2015

Frogmen against a Fleet: The Italian Attack on Alexandria 18/19 December 1941

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In March 1939 Italy's Regia Marina established a specialized and secret naval warfare unit called Decima Flottiglia MAS (Motoscafo Anti Sommergibili), generally known as the 10th Light Flotilla or X MAS. This unit was innovative, in that it employed selected, highly trained personnel using special weapons and delivery systems to conduct sneak attacks. On the night of 18 December 1941, six members of this unit penetrated the main British naval base in the eastern Mediterranean at Alexandria, Egypt, and disabled the Mediterranean Fleet's two battleships, a tanker, and a destroyer. In few military endeavors has so little been risked to achieve so much. This article examines the Alexandria action and some of the factors that contributed to its success. It also considers how this action applies to today's threat environment.[1]

The concept of using stealth and unconventional weapons to strike enemy forces, especially in port, is an old one. The American *Turtle*'s daring 1776 endeavor against the British ship of the line *Eagle* is a case in point; Paraguay's use of canoes to attack a flotilla of Brazilian ironclads during the War of the Triple Alliance (1866–70) is another. Italy's innovation, beginning in the First World War, was to institutionalize what had typically been an ad hoc form of attack by creating special units, weapons, and doctrine. Italy never intended that unconventional weapons should replace the battle fleet, only that they supplement it by providing a

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capability for hitting targets the fleet could not reach. During World War II the Italian battle fleet's reach was the range of its escorting destroyers, about five hundred nautical miles—as far east as Crete or Tobruk or the vicinity of Bône to the west. Alexandria and Gibraltar, the two principal British naval bases in the Mediterranean, were far beyond this battle zone and also beyond range of any but harassment air raids. Italy's naval command had one weapon capable of attacking British units in these bases—X MAS.

A BRIEF HISTORY

In the First World War the Italian navy made many stealthy attempts to penetrate Austro-Hungarian naval bases using small units and special weapons. It achieved several successes, climaxed by the sinking of the dreadnought *Viribus Unitis* on 1 November 1918 by a Mignatta semisubmersible, two-man attack craft. When the prospect of war against Great Britain arose in 1935 a cadre of naval officers looked to this precedent and championed unconventional weapons as representing a way to offset the British Royal Navy's battleship superiority. Benito Mussolini, Italy's head of government, and the navy's chief of staff, Admiral Domenico Cavagnari, who himself had participated in a special operation to penetrate Pola on 1 November 1916, endorsed these proposals and allowed research programs to go forward.

The cadre of officers proceeded to develop or refine a variety of special weapons, such as small motor "crash" boats packed with explosives in their bows. There were midget submarines and two-man motorboats armed with one or two torpedoes.[2] The weapon used to attack Alexandria was the *siluro a lenta corsa* (slow-running torpedo, or SLC). It was twenty-six feet long (see photo 1) and twenty-one inches in diameter. An electric motor gave it a range of fifteen miles at 2.3 knots and a maximum speed of three knots. The detachable warhead contained 660 pounds (three hundred kilograms) of explosives. Although the SLC was superficially similar to the Mignatta, it took advantage of new technology, a self-contained breathing device known as the ARO *(autorespiratore ad ossigeno),* or oxygen breathing apparatus. This was a rebreather system that predated the Aqua-Lung and had the advantage of not leaving telltale bubbles.[3] While the SLC operated best just breaking the surface, like the Mignatta, the ARO allowed its operators to submerge the craft as deep as fifteen meters. Thus, the SLC represented a capacity that had not existed before, it was cheap, it was expendable, it was stealthy, and in 1940 it was unique.

The SLC was colloquially called a *maiale* (pig) by its operators, because it was difficult to use and subject to breakdowns. The men who rode this device into combat had to be excellent swimmers with strong lungs. Their training was intensive. Commander Junio Valerio Borghese (who began the war as captain of the

PHOTO 1
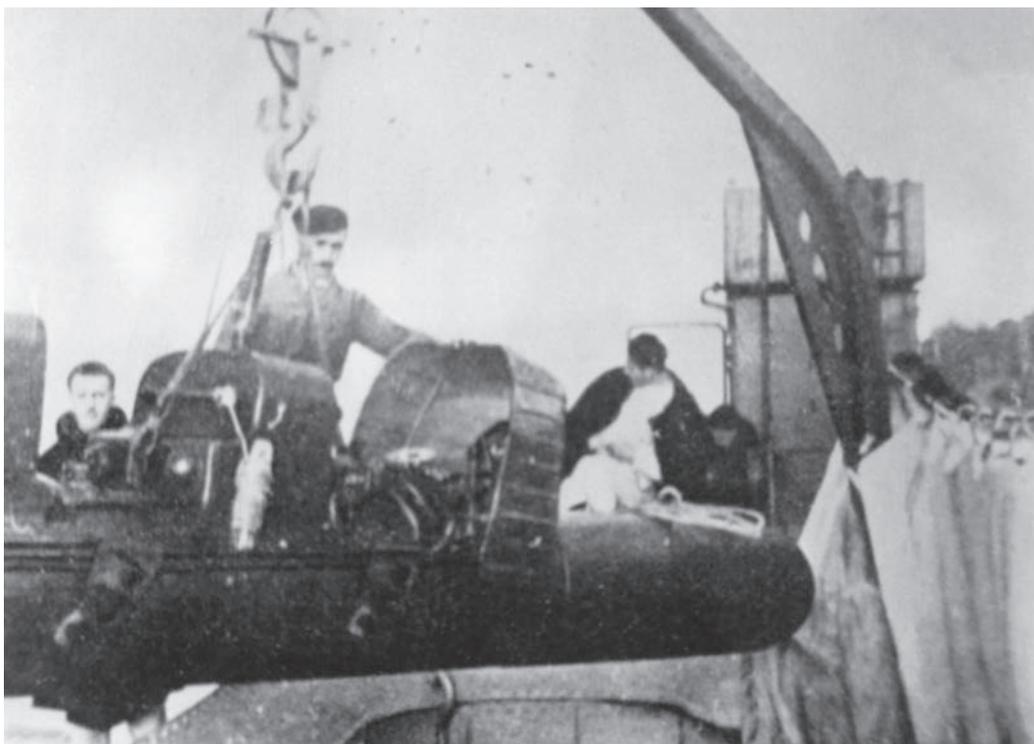
SLC of the series used at Alexandria being slung on board a pontoon.

Both photos Ufficio Storico della Marina Militare, Rome, used by permission

submarine *Scirè* and became the commander of X MAS and later in 1944 of the Marina Repubblicana, the post-armistice naval force of Mussolini's Repubblica Sociale Italiana) characterized training as "continuous and drastic under difficulties even harder than those expected in action against the enemy." A U.S. Navy report produced shortly after the Italian armistice confirmed that SLC operators required six to eight months of training and that "these training periods presume that the trainee [already] has certain special qualifications."[4]

The original strategic concept behind the Italian special-weapons program was to attack simultaneously every major British Mediterranean base on the war's first day, before the enemy had any hint of the weapons it faced. However, Italy declared war on 10 June 1940, long before its armed forces were ready. In the case of X MAS, "given the relative unreliability of the assault equipment and breathing equipment, insufficient numbers, and equipment worn out by intense training, it was not until 10 August . . . that the chief of staff ordered [the first operation]."[5] Instead of a simultaneous, decisive blow, because of Mussolini's belief that the war would be short X MAS was committed piecemeal and prematurely.

For the first special assault action (see map 1), scheduled for the night of 25/26 August 1940, the targets were the Mediterranean Fleet's three battleships and

MAP 1
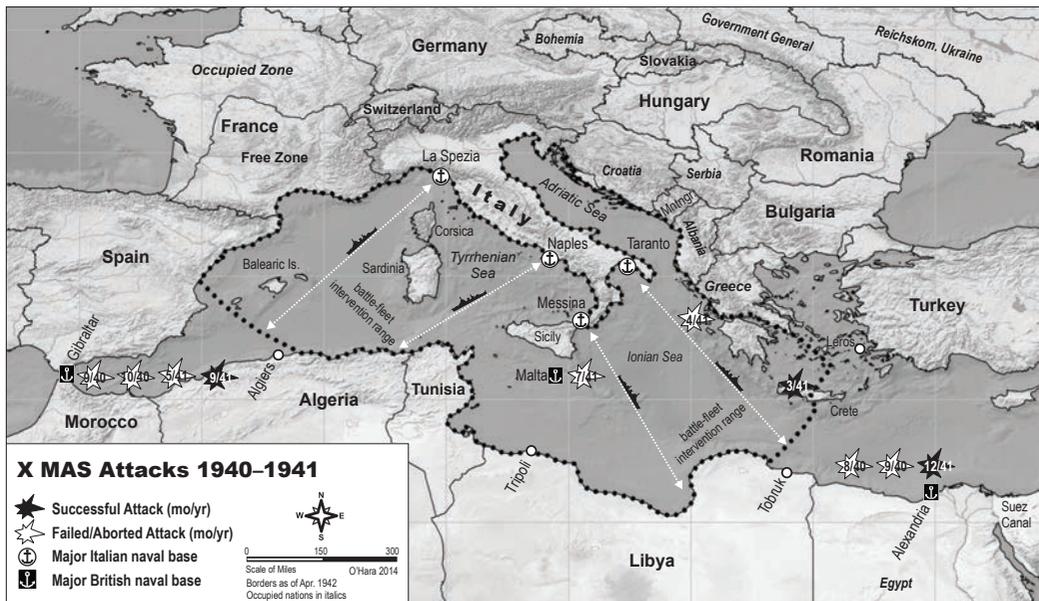
aircraft carrier in Alexandria. The submarine *Iride* sailed to the Gulf of Bomba in Libya and met there a torpedo boat bringing four SLCs. British aircraft foiled this operation when a flight of three Swordfish from HMS *Eagle* sank *Iride* on 21 August, just after it had fastened the SLCs to its deck and was about to conduct a test dive preliminary to departing for Alexandria (the SLCs could not withstand water pressure at depths greater than thirty meters). However, the survivors, who included X MAS personnel, were eventually able to recover the SLCs (as well as seven trapped crewmen) from the wreck, which had settled on the bottom at a depth of fifteen meters.

The next attempt was a double operation against Alexandria and Gibraltar scheduled for late September 1940. For this mission two submarines, *Gondar* and *Scirè,* were modified to carry three SLCs each in special canisters fitted to their decks. This adaptation allowed the submarines to dive deeper, because the canisters had the same pressure resistance as the submarines. The mission, however, was aborted after intelligence discovered that the targeted warships were away from port. British forces sank *Gondar* on 29 September as it was returning to base from the vicinity of Alexandria; its crew and embarked X MAS personnel were lost or captured.

On 30 October 1940 the surviving modified submarine, *Scirè,* successfully released three SLCs off Gibraltar. One, whose compass did not function, was forced during its approach by a patrol boat to submerge. The patrol boat dropped an explosive charge nearby, and the concussion caused the SLC to lose depth keeping and plunge to the bottom, where water pressure collapsed it. The second

SLC made it to the boom, but when the operator tried to submerge he found that his ARO and the backup were both inoperative. Consequently, he could not submerge; he scuttled his craft so as not to jeopardize the other attackers. The third SLC likewise had a faulty ARO, as well as a leak in its battery compartment that reduced its speed and compromised its buoyancy. Nonetheless, it penetrated the harbor barrier on the surface. However, when the operator, Lieutenant Gino Birindelli, submerged for the final approach to his target, the battleship *Barham,* his SLC became stuck on the bottom about thirty meters short. Dismounting, he was unable to pull it close enough before carbon monoxide poisoning overcame him. The charge's explosion caused no damage, and he and his fellow operator (who had previously run out of oxygen) were captured. (The other four operators made it to Spain and thence back to Italy.) Although the captured operators did not disclose any information, the British observed the recovery of the SLCs washed up on Spanish territory and appreciated them to be some type of manned torpedo.

These setbacks led to system improvements, intensified training, and the exploration of other attack methods. In March 1941 X MAS deployed six one-man crash boats known as MTMs against British units at Suda Bay, Crete, and sank the heavy cruiser *York* and the tanker *Pericles*. An April 1941 operation against the Greek port of Corfu involving the first use of the torpedo-armed boats known as MTSs was a failure. Defects foiled another effort by *Scirè* and its three SLCs against Gibraltar on 27 May 1941. The battleships were at sea, so the raid was launched against commercial shipping anchored in deep water. One SLC could not start its engine and had to be scuttled. The other two were lost owing to accidents (one operator lost consciousness, causing his SLC to sink, while the other suddenly plunged to the bottom as the warhead was about to be detached). All six operators landed safely in Spain.

A large-scale operation followed in July when *MAS 451* and *452* (24.5-ton motor torpedo boats accompanied by a 1.9-ton, two-man MTS torpedo boat), nine 1.3-ton MTM crash boats, and two SLCs (carried on board an adapted motorboat called an MTL) attacked Malta.[6] Radar (a capacity the Italians lacked and of which they were largely unaware) having detected the force en route, the attackers encountered an alerted defense. They lost all craft committed save the MTS and suffered fifteen killed, including the unit's commander, and eighteen captured. This was a great blow to X MAS. The surface elements needed reconstitution, but *Scirè* and most of the same SLC operators who had participated in the May operation conducted another strike against Gibraltar on 20 September. Two crews failed to penetrate the military harbor, being delayed by wind and then by the need to avoid patrol boats. Instead, they attacked merchant shipping in the commercial harbor and sank *Fiona Shell* (2,444 gross register tons, or GRT) and *Durham* (10,900 GRT). The third craft did penetrate the harbor but having been

seriously delayed in the process settled on a larger tanker rather than a battleship. The operator could have attacked a cruiser, but X MAS command believed that leaking oil from a tanker could be ignited by small explosive charges, thus causing more harm. The SLC successfully attached a charge to the Royal Fleet Auxiliary oiler *Denbydale* (8,145 GRT), and the subsequent explosion broke the ship's back. Although disappointing in terms of its original goals, this successful attack con-firmed—both to its operators and to its targets—the SLC's potential. A breathing apparatus recovered near *Fiona Shell* led the British to conclude that the probable cause of the attack had been "two man submarines." The port admiral replied to an Admiralty inquiry about his defensive measures that "until improvement could be designed and made to net defences, security of the harbour against miniature submarines depended on firing of explosive charges in the entrance. This is now being done at both gates by separate boats at very short intervals."[7]

THE SITUATION

By the end of 1941 Italy was losing a desperate struggle to supply the Italo-German army in North Africa. A combination of surface ships, aircraft, and submarines was so effectively blocking Italian shipping that in the month of November 1941 only 38 percent of materiel (29,813 of 79,208 tons) sent to Libya arrived.[8] The Italian high command plotted a number of actions to redress the situation. These included changes to convoying patterns, the use of the battle fleet to escort convoys, and an SLC attack against the British naval base at Alexandria. By this time, X MAS had fifteen months of wartime experience. Its equipment, especially the SLCs and AROs, had been modified to account for problems that had affected past missions. Despite the several failures, morale was high, and every SLC operator in the force volunteered for the Alexandria mission.

On 3 December 1941 *Scirè,* under Borghese, departed La Spezia ostensibly on an ordinary training cruise. That night, well away from shore, a lighter loaded with three SLCs rendezvoused with the six-hundred-ton submarine. After fit-ting the SLCs into their canisters, *Scirè* proceeded to the Italian base of Leros in the Aegean. It tried to avoid contact with enemy vessels, but there was one close call: on 9 December an aircraft of the Royal Air Force 201st Group sighted *Scirè* on the surface. The Italian crew greeted the enemy aircraft with waves and the day's correct Aldis-lamp recognition signal. The aircraft reported: "A U-boat bearing 'GONDAR2' features was spotted South of Crete. . . . This particular U-boat was challenged by the aircraft and answered with a green light signal which was the correct signal for the day; she was therefore not molested."[9] The submarine knew the correct signal because Italian naval intelligence had broken the Royal Navy tactical code, designated QBC, which was used to communicate such information.[10]

On 12 December the SLC operators flew from Italy to Leros and met *Scirè* there. They had traveled separately because experience had shown that special-craft crews reacted poorly to prolonged submarine voyages, because the recycled air and lack of exercise compromised their all-important lung capacity. On 14 December, in the dark of the moon, *Scirè* sailed for Alexandria. After receiving final confirmation that the battleships were in port, Borghese maneuvered to the preplanned position, 2,400 meters off the Eastern (commercial) Harbor.
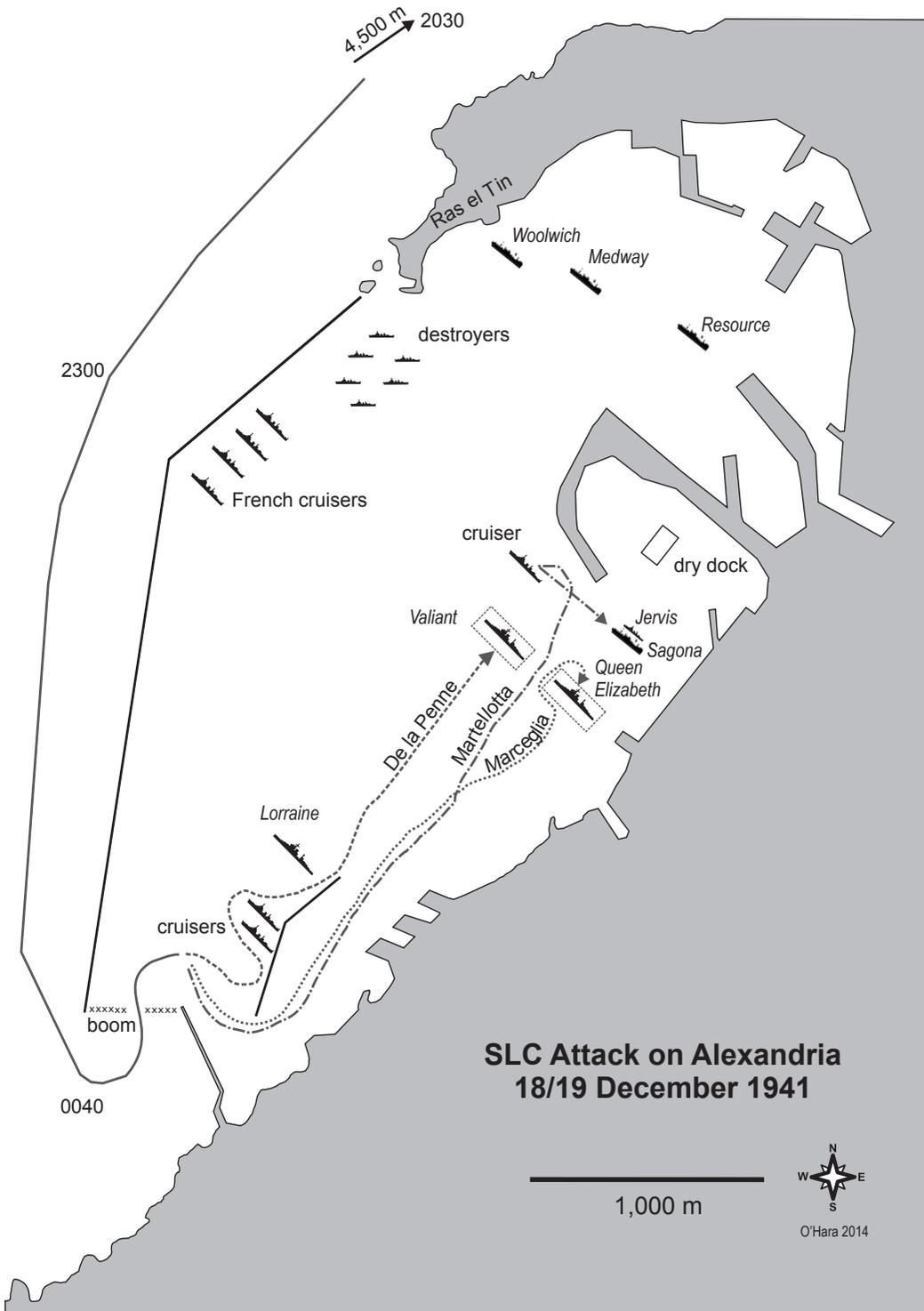
The Allied intelligence source ULTRA had given little hint of the operation, because the main Italian naval ciphers and codes were secure. The decryption of a German report regarding a reconnaissance flight over Alexandria led the Admiralty to issue a general attack warning to Admiral Sir Andrew Cunningham on the afternoon of the 18th. A member of the crew of the battleship *Queen Elizabeth,* Midshipman Frank Wade, later recalled that the crew was mustered on the quarterdeck that evening and warned to watch out for anything suspicious. However, "The reaction in the mess was one of unconcern. How the devil did they think that they could penetrate a harbour as well protected and defended as this one was, with its very substantial entrance boom? We further consoled ourselves with thoughts of proverbial Italian inefficiency, and by ten o'clock had forgotten all about the matter."[11]

That very evening, at 2030 (8:30 PM) on 18 December, *Scirè* released the SLCs off the commercial harbor as planned. There was a problem with the door of one of the canisters, and a reserve diver nearly drowned, but the six operators and their three "pigs" set off. They traveled in company on the surface nearly twelve kilometers along the Ras el Tin Peninsula and thence along a breakwater to the military harbor entrance. The plan called for securing explosives beneath the target hulls and setting the fuses for 0600 (6 AM). In addition, all three SLCs were to distribute incendiary devices timed to detonate an hour after their main charges had exploded. The planners hoped these would ignite drifting oil and cause a massive conflagration that would damage more shipping in the port and spread to shore facilities. (This aspect of the plan was based on experiments made with Italian fuel oil. An attempt to ignite *Denbydale*'s oil at Gibraltar had failed, however, and analysis of the higher-quality fuel used by the British would have demonstrated this scheme's futility.) After attacking, the operators were to sink their SLCs and make for shore. The submarine *Zaffiro* was to loiter off Rosetta some days hence to give the operators a chance to steal a small boat and reach it.

THE ATTACK

There was considerable traffic in and out of Alexandria Harbor on the night of 18/19 December (see map 2). The boom was open from 2122 to 2359 to permit the exit of the tug *Roysterer* and then the entry of the damaged sloop *Flamingo,*

MAP 2

4,500 m → 2030

Ras el Tin

Woolwich

Medway

Resource

2300

destroyers

French cruisers

cruiser

dry dock

Valiant

Jervis

Sagona

De la Penne

Martellotta

Marceglia

Queen
Elizabeth

Lorraine

cruisers

xxxxxx   xxxxx
boom

**SLC Attack on Alexandria
18/19 December 1941**

0040

1,000 m

N
W   E
S

O'Hara 2014

assisted by *Roysterer* and another tug. It opened again at 0024 for the 15th Cruiser Squadron, *Naiad* and *Euryalus,* and for the destroyers *Sikh, Legion, Maori,* and *Isaac Sweers,* which were returning from an unsuccessful attempt to engage an Italian convoy. The SLCs reached the boom shortly after midnight and encountered a large motorboat that was patrolling and periodically dropping small explosive charges. Lieutenant Luigi Durand de la Penne, the operator of the SLC assigned to attack *Valiant* and commander of the three crews, later described this development as "rather worrisome."[12] As he was inspecting the defenses, navigational aids suddenly illuminated, and he saw three destroyers begin entering at ten knots. Although SLCs had twice penetrated Gibraltar's barrier defense, De la Penne decided to enter on the surface though the open boom. This was dangerous —he was tossed about by the bow waves of two of the ships. The second SLC, piloted by Captain (Naval Engineers) Antonio Marceglia and assigned to attack *Queen Elizabeth,* had to avoid a destroyer, as did the third. That SLC, piloted by Captain (Naval Weapons) Vincenzo Martellotta, was assigned an aircraft carrier or, failing that, a large tanker. Martellotta passed within twenty meters of the patrol boat. Shocks from the explosive charges discomforted all three pilots, but the craft entered without being harmed or detected. Once inside the three SLCs made their separate ways to their targets.

Marceglia had to cover 2,200 meters to reach *Queen Elizabeth.* He passed between a line of cruisers and the shore, navigating by such landmarks as the French battleship *Lorraine,* and reached the net protecting his target. After exploring the perimeter, he found a gap and at 0300 donned his ARO and plunged his SLC into the darkness of the water. He would write, "The balance of the apparatus was awkward, its speed of fall increased as we descended, and I could not hold it with the rudders, perhaps because there was not enough forward thrust. I felt a sharp pain in the ear; finally we touched bottom in 13 meters raising a cloud of mud."[13] From there Marceglia and his copilot worked to detach the explosive charge and suspend it from the hull. There were a few mishaps. The SLC was fed air to bring it upward to where the weapon was to be attached but rose out of control and crashed "violently" into *Queen Elizabeth*'s hull. The copilot got sick before the job was finished (the copilots, who occupied the rear seat, were submerged for much longer [see photo 2] and consequently forced to use their AROs more). Marceglia, however, finished the job of slinging the charge on a cable clamped to the battleship's bilge keels. At 0325 he set the fuse. The two men escaped on their SLC along the harbor bottom until, concerned about the copilot's condition, Marceglia surfaced. They scattered their small explosive charges, scuttled their craft as planned, and swam to shore, reaching land at 0430 after eight hours in the water.

De la Penne's team had problems. As he came to within fifty meters of *Valiant* he encountered "an obstruction of type unknown to me where the floats had

PHOTO 2

An SLC training in autumn 1941. The rear copilot was often submerged even operating on the surface.

spherical shapes of about 30 centimeters in diameter and supported a steel cable. On the cable was hanging a rope net of 4–5 mm diameter." He finally passed his SLC over the top. "The cable and net got tangled with the clamps and propeller and made a lot of noise. Finally, the [SLC] broke free and I got back on board and headed for the funnel of the ship."[14] De la Penne hurried, because there was a tear in his rubber suit; water was leaking in and body heat leaking out. It was about 0200. He submerged and bumped against *Valiant*'s hull but then lost control of the SLC, and it fell to the soft and muddy bottom at a depth of seventeen meters. After checking his position relative to the battleship, De la Penne unsuccessfully tried to get the craft's motor started. When he ordered his copilot, Chief Petty Officer First Class Emilio Bianchi, to check whether the propeller was free, he realized he was alone. Bianchi had fainted. De la Penne next tried to drag the SLC under the battleship's keel. It was an impossible task, and when the lieutenant started to become overwhelmed by the effects of breathing pure oxygen at too great a depth (not to mention physical exhaustion) he swam to the surface, where he found Bianchi clinging to a mooring buoy, having inadvertently surfaced. They were noticed and captured a few minutes later. Luckily for the Italians, De la Penne's "pig" had sunk less than ten meters from *Valiant*'s hull—near enough to serve, as he had hoped, as a bottom mine.

Martellotta's SLC navigated along the shore following much the same route as Marceglia's. He slipped between *Valiant* and *Queen Elizabeth* and checked the carrier berth. Finding it empty, he saw what he believed to be a third battleship. He would write in his report, "At a certain moment I reached, near enough, the bow of a large warship that seemed like a battleship that I had not seen before, at a greater distance, because of the dark background. Noting clear distinctions between the two battleships that were the objectives of De la Penne and Marceglia, I was sure that I had before me a different ship. I considered it my duty to attack it, even if by doing so I disobeyed my operational orders."[15] However, Martellotta soon concluded he was looking at a cruiser, not a battleship, and that this target did not justify violating his orders. So, in a demonstration of discipline, he sought a tanker, although he would have much preferred attacking the warship. (Incidentally, the difficulty of distinguishing between a cruiser and a battleship at night from a small and virtually submerged craft should not be discounted.) In the end he settled on the large Norwegian oiler *Sagona* (7,554 GRT). Unable to submerge because of problems with his ARO, Martellotta kept his craft near the oiler's stern while the copilot fastened the charge beneath it. He set the fuse at 0255. The men then scattered explosive charges, scuttled the SLC, and swam for shore.

Egyptian police arrested Martellotta and his copilot shortly after they landed and later handed them over to the British (Italy and Egypt were not at war). Marceglia's team stayed at large for two days. Although dressed in Italian navy fatigue uniforms, they claimed to be French to anyone who asked. They took the train to Rosetta on the coast, hoping to make the rendezvous with *Zaffiro,* but Egyptian police arrested them.

The capture of De la Penne and his copilot, Bianchi, two and a half hours before their charge exploded gave the British an opportunity to mitigate the attack's worst consequences. According to De la Penne, the Italian captives waited on board *Valiant* while an Italian-speaking officer, Sublieutenant S. T. Nowson, was summoned from *Queen Elizabeth*. Nowson asked where the Italians had come from and expressed ironic sympathy for their lack of luck. They were taken ashore, accompanied by Nowson and *Valiant*'s skipper, Captain Charles Morgan, to the intelligence offices at Ras el Tin. There they were questioned separately by Major Humphrey Quill, Royal Marines, Staff Officer Intelligence (Levant). According to De la Penne, Quill kept a gun in hand and spoke excellent Italian. The captives revealed nothing, and Quill concluded that there was no evidence they had been successful. Meanwhile, at 0332, according to a Royal Navy staff history published in 1957, "a general signal was made that the presence of 'human torpedoes' in the harbor was suspected." This signal repeated previous instructions

for patrol boats to drop explosive charges "if required" and ordered tugs to raise steam. All ships were to pass lines along their bottoms to snag any suspended charges.[16] In his memoirs, Cunningham states that he was awoken at 0400 with news of the capture. He ordered the prisoners immediately returned to *Valiant* and confined deep within the battleship so that if there was a danger, they would reveal it to save their own skins. Midshipman Wade on board *Queen Elizabeth* was to remember that "we were all rudely awakened at 0400 by the alarm rattlers buzzing us to action stations and a bugler blowing the alarm." He saw Cunningham, who "had hastened up from his cabin in a raincoat over his pyjamas."[17]

Valiant passed a line along its hull, but because the charge was resting on the harbor floor, the line hit nothing. *Queen Elizabeth*'s line snagged. These measures were taken after the Italian captives were returned to *Valiant* from their second questioning. During this whole time the British never confiscated De la Penne's "water-tight luminous wristwatch." When ten minutes remained before the expected blast, he asked to see Captain Morgan and told him his ship would be sinking shortly but refused to give more information. Morgan sent him back down below. De la Penne later recorded that as he was returned to his prison in the ship's bowels he heard the loudspeakers ordering the crew to abandon ship.[18]

The charge under *Sagona* exploded at 0547, followed by *Valiant* at 0606 and *Queen Elizabeth* at 0610. De la Penne, who was belowdecks on board *Valiant,* describes the moment: "The vessel reared, with extreme violence. All the lights went out and the hold became filled with smoke. . . . The vessel was listing to port." He was knocked off his feet and injured his knee but climbed a ladder and found an open hatchway abandoned by its sentry. He reached the weather deck (Bianchi, in a separate compartment, survived the blast unharmed) in time to see the effect of the explosion beneath *Queen Elizabeth,* moored five hundred yards away. "[It,] too, blew up. She rose a few inches out of the water and fragments of iron and other objects flew out of her funnel, mixed with oil which even reached the deck of the *Valiant,* splashing everyone of us standing on her stern." Admiral Cunningham later wrote, "When I was right aft in the *Queen Elizabeth* by the ensign staff, I felt a dull thud, and was tossed about five feet into the air by the whip of the ship [that is, violent flexing of the hull, most severe at bow and stern] and was lucky not to come down sprawling." According to Wade, "there was the low, rumbling underwater explosion and the quarterdeck was thrown upwards about six inches, maybe more. . . . A blast of thick smoke and flame shot out the funnel. Then the ship seemed to settle rapidly.[19]

On *Queen Elizabeth* the explosion ripped up the keel plates under B boiler room and damaged an area 190 feet by sixty feet. Boiler rooms A, B, and X and the 4.5-inch magazine rapidly flooded. Boiler room Y "and numerous other compartments slowly flooded up to the main deck level." The ship assumed a

4.5-degree starboard list and settled eight feet by the bow. *Valiant*'s port-side protective lower hull-bulge structure had been holed, "blown into the ship over an area of 60 ft. by 30 ft." The lower bulge, inner bottom, shell room A and its magazine, and adjacent compartments had immediately flooded, causing the ship to go down five feet by the bow. *Sagona* was holed aft, and its propeller shafts and rudder were badly damaged. It was not repaired until 1946. The destroyer *Jervis,* moored alongside the oiler, suffered a twisted bow; plates in the communications mess deck and other compartments were blown in, and a fire was ignited in the paint stores. *Jervis* required a month in dry dock.[20]

Valiant occupied Alexandria's floating dry dock until April 1942, when it moved to Durban, South Africa, to continue repairs and refit. The battleship returned to service with the Eastern Fleet in August 1942. *Queen Elizabeth* emerged from dock on 27 June 1942 and sailed to Norfolk, Virginia, for permanent repairs. Its first fleet operations occurred in January 1944.

Whom to blame? On 24 October 1941 the Admiralty had warned Alexandria that "after the success obtained at Gibraltar it was considered likely that an attack by human torpedoes and/or one-man motor boats will be attempted at Alexandria."[21] A Type 271 radar set was allocated to Alexandria to aid in the detection of surface intruders, but seemingly more-pressing needs prevented it from being dispatched before the Italian attack. As related above, the Admiralty issued a second warning on 18 December, but this was taken as a formality.

The subsequent inquiry, headed by Cunningham's former second in command, Vice Admiral H. D. Pridham-Wippell, concluded that the fault lay in a lack of advanced technology. Protection against such attacks "must not rely on the comparatively out-of-date methods of lookouts, boats and nets. Warning of approach by modern scientific methods was essential." Pridham-Wippell also blamed several junior officers. For instance, the harbor-entrance booms had been left open "for an unnecessarily long period" due to "inefficient control exercised by the Duty Defence Officer." The commander of the solitary patrol boat at the entrance was found at fault for not "firing more charges during the period" when traffic was entering the harbor. (Pridham-Wippell did not question the actions taken after De la Penne and Bianchi were captured two and a half hours before the first explosion, and he exonerated Cunningham.)[22] Midshipman Wade's observations suggest that complacency was a factor: "All of us thought that the Italian navy was hopeless, inefficient, and even cowardly."[23] The British command also suggested that treachery played a part. For example, prisoner investigations produced a report that a French sailor on *Lorraine* had illuminated an SLC but then merely "pointed down the harbour towards the battleships." Then, the interrogation report continued, a "rowing boat with a native crew" had passed an SLC

so close the operator was hit by an oar, but the contact had never been reported. In fact, however, both incidents were misinformation the prisoners fed to their interrogators, eagerly accepted and uncritically passed along.[24]

The next SLC attack on Alexandria, conducted on 14/15 May 1942, was to fail, in large part because extensive use of searchlights forced the craft to operate submerged and thereby threw them far behind schedule. As it turned out, vigilance was the best defense.[25]

THE AFTERMATH

The immediate British priority after the attack was to prevent the enemy from learning its results. Because *Queen Elizabeth* had settled on a level bottom, Admiral Cunningham stayed on board, and the ship's company continued such routines as the ceremony of hoisting the colors each morning. However, as Admiral Philip Vian later recalled, "Standing with [Cunningham] . . . on the cloudless morning after the disaster we saw, high above the harbour, a reconnaissance machine which had eluded the defences. The battleships had settled on the bed of the harbour, with submarines alongside supplying them with electric power: a photograph would reveal disaster."[26] Indeed, photographs did show a scene similar to that of Taranto Harbor after the British November 1940 air attack; the Italian naval command's initial assessment was that both battleships had been damaged. Further reconnaissance on 6 January 1942 confirmed this, and the first bulletin claiming success followed on 8 January. The Germans, however, had their doubts. Throughout December the German naval staff, unaware that *U-331* had sunk the battleship *Barham* on 25 November 1941, believed that the Mediterranean Fleet had three battleships available. The German command first acknowledged the X MAS attack on 9 January, calling it a "considerable success." However, as late as 27 January it was cautioning that "radio intelligence reports that there is no confirmation of the intelligence report according to which the *Queen Elizabeth* sank in shallow water in Alexandria. According to the reports from other sources, the battleship had repeatedly been at sea after 18 Dec. while the *Valiant* was undergoing repairs in dock."[27]

Success Must Be Exploited

The British navy strategist Julian Corbett wrote in 1911 that "command of the sea . . . means nothing but the control of maritime communications, whether for commercial or military purposes."[28] At this time Italy's naval priority was to deliver supplies to the Italo-German army in North Africa. As related, by mid-November 1941 the British had come close to choking Italian communications with Africa. In December 1941 the Regia Marina took several steps to regain command of the central Mediterranean. The attack on Alexandria was one. It

was preceded by the use of battleships to escort convoys. The practicality of the latter was confirmed on 17 December in a brief sunset skirmish since known as the first battle of Sirte. British cruisers and destroyers retreated after coming under fire from Italian battleships. British forces did not counterattack that night, which convinced the Italian command that the big guns were an effective deterrent despite what sailors called the enemy's *occhio elettrico* (electric eye). An unanticipated sea-denial victory followed on the same day as the Alexandria attack, when the British cruisers and destroyers of Force K, based in Malta, ran into an Italian minefield off Tripoli; one cruiser and one destroyer were lost, and another two cruisers were damaged.

This trio of Italian victories of 17–19 December, especially the one at Alexandria, left the British without an answer to Italy's battleship-escorted convoys. As Admiral Cunningham expressed himself in a letter to the First Sea Lord, Admiral Dudley Pound, on 28 December, "The damage to the battleships at this time is a disaster." Rome had claimed sea command and reestablished communications with Africa. This new reality was demonstrated by the fact that in December 39,092 tons, or 82 percent of materiel shipped by Italy to Africa, arrived, and in January 65,570 tons, or nearly 100 percent. The victory also enabled Italy to blockade British communications from Alexandria to Malta. Prior to the Alexandria attack—from August 1940 to December 1941—all thirty-seven merchant ships that departed Egyptian ports for Malta had arrived. After Alexandria and up through the Anglo-American invasion of French North Africa nearly a year later, twenty-five merchant ships sailed from Egypt for Malta but only eight (32 percent) arrived. The Italian battleships delayed British convoys in February and March, leading to increased losses from air strikes, and in June they repulsed the large *Vigorous* convoy. The threat of battleship intervention prevented the dispatch from Egypt of any convoys at all between late March and mid-June and from June to late November 1942.[29]

Another logical response to the disabling of enemy capital-ship strength would be to follow up with an operation that only capital ships could counter. Truthfully, however, Italy had few practical options in this regard. Gibraltar and the Egyptian coast were out of range. The Germans, however, always ready to risk Italian assets, believed that the Regia Marina could have sent its battleships against Alexandria or the Suez Canal. "Without making allowances for oil shortages or the unwillingness of the Italian Naval Staff to take risks . . . the Italian fleet is fully capable of carrying out such operations if it makes use of the Gulf of Suda."[30] The Italian staff, however, could not see what possible reward would justify such a risk, and with the benefit of hindsight, they were clearly correct. A much better option would have been to invade Malta, which the Axis powers

indeed planned to do in late July 1942. Such an operation could have occurred without intervention by British surface forces, but in this instance it was the German high command that was unwilling to take the risk, and the invasion was canceled.

The Sincerest Form of Flattery

X MAS continued attacking (or attempting to attack) targets—in Gibraltar, Algiers, Alexandria, Bône, Palestine, and Alexandretta (in Turkey), off the coast of Libya, and in the Black Sea. After December 1941 these efforts resulted in the sinking of one destroyer and the sinking or damaging of eighteen merchant vessels totaling nearly 100,000 GRT. In October 1942 the British mounted their first special stealth attack against the German battleship *Tirpitz,* using a direct copy of the SLC they called the Chariot. For their part, the Germans deployed a multitude of stealth weapons as the war went on, although with limited success. Meanwhile, after the armistice, both the Regia Marina and the Marina Repubblicana undertook a number of such operations; in the case of the Regia Marina, these included joint operations with their former enemies. In fact, De la Penne participated in a British-Italian attack on German-held La Spezia in June 1944 that resulted in the sinking of a hulked heavy cruiser. When De la Penne was awarded Italy's highest military decoration in May 1945, Admiral Charles Morgan, *Valiant's* ex-skipper, pinned the medal on his chest.

Expensive Weapons and Asymmetrical Threats

The attack on Alexandria was a case of expensive weapon systems facing threats they were not designed to meet. This situation has been replicated often since the end of the Second World War. If the repercussions have been far less severe, in part this is because Alexandria was a blow by a major power in a large-scale, conventional conflict for the highest of stakes. A review of unconventional attacks on warships involving crash boats or swimmers since 1945 shows that most are carried out by small powers or political movements and for political as often as military reasons.

- 22 October 1948: Egyptian sloop *Farouq* attacked at Gaza by Israeli explosive boats

- 22 August 1975: Argentine destroyer *Santissima Trinidad* mined by guerrilla swimmers

- 29 October 1980: Libyan frigate *Dat Assawari* mined in Genoa by unidentified swimmers (probably French)

- 16 July 1990: Sri Lankan auxiliary *Edithara* damaged by Tamil insurgent (LTTE) explosive boats

- 16 July 1995: Sri Lankan auxiliary *Edithara* mined and sunk by LTTE swimmers

- 19 July 1996: Sri Lankan gunboat *Ranaviru* sunk by LTTE explosive boats

- 12 October 2000: Guided-missile destroyer USS *Cole* (DDG 67) damaged by Al Qaeda explosive boat.

These cases demonstrate that, in crude terms, a rubber boat with a pair of men and a rocket-propelled grenade launcher can cripple a destroyer. This is not to suggest replacing a flotilla of modern warships (even a single frigate) with a swarm of Boston Whalers. What it means is that every commander, admiral, and politician must consider unconventional threats everywhere and at any time. The real danger of politically motivated attacks is the possibility that risk management may exercise a paralyzing effect on the use of major warships.

While warships make attractive targets for religious or political groups plotting blows against prestigious symbols of Western military power, this implies a threat of a type different from that represented by the Italian X MAS commandos. The North Koreans and Iranians have war plans, and these include blows by unconventional forces and probably special weapons—serious threats, but such midgrade powers cannot aspire to sea control. A major power like Russia or China, however, with the budget and resources to deploy carriers and nuclear submarines, is another matter. One point of this study is that this most successful unconventional attack in 1941 had a very conventional foundation. It suggests that the real concern is not Al Qaeda or even North Korea but a great power that plans, as the Italians did, to neutralize a rival's main strength using unconventional weapons.

Today, the foundation of the sea control exerted by the United States and its allies is the aircraft carrier. It is a foundation that rests on relatively few hulls. There are only ten large American carriers, three of them generally out of service in "Drydock Planned Incremental Availability" status, with the old *Kitty Hawk* in reserve. NATO can contribute only the French *Charles de Gaulle* and the Italian *Cavour*. This shoestring force is far smaller than the one possessed by the Allies in World War II even after the multiple disasters of December 1941. Considering how far-flung are the theatres of crisis, between the Far East, the Middle East, and Eastern Europe, these capital ships provide a thin margin of security for such perilous times. The Western powers are clearly vulnerable: a successful unconventional blow by a first-class power with the conventional forces to take advantage of the damage wrought could make a difference in any future contest for control of the seas.

NOTES

1. In addition to works cited in this article, the extensive literature on the Alexandria attack and Decima Flottiglia MAS in general includes Marco Spertini and Erminio Bagnasco, *I mezzi d'assalto della Xa Flottiglia MAS 1940–1945* (Parma, It.: Ermanno Albertelli, 1991); Jack Greene and Alessandro Massignani, *The Black Prince and the Sea Devils* (Cambridge, Mass.: Da Capo, 2004); and Carlo De Risio, *I mezzi d'assalto* (Rome: Ufficio Storico della Marina Militare [hereafter USMM], 2001).

2. The one-man "crash" boat was called the *motoscafo da turismo* (MT), which evolved into the *motoscafo da turismo modificato* (MTM). The *motoscafo turismo siluranti* (MTS) was a two-man boat armed with two torpedoes. There were later many variations of these two basic types—i.e., MT/MTM and MTS.

3. In June 1937 the navy physician Lt. Bruno Falcomatà accidently discovered that the ARO could support a man underwater for more than an hour. He died in the failed attack against Malta on 27 July 1941.

4. J. Valerio Borghese, *Sea Devils* (Annapolis, Md.: Naval Institute Press, 1995), p. 83; Marc' Antonio Bragadin, *The Italian Navy in World War II* (Annapolis, Md.: Naval Institute Press, 1957), p. 274; Office of Strategic Services, "Investigation Report on Special Equipment," n.d. [1943], p. 67, obtained from the Central Intelligence Agency by Freedom of Information Act request.

5. Enzo Berrafato and Laurent Berrafato, *La Decima Mas* (Paris: Histoire & Collections, 2001), p. 64.

6. *Motoscafo da turismo lento,* a motorboat that embarked two SLCs.

7. Michael Simpson, ed., *The Somerville Papers* (Aldershot, U.K.: Scolar, 1996), p. 307; Christopher Page, ed., *Royal Navy and the Mediterranean,* vol. 2, *November 1940–December 1941* (London: Frank Cass, 2002), p. 177.

8. Giuseppe Fioravanzo, *La Marina Italiana nella Seconda Guerra Mondiale,* vol. 1, *Dati statistici* (Rome: USMM, 1972), table L.

9. "Human Torpedo Attacks," ADM 223/583, 1944, p. 5, The National Archives, Kew, U.K. [hereafter TNA].

10. Fondo Maricosom, busta 24, fascicolo 362, Raccolta di messaggi inglesi "QBC," Archivio Ufficio Storico Marina Militare, Rome.

11. F. H. Hinsley et al., *British Intelligence in the Second World War* (New York: Cambridge Univ. Press, 1981), vol. 2, p. 329; Frank Wade, *A Midshipman's War* (Victoria, B.C.: Trafford, 2005), p. 119.

12. Giuseppe Fioravanzo, *La Marina Italiana nella Seconda Guerra Mondiale,* vol. 4, *Le Azioni Navali in Mediterraneo dal 1 aprile 1941 all'8 settembre 1943* (Rome: USMM, 2001), p. 114. The reports of the three SLC pilots are reprinted in this work: De la Penne, pp. 112–20; Marceglia, pp. 121–27; Martellotta, pp. 127–33.

13. Ibid., p. 122.

14. Ibid., pp. 115–16.

15. Ibid., p. 130.

16. Ibid., p. 118; Page, *Royal Navy and the Mediterranean,* vol. 2, p. 225. The time 0332 cited seems too early. Moreover, the Royal Navy Staff History (republished in Page, *Royal Navy and the Mediterranean*) attributes it to Cunningham, who, according to his own account, was asleep then. The general alarm appears to have been made around 0400.

17. Wade, *Midshipman's War,* pp. 119, 122; Viscount Cunningham of Hyndhope, *A Sailor's Odyssey* (London: Hutchinson, 1951), p. 433.

18. Fioravanzo, *Azioni navali,* p. 119; quote in "Human Torpedo Attacks," p. 5.

19. Cunningham, *Sailor's Odyssey,* p. 433; Wade, *Midshipman's War,* p. 122; quotes in Borghese, *Sea Devils,* pp. 150–51.

20. R. A. Burt, *British Battleships 1919–1945* (Barnsley, U.K.: Pen & Sword, 2012), pp. 121–22; Christopher Langtree, *The Kelly's: British J, K & N Class Destroyers of World War II* (Annapolis, Md.: Naval Institute Press, 2002), p. 129; quote in "H.M. Ships Damaged or Sunk by Enemy Action 3 Sept. 1939 to 2 Sept. 1945," ADM 234/444, Battleships, pp. 16–17, TNA.

21. Page, *Royal Navy and the Mediterranean,* pp. 228–29.

22. Ibid., p. 230.

23. Wade, *Midshipman's War,* p. 119.

24. "Human Torpedo Attacks," p. 3.

25. Hinsley, in *British Intelligence,* states that signals intelligence gave "precise warning" of this attack (vol. 2, p. 348), but he does not cite a source for this statement. Apparently a reference to personnel being flown from Italy to Leros was intercepted, deciphered, and then after the fact associated with the May attack. In August 1942 the British intercepted a similar message, leading to the sinking of *Scirè* off Haifa during an attempted sneak attack against that harbor. See Enrico Cernuschi, *"Ultra": La fine di un mito* (Milan: Mursia, 2014), pp. 160–61.

26. Philip Vian, *Action This Day* (London: Frederick Muller, 1960), p. 81.

27. German Naval Staff Operations Division, War Diary, Part A, vol. 29, January 1942, pp. 84, 265, Naval Historical Collection, Henry E. Eccles Library, Naval War College, Newport, R.I.

28. Julian S. Corbett, *Principles of Maritime Strategy* (repr. New York: Dover, 2004), p. 90.

29. Quote: Michael Simpson, *Cunningham Papers Volume I: The Mediterranean Fleet 1939–1942* (Aldershot, U.K.: Ashgate for the Naval Records Society, 1995), p. 557. For convoy statistics see Fioravanzo, *Dati statistici,* table L. For Malta convoys see Arnold Hague, *The Allied Convoy System 1939–1945* (Annapolis, Md.: Naval Institute Press, 2000). For Operation VIGOROUS and the 1942 traffic situation see Vincent P. O'Hara, *In Passage Perilous: Malta and the Convoy Battles of June 1942* (Bloomington: Indiana Univ. Press, 2013).

30. German Naval Staff Operations Division, War Diary, p. 248.