil, and a few last whirls of black smoke mark the bomber's grave.



carrier maintained a permanent patrol throughout the day. There were times when no more than two aircraft were over the Fleet, but whenever a raid appeared to be impending every fighter that could be made fit for service was sent into the sky.

The attacks began soon after midday and continued at intervals throughout the afternoon. Early in the action the Ark Royal lost a gallant pilot and observer who had been together in many a combat and had both won the Distinguished Service Cross: Lieutenant-Commander R. C. Tillard, R.N., and Lieutenant M. F. Somerville, R.N. Seeing three C.R. 42's 200 feet below, Lieutenant-Commander Tillard turned towards them for a head-on attack. The Fulmar broke away to port in a vertical dive, flattened out at 500 feet, and was not seen again.

The main onslaught of the day came shortly after 7 p.m. The sky was bright and clear, but a great black cloud, rising from sea level to 9,000 feet, was closing in from the northward. Hostile aircraft from Sicily were sighted approaching over the top of the cloud to attack the convoy: twenty-eight Junkers 87's and six Messerschmitt 110's in three separate formations.

By that time the Ark had only seven Fulmars fit to fly. They shot up into the sky to meet the advancing bombers. They flew underneath the cloud, and as they lapped its crest found themselves at close quarters with the armada from Sicily.

Outnumbered though they were, they went straight for the centre of the formations, shot down one bomber, damaged several others, besides at least one of the Messerschmitts, and scattered the survivors, which released their bombs and dropped down into cloud. All cohesion in the attack disappeared, and the enemy retired without a single bomber having gone in to the assault. The ships' companies could see the splashes of the jet-tisoned bombs as they fell into the sea ten miles to the northward.

The day ended with two air-torpedo and

bombing attacks on the Renown and the Ark Royal, the torpedoes in the first assault passing down between the two ships. The second assault was made by four torpedo-carriers. A section of Fulmars engaged them, dispersing three and shooting the leader down.

As a result of the day's attacks seven enemy aircraft were destroyed, anti-aircraft fire accounting for four and the fighters for three. The enemy obtained no hits, either by bomb or by torpedo, and there were no casualties in the ships. Two Fulmars were lost, but the crew of one was saved.

When every combat was a gallant and resourceful action, and when the hazards of the day were shared by all, it may seem invidious to mention individual exploits. But a few may be described as representative of all these operations. There was Lieutenant (A) R. E. Gardner, R.N.V.R., leader of a section which carried out four fighter patrols on 8th May, in three of which he was in action. He took every opportunity of engaging the enemy, and during the day shot down one Junkers 87 and helped three other pilots to destroy a Savoia 79, firing the last burst before it broke up; he damaged, if he did not destroy, two more. After his last engagement, when his aircraft was severely damaged and the windscreen shattered, his one anxiety was to go into the sky again.

The observers played their part as well as the pilots. Leading Airman R. N. Orme, who was only nineteen and had never been in combat against enemy fighters before, kept his pilot supplied with accurate information during an attack on several Fiat C.R. 42 fighters, even after the Fulmar had been knocked out of control by their gunfire. Having exhausted every alternative method of warding off stern attacks, he finally used wads of paper which he hurled at the attackers, twice causing an enemy fighter to cease fire and break away.

Another rating observer who showed a fine

example was Petty Officer Airman L. G. J. Howard. He was severely wounded in an engagement with C.R. 42's, but continued to pass information of their movements to his pilot until they had been shaken off. When the pilot reported Howard's wound and asked permission to bring him back to the ship, Howard insisted that he was fit to carry on and begged the pilot to continue the engagement.

Nor was the immunity of the Fleet and the convoy due only to the flying crews, for it was owing to the exceptional efforts of the ground staff in the hangars and on the flight deck that the small force of fighters was re-equipped and repaired so that they could go back into battle time after time. During the operations the whole of the carrier's air staff, from the Commander Flying downwards, was working at top speed. The ranging parties had no rest by day and little by night. The air artificers, fitters and mechanics worked on the damaged aircraft without stopping throughout the bombing and torpedo attacks.

The operations tested the endurance of everyone in the ship. The guns' crews were constantly in action. The boiler-room and engine-room staffs were working at high pressure in intense heat. The wireless operators and signalmen were unceasingly employed in handling continuous traffic. The cooks had to provide meals for the whole ship's company at action stations and for the returning fighters' crews as they came in for their brief rest.

Yet the spirit of the Ark's company was magnificent. Every department of the great ship worked as a team, and with the greatest jollity. It was as though all hands had been piped to skylark. And when their own guns brought down an Italian bomber 200 yards from the ship the ratings cheered and shouted as though they were watching a football match at which their side had scored a goal.

Every time Force H covered the passage of a convoy it had to meet determined opposi-

tion, but each time the convoy went through. The Ark Royal's fighters not only shielded the transports from attack, but enabled the warships to operate in waters where they were exposed to shore-based aircraft for a period of days, and the success obtained showed that, provided the covering force had enough fighters with it, a great measure of security could be assured.

The reconnaissance work of the Ark's aircraft was an essential part of this protection. "If I haven't got the Ark with me," said Admiral Somerville, "I feel like a blind beggar without his dog."

## 9. The Hazard that beat the Bismarck

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24th MAY--27th MAY 1941

DURING the passages of the convoys through the Mediterranean the Ark Royal's Fulmars bore the brunt of the battle. The highest opportunity of her Swordfish came when, at 2 a.m. on 24th May, the Flag Officer, Force H, received information that the German battleship Bismarck and the heavy cruiser Prinz Eugen were at sea.

Force H, composed of H.M.S. Renown, wearing the flag of Vice-Admiral Sir James Somerville, the cruiser Sheffield, and the Ark Royal, sailed from Gibraltar in accordance with Admiralty instructions and steamed to the north-westward at high speed.

Admiral Sir John Tovey, K.C.B., D.S.O., the Commander-in-Chief, Home Fleet, had

made dispositions to prevent the German warships from breaking out into the Atlantic, and on the evening of 23rd May the cruisers Suffolk and Norfolk had sighted them in the Denmark Strait, the channel between Greenland and Iceland, steering south-west. The two cruisers shadowed the enemy throughout the night for 250 miles.

Shortly after daylight on the 24th H.M.S. Hood and H.M.S. Prince of Wales made contact and opened fire. During the ensuing action the Hood, after hitting the Bismarck several times, was herself hit in the magazine and sank within four minutes. The Prince of Wales sustained some slight damage. The chase was continued on a south-westerly course, the Suffolk and Norfolk shadowing the enemy and maintaining contact despite all his efforts to shake off the pursuit.

Other units of the Home Fleet were now approaching, and at 10 p.m., by which time the two enemy ships had parted company, the aircraft-carrier Victorious flew off nine Swordfish, led by Lieutenant-Commander (A) E. Esmonde, R.N., who served later in the Ark Royal, and subsequently lost his life while leading the gallant attack against the Scharnhorst, Gneisenau and Prinz Eugen on 12th February, 1942, an action for which he was awarded the Victoria Cross.

The striking force attacked the Bismarck with torpedoes at 11.30 and reported one hit on the starboard side amidships. Her speed appeared to have been reduced, but shortly after 3 a.m. on the 25th, in the darkness of the middle watch, she succeeded in slipping away from the two cruisers, which had shadowed her for over thirty hours.

She remained completely lost to her pursuers until, at 10.30 a.m. on the 26th, a Catalina flying-boat of Coastal Command renewed contact, sighting her steering in the direction of the Bay of Biscay. The Catalina was hit and driven off by the Bismarck's anti-aircraft fire, and so lost touch.

Meanwhile Force H had been steaming to the scene of action in increasingly bad

weather. On the morning of the 25th there was a steep sea running, and a high wind, with rain squalls and low cloud. Nevertheless the Ark Royal kept an anti-submarine patrol over the Force all day, except for a short period when the aircraft had to be landed on in thick mist and heavy rain.

Admiral Somerville expected to be in a certain position by 7 a.m. on the 26th in order to fly off a reconnaissance which was to cover an area through which, it was estimated, the Bismarck must pass to reach Brest. The weather grew steadily worse during the night, however, and although Force H was butting into the storm at 21 knots, it was nearly two hours late in reaching the position from which the first air searches were to be made.

For the operations ahead the Ark Royal had twenty-two Swordfish available. At 8.30 a.m. ten of them were ranged for the reconnaissance.

The wind was high and from the west-north-west, with low scudding clouds. There was much motion on the ship, and green seas were breaking over the fore-end of the flight deck, normally 62 feet above surface level. The whole deck was drenched with water



**SWORD OF THE SWORDFISH.** One of the Ark's torpedoes is wheeled under the Swordfish's fuselage, where it is jacked into the dropping position.



and as slippery as a skating-rink. Several of the aircraft slid from one side to the other while being ranged. The first one took off with her wheels in salt water, and the pilots who followed had to go through the driving spray. As the ship pitched in the heavy Atlantic swell some had to make the run uphill when the ship lifted; others went roaring downhill, but in spite of the hazardous conditions all took off without mishap, checked the direction of the wind, and then fanned out on their allotted course of search.

At 10.40 a.m. the Ark Royal received the signal that the Catalina had found the Bismarck. This did not affect the reconnaissance then in the air, since the position indicated was within the area being searched, and at 11.14 a.m.—fourteen minutes after the Catalina had been driven off—a Swordfish piloted by Sub-Lieutenant (A) J. V. Hartley, R.N., with Sub-Lieutenant (A) P. R. Elias, R.N.V.R., as his observer, reported having sighted the Bismarck in a position approximately 750 miles due west of Brest. As was customary in the Ark, the news was broadcast to the ship's company and caused great exultation.

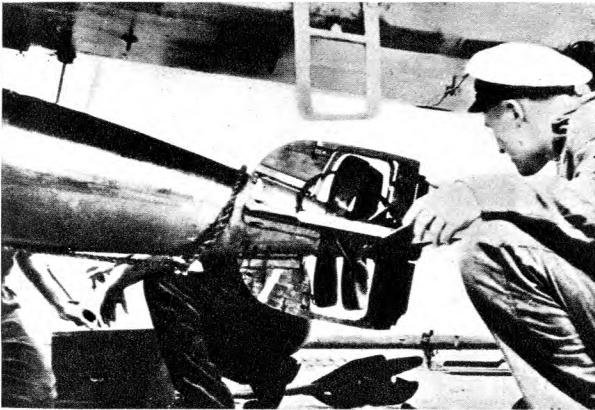
Seven minutes later the next Swordfish to

the northward of the shadower also gained touch, to ensure the ship not being lost. From that moment both aircraft kept the Bismarck in sight, making a report of her movements every few minutes, while the remaining eight continued to search their allotted areas.

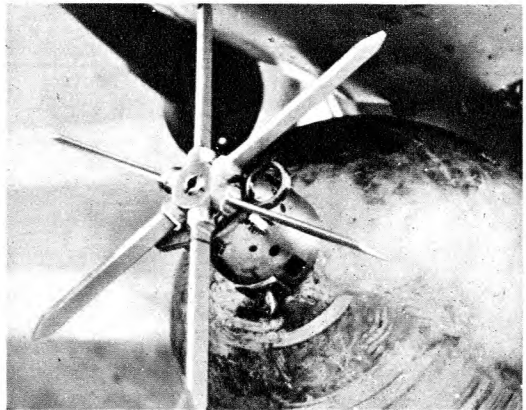
By this time, however, the shadowers had barely enough fuel left to enable them to return to the carrier. The Captain's immediate concern was to relieve them, that contact with the enemy might be maintained. Accordingly two Swordfish, fitted with extra petrol tanks, which gave them ninety minutes' additional flying life, were flown off, and within an hour had gained touch, so that their fellows could return to the carrier: they reached her with but fifteen minutes' petrol left. The second pair were relieved in turn, and so the watch went on until late that night.

One of the shadowers lost touch for a while in the rain and mist. Then, seeing what he took to be a British ship below him, he signalled "Where is the ruddy Bismarck?" The answer was a salvo from the Bismarck's guns.

The Commander-in-Chief gave particular credit to the crews of these aircraft, "whose



An electrical artificer makes the final adjustment to the tail mechanism, ensuring accurate running for course and depth,



The pistol is fitted last. The moment the point of one of the "whiskers" strikes the enemy hull, the detonator is fired and the warhead explodes.

part," he wrote, "although unspectacular and often forgotten, is as important, and frequently as dangerous, as that of aircraft which attack with torpedoes."

When the first Swordfish sighted the Bismarck, H.M.S. King George V, the flagship of the Home Fleet, and H.M.S. Rodney were approaching the area, but the enemy battleship had too great a lead for them to get within range of her unless her speed could be further reduced or she could be deflected from her course. The only hope seemed to lie in a torpedo attack from the Ark Royal.

It was, however, impossible to range a striking force until all the reconnaissance aircraft were back. They approached the ship over a considerable period, first one, then another, out of the windswept sky, making their numbers by Aldis lamp as they came within sight. They had great difficulty in landing on. There was a very high sea running, and the rise and fall of the "round down" at the after-end of the flight deck was no less than 56 feet. The drizzle and low clouds made the deck hard to see, and although the carrier was steaming only eight knots there was a 40-knot wind over the deck. The ground crews, buffeted by the storm and lashed by the spray, could scarcely keep their feet. Some of the Swordfish, coming in when the stern of the ship was rising and falling too quickly, had to be waved away three times. As each aircraft landed on, the wings had to be folded immediately and the deck parties had to hold it against the gale until it could be struck below. The last pair returned with ten minutes' petrol left.

As soon as all the reconnaissance aircraft were safely in the hangars, the deck was free for the first striking force of fifteen Swordfish to be ranged. Force H was then to the northward of the Bismarck and pursuing a course parallel to her, but every time the Ark Royal turned into the wind to fly off her aircraft she inevitably lost station on the enemy

and on resuming her easterly course she had to go on to her full power of 30 knots. For a time the wind was so strong that the Flight Deck Officer had to strike the aircraft below after they had been ranged to save them from being blown off the deck, but at 2.50 p.m. they left the ship. One had to return owing to an engine defect.

Unknown to the striking force, H.M.S. Sheffield had been detached from Force H to make contact with the Bismarck: the signal which passed this information to the Ark Royal had not been decoded until after the Swordfish had flown off. As the Swordfish approached their objective, flying through the storm, they suddenly sighted the Sheffield below them, mistook her for the Bismarck, and accordingly dived to the attack. The Sheffield immediately appreciated the mistake, went on to high speed, and took avoiding action. Fortunately none of the torpedoes hit the ship. One pilot, recognising the Sheffield after he had dropped, made a signal to her, "Sorry for the kipper."

The incident shows the terrible weather with which the Swordfish had to contend, but it entailed their being brought back to refuel and to reload. Landing conditions had become even worse than before, and the Deck Control Officer had to attach a rope to his waist before he could stand, back to the wind, holding up the "bats." Three aircraft crashed on the flight deck as they came on, the rising stern smashing their undercarriages, and the wreckage had to be cleared away before the others could be taken on. There were no casualties to the crews.

By 7 p.m. the second striking force had been ranged. It was led by Lieutenant-Commander T. P. Coode, R.N., with Lieutenant E. S. Carver, R.N., as his observer; Lieutenant-Commander J. A. Stewart-Moore, R.N., was second-in-command and leader of the second wave. Leaders and crews realised the import of their task. They, and they alone, could stop the

Bismarck from reaching the safety of Brest, for the Fleet could not overtake her without their aid.

The Ark Royal turned into wind. One may picture that scene : the fifteen Swordfish ranged on the pitching flight deck, each wing-tip within inches of the next ; the tumultuous roar of the exhausts ; the flurries of spray rattling on the fuselages ; the ratings at the chocks bracing their bodies against the drive of the wind ; the leader of the force with his eyes on the Flight Deck Officer, alert for the signal ; the Commander Flying on the bridge above, timing his moment for the lifting of the ship, then waving his green flag ; the chocks being whipped away from the wheels ; the first Swordfish moving forward, roaring along the deck and taking off into the gale ; its fellows being swiftly brought into position and flown off in turn ; the full striking force in formation over the ship, ready to set off to the attack. It was an operation which in that storm must have ended in disaster had not drill been perfect and had not every man known his task.

By that time the Sheffield had made contact with the Bismarck. The striking force therefore gained touch with the Sheffield first. Visibility was still bad, with low cloud and much rain. The Swordfish did not see the Bismarck until they were on top of her : shortly before 9 p.m., after nearly two hours' flight, they caught a glimpse of her through the clouds. It was very cold and ice was forming on the wings. They circled above her for twenty minutes, manœuvring for a position to attack. Every time one of the aircraft appeared out of a patch of cloud, or moved from one cloud to another, the Bismarck fired.

Before they could make the assault the striking force became split up in a thick bank of cloud. They then went in to the attack as best they could, in pairs, threes and fives, or even singly. The Commander-in-Chief stated that the attacks were pressed home

“with a gallantry and determination which cannot be praised too highly.”

The intensity and accuracy of the Bismarck's fire compelled some of the aircraft to turn away before they could drop their torpedoes, but they went in again with a second attack. Sub-Lieutenant (A) A. W. Duncan Beale, R.N., having lost touch with his sub-flight in the cloud, returned to the Sheffield to obtain the bearing of the enemy, then flew back and by himself carried out a resolute attack from ahead of the Bismarck in the face of very heavy fire, scoring a hit with his torpedo amidships on the port side.

Five aircraft of the striking force were hit. One flew back with 175 holes in the wings, and both the pilot and the gunner wounded. But all returned, the last landing on in the gathering dusk at 11 p.m., to be followed by the last shadower half an hour later.

Such were the difficulties of observation that the leader of the striking force reported immediately after the attack that he did not think the Bismarck had suffered any damage. But as the aircraft returned to the ship and the observers made their individual reports, it became clear that the results were more successful than he had supposed, and it was first established that the Bismarck had been hit on the port side, then on the starboard quarter. Later still a possible hit on the port quarter was reported. The damage was confirmed by a signal, received at 11 p.m., that the ship had made two circles at slow speed and was staggering off to the north-north-west out of control.

These hits from the Ark Royal's aircraft put the Bismarck's steering gear out of action and reduced her speed, so that she was apparently unable to hold her course with the wind and sea astern.

“This was a result,” wrote the Commander-in-Chief, “which the Ark Royal and her aircraft crews had well earned and which ensured my being able to bring the Bismarck to action next morning.”

During the night a flotilla of five destroyers attacked the Bismarck and scored three hits with torpedoes. For a time she was stopped. Then she got under way again, steaming about eight knots, still capable of heavy and accurate gunfire.

At 4.30 a.m. on 27th May the Ark Royal flew off a reconnaissance aircraft. The night was pitch black, the wind over the deck gusting to 48 knots, and there was still great movement on the ship. The carrier reduced speed to six knots and the Swordfish took off, rose vertically alongside the bridge, and immediately vanished into the darkness. It drove through the rain, but over the northern horizon was a great black cloud which covered the whole area of operations; the pilot failed to find the Bismarck and returned for further orders. He was told to search again. Again he failed, but was successful in the third attempt.

When dawn came the sky was clearer, the wind had gone to the north-west. Twelve Swordfish, which had been ranged before daylight, but had been struck below owing to the movement of the ship and the force of the wind, were flown off, their course being aided by sighting the destroyer Maori, which was still in visual contact with the Bismarck.

By 8.45 the King George V and the Rodney had closed the enemy. The air striking force reached the scene of action as the guns of the Fleet were opening fire. They flew over the Bismarck at 100 feet. According to one of the air-gunners she was then "so battered that you couldn't distinguish her shape—she looked like a dark mass of junk floating on the water."

The splashes from the shells made it impossible for the aircraft to dive on their target. They closed the flagship and watched the Bismarck's end. By nine o'clock she was all but out of control, although her guns were still in action. Soon after ten o'clock she was silenced. She was a wreck, on fire fore and aft, and wallowing heavily. The striking force was about to finish her off when H.M.S.

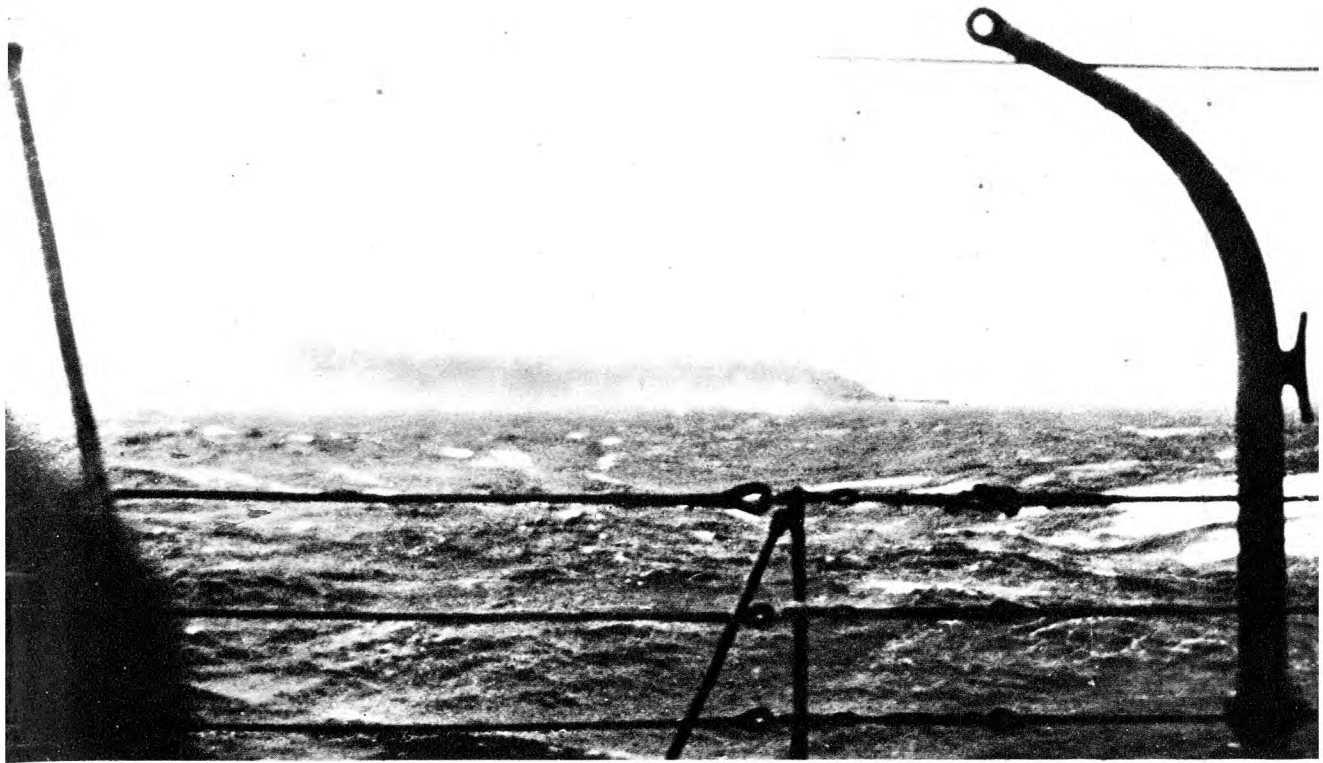
Dorsetshire, which had been ordered to torpedo her at close range, reported that the Bismarck was sinking. She went down with her battle ensign still flying.

The striking force, which had been so close to the Bismarck that some of the crews could smell the oil and the cordite fumes, returned to the Ark Royal. As they were landing on, a Heinkel 111 approached under the cover of low cloud. The ship was in an almost defenceless position, for she had turned into wind and her course could not be altered, nor could she use her 4.5 guns. The Renown and the Sheffield gave her protection, however, and her two after pom-poms also opened fire on the Heinkel, which dropped two large and five smaller bombs from 4,000 feet, then turned away into cloud with smoke pouring from her starboard engine. The bombs fell into the sea 400 yards from the ship, and all the Swordfish landed on safely.

During the operations the Ark Royal had flown off and landed on sixty-one aircraft, with three deck crashes but no serious casualties to personnel, contending with weather in which normally no aircraft would be expected to fly from a carrier. "I cannot speak too highly of the courage and ability shown by the pilots in handling their aircraft, particularly when landing on in such conditions," wrote Vice-Admiral Somerville in his despatch. "It is not only skill that is needed to come in over the flight deck 'round down' when on occasions it is known to be rising and falling 56 feet."

In a message of congratulation to the Commander-in-Chief, Home Fleet, the Board of Admiralty stated: "There can be no doubt that had it not been for the gallantry, skill and devotion to duty of the Fleet Air Arm in both Victorious and Ark Royal our object might not have been achieved."

The work for which Force H had been summoned was accomplished, but there was no respite. It turned south at once and steamed back to Gibraltar. As the Ark Royal entered harbour on 29th May the garrison



LAST HOUR OF THE BISMARCK. "So battered that you couldn't distinguish her shape — she looked like a dark mass of junk floating on the water," was how an air-gunner from one of the Ark's reconnaissance aircraft described the German battleship. (*Below*) Bismarck survivors.





“OUT TO SEA AND INTO THE SKY.” The three famous partners of Force H—the battle-cruiser Renown, the Ark Royal, the cruiser Sheffield—ready for action near Gibraltar.

hired every boat they could find and came out to cheer her to her berth. Soon the small craft were clustering below her as thick as floating wrack, and every rating, soldier and airman who could find a foothold afloat stood shouting and waving up at the carrier's decks to welcome her return.

"Some occasions in our profession," observed Lord Howe, "will justify, if not require, more hazard to be ventured than can be systematically defended by experience." Such hazard had to be ventured in order to stop the Bismarck. The airmen of the Ark had responded to the call made upon them and the result had justified the risk.

## 10. The Spirit of the Ark

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13th—14th NOVEMBER 1941

AFTER THE ARK ROYAL'S return to Gibraltar she resumed her operations with Force H in the Mediterranean. She was almost continuously at sea, carrying out air reconnaissance and covering convoys. The Swordfish made a night bombing attack on Alghero aerodrome on the west coast of Sardinia, obtaining direct hits on hangars and buildings, and a later raid started extensive fires in the cork woods of the island, near Tempio. The Fulmars brought down a number of Italian shadows and one Junkers 52 transport aircraft. One Italian officer who was taken prisoner believed that he had

been shot down by a Hurricane. The Fulmar pilots were gratified by this illusion of their speed.

Their last victim was a Cant 506 which was sighted above the horizon when three of them were on patrol over the Force. Within ninety seconds of the fighters receiving the order to attack, the "Tally-ho" came back. Over the wireless the ship's company could hear the leader of the section giving his directions: "Keep out a bit"—"Over to starboard"—"Now's your chance," and so on during the 60-mile chase which followed. The Italian made for the African coast to take refuge over neutral French soil; before he could reach it the leading Fulmar attacked him from astern. He turned out to sea, but the second Fulmar met him head on. This turned him back to the coast again, when the third Fulmar dived and shot him down. A cheer went up as the ship's company heard the final message: "Whoopce—we've got the blighter!"

Well might the Flag Officer, Force H, on hearing a criticism that landing operations in the Ark Royal might have been more expeditious, make the signal, "Ark may be slow at landing on, but she is quick at bumping off."

Then the day came when the Ark Royal was to operate her aircraft for the last time.

On the afternoon of 13th November she was steering towards Gibraltar in company with the Malaya, Argus, Hermione and seven destroyers. The weather was fair, and at 3.25, when the Force was 30 miles from Gibraltar and within sight of the Rock, twelve aircraft were flown off for training exercises and fourteen were waiting to be landed on.

At 3.41, when the last of the returning Swordfish was about to land on, there was a loud explosion under the bridge of the Ark Royal on the starboard side, plunging the ship into instant darkness below. She whipped so violently that five aircraft waiting to be struck to the hangars were thrown

into the air three times. All hands were immediately piped to action stations.

The torpedo which caused the explosion was fired by a German submarine, although no one on board saw either the submarine's periscope or the torpedo's track. The torpedo, coupled with the speed of the ship through the water—18 knots—caused serious damage below. But only one member of the ship's company was killed, Able Seaman E. Mitchell.

Immediately after the explosion the carrier took a list of ten degrees and was over to twelve degrees within three minutes. The Captain's first thought was to stop the ship. He gave orders to reverse the engines and to midship the helm, but all the telegraphs to the engine-room were jammed, nor was it possible to communicate by telephone with any part of the ship. The broadcaster was also out of action. The bridge was isolated.

It was essential that the way should be taken off the ship. The Captain therefore left the bridge and hastened to the engine-control-room, where he gave the necessary orders to bring the ship to rest. He found that the starboard engines were out of action, but that there was no damage to the port or centre engine-rooms. He gave orders to flood the port compartments and to pump fuel from the starboard to the port tanks in the hope of counteracting the steadily increasing list.

He then stationed a chain of ratings to establish communication between the engine-control-room and the flight deck. Preparations were made for telephones to be rigged to replace this human chain.

The list which the ship had taken made it impossible to fly off the aircraft on deck. The twelve which were in the air at the time of the explosion landed at Gibraltar. Meantime the destroyers were circling round, dropping depth-charges. There was a danger that at any moment a second torpedo might hit the ship.

By four o'clock the Ark Royal had heeled

over to an angle of eighteen degrees, and the list was increasing. There was no means of knowing how long she would float, and the Captain feared she might capsize. If valuable lives were to be saved he considered it essential that every man not required to work the ship should be disembarked at once. He therefore gave orders to bring the ratings up from their action stations below so that those whom he required to remain could be separated from those who were no longer needed.

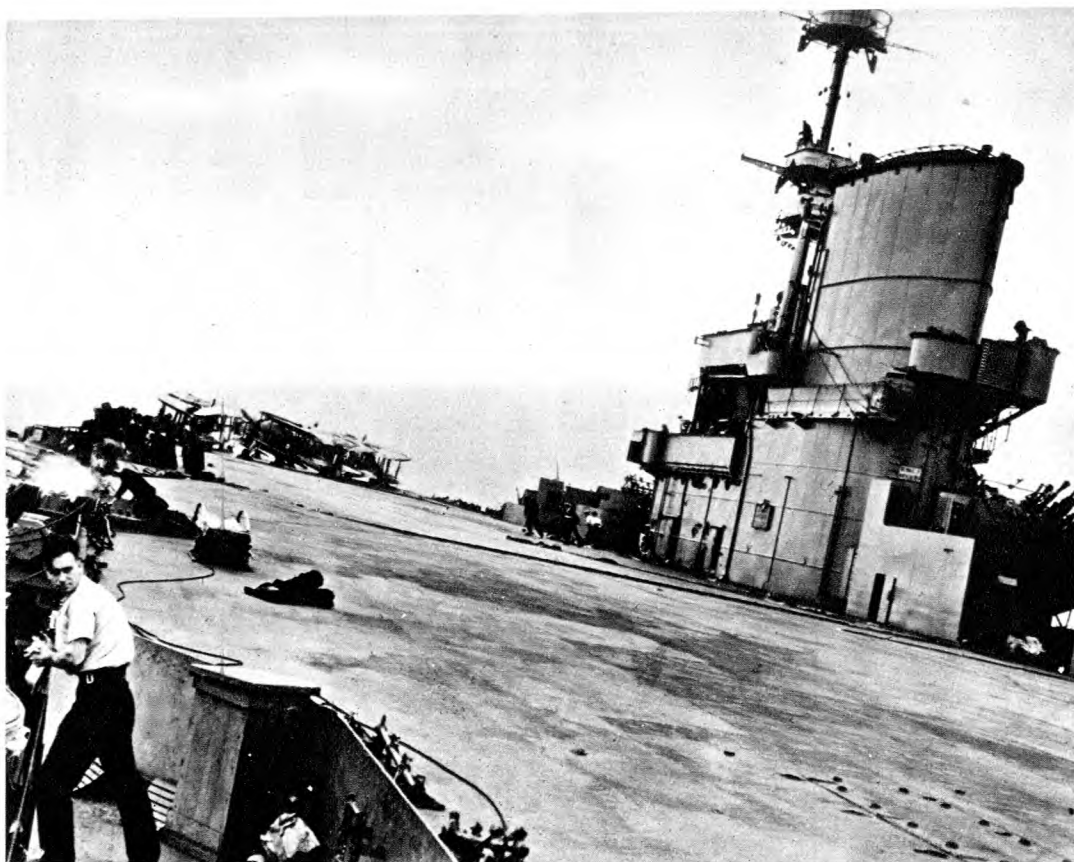
The destroyer Legion was then called alongside. By skilful handling Commander R. S. Jessel, R.N., brought her alongside the port quarter, taking care to keep her stern clear of the Ark Royal's port propeller, which, owing to the list, was visible near the surface of the water. He also had to avoid the carrier's wireless masts, which were projecting horizontally from her side with no power available to raise them.

In a short time 1,540 officers and men were transferred to the Legion. Some jumped on to hammocks in the forecabin, others used lines rigged from the ship. The Paymaster-Commander appeared on deck carrying two suit-cases containing the ship's money: £10,000 in each.

Few of the hands had time to save any personal property. With leave in sight many of them had bought Christmas presents in Gibraltar, but had to abandon most of them, although one Petty Officer had time to snatch up twenty pairs of silk stockings he was taking home for his wife, and distributed them about his person until his pockets were swollen like balloons. There was also a number of canaries on board. Since there was no chance of taking them, their owners opened the cages and flew them off the ship. Nor were the Ark's cats forgotten. One, an enormous ginger tom, was carried aboard the destroyer in the arms of a marine.

The Legion cast off at 4.48. Although she had on board nearly ten times her normal complement, she continued to carry out an





THE ARK IS HIT AT LAST. Within sight of Gibraltar, to which she was returning, a torpedo from a German submarine struck the Ark. Within 3 minutes she was listing 12 degrees. Of the 1,541 of her company, only one life was lost.

anti-submarine screening patrol for six hours.

Meanwhile those on board the Ark Royal were doing everything in their power to save the ship. Portable pumps were being placed, auxiliary lighting was being found, and the extent of the damage was being ascertained. The centre boiler-room had quickly flooded, and water had even reached the starboard engine-room. But the most serious damage of all was the loss of feed water, and, owing to this loss, all power failed and conditions became steadily worse. The destroyer Laforey was therefore signalled to come alongside, to provide water and enough electrical power for the pumps and some of the lights.

Gradually steam was raised again. The dynamos and steering engine were brought

into action once more. The Laforey was then cast off. A chartered tug arrived about 7.30 and before long had the ship going ahead at a speed of two knots, although unfortunately there was a full knot current against her.

The counter-flooding had considerably reduced the list. There seemed every hope of getting steam on the port shaft. Everyone on board felt confident that before long the ship would be entering Gibraltar harbour. Their hopes were raised still higher by the appearance of the Admiralty tug St. Day, which made fast on the port side to help the towing.

Then, at 2.15, on the morning of the 14th, a fire broke out in the port boiler-room, which destroyed all hope of raising steam for

another two hours. All salvage work came to a standstill, the dynamos stopped, the lights below decks went out again, and the steering engine became useless. The list was now twenty degrees. It was becoming impossible to stand on the decks.

The Laforey was again brought alongside, outside the St. Day, and within fourteen minutes electric power was available for the pumps and some of the lighting. But the pumps seemed now to have little influence on the list, which increased ominously. The Laforey and the St. Day were told to go ahead to assist in the tow. In this way the speed was increased to five knots, but Gibraltar was still 25 miles away.

By four o'clock the ship had heeled to twenty-seven degrees. Her people had done all that human resource and courageous endeavour could do to bring her to port, and now they could do little more. For the past half-hour the port boiler-room had been an inferno, the casings red-hot and the stokehold choked with fumes. The Senior Engineer, Lieutenant-Commander (E) A. G. Oliver, R.N., who had been working unceasingly, was finally overcome by the fumes and the heat. Two of his men fainted and had to be given artificial respiration. Four times the stokers extinguished fires which had broken out. They continued to steam the boiler until further efforts were useless, and they were ordered up. Others had run the dynamo in the port and centre engine-rooms for many hours, working without ventilation in a mist of superheated steam.

Since there was now no hope of saving the ship every available rope was taken forward and secured inboard, abreast of the St. Day, so that the 250 men on board could leave quickly and cross over the St. Day to the Laforey.

The Ark was then heeling more rapidly. It was only possible to crawl upon the decks. The ratings on deck were told to slip down to the tug and all hands were ordered up from below. The men left the ship calmly, taking

their time. The Captain was the last to leave. The ratings gave him three cheers as he slid down a rope into the tug. By that time—4.30 a.m.—the list was thirty-five degrees, and the lower hangar deck on the starboard side was under water.

As the Laforey was on the point of casting off, the Flag Officer, Force H, arrived alongside in a motor-launch: he had returned to Gibraltar in the Malaya and had then transferred to the destroyer Sikh to see if he could aid the Ark Royal.

From the bridge of the Laforey he and Captain Maund watched the last moments of the sinking carrier. For a time she hung over the water at an angle of forty-five degrees. Then the island reached the sea and the flight deck stood vertically above the surface, like a great table set upon its side. At 6.13 a.m. she turned over, remained bottom upwards for a few minutes, then, fourteen hours after she had been torpedoed, she disappeared from sight. Before she made her final plunge, Admiral Somerville took Captain Maund below.

As soon as it was light a sub-flight of the Ark Royal's Swordfish flew out from Gibraltar in the expectation of escorting their carrier back to port. When they reached the position where she should have been, all they saw from the sky was a great dark patch of oil upon the water.

The loss of the Ark Royal was announced in London at one o'clock that afternoon. It may be that the news embarrassed the German Ministry of Propaganda, which had claimed the destruction of the carrier over two years before. Not until twenty-four hours after the sinking did Dr. Goebbels blow the fanfares and proclaim the U-boat's success. It is significant that the German announcements quoted the British Admiralty in confirmation.

Those who had sailed in the Ark Royal, and those who had known her, mourned her loss. Gibraltar was silent that November morning. And as the survivors stood on the

quayside they looked forlornly at the berth where their carrier had so often lain. The sight of its emptiness brought the first sharp pang of realisation that "the old Ark," as they had called her, was gone.

Perhaps to a landsman the only loss comparable to the sinking of a ship is the destruction of a house which has been dear to him : many landsmen, and seamen too, have known that distress of late. But a great ship is more than a house : she is a little world of her own. And when she disappears from the face of the waters it is as though a planet had vanished from the sky.

This time it was true that the Germans had sunk the Ark Royal, yet something of her remained which even they could not destroy. As the First Lord of the Admiralty said, she had paid a rich dividend. But by herself a ship is nothing. It is her seamen, and in a carrier her airmen too, who make her great

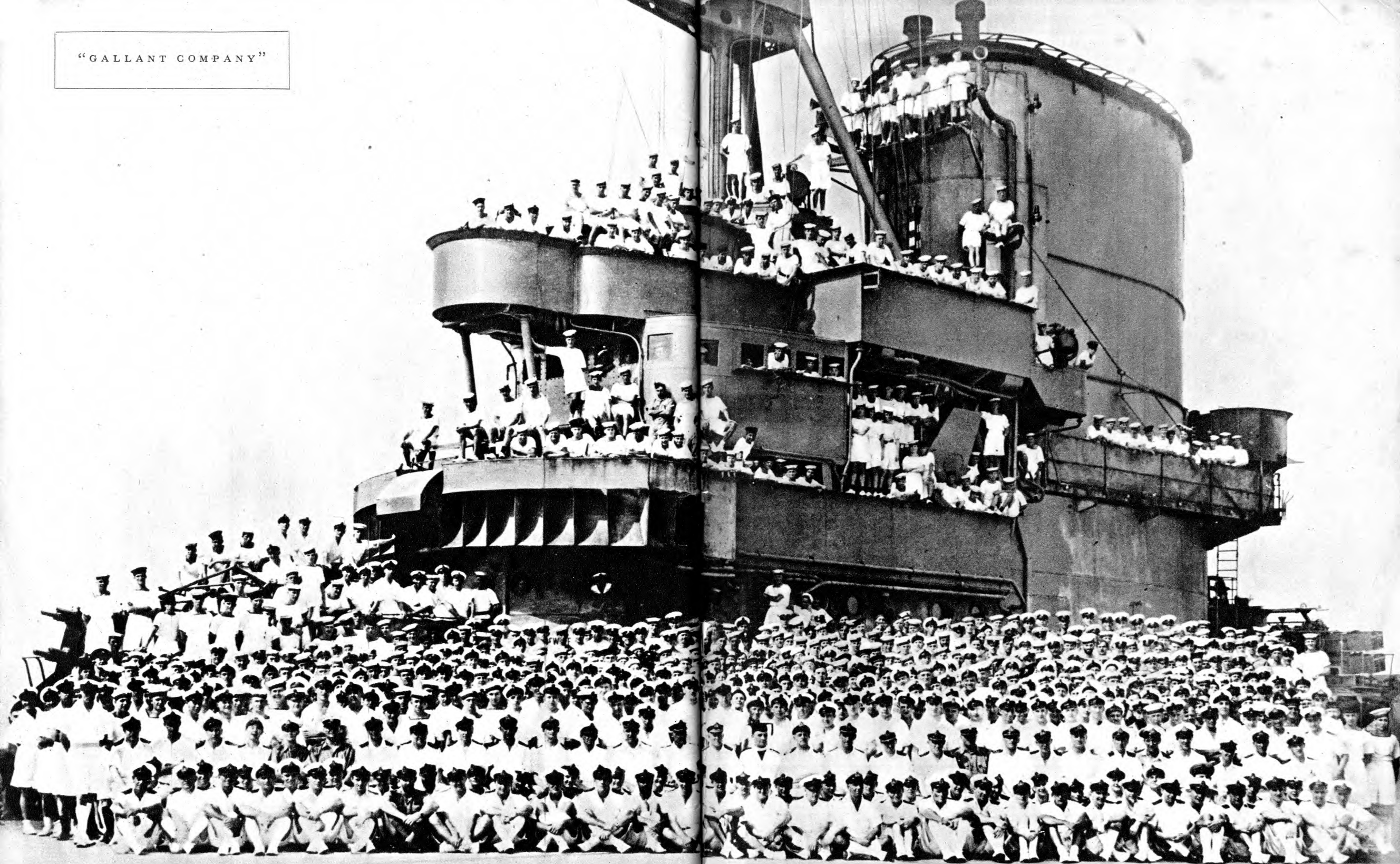
and cause her to be remembered. The pilots and observers of the Ark, and her air-gunners, had paid that dividend. In the words of the Psalmist, they had flown upon the wings of the wind ; they had made darkness their secret place ; their pavilions round about them had been dark waters and thick clouds of the skies ; and they had "subdued with sling stones."

Those who sailed with them had made their victories possible. That gallant company had been close to death many times and they had reached the peaks of life. Together they had created that indestructible fellowship which had become the spirit of the Ark.

This is not fanciful, nor is it a little thing. That spirit was real, if imponderable, and more enduring than the ship herself. And those of the Ark will take it with them in other ships and other aircraft, out to sea and into the sky.



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“It is upon the Navy, under the good providence of God, that the wealth, safety and strength of the Kingdom do chiefly depend”