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Bercuson, David J.; Herwig, Holger H.

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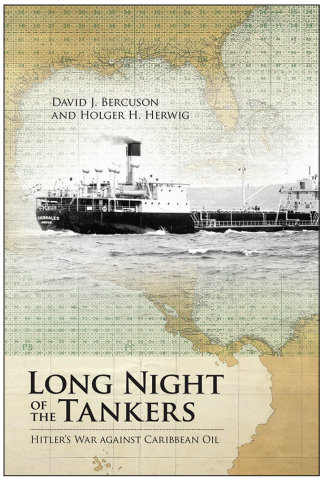

LONG NIGHT OF THE TANKERS: HITLER'S WAR AGAINST CARIBBEAN OIL

David J. Bercuson and Holger H. Herwig

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HIGH NOON IN THE CARIBBEAN AND THE SOUTH ATLANTIC

U-156 remained in one of the "dry" pens of the Kéroman bunkers for almost two months. The attack by the B-24 Liberator had caused a good deal of damage. A diesel compressor, cooling-water flange, wireless set, sounding gear, and hydrophones were replaced. The sky periscope was repaired and its stuffing boxes renewed. Nineteen damaged batteries were replaced. The battery compartment was newly welded as several seams had cracked, allowing up to 150 liters of seawater per hour to flood the compartment. The entire pressure hull was inspected for cracks.

As ever, Admiral Karl Dönitz had some new technology to be installed. *U-156* was outfitted with the so-called Bridge Conversion I: twin two-cm FLAK[1] machine guns were mounted on a platform half the height of the bridge and abaft the conning tower. It was quickly dubbed the "winter garden" by the crews. The boat also received the new "Metox" VHF-heterodyne receiver, together with the "Biscay Cross," a primitive wooden-frame aerial designed as a direction finder.

U-156 underwent the usual rotation of officers and ratings. About one-third of the crew was retained, one-third was transferred to other boats, and one-third went on leave. Commander Werner Hartenstein, Second Watch Officer Max Fischer and Chief Engineer Ernst Schulze remained with the boat. Executive Officer Gert Mannesmann was sent to officer's command school and replaced by Lieutenant Leopold Schuhmacher. And since Dönitz had selected Hartenstein to command yet another grueling transatlantic war patrol, he assigned *U-156* a Third Watch Officer, Lieutenant Silvester Peters.

Hartenstein took *U-156* out of Lorient on January 16, 1943, on its fifth war patrol. Destination: the Caribbean. It was one of just four Type IXC boats dispatched to the Americas in January. Hartenstein was confident of success: he was still the top Caribbean "ace," with 11 ships sunk and two damaged in a single patrol. His orders were to proceed to Trinidad via the Cape Verde Islands, where, Dönitz radioed him on January 26, he might run across stragglers from a recently sighted Allied convoy. For days, the freshly baked Knight's Cross holder raked the waters of the mid-Atlantic in Grid Quadrants DH, DT, and EJ. To no avail. Finally, on February 12, U-Boat Command gave Hartenstein orders to shape a course for Quadrants EO 50 and EO 20 and cleared him to scour the waters off Brazil, which had entered the war in August 1942. He was to lie close in to shore and to use the coming new moon period to advantage – as he had off Aruba in February 1942. Paris assured him that hostile surface escorts remained weak and "only slight[ly] trained," while "convoys have strong air protection."[2]

Finding no traffic in EO, Hartenstein sailed off northwest toward Trinidad. After a month of being cooped up inside the hull in sweltering heat and humidity, he allowed the crew to come up in small groups to recharge their lungs with fresh air – or to foul them with smokes. Some took to fishing, others to porpoise watching. A few went into the water off the stern, despite the "Great Lion's" admonition that such aquatic recreation be banned on U-boats. For, on September 11, 1942, one of his veteran skippers, Rolf Mützelburg, had made a head-first dive from the conning tower of *U-203* – just as a lazy swell rolled the boat over and the Kapitänleutnant had struck the boat's saddle tank with head and shoulders. He died the next day.

On February 16, Dönitz dashed off an Enigma message to both *U-156* and *U-510*. Johann Mohr in *U-124* had just returned from Trinidad and Tobago after an 81-day war patrol, during which he claimed to have torpedoed eight ships of almost 46,000 tons. On the basis of Mohr's after-action report, Dönitz assured both boats that they could expect "little air reconnaissance" in their new operations area, that there had been "no aircraft radar" reports "so far," and that enemy air did not fly at night. He admonished both to remain on the surface, "also during the day," since Allied escorts were "completely untrained." He closed this bizarre radio

message with one of his customary exhortations: "In any case, go at them even in shallow water and utilize every chance to shoot."[3] The crew of *U-156* took time out for a modest celebration on February 27. While the *Smutje* managed a cake on the small galley stove, the officers broke out the "medicinal brandy" and doled it out in small portions. It was the Old Man's 35th birthday. He had celebrated the last one off Aruba, and so it was only fitting that this one, too, took place in the Caribbean.

Whenever *U-156* cruised on the surface, Hartenstein had the men erect the "Biscay Cross" on the bridge and check the "Metox" set for the tell-tale "pinging" of enemy "direction finders" (radar). They heard nothing – despite the fact that several times the watch alerted the skipper to the noise of heavy four-engine bombers. In fact, Trinidad had become an antisubmarine warfare stronghold. US Navy and Royal Navy surface craft routinely put out from Chaguaramas to escort convoys up to Guantánamo Bay, Cuba, and beyond, as did PBY Catalina flying boats. Fleets of American B-18 and British Lockheed Hudson bombers at all hours of the day and night took off from Edinburgh Field on the lookout for "gray sharks." The days of Albrecht Achilles' early and easy successes in the Gulf of Paria were but a distant memory.

Near dusk on March 2, an American B-18 "Bolo" bomber of 9th Reconnaissance Squadron, flying out of Trinidad, spotted *U-156* racing on the surface after a small convoy, TB-4, just north of the Grand Boca.[4] Hartenstein saw the hostile at the last moment. "Emergency Dive!" But the B-18 swooped in low and fast, its twin 930-hp Wright engines droning over the swirl of the slowly disappearing U-boat, and dropped four aerial depth charges. *U-156* endured a savage bombardment, probably sustaining some damage. It had been a close call, one without warning from the "Metox" device.

The B-18 pilot radioed in his position and later that night another B-18, this one from 80th Bomber Squadron at Edinburgh Field, re-established radar contact with *U-156*. Unable to spot the dark U-boat in the pitch black night, the pilot switched on his landing lights – and immediately drew fire from Hartenstein. Again, the B-18 radioed in the new location of *U-156* but broke off the attack due to accurate and heavy fire from Lieutenant Fischer's anti-aircraft gunners and lack of visibility. Hartenstein executed yet another crash dive.

It was all too bewildering for the veteran commander. He had not experienced such strong integrated ASW defenses during his previous two cruises in the Caribbean. As per instructions from Dönitz, he stayed on the surface because there existed "no aircraft radar" and enemy planes did not fly at night! Hartenstein brought *U-156* back up to the surface, certain that the aircraft had returned to its base. Wrong. As soon as the submarine broke the surface, the B-18, which had patiently circled above, swooped down for another attack. Four more bombs crashed about the boat. Again, they did only secondary damage – likely smashing glass and gauges and bursting pressure hoses – mainly because the pilot had set them for 25 feet, and *U-156* was still on the surface. Unknown to Hartenstein, one of the bombs had caused a tear in a fuel tank and the boat was now leaving a thin oil slick in its wake.

Hartenstein took *U-156* east to recharge its batteries in what remained of the night and to allow Schulze and the technical crew to carry out repairs. Above, a host of American aircraft trailed his every move. Throughout March 3, Airship K17 followed the oil slick until it got a read with its Magnetic Anomality Gear, a secret new detection device. The pilot dropped three depth charges, which did no damage to the submerged boat, but alerted its skipper to the fact that he was leaving some tell-tale sign behind. Later that day, PBY Catalinas and surface patrol boats cruised in the area, but made no contact.

On March 4, Convoy TE-1, comprised of only four merchantmen but guarded by four destroyers, left the Bocas. It stumbled upon *U-156*, and the USS *Nelson* dropped nine depth charges in the general area of the U-boat's oil slick, probably causing further damage to the boat. The oil slick grew larger. Later that day, Hartenstein crash dived to evade yet another B-18 "Bolo." He stayed submerged for the next 30 hours, by now suspecting that the enemy was tracking his every move due to the boat's oil trail.

Hartenstein put U-Boat Command in the picture concerning the radically changed nature of enemy ASW actions, sending off an Enigma radio message either late on the evening of March 5 or in the early hours of March 6:

> Strongest possible air cover. New radar. Metox useless. Very accurate attacks [at night] without searchlights. Impossible to operate against 'Testigos' convoy. Turned away. Still have [all] eels.[5]

It was to be Hartenstein's last Enigma message. He had, of course, made his first encounter with the Allies' new airborne centimetric radar as well as with "Huff-Duff" (High-Frequency Direction-Finder). Edinburgh Field picked up his transmission, as did Seawell Airport in Barbados. Through triangulation of the Enigma source, they obtained a new fix on the whereabouts of *U-156*.

For two days, Hartenstein took *U-156* still further east, most of the time submerged. Above, relays of American PBY flying boats and B-18 bombers searched for the intruder. By the morning of March 8, he had put some 300 miles between Trinidad and his new position. Sure that he had eluded his tormentors, Hartenstein surfaced to ventilate the boat and to recharge the batteries.

Just after breakfast on March 8, John "Duke" Dryden, promoted lieutenant (jg) only a week earlier, flew his PBY Catalina P-1 of US Navy Squadron VP-53 out of Chaguaramas. He pointed east in search of the reported U-boat, quickly climbing to 4,500 feet. Nothing in sight. After five hours, Dryden decided to head home. He turned the controls over to one of the crew, Captain J. M. Cleary, and retreated to the navigation compartment to check his course plot. At 1 p.m., Cleary spotted the fully surfaced gray shadow of a U-boat bearing 265° relative to the PBY at a distance of eight miles.[6] Because of good visibility (15 to 18 miles) the flying boat had switched off its radar.

Dryden was back in the pilot's seat in less than a minute. Cleary returned to his nose turret. Taking advantage of the PBY's white camouflage paint, Dryden turned right and ducked behind one cumulus cloud and then another. At 1,500 feet, range one-quarter mile, he left the cloud cover. At 1,200 feet, he pushed the flying boat into a 45-degree dive at 140 knots. The sun was "directly behind the plane and almost overhead." By 1:15 p.m., the PBY was 75 to 100 feet above the water at a target angle of 150 degrees. Second Pilot S. C. Beal pulled the two manual release switches, dropping four 325-pound Mark 44 Torpex aerial bombs set to

explode at 25 feet. Dryden then sharply banked the craft away from the U-boat to evade anti-aircraft fire.

Hartenstein and his lookouts were caught completely off guard. They became aware of the PBY only from the roar of its twin 1,200-hp Pratt & Whitney engines. By then, it was too late. At 400 yards, the plane's nose and port guns raked the U-boat's deck and open conning tower hatch with 100 rounds of .30-caliber and 15 rounds of .50-caliber ammunition, while its tunnel hatch fired 30 .30-caliber shells on the deck forward of the U-boat's conning tower. Two sailors, evidently sunbathing on the deck, were killed instantly. Hartenstein had not even had time to take the tarpaulin off his forward deck gun. Then four bombs crashed into the sea. The port-side crew of the flying boat saw two splash into the water "10–15 feet to starboard and just abaft the conning tower"; the other two exploded further away. On the Catalina, port blister gunner J. F. Connelly saw the submarine lift, break in two in the middle, the center sections going underwater first, the bow and stern rising into the air and then going under.

Simultaneously, a high-order explosion occurred causing debris, smoke, and water to cascade 30 to 40 feet into the air in great profusion.

Werner Hartenstein had paid a terrible price for his momentary lack of vigilance. One can only imagine the chaos that must have reigned in *U-156*. Many of the crew undoubtedly were killed instantly by the powerful blasts and pressure wave from the Mark 44 bombs; others perhaps by the subsequent explosion, most likely of the boat's torpedo warheads. Still others would have drowned as the seawater rushed into the hull, filling compartments and making escape impossible. And some might have cowered in a water-tight compartment, waiting for the "terror-filled drop into the depths of the Atlantic."[7]

Dryden brought the PBY back to the spot of the attack. A terrible sight greeted him. A "large patch of foam, 150–200 feet across" floated on the water – as did a "silver green oil slick," which then turned a dark brown. Wreckage in the form of deck planks and large cylinders (most likely torpedo storage tubes) floated on the surface – as did 11 survivors. Dryden took half a dozen pictures to confirm the "kill." He then dropped two rubber life rafts into the water – one failed to inflate because a line attached to the operating lever slipped off as the raft left the PBY – as well

as an emergency ration kit attached to two "Mae West" life jackets.[8] He ignored frantic hand signals from the survivors to land and to pick them up, for the sea was extremely rough and he was running low on fuel.

Of the 11 survivors, two clung desperately to one of the silver-colored cylinders and four to another black cylinder. The latter group disappeared beneath the waves "almost immediately" and the former within "10–15 minutes." That left five survivors. They managed to scramble into the inflated raft. Four were clad only in shorts. The fifth, possibly an officer, had a shirt on as well. "He was heavier and apparently older than the others, who all appeared to be in their late teens." Was it Hartenstein? Surviving pictures of the Old Man and his crew with Admiral Dönitz clearly show that Hartenstein was at least 15 years older and much bulkier than his young crew. Only Chief Engineer Schulze at 31 was close to Hartenstein's age, and he was much thinner. The likelihood of his having gotten out of the engine room in the stern of the boat after Dryden's deadly attack is remote. One of the survivors "was seen to shake his fist" at the Catalina.

The fate of *U-156*'s five survivors remains a mystery. Immediately after his "kill," Dryden had radioed the whereabouts of the German sailors to all shore and sea units within range, including the merchantman *Aldecoa España* and the tanker *Gobeo*, both Spanish. As well, the destroyer USS *Barney* was dispatched to the site. None found any survivors. Most likely, the raft had drifted out to sea and its occupants died of exposure to the broiling sun, or of shark attacks. In all, three officers and 49 ratings were lost.

U-156 was the first "kill" for the Chaguaramas flying boats. "Duke" Dryden was promoted to lieutenant and awarded the Distinguished Flying Cross; the rest of the crew were awarded the Air Medal for their sterling actions. Formal after-action evaluations accorded all involved a grade of "A."

After repeated unanswered calls between March 8 and 24, 1943, Admiral Dönitz declared *U-156* "potentially lost" on April 18 and "formally lost" on November 16, 1943. *U-156* disappeared at Latitude 12° 38′ North, Longitude 54° 40′ West, northeast of Trinidad and east of Barbados. It came to rest 3,500 meters beneath the sea.

Dönitz fully appreciated that he had lost another "ace," a veteran Knight's Cross commander with 100,000 tons sunk to his credit. In a way,

Hartenstein had come full circle: from the brilliant attack on San Nicolas, Aruba, in February 1942, to the sinking off Trinidad and Barbados in March 1943. One of just two remaining memorabilia of the Dönitz era at the Villa Kerillon at Kernével is a small tiled coffee table that the admiral obviously had ordered to be made. Its center tile is the "Plauen" conning tower crest of *U-156*.[9]

* * *

Hartenstein's demise was only one of a growing epidemic of destruction of U-boats by Allied aircraft. The problem was particularly acute in the Bay of Biscay, where both out- and in-bound submarines were especially vulnerable to attack, but also on all the other sea frontiers where the Battle of the Atlantic was being fought. Dönitz's answer was to beef up the submarines' anti-aircraft defenses – as had been done with Hartenstein's boat – and eventually, in the early spring, to order his commanders to stay on the surface and fight it out with attacking aircraft if they thought there was any chance at all of surviving. Dönitz may have decided this after he learned of the encounter of the outbound *U-333*, commanded by Oberleutnant Werner Schwaff, with an RAF Wellington in the Bay of Biscay on March 4, 1943. Schwaff's boat was on the surface at 9:31 p.m. local time when the Wellington switched on its Leigh Light and caught *U-333* fully in its glare. Schwaff's crew opened fire just as the bomber dove to the attack and dropped two depth charges; the Wellington caught fire and crashed with the loss of all six of its crew.[10]

The new defensive tactics called for even more modifications on the submarine fleet. Special "U-Flak" boats were built, carrying heavy anti-aircraft armament on their conning towers: two quad (four-barrel) 20-mm guns and a 37-mm flak gun, for a total of five. They were specifically designed for service in the Bay of Biscay,[11] but virtually all other U-boats (such as Hartenstein's) had their anti-aircraft capability increased in one fashion or another. The more heavily armed boats made their way into the Caribbean or South Atlantic. Allied pilots suddenly began reporting these encounters – *High Noon*-type shootouts – and noted that the U-boats usually opened fire with their new 20-mm guns at 600 yards, well outside the drop zone for aerial depth charges, and were deadly effective at

300 yards. During these attacks, the U-boats continuously turned toward the incoming aircraft.

Allied flyers also reported that the decision to stay on the surface seemed to rest with individual U-boat commanders since both tactics – diving and staying up – were being used. There seemed to be no standardization of the new anti-aircraft armament.

> Reports from all areas where the U-boats were increasingly active showed … one 3.46″ gun forward of the conning tower, 0.79″ gun and four MG's on the bridge; twin Italian 12.7 mm (0.46") mounted with the 0.79″ gun on either side of the bridge, all in addition or, in some instances, in place of 20 mm cannon. Experimentation by Axis submarines in the use of dual purpose deck guns was reported.[12]

But no matter what the actual armament, the common tactic was "to throw up as heavy a barrage as possible."[13]

The antisubmarine planes were "somewhat defenseless" against these new arms and tactics. Even the mighty B-24 Liberator had been modified to drop antisubmarine weapons, not to kill submarines with gunfire. Virtually all American planes in the region had to be beefed up as quickly as possible. As a first step, many of the .30-caliber machine guns on the B-18s and other medium, twin-engine aircraft were replaced by .50-caliber machine guns. These guns and their ammunition added extra weight to the aircraft but packed a much more powerful punch. Bell P-39 Airacobra single-seat fighters based on Aruba and Curaçao sported a large 37-mm cannon firing through the propeller hub and were especially effective. The B-24s were given .50-caliber guns in nose turrets of various kinds, but the up-arming on these aircraft was unsatisfactory, largely because of poor visibility directly ahead. As a result, their noses were lowered slightly, giving the forward gunner a much better view. Armor plate and a bullet-proof glass shield were also added.

One important result of these alterations was a modification in the plane's center of gravity, giving it a nose-down alignment in flight – which resulted in better vision for the pilots. In addition, specially modified B-25s mounting 75-mm guns were deployed. New tactics were also introduced.

The slower and more vulnerable B-18s began flying in pairs, one equipped with normal demolition bombs and flares, the other with aerial depth charges. New tactics for dropping flares or more long-burning floating lights were also developed.[14]

The Battle of the Atlantic climaxed in May 1943, when the Allies destroyed 41 submarines. German codes yielded a bounty of intelligence; high-frequency direction-finders, both long- and short-range, told Allied radio operators where submarines were transmitting from; the air gap had been closed with an abundance of USN, RAF, and RCAF Liberators and other long-range aircraft; and American hunter-killer groups as well as British support groups were now available to find submarines on the surface and destroy them. The Kriegsmarine could not afford such heavy losses, and Dönitz ordered most of the U-boats out of the central Atlantic. The submarines were to be updated with new radar detectors, new types of torpedoes, new armament, and eventually *Schnorkels* to allow them to run on their diesel engines just under the surface. In the meantime, the U-boats were ordered to the South Atlantic and a small number sent back to, or kept in, the Caribbean Sea.

In May and June 1943, the submarines sank only three vessels in the Caribbean – a British cargo ship of 4,748 tons and two small tankers, one Cuban of 1,983 tons, and one American of 2,249 tons. Off the Brazilian coast, however, after a seven-day chase by air and sea units, *U-128* had been spotted by two US Navy Mariners based at Aratu on May 17. The two aircraft dove to the attack. The submarine managed to slip beneath the sea – only to surface a short time after, no doubt with heavy damage. The two Mariners were then joined by the destroyers USS *Jouett* and *Moffett*, and *U-128* was hit repeatedly by their gunfire. After four direct hits, the U-boat crew abandoned ship as the submarine rolled over and sank. About 50 survivors were picked up.[15]

Suddenly, in July, the U-boats returned to the Caribbean. On July 1, a small Brazilian cargo ship of 1,125 tons was torpedoed northeast of the Windward Islands, beginning a toll of destruction that lasted through the month. Fourteen ships went down in or near the Caribbean in the next four weeks, ranging in size from the schooner *Harvard* (114 tons) destroyed on July 14, to the *BP Newton*, a 10,324-ton Norwegian flagged tanker destroyed on July 8. *BP Newton* was one of only two tankers sunk

in July – the other was the 3,177-ton Dutch *Rosalia* – in a month that cost the Allies a total of 66,383 tons in the Caribbean area. Over the last two weeks of July, 11 aircraft in the Antilles Department engaged in running gun battles with surfaced U-boats, but, in the end, it was the submarines that paid the heaviest toll by far. It took time for the Americans to adapt, but once they did, the destruction of U-boats in the Caribbean began to match that for May in the North Atlantic. July 1943 saw 21 attacks on U-boats by aircraft and 9 by surface craft with the following results:[16]

July 9, 1943: *U-590* was on its first war patrol near the Amazon estuary when it was caught on the surface by an American PBY. It was sunk with all hands.[17]

July 15, 1943: *U-759* was attacked by a US Navy Mariner east of Jamaica in the Caribbean Sea. It was sunk with all hands.[18]

July 19, 1943: *U-513* was attacked off the coast of Brazil by a US Navy Mariner stationed at Rio de Janeiro. The U-boat at first put up a curtain of heavy anti-aircraft fire, but Lieutenant (jg) Roy S. Whitcomb swung the big aircraft over the submarine and dropped six Mark 44 depth charges, then banked quickly away to avoid the boat's anti-aircraft fire. The tail gunner yelled "we got him, we got him" and when Whitcomb flew back in the direction of *U-513*, the crew spotted floating debris and about 15 survivors in the water.[19]

July 21, 1943: US Navy Catalina 94-P-7 took off at 2:10 a.m. local time from Belém to rendezvous with convoy TJ-1 about 300 miles off the Brazilian coast. After arriving in the vicinity of the convoy three and a half hours later, bow gunner F. J. DeNauw spotted the surfaced *U-662* three miles distant, just off the PBY's starboard bow. Pilot Lieutenant (jg) R. H. Rowland was flying at 1,200 feet and nudged the aircraft to the left, heading for the submarine in a shallow dive. The plane's bow gun would not fire and the U-boat put up a persistent and heavy barrage, making no effort to dive. The PBY was hit in several spots and the radioman wounded, but Rowland pressed home his attack. He swung the aircraft to the right a bit to give the right blister gunner a chance to fire. He next eased the aircraft to the left; then to the right again; and when he was about 75 feet above the surface of the sea, flew over *U-662*. He attempted to drop four Mark 44 aerial depth charges set at 25 feet. One of the charges

"hung up" under the plane's wing, but the others did the job.[20] Three of the U-boat crew survived.

July 26, 1943: A US Navy Mariner attacked and destroyed *U-359* in the Caribbean south of Santo Domingo by aerial depth charges. All hands were lost.[21]

July 28, 1943: *U-159* suffered the same fate. A Navy Mariner piloted by Lieutenant (jg) D. C. Pinholster spotted the submarine south of Haiti. It was proceeding on the surface at about 15 knots and opened fire as Pinholster turned the aircraft on an intercepting course. The Mariner's bow gun jammed, but Pinholster's plane bore on, taking hits and suffering two crew wounded. The right blister gun poured fire into *U-159* while Pinholster dropped four Mark 44 aerial depth charges on it, then orbited one-and-a-half times so that the right blister gun and the tail gun could continue firing. The bombs exploded and *U-159* seemed to lose headway. Still, with one gun out of ammunition, one gun not firing, and two wounded crew members, Pinholster turned for base. Suddenly, one of the waist gunners saw a large explosion that engulfed the U-boat's whole conning tower. The next morning, a large oil slick was spotted from the air at the position of the attack. That was the last visible sign of *U-159*.[22]

August 3, 1943: *U-572* was sunk by depth charges dropped by a US Navy Mariner northeast of Trinidad. All hands were lost.[23]

Thus, in total, Dönitz lost eight submarines in the Caribbean and the South Atlantic between the end of May and the beginning of August 1943. The losses were bad enough; even worse was the sharply diminished opportunity of his U-boats to sink anything of importance. There were just too many Allied aircraft, the radar was too good, and the coordination between shore establishments, surface ships, and aircraft too effective. When Dönitz tried to shift his efforts from the Caribbean to the South Atlantic, the result was the same: American and even Brazilian aircraft continued to appear from nowhere to hammer his submarines to the bottom. Just as the Kriegsmarine had lost the Battle of the Atlantic in May 1943, it lost the battle of the Caribbean and the South Atlantic in the high summer of 1943.