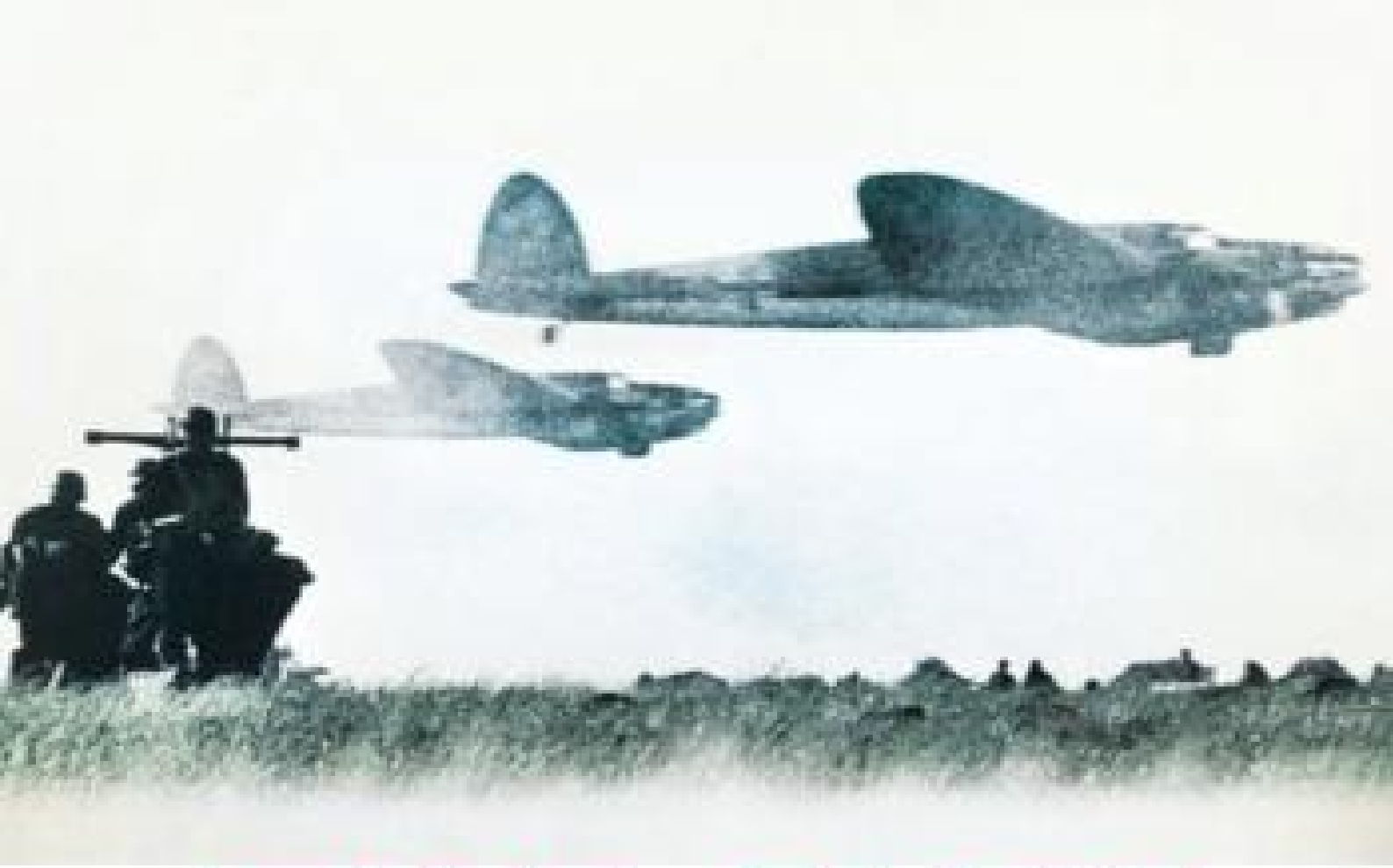

THE AXIS AIR FORCES

FLYING IN SUPPORT OF THE GERMAN LUFTWAFFE

FRANK JOSEPH

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INTRODUCTION: STRANGE BEDFELLOWS

> The Luftwaffe fights today on many fronts-from the Arctic Circle to the Bay of Biscay and the North African desert; from far out over the Atlantic Ocean to the Volga. But we are not alone. The skies are illuminated by the different national colors of other peoples who share our epic struggle for the common defense of European civilization.
>
> -Hermann Goering, February 2, 79431

Although countless books and magazine articles describe virtually every aspect of German air power in World War II, their millions of readers are mostly unaware that the Luftwaffe fought in concert with a broad variety of foreign air forces across Europe and Asia. Benito Mussolini's partnership with the Third Reich is well known, but his Regis Aeronautics is usually dismissed as having been too weak and ineffectual for interest. So too, Japan's contribution to the Axis is popularly understood, although beyond common familiarity with the carrier-based attack on Pearl Harbor; and the Zero fighter plane's enduring reputation, little is known, even to serious students of the Pacific War, about the Imperial Japanese Army or Naval Air Forces.

A general lack of appreciation for their significance stems from the pitifully few books devoted to the air arms of either Fascist Italy or Imperial Japan. Far fewer books even go so far as to mention the contemporaneous air forces of Spain, Vichy France, or Hungary, to say nothing of Slovakia, Thailand, and Manchuria. Nor were the air forces operated by these and other Axis nations the miniscule, insignificant military services readers may assume. Close examination of their histories uncovers a hitherto undisclosed, unsuspected panorama of World War II that throws a whole new light on the conflict.

We learn, for example, that the Romanians developed and flew their own interceptor, which capably defended the vital Ploie~ti oil fields against Anglo-American heavy-bombers. Finnish pilots, invariably outnumbered in the air by their Soviet opponents, ranked among the highest-scoring aces of all time. Far from having been saddled with an obsolete air force, the Italians made the world's first cross-country jet flight in 1941, and their Macchi Greyhounds and Centaurs bested both British Spitfires and U.S. Mustangs.

Contrary to Allied wartime portrayals, not every nation fighting at the side of the Third Reich was headed by a Nazi regime, nor even sympathetic to National Socialism. Croatia, Italy, and Slovakia had Fascist or Fascist-style states aligned with Germany. Hungary went Fascist in late 1944, but had been preceded for most of the war by the regency of an arch-conservative anti-Fascist, Miklos Horthy. Monarchies reigned over Bulgaria, Romania, Manchuria, and Japan, while an authoritarian republic ruled Thailand. The parliamentarians of Finland's constitutional democracy wanted as little to do with Adolf Hitler as possible, and rejected his plea to advance their armed forces beyond reclaimed Finnish soil previously annexed by the Soviets, thereby losing the Battle of Leningrad for

both Germany and Finland. Rightist governments in France and Spain under Philippe Petain and Francisco Franco, respectively, allowed volunteers to join the Wehrmacht, but refrained from formally allying themselves with the Axis.

These and many thousands of volunteers from the occupied and neutral countries made up the German Luftwaffe's foreign comradesin-arms. Not all shared the same dream. Idealists saw Operation Barbarossa-the code name for Adolf Hitler's June 22, 1941, invasion of Russia-as the most historically significant, unique opportunity for defending all Europeans from otherwise certain destruction and slavery, a struggle that would make possible a new Golden Age of racial unity and cultural greatness. Blinkered nationalists cared not a fig for their fellow Europeans but fought on the Eastern Front entirely for their own particular lands, and were absolutely blind to the necessity of continental cooperation. Others regarded the conflict only as a means to regain lost territories and/or obtaining new ones. Conquest in the East would simultaneously eliminate Stalin and create Lebensraum ("living space") for continental over-population, while providing Europe's new breadbasket.

For all their disparate motivations and agendas, what these strange bedfellows shared in common was the will to extirpate the Soviet colossus growing ever more powerfully next door. Some had first-hand experience with Communism in practice, when Bela Kuhn seized power in post-World War I Hungary, or Lenin sparked a bloody civil war throughout Finland during the 1920s, followed the next decade by another civil war that tore Spain in half. Since then, the Red Army had mushroomed into the largest military phenomenon on Earth, and was universally perceived as a common threat to every European people. Tens of thousands of them-from Iberia to the Balkans-had already died in Soviet-sponsored upheavals long before Operation Barbarossa was launched.

Like the Regia Aeronautica, most Axis air forces operated independently from, but in concert with, the Luftwaffe, although all of them were more or less indebted to Germany for training and, at least partially, leadership and equipment. The distant Manchurians flew Junkers-86 medium-bombers, and the Imperial Japanese Army Air Force's Kawasaki Tony interceptor began as a Heinkel-100. Particularly surprising were the numerous crucial roles undertaken by the crews of these relatively obscure air forces during the war, and how that global struggle sometimes hinged on their performance.

To be sure, influence on the development and even the outcome of World War II was all out of proportion to their low numbers and outdated aircraft. Operating cast-off Brewster Buffalo fighters, sometimes against 12-to-1 opposition in the skies over Leningrad, Finland's Eino Juutilainen claimed 94 confirmed "kills;' though his actual score was well over 100. Even little Slovakia produced world-class aces, such as Jan Reznak, who downed 32 enemy aircraft and destroyed dozens more on the ground.

Meanwhile, Hungary's Laszlo Molnar and Bulgaria's Petar Botchev accounted between themselves for literally thousands of Red Army troops, armored vehicles, and supply trucks. Their victories are no less unacknowledged than those scored by France's Vichy Air Force, which turned back an Allied invasion of West Africa and effectively defended Madagascar against overwhelming odds for half a year. Estonians, Latvians, and

even anti-Communist Russians operated their own squadrons on the Eastern Front, where they regularly spoiled Soviet initiatives. During the struggle for Stalingrad, Croatian pilots averaged more than 20 missions per day, until they were the last Axis pilots still flying over the embattled city. While Manchurian airmen rammed their planes into some of the first American B-29s lost during World War II, Japanese interceptors defeated America's early strategic bombing offensive against their country, and USAAF P-38 Lightnings fell under the guns of Thai pilots.

In addition to those nations operating their own air forces on behalf of the Axis, volunteers from every land occupied by the Wehrmacht, Fascist Italy, and Imperial Japan-and beyond-joined their respective services, as individuals or in groups. Most did not become aircrews but served throughout military hierarchies according to their ages and abilities. For example, 1,112 Lithuanian youngsters participated in the Luftwaffe as helpers in flak, searchlight, and transport formations.' Although Estonian and Latvian air force units freely and fully cooperated with the Germans, as Chapter 6 describes, Lithuanian authorities refused direct cooperation with the Axis, unless their nation's independence was first recognized. Their fellow Balts failed to convince them that political discussions had been rendered premature by the exigencies of war, and could not be properly entertained until after the Soviets had been completely defeated.

Despite the adamantine insistence of their leaders, numerous Lithuanians volunteered for duty in various Waffen-SS divisions-mostly Allgemeine, Volksdeutsche, Estonian, or Latvian. Fewer served in the Luftwaffe, and not always on the Eastern Front. Among the aircraft collected for early 1944s Operation Steinbock planned disruption of Anglo-American materiel stockpiling in Britain preparatory to the Normandy Invasion-several Junkers Ju.88 mediumbombers were manned by Lithuanian crews with German flight officers. They were joined by Belgian volunteers, such as Joseph Christian, a radio operator-rear-dorsal gunner with Kampfgeschwader 54, the famous Totenkopf ("Death's Head") squadron, which participated on every front wherever the Wehrmacht was engaged. On April 18, Christian was aboard a Ju.88 over the London docks, which it had successfully attacked, when his Junkers was set upon by several Spitfires and destroyed with the loss of all hands.

Steinbock's 447 inadequately escorted bombers were intercepted by more than 500 radar-guided RAF fighters, which claimed 329 "kills" over the course of the five-month-long Operation. From late February to early March, Christian's Totenkopf squadron alone lost 18 warplanes. The British had been additionally and vitally assisted by their complete mastery of all Luftwaffe codes, which warned them prior to each attack of the number and type of enemy aircraft, their target destination, estimated time of arrival, speed, and altitude-even squadron identification, including the individual names of enemy commanders. Given such advance notice, together with their numerical superiority, the British could have hardly missed.

A former pilot of Belgium's disbanded Militair Vliegwezen, Alfons Labeau, became a Luftwaffe color sergeant (Oberscharfuhrer) in June 1944. Thereafter, he flew mostly transport and liaison aircraft for the duration. His compatriot, Guido Rombart, was a

Waffen-SS-Langemarck veteran, who transferred to the Luftwaffe in 1943. After completing his flight instruction at Nenndorf and Gumpersdorf, then posting with a fighter training unit, JG 102, in early April, he was transferred to fully operational interceptors with jagclgeschwacler 1 Oesau the early following autumn. His mount was a Focke-Wulf FW-190 A-8, arguably the best all-around piston-driven fighter plane of World War II. The Wurger's BMW 801 D-2 radial engine, rated at 2,000 hp, enabled it to climb 2,560 feet per minute and turn inside the Allies' top competitors. Living up to its name, the "Butcher-Bird" was armed with two, 13-mm MG 131 machine-guns and four 20-mm MG 151.20 E cannons.

On September 27, Rombart and 55 other pilots of I./JG 1 and II./JG 1 were ordered to intercept more than 300 B-17 Flying Fortresses escorted by 262 P-47 Thunderbolts of the USAAF 63rd Fighter Squadron raiding the German city of Emden. During the melee that ensued, the Belgian airman's Focke-Wulf crashed into the sea near the island of Borkum. His body was never recovered.

Like the Lithuanian flak helpers, 2,000 volunteers served in the Flaemische Flakbrigade as gunnery personnel and munition handlers from early 1944 until the Allied occupation of Belgium. A similar unit was Flak-Regiment 159, where Belgians such as Joseph Justin, a 20-year-old laboratory assistant from Malmedy and former gunner aboard a Junkers Ju.88 medium-bomber with 9./KG 6, was assigned in December that same year.

A Danish Ju.88 pilot was A. T. Harild, who rose to the rank of Luftwaffe major while fighting in the skies above Orel, in 1943. Denmark's aces in the Luftwaffe included Lieutenant Peter Horn and Captain Poul Sommer. Both were Iron Cross recipients-second and first class-for their 11 and 6 aerial victories, respectively. Sommer returned from frontline service in Italy to his homeland, where he formed the Vagtkorpset de Tyske Luftvaaben ("Guard Corps of the German Luftwaffe"), comprising 1,200 personnel in five companies to improve airfield security, particularly against resistance movement saboteurs. So successful were his organizational efforts in this direction, Heinrich Himmler personally promoted Sommer to the rank of reserve SS-Hauptsturmfuehrer on January 11, 1945.

Arguably the finest piston-driven fighter of World War II, the Luftwaffe's "ButcherBird" was also flown by Danish and Belgian pilots against Anglo-American forces in the West. (U.S. Air Force)

Norwegians served in Kampfgeschwader 30, the "Eagle Squadron" of dive-bombers renowned for their devastating attacks on AngloAmerican Arctic convoys to Russia. A veteran navigator, Harald Hougen, later became an instructor for pilots of the Luftwaffe's most unconventional weapon. The so-called Beethoven-Gerrit ("Beethoven Apparatus") was a specially modified Ju.88-its cockpit filled with a 3,960-pound explosive charge-surmounted by a conventional Messerschmitt-109 or Focke-Wulf-190, whose pilot controlled both in flight. On the approach to target, the fighter pilot activated a gyro aboard the unmanned Junkers, immediately thereafter disengaged to travel on a straight course to its objective. The former bomber's extended conical warhead was lined with copper or aluminum, modeled after anti-armor rounds to penetrate 21 feet of reinforced concrete.

Various combinations of the Mistel, or "Misteltoe;' as it was also known, resulted in about 250 examples, their most notable success being an attack against the floating headquarters of the British 231st Infantry Brigade operating along the beaches of Courseulles, near Arromanches, during the Normandy Invasion. On June 24, 1944, a Mistel narrowly missed but exploded near HMS Nith, killing 9 crew members aboard and wounding 26. According to the Royal Navy Association's website, "the starboard side amidships was blown in and steel fragments raked the whole breadth of the ship. Steam pipes in the boiler room were burst, and the main generator was put out of action:" The frigate survived but was severely disabled and towed away for repairs. While Hougen never himself flew a Beethoven-Gerrit in combat, he did train Horst Rudat, the Hauptmann who successfully attacked HMS Nith.3

A flying Dutchman with the Luftwaffe was Dr. Jan de Vliegher, killed in action on February 20, 1944, while piloting his Messerschmitt Bf.109 Gustav against USAAF heavy-bombers over northern Germany. His compatriot, Klaas Visser, died under similar circumstances the following December 12.

Holland's most untypical volunteer was Wilhelm Eduard de Graaf, a pre-war airline pilot for KLM. Born in Java to a Dutch father and a native Indonesian mother, his mixed parentage was no obstacle to de Graaf's acceptance and promotion by German authorities, because they valued his exceptional flying skills. He was admitted to the Versuchverband Oberbefehlshaber der Luftwaffe, a highly classified formation for testing secret aircraft. He thereafter transferred to another extraordinary squadron, Kampfgeschwacler 200, specializing in extremely hazardous missions, such as 1944s Operation Maria, when agents were flown far behind enemy lines to be set down inside Soviet Russia.

Perhaps most surprising of all, several USAAF personnel, mostly prisoners-of-war, volunteered to fight for Germany during World War II, but 2nd Lieutenant Martin James Monti was the only American to actually defect with an aircraft. Hundreds of other Allied aircrews went AWOL during the European conflict by fleeing to neutral countries, such as Portugal, Turkey, or Sweden. In Switzerland alone, 186 Liberator and Flying Fortress heavy-bombers, together with additional numbers of other USAAF warplanes, sought refuge. By contrast, just a single Italian fighter pilot fled to Switzerland.' But on October 29, 1943-the 21st anniversary of Mussolini's ascent to power-Monti flew a Lockheed Lightning from the 354th Air Service Squadron, stationed at Pomigliano Airfield, north of Naples, to Milan, capital of the Duce's new Fascist state, the Italian Social Republic. He tended both his warplane and personal services to the "Axis war against Communist Russia:"' But German authorities took more interest in the F-5A, an up-graded reconnaissance version of the P-38G, in which Monti arrived, sending it to Germany's Rechlin test center for evaluation.

When his application to join the Luftwaffe was turned down, he enlisted in the SS Standarte Kurt Eggers, a propaganda arm of the WaffenSS in Berlin, rising to the rank of Untersturmfuhrer, as a propagandist. A fellow American in the same unit was Louisiana-born Peter Delaney, an SS-Haupsturmfuhrer, who later enlisted in the Legion des Volontaires Francais-composed of SS volunteers from France-because he spoke fluent French. Another U.S. comrade was New Yorker Roy Rickmers, awarded the Knight's Cross on March 26, 1943, for outstanding heroism while serving with the 320. Infanterie-Division, which had been cut off at Liman, southeast of Kharkov, by a Soviet advance; Rickmers was the only American to receive this high Wehrmacht award. German documents show that five U.S. citizens were enlisted in the Waffen-SS by May 1940, and at least eight more fell in action by war's end, although the total number of American volunteers has never been ascertained.

During April 1945, Martin Monti was still wearing his SS uniform when arrested in northern Italy by Communist partisans. They turned him over to American military authorities, who thereafter sentenced their former 2nd Lieutenant to 15 years imprisonment for desertion but granted him a pardon several months later on the condition

that he join the U.S. Army. Following promotion to sergeant, he was arrested again, condemned this time to 25 years incarceration on charges of treason but paroled in 1960. He died 40 later in his Missouri home.

Another USAAF officer-an unidentified Major and former POWwas known to have participated in the Deutsche Volkssturm Wehrmacht (the German People's National Militia) during the final defense of Berlin, where he was reported missing in action shortly before the capital fell. Dr. Josef Goebbels was diligent in destroying all records of individuals who volunteered from the United States or England to protect them from personal postwar consequences. According to the British Fascist John Amery, who broadcast for the Third Reich throughout the war, "Three Royal Air Force airplanes have come over to us so far with their arms and 116 But none of the English POWs-some from the RAF-who joined the Germans, served in the Luftwaffe; all enlisted in the British Free Corps of the Waffen-SS to fight invading Soviets near the west bank of the Oder River, in January 1945.

Under successive Prime Ministers Georgios Tsolakoglou, Konstantinos Logothetopoulos, and Ioannis Rallis, some 4,000 volunteers participated as ground personnel, auxiliaries, flak helpers, enemy aircraft observers, meteorologists, and maintenance crews with Regia Aeronautica squadrons stationed in Greece from May 1941 to September 1943, when Italian forces withdrew from the Peloponnesus. Their place was immediately taken by Luftwaffe units until October 1944, although many Eastern Mediterranean islands, such as Crete, Rhodes, and Leros, were occupied by the Germans until May and even June the following year.

Volunteers from these off-shore locations and the mainland were at first drawn in large measure from the ranks of the numerous Fascist organizations that proliferated throughout pre-war Greece, such as the Ethniki Enosis Ellados (the National Union of Greece), the Ethnikon Kyriarchon Kratos (Greek Liberation Party), the ESPO (Hellenic Socialist Patriotic Organization), Sidira Eirini (Iron Peace), and Elliniko Ethnikososialistiko Komma (the Greek National Socialist Party).

By late 1943, economic hardships imposed by the British blockade fueled resentment throughout Greece, resulting in greater numbers of both resistance fighters against the German occupation, and others, hating the Western Allies, more willing to assist the Wehrmacht.

Although Sweden upheld its neutrality throughout World War II, an unknown number of Flygvapnet personnel flew as foreign observers aboard Luftwaffe aircraft during operations on the Eastern Front, beginning in late summer 1941. At least one unconfirmed report held that a 1st Lieutenant in the Swedish Air Force, while invited to pilot a Messerschmitt Bf-109F, shot down a Yak fighter during the siege of Leningrad. Particularly after Red Army warplanes repeatedly bombed Strangnas and other towns in southeastern Sweden, growing numbers of Flygvapnet officers and many others throughout the country urged retaliation and even the formation of an all-volunteer Swedish adjunct to the Luftwaffe, a proposal that Hermann Goering naturally welcomed, but Stockholm's nervous government authorities emphatically rejected.

Portugal was less a neutral country than a de facto co-belligerent, dispatching vital supplies, such as tungsten, to the Third Reich. Portugal's air force was equipped primarily with Axis aircraft, such as 10 Breda Ba.65 fighter-bombers received from Italy. Although a disadvantageous geographic position prevented the nation's quasi-Fascist Prime Minister, Antonio de Oliveira Salazar, from joining the Axis, he nonetheless sent regular delegations of military advisors on "inspection tours" of the Wehrmacht in Russia, where they occasionally accompanied German flight crews during sorties in the Kuban region. Here too, rumors still echo of guest Portuguese airmen covertly downing a Soviet warplane or two.

More certainly, all those peoples who actively fought at the Luftwaffe's side form part of World War II's forgotten history, the outcome of which was more dependent on their participation, as the following chapters demonstrate, than most of its students realize or appreciate.

PART I
WESTERN EUROPE

Chapter 1

FLYING FASCES

Every airman is a born Fascist.

-Guido Mattioli, in Mussolini Aviatore'

As possibilities for war loomed ever larger during the late 1930s, Benito Mussolini was increasingly haunted by the presence of Britain's oil refineries in the Near East. They fueled her Mediterranean fleet, which potentially severed his colonies from the outside world, sealed off the peninsula itself, and even threatened southern Europe with attack and invasion. A mockery would be made of Italians' claim on the Middle Sea as mare nostro, "our sea:' Crippling the big Persian Gulf petroleum complex at far-off Manama, on the northeast coast of Bahrain, in the distant Persian Gulf was therefore a top priority that could strand Royal Navy warships in Alexandria, their Egyptian anchorage.

An unconventional, if suicidal (i.e., one-way) air strike of some kind might be able to damage the faraway Bahrain facilities. But four months after opening hostilities against the Western Allies on June 10, 1940, Mussolini's campaigns in Libya and Sudan required all available warplanes, leaving none for the proposed operation against Manama. Only with stabilization of the desert front in early fall, a few bombers from the 41st Gruppo could be temporarily spared, and even these long-range aircraft lacked a sufficient radius of action to strike enemy positions at such a prodigious distance. The proposed target's remote location was, in fact, its greatest defense, rendering the refineries effectively isolated from all known forms of attack.

Seizing the 41st Gruppo's limited offer, Lieutenant-Colonel Ettore Muti had its four warplanes stripped of their armor and guns, installed extra fuel tanks, and cut the number of their flight crews in half, to just two men-a pilot and navigator-bombadier-per aircraft. Only this bare-bones modification of Savoia-Marchetti's SM.82, a transport known as the Canguru ("Kangaroo") for its capacious hold, alone had a chance of undertaking such a bold operation. Cabin volume was so great it could easily accommodate an entire disassembled Fiat fighter plane, with room to spare. This remarkable spaciousness, combined with the aircraft's impressive lifting capacity (thanks to its 1,276.64 square feet of wing area), suggested transformation into the heavybomber role. Three 950-hp Alfa Romeo 128 RC.21, nine-cylinder radial engines, however, meant the Canguru was already underpowered. Strangely enough, it could still reach a respectable top speed of 230 mph, even after the addition of extra fuel tanks and provision for explosive payloads.

These were the defenseless flying gas-bombs Muti flew from RomeCiapino to Gadur, in the Eastern Mediterranean, during early fall 1940. There, he and his comrades made final preparations for their historic mission. On October 18, the Italian Kangaroos did not exactly bounce into the early morning skies over the island of Rhodes. The quartet of airplanes, dangerously overloaded with additional petrol, plus one-anda-half tons of

incendiaries and high explosives apiece, struggled painfully for altitude. After gradually reaching 19,024 feet, they proceeded on an easterly heading over Cyprus, Lebanon, and Syria, then headed southeast past Jordan and Iraq into the Persian Gulf.

Their complex navigation was made all the more difficult because Muti insisted that no radio contact be made either between themselves in the air or with headquarters back as base for fear of alerting British air defenses located along their route. The airmen were led by a single SM.82 assigned to guide them toward the target. Directional spotlights illuminated a large white rhombus emblazoned on the upper surfaces of either wing, allowing pilots of the other planes to keep their pathfinder in sight after dark. In fact, they arrived over the target in the dead of night, at 02:25 hours, but were immensely aided by the refineries themselves, which were bathed in batteries of brilliant lights. To the stupefying amazement of everyone on the ground, the lumbering trimotors roared in at only a few hundred feet, dropping their combined 26,500 pounds of high explosives on half a dozen oil wells and several fuel storage tanks. Manama erupted into a rising sea of flames and billowing black smoke.

Just before the raid, one Savoia-Marchetti pilot lost sight of the pathfinder but was able to drop another 4,410 pounds of bombs on rigs and machinery garishly illuminated by the enemy refinery's blazing conflagration. Encountering no defensive fire, all four Cangurus swung away from the demolished target in perfect order, then made a beeline for Italian-held Eritrea. After flying 1,450 miles in 15 hours, 30 minutes, the formation touched down at Zulu airfield in the early morning of October 19. The mission's complete success was additionally a feat of navigation unprecedented for its time, testifying to the great skill and iron nerves of its flight crews.

The local material damage they inflicted had been dramatic, even serious, but was far outstripped by collateral repercussions. The facility was knocked out for more than two months, depriving British land forces of crucial oil supplies already in short supply. Production was unable to resume at Manama until shortly before Christmas, although the attack did produce more lasting consequences in the RAF decision to recall an entire Spitfire squadron for defense of the refineries at a time when such aircraft were understrength and desperately needed by British Army General Archibald Percival Wavell trying to mount his own offensive against the Italians in North Africa. Removing these warplanes to the Persian Gulf just then was a real help to Regia Aeronautica pilots, whose Fiat biplane fighters were dangerously outnumbered and outclassed by their opponents.

At the time of Muti's brazen sortie at Manama, he had already become the world's foremost proponent of long-distance precision bombing. Due to his singular efforts, Italy got off the first shots after her declaration of war on the Western Allies, when he led a series of raids against the British Mandate in Palestine, blasting Tel Aviv, Acre, Jaffa and a number of other petroleum-rich towns. An eyewitness for Time magazine who described one of the attacks a week before his report appeared in the July 29, 1940, issue told how "Ten, big, Italian bombers, flying at great altitude from the Dodecanese Islands, giving the British bases at Cyprus a wide berth, dumped fifty bombs on the Haifa oil terminal and refinery."2 The resulting fires raged out of control for days thereafter. RAF Hawker Mk I

Hurricane fighters based at Mount Carmel failed to intercept the Italians, whose hit-and-run tactics additionally caught antiaircraft gunners by surprise.

These repeated operations over Palestine were carried out with impunity because the defenders, as yet unequipped with radar and unaided by Bletchley Park cryptographers, who would later break all Axis codes, never knew from which direction or when Muti was coming. His relentless concentration on enemy oil dumps and factories temporarily crippled British sea power in the Aegean, immobilizing the Royal Navy's base at Alexandria. As an immediate consequence, Mussolini's convoys loaded with troops and supplies sailed unhindered across the Central Mediterranean Sea from Italian ports to Sidi Barrani, in Libya, where the North African Campaign was ignited.

In early July 1943, Muti became a high-ranking officer in military intelligence, where he uncovered evidence extremely damaging to the former Supreme Chief of the Italian General Staff, Pietro Badoglio. The highly classified records revealed that "by the late months of 1917 (mostly thanks to his Masonic contacts, including his superior, General Capello);' Badoglio "was named as Vice Chief-of-Staff (Sottocapo di Stato Maggiore), despite being one of the main leaders responsible for the disaster during the Battle of Caporetto on 24 October 1917;' when 11,000 Italian troops were killed, plus 20,000 wounded after 25 days of senseless combat. "In the years after World War One, in which he held several high ranks in the Italian Army, Badoglio exerted a constant effort in modifying official documents in order to hide his role in the

With Italy in a critical phase of the war, Muti knew that a scandal in the armed forces would have a calamitous impact on morale at the worst possible moment and decided to postpone the release of his findings until a more appropriate time. But he waited too long. A few weeks later, Badoglio became head of the opposition that deposed Mussolini, then had Muti assassinated on August 24 before the airman could make his revelations publicly known. The famous Ettore Muti was instantly lauded as a martyr of Fascism's new Italian Social Republic in the north, where his image emblazoned thousands of recruitment posters, and his name was bestowed on Ravenna's XXIX Brigata Nera, one of the paramilitary "Black Brigades" organized, staffed, and soldiered by the Duce's most die-hard followers.

Just one month before Muti's spectacular bombing runs over Palestine and immediately prior to Italy's declaration of war, Mussolini had been assured by Francesco Pricolo that he had at his disposal 3,296 warplanes.' But this figure was misleading. The duplicitous Major General of Aviation failed to mention that out of his numerically impressive air armada, just 166 were modern fighters. The rest were patently outdated aircraft inferior to their French and British counterparts. Moreover, nothing in the entire Regia Aeronautica, Italy's Royal Air Force, matched the former's Dewoitine D.250.

Mussolini's son, Romano, recalled after the war how "the reports It Duce received talked about `flawless aeronautical equipment fully prepared to meet future challenges: In reality, the Spanish exploit had drained Italy's arsenal, which had been greatly reduced during the Ethiopian War."5

The Regia Aeronautica was a victim of rapid developments in military aviation,

developments with which it was unable to keep up. The Spanish Civil War in the air had begun as a replay of 1918 over the Western Front, with fabric-covered biplanes powered by radial air-cooled engines, chasing each other around the skies above Madrid in aerobatic “dog fights;’ but ended with all-metal, hit-and-run monoplanes that outsped their opponents, thanks in large measure to new, in-line liquid-cooled power plants. The Italians took no notice of this transformation, even though they flew in the midst of it, because they were misled by their early successes over similar double-deckers operated by the enemy. So entrenched was their World War I mentality that Italian pilots objected to the modern enclosed cabin of their country’s first production monoplane fighter, the Fiat G.50 Freccia, or “Arrow,” demanding a return of the open cockpit. Worse, the chosen successor to Italy’s antiquated Fiat CR.32 biplane was another Fiat double-decker. While the CR.42 Falco, “Falcon;’ was undoubtedly the best of its kind, it was also the last and did not signify a step in the right direction of future developments but back into the past.

The reality of post-Spanish Civil War Italian airpower stood unrevealed until tested over the south of France, when Mussolini’s armed forces invaded on June 21,1940. While Regia Aeronautica pilots fought with skill and daring, their slow underdefended bombers and antiquated biplane fighters were savaged by modern monoplanes of the Armee de lAir. The nine-day-long campaign was a painful eye-opener to Regia Aeronautica inadequacies, which were hurriedly addressed, at least partially, in the Corpo Aereo Italiano.

Its original 3 Stormi of 87 fighters, 5 reconnaissance planes, and 78 bombers were dispatched to Wehrmacht-occupied Belgium, where they operated in concert with the German Luftwaffe against British coastal cities beginning on November 11, 1940. This “Italian Air Corps” was later joined by another Squadriglia of CANT Z.1007bi long-range reconnaissance trimotors, several Caproni Ca.164 communications planes, and a Savoia-Marchetti SM.75 all-purpose transport, amounting to somewhat under 300 aircraft staffed and operated by 600 personnel of all ranks.

Although Allied propaganda characterized them as incompetent airmen effortlessly annihilated by British defenders, the Italians, in fact, achieved their objectives-blasting important harbor works and, more importantly, diverting RAF interceptors from London, where the Luftwaffe concentrated the brunt of its attacks. The Italian fighters’ sole purpose was to escort their Fiat BR.20 Cicogna medium-bombers to targets at Felixtowe, Harwich, Ramsgate Harbor, and Folkstone, not to seek out enemy interceptors. But in the inevitable confrontations that ensued with the RAF, the Fiat Falco biplanes gave as good as they got, shooting down 10 Hurricanes and Spitfires for as many Falcons lost over the English Channel.

The Corpo Aereo Italiano was withdrawn from Belgium in April 1941, having successfully fulfilled its missions during the Battle of Britain, to join the fighting in North Africa. It was there that Mussolini’s special trust in his air force seemed justified by Muti’s audacious raids and was bolstered the following month when Italian warplanes singlehandedly crushed a British offensive against Sudan. The aircraft largely responsible for this victory was the Fiat CR.42 Falco, generally regarded obsolete prior to 1940 but

nonetheless Italy’s most numerous frontline fighter when she declared war on the Western Allies in June of that year.

The Falcon, as mentioned, was the product of misinterpreted success generated by its immediate predecessor. In 380 air battles during the Spanish Civil War, the Fiat CR.32 demonstrated a marked superiority over all its Russian and French counterparts operated by the Republicans, thereby convincing Italian Air Ministry officials that only an upgrading of the trusty biplane was necessary to provide the Regia Aeronautica with a truly modern fighter. Instead, the Falco, for all its excellent qualities, was outdated before its first specimen rolled off the production lines in May 1939. Reliable, tough, stable, easy to fly, and able to absorb terrific punishment, the CR.42 was nevertheless markedly inferior to Britain’s Supermarina Spitfire and, to a lesser extent, Hawker Hurricane, although more than a match for the RAF’s own biplane, the Gloster Gladiator.

Particularly in the hands of an experienced pilot, the Falco was never, however, an easy victim, and its war record from the Mediterranean and Africa to Britain and Russia was consistently exemplary. The CR.42 was a sought-after export, equipping frontline fighter units of the Belgian and Swedish air forces. Hungary was first to purchase the Falco, ordering 52 machines in summer 1938, almost a full year before the airplane went into production, so impressed with its prototype were officers of the MagyarKiralyi Legiero. Their expectations were not disappointed, as the four squadrons of Falcons performed effectively on the Eastern Front. By December 1941, pilots of the 1/3 Squadron alone had flown some 300 sorties after five months of continuous operations, destroying 17 Soviet aircraft in combat for the loss of two CR-42s.

Last and best of their breed, these Fiat Falcons were far more dangerous opponents than implied by their obsolete appearance. (Courtesy Art-Tech)

The Falco was remarkable for its wide and enduring versatility. Just eight machines, each carrying a pair of 221-pound bombs, operated from Sardinian airfields in the antishipping role, achieving notable success, particularly as part of Italy's battle against Allied convoys in midAugust 1942.

But it was as a night fighter that the Falco particularly excelled. At the beginning of World War II, the Regia Aeronautica had no such specialized aircraft in this field and resorted to the Fiat biplane as an emergency improvisation. Modified with shrouded exhausts, it was endowed with complete navigational instrumentation and state-of-the-art radio equipment. Pilots appreciated the unobstructed visibility of an open cockpit, especially during bright moonlight operations.

The first experimental version was tested in Libya during 1941, when five enemy aircraft were downed in quick succession without loss to the Italians. Thereafter, the Caccia Notturna, or "Night Hunters;' was formed with 80 Falcons. Their "kill" rate so impressed Hermann Goering, he equipped enough CR.42s for his own Luftwaffe to outfit a pair of Nachtschlachtgruppe, or "Night Harassment Groups:' NSGr.9 contributed to the Germans' successful 1943-1944 defense at Anzio, on the Italian west coast, and NSGr.7 operated over the Balkans until the last day of the war. Due to its heavy armament and

slow-flight capabilities, the Falco was additionally valued for its effectiveness in anti-partisan warfare.

Relegated to ground-support duties by growing numbers of more modern enemy fighters, the CR.42 participated with distinction across the Libyan Desert, dropping its ordinance with precision on AngloAmerican troops and vehicles. An up-graded version representing the culmination of its type entered service in March 1941. Known as the "DB" for the 1,100-hp Daimler-Benz 601 E engine it mounted, the suped-up Falco could reach 320 mph, making it the fastest military biplane in history, able to defend itself on equal terms with many Allied monoplanes.

CR.42 losses rose steeply from October 1942, when the entire Axis effort was thrown into disarray by German Afrika Korps General Erwin Rommel's defeat at El Alamein. By the close of the North African Campaign the following May, only 82 Falcons survived for evacuation to Italy. Of the 1,781 examples manufactured, just 64 were still serviceable at the time of the Italian armistice in September 1943. Developments in air combat nevertheless pushed the biplane toward extinction.

Less successful was the Regia Aeronautica's ability to field an effective dive-bomber. An early attempt at producing such a type, the Breda Ba.88 Lince, initially offered great promise by repeating its early reputation as the fastest aircraft in the sky, consistently beating four French and German world speed records, one after the other, from February 3 to December 9,1937. Had the sleek, all-metal, high-performance champion been assigned to liaison or reconnaissance duties, it would have undoubtedly served useful purposes. Instead, the "Lynx" was forced to undergo conversion into an aeroplano di combattimento, burdened with extra self-sealing fuel tanks, three 12.7 mm and one 7.7 mm BredaSAFAT machine guns, plus a 2,204-pound payload.

Thus stressed beyond its design parameters, with a loaded weight of 14,881 pounds, maximum speed rapidly fell off, and its military contract was canceled by early 1940, but resumed in spring after modifications aimed at rectifying some of its most offensive aerodynamic defects were made. Accordingly, a few, early-production examples were rushed to underdefended Sardinia in anticipation of a French invasion. On June 19, 1940, the Bredas successfully, and without loss to themselves, attacked enemy airfields on Corsica, where opposition from neither ground nor sky was encountered, although pilots of two Gruppi flying them reported instability and poor handling. They also complained bitterly of the cramped canopy's very limited field of vision; lateral and ground views were effectively blocked by the twin Piaggio P.XI RC. 40 radial engines, seriously puny at just 1,000 hp apiece.

Despite these misgivings, several dozen specimens were dispatched to Libya, where ground-attack aircraft were desperately needed to counter the onslaught of British armored vehicles. Italian airmen of the 7th Gruppo found their Ba.88s so underpowered, two were unable to even take off, and a third, once airborne, could not execute turns. The other 61 examples were permanently grounded, ignominiously scattered around operational airfields as decoys for attacking enemy warplanes. In the words of aviation historian David Mondey, the Lynx "represented, perhaps, the most remarkable failure of any

operational aircraft to see service in World War 116

Its terrible disappointment left Mussolini's ground forces in the lurch. All they had to oppose growing hordes of British tanks was another, older Breda. The Ba.65 was a big, rugged, all-metal, single-engine, low-wing monoplane armed with a pair of 12.7 mm Breda-SAFATs, plus two more 7.7 mm machine guns, able to carry 1,102 pounds of bombs. A veteran of the Spanish Civil War, it was first flown operationally by Aviazione Legionaria pilots, one of whom shot down a Tupolev SB-2 bomber over Soria on July 24, 1936-a remarkable "kill" beyond the purview of an aeroplano di combattimento: the Soviet victim had a superior speed, 10 mph faster than its opponent.

In August of the next year, the Bredas acquitted themselves well with the 65a Squadriglia, contributing to Nationalist victories at Santander, followed by more successes over Teruel and in battles for the Ebro River, where they capably supported Franco's army. Throughout the war, they flew 1,921 sorties, including 368 ground-strafing runs and 59 dive-bombing attacks, losing 12 of the original 23 machines with which they began the conflict. The remaining 11 were donated to the Spaniards at the close of hostilities because the design was obsolete by that time, and production terminated in July 1939 after 218 examples had been built. Survivors were in the process of being phased out, and only about 150 were left, most of them having been relegated to advanced training roles when, one year later, they suddenly found themselves recalled to frontline duty as replacements for the failed Lynx. The retired Ba.65s were hopelessly outdated, virtually all of them falling in a few months under the guns of British Hurricanes and Spitfires, achieving little for their sacrifice.

Italy's aeroplano di combattimento crisis was ultimately resolved, however, with the timely arrival of the world's foremost dive-bomber. Learning of his ally's dilemma, Hermann Goering came to the rescue by dispatching 52 Junkers Ju.87s, which landed at Comiso airfield, in Sicily, on August 21, 1940. These consisted of standard B.2 versions and B.2/ Tropicals, the latter especially suited for desert operations. Together, they formed the 96th Gruppo under the command of Captaino Ercolani, the 236th Squadriglia led by Tenant E. Malvezzi, and Tenant G. Santinoni's 237th Squadriglia.

Famous as the Stuka (short for Sturtzkampfflugzeug, "diving warplane") to the outside world, the Italians nicknamed Germany's gullwing dive-bomber the Picchiatelli, or "Spade;' employing it with such success, the Reichsmarschall sent them another 50 in November. These were long-range Ju.87 R-2/Trop. models fitted under each wing with additional fuel tanks capable of being jettisoned in the event of an emergency. They went to the 97th Gruppo, Captaino Moscatelli commanding, and Tenant Bertuzzi's 238th Squadriglia. During late spring 1942, the last batch of Stukas to arrive in Libya comprised 54 of the type's best variants, the D-2 and D-3, with more refined streamlining for increased speed and heavier armament. All were lost before late October-early November's decisive Battle of El Alamein.

Following the North African Campaign in July 1943, more Ju.87Ds went to 121 Gruppo, commanded by Maggiore Orlandini, Capitano Zucca's 206 Squadriglia, and 216 Squadriglia led by Capitano Pergoli. Against an enemy air armada, their 46 Picchiatelli

scored some significant hits on Allied forces landing at Sicily, as demonstrated by Tenant Giuseppe Cenni, former commander of the 239th Squadriglia, now in charge of the 102nd Gruppo. Nicknamed the “Little Dancer” by fellow officers for his diminutive, five-foot-three-inch stature and graceful flying skills, beginning in late 1940, he sank the 8,018-ton, enemy transport Talamba and so severely damaged HMS Erebus that the 8,450-ton monitor, with her pair of 15-inch guns, had to be withdrawn from combat. Before 1941 was out, some of Cenni’s most notable victims included the 1,102ton Greek freighter Joanna; the British tanker Helka (3,741 tons); Australia’s 1,090-ton destroyer, Waterhen; a Royal Navy gunboat, the 645-ton Cricket; and a 1,520 ton, mine-laying submarine, H.M.S. Cachalot. He was involved in fierce action during several running battles against Allied shipping, especially Operation Pedestal, when Italo-German forces virtually annihilated a large British convoy steaming through the Central Mediterranean Sea to the relief of Malta in August 1942.

Germany’s famous Stuka dive bomber also equipped the Axis air forces of Italy, Croatia, Bulgaria, Romania, Hungary and Slovakia. (Library of Congress)

He flew his last sortie not in a Picchiatelli but leading 12 Reggiane Re.2002 Ariete (“Ram”) fighter-bombers of 5 Stormo over south coastal Italy. On September 4,1943, they inflicted serious casualties on AngloAmerican troops by repeatedly strafing the invasion beaches at Villa San Giovanni and Reggio Calabria, then attacked U.S. landing craft, sinking four LCTs and damaging several others before being bounced by 30 Spitfires. Although most of the Arietes fought their way out, three pilots were lost in the uneven struggle, among them the “Little Dancer.” His death had been preceded during the Sicilian Campaign on July 13, when all but one of eight Picchiatelli from the 121st Gruppo Tuffatori flying against the invaders at Augustus had been brought down.

Throughout World War II, the Italian Air Force was a strange mix of excellence and

obsolescence; of superb designs and botched concepts; of pilots at once skillful and old fashioned. Even 324 specimens of the hopelessly outclassed CR.32 were still in frontline service at the start of hostilities. Regia Aeronautica commanders had the good sense, however, to relegate them to strafing sorties, where they did win some notable success, such as the destruction of numerous British and South African aircraft caught on the ground in a surprise raid during the final phase of the fighting for Italian East Africa on February 4, 1941.

The development of modern aircraft for the Regia Aeronautica was particularly hampered because of insufficient power generated by Italian engines. A case in point was the Fiat G.50 Freccia cited earlier. Powered by a standard 840-hp A.74 RC.38 14-cylinder radial piston engine, it barely topped 290 mph. But installed with a Daimler-Benz 601 engine, the same airframe increased its speed by more than 70 mph. The German engines were not as readily available, however, so most of the 421 Arrows had to make do with lesser Italian power plants.

Fiat’s Arrow was a lackluster replacement of the company’s aging biplanes, but was just about all the Regia Aeronautica had to oppose the Allied invasion of Italy. (Courtesy Art-Tech)

On the evening of July 9, 1941, Sergente Maggiore Aldo Buvoli of 378a Squadriglia, 155° Gruppo Autonomo, took off in a Freccia from the Castelbenito airfield to patrol the harbor of Tripoli, where he duly intercepted seven British light-bombers executing low-level attacks on warships of the Regia Marina, the Italian Navy. Buvoli singlehandedly shot down four of the Bristol Blenheims in short order; the remaining three fled, and the Italian vessels were spared further damages. During the opening phase of the Sicilian invasion of July 10, 1943, the bythen wholly obsolete G.50 was the most numerous plane used by the Regia Aeronautica to counterattack Allied landings. Forty-five Freccias of 158° and 159° Gruppo Assalto, from Pistoia, attacked Allied ships, landing craft and

troops. Earlier, the top-scoring G.50 pilot was Furio Lauri, credited with 11 “kills” before the end of 1941, attaining a final tally of 18. By then, as a sure sign of the G.50’s inferiority to enemy types, it was gradually consigned to the same ground-attack role undertaken by the even more dated CR.32s and 42s. By early 1943, the G.50 had slipped even further down the Regia Aeronautica hierarchy to become a trainer.

In general appearance similar to the failed G.50 was the Macchi MC.200 Saetta, or “Thunderbolt:” Early flight testing in 1938 boded well for the design when it reached 500 mph in a dive. But two years later, when Italy found herself at war, only 150 specimens were available; production later topped 1,100. The Saetta’s baptism of fire came while protecting bombers over Malta in autumn 1940. Provided with auxiliary fuel tanks, a respectable range of 540 miles made it an ideal escort, although only a pair of 12.7-mm Breda-SAFAT machine-guns were mounted in the upper cowling. Some later versions added two more 7.7-mm machine-guns in the wings, but firepower was still weak. With a maximum speed of 313 mph at 14,760 feet, the MC.200 served with distinction on the Eastern Front, shooting down 88 Soviet aircraft for the loss of only 15 Thunderbolts. In North Africa, however, they more often fell prey to superior Anglo-American warplanes.

The Saetta’s decided inferiority did not deter Italian airmen from performing their duties, however, often under extraordinary circumstances. On January 30, 1942, 10 MC.200s were escorting a dozen German-flown Stukas after they had attacked the North African port of Tobruk. Returning from their mission, the Axis formation was intercepted by twice as many American-built Curtiss P-40 fighters. “Fighting to their limits;’ according to the Italian Deputy Chief of Staff, General Santoro, the Macchi pilots successfully defended their allies, enabling the Luftwaffe dive-bombers to reach their base unscathed.7 The same could not be said for the Saettas, which lost six of their number.

While inferior to Allied fighters, Italy’s Macchi Saetta (“Thunderbolt”) was effective in ground attack and antishipping roles. (Courtesy Art-Tech)

The Macchi-200 was a somewhat below-average fighter for its times but served as a transition to an entirely new breed of high-performance interceptors made possible at last by major improvements in Italian aero engine manufacture. Germany’s 1,175-hp Daimler-Benz 601A-1 12-cylinder engine was being built under license in Italy by Alfa Romeo as the RA.1000RC.41-1 Monsone, “Monsoon:” The availability of this in-line power plant

dramatically transformed the substandard Macchi MC.200 into the MC.202, “undoubtedly the best wartime fighter to serve in large numbers with the Regia Aeronautica;’ according to Mondey.8 So impressive were its initial trial results in August 1940, Italian air ministry officials ordered the Folgore, or “Lightning;’ into immediate production, rolling off 1,500 examples by 1943.

Beginning in November 1941, Italian pilots for the first time operated a fighter with marked superiority over Hawker Hurricanes or Curtiss Warhawks and could even challenge the redoubtable Spitfire. Regia Aeronautica ace Fernando Malvezzi, who scored his first of 10 “kills” piloting a Macchi-202, said, “it was master of the sky up to 21,000 feet. Above that, the Spitfire had the edge.“9 Either patrolling the Libyan Desert or protecting convoy runs across the Central Mediterranean, the Folgore performed with distinction. A year after its North African debut, it gained ascendency over Soviet Mig-9s and most other Red Air Force fighters in Russia. MC.202s did not perform as well defending Sicily and the Italian mainland against 12-to-1 odds imposed on them by the Allied invasion, but, with the addition of two, under-wing, 20-mm cannons, they extracted a bloody price from the invaders.

The Folgore’s successor was another Macchi, the MC.205 Veltro, or “Greyhound.” Among the finest interceptors Italy produced during World War II, it approached the Allies’ top-of-the-line fighter, the P-51 Mustang, and was so admired by the Germans, they equipped an entire Gruppe with this remarkable aircraft. It became operational in midsummer 1943 with the 351st Squadriglia, 155th Gruppo, 51st Stormo, based at Monserrato, where it opposed Anglo-American landings on the Sicilian coast. Greyhounds blazed a path through overwhelming opposition in the air, allowing the bombers they escorted opportunity to launch their torpedoes against masses of invading ships.

On August 2, 6 MC.205s attacked 20 P-38 Lightnings and P-40 Warhawks, destroying half a dozen of the American fighters for the loss of a single Veltro. They also accounted for additional USAAF and RAF bombers shot down in the defense of Rome and Naples.

The Greyhounds were joined by the Reggiane Re.2000. Originally inspired by the U.S. Seversky Aircraft Corporation’s P-35, only 40 of the stubby fighters were produced in 1941, with just 100 more the following year. The RE.2002 Ariete, or “Ram;’ debuted over Sicily, where its heavy armament of three 20-mm cannons and two 12.7-mm machine-guns could not prevail against the Allies’ overwhelming odds. If pressed, the Ariete could carry 1,400 pounds of bombs over a 787-mile range at a maximum speed of nearly 350 mph, making it an especially effective antishipping attack plane.

Like its Macchi and Fiat counterparts, the Reggiane series represented the real dilemma of the Regia Aeronautica: too few state-of-theart interceptors, too late. Italy simply did not have an industrial base sufficient to develop and mass-produce the kind of fighters needed to compete with her enemies on anything approaching numerical parity. While the Veltro might fly rings around its opponents, and the Ariete wreck havoc on Allied invasion fleets, the appearance of these aircraft so late in the war and in so few numbers cancelled out their high potential.

Nowhere was this self-defeating situation more evident than in the Regia Aeronautica’s

jet-aircraft production. Although history's first successful jet-powered flight had been achieved by a German Heinkel He.178 on August 24, 1939, an Italian engineer was not far behind. As early as 1931, Bologna-born Enrico Campini submitted his proposal for a "thermo-jet" to the Italian Air Ministry. That same year, he founded the premiere jet-air and watercraft company (VENAR) and built the world's earliest jet-propelled vessel, a 12-foot-long motorboat. Its successful performance in Venice, where it reached a speed in excess of 28 knots, won him a government contract to produce two engines for use in an airframe. With material assistance from Milan's Caproni Company, Campini developed the S.C.S. A prototype version, the N-1, was a 50-foot-long monoplane of all-duralumin construction, its elliptical wings spanning 48 feet. Compressed air, forced by a piston-driven compressor, mixed and ignited with vaporized fuel in a combustion chamber, developed a 1,545-pound thrust to power the innovative design.

On August 27, 1940, with test-pilot Mario de Bernardi at the controls, the stubby N-1 rose with smooth grace from its company airstrip at Taliedo for a 10-minute inaugural flight. De Bernardi, a champion record setter in seaplanes and aerobatic aircraft, reported he reached 225 mph at barely half throttle but refrained from higher speeds for fear the airframe could not bear increased loading. In later flights with the N-1 and its variants, speeds of about 320 mph were attained. A twoplace redesigned version with pressurized cabin for altitude flight, the Campini-Caproni C.C.2, took off on November 30, 1941, from Milan's Linate Airport, flying over Pisa to land at Rome's Guidonia Airport, covering about 320 miles in history's inaugural cross-country jet flight. It was also the first mail delivery by jet plane, because a pouch of letters had been carried aboard for the Rome Post Office.

Mussolini was on hand to welcome pilots de Bernardi and Giovanni Pedace in an event broadcast over national radio and broadly celebrated in the Italian press and newsreels. Their flight was recognized by the Federation Aeronautique Internationale as the first ever made by a jet, although its directors were unaware that the Germans had beaten the Campini-Caproni by three years. The Heinkel-178 was a classified project until after World War II. But at the time, the de Bernardi-Pedace flight was heralded as the beginning of a new age in aviation, and congratulations poured in from 33 foreign countries, even from some states then at war with Italy.

Testing of the jet planes for their military application continued into 1943, when an experimental version was destroyed during an Allied bombing raid on the Caproni factory in Taliedo. More troubling than its loss was the inability of Campini's engine to deliver thrust necessary to achieve high performance in an airframe that was also sturdy enough to bear high loading pressures, while carrying machine-guns, ammunition, plus pilot armor. Teaming up with the Reggiane firm, he and a top company engineer, Roberto Longhi, worked out a new design built around a German motor. While Campini generally supervised this and other turbojet projects, Longhi assumed chief responsibility for developing the proposed fighter.

During late 1943, it began to materialize from the drawing boards. The resulting Re.2007 was a 7,804-pound (gross weight), 32-foot10-inch-long, single-seat interceptor

with a 29-foot-6-inch wingspan mounting four 20-mm MG 151/20 cannons in the nose. A top speed of 470 mph was provided by a Junkers Jumo 004B turbojet generating 2,000 pounds of thrust for a range of 750 miles and a 45,000-foot ceiling. Italian aviation had come a long way from the biplanes with which it began World War II.

In early 1944, the airframe was ready for testing, although its Jumo engines were still not available. Junkers engineers met with Longhi to help him build an Italian version of the 004B turbojet, but proper facilities were lacking and progress was slow. Some of Mussolini's most skilled and ideologically reliable pilots were chosen by Luftwaffe officials to begin training in Augsburg, with Germany's top-secret rocket and jet-fighters, the Messerschmitt Me.163 Komet and Me.262 Sturmvogel, or "Stormbird;' as preparation for flying their own jet aircraft.

In October, the completed Re.2007 still awaited delivery of its German motors. But with the chaos that overcame Italy in the last months of the war, the imported engines were sidetracked to Udine, where a trio of the Luftwaffe's own jet bombers were operating, and never arrived at the Caproni plant in Taliedo, which was overrun by enemy forces during April 1945. Allied military intelligence officers seized the jet's partially built airframe, including technical sketches and specifications, returning with them and engineer Longhi to the United States. After testing at the Cornell Variable Density Wind Tunnel in Ithaca, New York, the Re.2007 was eventually reborn as North American's F-86 Sabre, which it identically resembled, save for a redesigned, swept-back tail. Ironically, this American version of Italy's first but unfulfilled jet fighter flew during the Korean Conflict against Soviet-built Mig-15s, themselves nothing more than German Focke-Wulf Ta.183 jets, their Iron Crosses replaced by Red Star insignia.

Beginning in the early 21st century, some Italian journalists grew skeptical of the Reggiane jet story after uncovering some inconsistencies in Longhi's version and speculations regarding document manipulation. He was not only a highly respected engineer, but equally renowned as a leading scholar, whose legacy formed the Fondazione Roberto Longhi, in Florence, an institute comprising his bequeathed library and rare art collection "for the benefit of future generations."° It seems unlikely that such a man would have needed to tamper with technical papers or correspondence on behalf of an old company project that never materialized. However much Longhi's memory may have deviated from actual events before his death in 1970 and prior to his 80th birthday, the Re.2007's close resemblance to the F-86 is undeniable, and the fact that Fiat was the only European company to manufacture Sabrejets at its Turin plant in northern Italy during the Korean War suggests much. Moreover, the Re.2007 was by no means the only Italian jet being developed, as described earlier.

After World War II, Campini immigrated to the United States, where he helped develop another important American military aircraft, Boeing's Model 450 B-47 Stratojet, based on an expanded version of his unrealized proposal for the Duce's high-speed bomber. Before spring 1945, the Campini-Caproni C.C.7's final plans had been drawn up, materials allocated, and labor organized to begin construction of the first prototype mounted under a 35-degree swept-back shoulder wing with twin thermo-jet engines.

These would have provided a combined thrust of 3,700 pounds for a maximum speed of about 450 mph at 19,000 feet, roughly equivalent to the Ar.234, Arado's jet bomber already in service with the Luftwaffe since the previous August.

Also similar to the German Blitz, the "Toscana;' as the Italian counterpart was code-named, would have carried a 3,000-pound payload. Defensive armament was deemed unnecessary because Allied fighters were incapable of intercepting either bomber. In fact, during midMarch 1945, three Ar-234B-1s, as already mentioned, were stationed at Udine, in northeastern Italy, in response to a local Sonderkommando unit's inability to function, because its piston-driven observer planes were invariably overwhelmed by Allied interceptors. Operating between 29,000 and 39,000 feet, the Arados flew continuously over the Ancona and Leghorn sectors of the front, outdistancing all enemy fighters to provide constant photoreconnaissance. As eyewitnesses to this success, Italian engineers envisioned their own version. A high-altitude fighter prototype-the Campini-Caproni S.C.3-was simultaneously under development, although priority had been given to the Toscana; both were simultaneously canceled when military conditions in northern Italy began to collapse.

A more unconventionally futuristic Italian interceptor that came closer to completion was a highly innovative vertical takeoff and landing design. The Campini-Caproni Ca.183bis stood on its tail to rise straight up to an altitude of about 500 feet before going into horizontal flight. To accomplish this maneuver, its 1,250 hp Daimler-Benz DB 605 piston engine turning a pair of contra-rotating propellers was boosted by a 700-hp Fiat A.30 radial engine behind the cockpit driving a Campini compressor expected to furnish a 60-mph jet thrust for a maximum speed of 460 mph and a 1,000-mile range. Armament consisted of four 20-mm cannons in the wings, plus one 30-mm cannon between the cylinder banks of the Daimler-Benz engine. Maximum takeoff weight was 6,538 pounds; wingspan, 48 feet.

These specifications for the Ca.183bis are remarkably similar to those of the Convair XFY (even to its 6,250-pound maximum takeoff weight and four 20-mm cannons) flown for the first time at California's Naval Auxiliary Air Station in Brown Field, on November 5, 1954. The tail-sitting Pogo had been built from Campini's original plans, with updated modifications, to serve aboard warships-not all of them aircraft carriers-but never went into production because jet fighters were by then approaching Mach 2, twice as fast as any turboprop VTOL design could be expected to achieve.

Although the Cold War decision to terminate the project seemed correct during the inactive mid-to-late 1950s, the XFY would have been useful throughout the next decade as a close-support warplane in Vietnam, where the need of infantry for immediate air interdiction was commonly delayed, because airstrips were too distantly removed from ground combat zones. Helicopter gunships, such as the Bell UH-1 Huey, tried to provide instant cover, but were slow and susceptible to even small arms fire. The Pogo was not only far less vulnerable and more powerfully armed but could operate from just about anywhere and was therefore able to virtually accompany men in the field. Convair's unorthodox bird nonetheless demonstrated to what extent the development of American

military aircraft had become indebted to Italian aeronautical visionaries during the postwar period and beyond.

Among their most unusual conceptions was a ramjet-powered autogiro, the Campini-Caproni S.C.5/6, a brainchild of Piaggio Aero Industries' chief designer, Corradino D'Ascanio, an Italian Air Force General and Professor at the University of Pisa, more famous for his invention of the postwar Vespa motor scooter. His and most other jet projects were dependent upon engines from German colleagues, and engineers of both nations worked together at the Hermann Goering Institute, Riva del Garda, located in the northwestern corner of Lake Garda, on various advanced designs, including the Turboproietti Bomba, an Italian version of the unmanned V-1 "cruise missiles" then raining down on London and Antwerp. Like other such schemes, it could not be realized for lack of sufficient materials.

These highly advanced projects were not entirely fantasies born of desperation but well on their way to flight testing. Had they been initiated earlier than their belated beginnings, they might have become operational prior to war's end, affecting it in ways beyond speculation. The cause of this decisive delay was Enrico Campini himself, who wasted almost an entire year, fruitlessly trying to perfect his own compressed-air piston-driven engine, instead of powering the Re.2007 with Junkers' preferred Jumo 004, or at least developing an Italian variant. Had less time been wasted, a prototype would have at least been flight tested before the close of hostilities, and perhaps a few examples might have become operational, as did Germany's own jet warplanes.

In any case, the Reggiane and Campini-Caproni jets contrasted sharply with the obsolete types that largely made up the Regia Aeronautica for most of the conflict. A majority of Italian bombers and transports were trimotors, a configuration as dated as the biplanes that comprised its frontline fighter units. But, like the Fiat Falco, whose outstanding performance belied its old-fashioned appearance, the ponderous, overweight, underpowered Savoia-Marchetti Cangaru was still airplane enough to pull off one of the outstanding, long-distance raids of early World War II in the Persian Gulf raid on Manama. An even older and slower Savoia-Marchetti, the Pipistrello, or "Bat" of Spanish Civil War days, soldiered on into the North African Campaign, performing second-line duties with admirable consistency.

Another trimotor was the CRDA CANT Z.1007. Markedly inferior to its Anglo-American or German counterparts, cracks, separations, and surface delamination due to climatic conditions of extreme heat and cold, respectively, plagued this medium-bomber's all-wood construction when operating in North Africa or Russia. Deformation contributed substantially to drag, lowering the Kingfisher's already unimpressive maximum speed from 285 mph. Compensating for the aircraft's defects and maximizing its long-range capabilities, aircrews scored some remarkable successes flying the Z.1007. It capably carried the brunt of strategic bombing offensives against Greece from October 1940 to the following April, as part of the 210th Squadrigrila, 50th Gruppo, 16th Stormo, during January 1941; and 230th Squadriglia, 95th Gruppo, 35th Stormo, in February.

Among the outstanding aircraft of World War II, the rugged, reliable Savoia-Marchetti SM.79 Sparviero (“Sparrowhawk”) was the Mediterranean Theater’s premiere torpedo bomber, sinking some 200 enemy ships. (Courtesy Art-Tech)

On May 21, 1941, Regia Aeronautica bomber crews were alerted to warships from the Royal Navy’s Mediterranean Fleet steaming against German naval forces en route from recently conquered Greece to the invasion of Crete. A single Italian Kingfisher scored precision hits on the lead enemy destroyer, HMS Juno, which exploded and sank southeast of the Aegean island, allowing German naval forces to make their landings unopposed at sea. CANT Alciones contributed importantly to Operation White, a joint Italo-German campaign that virtually eliminated Yugoslav partisan forces during January 1943.

Of the 561 Z.1007s produced, a few were painted entirely black, their exhaust manifolds concealed beneath shroud dampers, for the 260th Squaclriglia,106th Gruppo, 47th Stormo, which specialized in commando raids behind Allied lines, such as a successful paratrooper raid on the Benina North Airport, outside Allied-occupied Benghazi, June 12, 1943. Just two Italian commandos destroyed 20 American bombers and damaged another dozen. When employed for long-distance reconnaissance roles, the Z.1007 excelled, especially when equipped with auxiliary fuel tanks that extended its already prodigious range by an extra 620 miles. But its worst defeat came on May 14, 1944, when 5 out of 12 ex-Fascist Kingfishers operated by the turncoat Aeronautica Cobelligerante del Sud for the Allies were shot down with impunity by Luftwaffe interceptors while ferrying supplies to Communist forces in Yugoslavia, with 26 Italian crewmen killed.

Most surprising of the outdated trimotors was the S.M.79 Sparviero, or “Sparrowhawk;’ one of the war’s outstanding aircraft, notable for its great lifting capacity, stability, reliability, and capacity for absorbing brutal punishment. Carrying extra fuel tanks to extend its already impressive service range of 1,250 miles, the wood-and-fabric

bomber soon became the scourge of the Mediterranean Theater, accounting for a high number of sinkings throughout the Campaign. In late 1940, Mussolini increased the number of S.M.79s from 594 to 1,094 machines. The Sparviero carried a pair of 450-mm torpedoes, or an internal bomb load of 2,755 pounds. Self-defense came in the form of one 7.7-mm and three 12.7-mm machine-guns. Its fully loaded maximum speed of 268 mph at 12,000 feet, considered adequate at the outbreak of the war, was eclipsed soon after by more modern counterparts.

The rationale behind trimotors was that they provided extra power and lift at the expense of speed. But the Italian aero industry's notoriously under-powered radial engines largely determined the choice. SM.79-JRs flown on the Eastern Front by the 3rd Air Corps of the Romanian Air Force replaced the three 780-hp Alfa Romeo 126 RC.34 nine-cylinder motors with two German 1,350-hp Junkers Jumo 211-2, 12-cylinder, inverted-Vee piston engines for a performance increase of 21 mph. Given better power plants than the Alfa Romeo versions, the remarkable Sparviero would have been an even greater aircraft.

The SM.79 participated in many exploits throughout the war, from East Africa and Libya, throughout the Mediterranean, to Greece and Russia. But none was more spectacular or little known than another Savoia-Marchetti's incredible long-distance flight from Rome to Tokyo during the middle of World War II. It was instigated at the behest of Mussolini himself, as a top-secret mission of the gravest importance.

By early 1942, he concluded that the international Axis military codes had been somehow compromised by the enemy. His early suspicions of treason in the Comando Supremo, the Italian High Command, were allayed when his secret police failed to find any traitors, and only a few enemy agents operating inside Italy's command structure were rooted out before they could cause any serious damage after a lengthy undercover investigation. Opposition-almost entirely passive-to the Fascist government among the aristocrats both in and out of the armed forces persisted and increased throughout the war.

Although he could not identify the apparatus, since revealed as the "Ultra Secret;' Mussolini guessed its existence, and immediately alerted Hitler, who assigned the Gestapo the task of ruthlessly hunting down all persons behind the breached security. Their Japanese allies also needed to be informed, but, with the British decryption of Axis communications, there was no way to notify them, save by personal courier. Accordingly, Mussolini handed over a briefcase containing news of the compromised codes and replacement ciphers to Dr. Publio Magini, the chief navigator of a trimotor bound for Tokyo. He had been deliberately chosen for his invention of a celestial navigation device, the "Star Altitude Curve;' that would prove invaluable in negotiating the long, uncharted distances across mostly enemy-held Asia.

The aircraft chosen for this challenging flight was the redoubtable Cangru's civilian predecessor, the Savoia-Marchetti S.M.75 pial:' With the addition of extra fuel tanks to substantially increase its already prodigious range of 1,863 miles, the modified Marsupiale's official designation was SM.75 MM.60539, also known as S.M.75 RT ("Roma-Tokyo"). In command of the operation was Tenent-Col. Antonio Moscatelli. Together with Dr. Magini, the crew consisted of co-pilot Capitano Mario Curto and flight

engineer Ernesto Leone.

At dawn on June 29, 1942, the overloaded Savoia-Marchetti rose begrudgingly from Rome's Guidonia Airport. More than eight hours later, it touched down at Saporoshje, a town at the extreme eastern limits of Russian territory then conquered by the Corpo di Spedizione Italiano, the Italian armed forces fighting on the Eastern Front. Saporoshje was just behind the front. Not far away, the Battle for Rostov was being fought between Axis and Soviet armies. With the sounds of combat booming in the near distance, the "Marsupial" was given a final inspection, its tanks were topped off, and crew members provided a thorough rest before resuming their rigorous mission on the evening of the following day.

Overburdened with extra fuel, the big trimotor could not rise above 2,500 feet and crawled at a dangerously low cruising speed. Soon after takeoff, the lone aircraft was caught in the bright embrace of Russian searchlights, which held it fixed over the next 125 miles. Dr. Magini recorded in his journal, "It was not at all pleasant:" Ack-ack shells exploded continuously along the Italians' flight path, but they were more afraid of encountering Red Air Force interceptors, which would have found the S.M.75 a defenseless prey. Thankfully, none appeared, and the inaccurate anti-aircraft bursts eventually dwindled off, as the "RomaTokyo" winged its way eastward.

It proceeded north of the Caspian Sea, then past the Aral Sea and Lake Balkhash. As morning light filled the cabin, Tenent-Col. Moscatelli observed the Altai Mountains separating Russia from China. He brought his aircraft down through a long valley that opened out into the Gobi Desert, over which he flew for the next several hours. Here, Dr. Magini's "Star Altitude Curve" instrument was of vital use, because radionavigator S.Ten. Ernesto Mazzotti had no maps of the Gobi's vast wasteland. The device performed satisfactorily, and the Marsupial's flight path followed along the Yellow River toward the Pao-Tow-Chen airfield, west of Peking. But before Moscatelli could find it, he got lost in a torrential rainstorm. Flying low beneath the obscuring clouds, Dr. Magini realized they had overshot Pao-Tow-Chen by several miles, so Moscatelli turned back to land at the Chinese town on the mid-afternoon of July 1.

Their Savoia-Marchetti was immediately surrounded by Japanese troops, and the weary crew met by the Regia Marina Naval Attache, Captain Roberto de Leonardis, together with an interpreter, Enrico Rossi. The flyers were obliged to lay over for a day, until an Imperial Japanese Army Air Force guide arrived from Tokyo. They stayed at a local hotel made to resemble, ironically enough, an ancient Roman villa outside Pompeii, where each man received two geisha girls who bathed them and washed their clothes. While waiting for them to dry, the Italians relaxed in kimonos, which contributed to the surreal environment. Outside, their S.M.75 was being refueled and repainted, the tricolor and fasces on wings, tail, and fuselage replaced by insignias of the Rising Sun. Since U.S. Brigadier-General Jimmy Doolittle's raid by B-25 Mitchell medium-bombers on Tokyo some months before, Japanese pilots patrolling the city were trigger happy, shooting at anything that looked suspicious.

An Imperial Japanese Air Force captain arrived at Pao-Tow-Chen on the night of July

2, and the mission resumed with an early morning takeoff the next day. The captain directed the flight over Peking, Darien, Seoul, and Yonagom to Tokyo, where the S.M.75 landed at the Tachikawa air base. Dr. Magini handed Mussolini's briefcase to the chief of military police, after which the foreign guests attended several ceremonies, while their aircraft was fully refurbished for its long return flight.

The Marsupiale landed again on July16 at Pow-Tow-Chen, where the Japanese provisional markings were removed and Italian identification restored. Once again overloaded with extra fuel, there was an anxious moment, as the aircraft barely cleared the short airstrip, but soon after gained altitude and headed for Odessa. This time the Soviets did not seem to notice the solitary aircraft, and it set down in Axis-controlled territory during a nighttime landing at 02:10 hours GMT. Ten hours later, the Italians took off on the last leg of their epic journey, returning to Rome's Guidonia airport on July 20. They were greeted in person by Mussolini himself, who congratulated them on the successful completion of their 9,600-mile round-trip.

The Japanese were far less enthusiastic when they read about the supposedly secret mission headlined in every Italian newspaper as a triumph of Fascist aviation. One of the crew members had inadvertently leaked the story to a reporter, and before the military authorities could track it down, the news was out. All further courier flights were cancelled, at least those using the same route over the Caspian Sea. An alternative from Rome across southern Bulgaria, northern Turkey, northeastern Iran, Afghanistan, south over the Himalaya Mountains and the Gulf of Bengal into Japanese-held Rangoon was considered, but ultimately rejected as too complex. Moreover, the entire concept appeared to have been compromised by the unwanted publicity. In any case, the Allies refused to believe that the Italians had actually flown from Rome to Tokyo and back, dismissing the report as so much Fascist propaganda.

Aborting these long-distance missions may have been one of the war's most important turning-points. Mussolini's suspicion that the Axis codes had been compromised was correct. The further success of such flights could have rendered the Ultra Secret useless to Allied cryptographers, thereby cutting off the funneling of top secret information from Axis general staffs to Anglo-American commanders in the field, who depended upon the covert pipe-line of the enemy's most sensitive data for their victories at El Alamein, Stalingrad, Avranches, and so many other crucial battles that determined the war's outcome. Apart from the wider implications of its Far Eastern mission, S.M.75 RomaTokyo completed one of the great navigational achievements in military aviation history, an extraordinary testimony to the venerable tri-motor.

Eventually, Italian military aviation did come up with a four-engine heavy-bomber in a vein comparable to America's B-17 Flying Fortress or Britain's Lancaster. With the advent of more powerful radial engines, the Piaggio Company could produce its own design, the P.108 Bombardiere. Powered by a quartet of 1,500-hp P.XII RC.35 and 18-cylinder motors, its clean lines lent it a modern appearance, in contrast to the old-fashioned Pipstrello, Cangaru, or Sparviero. While its 268-mph maximum speed and service ceiling of 27,880 feet were not particularly impressive, the Bombardiere's range of 2,187 miles

made it ideal for anti-shipping duties, a role performed all the more effectively when its eight 12.7-mm machine-guns were supplemented by a 102-mm cannon. More usually, it carried bomb loads up to 7,716 pounds in long-distance night raids against Gibraltar from bases in Sardinia. From May 1941, the 274th Long-Range Bombardment Group was equipped with the first P.108s rolling off the assembly lines.

Although only 163 Bombardieres were built, they saw extensive service across the Mediterranean Sea, the Libyan Desert, and the Eastern Front. Like the Macchi Veltro, Piaggio's heavy-bomber represented a transition to modern designs caught in the process of replacing the Regia Aeronautica's out-dated aircraft. But it also signified a change that came too late and in too few numbers to significantly alter the course of events in Mussolini's favor. The turning point of his fortunes came in North Africa, but not for lack of Italian fortitude, as exemplified by the 185. Divisione Paracadutisti Folgore, the Airborne Division "Lightning:"

Originally formed in September 1941 as the 1 Division Paracadutisti, its early volunteers trained aboard Savoia-Marchetti SM.82 Kangaroo transport planes at Castelbenito's Military School of Parachuting, near Tripoli, for the proposed invasion of Malta, Operation Hercules. After its suspension, the paratroopers almost singlehandedly turned the Second Battle of El Alamein in their favor, beginning October 24,1942, when they took a heavy toll on lives and equipment of the British 7th Armoured and 44th Infantry Divisions. In their initial assault alone, the enemy lost more than 120 armored vehicles and suffered over 600 casualties.

While the 7th Armoured was in no condition thereafter for renewed combat operations, remnants of the 44th, joined by the 50th Northumbrian Infantry Division, plus the 1st and 2nd Free French, together with the Royal Hellenic Brigades, supported by artillery and armor, resumed the attack but consistently failed to achieve a breakthrough for the next 11 days, at a terrible cost in men and material. Their advance had been lured into a cul-de-sac ringed by 47-mm anti-tank guns noted for a high rate of fire but lack of any protection for crews. The Italians launched their devastating counter-measures from all sides, even hand throwing Molotov cocktails at enemy tanks from enfilade positions after all their shells ran out.

On November 6, the undefeated paratroopers withdrew from El Alamein to surrender at the gates of Fuka only when ammunition and petrol had been exhausted. Five days later, London Radio admitted, "the remnants of the Folgore put up a resistance beyond every limit of human possibility."12 The Italians' small, regiment-sized division had stopped the advance of six, full enemy divisions composed of two armored and four infantry divisions, destroying the equivalent of an entire British tank division.

At the termination of the Lightning's four-month service in North Africa, 32 officers and 262 paratroopers, most of them wounded, were all that remained from the Division's original compliment of 5,000 men. At El Alamein alone, they suffered 1,100 lost in action but inflicted more than 3,000 casualties on the British. Mussolini awarded the Folgore Division the Medaglia doro at Valore Militare, Italy's highest citation for heroism.

In June 1941, he assembled 62,000 troops as the first installment of his commitment to

Operation Barbarossa. They belonged to his Corpo di Spedizione Italiano in Russia (the Italian Expeditionary Corps in Russia), which was covered by 51 Macchi MC.200 Saetta fighters and three squadrons of Caproni light-bombers. Although the Ca.314's twin IsottaFraschini Delta R.C.25 I-DS engines provided 1,448 hp for a maximum speed of just 245 mph, the low-wing, cantilever monoplane could nevertheless accurately deliver more than 1,100 pounds of bombs within almost as many miles. The Ca.314 was especially well endowed for aerial reconnaissance, thanks to its heavily glazed nose, and capably defended itself with a 7.7-mm Breda SAFAT in a dorsal turret positioned immediately aft of the cockpit, plus two more 12.7-mm machine guns in the wing roots. The versatile Capronis effectively performed extra duties flying patrol, ambulance, ground attack, transport, trainer, and torpedo-bomber missions.

As part of their distinctive Eastern Front insignia, a broad, bright yellow band went around the fuselage of all Italian aircraft serving in Russia, across the underside of their wing tips, and encircled cowlings. Decorating the wings' leading edge were white triangles, while the House of Savoy's white cross appeared on tail surfaces.

On August 27, the Comando Aeronautica Fronte Orientale set up operations at Krivoi-Rog, a small airfield just south of the Dniepr River. Its pilots wasted no time, downing six Soviet Tupolev bombers and two Polykarpov fighters-the same types the Italians encountered four years earlier during the Spanish Civil War-within a week at no loss to themselves. Thereafter, the MC.200s and Ca.314s engaged primarily in shooting up Red Army troops, truck convoys, artillery, and armored columns.

The following October, all squadriglie were relocated further east of the Dniepr to Saporoshje, in support of advancing Axis ground forces and to provide escort for Luftwaffe reconnaissance planes or bombers. Throughout most of 1942, Saetta and Caproni crewmen flourished over the Russian battlefields, ringing up an impressive tally of "kills;' scouting for the Wehrmacht, and making significant hits on enemy supply columns. But with the sudden reversal of fortunes at Stalingrad, they found themselves impossibly outnumbered, mostly by a Red Army Air Force reequipped with the Americans' superior Bell P-39 Aircobra. Undaunted, the Italians flew to the aid of hard-pressed German infantry in the Millerovo area by strafing and bombing Soviet tanks and troops on January 17, 1943. The last 25 serviceable Thunderbolts flew their final missions later that month, protecting Junkers Ju.52 ambulance planes filled with wounded veterans from swarms of attacking Russian interceptors.

In July, a coup ousted Mussolini from power. He was made captive by his enemies but rescued in a daring mission the following September 12 by German commandoes. The Duce thereafter reestablished himself in the north, at the town of Salo, where he set up the Repubblica Sociale Italiana (RSI), the Italian Social Republic. Its chief purpose was to continue the fight against the Anglo-American invaders by creating a new armed forces, including the Aeronautica Nazionale Repubblicana. Members of the former Italian Air Force responded virtually en masse to his call for volunteers. For example, of 66 Macchi MB.205 fighters still in service, all save half a dozen were flown away from the south. Less than 200 men out of the Regia Aeronautica's 12,000 officers and 160,000 NCOs flew

for Marshal Badoglio's puppet Co-Belligerent Air Force (the Aeronautica Cobelligerante del Sud) operating at the behest of the Western Allies. In short order, most of these volunteers became disenchanted with their new superiors, who re-assigned them to transport duties on behalf of Tito's Communist partisans in Yugoslavia.

Meanwhile, the ANR's unexpected influx of volunteers fleshed out into one fighter group (the Gruppo Caccia Asso di Bastoni) composed of three squadrons, a bomber group (the 2° Gruppo Caccia "Gigi Tre Osei") of three squadrons, a torpedo-bomber group (the Gruppo Aerosiluranti Buscaglia Faggioni), the supporting Squadriglia complementare cl'allarme "Montefusco-Bonet," and the 2° Gruppo Aerotrasporti "Terraciano" for training. The Gruppo Caccia Asso di Bastoni defended industrial areas controlled by the RSI, intercepted enemy aircraft en route to southern Germany, offered close support for Italo-German land forces, and carried out missions outside the Salo Republic's immediate sphere of influence.

The ANR's ex-Regia Aeronautica warplanes were augmented by factory replacement production, provided especially by Turin's Fiat plant, and arrivals from Germany in the form of Fieseler Storch liaison planes, Dornier Do.217 medium-bombers, Messerschmitt Bf 109 interceptors, and Bf-110 ground-attack "destroyers:' In all, the Aeronautica Nazionale Repubblicana operated no less than 56 different types of aircraft, from doddering CR.32 biplane veterans of the Ethiopian War to another Fiat, the finest of World War II. Described by Oberst Hans Petersen, inspection officer of the Luftwaffe's aircraft evaluation department, as "the best fighter in the Axis;' the G.55 was powered by a liquid-cooled inverted V-12, 1,475-hp Fiat R.A 1050 Tifone engine (a license-built Daimler-Benz DB 605A-1), enabling the sleek Centauro to climb almost 23,000 feet in under nine minutes. With a maximum speed of 417 mph at that altitude, and armed with three 20-mm cannons mounted in the engine and wings, plus two 12.7-mm machine-guns in the fuselage, the "Centaur" was a lethal bomber-killer that could equally compete with top Allied fighters.

Its baptism of fire came on June 5,1943, when the first few G.55s assigned to the 20° Gruppo of the 51°Stormo at Capoterra, near Cagliari, decimated an RAF attack against Sardinia. In early summer, they were transferred to the 353rd Squadriglia, joining two dozen more Fiats in the 2nd Gruppo Caccia Terrestre at Veneria Real. In defending Rome from American bomber streams, the Centaurs scored heavily against B-17 Flying Fortresses, while dealing handily with P-51 escorts. When Marshal Badoglio declared an armistice with the Allies on September 8, just 1 of the 35 new Fiats that had been delivered flew south to join his Co-Belligerent Air Force. The rest became part of the ANR's Squadriglia Montefusco, in November 1943, operating from Piemonte.

G.55 production resumed in the north, resulting in another 97 specimens until March 29, 1944, when the Montefusco was absorbed by the 1st Gruppo and transferred to Veneto. By then, the redoubtable fighter had made such a name for itself among Anglo-American pilots, they organized a special raid aimed directly at curtailing its further existence by carpet bombing the city of Turin, where the Fiat plant was located, on April 25. Civilian casualties were high, and the plant was heavily damaged, but only 15 Centaurs-some near

completion on the assembly lines, others ready for delivery to the factory airfield-were lost.

On recommendations of German observers from their Ruestungs and Kriegsproduktion Stab (the Armaments and War Production Staff), further G.55 manufacture was dispersed across Monferrato, enabling workers in various towns and villages throughout the area to construct different specific parts, which were then brought together for rapid assembly in Turin. German efficiency measures also reduced Centaur fabrication from 15,000 to 9,000 man-hours per finished airplane. In all, 274 of the latest Fiats were produced by war's end.

The Aeronautica Nazionale Repubblicana eventually became so powerful, it could afford to send the 1° Gruppo Aerotrasporti "Trabucchi" to serve beyond Italy in the Baltic, at Spilve, near Riga, from whence its crewmen defended Latvia against Soviet invasion, until they were virtually annihilated by late summer 1944. Several hundred ANR crews training on Messerschmitt Bf.109s and Fiat interceptors in Germany were prevented by the Third Reich's deteriorating military situation from returning to Italy, opting to defend its capital city during the climactic Battle of Berlin. From mid-March to early May 1945, some of the latest G.55 Centaurs and Macchi Greyhounds threw themselves against an immense enemy air fleet of bombers and fighters, much to the alarm of Soviet pilots.

ANR maritime attacks continued until very late in the war. After several successful raids against American forces pinned down at the Anzio beach head, the Gruppo Aerosiluranti "Buscaglia Faggioni" relocated to coastal Greece, where its Savoia-Marchetti SM.79 Sparrowhawks menaced Allied shipping, sinking a 5,000-ton British transport north of Benghazi, Libya, and another enemy freighter out of Rimini as late in the war as February 5, 1945. Ten S.M.79 Sparviero bombers formed an antishipping unit based at Ghedi, in Lombardy, beginning in October 1944. They celebrated Christmas Day by attacking an Allied convoy near Ancona, torpedoing a 7,000-ton freighter.

Outstanding was the ANR's 1st Gruppo "Asso di Bastoni," which made its debut on January 3, 1944, with the destruction of four P-38 Lightnings, minus casualties. Before March, its crews claimed 26 combat victories, mostly over Americans, for the loss of 9 comrades. On the 11th of that month alone, a dozen more of the foe fell under their guns, at the cost of three Italian airmen. A week later, 30 Macchi Veltros were joined by 60 Messerschmitt Gustavs of JG.77 to intercept 450 Allied bombers and dozens more escorting fighters. That the Axis crews achieved four "kills" for the loss of just one of their own against such opposition was remarkable.

By late summer 1944, ANR pilots were confronted by almost overwhelming odds, as evidenced by the loss on August 25 of Corporal Teresio Martinoli, Italy's top-scoring ace, with 22 confirmed combat victories. Even so, it was less the aerial competition offered by their increasingly outnumbering enemies in the sky, than the Italians' own lack of sufficient replacement parts and especially aviation fuel that grounded ANR aircraft, leaving them sitting targets for AngloAmerican warplanes.

From Italy's June 10, 1940, declaration of war against the Western Allies until the Badoglio armistice of September 8, 1943, Regia Aeronautica air crews accounted for 2,522 combat "kills, plus 74 Soviet aircraft claimed by the Comando Aeronautica Fronte

Orientate, losing 15 of its own on the Eastern Front, largely through accidents in Russia's icy conditions. An additional 265 Western Allied warplanes were shot down by Mussolini's Aeronautica Nazionale Repubblicana between December 1943 and April 1945 for the loss of 158 Italian crewmen. These figures do not, of course, include enemy aircraft destroyed on the ground, in excess of 1,000 warplanes. Regia Aeronautica and Aeronautica Nazionale Repubblicana bombers sank approximately 80 Allied warships and more than 200 freighters, damaging another 500 vessels of all types, many of them beyond salvage.

The measure of this achievement, plus the courage and skill of Italian crews, is self-evident in the technical inferiority of the aircraft they mostly flew against numerically superior opponents. Officially, both Italian air forces in World War II combined produced 100 aces, each one scoring a minimum of five "kills" in the air. These figures are misleading, however, as destroyed aircraft were not credited to individual pilots but instead to their own squadrillia until later in the war. Airmen who demonstrated exceptionally high skills were commonly reassigned from frontline service to become instructors or promoted into the Regia Aeronautica's command structure, a policy that explains the low number of kills credited to Italian flyers relative to the aces of other nations. Fascist Italy's most outstanding military aviators were not allowed to remain in combat operations for as long as their foreign contemporaries, and the "kills" they did make often went uncredited.

The last fighter missions on behalf of the Aeronautica Nazionale Repubblicana were carried out by the 2nd Fighter Group "Gigi Tre Osei" on April 19, 1945, when, in a final gesture of defiance, its crews went down fighting against impossibly high numbers of the enemy, taking several Lockheed Lightnings, P-51 Mustangs, and Supermarine Spitfires with them into eternity. Nine days later, Mussolini was dead. Shortly before his arrest and execution by Communist partisans, he told a despairing colleague, "There is no shame in defeat. The only disgrace is cowardice. We have nothing to be ashamed of."3

Chapter 2

THE SPANISH BLUE SQUADRON

> The Fuehrer, in whom we all have infinite confidence, has summoned us here. And here we stand, whether in ice cold or summer heat; whether with many or a few guns; whether with many or a few tanks and airplanes; or whether against an enemy, superior in numbers, sacrificing hecatombs, that charges against uswe hold our position!
>
> -General Agustin Munoz Grandes, leader of Spanish volunteers on the Eastern Front'

For a moment, Francisco Franco held the fate of World War II in his hands. During early July 1940, he received the first, tentative invitation from Adolf Hitler to join him in a formal military alliance against Great Britain. To the Spanish head of state, the proposal was historically appropriate and well timed. British forces had been just expelled from the continent, and the Luftwaffe was gearing up for an all-out aerial offensive against London. Never before had such a unique opportunity arisen for the long-dreamt-of seizure of Gibraltar, a bone of contention between Spain and Britain for centuries.

The Fuehrer additionally enticed him with landing-craft, warplanes, armor, and paratroops to assist in taking the Rock. Contributing to this tempting prize was a lingering sense of obligation Franco felt toward the Germans for their decisive help in winning his civil war just the year before. Now that they were in a desperate struggle with the most powerful empire on Earth, coming to their aid was commensurate with Spanish honor, while in the very best interests of cooperation between both peoples.

For Hitler, Spain was not just another European ally, but a vital component in his strategy for concluding operations against Britain before his inevitable clash with Soviet Russia. Depriving the enemy of Gibraltar would not only transform the entire Mediterranean Sea into an Axis lake, cutting the British Empire in two, but allow the Italian and French fleets to join the Kriegsmarine in the North Atlantic, tipping the balance of forces against the Royal Navy. Allied convoys could no longer operate, and Britain would be utterly cut off from the outside world. Lack of munitions and food must compel her surrender.

The Fuehrer cultivated friendly relations with the defeated French in large measure because he wanted them to volunteer their navy on behalf of Axis strategy. He was most importantly aided in these hopes by Winston Churchill, who ordered surprise attacks on French naval units at Algeria's Oran and Mers-el-Kebir, beginning July 3. Five days later, bombers from HMS Hermes attacked the French flagship, Richelieu, at Dakar. Although most French warships escaped serious damage, 1,297 sailors perished, and twice as many were wounded. Outrage swept across France to ignite popular demand for revenge against

“perfidious Albion”

Hitler was now confident that Spain would take Gibraltar, enabling the combined French and Italian fleets to sortie from their Mediterranean bases into the North Atlantic, where Britain’s fate would be sealed. France’s legally elected Chef de l’Etat, Philippe Petain, and Franco were eager to join their countries’ forces, and negotiations with the Reich government began in earnest shortly after the raids at Oran and Mers-el-Kebir.

But by fall 1940, both leaders seemed to have inexplicably cooled toward a cooperative effort, which was so crucial to Hitler’s grand strategy. Alarmed, he traveled personally to Hendaye in the Pyrenees near the French border with Spain on October 23. Although cordial, Franco stubbornly refused to move against Gibraltar, with or without Wehrmacht assistance. The next day, the Fuehrer was in Montoire-sur-leLoir to meet with Marshal Petain, who similarly rebuffed any notion of mobilizing the French fleet against Britain.

Hitler was unaware that any envisioned European alliance had been sabotaged by his own chief of military intelligence. All of Franco’s arguments against joining the Axis had been “dictated in detail” by the secretly anti-Nazi Admiral Wilhelm Canaris, head of the Abwehr.Z He convinced him that Hitler actually wanted Spain to attack Gibraltar as an opportunity for the Wehrmacht to invade and occupy the entire Iberian peninsula. Thanks to Canaris, “a significant sum of money had been deposited by the British in Swiss accounts for Franco and his generals to further convince them to be

The treasonous admiral was equally successful in disenchanting Marshal Petain, although bribes were not needed in his case. Had Franco reclaimed Gibraltar for Spain in 1940, he would have doubtless succeeded, with or without German aid, because Britain was then at the lowest ebb of her fortunes. Even had Petain continued to withhold the French fleet, the Mediterranean would have been closed to the Royal Navy, passing the initiative in North Africa to Axis forces. Thus, Hitler’s best hope for beating Britain early in the war was lost for causes he never suspected.

His invasion of Russia on June 22, 1941, caught Franco by surprise, especially because of the popular enthusiasm it stimulated throughout Spain. While still determined to refrain from joining Hitler, he was politically obligated to make at least some token gestures of support by allowing volunteers to form the 250 Infanterie Blaue Division of the German Army, the Division Azul, or Blue Division. Initially, Franco permitted no more than 4,000 recruits, but their ranks quickly swelled to 18,104. Half of their 2,612 officers were professional soldiers, mostly veterans of the Spanish Civil War. Many belonged to the Falange, Spain’s Fascist movement, as did the 15,492 who enlisted.

Eventually, some 45,000 Spaniards would serve in the Division Azul. It derived its name from the Falangist blue shirt worn as part of Division dress attire, which additionally featured khaki trousers and a red beret. Field uniforms were standard Wehrmacht gray with a shield in black outline on the upper right sleeve emblazoned with the word Espana over the red-gold-red Spanish national colors.

On July 13, the first trainload of volunteers departed Madrid for Graefenwohr, Bavaria,

where they underwent a five-week familiarization course at the German Army's 90-square-mile education center. There, they divided into three infantry regiments named after the cities from which most of the volunteers came: Barcelona, Seville, and Valencia. These were joined by an artillery regiment of four battalions, each with three batteries, plus a sub-machine gun assault battalion. By late summer, the Blue Division had joined Army Group North's siege of Leningrad as part of the German XVIth Army.

The volunteers were under the command of General Agustin Munoz Grandes, a prominent hero of the Spanish Civil War. In February 1937, he had led Legionnaires in an attack that won the strategically vital objective of Malaga for the Nationalist cause. From his headquarters in Grigorovo, General Munoz Grandes first deployed his regiments along a 30-mile section of the front north and south of Novgorod, along the banks of the Volkhov River and Lake Ilmen.

Two weeks before these first volunteers left Spain, 130 men of the 1. Escuadrilla de Cazo left Madrid for Jagdfliegerschule 1, the fighter training camp at Werneuchen, just northeast of Berlin. After a period of flight instruction and familiarization with Luftwaffe aircraft and tactics, they set out for Russia on September 26, arriving a few days later at their headquarters, the Moschna airstrip. They would eventually operate from 12 different fields, none of them anywhere near their fellow countrymen in the Blue Division on the ground besieging Leningrad. Upon the Spanish crews' arrival, they were issued their first dozen Messerschmitt Bf-109 E-4s and -7s and assigned to the JG 27 VIII Fliegerkorps of Luftflotte 2. Officially designated the 15 Spanische Staffel, it was more popularly known and better remembered as the Escuadrilla Azul, the Blue Squadron. A total of five Escuadrillas each, in turn, relieved every six months and involving 659 Spanish air force personnel, would eventually fly over the Eastern Front as part of JG 27 and JG 51.

They were allowed to decorate port and starboard of their Emits just behind the cockpit station with the Falangist arrow-yoke insignia in gray, plus, occasionally, the red-gold-red Espana shield on either side of the fuselage toward the nose cannons. More often, their Messerschmitts were adorned with the Laureate Cross of Saint Ferdinand, because it stood for selfless action in the face of numerical superiority, minimal loss of life while achieving maximum effect, and the accomplishment of crucial deeds. Beside the Laureate Cross was a circle enclosing a falcon, a blackbird, and a bustard (symbolizing fighter planes, reconnaissance and bombers, respectively) above the words, Vista Suerte y at Toro ("Lucky Eye and the Bull"), from the Morato Squadron, the Nationalist air force's most successful unit during the Spanish Civil War.

Uniforms were identical to those worn by servicemen in the Division Azul. The first 17 Blue Squadron pilots saw combat in the Spanish Civil War, during which they accounted for 79 "kills" between themselves. Their leader, Commandante Angel Salas Larrazabal, was himself an outstanding veteran of that conflict, destroying 48 Communist vehicles on the ground and shooting down 17 Republican aircraft, 4 of them on September 2,1938, an achievement equaled only by an Oberleutnant in the Luftwaffe's 2./J88: Wilhelm Balthasar destroyed three SB-2 bombers and one Polikarpov 1-16 in one day the previous February.

Soviet pilots knew the stubby low-wing monoplane as Mosca, or “Fly,” but to their Axis opponents it was simply Rata, the “Rat:” Obviously patterned after America’s Gee Bee Model R “Super Sportster” pylon racer of 1932, the 1-16 was the world’s first cantilever-winged (internally braced) monoplane fighter with retractable landing gear. For all that, the Rata’s average, peacetime life was only 87 days, of which one-sixth was spent on maintenance. In combat, its lifespan was much shorter. In the hands of a careful, experienced pilot, however, the oversensitive 1-16 could at least out-maneuver an Emil.

Three years after his Civil War experience, Larrazabal would become an ace yet again, claiming another seven Russian-made warplanes, this time on the Eastern Front. He immediately established his leadership by scoring the Blue Squadron’s first “kills” on October 4, 1941, when he shot down two Soviet ground-attack planes during a single mission.

“I saw six, in-coming Pe-2s, and went after them;’ he later recalled. “Cutting the distance between us, I found myself below one of them, and opened fire from 450 feet with my 7.92 mm MG 17 machine-guns. This slowed up my target, so I closed on him with my twenty-mm cannons blazing. Pieces flew from the aircraft after my second burst, and its crew took to their parachutes. Later, I flew on towards Cholm to join up with my group, when I happened upon a Rata. I attacked him in a turn while he was trying to flee in a fast dive. His left wing sheared off, and he crashed near a confluence of the Dnieper and Wjasna Rivers”’

The world’s first cantilever-winged monoplane fighter with retractable landing gear, Polikarpov’s I-16 formed the backbone of the Soviet Air Force at the time Hitler’s forces invaded Russia. Nicknamed Ishak (“Donkey”) by its own pilots for the I-16’s unpleasant, even potentially life-threatening flight characteristics, it was decimated in combat. (Courtesy Art-Tech)

Originally conceived as a fighter, the Pe-2’s designer, Like Josef Neman, had been incarcerated by Stalin, who threatened worse consequences if the Peshka, or “Pawn;’ was not successfully made over into a dive-bomber. Having completed the transformation

behind bars, Vladimir Petlyakov watched his fork-tailed, twin-engine Pe-2 perform satisfactorily during 1940's May Day celebrations over Red Square from the vantage point of a prison cell.

Although durable and, at 370 mph, fast, getting a Peshka airborne was extraordinarily difficult, requiring the strength of a body builder to wrestle the elevators into take-off position. In all-female units, pilots needed the assistance of another woman crew member to pull back on the controls together.

Three days after Larrazabal made his unit's first "kills" on the Eastern Front, he was commended for getting his Escuadrilla Azul off to a propitious start. He took special pride in receiving the Iron Cross, 2nd Class from a fourth cousin of World War I's famous Red BaronWolfram Freiherr von Richthofen, now Commanding General of the VII. Fliegerkorps, formerly chief of Germany's Legion Condor in Spain.

The Soviets' Petlyakov Pe-2 Peshka ("Pawn") was one of World War II's finest groundattack aircraft-a fast, maneuverable, and durable dive bomber. More than 11,400 were mass produced. (U.S. Air Force)

Escorting Luftwaffe bombers and reconnaissance planes or attacking ground targets-particularly enemy truck transports and armorwere priorities that allowed fewer occasions for aerial combat, so Blue Squadron pilots honed their skills in low-level sorties. These vital missions were hazardous, because Russian anti-aircraft defenses invariably put up fierce resistance. On November 27, 1941, the Escuadrilla deputy commander, Jose Munoz Jimenez, and his wingman were killed in action. Despite this heavy loss, Larrazabal and his men transferred the next day to an airfield at Klin, their deepest penetration into Soviet territory. There, aircraft engines, despite ceaseless efforts, refused to turn over, and the Latins suffered horribly in minus 35° Centigrade temperatures ceaselessly whipped by high winds. These bitter conditions were exacerbated by a Red Army counter-offensive that fended off the Axis drive against Moscow, forcing the Germans and their allies to retreat.

Unteroffizier Walter Todt, a sergeant in the Luftwaffe's I./JG 52, recalled that his undaunted Spanish comrades in arms had received their Christmas presents from home flown in by a Junkers transport plane, "and they shared them with us. That was real comradeship!"'

From late 1941 to early 1942, the Escuadrilla Azul (15 Spanische Stafel/VIIL Fliegerkorps) of JG-27 attached to Luftflotte 2 collaborated with II.(Schl.)ILG 2 in support of Axis forces around Leningrad and the successful battles for Bryansk and Vyazma. Since the Soviet Air Force had been virtually extirpated from these areas, the Spaniards were mostly engaged in ground attacks undertaken by Henschel biplanes.

Belying its antiquated appearance, the Hs.123s were remarkably durable dive-bombers, often taking off and landing through muddy, snowy, rainy or icy conditions that grounded more modern aircraft. The Henschel was not fast at 211 mph, but it could deliver its 992 pounds of bombs to a target with precision, or shoot up Soviet tanks with its twin 20-mm MG FF cannons under conditions far more sophisticated warplanes found daunting. World War II aviation historian William Green cited the Henschel Hs.123 as a rugged and reliable aircraft that "despite its advanced years by the time it went to war against the Soviets, was an effective combat And the Spanish pilots used it to devastating effect, smashing Red Army supply columns or armor on the move, when the enemy least expected interdiction, because abominable weather conditions grounded all other aircraft.

On January 6, 1942, the first Blue Squadron members were recalled to Spain, and shortly thereafter replaced with the 2a Escuadrilla Azul led by Comandante Julio Salvador Diaz-Benjumea. Like Larrazabal, he was a veteran Civil War ace, but had scored higher with 24 kills. After extensive flight instruction at Werneuchen's Fighter Pilot Training School, he and his 150 men arrived at the front near Orel on June 8. They were issued the superb Bf 109F-4, with which they shot up prodigious numbers of Red Army supply convoys over the next six months, almost incidentally downing 13 Soviet warplanes in the process for the loss of just 2 of their own.

Exceptionally severe winter conditions grounded the replacement 3a Escuadrilla for the rest of 1942, but its pilots, invariably outnumbered by their opponents, were thrown into desperate fighting during and after the Battle of Stalingrad, destroying 25 Communist aircraft and carrying out innumerable low-level attacks against massed enemy troops, tanks, and transport columns without loss during the first quarter of 1943.

Pleased by the Spaniards' high performance, Luftwaffe brass replaced their "flown out" Messerschmitts with state-of-the-art Focke-Wulfs. A maximum speed of 380 mph at 19,420 feet and the FW-190A-3's twin 20-mm MG 151/20E cannons made Germany's Wurger the leading fighter of its time, a status reconfirmed by Blue Squadron pilots, who confirmed 29 "kills" in as many days at no cost to themselves. By May, their tally rose to 62 while, for months thereafter-throughout midsummer-not one of the Stuka dive-bombers entrusted to their protection was lost, a truly remarkable achievement, given Soviet numerical superiority. Even so, the volunteers surpassed themselves when the 4a Escuadrilla Azul arrived on the Eastern Front in early July, just as Hitler's last major offensive in Russia got under way. Beginning with his Operation Citadel and into

September, they shot down 25 of the Red Army Air Force's most advanced fighters-Lavochkin La-5s and -7sthat got in the way of the Spaniards' 391 missions against enemy artillery, armor, and troop concentrations.

During these ferocious operations, Blue Squadron pilots were surprised to find themselves confronted by Communist expatriates from Spain, emigres to the USSR after losing the Civil War. Whenever they met in combat, the opposing airmen cursed each other over the radio, neither requesting nor giving quarter, to gleefully machine-gun any Spanish pilot hanging helplessly in his parachute harness, or who tried to escape on foot from his crashed warplane. The 4a Escuadrilla Azul also encountered Free French flying for the Groupe de Chasse GC 3 Normandie regiment in confrontations that additionally underscored the multi-national character of war on the Eastern Front. Unlike Spain's all-volunteer Blue Squadron, the Groupe's French pilots had been assigned by General Charles De Gaulle to the Soviet Union, where they flew the fast, tough Yakolev Yak-ID fighter.

By fall 1943, Franco was coming under mounting pressure, inside and outside of Spain, to withdraw all forces from Russia. But for his own government, military, and a clear majority of the Spanish people, the war against Stalin was a holy crusade, as demonstrated in the spontaneous outpouring of acclaim showered on returning Division Azul veterans, who were feted throughout Iberia. This popular sentiment had been given a powerful boost the previous February, when an entire Soviet army group (the 55th), supported by tank brigades, attempted to cut the main road connecting Moscow with Leningrad, thereby lifting the siege of the latter city. At the Battle of Krasny Bor, defending Spaniards, lacking any motorized armor and out-numbered seven to one, beat back the assault often in hand-to-hand combat with improvised Molotov cocktails and fought to the death. The Reds retreated with some 11,000 casualties, while Blue Division losses comprised 3,645 men killed, wounded, missing, or taken prisoner. Hitler was so impressed by their defensive victory, he awarded the Division Azul a Combat Service Medal that he himself had personally designed. He never did the same for any German Wehrmacht division.

Confused and corrupted by the duplicitous Admiral Canaris, Franco vacillated between following his own heart and officially joining the Axis, or yielding to the Americans, British, and conservative Madrid Anglophiles calling for total disengagement, neutrality, or even siding with the Western Allies. When officials of the Roman Catholic Church urged him "as an obedient son of the Church" to bow to their demands, he lost his temper, telling them they were no longer Christians: "If it was not for Hitler's help, the rest of your cathedrals would have been gutted, your nuns raped, and you yourselves murdered! You want me to shit on my honor and the honor of our country by leaving him in the lurch, now that he needs to be rescued, just as we ourselves needed to be saved only five years ago?"' And he threw the priests out of his office.

His procrastination was leading to increasing controversy concerning replacement of El Caudillo with a genuine Falangist administration that would not only aggressively prosecute the "crusade" against Communism, but apply the still-noninstituted ideals

fought for during the Civil War. As early as May 1942, Franco relieved Munoz Grandes of his command, because of the General's deep commitment to fighting on the Eastern Front. Hitler personally protested, and the dismissal was rescinded. On July 12, Munoz Grandes confided to the Fuehrer that he planned returning to Spain after Leningrad fell, when he would have sufficient prestige to become president of a thoroughly Falangist government, whose first order of business would be declaring war against the Soviet Union. By December, something of this plan came to Franco's attention, and Munoz Grandes was recalled to Madrid, where, on the 17th, "he was met by the entire government, excluding only Franco himself;" and promoted to a powerless position that permitted him no command over any troops.'

When Germany's deteriorating military situation was no longer in doubt, Franco asked for the withdrawal of the Blue Division on October 10. Too many veterans (in excess of 3,000) refused to return, however, forcing him to issue a state decree on November 3, demanding the return of all troops to Spain at once. The preemptory tone of these orders engendered dissatisfaction in the armed forces and impaired his domestic support, so he amended them to allow a scaleddown version of the Division Azul-the Legion Azul-and exempted the Blue Squadron altogether from repatriation. Its pilots continued to fulfill their ground-attack missions against the advancing Red Army hordes and shoot down Soviet aircraft into 1944, scoring their last aerial victory on January 12, when a U.S.-built Douglas Boston bomber fell in flames.

The Spaniards' fierce level of combat was told in the 4a Escuadrilla itself, which lost half its aircraft together with 7 of its 20 pilots. Replacements in the final and 5a Escuadrilla Azul arrived at the front during late February, led by Comandante Javier Murcia Rubio. Provided with Bf 109G-6s, they engaged in 80 missions, shooting up Soviet armor and transport in low-level attacks, or escorting Luftwaffe bombers. The Escuadrilla's top-scoring ace was Capitano Gonzalo Hevia, with 11 confirmed "kills." But in April, after dissolving the Legion Azul the previous month, Franco finally ordered all Spanish volunteers home.

"This recall back to Spain did not give the highly motivated Spanish fighter pilots any joy," according to the military aviation historian Hans Werner Neulen; "instead, their feelings were dominated by bewilderment, fury, disappointment and bitterness. When Comandante Murcia Rubio read out the disbandment order to his officers, their response was a resounding, `NO!"'9

During their service on the Eastern Front, the five Escuadrillas lost 24 pilots and ground personnel to all causes. One airman-Capitano Andres Asensi Alvarez-Arenas-was made a prisoner-of-war for nearly seven years. During all that time, despite the best efforts of his tormentors, he returned to Spain in April 1954, unbroken and unbowed. His fellow Blue Squadron pilots, a dozen of whom became aces with five or more "kills" apiece, downed 163 Soviet aircraft in aerial combat, but destroyed countless more on the ground, together with innumerable armored vehicles, artillery pieces, truck transports, and unknown numbers of enemy troops.

In defiance of Franco's orders, perhaps as many as a thousand or more Spaniards

soldiered on in various German Waffen-SS divisions, and at least a few Escuadrilla Azul veterans served with several Luftwaffe units until the last day of World War II in Europe. Spanish pilots participated in April 1945s climactic Battle of Berlin, flying their Messerschmitt fighters emblazoned with the Laureate Cross of Saint Ferdinand against 12-to-1 odds.

Chapter 3

VICHY FRANCE'S "ARMY OF THE AIR"

> So long as we continue to exclusively regard one another as "French" or "German," we will go on senselessly fighting and killing each other, as we have for centuries. True peace and cooperation lie only in our mutual understanding as fellow Europeans. Nowhere is this concept better exemplified than among airmen of both countries, our shared love of flight in the common defense of our continent against the tyranny of money beckoning from the west and the tyranny of terror threatening in the east.
>
> Jean Romatet, General de Division Aerienne, Vichy Air Force Chief of Staff, November 9, 19421

Adolf Hitler's surprise invasion of the Soviet Union on June 22, 1941, stunned the world. Nowhere was this more apparent than among the people of occupied France. They were suddenly forced to choose between their traditional hatred of Germans or supporting them in the common defense of Europe. Among the many that opted for the latter course of action was Pierre Costantini. His background as a World War I ace, cavalier in the Legion d'honneur, and reserve officer with the Armee de /Air during 1940's Blitzkrieg lent him sufficient authority to organize volunteers for service on the Eastern Front. Just days after the start of Operation Barbarossa, Costantini had enlisted 30 top bomber pilots, plus 20 more flyers in the Legion des Aviateurs Francais.

The Reich authorities allowed him to proceed with his plans but refrained from materially supporting him, in conformance with Armistice restrictions forbidding French recruitment. Adherents continued to join, however, enough to justify training courses and the establishment of a headquarters office in Paris. This influx of support alarmed conservative members of the Vichy government, who believed Costantini was going too far toward collaboration and prevented the Legion des Aviateurs from fulfilling its potential. Unable to fly for the Axis, most members transferred to the National Socialist Motor Corps (the NSKK, or Nationalsozialistisches Kraftfahrkorps), where they made up seven companies of drivers, mechanics, and infantry deployed against Communist partisans in northern Italy from early 1944. Other would-be Legionaries joined the Armee de lAir.

Its scheduled demobilization by mid-September 1940 had been aborted by Winston Churchill, whose attack on the French Fleet July 3 convinced Hitler that the Vichy government should be allowed sufficient arms to defend its responsibilities. Known as Operation Catapult, the British raid at Mers-el-Kebir, in French Algeria, was aimed at preventing the Marine rationale from joining Axis naval units. During a secret Kriegsmarine conference held at Hitler's Wolfsschlucht ("Wolf's Lair") headquarters just

two weeks prior to the British attack-on June 20, 1940-Grand Admiral Erich Raeder reported in regard to France's High Fleet, "The Fuehrer wishes to refrain from taking any measures which would affect French honor:"'

Moreover, Germany possessed neither manpower nor oil reserves sufficient to operate the French warships if they were seized intact-an impossibility, in any case-because Article 8 paragraph 2 of the Armistice terms provided for their total control by local French authorities. The vessels were primed for scuttling before any outside power could get close enough to impound them. Nevertheless, Hitler courted France's legally appointed Chef de l'Etat, Marshal Philippe Petain, as a potential ally, whose pair of battle cruisers, 2 battleships, 13 destroyers, 4 submarines, and more than a dozen support vessels could tip the scales in the war at sea. Hence, Germany's mild, even generous occupation of France.

Although such an alliance seemed unlikely immediately after that country's defeat, Churchill could not risk even the remotest chance of reconciliation between the two historical enemies that might result in unleashing French warships against Britain. The sudden appearance of 3 Royal Navy battleships, 2 cruisers, and 10 destroyers off Mers-el-Kebir on July 3, 1940, took the French by complete surprise. Captain Cedric Holland negotiated with French Admiral Marcel-Bruno Gensoul, offering him and his fleet several options to combat-voluntary internment in a neutral port, sailing to a British anchorage, or joining the fight against Germany.

The treachery of these playing-for-time proposals was unmasked when, as Holland was in the very process of making them, Fairey Swordfish bombers from his own aircraft carrier, HMS Ark Royale, were observed dropping magnetic mines just outside the port. French response was quick, as a flight of Curtiss H-75 monoplanes rose to intercept the intruders, escorted by Blackburn Mk. II Skuas. The previous April, 16 of the British fighter-bombers flying from RNAS Hatston in the Orkney Islands were the first aircraft to sink a wartime enemy capital ship when the light cruiser, Konigsberg, capsized under their 500-pound bombs at Bergen Harbor after delivering troops to Norway during the German invasion.

The tough Skua was powered by a 905-hp Bristol Perseus XII radial engine to 225 mph at 6,500 feet. Armed with a forward-firing quartet of 7.7-mm Browning machine-guns, plus a single 7.7-mm Vickers K machine-gun on a flexible mount in the rear cockpit, the Mk. II could capably defend itself against obsolete Curtiss fighters. Even so, when they succeeded in shooting down a Skua at no loss to themselves, Churchill, informed by radio transmission of the engagement, ordered Vice Admiral Sir James Somerville in command of Operation Catapult to commence firing with all guns on the French vessels.

The resulting massacre of immobile, virtually defenseless ships took the lives of nearly 1,300 French sailors in what Admiral Somerville himself admitted was "the biggest political blunder of modern times, and will rouse the whole world against us … we all feel thoroughly ashamed."3

Churchill's attack predictably drove France into the arms of Nazi Germany and saved her air force from demobilization. It would arise from the slaughter at Mers-el-Kebir, go on to victory in West Africa, the successful if ultimately lost defense of Madagascar,

betrayal at Syria, and final defeat over Algeria. Beginning in 1940, however, as a visible consequence of the Armee de /Air's new lease on life, all Vichy aircraft were henceforward identified by broad, horizontal, red and yellow stripes extending from the rear fuselage over the empennage, save for the vertical rudder. The traditional national insignia of red-white-blue roundel with tail plane tricolor was retained.

Immediately following Operation Catapult, Marshal Petain severed diplomatic relations with Britain, then ordered retaliatory action against Gibraltar. Escadrilles BI and B13 each dispatched trios of Martin Model 167 and Liore et Olivier LeO 257bis bombers. The United States delivered 250 examples of the former to France in time for the Blitzkrieg, which accounted for the loss of some Marylands; others escaped to North Africa just before the German victory.

In any case, the Armee de /Air de Armistice still operated more than 100 "Glenn Martin 167Fs;' as the French referred to them. U.S. Army Air Force officials had passed on their acceptance in favor of the comparable, if marginally more rugged Douglas A-20, but the Maryland was fast for a light-bomber at 316 mph, able to climb at a respectable 2,400 feet per minute, thanks to its two Pratt & Whitney R-1830 "Twin Wasp" radial engines, rated at 1,200 hp apiece.

Far less successful was the LeO 257. With 1,437-square-feet of wing area and weighing in at more than 21,000 pounds, it was too big, heavy, and slow at 140 mph to deliver its puny 1,320 pounds of bombs and underdefended by three 7.5-mm Darne machine-guns. Only 53 of the original 86 LeO 257s survived 1940's French Campaign. Just six, outdated light-bombers could only inflict minor damage on Gibraltar, but their mission was not the last of their kind. Eleven weeks later, on September 24, they returned to the Rock-this time, however, in force-and for something more serious than a token raid. Their strike was retaliation for De Gaulle's attempt to seize gold reserves of the Polish government in exile from the Banque de France at Dakar, in West Africa.

That same day, undeterred by the political disaster Operation Catapult spawned, Churchill wholeheartedly backed up De Gaulle's scheme with two battleships, an aircraft carrier, three heavy cruisers, a pair of light cruisers, ten destroyers, and half a dozen escort vessels protecting six transports carrying thousands of troops, including the elite 101st Royal Marine Brigade. The Vichy defenders of Dakar defied this formidable task force with one, still incomplete battleship, a single heavy cruiser, two light cruisers, four destroyers, six patrol boats, and two submarines. They were not unprepared, however, and determined to avenge their comrades killed at Mers-el-Kebir, as epitomized in Governor-General Pierre Boisson's response to the Allied ultimatum: "I shall defend Dakar to the end."4

The French were equally outclassed and outnumbered in the air, but motivation was supposed to make up for all deficiencies. A mere 19 Curtiss fighters contested an entire aircraft carrier of enemy warplanes. Better remembered in its American incarnation as the P-36 Hawk, the Curtiss H-75 was contemporary with but decidedly inferior to Britain's Hawker Hurricane or Germany's Messerschmitt-109. A sleek, mostly metal, low-wing monoplane, it suffered numerous incurable problems, including faulty engine exhaust,

structural weakness (including skin that buckled over the landing gear), and an undistinguished performance. Even so, it was more modern than a majority of French aircraft in the late 1930s, when the first of 416 specimens was delivered to France. A 1,050-hp Pratt & Whitney R-1830-17 Twin Wasp air-cooled radial piston engine drove the shiny Curtiss fighter to 319 mph at 8,500 feet and provided a rate of climb at 3,400 feet per minute. Four and sometimes six 7.5-mm machine-guns were carried aboard. These were marginally up-to-date features at the beginning of World War II, but they revealed the aircraft's obsolescence, as it continued to operate against increasingly advanced opponents.

Governor-General Boisson's numerically insufficient H-75s were additionally taxed with providing escort for 43 Martin Maryland bombers and a handful of Liore 130 reconnaissance flying boats armed with pairs of 165-pound bombs. Despite these relatively meager forces, in just two days of intense combat, their airmen scored numerous hits on enemy ships, turned back landed troops, and eventually helped abort Churchill's Operation Menace, as he styled the intended capture of Dakar. Eight British Fairey Swordfish torpedo-bombers, two Blackburn Skua dive-bombers, plus a Supermarine Walrus amphibious reconnaissance biplane had been shot down for one Curtiss fighter and a single Liore flying boat lost.

While the struggle for Dakar raged frustratingly far beyond their grasp, crews of the Armee de lAir Vichy struck at Gibraltar with a mix of Martin Marylands and Liore et Oliviers. The LeO.451 was France's best medium-bomber, powered by a pair of Gnome-Rhone 14N 48/49 or 38/39 14-cylinder air-cooled, 1,060-hp radial engines for a maximum speed of 300 mph at 13,125 feet, although its 20-mm Hispano-Suiza HS.404 cannon firing from a dorsal turret, single 7.5 mm MAC 1934 in a "dustbin" retractable ventral turret, and one fixed-forward firing 7.5mm machine-gun comprised inadequate defense. Fuselage and wingroot bays stowed a 3,475-pound payload. As testimony to its general excellence, the LeO 451, a favorite import with Italian Air Force crews, was the last, pre-war French design to leave active duty when it was finally retired in September 1957.

Sixty-four Liore et Oliviers and Martin Marylands rose with the sun during the early morning of September 24 from their North African airfields at Meknes, Mediouana, Oran, Port Lyautey, and Tafaraoui to drop 41 tons of bombs on Gibraltar's harbor and dockyards with impunity. In what was to be the largest operational formation of French aircraft during World War II, 83 bombers returned the next day for the loss of a single LeO 451 to ground fire from the Rock, which "suffered heavy

These powerful sorties, together with the successful defense of Dakar, comprised an anodyne to French pride, still suffering from defeat of the previous June, together with the disaster at Mers-el-Kebir the following month. Serious discussion resumed in Axis military circles concerning the joint seizure of Gibraltar. A projected operation called for the island's blockade by Italian naval forces in conjunction with continuous, massed strikes of the Armee de /Air Vichy covering a Luftwaffe paratrooper assault in a scenario that somewhat resembled the German conquest of Crete, which took place the following May. But Spain's Generalissimo Francisco Franco approved no such moves against the

Rock, and without his blessing, they would never take place.

The Fuehrer was impressed by Vichy's defensive victory at Dakar, and, instead of demobilizing French military aviation as he originally intended, allowed it to operate 435 fighters, 292 bombers, 275 reconnaissance planes, and 38 torpedo-bombers-altogether, 1,040 warplanes. This number was soon after raised to another 31 aircraft, and, by March 1941, no less than 38,354 Frenchmen were serving in the reconstituted Armee de /Air. Hitler likewise initially forbade the manufacture of any French planes whatsoever but now approved the mass production of Liore et Olivier bombers and the redoubtable Dewoitine D.520 fighter, a move that replenished Vichy Air Force stocks, while boosting employment and Franco-German relations. Flight schools in France, closed after the Wehrmacht victory, were reopened on July 1, 1941.

These measures were necessitated by constant threats to that nation's fleet and overseas' possessions. Churchill's failed Operation Menace in West Africa had been immediately followed by his thorough naval blockade of the Dark Continent on its opposite side. Resulting famine throughout Somalia and epidemics engendered by a chronic shortage of medical supplies could only be relieved through an ambitious air bridge undertaken by Vichy pilots in cooperation with Italian authorities in Abyssinia. Flight crews flew a variety of available aircraft for the hazardous 17-hour-long flight from Djibouti to Mogadishu. They included several Martin Marylands dropping bundles of food instead of sticks of bombs, plus the Amiot 356, a fast, modern, very long-range (2,175 miles) medium-bomber produced in far too few numbers to have made any impact on the German invasion of 1940, together with its single variant, the 370, developed specifically for a Paris-New York race that never occurred.

France's best fighter-the Dewoitine D-520-was a match for Germany's Messerschmitt-109, but saw more action when flown by Vichy French pilots against the British in West Africa and Syria. As may be gathered from this photograph, some D-520s were drafted

into the Luftwaffe. (Courtesy Art-Tech)

The bombers-turned-transports were joined by the one-and-only Late 522, a flying boat powered by six Hispano-Suiza 12Ybrs watercooled V12, 850-hp engines, two of them inboard, mounted in tandem pairs, facing backward. With a 162-foot wing-span, the monstrous Ville de Saint Pierre had a carrying capacity of 72 passengers for 2,406 miles. Seventeen supply flights over the 3,415-mile-long route were successfully completed by these fully loaded, unarmed aircraft from November 1940 to October 1942, delivering enough food and medical supplies to overcome famine and disease, while enabling Somalia to hold out against the Allies until the following January.

With Japan's abrupt entry into the war during late 1941, the French in Africa were yet again a cause for concern. During early 1942, High Command strategists of the Japanese Imperial Navy seriously considered using Madagascar ports as forward bases aimed at linking up with German U-boats in mutual operations against Anglo-American shipping on either side of Cape Horn. This concept leapt from theoretical potential to real possibility in March, when the Royal Navy's entire Eastern Fleet sought refuge at the Kenyan port of Kilindini, in Mombasa, after having been routed from the Indian Ocean by Japanese aircraft carriers. Their next logical move was toward Madagascar.

As a preemptive countermeasure, the British launched Operation Ironclad on May 5. The amphibious invasion involved a battleship, 2 aircraft carriers, 2 cruisers, and 13 destroyers, supported by more than 30 frigates, corvettes, and transports carrying an entire division (the British 5th Infantry), plus Royal Marines, Number 5 Commando, and the British 29th Infantry Brigade. So large scale an assault was deemed necessary in light of fierce resistance previously demonstrated by the French in their successful defense of Dakar. At Madagascar, however, French means were slim. These consisted of 8,000 troops, most of them Senegalese and Malagasy natives, joined by little more than 1,000 Vichy Frenchmen operating just eight coastal batteries.

The assembled British armada was opposed by a pair of armed merchant cruisers, as many sloops, and five submarines. Against 86 warplanes flown from two Royal Navy aircraft carriers additionally supported by the South African Air Force, the defenders operated Morane-Saulnier 406 fighters, four doddering, open-cockpit Potez 25TOE biplanes, and six Potez 633 B2s. Pilots of the aging, underpowered M.S. 406 could not hope to cope with Ironclad's overwhelming opposition, but they nonetheless shot down several Fairey Albacore bombers and Westland Lysander Mark IIIA reconnaissance planes before interception by Grumman Martlets, as the U.S.-built F4F Wildcat shipboard fighters were known to their British handlers. The twinengine, twin-tail Potez 633 B2 was a light-bomber variant of its original role as a successful ground attack/fighter, but its four 110-pound bombs could only impede, not prevent the enemy landings.

That, however, was part of Governor-General Armand Leon Annet's strategic goal. The longer he could drag out Operation Ironclad, its prodigious forces would be tied down and diverted from some other, more decisive battlefield, while depriving them of Madagascar itself. Just 48 hours after the amphibious assault began, Diego-Suarez, the largest city in Antsiranana Province, was captured on the heels of predictably fierce

fighting, which claimed over 500 Allied casualties. British commanders were nevertheless confident that the rest of the island would fall momentarily. Annet, however, had successfully withdrawn most of his troops and equipment toward the south, where he erected scores of obstacles along the main roads. The invaders' progress bogged down, and they suffered the attrition of hit-and-run raids.

On May 29, a Japanese submarine, 1-10, surfaced outside DiegoSuarez to launch its Nakajima A6M2-N reconnaissance aircraft over the occupied port. Code named "Rufe" by the Allies, it was actually a Mitsubishi Zero fighter converted into a floatplane, a highly successful transformation with an auxiliary fuel tank for an extended range of 1,106 miles. Its observer identified HMS Ramillies for two additional submarines-I-16 and 1-20-which dispatched a pair of Ko-hyoteki. These were midget submersibles each armed with two torpedoes. In the midst of a running depth-charge attack carried out by Royal Navy corvettes, the Ko-hyoteki sank a valuable oil tanker, the British Loyalty, then knocked out of commission the only available battleship. Virtually wrecked, Ramillies had to be towed away for extensive repairs at Durban and, later, Plymouth.

A stalled Operation Ironclad was restarted on June 22 with additional forces from the East African Brigade Group-followed in July by the Rhodesian 27th Infantry Brigade. Now overwhelmingly outnumbered, the Vichy French nonetheless made maximum use of their knowledge of the natural terrain, unfamiliar to their enemies. Five of the original 18 Morane-Saulnier fighters had been destroyed in the initial attack on Diego-Suarez at Arrachart airfield with another 12 lost over the next three days. Five Potez light-bombers were also shot down during the same period. But the four surviving aircraft continued to operate throughout summer and into fall, strafing Allied troops and attacking supply dumps with impunity because carrier-borne Grumman Martlets lacked the range to operate far inland.

The 29th Brigade and 22nd Brigade Group arrived at Madagascar on September 10, but they, too, failed to catch Governor-General Annet, who held out until November 8. By then, he was down to one MoraneSaulnier, which, along with the remarkable survival of a single Potez biplane, no longer flew combat missions for lack of spare parts.

Before their capture in 1940, the M.S.406 had made its own contribution to the fall of France. The fighter was underpowered by an 860-hp Hispano-Suiza 12Y 31 liquid-cooled V-12 engine that commonly overheated, but could not boost the aircraft above 290 mph, nor provide a rate of climb better than 2,560 feet per minute. Its rather slow firing, 20-mm Hispano-Suiza HS.404 cannon was respectable enough, but not a pair of MAC 1934 machine-guns at just 7.5 mm. The airplane additionally lacked full armor protection.

Annet's spectacularly successful delaying defense prolonged Operation Ironclad far beyond the expectations of British commanders, dragging it out for half a year to divert increasingly numerous enemy resources from the strategic battle areas of 1942, and at a steep price in Allied losses. But the last and most critical challenge to Vichy France in Africa was to come later that same year, again on the opposite side of the continent. It took not only the French but everyone in the Reichsave the German Military Intelligence Chief-unawares.

Wilhelm Canaris had been told by his London contacts nearly two weeks prior to Operation Torch that Allied landings in North Africa would take place during early November 1942, but the Hitler-hating admiral deliberately withheld this news from the Wehrmacht. Accordingly, U-boat patrols were distracted by a decoy convoy, SL 125, allowing the enemy armada to pass unmolested and unalerted.6 Consequently, Axis response was fatally tardy. The ruse was crucial to Anglo-American success because, informed in advance, German submarine commanders would have otherwise undoubtedly savaged the Algiers-bound armada long before it approached North Africa and alerted Vichy, Regia Aeronautica, and Luftwaffe defenses. More than the element of surprise would have been undoubtedly lost. Combined, these Axis forces may not have aborted Operation Torch, but they would have certainly inflicted damages sufficient to significantly raise its costs in men and materiel, while indefinitely restricting the enemy to little more than initial landing areas.

Instead, on November 8, an assembly of 670 Allied ships put ashore the first of 72,000 Anglo-American troops spread out in three separate task forces along the coasts of Morocco and Algeria. Five aircraft carriers and seven escort carriers launched 318 warplanes against Vichy North Africa, which was defended by 86 fighters and 78 bombers. Selfconscious of the intense hostility aroused by their actions at Mers-elKebir, Dakar, and Madagascar, British crews had shamefacedly replaced RAF insignia with the Stars and Stripes prior to battle. But their efforts at disguising the real identity of Spitfires and Hurricanes meant nothing to the French, who were determined to oppose all invaders, regardless of national colors.

Operation Torch began shortly before 07:30 with the destruction of nine Liore et Olivier bombers, together with virtually every transport plane parked at Morocco's Rabat-Sale airfield, by U.S. carrier-based F4F fighters in low-level runs. Additional LeO 451s loaded with bombs were in the process of taking off from the Camp Cazes airstrip, when they exploded under the guns of more strafing Wildcats. A worse loss occurred when 47 Dewoitine fighters and six Potez fighter-bombers grounded by thick fog at Algiers' Maison Blanche airfield were captured by American troops. They then overran the Arzew seaplane base, seizing 13 Latecoere 298s of the Flotille 5F. Had these torpedo-bombers gotten airborne, they would have seriously menaced Allied ships, because they were among the best of their kind produced by French military aviation in the late 1930s.

Powered by an 880-hp Hispano-Suiza 12Ycrs liquid-cooled V-12 engine, the rugged Latecoere 298 could deliver a 1,500-pound torpedo with precision accuracy. The loss so early in the invasion of these first-rate aircraft, along with the Dewoitines-which were better fighters than the Americans' F4F Grummans-represented something of a turning point.

Undeterred, seven D.520s scrambled from Oran intercepted six Fairey Albacore torpedo-bombers on a heading for units of the French fleet. Three of the intruders were shot down in quick succession, and another three compelled to make forced landings for the capture of their RAF crews. Later that same day, the D.520s were overwhelmed, and three of them destroyed by twenty Sea Hurricanes from HMS Biter. In a testimony to the

superb flying skills of the French airmen, as well as the excellence of their Dewoitine fighters, four of them were able to escape such an uneven contest.

During the first day of Operation Torch, 1st Lieutenant Blanck became an ace with five kills, while Corporal Poupart won four aerial victories. Other D.520 pilots strove to gain the initiative by intercepting flights of C-47 Dakotas loaded with U.S. paratroopers. By nightfall, 19 of the U.S. 60th Troop Carriers had either been either shot down or damaged beyond redeployment.

SBD Dauntless dive-bombers from the aircraft carrier USS Ranger targeted an incomplete, immobile warship, whose formidable armament protected Casablanca. Under the hail of 500-pound bombs, the mighty Jean Bart got into a shooting match with an American battleship, USS Massachusetts. The French battle cruiser suffered several hits but managed to survive the combined air-sea onslaught.

More F4Fs from the Ranger destroyed a trio of (ironically enough) U.S.-built twin-engine Douglas A-20/DB-7 Havoc light-bombers parked at the Casablanca airfield, leaving three others undamaged. Vichy pilots eventually got their revenge, flying outdated Curtiss H-75s to shoot down ten Wildcats for two of their own lost in aerial combat. Eleven other French warplanes had been destroyed on the ground that first day of Torch.

Only by noon was a strike finally mounted against the invasion fleet by 10 Liore et Olivier and 2 Douglas bombers protected by 9 Curtiss fighters. They bombed and strafed the U.S. beachhead at Fedala opposed only by ineffectual ground fire, because the Americans had neglected to provide their troops with air cover in this sector. The French carried out a similar raid the next morning against U.S. troops hitting the beaches at Safi and struck enemy transport ships off shore, with one LeO 451shot down. The French defenders' last aerial victory and the Armee de lAir Vichy's final "kill" was made by Adjudant (Warrant Officer) Bressieux, when his Dewoitine fighter sent an American Wildcat crashing into the sea off Casablanca.

While he and his sorely outnumbered comrades did battle with gathering swarms of F4Fs, more carrier-based enemy aircraft were shooting up French planes on the ground, until the entire Morocco command was left with just 37 fighters and 40 bombers by the morning of November 10. Of these, two reconnaissance planes were later shot down over Chichaoua airfield, where four more Potez were set afire in a lowlevel sortie.

The badly damaged but undaunted jean Bart alarmed officers aboard USS Augusta by opening fire on their heavy cruiser with her last, operable, 15-inch gun. USS Ranger dive-bombers went after the defiant Marine rationale warship, scoring two hits that breeched her hull. Before she could sink, Commander Hildegard Bourget deliberately ran his ship aground in the hope her armament could be quickly repaired for use against the invaders.

Shortly thereafter, the first Luftwaffe bombers to arrive struck hard at the Royal Navy task force in Algeria's Bougie Harbor. Among vessels damaged and sunk, HMS Atawea burned for seven hours before succumbing to a Heinkel He-111's torpedo hit, while HMS Cathay, an armed merchant cruiser, was likewise set ablaze and capsized. The nearest Regia Aeronautica base was located in Sardina, where the 274 Squadriglia operated 285

aircraft, including 115 torpedo-bombers. But they were incapable of undertaking 1,240-mile missions against Allied landings in Algeria, save only for eight examples of the Piaggio P.108. Its four 1,500-hp Piaggio P.XII RC.35 18-cylinder radial engines were more powerful than the USAAF B-17's Wright R-1820-97 turbo supercharged Cyclones, rated at 1,200-hp each, although the Flying Fortress was still 20 mph faster than its Italian counterpart. It could nevertheless deliver a heavier payload of 7,716-pounds to the B-17's 4,500 pounds of bombs, and nearly 200 miles farther.

To minimize daunting numerical odds confronting a few unescorted Piaggios, they flew only after dark to sortie against targets at Blinda, Bona, Maison Blanche, Oran, and Philippeville. Allied ships there suffered extensive losses, together with some harbor and storage facilities that were wrecked and some RAF aircraft that were destroyed and damaged on the ground. Others were shot down in aerial combat by the P.108's two radio-controlled, hydraulically powered turrets featuring pairs of 7.7-mm Breda-SAFAT machine-guns installed in inner-engine wing gondolas. This innovative armament caught some British interceptors unprepared and enabled the Italian heavy-bombers to complete 28 missions against Anglo-American forces in as many days, until all the P.108s were shot down, two by flak, six under the 20-mm Hispano Mk III cannons of twin-engine Bristol Beaufighters.

By then, only 90 warplanes survived of 200 French aircraft originally assigned to protect Casablanca. Vichy forces-on land, at sea, as well as in the air-had been decimated, and General Nogues, their commander in chief, called for a cease-fire from the Allies. His request was answered by U.S. Navy aircraft that attacked Marrakech airfield to shoot up the last French aircraft. The Germans responded by returning to Bougie in a final raid, destroying its railway station, 18 of 22 piers, the city cinema, and a grain elevator. Counterattacks such as these were not enough, however, to prevent the inevitable. The Anglo-Americans were in North Africa to stay, and, on December 21, the Armee de /Air Vichy was dissolved.

France's contribution to the Axis did not end with the loss of Algeria, however. In early 1943, Vichy airmen formed the Hansa Squadron composed of LeO 452Ts, transport versions of the Liore et Olivier medium-bomber modified to seat 17 troops but more often used to carry freight. Entirely piloted and ground-serviced by French crews, the 50 or so LeO transports were in such demand, they carried out all ferry operations for the Luftwaffe in France. They were joined by another 11 Bloch transports the Germans leased from Air France, but likewise flown and serviced by French personnel. The Bloch M.B.220 was a modern capacious design, although its two 985-hp, Gnome-Rhone 14N-16/7 radial engines were unreliable.

After the Allies' Normandy Invasion, the unarmed LeO and Bloch transports were progressively reassigned further east. Among their last duties was carrying Marshal Petain and his Vichy cabinet officials to Sigmaringen, in Germany, on September 7, 1944. From this small but temporarily secure Upper Danubian town in southern Germany, they established a government-in-exile until April 1945. During those last eight months of the European war, French transport planes continued to fly supplies and troops for what had

become by then a hopeless cause.

PART II
EASTERN EUROPE

Chapter 4

BALTIC HARASSMENT SQUADRONS, RUSSIA'S LIBERATION AIR FORCE, AND UKRAINIAN PILOTS

> Why do we still fly for Germany, even though our homeland is probably lost forever? Because Estonia lives as long as we still fight. Enjoy the war as long as it lasts, because the peace is going to be really horrible!
>
> -Karl Lumi, Estonian fighter pilot with 7./JG 4, killed in action April 17, 19451

Of all the Luftwaffe's foreign allies, none had less auspicious origins than those from which sprouted Estonia's air force. Despite these humble roots, it eventually blossomed into several Baltic squadrons of over 1,000 men, with more than 200 flight crews highly esteemed by their German comrades-in-arms. Estonia possessed several fighter, bomber, and reconnaissance groups of its own before the Russians arrived in 1940, but these were entirely absorbed by the Red Army after June, and its personnel forcibly entrained for the USSR. Most escaped, fleeing into the countryside, where they formed partisan bands with other patriots of various backgrounds operating against the Soviet invader.

Among these "forest brothers" was Gerhard Buschmann, a member of the Eesti Aeroklubi, a semicivilian flying society controlled by the Estonian Army, who achieved the amazing feat of concealing no less than five aircraft from the Communist occupation authorities. His four PTO-4s were two-seat, low-winged monoplanes, their fixed undercarriages fitted with wheels or skis, plus open or enclosed cockpits, and powered by a 120-hp De Havilland Gypsy engine. Somewhat more substantial was Estonia's only RWD-8, a rugged, steel-canvas-plywood, two-place high-wing monoplane from Poland, notable for stability and good handling characteristics, but more especially because of its ability to take off and land on rough, unworked fields. With their single, four-cylinder, air-cooled, 120-hp PZIn2. Junior engines, RWD-8s were the last Polish machines still flying during October 1939, when, pressed into service as "bombers;' their crews threw hand grenades at advancing German troops.

Buschmann realized his hidden airplanes could not hope to survive any confrontations with the enemy, and therefore kept them under wraps until real opportunities arose for meaningful resistance. The moment came in early summer 1941, when a German attack swept Stalin's forces from the Baltic States and Buschmann, like many of his fellow countrymen, joined the anti-Communist crusade. He placed himself, his fellow flying enthusiasts, and their handful of old trainers as a "private squadron;' an "Estonian unit" at the disposal of their "liberators:" Wehrmacht officers dismissed his proposal with

amusement, but Buschmann was not without influence.

A Volksdeutsche, or ethnic German, born in Tallinn, he was a covert pre-war member of German military counterintelligence. Thanks to this Abwehr connection, he was able to confer with the SS Police Commander for Estonia, who was so impressed with possibilities for an indigenous, anti-Soviet air force, he forwarded the notion to his superiors in Berlin. Permission to form the volunteers into their own detachment was soon after received with the proviso that it function as a kind of flying “police unit” responsible only to Heinrich Himmler himself. The Reichsfuhrer believed it would be, if nothing else, at least an important example of “Aryan cooperation against the common enemy: Jewish Bolshevism.“2

Thus was born Sonderstaffel Buschmann, “Special Squadron Buschmann;’ on February 12, 1942. Wing, fuselage, and tail surfaces of its trainers were repainted with the Iron Cross and swastika, but their propeller hubs bore the blue-black-white national colors of Estonia, and some pilots retained their Estonian uniforms. Others wore civilian dress or German flight suits minus all indications of rank. Before these motley crews could undertake their intended anti-partisan operations, they were essentially commandeered by high-ranking Kriegsmarine officers for the Gulf of Finland, where the German Navy lacked any liaison aircraft of its own. The unarmed Estonian volunteers flew incessant coastal patrols out of Reval-Ulemiste airfield over the next five months, in all kinds of weather conditions, providing invaluable reconnaissance for German shipping.

Their reliability and developing importance impressed Kriegsmarine observers, the quartet of worn-out PTO-4s, and lone RWD-8 were replaced in mid-summer by another Polish trainer in better shape: five Belgian Stampes, one British Miles Magister, and an ex-RAF Dragon Rapicle. The Stampe SV4 was a two-seat trainer, only 35 examples of which were built before the Stampe et Vertongen Company was closed in May 1940. Somewhat more powerful than the Estonians own PTO-4, the SV.4 possessed a 145-hp Blackburn Cirrus Major III engine marginally better than the inverted, in-line piston De Havilland Gipsy Major I rated at 130 hp that equipped every Miles M.14 Magister. The spruce and plywood “Maggie;’ as it was popularly known, was an open-cockpit, two-seat, low-wing cantilever monoplane. Another “prize” captured during 1940’s Blitzkrieg was the de Havilland DH.89 Dragon Rapicle, a short-haul passenger airliner powered by two de Havilland Gipsy Six inline engines rated at 200-hp each.

While these replacements represented some measure of trust the normally parsimonious Germans evidenced for their Baltic allies, they did not constitute much of a real improvement. But the airmen of Sonderstaffel Buschmann were heartily grateful for the relatively “new” machines and carried out their reconnaissance operations with vigor. Meanwhile, their squadron’s namesake was busy rounding up real warplanes for his comrades to be used against Russian submarines prowling the Gulf of Finland in greater numbers. After New Year’s 1943, his tiny eclectic “Special Squadron” had grown to 50 aircraft, mostly cast-off Arado and Heinkel floatplanes, which, although no longer up to frontline service, could more seriously undertake patrols over coastal waters.

The Arado 95 was a single-engine biplane, well liked for its hardihood on rough seas

and pleasant handling characteristics in flight, while capable of payloading either 1,102 pounds of bombs or a single 1,764-pound torpedo slung in its own rack under the fuselage. Less beloved was the Heinkel He.60, made sluggish by a 660-hp BMW VI 6.0 V12 engine and too underpowered to carry anything more than a single 7.92-mm MG 15 machine-gun in a flexible mount for the rear observer. Both types were nevertheless put to vigorous use by their crews, who used Ulemiste Lake for takeoffs and landings.

Their enthusiasm and usefulness had at last come to the notice of Luftwaffe brass, who incorporated the Estonians into the German Air Force. Sonderstaffel Buschmann now became 16./Aufkl.Gr.127 (See). It immediately lived up to its expectations, directly contributing to the sinking of five enemy submarines trying to break out of the Red Navy base at Kronstadt into the Baltic Sea between May 21 and June 1. Thirteen more Soviet submarines were reportedly destroyed before the unit was withdrawn from its positions. By April 1943, the Reconnaissance Group 127 had attracted so many volunteers, it broke into three squadrons, only one of which continued to perform its duties at sea. The other two formed the Nachtschlachtgruppe 11 (estnisch), the “Night Battle Group 11th Estonian:”

Far more significant than the term implies, Storkampfstafeln, “night harassment squadrons” initiated attacks on enemy positions-often airfields or troop concentrations-under cover of darkness or amid conditions of low visibility in slow, obsolete, virtually defenseless aircraft. The attackers would strike just before dawn, at dusk, or during moonlit nights. Sometimes, their arrival was immediately preceded by other aircraft dropping magnesium flares to illuminate the target area. The night harassment fliers depended primarily on surprise for the success of their raids. If caught in the blinding arms of searchlights, they fell as relatively easy prey to ground fire or interceptors. Accordingly, twothirds of the Estonian crews had their floatplanes replaced by no less doddering Heinkel dive-bombers.

Originally designed back in 1931 for the Imperial Japanese Navy, the two-place fabric-covered Heinkel He 50 was powered by a 650-hp Bramo 322B radial engine to a miserable top speed of just 146 mph, but it could deliver a 551-pound bomb over 620 miles. Older still were several examples of the Fokker C.V seized after the Germans took Holland. Designed in 1924, it bore every resemblance to a standard World War I-era pursuit airplane fitted with four 110-pound bombs.

A better aircraft provided to Estonian pilots was the Arado Ar.96, a modern, low-wing monoplane with retractable landing gear. More than 1,150 copies of the Luftwaffe’s standard advanced trainer were produced from 1939 to 1945. But the most common sight in the Storkampfstafeln was the Gotha 145. It equipped all six Axis “harassment squadrons;’ operating in strength until the last day of the war. Altogether, more than 9,500 of the biplane trainers were built for service with the Slovakian, Spanish, and Turkish air forces, as well as the Luftwaffe and Nachtschlachtgruppe. Famous during World War I for the production of large, multiengine bombers, the Gotha Company closed down immediately thereafter, but reopened after Hitler came to power in 1933. Its first new design that year was the Go 145, outstanding for an ability to absorb otherwise crippling

punishment and pleasant flight characteristics that made it ideal for covert sorties. Like the Heinkels, Fokkers, and Arados, each Gotha was equipped with a flame-damper over the exhaust manifold to aid in concealment.

Notwithstanding this precaution, after-dark missions undertaken by the crews of these patently outdated aircraft were particularly hazardous for Russia's changeable weather conditions. Sudden storms or unpredictable cloud cover obscuring the moon could be deadly, and disorientation, even on clear nights, was common. Pilots needed to be highly skilled and just as lucky to survive. But their perilous sorties paid off in handsome dividends, as untold numbers of Soviet warplanes parked in the open were destroyed wherever the NSGr.11 (est) was stationed. Other victims included trucks, ammunition dumps, fuel storage areas, repair depots, locomotives, railroad stations, and troop concentrations.

Because such operations were conducted at night, the extent of their effectiveness was difficult to ascertain, but it was clearly felt on the battlefield. Success led to the creation of another Storkampfstafel, which came as quite a surprise to the Estonians. In December 1943, the 1.Ostfliegerstafel (russisch) was formed entirely of Russian volunteers. Their duties were identical to those of the other Nachtschlachtgruppen, and they flew the same Arados and Gothas, with a singular addition of the Polikarpov U-2. This was the aircraft that had introduced the very concept of aerial night harassment shortly after the start of Operation Barbarossa.

The rickety Ndhmaschine, or "Sewing Machine;' as the Germans called it, buzzed their positions in the dead of night, keeping them from their rest and fraying their nerves already worn thin by stressful combat conditions. A U-2 typically came in less than 50 feet above the ground, made a steep climb just before the enemy camp, then leveled off and cut its engine to glide in on the target. All that the sleep-deprived Germans could do was listen to the ghostly whistling of the wind in the biplane's wire bracing, as prelude to an explosion. After the intruders dropped their bombs, they gunned the engine and sped away, usually with impunity. They caused rare material damage almost entirely by chance, but their impact on the invaders' mental well-being was significant.

What made such raids all the more vexing was that they were carried out by women. Pilots, even ground crews of the Red Army Air Force's 588th Night Bomber Regiment, were exclusively female, and cursed by their opponents as Nachthexen. Among the most notorious of these "Night Witches" were Nadya Popova and Katya Ryabova, who successfully completed 18 harassment sorties in just one night. Strangely, the U-2, of 1927 vintage, was virtually impervious to state-of-the-art Luftwaffe fighters or even flak. Cruising at just 68 mph, the little "Sewing Machine" was hard to shoot with a 379-mph Messerschmitt Bf-109G because the target was in and out of firing range within seconds. The Ndhmaschine could also absorb tremendous punishment due to its few vital parts, and its Shvetsov M-11D five-cylinder radial engine was very small.

Moreover, the "Night Witches" flew not only after dark, but at treetop level, rendering interception additionally difficult. Reliable and easy to operate, the Polikarpov U-2 first proved its versatility in agriculture, earning it the nickname Kukuruznik. During the "corn

duster's" military career, it supplied partisans behind the frontlines. In addition to its role as a night-attack aircraft, variants were fitted with sledges or floats, while others could be armed with 265 pounds of bombs and four RS-82 rockets. An air-ambulance version carried a physician, two covered containers for wounded men on stretchers slung under the lower wings, plus provision for two more patients able to sit upright in the fuselage. A later Kukuruznik, the Po-2GN, was known as the "Voice from the Sky" for its powerful loudspeakers that shouted Communist propaganda at Axis troops. With over 40,000 U-2s manufactured between 1929 and 1959, it was the most numerous biplane in aviation history and second only to the more than 43,000 American Cessna 172s as the most mass-produced aircraft of all time.

The Germans transformed its largely psychological role by assigning it tactical bombing duties. Some anti-Soviet airmen of 1.Ostfliegerstafel (russisch) were naturally familiar with the Kukuruznik, and used it no less effectively in the 500 missions they carried out against their fellow countrymen still fighting for Stalin. The irony of these Russians defending northeastern Europe in February 1944 was not lost on other Baltic volunteers who, that same month, formed the 1./NSGr.12 (lett.).

Its commander-Captain Alfreds Salmins-was Latvian, as were all but 5 of its 124 pilots and support personnel. They operated 18 examples of the Arado Ar.66c with modified elevators and larger rudder for improved stability in slow flight, and bigger tires for the muddy or rock-strewn flats that were supposed to pass for airfields. The slow, ugly Arado was distinctive for its awkward tail plane configuration, and demanded iron nerves from pilots attempting to score against targets often defended by concerted ground fire. Under cover of darkness as their only real protection, the Latvians flew between unprepared Axis forces and a Red Army buildup going on 30 miles behind the front. Over eight nights of unremitting attacks during mid-May, they delivered more than a thousand 154-pound bombs to the enemy, causing sufficient chaos and casualties, and delaying the Soviet advance long enough for Wehrmacht commanders to ready a successful counterattack.

The Latvians' timely intervention won fulsome praise from the Germans and a surge of recruits resulting in the formation of another Baltic "Harassment Squadron" The 2./NSGr.12 (lett.) came into being on June 22, 1944, the third anniversary of Operation Barbarossa. The Axis situation had substantially deteriorated since those early, heady days of irrepressible triumph. Now, immense hordes of Russians and Mongols were poised to descend on the Lithuanian capital. A Soviet steamroller began to move against Vilnius during early July, when all the Baltic Storkampfstafeln engaged in unremitting ground attacks from dusk until dawn, regardless of weather conditions. On the 23rd, 7 of the Second Squadron's 16 Arados were lost in an unpredicted storm, although all but three pilots eventually found their way back to Gulbene airfield, in northeastern Latvia.

Two days later, men of the 2./NSGr.12 (lett.) completed their 1,000th mission but were afforded little time for celebration. They were especially busy on August 1, when 35 Arados undertook almost 300 missions in just one night to drop over 50 tons of bombs on Soviet supply concentrations in the vicinity of Jelgava, a city some 30 miles southwest of the Latvian capital. Devastating as these raids were, they could stall but not stop the

momentum of a million enemy troops, and the Baltic squadrons withdrew to Salapils airfield, outside Riga. Baltic night-flight operations climaxed after mid-September 1944. Their toll on Soviet forces-especially parked aircraft-relieved pressure on Army Group North, allowing the German command opportunities for effective resistance and civilian evacuation.

By October 8, the two Latvian Harassment Squadrons had completed 5,658 missions over the previous seven months. The bloodied Soviet juggernaut had been slowed, then stopped, but only temporarily. With Stalin's re-occupation of their homeland, some Estonians lost heart for the fight and defected with their aircraft to Sweden. Although only five Nachtschlachtgruppe pilots dropped out of the war, alarmed Wehrmacht commanders, concerned the trickle of desertions might break out into a flood, disbanded NSGr.11 (est) over the protests of its more than 1,200 personnel, who affirmed their steadfast loyalty. Both 1. and 2./NSGr.12 (lett.) were likewise decommissioned, even though no Latvian personnel were guilty of desertion. No less than 80 percent of them had been awarded the Iron Cross and other German and Latvian certificates for valor.

Their flying days were not entirely over, however. A few outstanding airmen were chosen for the creation of two, new Baltic squadrons. The same month that the Night Harassment Groups were disbanded, Latvian pilots of I./JG 54 Grunherz went from the open cockpits of prewar biplanes to the controls of state-of-the-art Focke-Wulf FW.190A-8 fighters. Operating first out of Courland, their bases continuously shifted westward into Germany, where they engaged many hundreds of USAAF P-51 Mustangs near Greifswald and over the Eifel Mountains.

Later, the Latvians participated in Operation Boclenplatte, the Luftwaffe's last hurrah. Its leaders gathered up virtually every surviving aircraft for the Third Reich's final air offensive on the morning of January 1, 1945, when 1,035 German fighters and bombers struck AngloAmerican targets across the Netherlands. Some 300 Allied warplanes were destroyed and at least as many damaged, while enemy airfields were knocked out of commission for the next two weeks. The Luftwaffe lost 280 aircraft, mostly because its new pilots lacked the luxury of time for proper training. One Latvian airman was shot down during the attack. Injured after surviving a forced landing near St. Denis-Westrem, in East Flanders, Lieutenant Arnolds Mencis was set upon and beaten to death by Belgian civilians.

Estonian veterans missed Operation Boclenplatte. They took part in air battles over besieged Berlin during late April and early May 1945, flying FW.190 fighters to score their final "kills:" From its inception as a flying "police unit" directly responsible to Heinrich Himmler, development into "Harassment Squadrons;' and final manifestation as the "Night Battle Group 11th Estonian;' their crews had undertaken more than 7,000 missions on the Eastern Front between February 1942 and October 1944. They contributed importantly to early Axis successes at the Baltic and destroyed enough enemy materiel on the ground through their daring raids in obsolete aircraft to make a difference on the battlefield.

After July 1944, 1.Ostfliegerstafel (russisch) was disbanded, then reorganized as Night

Harassment Squadron 8. Its pilots went into action for the first and last time on April 13, 1945, attacking a Red Army bridgehead on the Oder River at Erlenhof, in northern Germany. Their efforts had no effect on the war, which would be over in the next few weeks, but represented instead the Too-Little-Too-Late Problem that undermined Axis hopes for final victory. Long before, the opening guns of Operation Barbarossa had no sooner begun firing, when growing numbers of Red Army Air Force officers and whole crews deserted to the Germans, joining their comrades already taken prisoner, as Luftwaffe volunteers.

They assumed a wide variety of roles, from mechanics and flak gunners to truck drivers and flight instructors. Russian pilots were entrusted with particularly important tasks, such as ferrying aircraft from repair shops behind the lines-and even from Messerschmitt plants inside the Reich itself-directly to waiting Geschwader personnel at the front. By August 1942, so many ex-Soviet airmen had put themselves at the Luftwaffe's disposal, they formed a unit for the express purpose of creating a new Russian air force aimed at fighting the USSR. Theoretical training began at once, and many Wehrmacht officers became impassioned champions of the proposal. They argued that the Russians proved themselves trustworthy and dutiful. In the hands of these enthusiastic and motivated volunteers, the 1,500 serviceable Red Army aircraft captured by the Germans during the first year of their campaign could help offset the enemy's terrible numerical advantage. Russian participation on so significant a scale ran against Hitler's postwar plan to colonize the Ukraine for the permanent relief of Europe's food crisis and over-population. Obtaining this living space would not be possible in the face of justifiable objections made by too many Russians who helped win the war. But all dreams of Lebensraum evaporated in Germany's steady retreat from crushing defeats at Stalingrad and Kursk, until a confidant of the Fuehrer's inner circle decided that the Russian volunteers should be mobilized after all.

On Septemer 16, 1944, Reichsfuehrer der SS Heinrich Himmler officially recognized the Russkaya osvoboditel'naya armiya, the independent Russian Liberation Army and its National Air Force, which operated separately from but in close cooperation with the Luftwaffe. As some measure of the high esteem in which the Germans held their new ally, select pilots were put through familiarization courses with the top-secret Messerschmitt Me. 262 Sturmvogel for the creation of an allRussian jet fighter unit. This plan, however, plus months of necessary training, equipping, and organizing, came too late.

At the time of their deployment 17 days before Hitler's suicide, pilots of Fighter Squadron 5 Kazakov-their Focke Wulf FW.190s decorated with the ROA insignia of a blue cross in a white disc on a red shield-vainly, if gallantly, opposed Soviet hordes crossing the Oder. What impact they might have had on the course of events in the East, had they been mobilized earlier, remains one of the persistent speculations of World War II. Nor were they the only Eastern Bloc people who served in the German Air Force.

More than 1,000 Galician youngsters volunteered for ground personnel duty with the Luftwaffe. When they turned 18, some transferred to engine mechanics' school, labor battalions for airfield maintenance, or medical corps. Beginning after New Year's 1943,

Ukrainians with language skills attended translator courses in German, Russian, and English at Prague. They graduated as officers with their own Luftwaffe uniforms, including ceremonial daggers, and a special cuff title emblazoned with their country's blue-gold national colors and the word, Dolmetsche, for "Translator"'

Eastern Europeans with extraordinary physical and intellectual abilities were eligible for flight training, and some became exceptional pilots in the Luftwaffe. Paul Pianchuk flew 31 combat missions against the Soviets; and Ivan Sushko, together with several other Ukrainian fighter pilots, received the Iron Cross First Class. Serafyma Sytnyk, a former Ukrainian major in the Red Air Force, was the only female pilot in the German Air Force serving at the front.' Anton Kyivskyj became a wing leader, but the highest-ranking officer of his kind was Major Severyn Saprun, who commanded all Ukrainians in the Luftwaffe. They were distinguished by a blue-gold shield sewn on the shoulder sleeve, signifying the Ukrayins'ke Vyzvol'ne Viys'ko, or Ukrainian Liberation Army, which numbered 80,000 volunteers by war's end.'

Earlier, many Ukrainians had enlisted in the air arm of the Komitet Oborony Narodov Rossii ("Army for a Free Russia"), created by the former Red Army General Andrei Andreyevich Vlassov, to unite all former Soviet-dominated nations against the USSR, although 20 Ukrainian flight officers signed a petition to Hermann Goering, requesting the formation of a separate all-Ukrainian fighter squadron. The Luftwaffe chief regarded them so highly, he assigned Pavel Olejnyk to command an all-jet unit of Messerschmitt Me-262 Stormbirds for the defense of Berlin, but their operational life was cut short by the close of hostilities in early May.

Chapter 5

FLYING FOR GREATER BULGARIA

> Although Bulgarian Army uniforms still have the old Imperial Russian style, with its broad shoulder tabs, uniforms of the Bulgarian Royal Air Force already evidence the German cut.
>
> -Walther Troege at Dresden's "First European Student and Front Fighter Meeting, " April 17, 19421

Encountering opposition in neither the air nor from ground fire, American heavy-bombers violated Bulgarian airspace with impunity on August 1, 1943, on their way to attack oil fields in Romania. But during their return flight, they were met by a pair of Messerschmitt Bf.109G-2 fighters piloted by 1st Lieutenants (Podporuchik) Stoyan Stoyanov and Petar Bodchev of the Vazdushni Vojski, Bulgaria's Royal Air Force.

Combined defensive fire from the intruders spoiled the interceptors' standard attack procedure from above and behind. Undeterred, Stoyanov gave his Gustav full throttle, accelerating about six miles beyond the sluggish Liberators, then came about in a 180-degree turn. "I decided to go against the rules;' he later explained, "and make a frontal attack"'

Closing on the lead B-24 at a combined speed of more than 600 mph, Stoyanov opened fire only seconds before an otherwise inevitable collision. Thirty-mm rounds from an MK-108 cannon firing through the Messerschmitt's propeller shaft shattered the bomber's glazed nose. The next instant, the interceptor flashed less than 20 feet over the back of the stricken Liberator, blasting it with 13-mm rounds from twin MG-131 machine-guns. Inspired by his comrade's success, Bodchev fired from just 160 feet-virtually point-blank range-on a B-24, which exploded, killing its entire crew, save only the tail gunner, who was blown into empty space by the force of the blast.

The young podporuchiks had scored their country's premiere aerial victories of World War II. They simultaneously pioneered a new tactic that became standard Luftwaffe procedure copied by German pilots with great success in their defense of the Reich. However, this head-on approach was by no means Bulgaria's first or only original contribution to the development of military aviation.

On August 19, 1892, Lieutenant Vassil Slatarov piloted La France, a spherical balloon owned by the now elderly but ever-eccentric American aeronaut, Eugene Goddard, at the Plovdiv International Fair. Fortytwo years before, Goddard had helped his fellow countrymen strangely celebrate Independence Day in New Hampshire by solemnly holding the Stars and Stripes while sitting astride a horse in the gondola of a balloon that floated both man and beast over the dumbfounded citizens of Manchester. Less impressed

by ballooning's patriotic possibilities, Slatarov was so taken with its military potential, he belabored his superiors with plans to build the world's first air force.

But he was too far ahead of his times, and officials in the War Ministry were reluctant to experiment with manned flight until April 20,1906, when they instituted the Vazduhoplavatelno Otdelenie, or "Aviation Department" of the Engineers Railway Battalion. Six years later, Slatarov and 37 men operated a trio of observation balloons, while the 1st Aircraft Detachment comprised Bulgaria's earliest heavier-than-air machines: three each from Germany and France, and one from Britain. They did not have long to wait before they saw action, the first ever of their kind.

On October 16, 1912, pilot Radul Milkov and his observer, Prodan Tarakchiev, flew their Albatros F-2 biplane-one of four received earlier that year from Imperial Germany-over enemy-occupied Adrianople, a city in the westernmost part of Turkey, close to the Bulgarian border with Greece. Their assignment was to reconnoiter Turkish army troop strength and dispositions during the First Balkan War. Having made their observations, the airmen flew low over the Kara-Aghatch railway station to drop several hand grenades, which killed and wounded a few soldiers. In response, Turkish ground fire scored numerous hits on the spindly Albatros, which nonetheless returned Milkov and Tarakchiev to their base unharmed. Theirs was the first aerial reconnaissance and bombing mission in the history of military aviation.

Two years later, Bulgaria sided with the Central Powers during World War I, and although her pilots carried out more than 500 combat sorties in 1917 alone, they were overwhelmed by Allied numbers. Accompanying reversals on the ground compelled the Bulgarians to surrender, but the peace that followed showed the awful extent of their defeat. More than eight percent of the country's prewar territoriessome 9,000 square miles-were divvied up by the Yugoslavs, Romanians, and Greeks.

The stricken Bulgarians were additionally ordered to pay reparations to these traditional enemies in agricultural and industrial goods, while the British and French demanded monetary reparations for the next 37 years. Meanwhile, Bulgarian aviation was virtually dismantled. Only a handful of civilian aircraft powered by engines no greater than 180 hp were permitted. Even the skies over Bulgaria were regulated by foreign powers. In view of these harsh measures imposed on a people who had already been bankrupted by the World War, their hatred for the West not surprisingly manifested itself in fellow feeling with Germany, which had suffered even worse humiliation under the Versailles Diktat.

In 1937, Hermann Goering, chief of Germany's new air force, made a gift of 12 Arado fighters and as many Dornier bombers to Tsar Boris III, who had just declared his intention to rearm Bulgaria, despite postwar restrictions. By then, the Arado Ar.65 was an obsolete biplane relegated to Luftwaffe training schools, but nevertheless soldiered on in nighttime ground attacks with Stoerkumkampfstaffeln on the Eastern Front, hurling four- and nine-pound anti-personnel bombs at massed Soviet troops as late as 1944.

If the Ar.65 still found productive employment long passed its prime, the same could not be said for the Dornier Do.11D, an underpowered, all-metal, structurally feeble, twin-

engine medium-bomber, useful, at best, as a trainer. Even so, the arthritic behemoth contributed to Bulgaria's nascent, still-meager bomber force. To be fair, the Do.11 had been conceived under severe limitations of secrecy during 1931, when Germany was forbidden from building military aircraft of any kind.

In an effort to undermine developing relations with the Third Reich and entice Boris into the Allied coalition growing against Hitler, armament restrictions against Bulgaria were officially repealed in 1938, and the Tsar was given a French bank credit of 375 million francs for the purchase of several dozen Polish warplanes. These included the PZL P.24B fighter: an improved export version of the PZL 11, a gull-wing monoplane that would acquit itself well as Poland's first line of defense in the air against the technologically and numerically superior Luftwaffe throughout most of September 1939.

Another improved Polish export, the PZL P.43B, was a light-bomber, fast for its time at 227 mph, capable of carrying 1,550 pounds of bombs over 775 miles. But the most significant contribution to Bulgarian military aviation came earlier that same year, when the Wehrmacht occupied most of Czechoslovakia, dissolved that country's air force, and sold off virtually all of its equipment at a 60 percent discount. Moreover, to avoid straining the Bulgarian economy, payment was accepted in tobacco and domestic products.

Accordingly, the Vozdushni Vojski grew abruptly by 210 aircraft, making it the largest air force in the Balkans. The new additions included mostly Avia B-534s, among the last and greatest of all biplane fighters in a transitional age of Germany's Heinkel-50; Italy's Fiat Falco; Britain's Gloster Gladiator; and Russia's Polikarpov Chaika. Superb last specimens of their species, Czechoslovakia's Avia was second only to the Italian "Falcon;' less because of any performance inequalities, than for its narrow-track undercarriage responsible for too many crashed landings. The fighter also suffered from weak armament. Its 7.7-mm rounds fired by a quartet of Model 30 machine-guns lacked sufficient punch to penetrate modern armor.

The Germans kept some Avias for themselves, mostly as trainers, although a few were fitted with arrester hooks and put through deck handling trials in anticipation of their conversion to Kriegesmarine patrol planes aboard the German Navy's aircraft carrier, Graf Zeppelin, which was, in any event, never completed. In Bulgarian hands, the B-534 was known as the Dogan, or "Hunting Falcon:" Other Czech aircraft obtained by the Bulgarian Air Force were numbers of the Letov S-328, a fragile-looking single-engine biplane reconnaissance-bomber; the Tupolev SB, a Soviet high-speed aircraft, the best of its kind in the world during the late 1930s; another medium-bomber, the less illustrious Bloch M.B.200 from France; plus various trainers.

Thus, the Vozdushni Vojski, if not an altogether up-to-date air force, was nonetheless a service of potentially decisive significance at the outbreak of war in September 1939. But it was a weapon the Bulgarians refused to unsheathe. They simultaneously resisted invitations from Germany one year later to join the Axis alliance and turned down Soviet offers of a military pact. Only after Hitler forced Romania to cede southern Dobruja back to Bulgaria did Tsar Boris finally sign the Tripartite Pact with the Axis powers on March 1, 1941.

The next month, Wehrmacht troops were allowed to use Bulgaria as a staging area for their campaign in the Balkans during Operation Marita. Before noon on April 6, a quartet of ex-German Dornier Do.17Kb-1 medium-bombers purchased before the war and now operated by the Yugoslav Air Force struck at Kyustendil, 12 miles from the border with Yugoslavia in a surprise raid. Forty seven Bulgarians were killed, virtually all of them civilians, and another 95 injured, panicking the town's 50,000 residents.

Over the next several days, Kyustendil, other population centers on the western borders of Bulgaria, and Sofia itself were raided mostly by RAF Wellington medium-bombers flying out of bases in Greece, all without benefit of a declaration of war. Defensive anti-aircraft fire was no less ineffectual than the puny rounds fired by Avia Doguns, which were literally out-run by the speedy Yugoslav Dorniers. Despite these aerial attacks, Bulgaria refrained from either joining Operation Marita or opening hostilities against Great Britain.

After a quick victory in the Balkans, the Fuehrer ceded to his new, non-engaged Axis partner Greek Thracia and Serbian Macedonia, which, combined with his previous gift of Dobruja, enlarged Bulgarian space by 50 percent. All the lands lost after World War I, and then some, had been restored. As aviation historian, Hans Werner Neulen observed, "This was the birth of Greater Bulgaria"'

These territorial gratuities were designed to gain the Tsar's participation in Germany's upcoming campaign against the East. But Boris told a disappointed Hitler that the Bulgarians could never go to war against fellow Slavs in Russia, no matter how deep the division between his countrymen's orthodox Christianity and Soviet atheism. Blood overrode ideology. The German Army Major Walther Troege observed perhaps too optimistically in 1942, "Despite certain previous sympathies for Russian ways, Bulgaria never had any sympathy for Bolshevism. It is a much too healthy peasant folk for that"' But Boris explained, "My ministers are pro-German, my wife is pro-Italian, my people are proRussian, and I am the only neutral in the whole country."5

There was actually a far more profound cause for avoiding conflict with the USSR; namely, Bulgarian animosity toward the Romanians, with whom armed struggle seemed not only inevitable, but infinitely more desirable to settle old grievances over slivers of yet more disputed territory, petty wrangling between Balkan neighbors that doubtless contributed to the outcome of World War II. Had Bulgaria's large army marched with the rest of Axis forces from the beginning of Operation Barbarossa, their invasion of the Soviet Union on June 22, 1941, they would have substantially hastened the initial advances of that year, contributing to the capture of important strategic goals, such as Leningrad, before the arrival of winter conditions that ground the Wehrmacht to a halt within sight of Moscow. Thus, Bulgaria's nonparticipation was one of World War II's lesser appreciated turning points.

That country's official dedication to neutrality did not, however, inhibit Red Air Force bombers from repeatedly raiding eastern Bulgarian towns during the first months of Operation Barbarossa, or Red Navy submarines from carrying out some 60 operations before the end of 1941, mostly to set ashore expatriate Communist saboteurs on Bulgarian

shores. The Vozdushni Vojski countered Soviet aggression by dispatching a squadron of 12 Letov reconnaissance bombers to the Black Sea, where they carried out five anti-submarine attacks with their 44pound bombs. The elderly biplanes completed another 68 sorties, primarily escort duties on behalf of German convoys, mine spotting, and protecting individual trawlers.

As such, the Bulgarians found themselves in an undeclared, however limited war with the USSR throughout 1941. To provide them with something more than doddering Letovs (and to woo the Bulgarians into joining the fighting in the East), Goering donated 12 long-range dive-bombers-Junkers Ju.87 R-2 and R-4s outfitted with extra drop tanks-plus 40 D-5 Stukas. Next year, he sent another dozen R-series machines to the Vozdushni Vojski, followed in 1943 by 32 more Doras. The Reichsmarschal's generosity was misplaced, however, since these valuable aircraft never saw action, save much later and ineffectively against homegrown partisans.

By the close of 1941, Bulgaria was more inclined to open hostilities against the Western Allies, who, Tsar Boris insisted, had been attempting to subvert the neutrality of his government even before the war began. The Japanese attack at Pearl Harbor afforded him the opportunity he needed, and Bulgaria went to war against both Great Britain and the United States on December 13, prompting significant support from a grateful Hitler. State-of-the-art Messerschmitt Bf.109G interceptors replaced the Vozdushni Vojski's obsolete Avia biplanes, and eight Freya radar sets contributed to home defense.

Wehrmacht control radiated outward to its maximum extent during 1942, pushing Allied bombers beyond the range of Eastern Europe, and Bulgaria was spared the devastating raids that were beginning to afflict the Reich itself. Only after bases in North Africa were made available to USAAF long-range heavy-bombers with the expulsion of Italo-German forces by May the following year could an aerial offensive against the Balkans be considered.

The prime target was Ploie~ti, Romania, the chief source of petroleum for Axis forces in the European Theater. It was during the Americans' return flight across Bulgaria from their first concerted attack on the Romanian oil fields, August 1, 1943, that Stoyan Stoyanov and Petar Bodchev used head-on interception to bring down the heavy-bombers.

For these podporuchiks, too, it was their first such action, and they eventually became their country's highest scoring aces, with six and five kills, respectively. Their encounter augured well for the Vozdushni Vojski, whose pilots had destroyed five enemy aircraft at no loss to themselves. That same month, just days after personally decorating Stoyanov and Bodchev with the Bravery Cross, Tsar Boris III, his country's enthusiastic patron to aviation, died unexpectedly at age 49 of heart failure.

During early 1943, Roosevelt and Churchill were determined to bomb Bulgaria into submission, as they outlined during the Casablanca Conference. By killing and injuring as many people on the ground as possible, their government leaders would be pressured to abandon the Axis.' In October, plans were laid for the round-the-clock, indiscriminate carpet-bombing of the Bulgarian capital under the aegis of General Ira Eaker, commanding the Mediterranean Allied Strategic Air Force. The following month, he

assigned the U.S. 15th Air Force based at Foggia, Italy, to attack Sofia by day, while the RAF's 205th Group would strike the city after nightfall.

The first of their 10 terrorist attacks commenced on November 14, when 91 B-25 Mitchell medium-bombers in two waves were protected by 100 twin-engine P-38 Lightnings all the way to the capital. Approaching its suburbs shortly after noon at 16,000 feet, they were opposed by only 13 Messerschmitts, which shot down an enemy fighter for the loss of one of their own. The Vozdushni Vojski pilots believed they could have done better had they been given sufficient warning. Nine days later, they had their chance when the defenders were ready and waiting for incoming waves of B-24s, thanks to closer scrutiny afforded by the German-donated Freya radar sets.

This time, 40 interceptors were scrambled to disrupt the American attack: so much so, just 17 Liberators were able to reach their targets. The Bulgarian airmen learned, as their Luftwaffe colleagues before them, that sufficiently disrupting the bombers, even if few were actually destroyed, was enough to spoil an enemy raid. German Wehrmacht observers of the U.S. attacks on Sofia noted that "many bombs have fallen in open fields; no serious damage has thus been caused"' London's British Broadcasting System nevertheless announced that 10 U.S. aircraft had been brought down with the loss of several dozen crew members.'

Three Gustavs were destroyed and a single Bulgarian pilot killed in his Dewoitine D.520. It was one of the French fighter planes the Germans commandeered when they took over unoccupied France on November 11, 1942, responding to U.S. landings in Morocco that same month. The Bulgarians found that the D.520 handled beautifully, though more sluggishly than the Bf.109, and they particularly appreciated its 20-mm Hispano-Suiza HS.404 cannon, a real bomber-buster. The redoubtable French interceptors had another opportunity to demonstrate their potential when 22 of them from the First and Second 6th Fighter regiments joined another 17 Messerschmitt Gustavs to confront 50 B-24s and 60 "Fork-Tailed Devils"-a German nickname for the twin-boom P.38-on December 10, 1943.

Although a single Dewoitine was lost and the Bulgarians scored no hits, they again succeeded in wounding and throwing off the raiders, whose bombs went astray to destroy 100 homes and kill 30 civilians, but failed to cause any military or industrial damage. The Vozdushni Vojski pilots had proved themselves more formidable than their opponents expected, so General Eaker devised a strategy to divert enemy interdiction from the main bomber wing.

On December 20, he dispatched 50 B-24s escorted by 60 Lightnings. Over Yugoslavia, the formation split into unequal halves. When the larger group turned north, home defense commanders at their Freya radar sets assumed it was headed for the Romanian oilfields at Ploie~ti and ordered their interceptors to concentrate entirely on the smaller group. While 16 Messerschmitts and 24 Dewoitines attacked this southern wave, the other Liberators turned back to unload 270 bombs, 67 of them 1,100-pound high-explosives, on a defenseless Sofia.

The death toll was the highest so far suffered by its inhabitants, as whole

neighborhoods of the ancient city were engulfed in a fiery cataclysm. Altogether, 1,828 city residents would die in Allied air raids, with another 2,370 wounded-high casualties for a small country. While national morale wavered under such unprecedented terrorism, it never broke. To most people, fighting Britain after the RAF repeatedly bombed Bulgarian towns made sense, although they were less enthusiastic when Tsar Boris had simultaneously declared war on the United States, a faraway land of which they knew little. But deliberately targeting residential areas with the obvious intention of driving a wedge between civilians and their leaders created an opposite reaction. Common loathing for the Yankee terrorists did not need any propaganda stimulus, and Americans parachuting from their aircraft to land on Bulgarian soil were routinely beaten to death by incensed crowds who had lost their homes and loved ones.

In the aerial offensive against Bulgaria, 256 U.S. servicemen perished, not all of them in combat. This popular enmity was most dramatically demonstrated after the unopposed Liberators of December 20 flew from the carnage they brought to the capital. Hot on their heels was a Bulgarian Messerschmitt pilot, Lieutenant Dimitar Spisarevski, who had lost his entire family to the first U.S. raid against Sofia the previous November 14. After shooting down one of the heavy bombers, he suicided into another, killing all aboard, save a gunner, Sergeant Robert Renner, who was knocked unconscious by the collision and blown free of the falling wreckage.

Another American flier, a P-38 pilot, 2nd Lieutenant John McLendon, witnessed the attack: “With all guns firing, the fighter rammed the bomber’s belly, and cut off its tail. It was flown by one of our best crews. It was a really terrible death, even for the bravest pilot”’ Both Renner and McLendon were taken prisoner, 2 of the 329 U.S. airmen in Bulgarian captivity.

Spisarevski’s Kamikaze attack inspired his comrades and shook the Americans, who claimed to have downed 28 interceptors; actually, just 2 were lost. In fact, Liberator and Lightning losses were so high, they amounted to 10 percent of the original formation. The Allied air assault continued, however, intensifying into 1944, with special attention concentrated on Sofia’s railroad center. During January 10, nearly 200 B-24s and B-17s, screened by more than half as many P-38s and P-51s, pounded the city day and night. Although 70 Vozdushni Vojski pilots were joined by 30 Luftwaffe fighters, they could not prevent the destruction of 4,100 buildings and 750 civilians killed, with another 1,710 wounded, despite eight bombers and five escorts shot down with no loss to the defenders.

The unexpected appearance of so many Axis interceptors and their success against outnumbering Mustangs and Lightnings made General Eaker cancel all further operations until he could muster a substantially larger force with which to overwhelm all opposition. While he scrounged for more men and machines throughout the rest of the month-all of February and half of March-his preparations amounted to an 83-day reprieve for Bulgaria.

After small-scale, swift raids were carried out on March 16, 17, and 29 to probe the city’s defenses, hell broke loose the following day, when more than 450 Flying Fortresses, Liberators, and British Handley-Page Halifaxes, shielded by 150 P-38s and P-51s, approached the already stricken capital. Every Bulgarian aircraft able to carry a gun was

scrambled to meet the intruders, resulting in a collection of warplanes that was among the most bizarre ever seen during World War II. A truly international assemblage of antiquated and state-of-the-art machines from Allied and Axis camps-German Messerschmitts, French Dewoitines, British Hurricanes, Czech Avias-all wearing the black-X-inwhite-square insignia of the Bulgarian Royal Air Force. Enlisted in the fray were 20 Morane-Saulnier fighters, compliments of Hermann Goering from the dissolution of the Vichy Air Force. The underpowered, weakly armed, poorly armored M.S.406 that had failed to save France in 1940 was now called upon to protect Bulgaria.

Two antiquated Avia B-234s, re-armed with more powerful machine-guns, brought down one B-24 each at no loss to themselves. More remarkable still, kapitan Krastyo Atanasov, commanding officer of the Bulgarian Fighter Pilots' School, led three other Avia B-135s piloted by his instructors from the suburban Dolna Mitropoliya airfield. The trainer planes swarmed a Liberator, one engine of which burst into flames with some well-placed rounds fired by Atanasov, whose wingman, Jordan Ferdinandov, set another motor alight to finish off the intruder.

A particularly outstanding interception was undertaken byPodporuchik Christo Kostakiev flying a Messerschmitt Bf-109G-6. Closing beneath a B-24 at full throttle, he fired at its bomb bay from just 150 feet. The four-motor monster exploded with such force that it destroyed the next heavy-bomber over in formation, granting Kostakiev two "kills" with one blow, but at the price of his own aircraft, which was mortally wounded by close proximity to the blast, and he parachuted to safety. Less fortunate was Lieutenant Kassianov, who was severely wounded by Allied machine-gunfire while hanging helplessly in his harness.

His was not a lone incident, but repeated in May, when another Bulgarian pilot who parachuted from his burning Messerschmitt was this time killed by U.S. fighters. "Allegedly;" Neulen reports, "there was an RAF order that authorized the shooting of Axis pilots hanging from American pilots seem to have required no similar order, nor were they ever reprimanded for such atrocities apparently winked at by their commanders and subsequently ignored by most future historians of World War II.

During the Allies' carpet bombing of Sofia on March 30, they set 2,000 fires, but lost eight heavy-bombers and a pair of fighter escorts for five Bulgarian interceptors destroyed. On April 17, 30 German Gustavs and 7 French Dewoitines rose to confront 350 bombers protected by 100 Mustangs, Lightnings, and P-47 Thunderbolts. The defenders fought against these heavy odds with devil-may-care abandon, dispatching two heavy bombers and a pair of P-51s, while antiaircraft fire badly damaged five additional Liberators and brought down three more.

Inspired by Dimitar Spisarevski's suicide attack of the previous December, Nedelcho Bonchev rammed the rear of a B-17 with the propeller of his Messerschmitt, shredding the Flying Fortress's tail and sending his victim into a fatal dive. Lieutenant Bonchev, however, managed to survive by taking to his parachute. Nine Vozdushni Vojski aircraft were lost and six pilots killed in the uneven combat. But their sacrifice did not appear to have been in vain, because the enemy bombers never returned to Sofia. By then, the city's

300,000 residents had been effectively evacuated and dispersed throughout the country, leaving no urban concentration to target.

Since Tsar Boris III's death more than a year before, Bulgaria had been ruled by three men appointed to his six-year-old son, Simeon II, the country's official head-of-state. The boy's uncle, Prince Kyril, Prime Minister Bogdan Filov, and Army Lieutenant-General Nikola Mihailov Mikov wasted no time in trying to extricate their country from the war. The regents sent a top-secret delegation to Cairo, Egypt, to negotiate a capitulation with Great Britain and the United States. The Anglo-American spokesmen adamantly refused to accept any surrender terms without participation of their "gallant Soviet allies;' as General Dwight David Eisenhower characterized them. The delegates tried to explain that their country was not at war with the USSR and had consistently maintained its diplomatic ties in Moscow, but was afraid that Bulgaria would be taken over by the Red Army, with fearful consequences for its orthodox Christian population, as part of Stalin's conditions for peace. In surrendering to the West, the regents were inviting the Anglo-Americans to occupy Bulgaria, thereby preventing a Russian invasion. But the British and Americans would have none of it and sent the delegates home with a unilateral demand for "unconditional surrender:"

Meanwhile, their fellow countrymen in the Vozdushni Vojski continued to intercept Allied raiders until a final U.S. airstrike on August 26, 1944, when the last of 56 mostly American aircraft were destroyed in 760 aerial combats for the loss of 23 Bulgarian pilots killed. Opposing 23,000 enemy incursions, they had flown against 20-to-1 odds in the skies over their homeland for little more than a year. On the ground, it had been honeycombed with Soviet saboteurs and agent provocateurs, who organized a military coup on September 9. They ordered the armed forces to stand down, as the Red Army swept across Bulgaria in an unopposed tidal wave of mass-murder that did not spare Vozdushni Vojski personnel.

Virtually every man in the entire command structure was liquidated, including the leader of the highly successful 6th Fighter Regiment, Colonel Vassil Valkov, who was tortured for five months before his execution. Some 18,000 "fascist functionaries" were shot out of hand within days of the Russian occupation. "The brutality went to extreme lengths;' Neulen writes, "even by Bolshevik standards: parts of bodies of people tortured to death were fed to the pigs:"

The child heir's apparent regents-Kyril, Filov, and Mihov-for all their backdoor intrigues, were stood in front of a Communist "People's Tribunal;' then dragged before a firing squad. They belonged to some 50,000 Bulgarians who perished in the ongoing Soviet bloodbath. Another 30,000 were sacrificed as cannon fodder when they were ordered to make war on their former German allies.

In general, Vozdushni Vojski pilots escaped the fate of their superior officers, because the flyers had not shot down any Russians, but only Americans, already regarded by the Communists as enemies in some forthcoming war with the United States. Aces such as Stoyanov and Bochev served briefly in the Red Air Force, but most of them eventually defected to the West, as their country deteriorated into the nightmare of a Soviet slave

state.

Thus ended forever the history of “Greater Bulgaria:”

Chapter 6

CROATIAN AIRBORNE

> We are happy about the emergence of an independent Croatian state, with which we hope to be able to work together in friendship and trust for the future.
>
> -Adolf Hitler, May 4, 79471

Of the several Frankenstein monsters created by the mad political scientists of Versailles after World War I, Yugoslavia was among the most horrific. A hopeless mishmash of ethnically, culturally, spiritually, even linguistically disparate populations, they agonized under a facade of "the self-determination of peoples:" By its 10th anniversary, Yugoslavia had degenerated into an open tyranny, when the Serb monarch dissolved and replaced parliament with a centralized, highly repressive dictatorship under the motto, jedan narod, jedan kralj, jedan drzava, or "One Nation, one King, one Country."

Nothing could have been further from reality. Instead, this pressurecooker of mutually antagonistic minorities-Serbs, Croats, Slovenes, Bosnians, Montegrins, Macedonians, Hungarians, Germans, Austrians, and Albanians, with Catholics, Orthodox Serb Christians and Muslims thrown into an incandescent brew-seemed guaranteed to ignite another European conflict in the same region. Throughout the 1920s and 1930s, as various folkish and religious groups jostled one another to maintain their identity and bare survival, Yugoslavia was torn by the same kind of violence that characterized the Balkans until at least the last decade of the 20th century.

None of these much-abused peoples yearned more than the Croats to break free from Belgrade's iron heel. Their moment finally arose with the sun on April 6, 1941, when Hitler's Wehrmacht invaded Yugoslavia. His troops were not opposed as conquerors but more often welcomed as liberators. The Royal Yugoslav Air Force's 3rd Bomber Regiment (Bombarderski Puk) had been obliterated on the ground by attacking Messerschmitt fighters and Stuka dive-bombers, because the Croatian commanding officer deliberately allowed his aircraft to sit in the open as inviting, unprotected targets.

At the same time, another commanding officer, Major Mato Culinovic, defied orders by refusing to fly his 205. Bombarderska Eskadrilal63.BGI3. BP en masse to Greece. Three days prior to the invasion, it was importantly aided by a Croatian defector, Colonel Vladimir Kren, who landed his Potez Po.25-a French single-engine reconnaissance biplane-in Austria, where he turned over sensitive intelligence information about the Royal Yugoslav Air Force to the Luftwaffe. Before German forces reached Zagreb, its residents proclaimed the Nezavisna Drava Hrvatska, the Independent State of Croatia (NDH), on April 10.

Almost simultaneously, the Zrakoplovstvo Nezavisna Drava Hrvatska, or "Air Force of the Independent State of Croatia" (ZNDH), was formed and became operational almost at once. On the afternoon of that same day, Cvitan Galic, a narednik voclnikll klase (flight

instructor) in the Royal Yugoslav Air Force, landed his biplane trainer at an airfield that had been just seized by the rebels. They hastily replaced the Bucker Jungmeister's despised red-white-blue roundels with the ZNDH insignia-a black-leaf trefoil in a white cross-and Galic took off before the engine could cool to complete the new air arm's first sorties, a few reconnaissance missions over territory still held by the Jugoslovensko Armija.

His single-place Bucker Bii.133 had never been intended for military operations of any kind. Its fabric-covered wood and tubular steel frame mounted a Siemens Sh 14A-4 radial piston engine rated at 160 hp to give the "Young Master" a 311-mile range at 124 mph, hardly performance enough to save itself from even the mostly obsolete fighters of the Royal Yugoslav Air Force. With that polyglot country's collapse after 11 days of resistance, a few pilots fled to the Soviet Union or the Middle East, but most joined the ZNDH, headed by the same Colonel Kren who had defected to the Germans prior to their invasion.

His first task was collecting all aircraft, spare parts, machinery, and support equipment from the defeated Royal Yugoslav Air Force that had survived the recent Blitzkrieg. These comprised British handme-downs, such as a few dozen Bristol Blenheim light-bombers and worn-out Hawker Hurricane fighters, plus Yugoslavia's own Rogozarski IK-3 and Ikarus IK-2 fighters. The former was a relatively modern, lowwing monoplane with retractable landing gear, but the Ikarus was a synthesis of Poland's gull-wing PZL P.8 and Czechoslovakia's Avia B.534 biplane, both superior warplanes. The reliable, stable, if slower Ikarus actually proved itself more useful for antipartisan missions than the five faster but outdated Rogozarski IK-3s. The original four IK-2s soldiered on against knots of homegrown insurgents into late 1944, when the last Ikarus was destroyed by Allied interceptors.

Other indigenous aircraft included more than 200 Zmaj Fizir light aircraft manufactured before and during World War II. Variants of the rugged, 85-hp biplane served a multitude of roles, from trainer, reconnaissance, and liaison, to amphibian ambulance and guerilla fighter. Italian contributions to Croatia's new air force included the CANT Z.1007, Fiat BR.20, and Caproni Ca.310. The Z.1007 Alcione ("Kingfisher") suffered from poor directional stability that rendered it a marginally effective medium-bomber at best. Its three Piaggio P.XI RC 40 radial engines were maintenance-plagued and resulted in poor power-to-weight ratio, providing just 1,100 hp each, for an unimpressive maximum speed of just 285 mph. Although defended by three 12.7-mm Isotta-Fraschini Scotti and two Breda-SAFAT 7.7-mm machine-guns, and crew positions were protected with five- to eight-mm armor shields, the Z.1007's all-wood construction was prone to catch fire. Not for nothing was the Acione known nonaffectionately by both Italian and Croat pilots as "the flying barn door."

More popular was the Fiat BR.20. Obsolete before the war began, it was an under-powered, under-defended medium-bomber that nonetheless served admirably in anti-insurgency operations, where enemy interceptors were infrequently met. A more stable bombing platform than the larger Alcione, a pair of Fiat A.80 RC.41 18-cylinder, radial

engines enabled a pleasant-to-fly Cicogna, or “Stork;’ to cruise at 211 mph-adequately fast to spoil groundfire but slow enough to carry out the kind of pinpoint accuracy required by attacks against mobile partisans.

A lone Caproni Ca.310 operated by the Croats likewise excelled against “Communist bandits;’ due to its slow-flight characteristics, cruising at just 177 mph, and lack of aerial opposition. The sleek, twinengine Libeccio, or “Southwest Wind;’ was valued for its reconnaissance capabilities. More ancient were several dozen Fokker F.VII and IX passenger planes from Holland. These part wood/part fabric-covered, high-wing tri-motors could barely top 100 mph, but in their time, they achieved historic results. Richard E. Byrd was the first to fly over the North Pole in a F.VII on May 9, 1926, beating Roald Amundsen aboard his airship Norge by just a few days. In June 1927, a Fokker made the first flight from California to Hawaii. The following year, another F.VII was the first airplane to cross the Pacific Ocean from the United States to Australia.

Although used by the ZNDH as transports throughout 1941, some Dutch tail-draggers were assigned to the 1 Padobaranski Lovacki Sat, or Croatia’s 1st Light Infantry Parachute Company, in January 1942. Fortyfive men equipped with rifles, submachine guns, light-machine guns, and light mortars made their first mass-jump from three F.VIIs to demonstrate their completed training on July 6, 1943, at Zagreb’s Borongaj airfield. Four months later to the day, three brigades of the 1 Padobaranski Lovacki Sat-10 paratroopers per Fokker-staged a surprise attack on a partisan stronghold near the border with Hungary.

Supported by artillery, the paratroopers took Koprivnica after three days of bitter fighting. They were redeployed in June 1944 to Zagreb’s Borongaj airfield, where an additional three companies resulted in their expansion and redesignation as the 1 Padobranska Lovacka Bojna, or 1st Light Infantry Parachute Battalion. They continued to jump from Fokker F.VIls and IXs against insurgents, but also took over Borongaj’s ground defense. Outstanding paratroopers were honored with ceremonial guard duties for government officials at the Croatian capital.

During 1941, Colonel Kren’s top priority was modernizing the ZNDH in anticipation of up-to-date machines due to arrive from the Reich. Beginning in July, the German Luftwaffe began training Croat volunteers at a flight school opened in Zagreb. Graduates were sent to Furth, outside Nuremberg, for advanced instruction. In October, the first 21 airmen left directly from Furth for the Ukraine, where they were formed into a pair of air force fighter squadrons, the 10th and 11th Zrakoplovno Lovacko Jato (ZLJ).

At Poltava, the 10th ZLJ was redesignated the 15th Koatische.I JG (Croatian Jagdgeschwader, “fighter squadron”) 52, under the Luftwaffe command of Major Hubertus von Bonin. Since radio equipment was scarce, Luftwaffe Chief Hermann Goering sent the Croats 25 Benes-Mraz Be-50 Beta-Minors-nimble Czech two-seater, low-wing, prewar monoplanes with transmitters/receivers-to liaison between squadrons. Fighters, too, were in short supply, and until more became available, the new pilots had to make do with only 10 Messerschmitt Bf.109Es and a single Bf.109F.

Although the former was no longer the world’s leading fighter by late 1941, it was still superior at the time to anything in the arsenal of the Red Air Force. The Bf.109F, or

“Friedrich;’ however, was then regarded as the most formidable warplane in the sky, a significant improvement over its immediate predecessor. Armed with a pair of 7.92-mm MG 17 machine-guns above the engine and two MG 17s in the wings, “Emil” had a maximum speed of 348 mph, thanks to its 1,159-hp Daimler-Benz 601Aa engine. It was with this slightly elder version of the most famous Messerschmitt that the Croats achieved their first “kills” on November 2, when Hauptmann (Captain) Ferencina and Leutnant Baumgarten each destroyed a Polikarpov 1-16 fighter near Rostov.

Two weeks after the Croats scored their first aerial victories, Baumgarten, Oberleutnant (First Lieutenant) Starc and Stabsfeldwebel (Sergeant Major) Boskic shot down a trio of Rata fighters. On November 20, Baumgarten claimed a fifth 1-16 to become an ace, dying in a mid-air collision with his victim. Twelve days later, an R-10 was downed by Cvitan Galic, the same former flight instructor (now likewise a Stabsfeldwebel), who carried out the ZNDH’s first operations eight months before.

The R-10 was the Soviets’ standard light-bomber and observation aircraft (“R” stood for razvyedchik, “reconnaissance”), a low-wing monoplane with retractable landing gear and a respectable range of 802 miles. It was armed with a 660-pound payload, two 7.62-mm ShKAS machine-guns in the wings, and a single ShKAS in a rear turret. The airplane’s designer, Josef Neman, had been arrested by the NKVD, Stalin’s secret police, on December 11, 1938, because more difficulties, for which he was held criminally liable, were encountered with the early design than had been anticipated. The R-10’s plywood-covered construction combined with a maximum speed of just 240 mph provided by a 730-hp Shvetsov M-25 radial engine made it an easy target when undefended by fighters.

In Galic’s case, he was able to dispatch a pair of protective Ratas, claiming two more three days later, when his squadron comrade, Feldwebel (Warrant Officer) Jure Lasta, destroyed an 1-16 during the same mission. The Red Air Force was markedly inferior to its opponents in terms of tactics and quality equipment, to say nothing of the low morale and worse training of air crews. With few exceptions, all the Soviets had going for them was the sheer weight of numbers, against which the Croats and every other Axis ally scored notable successes.

A case in point was something that began as routine escort duty undertaken on October 25, 1941, by Oberstleutnant (Lieutenant Colonel) Franjo Dzal and Feldwebel Veca Mikovic. They were assigned to rendezvous with a Henschel Hs.126 flying reconnaissance near Matveyev Kurgan, but, unbeknownst to them, bad weather had grounded the parasol-wing observation plane. While patrolling on station, they encountered a formation of three Ratas and five Chaikas, or “Seagulls.” Another Polikarpov design, the 1-153, was among history’s worst military aircraft; a deeply flawed biplane issued to operational units on June 16, 1939, long after the close of the Double-Decker Age, but in time to be massacred by Japanese fighters later that summer during the Nomohan Incident (see chapter 15, “Manchurian Dragon-Slayers”).

Among the Chaika’s long catalog of unresolved deficiencies was the absence of any firewall separating the fuel tank mounted between the cockpit and engine. In the event of an onboard fire, a powerful draft blasted the interior of the fuselage through the wheel

wells, instantaneously incinerating the pilot and engulfing the entire machine. It was not for nothing that aircrews descriptively referred to the “Seagull” as the Kometi, the “Comet” Additionally given to chronic instability, exceptionally poor visibility, and powered by an 800-hp Shvestov M-62 radial engine with just a 60-hour service life, the 1-153 was nevertheless pushed through production to become one of the most numerically significant warplanes in the Red Air Force, which was equipped with 3,437 examples.

Soviet officers rarely pointed out the obvious to their superiors. In a justifiably paranoid system where constructive criticism was regarded as treason, according to aviation historians Dragan Savic and Boris Ciglic, “any attempt to show initiative or criticize how the air war was being run could lead to immediate transfer to punishment squadrons, the first rows of infantry trenches or, worse still, NKVD death-squads:”

The Croatian Messerschmitts were more than 80 mph faster than the stubby Chaikas, which dumped their payload in fright on Soviet territory after Oberstleutnant Dzal set one of them alight. Red Air Force policy forbade returning to base with unused bombs or ammunition. Pilots were required to expend their entire ordinance at the enemy, even at the risk of repeated, sometimes unnecessary passes over a target area, thereby increasing the Russians’ already prodigious attrition.

The Polikarpov I-15 Chaika (Russian for “Seagull”) was in every respect inferior to its Axis opponents, against whom it could only hope to succeed by overwhelming them with the sheer weight of superior numbers. (Courtesy Art-Tech)

The Soviet “Seagull” did not usually carry bombs, but Dzal’s encounter revealed that his opponents perhaps represented a ground-attack version, the I-153Sh, equipped with 5.5-pound anti-personnel fragmentation bombs. In any case, they and their Rata companions fled from the outnumbered Croats, until the sudden arrival of 10 more 1-16s. In the resulting melee with 18 enemy fighters, both Dzal and Mikovic were able to fight

their way out and return with minimal damage to base.

The following April, Mikovic tangled with a more modern enemy in the skies over Dyakovo village. With a maximum speed of 398 mph and an outstanding service ceiling of 37,700 feet, the Mikoyan-Gurevich MiG-3 was faster than any Axis counterpart and the best fighter available to the Red Air Force, despite its numerous faults, especially oil and fuel pressure inadequacies that spoiled its performance at altitude. Feldwebel Mikovic had little difficulty shooting down his first MiG.

Another aircraft widely employed by the Soviets was the 11-2 Shturmovik Notwithstanding its unique claim to fame as the single most produced military aircraft design in all aviation history-with 36,163 examples constructed between 1941 and 1945-the Ilyushin was a preposterous monstrosity. Standing empty, the single-engine, two-seat ground-attack plane weighed just under 10,000 pounds. More than 15 percent of its gross weight-some 1,540 pounds-was made up of armor protection for crew, radiators, and a fuel tank. The pilot sat in a kind of tub 5-12 millimeters thick that additionally surrounded the 1,720-hp Mikulin AM-38F, liquid-cooled V-12 engine. Naturally, the aircraft could absorb a phenomenal amount of punishment and was not easy to shoot down.

But a ponderous performance executed at very low altitudes rendered the “Flying Tank” or “Cement Bomber,” as the Germans called it, more vulnerable than Stalin believed to ground fire, while Luftwaffe fighter pilots learned early to aim down into the cockpit and wing roots of the less-than-impenetrable Zementbomber. Its underside, non-retractable oil cooler was yet another Achilles’ heel exploited by Axis interceptors. The Luftwaffe’s Otto Kittel specialized in hunting Ilyushins, so much so, he was renowned as “the Annihilator of Shturmoviks;’ accounting for 94 of the ground-attack warplanes. South of Shadishemskaya, the 15th Koatische./Jagdgeschwader’s own Cvitan Galic shot down an 11-2 piloted by Lieutenant Grigoriy K. Kochergin, later a “Hero of the Soviet Union:”

While the Ilyushin’s steel envelope could deflect small arms’ fire and even glancing blows from larger-caliber rounds, rear gunners were not equally protected, and suffered about four times as many casualties than pilots. Nor were they provided with parachutes. These unfortunate crew members usually came from penal companies composed of politically unreliable “enemies of socialism” or “enemies of the people” who were attached to every Soviet airfield on probation. They were required to serve nine consecutive missions. Should they survive-an unlikely prospect-they were supposed to be granted their freedom, but were, in fact, transferred indefinitely to mine clearing or similarly hazardous duty. Attrition among Ilyushin gunners was so high, Marshal of the Air Forces A. E. Golovanov had installed in the cockpit rear of each Shturmovik a special, spring-driven device that kept the 12.7-mm Berezin UBT machine-gun pointing downward after its operator was killed, as a ruse to convince attacking Axis fighter pilots that the dead gunner was still alive.

The Shturmovik’s RS-82 anti-tank rockets were, moreover, so wildly inaccurate, they were usually fired only in the general direction of a target, rarely hitting it, and then entirely by chance. To compound matters for the II-2s, Soviet flak gunners often mistook them for German aircraft, and many were brought down by friendly fire, although precise

figures for these misidentification incidents do not appear to have been kept.

Stalin was so taken with his “Flying Tank;’ he was convinced it alone could crush any Nazi attempt to attack the USSR. Over the objections of Ilyushin engineers, who pointed out that their new aircraft had not yet been produced in sufficient numbers for squadron strength, and pilot training was virtually non-existent, he rushed the first few machines to Western bases, where the Axis invasion was expected to begin. The first II-2s were stationed with the Red Air Force in Poland, but ground personnel were unable to service or rearm them for lack of instruction, while insufficiently trained flight crews, who had never fired their machine-guns, could only take off and land.

When Hitler’s Operation Barbarossa broke over the Soviet Union on June 22, 1941, most of the 249 II-2s at the front were wiped out in a matter of days. One squadron, ShAP, lost 55 of its 65 Shturmoviks by July 10. Stalin’s love affair with the Cement Bomber was undiminished, however, although he failed to understand that the burdensome armor provisions did not lend themselves well to rapid mass production. In a personal telegram he sent to the aircraft manufacturers, Shenkman and Tretyakov, the Premier raged, “You have let down our country and our Red Army! You have the nerve not to manufacture IL-2s until now! Our Red Army now needs IL-2 aircraft like the air it breathes, like the bread it eats. Shenkman produces one IL-2 a day, and Tretyakov builds one or two MiG-3s daily. It is a mockery of our country and the Red Army! I ask you not to try the government’s patience, and demand that you manufacture more ILs. This is my final warning!!!”’

When deployed in large numbers, nonintercepted by Axis fighters, or opposed by anti-aircraft artillery under 20 millimeters, the Shturmovik could be devastating. It often attacked when lighting conditions were dim, especially after sundown, at low altitude, confounding German flak gunners, and carried 1,320 pounds of armor-piercing bombs quite capable of demolishing Panther and Tiger I tanks. A Soviet staff publication reported that during 1943’s Battle of Kursk, `on 7 July, enemy tank attacks were disrupted in the Kashara region (13th Army). Here, our assault aircraft delivered three powerful attacks in groups of twenty to thirty aircraft, which resulted in the destruction and disabling of thirty four tanks. The enemy was forced to halt further attacks and to withdraw the remnants of his force north of Kashara.“3

On that same day, IL-2s surpassed this score byknocking out 70 tanks from the German 9th Panzer Division in just 20 minutes. Outstanding Shturmovik pilots were Senior Lieutenant Anna Yegorova (260 missions), decorated posthumously, presumed killed in action, when she had actually survived the destruction of her “Flying Tank” to become an inmate of a prisoner-of-war camp; and Georgi Beregovoi (185 missions), who went on long after the war to become a cosmonaut aboard the Soyuz 3 spacecraft in 1968. But the DB-3F (or the Ilyushin 11-4, as it was known from 1942) was ponderously weighed down by its plates of heavy armor protection surrounding the gunners, which availed them naught against the 20-mm cannon fire of Zlatko Stipcic’s Bf.109 on May 20, 1942.

A month later to the day, Croats on the Eastern Front completed their 1,000th combat mission, with 52 confirmed kills for the loss of three pilots wounded and, by the end of

July, two killed; one of them, Veca Mikovic. He was shot while attacking a Petlyakov Pe-2. The Petlyakov's rearward defense combined twin 7.62-mm Berezin UB machine-guns in the dorsal turret with another in a ventral hatch and a single ShKAS machine-gun able to alternate between port and starboard mountings in under a minute. It was this formidable return fire from a Pe-2 that holed Mikovic's Messerschmitt. Lacking sufficient fuel to reach the safety of his lines, he crashed near Rostov in no-man's-land. He was flying one of the new Bf.109Gs, replacements for the doughty Emits.

With this improved version, Axis pilots substantially widened the technological gap between themselves and their Red Air Force opponents. The Gustav's 1,475-hp Daimler-Benz DB 605 AM, 12-cylinder inverted Vee piston engine gave it a maximum speed of 385 mph at 22,640 feet. Armament was upgraded to twin 13-mm MG 131 machine-guns installed above the engine, and a single MK 108 cannon firing 30-mm rounds through the propeller shaft. Pilots of the 15th Koatische. /JG soon put their new mounts to good use, shooting up enemy shipping in the Black Sea and downing 13 Reds on July 9 and 10 with no losses to themselves.

Early the next month, Galic and Oberleutnant Albin Starc destroyed one each of five aircraft engaged over Novo Pokrovskoye. Both victims were LaGG-3s, like MiG-3s, among the better fighters available to the Soviets. While its design was fundamentally sound and capable of improvements, the LaGG-3 was badly underpowered, a dilemma designers sought to alleviate by drastically lightening the airframe and installing less heavy armament. Instead, they succeeded only in weakening the warplane and pulling its teeth. Poor-quality wood-laminate construction led pilots to observe that "LaGG" was less appropriate as an acronym for the design team of Lavochkin, Gorbunov, and Goudkov, than a match for the aircraft's description as lakirovannygarantirovanny grob, a "guaranteed varnished coffin:" Indeed, the wood frame shattered under high explosive rounds fired from a Gustav's nose cannon.

To execute a complete circle, LaGG-3s needed a full 20 seconds, by which time, however, they were more often shot down. The two destroyed by Galic and Starc were followed on August 8 by the unit's 100th victory, when machine-gun fire from Hauptmann Josip Helebrant's Messerschmitt roasted a DB-3 bomber in the vicinity of Armavir. But a few weeks later, the Croats lost their youngest pilot after an Ilyushin 11-2 fell to the guns of Stjepan Radic. Hit by flak, the Gustav's ruptured glycol tank lost too much fuel, and the 20-year-old Feldwebel was forced to crash-land in enemy territory, where his aircraft hit some treetops and exploded. A few hours later, Helebrant claimed another Shturmovik.

From late August through early September 1942, bitter fighting along the Novorossiysk front involved the 15th Koatische. /JG as never before, with its pilots averaging 20 escort missions every day. On September 3, Starc and Oberfelclwebel (Sergeant Major) Stjepan Martinasevic were flying cover for an Fw.189, when they were bounced by eight Ratas. Two of the attackers were damaged and the rest driven off. The twin-engine, twin-boom, three-place Focke-Wulf-189 was the war's finest reconnaissance aircraft, able to execute a circle so tight that Allied interceptors could not follow it. Although armed with five 7.92mm MG 17 machine-guns, more often than not, the t1hu, or

“Owl;, simply out-ran its pursuer. The Fw.189 was also extraordinarily rugged, sometimes returning to base from the thick of combat minus an entire tail.

Three days after escorting this “Flying Eye” of the German Army, Starc and Helebrant were assigned anti-shipping duty over the Black Sea. There, they strafed a 100-ton tanker, blasting it with concerted cannon fire, until the vessel erupted into a flaming inferno, capsized, and sank in minutes. On September 8, Helebrant was back over the Novorossiysk front with Martinasevic, when they intercepted a reconnaissance aircraft escorted by 11 Chaika fighters. Martinasevic dispatched a Soviet “Seagull;’ then joined Helebrant in destroying the Polikarpov R-5. As some indication of Soviet military obsolescence, this 680-hp, wood double-decker from 1930 was the standard reconnaissance model of the Red Air Force, which equipped over 100 of its regiments with the antique airplane into 1944.

What the Russians lacked in quality, they strove to compensate with quantity, as four Croatian pilots observed while patrolling the road between Gelendzhik and Novorossiysk. During their clash with 5 Chaikas and 14 Ratas, Oberstleutnant Dzal destroyed one of either type, while Fdhnrich (Officer Candidate) Tomislav Kauzlaric shot down an 1-16. On October 24, Helebrant and Starc each brought down a pair of Lavochkin fighters over the Tuapse area, raising their unit’s score to 150 confirmed “kills:” In November, the pilots were returned to Croatia for extended rest after a full year of virtually non-stop flight operations. These comprised 3,698 sorties-2,460 of them combat missions-for the confirmed destruction of 178 enemy aircraft, plus 33 “probables.” Six Croatian pilots had been lost in action, together with five ground crew men in Soviet raids.

During mid-February, the men of 15th Kroatische./Jagclgeschwacler 52 returned to the Eastern Front in the company of fresh recruits and new planes. But the situation had changed dramatically over the previous three months. The Axis initiative that had rolled irrepressibly across Russia since the first day of Operation Barbarossa had stopped at Stalingrad, where Croatian casualties were very heavy. And U.S. aid to the Soviets was now apparent in the appearance of American aircraft. On April 15, 1943, Oberleutnant Mato Dukovac fired on a Bell P-39 fighter that “flamed like a torch before abruptly falling away.“4

The Aircobra’s streamlined, aerodynamically efficient design had been occasioned by placement of a 1,200-hp Allison V-1710-85, liquidcooled, V-12 engine behind the cockpit. This peculiar arrangement enabled a 37-mm M4 cannon to fire 30 rounds of high-explosive ammo through the propeller hub at the rate of 140 rounds per minute. It was supplemented by a 12.7-mm machine-gun installed in each wing; two more were mounted in the upper engine cowl. Regardless of this formidable armament, the rear-mounted engine proved to be vulnerable to attacks from above and behind. Almost any hit on the fuselage from an attacking enemy fighter was virtually guaranteed to disable the cooling system, destroying the engine. In crash-landings, the pilot was liable to be crushed by the hot, heavy engine falling forward on his back.

The all-metal fighter’s unconventional layout allowed no space in the fuselage for a fuel tank, which was transferred to a necessarily smaller tank in either wing, thereby

restricting the P-39's operational radius. Moreover, its single-speed supercharger confined optimal performance to beneath 12,000 feet, a serious limitation, as modern aerial combat took place at increasingly higher altitudes. By 1942, virtually all bombers carried out their runs far beyond the Aircobra's reach. Performance was further compromised by 265 pounds of armor plating, which was appropriate for a ground-attack role, but detracted from Bell's original fighter conception. An innovative tricycle undercarriage and hinged "automobile doors" on either side of the cockpit contributed to the aircraft's unorthodox design.

Despite its numerous drawbacks, the P-39 was just 10 mph slower than the Messerschmitt-109, handled very well, and was the best fighter available to Soviet pilots, who referred to it affectionately as Kobrastochka, "dear little cobra:" Aleksandr Pokryshkin, the Allies' secondhighest-scoring ace, accounted for 58 Axis aircraft in a P-39, the highest score ever gained by any pilot with a U.S.-built aircraft. The 4,773 Aircobras President Roosevelt sent to beleaguered Soviet pilots critically helped them make up the severe losses they suffered since June 1941.

Five days after Dukovac's first encounter with an American Kobrastochka, he was escorting German Stuka dive-bombers and Ju.88 medium-bombers in the company of three other Gustavs, one piloted by the redoubtable Cvitan Galic, when they ran into 25 Soviet fighters and gigantic flying boats. In the engagement that ensued, Dukovac downed a LaGG-3, as Galic went after a Chyetverikov MDR-6, with its 63-foot, 7.75-inch wingspan. Only 27 of the big, twin-engine, highwing flying boats had ever been built, so Galic felt privileged to claim this rara avis, which disintegrated in flames toward Novorossiysk. Continuing escort duty produced more residual "kills" on May 8, when Dukovac and his wingman, Felclwebel Bozidar Bartulovic, each destroyed a LaGG-3 while protecting a Fieseler Storch.

The Fi.156 was famous for its unprecedented STOL characteristics, making it the war's outstanding liaison and medivac aircraft. Its very low landing speed combined with a long-legged undercarriage containing oil and spring shock absorbers that compressed about 18 inches on landing enabled the "Stork" to set down in a variety of otherwise impossible terrain. It could hover in place, almost like a helicopter, or even fly backwards against a head wind. Under normal conditions, the Fi.156 took off in less than 150 feet and landed in 60. Wings could be folded back along the fuselage, allowing it to be transported by trailer, aboard covered trains, or towed behind a vehicle. Flying their highperformance Messerschmitts, the Croatian pilots found escorting the 100-mph Storch a challenging, but rewarding experience.

Despite the debacle at Stalingrad, Axis morale held firm. There was no rout, and the Eastern Front stood badly dented, but unbroken. Positions from the vicinity of Leningrad in the north, down through Smolensk and Taganrog to the Sea of Asov in the south stiffened, frustrating all Soviet attempts to break through, while the Red Air Force lost more than 2,000 warplanes in combat above Kuban. These defensive successes were generally regarded as prelude to a renewed Wehrmacht offensive that would regain the initiative in summer. But news of the Italo-German loss of North Africa in early May

struck some observers as the Axis death knell. On the 14th, two pilots of the 15th Koatische.I JG 52 defected to the Soviets, setting down their Bf.109s behind enemy lines at Byelaya Glina airfield, northeast of Krasnar.

A month and one day later, another Croatian pilot landed at Byelaya Glina. Over the next two years, defections took place in direct ratio to the decline of Axis fortunes. While much has been made of them by Allied historians, the actual number of deserters from the unit represented a small fraction of its total strength. Most who defected simply wanted to end the war on the winning side, and were largely indifferent to ideological concerns. Those who did give political consequences any thought had been deceived by Communist propaganda promises of a free Croatia or, in the case of Slovenian airmen, an independent Slovenia. These trusting souls were to be sadly disappointed with the postwar fate of Eastern Europe, and many fled to the West after the Iron Curtain fell on their respective homelands.

A case in point was the first Balkan airman, Nikola Vucina, who flew over to the Soviets on May 4,1942. Horrified by the bloodshed and slavery visited upon Yugoslavia by the Red Army, he fled in an ancient Polikarpov Po-2 Kukuruznik ("Corn") trainer to Italy in 1946.

Mato Dukovac, Croatia's top-scoring ace with 45 kills, lived to regret his defection by flying to Italy in another biplane, a stolen British De Havilland "Tiger Moth;' less than a year after his September 20, 1944 desertion. Dukovac became increasingly anti-Jewish after his wartime experiences, so much so, he volunteered to fight the newly created state of Israel as a captain in the Syrian Air Force, flying American T-6 Texan trainers outfitted with ground-attack rockets and 110-pound bombs during the Arab-Israeli Conflict of 1948.

The attitude of most Croatian pilots was summarized in June 1944, when one of their officers, Oberst Franjo Dzal, offered them the alternatives of fighting on, going to Germany for advanced training, or joining the partisans. According to Savic and Ciglic, "His words were greeted by whistles and shouts of disapproval's

The Croatian airmen continued to enjoy the clear-cut superiority of their Bf.109Gs throughout most of 1943. In early November, however, they began encountering growing numbers of an opponent with serious claims on the Messerschmitt's predominance. This was the Lavochkin La-5, the Soviets' first and only up-to-date fighter. While its performance fell off above 12,000 feet, the La-5 excelled at lower altitudes. It executed a smaller turning radius and higher roll rate than the German Gustav. Ivan Kozhedub, the leading Red Air Force ace, scored most of his 62 kills flying the La-5. With more of these dangerous machines filling Russian skies, outnumbered pilots of the 15th Kroatische. /JG 52 were hard pressed.

On November 7, Unteroffizier (Senior Corporal) Vladimir Salomon was shot down by a combination of Aircobras and La-5s. Successfully bailing out of his stricken Bf.109, he froze to death after parachuting into the Sea of Azov. Two weeks later, Felclwebel Zdendo Avdic and Dukovac were battling six LaGG-3s, when Avdic received a particularly painful wound in the right arm. He was horrified to observe that his severed hand still

gripped the control column, which he manipulated with his left to make a perfect landing, albeit barely conscious from a prodigious loss of blood, five miles inside friendly territory. German grenadiers carried Avdic to a field hospital, where he eventually recovered.

By then, the unit had been stationed at Karankhut airfield, where adverse weather conditions grounded its pilots until early 1944, save on rare occasions. When conditions cleared in February, they faced greater numbers of enemy aircraft-many of them La-5s and P-39s-than ever before encountered. Flying against impossible odds, the squadron was decimated, and the 15th Kroatische./JG 52 disbanded, its survivors returning to Croatia in mid-March. During the previous five months, flying through foul weather and against overwhelming adversaries, five of the airmen were killed, and four had been seriously wounded. But between them they scored 77 confirmed “kills” and 8 “probables.”

In July, survivors joined the newly formed Hrvatska Zrakoplovna Skupina, the Croatian Air Force Group, for homeland defense against increasing incursions by Anglo-American bombers. The HZS was also no less preoccupied with quashing the various Communist and nationalist insurgent groups running rampant through the countryside. Fighting these rebels was nothing new. As long before as June 26, 1941, pilots of its predecessor, the Air Force of the Independent State of Croatia (Zrakoplovstvo Nezavisna Drava Hrvatska), had carried out the earliest anti-partisan raids in Herzegovina and suffered its first loss the following day, when an aged Potez Po-25 biplane was brought down by rebel ground-fire.

Increasingly fortified with Soviet arms, supplies, and propaganda, the Yugoslav underground movement grew steadily throughout 1941, when 15 aircraft were lost to the partisans. In June 1942, they absconded with a pair of French bombers-a Brequet-19 and Potez Po-25-from the Zegreb headquarters. The Yugoslav Royal Air Force had purchased its first Breguet-19s as far back as 1924, thereafter license building another 300 examples. Most of these were destroyed during the German Blitzkrieg of April 1941, but enough survived to flesh out the new Croatian Air Force. While randomly machine-gunning the residents of Banja Luka, the bandit Breguet was brought down by flak outside the village of Kadinjani. Its pilot committed suicide, while his gunner was shot trying to escape.

ZNDH commanders were deeply alarmed by the brazen theft of this World War I-style sesquiplane with cloth-covered wings and open cockpits, and spent all their energies searching for its companion. Meanwhile, the elderly Po-25 raided four towns in as many days, successfully eluding all efforts to intercept it, until the pokey Potez was finally spotted by the Luftwaffe pilot of a Focke-Wulf Fw.58. On July 7, his twin-engine Weihe (“Harrier”) trainer doubling as a reconnaissanceattack plane used its two MG 15 machine-guns to shred the stolen aircraft while parked near Lusci Palanka.

In summer, the ZNDH mounted its first, concerted offensive against the burgeoning insurgency with warplanes left over from the defeated Royal Yugoslav Air Force. All were antiquated and worn out, but the most useful among them were 7 Avia BH-33Es remaining from 38 destroyed while resisting the invading Germans, back in 1941. The 1927 Czech biplane’s physical appearance was somewhat strange for its upper wing, being shorter, for reasons never entirely understood, than the lower. An otherwise reliable, if

entirely unoutstanding fighter, the Vickers machine-guns and low speed provided by its 580-hp Skoda L engine made it ideal for strafing partisans. They were themselves hamstrung by conflict between the Soviet-backed Narodnooslobodilacka Vojska Jugoslavije (“People’s Liberation Army of Yugoslavia”) and royalistnationalist Chetniks, from the Serbian word seta for a “military company.”

According to Savic and Ciglic, “Often, groups of insurgents were at each others’ throats, rather than attacking their common enemy. There was even collaboration with the Axis on both sides.“6

Shortly after the Wehrmacht conquest, the several resistance movements began to coalesce into a general insurgency until the Chetnik leader, Draza Mihailovic, realized that Josip Tito’s NVJ only wanted to “burn the country and the old order to the ground to better prepare it for Communism. This is the fight that the Communists wage, a fight which is directed by foreign propaganda with the aim of systematically annihilating our nation:” He was likewise mistrustful of the Anglo-Americans, whose “sole aim was to win the war at the expense of others:”’ Favorably impressed by Germany’s invasion of the USSR, Mihailovic hoped to create a Greater Serbia in the manner of the Independent State of Croatia, when he learned that Hitler’s postwar intentions for the former Yugoslavia was its division along ethnic lines into various, similarly autonomous states. In the resulting civil war between Communists and Chetniks, the Croatian airmen sought to annihilate them both.

Mussolini sent their ZNDH its first modern aircraft in the form of 10 Fiat G.50 fighters, during late June 1943. Although eclipsed by other designs by then, the Freccia, or “Arrow,” could still intercept enemy bombers or ground-attack insurgent forces with success. Following the Duce’s overthrow in September, the ZNDH received something of a windfall when 60 Italian aircraft of various types were found at Mostar and Zadar airfields. They included three “Arrows” and six Fiat CR.42 biplanes no longer fit for aerial combat, but very effective in anti-partisan warfare.

While the rebels lacked any aircraft of their own, they took their toll on ZNDH men and machines through ground-fire and espionage. On October 7, the Commanding Officer of 1. Air Group, Mato Culinovic, an ace with a dozen “kills” to his credit, perished with his crew aboard a Dornier Do.17K medium-bomber that exploded while attacking insurgent forces west of Zagreb; saboteurs had installed a detonator activated when the bay doors were opened.

Shortly thereafter, 38 Morane-Saulnier M.S. 406c-1s from France’s defeated Armee de /Air arrived from Germany. It was with this inadequate fighter that ZNDH pilots were expected to intercept growing numbers of U.S. heavy-bombers protected by huge swarms of P-51 and P-47 escorts. Croat airmen were additionally hampered by a wholly inadequate early warning system and usually scrambled only as the enemy was overhead. Whenever the defenders did get airborne, they invariably found themselves hideously out-numbered by mostly superior aircraft.

From the close of 1943, USAAF and RAF bombers repeatedly violated Croatian airspace with impunity, as they overflew the Balkans on their way to targets in Austria.

The ZNDH lacked sufficient strength to oppose these Allied intruders, until interceptor units of the Hrvatska Zrakoplovna Legija (Croatian Air Force Legion) were formed with Luftwaffe assistance on December 23. A month later, Mussolini's Salo Republic contributed 12 new specimens of the Macchi M.C.202 Folgore. At 372 mph, the sleek "Lightning" lived up to its name. Croat pilots loved the Macchi for its superb handling characteristics and 3,563-feetper-minute rate of climb, but found that the two 7.7-mm Breda-SAFAT wing guns lacked punch. Only its twin 12.7-mm machine-guns in the engine cowling were effective by contemporary standards.

But HZL crews had little immediate opportunity to put the Folgore through its paces, because Allied raids on Austria by way of the Balkans fell off for the first quarter of 1944. They used the lull to gain additional training experience until April 1, when the unit was redesignated I.IJagclgruppe Kroatien. The next day, an immense bomber stream of the 15th U.S. Air Force passed over Croatia on its way to attack the Austrian industrial city of Steyr. The ZNDH's early raid alert system had not improved during the previous four months, and only two interceptors could be scrambled in time to confront the Americans returning from their mission. With hundreds of 12.7-mm M2 Browning machine-guns firing at them, the Folgore pilots dashed unscathed among the flight of B-24 heavy-bombers, one of which fell burning out of the sky.

The Macchi Folgore ("Lightning") was Fascist Italy's best fighter to achieve quantity production. (Courtesy Art-Tech)

In hopes of better positioning themselves to meet the foe, several dozen Croatian fighters were relocated from the unit's base at Lucko to Zaluzani airfield outside Banja Luka. British intelligence learned of the move, and Numbers 1, 2, and 4 Squadrons in the South African Air Force's Number 7 Wing were alerted. Their Spitfire Mk.IXs, some carrying a pair of 250-pound bombs apiece, appeared without warning over Zaluzani in a

low-level attack that overtook the defenders on April 6. Twenty one ZNDH aircraft were destroyed on the ground, including a Folgore and all save 1 Morane-Saulnier, together with 16 Luftwaffe warplanes.

Of greater loss was the death of Cvitan Galic, who perished when the M.S.406, under which he took shelter during the raid, exploded and collapsed on him in full view of his horrified comrades. With 38 confirmed and 5 unconfirmed aerial victories, he was Croatia's second-highest scoring ace. Yet another 21 ZNDH machines were caught parked in the open and destroyed by bomb-laden Spitfires six days later.

Despite these appalling losses, the LIJagclgruppe Kroatien dispatched two pairs of Morane-Saulniers and Fiat Freccias to patrol for damaged or separated B-24s. Instead, they were attacked by two Mustangs 6,500 feet above Zagreb. The decidedly inferior MS.406s and G.50s were no match for state-of-the-art P-51s, which shot down one each of the older French and Italian fighters in short order. If anything, it is to their credit that the other two pilots were able to successfully elude their technologically superior pursuers.

When provided with better aircraft, the Croatians went over eagerly to the offensive. They had always been out-numbered by their enemies, so a numerical advantage possessed by the Anglo-Americans meant little to them. Before the end of April, Unterofizier Leopold Hrastovcan flew his Macchi past escorting Mustangs to blast a four-engine Liberator that crashed outside the village of Zapresic. Several days later, Unterofizier Jakob Petrovic's Folgore closed in on a British de Havilland DH.98 Mosquito fighter-bomber famous for its laminated plywood construction. "The Timber Terror;" as it was also known, fell trailing thick smoke toward the sea.

Petrovic and another comrade were evenly matched against two USAAF P-38s on May 1, when one of the "Fork-Tail Devils" was shot down and the other driven off, badly damaged. While pilots of the LIJagclgruppe Kroatien continued to score against Anglo-American intruders for the rest of spring and throughout summer, war on the homefront was spreading across the Balkans.

In mid-summer, 15 long-distance R-series Stukas were dispatched to Croatia, where they pounded Red Army columns at the southeastern border. They joined eight Ju.87D-5 dive-bombers delivered to the Antiteroristicka jedinica Lucko, an antiterrorist unit based near Zagreb, at Lucko, the previous January. In an unexpected assault on September 20, partisans captured Banja Luka, over-running the airbase at Zaluzani airfield. Thinking fast, many ZNDH crews jumped into their Dornier bombers, engines started just after propellers cleared hangar doors, to machine-gun waves of partisans, and got away at the last, possible moment. Once airborne, they circled back around to provide suppressive fire, enabling their comrades' escape. A few days later, the city and airbase were recaptured in a powerful counter-attack launched by Croat and German troops.

Further Croatian requests for specialized aircraft from the Luftwaffe were answered in mid-September with the arrival of a dozen Fieseler Fi.167A-0s. They were indeed purpose-built, but not for any antipartisan role. The big biplane had been originally designed in 1938 to serve aboard the German Navy's projected aircraft carrier for reconnaissance and torpedo bombing. Graf Zeppelin was never completed, however, and

the few examples already produced were put to use flying coastal patrols in Denmark before being transferred to the ZNDH. Like its more famous Fieseler, the Storch, the Fi.167 was endowed with extraordinary STOL characteristics, capable of landing almost vertically anywhere. With a maximum take-off weight of 10,690 pounds, its shortfield and outstanding load-carrying capabilities made it an ideal transport flying ammunition, food, medical supplies, or evacuating wounded to and from Croatian Army garrisons besieged by Tito's insurgent armies.

On October 10, while on a mission to a Croatian position near Sisak, a lone Fi.167 flown by eight-kill ace, Bozidar "Bosko" Bartulovic, was jumped by five P-51 Mk Ills of the RAF's 213 Squadron. Bartulovic's rear gunner, Mate Jurkovic, used his 7.92-mm MG 17 machine-gun to score a lethal hit on one of the attacking Mustangs before the Fieseler, too, was destroyed by the other four, thereby achieving perhaps the last and certainly most remarkable aerial victory in biplane history. Both Bartulovic and Jurkovic parachuted to safety. Some of the remaining Fi.167s were installed with a single 2,200-pound bomb used effectively against otherwise impenetrable rebel positions.

Beginning in December 1944, things began looking up for the Croats. As a measure of the high regard with which he held them, Goering equipped two ZNDH squadrons with the Luftwaffe's best piston-driven fighter. The Kurfurst, or "Elector Prince;' was the last and fastest in a long operational line of the Messerschmitt Bf. 109 series, which had begun 10 years earlier. Optimized for high altitudes, a nine-foot-widechord, three-bladed VDM 9-12159 propeller converted the 1850/2000 PS output of the new Messerschmitt's DB 605DB/DC power plant into thrust. As such, the fully loaded aircraft was able to top 445 mph at 22,500 feet, while enjoying an extraordinary rate of climb at 4,820 feet per minute. Armament comprised twin, 13-mm MG 131 machine-guns in the nose with 300 rounds each, plus a single, engine-mounted MK 108 cannon firing 65 30-mm rounds.

Thus equipped with the Kurfurst, ZNDH pilots evened the playing field against their Western opponents. What the Croat interceptors still lacked in numbers, they made up for with a fighter at least the equal of the American Mustang or British Spitfire, and a highly effective bomber-buster, the K-4's real function. Both German and Croat fliers took advantage of the airplane's high performance to avoid enemy escorts and go after the USAAF B-17s and B-24s.

The ZNDH also made do with much older machines. On December 31, a Dornier Do.17E paid a surprise New Year's Eve visit to the RAF's 148 Squadron base at Grabovnica near Cazma, where the old mediumbomber dropped its 1,100-pound payload on the airfield, causing numerous casualties among partisan defenders. Supply dumps were wrecked, and a four-engine Handley-Page Halifax heavy-bomber was destroyed.

On March 24, 1945, ZNDH aircraft grounded at Lucko airfield, for lack of petrol, were incinerated during a napalm attack delivered by RAF Mustangs of Numbers 213 and 249 Squadrons. Defensive flak shot down a P-51 from the former Squadron, but three Messerschmitts, one Morane-Saulnier, and a Focke-Wulf 190 were ruined. Several other aircraft were damaged. The day before, the Croats won their last aerial victories, when Mihajlo Jelak and 15-"kill" ace, Ljudevit Bencetic, flying Bf-109G-10s, claimed two

British P-51s between them. Jelak was hit by enemy fire but managed to safely crash-land his wounded Gustav. With Communist forces overrunning Zagreb, Bencetic addressed his crews at Lucko airfield for the last time. They had performed their duties splendidly, he said, and flying with them was the greatest personal honor he had ever known, but they were released now from their loyalty oath and at liberty to return to their homes.'

As Bencetic returned the final salute of his men, a pair of aged Rogozarski R-100 trainers flown by Lieutenants Mihajlo Jelak and Leopold Hrastovcan were attacking a railway bridge spanning the Kupa River with 50-pound bombs. Destroying it would delay the enemy's advance toward Karlovac, allowing time for the city to be evacuated. As Hrastovcan's biplane circled for another pass, it was hit by ground fire and crashed near the foot of the bridge, where he was dragged from the wreckage and shot to death.

Fighting against 12-to-1 odds, Croat airmen continued to score hits on the enemy. Their final flight operation occurred on April 15, 1945, when a Dornier Do.17Z medium-bomber, covered by a pair of Messerschmitt-109Gs, raided the partisan airfield at Sanski Most, destroying two Communist warplanes, damaging several others on the airfield, and machine-gunning ground personnel to escape with damage.

The last ZNDH remnants in the 1st Light Infantry Parachute Battalion had joined up with the Croatian Army's Motorized Brigade as early as the previous January, from which time they were in constant action south of Zagreb against an advancing partisan army. The few surviving paratroopers were still fighting in Austria a week after the German surrender, refusing to lay down their arms until May 14, 1945.

During the immediate postwar period, Tito assumed a magnanimous pose, extending "general amnesty" to all opponents. But his apparent generosity was a ruse luring war-weary servicemen to their doom. Every ZNDH airman the Communists could lay their hands on was imprisoned and tortured, often for many years. Bozidar Bartulovic, the Fieseler biplane pilot, whose rear gunner shot down an attacking Mustang, had bailed out when a 0.50-caliber bullet partially shattered his skull and shot away his right eye. After long-term recovery at a Zagreb hospital and later graduation from officers' training school, he was arrested and sent to a POW camp until his release in 1946, then rearrested and sentenced to 15 years imprisonment. Upon his release, Bartulovic fled to Munich, Germany.

Many of his comrades fared far worse. All high-ranking ZNDH officers were rounded up and shot.

Chapter 7

FINLAND'S "FLYING BEER BOTTLES"

> As jean Sibelius is the soul of our country, so Adolf Hitler is the soul of this war. And just as the music of Finland's greatest composer is likewise beloved everywhere, so too has the Fuehrer's crusade against International Communism attracted fightersincluding us Finns-from beyond Germany's borders.
>
> -Major General Kurt Martti Wallenius, 79441

A case could be made for Finland's Air Force as the finest of its kind during World War II. No other military pilots of that era achieved such extraordinary results in obsolete equipment against vastly superior numbers of the enemy. And while the Finns could not hold what they conquered, they did, with German assistance, stave off the occupation of their country, a victory in itself no other Axis power achieved.

The prelude to their uneven struggle was hatched by two foreign statesmen. Marshal Joseph Stalin knew as well as Adolf Hitler that their August 1939 non-aggression pact did little more than allow precious time for mutual military preparation prior to their inevitable clash of arms. As the price of Communist neutrality in the Reich's war with Poland and the Western Allies, Germany was forced to recognize the Baltic as the Soviet "sphere of influence:" Accordingly, Latvia, Lithuania, and Estonia were gobbled up by the USSR without a word of protest from Berlin.

Shortly thereafter, Stalin informed the government in Helsinki that the Russian border should be moved another 16 miles behind the Finnish frontier. He additionally demanded the Hanko Peninsula for construction of a naval base that would control the Gulf of Finland. For these "concessions;' the Finns were offered large portions of the Karelian wilderness, a proposition they referred to as "two pounds of dirt for one pound of gold:" Enraged by their response, Stalin ordered an invasion of Finland on November 30,1939. At the time, he commanded 218 times as many tanks and 30 times as many aircraft as the Finns.

They opposed this enemy air armada of nearly 1,000 warplanes with 114 combat-ready aircraft. Moreover, the Suomen Ilmavoimat, or Finnish Air Force, was made up entirely of out-dated machines, as under-gunned as they were under-powered. They included a handful of virtually useless German Junkers K.42 seaplanes from the late 1920s and the even older British Blackburn Ripon IIF, an ex-torpedo-bomber good only for after-dark missions.

Since 1936, the Finns had been manufacturing the Blenheim Mk I under license from Britain, but the structurally weak, poorly defended light-bomber, for all its pleasant flight characteristics, was obsolescent four years later. These weary aircraft were joined by

several Dutch imports from the renowned Fokker Company, such as the ancient C.VE and C.X light-bombers, open-cockpit biplanes that seemed more at home in the skies over the Western Front of World War I.

Carl Gustav von Rosen purchased a pair of Koolhoven F.K.52s for Finland. Previously, the Swedish count had often donated aircraft to the fledgling Suomen Ilmavoimat, whose commanders, in gratitude, adopted his personal good luck talisman-a blue swastika in a white disc-as the official insignia of their aircraft, years before the same emblem became the symbol of Adolf Hitler's National Socialist movement. Already hopelessly obsolete at the time its prototype crashed in 1937, Finnish pilots knew Holland's under-powered, unstable, two-seat reconnaissance-fighter Koolhoven biplane as the Kolho (literally, "clumsy").

More up to date, but not by much, the Fokker D.XXI was a low-wing monoplane, its steel tube fuselage covered by fabric, with wood wings and fixed, spated undercarriage. Despite its good looks and rugged reliability, the D.XXI was prevented from matching the speed or maneuverability of Red Air Force counterparts by its 830-hp Bristol Mercury VIII radial engine. When heavy snowfall blanketed makeshift airfields, the wheels of some D.XXls were replaced with skis, which, surprisingly, did not adversely affect the aircraft's already marginal performance.

Far more inadequate was another foreign antique. Having made its first flight back in 1927, the Bristol IV-A was withdrawn from RAF service 10 years later. By then, the Bulldog, as it was unaffectionately known by its crews, had become infamous as the mount in which Douglas Bader lost both legs during a crash while the future British ace performed unauthorized aerobatics at Woodley airfield near Reading. Powered by a 440-hp Bristol Jupiter VII radial piston engine, the IV-A's top speed of 178 mph, twin 0.303-inch Vickers machine-guns, and quartet of 20-pound bombs did not exactly make it an awesome weapon.

Yet, this rickety biplane scored the first aerial victory of Finland's Winter War, when a border-patrolling pair of Suomen Ilmavoimat IV-As was attacked by half a dozen Polikarpov I-16s of the VoennoVozdushnye Sily, the Red Air Force. Although outclassed and outnumbered, SSgt Uttu's Bulldog managed to destroy a Siipiorava, or "Flying Squirrel;' as the I-16 was referred to by his comrades, before he, too, was shot down. Uttu's success was small compensation for Helsinki civilians gunned down in the streets of their capital by Soviet pilots in low-level strafing runs on the opening day of hostilities.

In all, some 2,000 noncombatants-women, children, and mostly older men-were killed in Finland during its two wars with the USSR. But the Finns soon had their revenge when the 7.92-mm FN Browning M36 machine-guns of their Fokker D.XXIs claimed 11 Tupolev SB medium-bombers without suffering any losses. Then the most numerically important bomber in the world, the rugged Tupolev SB carried 1,300 pounds of bombs over 1,430 miles at 280 mph, and defended itself with six 7.62-mm ShKAS machine-guns. Engagements escalated at a frenetic pace immediately after the first air raid on the nation's capital.

"By day, the operational sorties were continuous;' recalled Finland's top-scoring ace,

Eino Ilmari Juutilainen. “It was normal to make six to eight flights a day”’

Indeed, the enemy was averaging 1,000 sorties every 24 hours. While attention was focused on fighter pilot exploits, LeLv 44 and LeLv 46-the Suomen Ilmavoimat’s only two bomber squadrons-supported Finnish ground operations. VVS aircraft, preoccupied with terrorizing the civilian population of Helsinki, were unavailable to prevent Bristol Blenheims, together with doddering Fokker C.VEs and C.Xs, from decimating concentrations of Soviet troops, who were massacred in large numbers.

The single most remarkable aerial combat of the Winter War occurred when 1st Lieutenant Jorma Sarvanto intercepted a formation of twin-engine Ilyushin DB-3s flying out of occupied Estonia. During their return from an ineffectual raid on the city of Kuopio, he dove on them out of the sun, attacking at very close range, about 60 feet. The DB-3 was tough and well armed, sometimes with a 20-mm ShVAK cannon. Despite the repeated hits his Fokker D.XXI incurred from accurate return fire, Sarvanto downed six of the Dalniy Bombardirovschik, or “long-range bombers;’ with a mere 2,000 rounds in just four minutes, then returned unharmed to base.

When Germany and her allies invaded Russia on June 22, 1941, Tupolev SB2s comprised 94 percent of all bombers in the Red Army Air Force. Those not soon after destroyed on the ground or shot down by Axis fighters fell to enemy flak. Before year’s end, the Tupolevs had been all but completely annihilated. (Courtesy Art-Tech)

His extraordinary feat garnered international publicity and boosted Finnish morale but represented only the most outstanding, single action of the Suomen Ilmavoimat’s overall achievement. In its first 30 days of operations, just one fighter squadron-LLv 24-lost a single Fokker D.XXI and another damaged for the destruction of 54 Red Air Force warplanes. These successes were in large measure possible due to repair crews, who maintained the continuous serviceability of their aircraft. Mechanics at Vaertsilae airfield, for example, replaced aero engines in minus 40°C temperatures under cover of darkness, without electricity or permanent shelters, but had their Fokker D.XXIs ready for action

before dawn each morning.

Such skilled dedication was part of the Finns' success. Long cognizant of Soviet plans for their country, they used the previous 20 years productively, building and intensively training a small but well-led and exceptionally tough armed force. A defensive series of fortifications running some 50 miles across the Karelian Isthmus began as early as May 1918, when Field Marshal Carl Gustaf Emil Mannerheim ordered its construction. Additions and improvements continued to be made right up until the Soviet invasion of 1939. By then, the ingeniously camouflaged Mannerheim Line consisted of 157 machine-gun posts connected by a network of trenches and small bunkers to eight reinforced concrete artillery positions, with 5-, 6-, and 10-inch field artillery at either end on the coasts of Lake Ladoga and the Gulf of Finland.

The Finnish Air Force was a vital part of these decades-long preparations. Suomen Ilmavoimat commanders received advanced flight school education abroad, particularly in France. Rightly concluding that the enemy would favor bombers during any attempted invasion, their emphasis was on fighters and the most effective means of interception. They also perfected the "finger-four formation;' in which two pilots flew above and behind another couple: a more effective arrangement than the Russian delta version, leaving one odd man out.

Complying with exceptionally high standards of excellence and rigorous training, Finnish fighter pilots were indoctrinated in aggressive tactics and pressing home attacks, regardless of numerical disadvantage. The machine-gun fire of their aircraft was angled to converge at 450 feet, but training specified that the airmen should shoot at a target only 150 feet away. While such a close approach was hazardous, it assured maximum accuracy.

Soviet pilots, on the other hand, sometimes aborted their missions and bolted from combat when confronted by a vigorous opponent. They had been badly demoralized by Stalin's murderous paranoia, which, just two years earlier, vented itself in a purge of Russian armed forces personnel. Suspecting them of political unreliability, he had half its army officers executed, including 3 of 5 marshals, 220 of 264 division-level commanders, plus 6,761 officers of all ranks. Their positions were filled by ideological dependable Communist Party commissars with little or no military background or ability. These measures extended to the Voenno-Vozdushnye Sily, which correspondingly suffered in the quality of crews and commanders.

Red Army General Krill Meretskov had boasted prior to the invasion of Finland that his 44,000-man divisions would steamroll over Finland and take Helsinki in 12, more likely 10 days. Most foreign observers agreed with him. But as 1939 phased into a new decade, the Soviet juggernaut slowed to a battered crawl before the Mannerheim Line. A country of 4 million inhabitants was savaging an empire of 180 million.

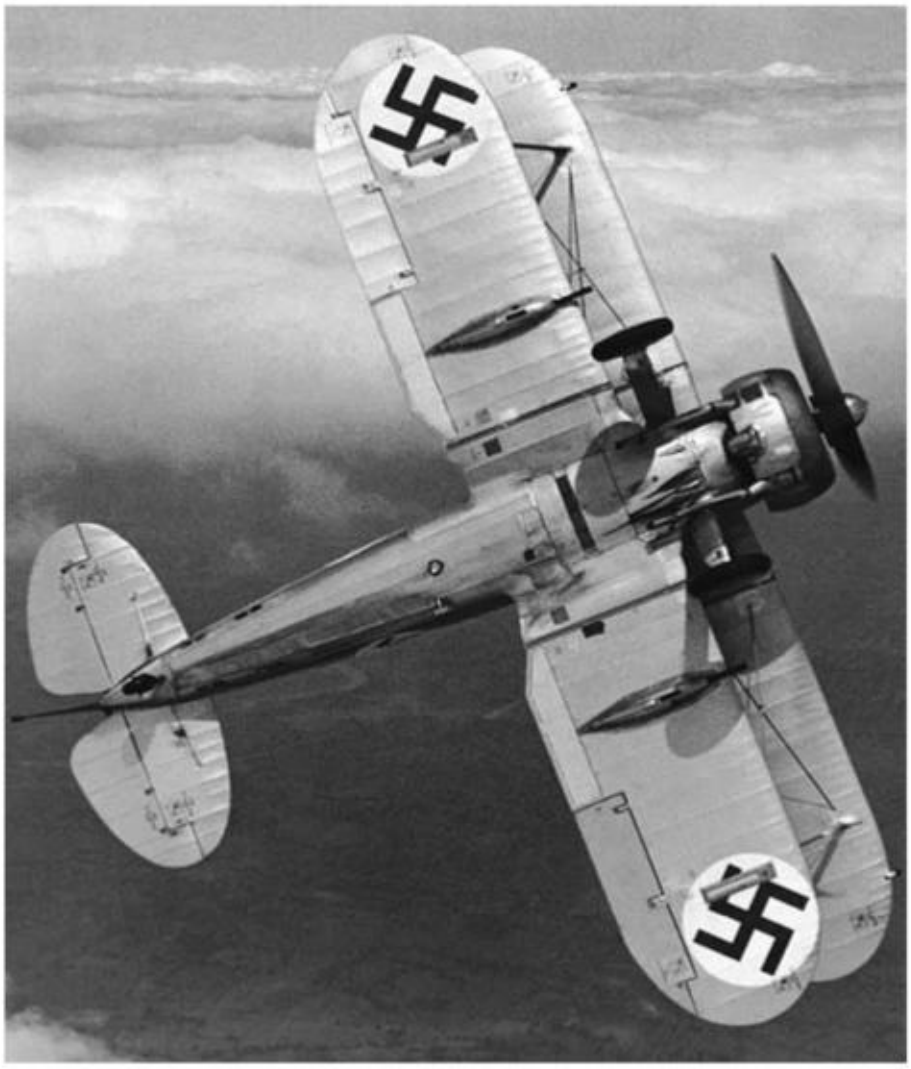
Such defiant heroism began to win enthusiastic support from around the world, so much so, volunteers from 26 different nations flocked to Finland's cause. Aid came from Britain and France, respectively, in the form of 30 Gloster Gladiator Its and 50 Morane-Saulnier fighter planes. But these "gifts" did not represent the selfless or high-minded gesture that London and Paris propaganda gave out. Rather, the Western allies regarded

the Winter War as an opportunity to cut off Swedish iron-ore supplies to Germany. Whatever their real motivation in making such “donations;’ the ever-outnumbered Finns were happy to receive new aircraft, although either type proved disappointing.

They found the unattractive M.S.406 sluggish, not as quick as the more nimble Russian fighters, and called it deprecating nicknames, such as Riippuvatsa (“Swag Belly”) or Mdtimaha (“Deer Belly”) for its bulging ventral fuselage. Finnish crews also had trouble pronouncing “Morane, which deliberately came out, Murjaani, “Nigger:” It says something for the piloting skills of Finland’s leading ace that Warrant Officer Urho Lehtovaara scored 15 of his 45 kills with the clearly obsolete M.S.406.

In the Gloster Gladiator’s first engagements with the enemy, however, it performed well. On February 2, 1940, 1st Lieutenant Paavo Berg took on six biplane counterparts, outmaneuvering all the Polikarpov Chaikas, to bring down one “Seagull” that crashed near his own headquarters. A few hours later, SSgt Oiva Tuominen sent a pair of more modern 1-16 monoplanes crashing into the Gulf of Finland. But these “kills” seemed less credited to the old-fashioned British import than to the superior combat skills of Finnish airmen making do with outdated equipment. An 850-hp Bristol Mercury IX radial engine provided the Gladiator with a maximum speed of 257 mph at 14,600 feet, and a rate of climb of 2,200 feet per minute, below performance levels enjoyed by the enemy 1-153 Seagulls and 1-16 Flying Squirrels that filled the skies over Finland.

The Gladiator’s four, .303-inch Browning machine-guns-two synchronized on either side of the front fuselage and one beneath each lower wing-lacked punch. RAF ace Roald Dahl described a far more serious drawback: “Those old Gladiators aren’t made of stressed steel like a Hurricane or a Spit. They have taut canvas wings, covered with magnificently inflammable dope, and underneath there are hundreds of small thin sticks, the kind you put under logs for kindling, only these are drier and thinner. If a clever man said, `I am going to build a big thing that will burn better and quicker than anything else in the world; and if he applied himself diligently to his task, he would probably finish up by building something very like a Gladiator”’



Britain’s fire-prone Gloster Gladiator was operated by Swedish and Finnish aircrews against the Soviets in 1940’s Winter War. (Courtesy Art-Tech)

While attacking a formation of 30 VVS bombers raiding Kouvola, Lieutenant Berg shot down one of them, but return fire set his Gladiator alight, and he was burned to death while trying to bail out. Tangling with Chaikas over the Karelian Isthmus on February 25, 1940, two additional Gladiators were lost and another badly damaged. Four days later, low-flying I-16s strafed Finnish airfields, setting ablaze a trio of Gladiators in the process of taking off, and three more that had just gotten airborne, plus a Fokker D.XXI, for the loss of two 1-16 Siipioravas to flak. In less than a week of fierce combat, 13 Gladiators-nearly half of the original compliment-had been destroyed. But the Finns were not without real friends.

On January 19, 1940, personnel of Sweden’s Voluntary Air Force, Flying Regiment F 19, arrived in Finnish Lapland to defend the vital iron-ore region from both Anglo-French and Soviet aggression. They came with 12 Gloster Gladiator Mk Is and Mk Its (known to the Swedes as J8s and J8As), five Hawker Harts, one Junkers F.13, and a single RaabKatzenstein RK-26 Tigerschwalbe. The Hart was a World War I-like, open-cockpit biplane powered by a 510-hp, water-cooled Rolls-Royce Kestrel IB V12 engine for a top speed of 185 mph at 13,000 feet. Having found its performance as a conventional light-bomber wholly inadequate, Regiment F 19’s executive officer, Captain Bjorn Bjuggren,

developed the Hawker to better purpose as a dive-bomber after seeing a Hollywood movie of the same name. Faced with the Arctic conditions that prevailed at Veitsiluoto, the Voluntary Air Force's base, he also replaced the Hart's fixed landing gear with skis.

Of 1919 vintage, the Junkers P.13 was the world's first all-metal transport plane, a single-engine, low-wing monoplane of corrugated duralumin, able to carry four passengers in an innovative heated cabin. Less renowned was another German import, the Raab-Katzenstein RK-26 Tigerschwalbe designed in the late 1920s by Gerhard Fieseler (of later Fieseler Storch fame) as a two-place trainer providing a 117-mph maximum speed by its seven-cylinder, 200-hp Armstrong Siddeley Lynx radial engine. Purchased in 1934 by a private civilian, Lars Hemmeringer offered his rugged, if antiquated, "Tiger Swallow" to the Flygvapnet for service with the Voluntary Air Force in Finland. The poor condition of its engine and chronic lack of spare parts virtually grounded Mr. Hemmeringer's donated aircraft, but the even older Junkers passenger plane was much in demand for liaison, reconnaissance, and transport duties, which it fulfilled admirably.

The Hawkers successfully carried out several dive-bombing sorties, dropping their 500-pound payloads with surprising accuracy on Soviet gun emplacements, much to the alarm of British designers, who insisted that the Hart had never been intended for such structurally stressful operations. Two Swedish Gladiators were lost in aerial combat for eight "kills;' with another four Russian aircraft destroyed on the ground in strafing runs. Captain Bjuggren complained that his pilots were prevented from scoring higher by the .303-inch tracer rounds fired from the Gladiators' Vickers and Lewis machine-guns, which were so weak, they failed to ignite the fuel tanks of Red Army Air Force bombers.

The Finns finally received their first modern aircraft in the form of 35 fighters from Benito Mussolini's Regia Aeronautica. Unlike the Western Allies, he nurtured no ulterior motives in supporting Finnish resistance, save his intense hatred of Communism. The tougher, faster, and maneuverable Fiat G.50 Freccia was an up-to-date monoplane with retractable landing gear. The "Arrow" immediately asserted itself as the best interceptor over the front, blasting away Soviet fighter escorts, allowing the Fokkers and Morane-Saulniers to deal with enemy bombers. Warrant Officer Oiva Tuomin would go on to become Finland's topscoring Freccia ace with 23 "kills:"

With these, their first modern fighters, the Suomen Ilmavoimat was once again on the offensive, unlike their comrades far below, where the sheer weight of Red Army numbers finally succeeded in breaking through the Mannerheim Line by early March 1940, forcing Finnish withdrawal from the Karelian Isthmus. Sensing victory at last, Stalin committed a fatal blunder. He ordered his forces over the frozen Gulf of Finland west of Viipuri to take Helsinki and end the Winter War in triumph. But as the masses of Soviet tanks, artillery, supply columns, and troops moved tentatively across the ice, they were caught in the open, with absolutely no cover, exposed to the full fury of every warplane the Finns could muster.

Russian soldiers, still wearing their heavy dark coats, stood out against the flat, bright, white arena onto which they had stumbled. In the words of Finnish historians Kari Stenman and Kalevi Keskinnen, the Suomen Ilmavoimat "went about its task with clinical

precision.“4 Blenheims joined by Fokker C.VEs and C.X.s relentlessly bombed the hapless Soviets from dawn to dusk, while flights of Gladiators, Bulldogs, Morane-Saulniers, Fiat Freccias, Fokker D.XXIs, and even Count von Rosen’s pair of “clumsy” Koolhovens shot up everything and everyone that moved. The Finns left the ice field scorched and blood stained with the gutted hulks of motorized equipment smoldering amid carcasses of men and horses by the thousands.

Elsewhere, the Red Army had managed to crawl less than 10 miles beyond the Mannerheim Line against stiffening resistance, as Commanding General Semyon Timoshenko lamented, “we have won enough ground to bury our dead:”’ In fact, 126,875 Russians had fallen against 26,662 Finns killed in action. This disparity of losses did not bode well for a renewal of Stalin’s offensive, when his already battered forces risked becoming bogged down in forests chocked with mud brought about by the spring thaw. The Finns were skilled at taking advantage of such conditions in which the Soviets could be handed yet another humiliating debacle.

“In our war against the Finns;’ Nikita Khrushchev recalled toward the end of his life, “we could choose the location of the war and the date of its start. In number, we were superior to the enemy; we had enough time to get ready for the operation. But on these most favorable terms we could win through only huge difficulties and incredibly great losses. In fact, this victory was a moral defeat. Our people certainly never got knowledge of it, because we never told them the truth.“6

Finnish success, made part in large measure by Suomen Ilmavoimat pilots and their decisive, all-out attacks at the Karelian Isthmus, was utterly sold out by Helsinki’s social democrats. They hoped that by yielding to all of Stalin’s prewar stipulations, he could be bought off from any future aggression, even though his forces had been clearly defeated. In the Moscow Peace Treaty of March 12,1940, the quailing politicians handed over Viipuri, their country’s second city, even large areas still held by the Finnish Army, amounting to more than 10 percent of Finland’s territories.

Twelve percent of the national population-about 422,000 residents of Karelia-lost their land and homes. Part of the mineral-rich Salla area was handed over, along with the militarily important Kalastajansaarento Peninsula in the Barents Sea, plus four strategic islands in the Gulf of Finland and the coveted Hanko Peninsula, where a Red Navy base controlled access to Helsinki. Twenty percent of Finland’s industrial capacity went to the Soviet Union. Save for outright occupation of the entire country, Stalin was given everything he originally demanded from the Finns and more.

To Suomen Ilmavoimat airmen, these fear-inspired giveaways amounted to a betrayal of their sacrifices and success, and were wholly unnecessary. The mostly worn-out or obsolete Fokkers and Gladiators were just then being replaced by greater numbers of superior Hawker Hurricanes and Brewster 239s arriving, respectively, from Britain and the United States-so many, in fact, the Finnish Air Force had at its disposal more and better fighter planes than at the beginning of the war. These superior replacements more than made up for the 42 Finnish aircraft lost in combat.

By contrast, Soviet losses amounted to 594 warplanes destroyed, 314 accounted for by

flak. Despite pilot protestations, and over the strenuous objection of Helsinki political opponents, President Kyosti Kallio was compelled by majority rule to endorse the infamous Moscow Peace Treaty on March 12, 1940. “May the hand that was forced to sign such a paper;” he cursed himself, “wither away”’ Shortly thereafter, President Kallio suffered a stroke that paralyzed his right hand.

Spring and most of summer 1940 represented a period of anxious isolation for the Finns, caught between Germany in the West, where Hitler’s victorious Norwegian Campaign granted him a dominant position in Scandinavia, and the USSR in the East, where Stalin digested his Finnish acquisitions and nursed his wounds from the Winter War. Those territories with which Finland’s social democrats had hoped to bribe him did not prevent the Marshal from provoking incidents aimed at reducing the Finns to nervous exhaustion. On June 14, a civilian Finnish airliner flying its routine itinerary from Tallinn to Helsinki was attacked and shot down by a pair of Red Air Force Ilyushin DB-3 bombers. All 21 persons aboard-18 passengers, 2 pilots, and 1 navigatorperished when the old, unarmed Junkers trimotor fell into the sea near Estonia.

During an air-search rescue mission in his new American fighter plane, Warrant Officer Ilmari Juutilainen spotted a surfaced Soviet submarine cruising through the wreckage. He needed all his self-control to keep from shooting “the rats away from their guns, followed by the officers on the conning tower.“8 It would not be long, however, before Juutilainen had his revenge, rising to become Finland’s leading ace and the top-scoring fighter pilot outside the Luftwaffe, with 94 confirmed “kills:” For now, incidents such as the wanton murder of defenseless Finnish civilians clearly foreshadowed another clash with the Communists, an inevitability for which Suomen Ilmavoimat commanders were busily training and re-organizing.

They had recently received some unexpected additions when Norwegian veterans of the German invasion escaped in their aircraft to Finland. Although the modern Heinkel He-115A-2 twin-engine floatplane was a welcome gift, two more Fokker CD “pursuit aeroplanes;’ plus a small DeHavilland Tiger Moth biplane trainer, would yet again challenge Finnish ingenuity. The Norwegians’ trio of decrepit Hover MF.11 floatplanes, for example, flew reconnaissance missions, later dropping propaganda leaflets behind enemy lines and depth charges on Red Navy submarines.

Perhaps the most bizarre addition to Finland’s supremely cosmopolitan air force was an entire flight equipped exclusively with captured and restored Soviet Polikarpov 1-153 Chaikas. Other strange aircraft received were 3 Swedish J-6 jaktfalk, antiquated biplanes fit only as trainers; 6 French Caudron C.714 interceptors so defective not even the innovative Finns were able to make use of them; and 24 examples of the Gloster Gauntlet delivered from the Union of South Africa, a biplane inferior to the inflammable Gladiator and referred to by the Finns as the Kotletti (“Cutlet”).

More welcome was the Mk I Westland Lysander, a British Army cooperation and liaison workhorse, renowned for its ability to operate from small, makeshift airstrips. The Finns used its exceptional shortfield performance for message-dropping and artillery spotting, occasionally dispatching the big (5,833 pounds [fully loaded]), high-wing (50-

foot span) monoplane, powered by an 890-hp Bristol Mercury XII radial piston engine to drop four, 20-pound fragmentation bombs on massed troop concentrations. Just four Lysanders were delivered to Finland.

The most valuable import arrived in the form of 10 Hawker Hurricane Is. A highly maneuverable and stable gun platform, a delight to fly, and 16 miles per hour faster than the Russians' fastest fighter-the I-16-the Hurricane outclassed anything flown by the enemy. But just 10 specimens could not make enough of a difference, and prospects for obtaining either additional numbers or spare parts evaporated with Britain's expulsion from Scandinavia. Accordingly, the Finns went shopping for comparably modern models in the neutral United States, where they found a bargain for their limited funds.

Available at discount was a relatively new fighter, the Brewster Model 239, derided by USMC pilots as a "flying coffin" and among "the world's worst aircraft;' according to aviation historian Jim Winchester. In what another historian, Daniel Ford, referred to as "The Sorry Saga of the Brewster Buffalo;' the portly monoplane would go on to serve during the early days of World War II throughout the Central Pacific, where it was massacred by Japanese Zeroes.10 British Brewster losses over Malaya or India were no less severe.

The 239s deceptively impressive top speed of 315 mph was compromised by fuel starvation issues above 15,000 feet, and Allied airmen found the poorly made aircraft sluggish at all altitudes. They deplored its easily overheated engine, lack of adequate armament and pilot armor, together with numerous maintenance issues. In comparative demonstrations against a Fiat Freccia on behalf of Finnish customers, the Buffalo managed to slightly out-turn its Italian counterpart, but fell behind the faster G.50. Heartily mortified when their barrel-shaped fighter was unable to perform loops, the Americans offered a package deal of 44 Brewsters almost at cost. Strangely, the aircraft's obvious and numerous deficiencies appealed to the resourceful Finns, who seemed to enjoy making silk purses out of sows' ears. They praised the Buffalo's roomy cockpit and visibility, plus good handling, qualities deemed important in close-quarter aerial combat. And the price was right. Returning home with their new warplanes, the Finns got busy at once, converting the aircraft's instrumentation to metric; solving the overheating problem of its 940-hp Wright R-1820-34 Cyclone 9 engine; installing an armored backrest for the pilot, a better Vaisala VT.h.m.40 gun-sight made in their own country, plus four, .50-inch Browning M2 machine-guns, together with numerous other improvements, until the Finnish version was far and away the best variant of the ugly American fighter ever produced.

While little more than a pudgy victim throughout the Pacific Theater, it would become a fearsome weapon on the Eastern Front in the hands of Suomen Ilmavoimat pilots, many of whom ended the war as aces. They never referred to the 239 as a "Buffalo" but knew it instead as Lentdvd kaljapullo, "the flying beer-bottle"; Amerikanrauta, "the American car"; or simply, "the Brewster:" Time would soon tell if Finnish improvements were enough to make a Cinderella story of this U.S. acquisition.

For nearly one year after Germany's non-aggression pact with Russia had been signed

by ambassadors of both countries immediately prior to the outbreak of World War II, the perception that Hitler and Stalin might some day divide up Finland, as they had Poland, greatly concerned the Finns. To their immense relief, they were approached in August 1940 by Luftwaffe representatives with a variety of captured aircraft for sale. Relations between the two countries steadily normalized as the aircraft transactions took place over the course of several months, a period when the Suomen Ilmavoimat received 57 MoraneSaulnier fighters captured from the defeated French.

The M.S.410 was an updated version of the 406, with a stronger wing, four, belt-fed,.5-mm MAC 1934 machine-guns replacing the two, drum-fed weapons, and exhaust ejectors for additional thrust, which pushed the 410 to 316 mph. The 406's persistent overheating dilemma had been resolved by replacing its retractable radiator with a simpler fixed design that, for all its additional drag, did not prevent the M.S.410 from achieving a 10-mile per hour speed advantage over its predecessor.

The Finns also bought the first 29 of eventually 44 Curtiss 75A-3 and A-6 Hawks, likewise formerly of the Armee de lAir. The attractive, low-wing American monoplanes were particularly welcome additions for their fine handling qualities, wonderful agility, and reliable 1,050-hp Pratt and Whitney R-1830-17 Twin Wasp air-cooled radial engine that gave the Hawk a top speed of 313 mph. Armament varied throughout the war, beginning with four or six 7.5-mm machine-guns, later replaced by twin 12.7-mm Colt machine-guns in the forward fuselage, plus two (sometimes four) 7.7-mm Browning machine-guns in each wing. When replacement parts became scarce, 12.7-mm Berezin UB or LKk/42 heavy machine-guns substituted the Colts. Contributing to accuracy, as well as weight, were the improved Revi 3D or C/12D gun-sights. Remarkably, these increasingly heavier additions did not adversely affect the Hawk's superb flight characteristics, as reflected by its Finnish nickname, Sussu ("Sweetheart").

All Curtiss fighters were assigned to Lentolaivue 32 throughout renewed hostilities with the USSR, when its pilots would be credited with more than 199 "kills" at the hands of 58 airmen for the loss of only 15 Hawks. As many Soviet aircraft were downed by just one flyer, 1st Lieutenant Kalevi Tervo, the top-scoring Sussu ace.

German and U.S. sales combined with foreign imports and available stocks to flesh out two air regiments, three bomber squadrons, and five independent squadrons with 550 warplanes-a large air force for a nation with such a small population as Finland. Relations with the Third Reich had become cordial enough by spring 1941 that Hitler confided his determination to attack Russia with Marshal Mannerheim four weeks before the invasion. On June 22, the day Operation Barbarossa began, Soviet military intelligence detected the presence of Luftwaffe aircraft based at Finnish airfields.

Combined with support from the Red Navy, the Voenno-Vozdushnye Sily had more than 800 aircraft at its disposal. Seventy-two hours later, 460 of them raided 18 cities across southern and eastern Finland, hitting mostly civilian targets. Several hundred noncombatant men, women, and children died in the attacks. Finnish pilots were scrambled, but mostly bypassed enemy escorts to get at the flights of incoming Tupolevs. These were SBs, Skorostnoi Bombardirovschik, or "high speed (280 mph) bombers;'

which then comprised 94 percent of all Red Army Air Force bombers.

Suomen Ilmavoimat revenge was swift. Fiat Freccias tore into the intruders, destroying 10 in just 20 minutes, while the Brewsters tasted blood for the first time, contributing to the combined total of 23 Soviets shot down for no losses incurred by the Finns on the first day of what they called “The Continuation War.” While a good start, their score could have been substantially higher, because less than one-fifth of all available interceptors had been thrown into battle. Lacking radar, their early warning system failed to sound a thorough alert.

For more than two weeks thereafter, Suomen Ilmavoimat crews were confined to defending their homeland against enemy bomber raids, while a cautious Mannerheim studied the progress of Hitler’s Operation Barbarossa. Convinced at last of its success, the Marshal ordered his own offensive for July 10 across the Karelian Isthmus. It took the Soviets by surprise, their losses on the ground matched only by defeat in the air. During a single 10-minute engagement, Brewster pilots destroyed 8 Polikarpov Chaikas out of 15 engaged, damaging another 4. Earlier, a pair of Tupolevs and six VVS fighters were downed, the Finns yet again avoiding any casualties.

By late August, the inertia of their success had carried them to less than 13 miles from the northern suburbs of Leningrad. Capture of the city was Hitler’s first strategic goal for psychological, as well as military considerations. Its fall would include the main base of the Red Navy’s Baltic Fleet and industrial capacity for numerous arms factories, while severely undermining Communist morale as the ideological capital of the Russian Revolution. To complete encirclement of the sprawling, polluted megalopolis, he needed to link up his forces with Finnish troops simultaneously advancing on it from the north and the east through Karelia, just beyond Lake Ladoga.

“The mass of the Finnish army will have the task, in accordance with the advance made by the northern wing of the German armies;’ the Fuehrer specified in Directive 21, “of tying up maximum Russian strength by attacking to the west, or on both sides, of Lake Ladoga:”

But it was not to be. “On August 24, 1941;’ Finland’s President Risto Heikki Ryti stated, “I visited the headquarters of Marshal Mannerheim. The Germans aimed us at crossing the old border and continuing the offensive to Leningrad. I said that the capture of Leningrad was not our goal, and that we should not take part in it. Mannerheim and the military minister Walden agreed with me, and refused the offers of the Germans. The result was a paradoxical situation: the Germans could not approach Leningrad from the north.“2

Instead of continuing their advance as Hitler wished, Finland’s army halted at the old Soviet-Finnish border on the Karelian Isthmus. The mere presence of Finnish forces just 20 miles from downtown Leningrad had been sufficient to tie up deployment of the 23rd Red Army. But when their Front Commander Mikhailovich Popov was informed by Soviet military intelligence intercepts of Axis communications revealing the Finns had no intention of resuming their advance, he unleashed his reserves against the German sector on September 5. Leningrad was no longer in danger of encirclement, resulting in one of

World War II's lesser-known turning-points. If Mannerheim had moved forward a few miles to link up with Wehrmacht forces, the city would have been cut off from outside supply and doubtless fallen by winter, depriving the USSR in large measure of its industrial base, while freeing substantial numbers of German troops and materiel for operations against Moscow and Stalingrad.

Finland was not, however, a formal ally of the Axis, but a co-belligerent, and therefore under no obligation to consider Hitler's policy in the East. Its politicians meant to ride the tide of Operation Barbarossa for purely nationalist purposes; namely, winning back territories previously taken by Stalin and establishing a buffer zone to protect them in a "Greater Finland." This agenda had nothing to do with defending Europe, defeating the Soviet Union, or aiding the Fuehrer, only in so far as they could wheedle supplies out of him.

While personally expressing his best wishes on Mannerheim's 75th birthday during a June 4 visit to Finland in 1942, he took the occasion to cordially remind the Marshal that only Operation Barbarossa had made a "Greater Finland" possible, while its acquired territories would be inevitably retaken by the USSR, and worse, if Russia was not defeated by the combined effort of as many European powers as possible. Toward that end, German aid could be generous, but improved cooperation had to be forthcoming. Mannerheim was coldly gracious, although noncommittal, promising to defer the Fuehrer's observations to parliament.

Shortly after the unhappy birthday party, Hitler received his answer when 180,000 men were demobilized from Finland's army. Its forces had advanced into Russia as far as they would ever go. For the next 30 months, Mannerheim conducted a stationary war, aloof from the rest of the fighting on the Eastern Front, because he was only concerned with defending occupied areas from Soviet attempts at retaking them.

One of the largest confrontations occurred on August 18, when 60 Red Star aircraft were opposed over Kronstadt by 14 Finnish interceptors. Although the Russians fought well, and many of their fighters were superior to the dated B-239s, a lend-lease Hawker Hurricane, two Petlyakov dive-bombers, and a dozen Ratas tumbled out of the sky for the loss of a single Brewster.

By late 1942, however, years of patrols and combat had virtually worn out the foreign cast-offs and hand-me-down aircraft of the Suomen Ilmavoimat, its fastest fighters now unable to reach 300 hundred mph. Finnish crews no longer faced Spanish Civil War-era biplanes but new Yak and Lavochkin fighters good enough to challenge the Luftwaffe. These modern warplanes were moreover piloted by better-trained airmen, who applied the lessons of past failures to more successful tactics. Finnish pilots complained that their French-built fighters were in serious risk of rapidly becoming dangerously useless, so the daunting task of granting the Morane-Saulnier at least an approximation of modernity devolved upon Finland's leading aircraft designer.

Aarne Lakomaa began by replacing the original Hispano-Suiza 12Y 31 liquid-cooled V-12 rated at 860 hp with a 1,100-hp Soviet enginethe Klimov M-105P-captured in abundance. It was installed behind a more aerodynamic cowling and fitted with a variable

pitch propeller, while the M.S.406's airframe was strengthened, and an oil cooler from a Messerschmitt-109 replaced the inferior French version, thereby finally solving over-heating problems that had dogged the design from its inception. As a consequence of these improvements, the modified Morane enjoyed a 36-mph speed advantage over all previous incarnations.

It was also given more teeth: the Hispano-Suiza HS.404 cannon and two 7.5-mm MAC 1934 machine-guns were substituted by one 20-mm and four MG 151 15-mm cannons. While not always readily available, this German armament was replaced by five 12.7-mm Berezin UBS machine-guns from stocks of captured Soviet weapons. The aircraft's extreme make-over made it a match for the best Russian fighters when the M.S.-631, as the new rendition was officially known, made its debut in February 1943. To grateful Finnish pilots, such as Lieutenant Lars Hattinen, who became an ace with the last three of his six aerial victories in Aarne Lakomaa's upgraded version, the French warplane was no longer a Riippuvatsa or Murjaani, but Morko-Morane: the "Bogey" or "Ogre Morane"

Finnish air power was further bolstered with the addition of 15 Dornier Do 17Z-2 and 23 Junkers Ju. 88A-4 medium-bombers arriving from Germany in spring. Their outstanding achievements were severing Leningrad's vital railway link with Murmansk on May 30, followed by the obliteration of extensive partisan camps in August.

When Soviet forces broke the siege of Leningrad in January 1944, however, the Red Army was able to steadily push the Finns out of those territories they occupied for the previous 29 months. Mannerheim appealed to Hitler, who, hopeful that the Marshal might yet join the Axis now that he was confronted by real difficulties, dispatched 30 of the latest Messerschmitt Bf 109G-2s, enough to equip a full Suomen Jimavoimat squadron, with a pledge to replenish any Gustavs lost through attrition. While they were in transit, a major Soviet offensive erupted into the Baltic Sea on April 18.

Finnish pilots had to make do with their old "flying beer-bottles" against terrible odds, scrambling 14 Brewsters to 8 Ilyushin groundattack bombers protected by no less than 50 Red Army Air Force escorts of the latest type. During the hour-long melee that ensued, 2 Shturmoviks and 18 fighters were shot down at no cost to the Finns. They were less fortunate three days later, when enemy flak and fighters claimed 2 B-239s for 19 losses suffered by the Red Banner Baltic Fleet. During six weeks of unremitting combat, 81 Soviet aircraft fell against the loss of just 3 Brewsters. But by then, the patently obsolete Amerikanrautas were at the end of their tether, particularly when engaging outnumbering examples of the LaGG-3, with its 60-mph speed advantage and 20-mm ShVAK cannon.

The first Messerschmitts arrived just in time to meet this threat on May 21, when, in their first two missions, Finnish-flown Gustavs shot down four of the deadly Russian fighters without loss to themselves. The Baltic offensive raged throughout summer into autumn, exerting the heaviest burdens on men and machines. Despite severe losses, a seemingly inexhaustible armada of VVS warplanes continued to fill the skies over the eastern Gulf of Finland. On September 23, 4 Messerschmitts and as many Brewsters flew at 20 intruders to claim 3 Yak-9s and 5 Lavochkin La-5s. Both incorporated improvements in speed and armament over their immediate predecessors.

Later that same day, another 7 B-239s jumped 15 enemy fighters and bombers returning to their airfield to shoot down 6 Lavochkins and 1 Shturmovik By year's end, losses such as these had stymied the Soviet offensive, which was redirected against Kotka, in southern Finland, from which supplies to the front were shipped. The port city was targeted by more than 50 enemy fighters and bombers in two attacking waves on March 6. Overwhelmed by these numbers, interceptors were only able to claim 11 aircraft destroyed, mostly twin-engine Petlyakov Pe-2 dive-bombers. Additional Messerschmitts arrived thereafter, and Finnish "kills" soared, until the Baltic offensive was called off after more than a year of failed effort on May 19.

As it had at the close of the Winter War, the Suomen Ilmavoimat achieved a superb defensive victory. Before long, however, it would be called upon to repeat that success yet again. Twenty days after Stalin's failed Baltic operations, more than a quarter-million of his men attacked the Karelian Isthmus with eight assault artillery regiments and as many tank regiments, joined by four mechanized brigades in a Soviet offensive 12 miles wide. Its VVS umbrella of 1,520 warplanes from the 13th Air Army and Red Banner Baltic Fleet was opposed by 30 Messerschmitts and 18 Brewsters.

The Finnish Air Force was a motley collection of various types from many foreign countries, most importantly, Germany, which supplied Messerschmitt Bf.109 fighters, such as the specimen shown here. (Courtesy Art-Tech)

Odds were not much better on the ground, where just 75,000 Finns faced a much more powerful enemy determined to take their capital. Undaunted, Suomen Ilmavoimat pilots hurled themselves at the vast Communist armada, destroying 16 aircraft during their first day of combat. Unable to overcome their outnumbered opponents in aerial engagements, 75 Soviet bombers escorted by 20 fighters struck Lappeenranta, hoping to annihilate the Finnish Air Force Base and all its equipment on the ground. But the raiders were only able to catch and destroy two Messerschmitts (plus another couple damaged), together with a pair of captured Pe-2 dive-bombers. Radio intelligence intercepts had alerted the Finns, enabling most of them to get airborne in time.

Now, the attackers were themselves under attack, as 11 Shturmoviks fell to earth, followed by 4 Petlyakovs and a Yak-9. Yet again, the Finns incurred no losses. They were less lucky on June 17, when defensive fire from an Ilyushin's rear gunner shot off the starboard wing of a Bf.109 flown by 1st Lieutenant Urho Sarjamo. Wreckage from the stricken fighter collided with 1st Lieutenant Lauri Nissinen's Messerschmitt. The death of both aces-with more than 12 and 32 aerial victories, respectively-represented a terrible loss for the whole Suomen Ilmavoimat. Forty eight hours later, Warrant Officer Urho Sakari Lehtovaara exacted some measure of revenge by shooting down two U.S.-built P-39s and a pair of Petlyakov Pawns during a single sortie.

Fierce engagements intensified throughout the month, as witnessed by June 30th's desperate attack on more than 100 VVS aircraft. Seventeen Ilyushin and Tupelov bombers tumbled out of formation in smoke and flames, as the 14 Finnish interceptors escaped unharmed. Their bomber comrades were no less involved. Dornier-17s and Junkers-88s daily blasted Red Army artillery, troop assemblies, supply columns, and tank concentrations, punching gaping holes in Soviet logistics and throwing the whole offensive off balance. Stalin's forces advanced despite such blood-letting, magnified on the ground a thousand fold. The sheer mass of his men, absorbing staggering casualties, deluged into Viipuri, and all territories conquered during the Continuation War were overrun.

Mannerheim's short-lived "Greater Finland" was no more. He sent an urgent plea for help to the Swedes, warning them that the imminent Communist conquest of his neighboring country would imperil all of Scandinavia. "We are fighting not just for ourselves;' the aged Marshal declared, "but for the whole of Northern Europe."3 As the same sort of argument had failed to move him when the Fuehrer used something like it in 1942, appeals to pan-European survival likewise elicited no help now from Sweden. In desperation, Mannerheim begged Hitler for aid.

"Let them stew in their own juice;' Dr. Josef Goebbels, the Reich's Propaganda Minister, urged his boss. "They would not help us at Leningrad when they could. Their chickens have come home to roost, that is all:" Moreover, he argued, German forces were then fighting their own life-and-death struggle, and could hardly be expected to spare men or equipment to pull somebody else's chestnuts out of the fire.14 Hitler agreed, but pointed out that the entire northern flank of the Eastern Front had been threatened with collapse by the Soviet offensive. And if Finland fell, Germany's main sources of nickel iron would be jeopardized. He accordingly dispatched to Mannerheim a powerful task force drawn from units in Estonia and commanded by Kurt Kuhlmey, one of the war's most famous Stuka pilots.

Kuhlmey's elite Gefechtsverband of 46 Messerschmitt Bf 109G-8s, plus Focke-Wulf 190 fighters and ground-attackers, together with Junkers Ju-87D-5 dive-bombers, landed at the Suomen Ilmavoimat airfield of Immola. They were in part assigned to fly cover for and directly support the Assault Gun Brigade of the German 122nd Division Greif ("Vulture") and the German 303rd Sturmgeschutz Brigade sent at Mannerheim's request. The deadly Sturmgeschutz assault guns had already accounted for an estimated 20,000

enemy tanks since its debut in the Battle of Kursk less than a year before.

Oberst Kuhlmey, his men, and machines, wasted no time, shooting down seven Soviet aircraft as soon as they arrived at Immola, suffering no losses themselves. From dawn to dusk, every day for more than a month, they destroyed innumerable tanks and more trucks, strafed whole support columns, and massacred thousands of Stalin's troops. On June 28, a particularly devastating Stuka attack left a massive traffic jam of pulverized Soviet equipment in its wake. As the smoke of burning armor and strewn supplies blotted out the sun, and great mounds of the dead multiplied everywhere, the Red Army began to falter.

Hordes of airmen from the 276th Soviet Bomber Division scoured the combat area for German aircraft, eventually finding them parked at Immola on July 2. Four Stukas went up in flames, joined by 5 more Focke-Wulfs, plus another 21 aircraft of various types damaged. The Shturmoviks then turned their attention to the Finnish armored division's staff headquarters, scoring many direct hits. German replacements were almost immediately forthcoming, and Task Force Kuhlmey resumed full-strength operations six days later, in time to join Finnish Messerschmitt-109s opposing a Red Army landing at Uuras, where thousands of Soviet soldiers were machine-gunned to death in the aborted attempt.

But the Finns were suffering, too, losing about 800 men every 24 hours during the first days of July 1944. On the 2nd, however, Finnish military intelligence intercepted a radio message ordering the Red Army's 63rd Division and 30th Armored Brigade to advance through the narrow Ihantala sector at 04:00 hours the next day. Given short but invaluable notice, half of the artillery in Finland's army was hurriedly concentrated at Ihantala. Just two minutes before the Communists were set to move forward, they were hit by 4,000 artillery rounds fired at them from 250 pieces of field artillery, the heaviest barrage in Finland's history.

Contributing to the carnage were 80 German and Finnish aircraft that bombed and strafed tanks, trucks, and troops vainly trying to escape. The badly mauled enemy spearhead staggered through Ihantala into the German 303rd Sturmgeschutz Brigade, whose men administered a coup de grace with their new Panzerfaust anti-tank weapons. The next day, in a final effort to regain the initiative, the Soviet 59th Army island-hopped across the Bay of Viipuri for a large-scale attack on the mainland. In less than a week of fighting, the German 122nd Division threw the enemy hordes back into the sea with heavy losses. It was then that Finnish scouts observed trains carrying empty trucks rolling toward Viipuri for the evacuation of Red Army troops. On July 12, Moscow sued for an armistice.

The largest battle in the history of Northern Europe was among the great defensive victories in military history. Stalin's commanders informed him that a new offensive against Finland would not be possible until year's end, and final conquest, at no doubt a terrible cost, might be expected perhaps sometime in spring 1945. These sobering considerations were exasperated in his mind by the successful advance across France then undertaken by American forces. They would be in Berlin, maybe even Warsaw, while his forces were still bogged down in relatively insignificant northeastern Europe.

The invasion of Finland would be called off, but its people were forced to give up strategic territories-including all of Karelia and Petsamo-that would allow the USSR economic, as well as military, domination of the region. Moscow would determine domestic political life, especially reinstating the Communist Party, prosecuting anyone they deemed a “war criminal;’ and controlling the nation’s judicial system. War reparations were deliberately exorbitant, crippling the Finnish economy for decades.

All Germans in Finland, including those hospitalized, were to be arrested at once and turned over to Red Army commissars. Standard policy for every Eastern European people conquered by the Soviets required that their government declare war on Germany, and the Finns were not to be spared this dishonor, save only that Stalin simultaneously insisted that they disband their armed forces. Helsinki social democrats trembled before the enemy ultimatum, pointing out that 58,715 of their fellow countrymen were already killed or missing in action. What they did not know was that the Soviets lost over 200,000 dead, plus hundreds of thousands more wounded, and enough equipment destroyed to jeopardize any future offensive. A poker-faced Stalin called the Finnish politicians’ bluff, and they caved in to all his demands.

“But how can we declare war on Germany,” they petitioned him, “if we’re not allowed to have arms?”” Stalin revised his former, insane demand, allowing the Finns to retain only enough weapons for the expulsion of the Nazis from northeastern Europe.

After the projected defeat of the Third Reich, the Finnish armed forces were to be dispensed with and dissolved. As soon as the Soviet ceasefire went into effect at 0700 on September 4, Red Army guns shelled disarmed Finnish positions, killing and wounding additional numbers of troops over the next 24 hours. Thereafter, German and Finnish army headquarters coordinated the former’s evacuation in gradual stages. A common, prearranged schedule allowed Wehrmacht forces to fall back, followed by Finnish artillery firing on empty trenches. The leisurely “retreating” columns of German troops and vehicles were then buzzed by Suomen Ilmavoimat aircraft, which neither fired rounds nor dropped bombs to complete the simulated attacks.

The process was continuously repeated for about two weeks, until enraged Soviet authorities finally saw through the masquerade and demanded bloodshed, resulting in the so-called Lapland War. This obscure conflict took another 2,000 lives before its almost simultaneous close with the distant fall of Berlin seven months later, a few days before the collapse of the Third Reich. Finnish pilots were also under orders to aggressively attack anything German, particularly Luftwaffe aircraft.

On October 3, 1944, 1st Lieutenant Erik Teromaa, flying his Brewster fighter, reportedly shot down and destroyed a Junkers Ju-87 divebomber over northern Finland. He thereafter sternly informed his fellow pilots, “that satisfies all obligations for 1/HLev 26;’ of which he was the squadron commander, giving them to understand that no further actions would be undertaken.” His was the only claim of its kind made during the Lapland War, after which Luftwaffe records revealed that no German aircraft were lost on that day. In fact, no Stukas operated over northern Finland at the time.

Chapter 8

HUNGARIAN PUMAS

> In the highest readiness, the deputy and son of the Royal Regent, Istvan Horthy, participated in our fight for the new Europe as a flight officer, and there died a hero's death.
>
> -Walther Troege'

After World War I, the Allied victors at Versailles met to parcel out 74,971 square miles of Hungarian territory to foreign enemies, stranding nearly half of the Hungarian people under hostile, foreign domination. The Hungarian armed forces were dismantled and military aviation forbidden. Only civilian "aero clubs" were allowed, but they at least preserved some measure of flight instruction over the next two decades.

Hungary's right to self-defense was not restored until 1938, when Franco-British politicians planned to enlist Hungary against Germany in the event of war. To be sure, the arch-conservative, anti-Fascist regent, Admiral Miklos Horthy, was inclined to favor the Western Allies, but popular demands loudly voiced by his subjects to reclaim severed territories and displaced fellow countrymen were additionally fueled by dread of neighboring Soviet Russia. Hitler and Mussolini, meanwhile, courted Horthy by selling him military aircraft at discounted prices, and gave him a slice of the dismantled Czechoslovak state inhabited by Hungarians.

On September 1, 1938, the Magyar Kirdlyi Honved Legiero, or Magyar Legiero, the Royal Hungarian Air Force, unfurled its red-white-green chevron insignia for the first time. Its crews did not have to wait very long for their baptism of fire, however. The following March, they flew cover for Hungarian troops occupying Ruthenia, formerly part of eastern Czechoslovakia, where clashes with elements of the Slovenske vzdusne zbrane, the Slovak Air Force, took place. Although the Slovaks' Avia B.534 biplane was equal to Fiat CR.32s operated by the Magyar Legiero, Hungarian pilots benefited from superior training, shooting down 10 SVZ aircraft at no loss to themselves in what they referred to as the eight-day-long Kis haboru, or "Little War:"

By then, a much larger European conflagration seemed imminent, and Horthy ordered a radical strengthening of his entire armed forces. Impressed by close cooperation exhibited between the German Army and Luftwaffe in their Blitzkrieg conquests of Poland and France, he subordinated the formerly independent Royal Hungarian Air Force to the army high command. Most of the Magyar Legierd's new aircraft were purchased from Italy. These included 69 Fiat CR.32s, 68 Fiat CR.42s (more antiquated biplanes), and 34 specimens of the Reggiane Re.2000, which Hungarian pilots referred to as the Heja, or "Hawk:" It was a poor copy of the American P-35 produced by the Seversky Aircraft Corporation, structurally deficient and plagued by a temperamental 870-hp Piaggio P.XI RC.40 radial engine.

The Magyar Legiero possessed just 3 examples of the German Heinkel He.112, its only relatively modern fighter, although 34 Junkers Ju86s rejected by the Luftwaffe made up a bomber wing, together with 36 Caproni Bergamaschi Ca.135s more yet substandard Italian aircraft. Hungary's only indigenous warplanes were the Weiss WM 21 S6lyom and Repiilogepgyar Levente II.

A thoroughly obsolete, open-cockpit biplane design based on that of a 1928 Dutch Fokker, 48 Weiss Falcons equipped Magyar Legiero reconnaissance units, where they were joined by 38 no less doddering, if still rugged German Heinkel He.46 parasol monoplanes and 37 Italian Meridionali Ro.37 Lynxes, which had been already retired from production. These were supplemented by another 13 Luftwaffe castoffs, Heinkel He.111B medium-bombers.

The fragile Repiildgepgyar Levente II was never intended for anything more than the primary training duties for which it had been designed. But the growing exigencies of war on the Eastern Front pressed the spindly little biplane-with its 105-hp Hirth HM 504A-two fourcylinder inverted inline piston engine and top speed of 112 mph-into service as a much-needed liaison and communications aircraft. The rest of the Hungarian Air Force was fleshed out by four Savoia-Marchetti SM.75 trimotors used as paratroop transports, plus a variety of German and Italian trainers, which brought Magyar Legiero strength up to 536 aircraft when Horthy permitted German forces to assemble on Hungarian territory for their invasion of Yugoslavia in March 1941.

He belatedly joined the fight on April 11 to recover the Banat and Batschka areas separated from Hungary more than 20 years earlier for the loss of six Fiat fighters and one S6lyom. Two months later, Operation Barbarossa exploded. Hitler had not invited the Hungarians to take part in his crusade against the Soviet Union, because their animosity for his oil-rich Romanian ally jeopardized the campaign. Hungarians themselves went wild for war with the USSR. They regarded the invasion as a historically unique opportunity to simultaneously destroy the Communist colossus towering over their eastern frontier and reclaim all those territories lost after World War I.

Horthy nonetheless hung back, as he had in Yugoslavia, until his hand was forced on June 26, when Red Air Force Tupolev SB-2 bombers struck Kaschau, Muncas, and Raho, towns in northern Hungary, where several dozen civilians were killed and injured. Magyar Legiero retribution was swift and far ahead of the Hungarian army, as a mixed formation of 51 Junkers and Caproni bombers protected by 9 Fiat CR.32s raided Stanislav, Strij, and other targets east of the Carpathian Mountains over the next three days. Seven Tupolevs returned on the 29th to strike the Csap railroad station, but three were shot down by Fiat CR.32s in this first aerial confrontation over Hungary.

By mid-summer, the German Xlth Army laid siege to Nikolayev, a strategic Black Sea port that received supplies across a mile-and-aquarter-long bridge spanning the Bug River. The vital structure, heavily defended by massed anti-aircraft guns and a squadron of Polykarpov I-16s, was targeted on August 10 by six Hungarian Capronis escorted by as many Fiat CR.32s, plus five Hejas. One of the bombers scored repeated hits on the bridge, which collapsed along its entire length, and additionally claimed an attacking Rata.

Although the formation commander's Ca.135 lost its port engine to ground fire, Senior Lieutenant Istvan Szakonyi's skilled gunners succeeded in shooting down three enemy interceptors. Another five were destroyed by the Fiats, for the loss of a single Reggiane.

Six days later, Nikolayev fell with the capture of 60,000 Soviet troops, and Luftwaffe Colonel-General Alexander Lohr presented the Hungarian flight crews with their decorations at Sutyska airfield. By the following month, however, after having flown 1,454 sorties, the Magyar Legier6 on the Eastern Front was exhausted and needed to be withdrawn. Most of its equipment was older and patently inferior to enemy aircraft, suffering disproportionate attrition. Thirty Soviet warplanes had been shot down, but the Hungarians lost 56 of their own. The aircrews would not return until July 13, 1942, after extensive training and re-equipping, with the arrival of the 1/1 Fighter Squadron at Ilovskoje airfield outside the Don River. An obvious change was replacement of the old tricolor chevron insignia on wings and fuselage with a white cross in a black square, while vertical stabilizers were covered in red, white, and green bands.

Although their Fiat biplanes had been left at home to more properly serve as trainers, MKHL pilots were still saddled with the disappointing Re.2000. Only a superior maneuverability enabled the Heja to overcome its deficiencies in speed and fire power against better Migs and Lavochkins. The Hungarians got off to a prestigious start on August 4, however, when their first success was achieved by the heir to the throne, now First Lieutenant Istvan Horthy. His Reggiane hit a LaGG-3 that caught fire and disappeared into a cloud. It was not a confirmed "kill;' but seemed to foreshadow greater things to come. Indeed, that same day, two Polikarpov Ratas were downed by a single Heja pilot.

Over the next several days, misfortune dogged the 1/1 Fighter Squadron. Major Kalman Csukas mistook a German Heinkel bomber for a Russian Petlyakov and shot it down, injuring two crew members, to whom he later made a personal apology. Ongoing mechanical difficulties grounded all but three Reggianes, and one of these was forced to abort its mission shortly after take-off with engine trouble. The other two survived an unsuccessful attack against Soviet bombers. More Re.2000s arrived with 2/1 Fighter Squadron, but their machineguns jammed during another fruitless encounter, and the humiliated commander of the First Air Division admitted he was unable to protect Hungarian ground forces by asking the Germans for help. Mechanics, referred to by their pilots as "the black men" for their dirty job, worked furiously night and day to get six Hejas airborne on August 9.

The two lead pilots breezed passed a formation of Shturmoviks and LaGG-3s, assuming they were Luftwaffe fighters, and the remaining 4 Reggianes were left to confront more than 30 enemy warplanes. Outnumbered, the Hungarians destroyed four of the superior LaGG-3s for a single wounded Heja pilot, who survived by crash-landing behind his own lines.

Thanks to the untiring ministrations of the "black men;' their Re.2000s were kept flying, mostly on patrols over the Don River, where Red armored vehicles were observed and reported to Wehrmacht headquarters. Luftwaffe dive-bombers obliterated the tanks,

while the Hungarians provided cover.

On August 11, 1st Lieutenant Pal Iranyi shot his way out of an ambush by five LaGG-3s, downing one of them and escaping to Ilovskoje. Then, just when Magyar Legiero luck appeared to be changing for the better, Istvan Horthy died at the controls of his aircraft when it stalled and crashed shortly after takeoff on August 18, as he set out with a pair of fellow Hejas assigned to escort a reconnaissance mission. All Hungary went into mourning, and an elaborate state funeral for the royal heir attracted international attention.

Shortly thereafter, pilots of the Magyar Legierd on the Eastern Front began to make a name for themselves as effective hunters of the Red Air Force's formidable ground-attack plane, the Ilyushin 11-2, by aiming for its vulnerable radiator mounted above the engine. While such an approach promised the best prospects for success, it was the most dangerous, exposing the attacker to concentrated fire from every rear gunner in a formation. An alternative tactic called for closing in on the target from beneath, as the Shturmovik's oversized radiator was also vulnerable from this angle. Other Hungarian pilots followed the German preference for aiming directly at the enemy pilot during a steep dive.

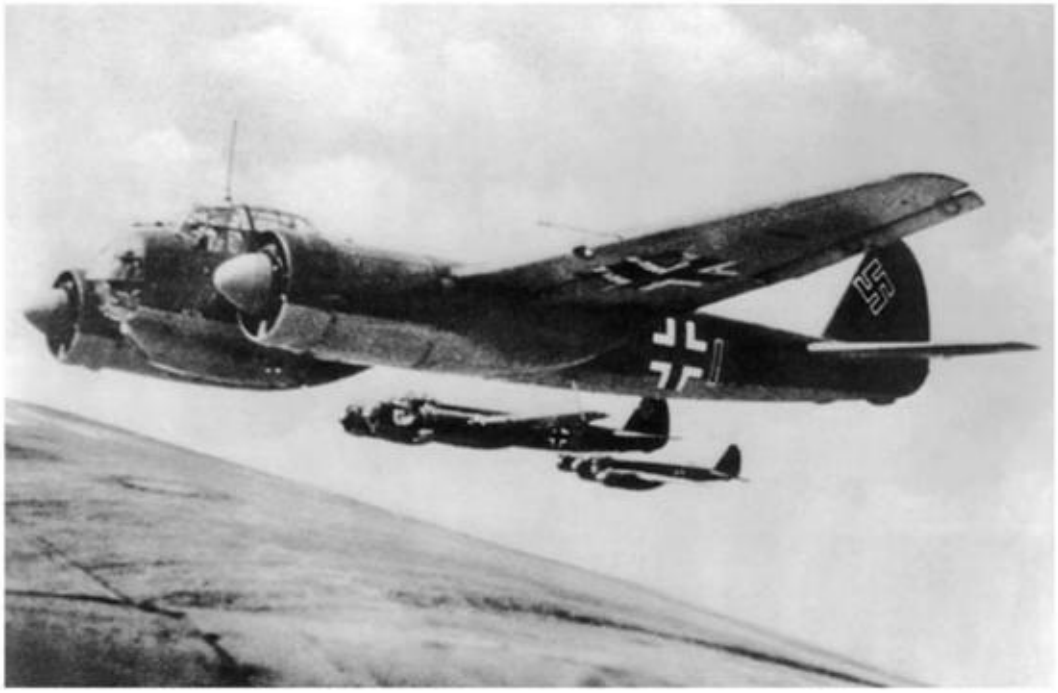
The skilled Iranyi and his wingman, Sergeant Zoltan Raposa, each brought down a Shturmovik on September 2, when a 20-mm round tore off two fingers on the right hand of Cadet Lajos Molnar, who was flying cover for the attack. But the 11-2 "expert" was 1st Lieutenant Imre Panczel, who knocked out three "Flying Tanks" in the last three days of October. He and Ensign Kovas-Nagy shot down a pair of Ilyushins out of a flight of 22 on the 31st.

Earlier that same month, Panczel revealed himself as one the most aggressive airmen on the Eastern Front, when he and three other Heja pilots intercepted three times as many enemy bombers and fighters targeting the railway line between Podgarnoje and Kemenka. He promptly destroyed three warplanes, plus two more shot down by his comrades, all within 22 minutes, at no loss to themselves. The surviving Soviet pilots aborted their attack and fled back into the East.

In early fall 1942, the overworked, outdated Italian-made machines finally made way for the MagyarLegierd's first modern aircraft. Goering had been impressed by the Hungarians' achievements with substandard equipment, and believed they could do better with German aircraft. Accordingly, he replaced the Capronis with a squadron each of 51 Junkers Ju-88 medium-bombers and Junkers Ju-87 dive-bombers. He then ordered the formation of 1 Ungarishe Jabostaffel, the "1st Hungarian Fighter-Bomber Squadron;' composed entirely of Messerschmitt Me109 F-4/13s, fitted with 550-pound bombs. These Friedrichs initially operated out of Urasovo, blasting Red Army tanks, supply convoys, and trains in the fighting against the Italian 8th Army. In fact, the Hungarians flew a joint mission with Italian and German fighter units hunting enemy armor concealed in forested regions between Buturlinovka and Koslovka on October 29, the 20th anniversary of the March on Rome that brought Benito Mussolini to power in 1922.

Adverse weather grounded most flights throughout the following month and into the first half of next, until the Shturmovik "expert;' Lieutenant Panczel-now the 1 Ungarishe

Jabostafel’s commanding officersinglehandedly knocked out a Red Army flak battery, destroyed 17 trucks, and blew up 3 locomotives with cannon shells and bombs during just 4 days in early December. On the morning of the 16th, he shot down two IL-2s and another pair that afternoon to become World War II’s first Hungarian ace. Panczel was prevented from committing further mayhem only by the return of white-out conditions that rendered flying impossible for the rest of 1942.



The Luftwaffe’s Junkers Ju-88 medium bomber was likewise flown by Lithuanian aircrews over England, Norwegians against Anglo-American Arctic convoys to Russia, and Romanians on the Eastern Front. (Library of Congress)

The year concluded with 140 sorties undertaken by the 1st Hungarian Fighter-Bomber Squadron, mostly against ground targets. So far, remarkably, none of its crews had been lost to the enemy. All that was to change after the New Year, however. As the debacle at Stalingrad reached its climax, air combat intensified, and Imra Panczel, the Hungarians’ own Achilles, fell on January 11, 1943. Three days later, the Squadron’s base at Urasovo stood in the way of a Red Army offensive sweeping all before it. After every airplane that could fly was evacuated to Novy-Oskol, the airfield’s defense consisted only of several 40-mm flak guns, together with various small arms carried by 750 pilots and ground personnel. Lieutenant-Colonel Kalman Csukas ordered all cannons and machineguns stripped from the remaining aircraft and remounted on flatbed trucks or artillery stands to confront whatever was to come.

Not the enemy, but some 3,000 routed German, Italian, and Hungarian troops showed up with more than 800 wounded and frostbitten men on January 17. Their arrival had been preceded by the incessant thunder of heavy artillery growing ever louder in the East. Before nightfall, overcrowded Urasovo was completely surrounded by Soviet forces, and Csukas was ordered by radio to hold them off until outside relief could be dispatched. It appeared during the 19th in the form of the German 26th Westfalen Infantry Division, the rear guard of which broke through to Urasovo and rescued its haggard defenders, who

trudged into Novy-Oskol four days later.

The 1 Ungarishe jabostafel, re-equipped with the latest Messerschmitt Me-109Gs, was now based in Kiev, with airfields at Ilovskoje and Poltava. After a brief period of recuperation, the Hungarians were patrolling over the battlefield again, carrying out numerous, low-level strafing runs against transport convoys and troop concentrations in support of Wehrmacht counter-attacks aimed at recapturing Kharkov. It was here that the unit was based in late February, when German forces took the city once more.

With spring 1943 came the first appearance in large numbers of American-made aircraft wearing Red Star insignia. Sergeant Tarnay made the first kill of a Douglas A-20 light-bomber on the morning of April 29, when six of the rugged, agile Bostons escorted by a much larger force of fighters attacked Kharkov-Osnava airfield. U.S. aid was also evident on the ground, as more Ford trucks and Grant tanks joined a growing inventory of enemy equipment destroyed by the 1st Hungarian Fighter-Bomber Squadron.

The greatest air armadas in military history clashed from early to late July over the pivotal struggle for Kursk, during which the “Pumas;’ as the Magyar Legier6 fighter pilots were now known, flew up to five missions each day. They shot down only 33 enemy aircraft, because the Hungarians were assigned mostly ground-attack duties, as one may gather from the 153 vehicles of all types they destroyed, unknown thousands of Red Army troops strafed, and eight pieces of field artillery knocked out. All to no avail. In early August, soon after the Soviets’ victory at Kursk, they over-ran all opposition, taking Belgorod and threatening Kharkov. Aerial encounters reached unparalleled levels of ferocity, as the Pumas flew in excess of 20 missions per day.

They were joined by 13 Hungarian-flown Stukas of the 102/2 Divebomber Squadron, also known as the “Coconut Squadron:” More Ju.87 Doras, led by Captain Gyozo Levay, soon after arrived. Although both fighters and bombers excelled at their tasks, they were re-stationed at Poltava when Kharkov could no longer be held. They had by then established a particular reputation among their opponents, as Lieutenant Kalman Szeverenyi learned, when he was tailing a Lavochkin on October 7. Before Szeverenyi could open fire, the Russian pilot bailed out, parachuting near the wreckage of his own fighter.

The next day was an occasion for celebration at the 102/2nd, whose airmen had just completed their 1,000th mission. Before relocating back to Kolozsvar two weeks later, they would execute another 200 sorties, having dropped more than 800 tons of bombs on the enemy since their debut on the Eastern Front three months earlier. The Hungarian Stuka crews additionally accounted for a P-39 Aircobra.

“We form up and I set a homebound course;’ recalled Lieutenant Tibor Tobak. “Suddenly, a lone Cobra appears and heads toward the point of our formation. According to Russian custom, he tries to attack the leader. I am not excited a bit. As soon as he enters our field of fire, he is a dead man. When he comes into range, eight twin-barreled MGs open up on him. Sixteen tubes pour deadly eight-mm slugs at him. As I glance back, I can see that the tracers end up exactly in the Cobra’s fuselage. Sarkady pumps it right behind the cockpit, where the engine is. `Well done, Lali!’ I shout `I think you got him!”’

“Ivan miscalculated his move. He came in too steep to get under our formation, but he had to pass through our field of fire … The Cobra is now ahead of me by some one hundred meters, and I can see its engine smoking. I can see the pilot bailing out. The abandoned aircraft topples and begins its final spiral descent towards the ground. The parachute blossoms into a big, white flower. We did it, we got the guy! I feel satisfied; we can finally paint our first Red Star on the tail of our airplane:’

According to Tobak, “The 37-mm gun of the Cobra is a killer. A single hit can disable the venerable Stuka. Our 151/twenty-mm is just a popgun compared to that, but my boys have practiced formation flying a bit in Kolozsvar. If jumped, German staffels usually break formation and disperse, but we keep a close formation to concentrate our firepower instead”’

Two Lavochkin La-5 fighters were also shot down by Tobak’s men, remarkable achievements for the sluggish, under-defended dive-bomber they flew. In fact, no Coconut Squadron Stukas were lost to enemy interceptors. The Squadron had not gone unscathed, however, and its surviving machines-either four or six not claimed by flak-were transferred to the Luftwaffe after the Hungarians returned to their homeland for training new crews and rebuilding the unit.

Meanwhile, German counter-attacks failed to retake Kiev but did push the Soviets out of Zhitomir, where the 1 Ungarishe Jabostafel found a new base and celebrated its 100th kill in December 1943. Through long months of intense combat, it had suffered the loss of just 6 pilots (plus 2 missing) from an original 37 airmen, as proof of their great skill and good luck. After New Year’s 1944, they relocated yet again, this time to Khalinovka. During the transfer, Lieutenant Lasl6 Molnar and his wingman, Corporal Erno Kiss, encountered 30 Shturmoviks covered by 10 Lavochkins. Laughing at the 20-to-1 odds against them, the Hungarians dove amid the enemy bombers, shooting down four of them, plus two Red fighters, before completing their flight to Khalinovka.

While battles such as these showcased the Hungarians’ superb combat performance, they nonetheless demonstrated the awful numerical edge overshadowing the Eastern Front in lengthening shades of doom. The sheer mass of man power and materiel now at Stalin’s disposal was sufficient to usually drown any technological superiority the Axis might have possessed, as evidenced by the 2,600 warplanes he assembled for his conquest of Vinnitsa, the Wehrmacht’s own headquarters in Russia, defended by 1,460 Luftwaffe aircraft. The Soviets were nevertheless stymied for more than three months, during which the entire Eastern Front was stabilized, and the Pumas were in the thick of the fighting, scoring more than 50 “kills” in January and February alone.

On March 17,1944, the USAAF for the first time attacked Budapest with 70 B-24s. The Liberators were undeterred by just four Hungarianflown Messerschmitts, all of which were damaged and two shot down by the unescorted heavy-bombers’ defensive fire. The encounter illustrated not only the pitifully inadequate numbers of aircraft available for home defense but lack of proper pilot training. The Americans returned on April 3 to bomb a hospital and other civilian targets as punishment, it was generally believed, for the recent establishment of a new government closer aligned with Germany. In any case, the

attack left 1,073 dead and 526 wounded.

During the 13-day interval between these raids, the 1/1 and 2/1 Fighter Squadrons had been reassigned to the capital, and its crews provided a crash course in interception tactics. Even so, 170 P-38 Lightnings and P-51 Mustangs prevented most of the two dozen Pumas from approaching their targets. A few that penetrated the escorts' protective ring destroyed 11 heavy-bombers at the cost of 1 Hungarian flyer. Six more Liberators were brought down by Budapest flak. In another USAAF raid 10 days later, the Mustangs were replaced by Republic P-47s, which failed to score against the Messerschmitts. Instead, two Thunderbolts fell to ground fire, along with four B-17 Flying Fortresses.

Meanwhile, the Hungarian pilots were getting the hang of interception, suffering no casualties for downing eight B-24s and six Lightnings. These losses combined with the mistaken American belief that aircraft manufacturing throughout Hungary had been brought to a halt. In fact, just a small Experimental Institute lost its hangars and workshops, and a Messerschmitt factory was damaged, although soon after restored to full production capacity. USAAF warplanes continued to appear in Hungarian skies over the next two months, but only on their way to targets in Austria or ferrying supplies to the Soviet Union. The Magyar Legierd took full advantage of this lull in enemy raids to upgrade and re-train three, full-strength fighter squadrons, while Budapest's already formidable anti-aircraft defenses were bolstered.

When the 101. Honi Legvedelmi Vadkszrepiild Osztkly, or 101st "Puma" Fighter Group, was formed on May 1, 1944, Cadet Dezsd Szentgyorgyi transferred to the 101/2 Retek, "Radish" Fighter Squadron, where he would soon become Flight Leader, then, on November 16, Ensign. These rapid promotions were generated by his rapidly rising number of enemy heavy-bombers shot down during the "American Season;' as the period was referred to by his fellow pilots. Placed in charge of the Home Defense Fighter Wing was Major Aladar Heppes. At 40 years of age, he was the Magyar Legierd's eldest pilot, known as "the Old Puma;' a seasoned Eastern Front veteran. For practice, his airmen confronted several hundred USAAF heavy bombers and their escorts droning toward Vienna on May 24. Although four Liberators, a Flying Fortress and one Mustang were destroyed, Major Heppes lost one man killed, and six Messerschmitts were damaged. But the Home Defense Fighter Wing crews learned from their experience, and vowed to do better when the Yanks returned in earnest.

Meanwhile, in preparation for imminent Soviet invasion of their country, the "Coconut" Stuka crews were recalled from Eastern Front duty to serve on Hungarian soil. Their 102/2nd dive-bomber squadron was redesignated the 102/1st fighter-bomber squadron, indicating the transition training they undertook to Focke-Wulf FW-190F-8s at Borgond airfield.

On the morning of June 14, 600 USAAF heavy-bombers and 200 escorts went after nitrogen plants and oil refineries outside Budapest, while P-38 Lightnings made low-level strafing runs on a Luftwaffe squadron of Messerschmitt Me.323 Gigant transports at Kecskemet airfield. The defenders were joined by a quartet of German fighters, which made two "kills:' Eight more were claimed by the 32 Hungarian pilots, who lost one of

their own. The city's anti-aircraft defenses once again proved their worth, shooting down 11 enemy intruders.

Only 28 Home Defense interceptors were serviceable 48 hours later to oppose 650 heavy-bombers ringed by 290 Lightnings and Mustangs that filled the skies over Lake Balaton. Despite the excessive odds confronting them, the Pumas broke through the thick ranks of protective American fighters, claiming a dozen of them to destroy four Liberators. A remarkable set of "kills" was accomplished by Corporal Matyas Lorincz during this, his first operational flight. Hot in pursuit of four P-38s, he was unable to prevent them from shooting down Lieutenant Kohalmy. A moment later, Lorincz was in firing range, and the two Lightnings he set afire collided with and brought down a third. Lieutenant Lajos Toth, Hungary's third highest-ranking ace with 26 "kills, was forced to take to his parachute, landing not far from the U.S. pilot he had himself shot down a few minutes before. Aviation engineer Gyorgy Punka, recorded how "they chatted until the American was picked up by a Hungarian Army patrol"'

Relations between opponents were not invariably cordial, however, "with the American pilots deliberately firing on Hungarian airmen who had saved themselves by parachute, or strafing crash-landed aircraft;' according to Neulen. "One of the victims was Senior Lieutenant Jozef Bognar, who was killed by an American pilot while hanging helplessly beneath his parachute"'

The June 16 air battle had cost the Home Defense Fighter Wing the lives of five pilots, including two more wounded. Six Gustav Messerschmitts were destroyed, and seven damaged. These losses were immediately made good by fresh recruits and replacement planes, as the struggle against the bombers began to reach a crescendo on the 30th. This time, the Pumas were aided by 12 Messerschmitt Me-110 Destroyers and Me-410 Hornets, plus 5 Gustavs from the Luftwaffe's 8th Jagddivision. The Germans and Hungarians claimed 11 "kills" between them, while the ferocity of their interception forced a formation of 27 bombers to turn back short of the capital; the remaining 412 diverted into the northwest.

The next USAAF attempt to strike Budapest's area oil refineries on July 2 was similarly spoiled by just 18 Pumas, together with a like number of Luftwaffe Messerschmitts. As their colleagues in Germany had already learned, it was not necessary to destroy an entire flight of enemy bombers to make them miss their target. Among the most successful interceptions undertaken by the Magyar Legier6 fighters was carried out against 800 U.S. warplanes on July 7. A mere 10 Messerschmitts led by Major Heppes, the Old Puma himself, accounted for as many Liberators falling in flames from the sky, together with another 15 brought down by flak. One Gustav was lost, its pilot parachuting safely to earth.

The American aerial offensive pressed on throughout the summer and into fall of 1944 on an almost daily basis and in growing numbers. The Home Defense Fighter Wing continued to score "kills" and deflect bomber missions, until its men and machines were withdrawn from around Budapest in mid-October on more immediately pressing business: the invasion of their country. The previous six months of stiff Axis resistance had slowed,

but could not halt the Red Army juggernaut, which now reached the foot of the Carpathian Mountains at the Hungarian frontier.

In the midst of this crisis, Admiral Horthy lost his nerve and attempted to capitulate to the Soviets. But the Germans learned of it in time, and placed him in protective custody for the rest of the war. News of his dethronement was met with a mix of indifference and acclaim, because the Hungarian people, who remembered all too well the Communist tyranny and terror they experienced during the 1920s, preferred resistance to submission. The Red Army was stopped at the Eastern Carpathian Mountains by German-Hungarian forces, but they could not simultaneously contain a veritable deluge of Red Army troops that overran Transylvania.

Their attack on Budapest began in early December, although the capital was not easily taken. Russian losses over the previous three-anda-half years were becoming apparent in the declining quality of personnel on the ground and in the air. When, for example, a formation of Heinkel He.111 medium-bombers escorted by Hungarian pilots of the 101/2 Fighter Squadron was about to sortie against Soviet troops crossing the Danube on December 21, an out-numbering group of Lavochkins scattered and fled without a fight. Clearly, Stalin was relying on the dead weight of numbers more than ever before to achieve his objectives.

On January 2,1945, a joint German-Hungarian effort known as Operation Konrad I was launched to break the siege of Budapest. Although significant gains were made early and the Pumas wracked up more “kills;’ high winds kept flying to a frustrating minimum and destroyed more of their aircraft than Soviet pilots. After three days, the attempt to liberate the capital bogged down. Undaunted, reserves pushed onward with Operation Konrad II. During a rare stretch of clear weather on the 8th, Hungarian crews of the 102 Fast Bomber Group celebrated their 2,000th sortie by pummeling Red Army positions. The return of dense fog grounded further flights, however, and Operation Konrad II was abandoned the next day, mostly for lack of air support.

A third and final Operation Konrad appeared to succeed where its predecessors had failed. The Vlth German Army kicked it off on January 18, and 35 miles of territory were recaptured in the first 48 hours of the attack. The mighty Soviet 17th Air Army stumbled backward across the Danube, which advancing Axis troops reached on the 20th. Two days later, the Russians evacuated Szakesfehervar. These successes on the ground were importantly aided by airmen such as Ensign Dezso Szentgyorgyi, the Magyar Legier6’s leading ace, who scored 14 victories alone in the fighting for Budapest. His and the rest of the Pumas’s chief targets were Shturmovik ground-attack planes, together with enemy armored vehicles and troops.

A few survivors of the 102/2 Dive-bomber “Coconut” Squadronmost of its Ju-87Ds had been destroyed on the ground at Bdrgond the previous October 12 by low-flying P-51s of the American 15th Air Force-pounded Red Army positions and knocked out T-34 tanks. Their vital sorties were abruptly curtailed from January 23 by heavy snowfall, just when Soviet reserves began entering the battle area, and more than 300 German tanks were destroyed. Three days later, Operation Konrad III had to be canceled. During these

repeated, all-out efforts to liberate Budapest, the three participating Magyar Legiero squadrons had flown some 150 combined missions to win 69 aerial victories for the loss of 6 pilots during 20 days of flight allowed by the weather. The “Coconut” Squadron was finished, having flown 1,500 sorties, dropped 750 tons of bombs, for the loss of half of their commissioned officer pilots and 40 percent of noncommissioned pilots.

An even-more ambitious attempt than Operation Konrad to regain the initiative got underway on March 6 with Operation Fruhlingserwachsen (“Spring Awakening”) in the Lake Balaton area of Transdanubia. Forces included the German 6th SS Panzer Army, the 1.SS Division Leibstandarte Adolf Hitler, German 2nd Panzer Army, Army Group Balck, elements of German Army Group E, and the Hungarian Third Army. Objectives included saving the last oil reserves still available to the Axis and routing the Red Army long enough to recapture Budapest. Combined Luftwaffe and Magyar Legiero forces amounted to 850 aircraft opposed by 965 Soviet warplanes.

Odds against the Axis on the ground were far more loaded in their opponents’ favor, with seven infantry armies and a tank army. The combined 101/1 and 101/3 Fighter Squadrons strove to stave off massed flights of Bostons and Shturmoviks savaging Axis armored units and troop concentrations. High numbers of either type were shot down, together with several Yak-9s, on March 9, when the Pumas completed 56 sorties, to gain temporary air superiority above the German 6th SS Panzer Army, enabling it to advance. Despite early, impressive gains such as these, Germany’s last offensive could not prevail against the enemy’s overwhelming numerical advantage, and Axis troops were compelled to fall back to their prepared positions in Hungary, where they were soon overrun.

When the Soviets began their drive across the Austrian border, Magyar Legiero-flown Gustavs shot up infantry columns, cavalry corps, truck convoys, and horse-drawn wagons clogging the roads to Vienna in low-level runs throughout April 3. Fierce ground fire claimed 8 Pumas and destroyed 10 of their aircraft. Replacements of both men and machines arrived almost immediately, but their operations were restricted by a serious fuel shortage. In spite of this crisis, they continued to shoot down both Soviet Lavochkins and American Mustangs, although their primary focus was strafing and bombing the endless torrent of Soviet troops and equipment flooding into Austria. A Yak-9 Lieutenant Kiss, already an ace with five “kills;’ shot down on April 17, 1945, was the Hungarians’ final aerial victory. They went on to fly throughout the month, blasting Soviet vehicles, troops, and supplies.

On May 4, as American soldiers approached the airfield at Raffelding, remaining warplanes of the Magyar Legier6, sabotaged by their own crews, exploded into flames. Their self-immolation represented the undefeated Pumas’s ultimate act of defiance.

Long before these climactic events, in early 1938, the first Hungarian airborne unit had been formed at Szent Endre, an island in the Danube River, near the capital city of Budapest. The Ejtoernyos (paratroopers) attracted many volunteers, although their equipment was at first entirely foreign made. The cadets jumped with Italian Salvadore, German Schrodor, and American Irving parachutes from Italian Caproni 101 transport aircraft. Powered by three Alfa Romeo, license-built Armstrong Siddeley Lynx engines

rated at 200 hp apiece, the reliable, sturdy, high-wing monoplanes could accommodate eight paratroopers each.

By the following year, the Hungarian Army had developed its own, locally manufactured airborne equipment, including knee and elbow pads, jump smock, and H-39M parachute. The doughty Caproni veterans of the Ethiopian War were replaced by the much-larger SavoiaMarchetti SM-75. The huge Marsupiale, “Marsupial;’ with its 1,276.14 square feet of wing area, was capable of carrying 25 paratroopers. After relocating to the Papa Airport, the Ejtoernyos consisted of 30 officers, 120 NCOs, and 250 enlisted men in one battalion of three companies.

Their baptism of fire was a limited invasion of Yugoslavia to reclaim territories severed from Hungary after World War I by Allied framers of the Versailles Treaty. The Ejtoernyos made their first combat jump on April 12, 1941, over the northern Yugoslavian district of Delidek. From there, they marched more than 18 miles under cover of darkness to surprise the defenders of several bridges, which were swiftly taken after brief fighting. That same day, the paratroopers suffered a grievous loss in an accident that took the lives of 22 comrades and their first commander, Major Arpad Bertalan, when the overloaded Marsupiale in which they were flying crashed at Veszprem airfield. Thereafter, the unit was known as the “Bertalan Battalion;’ led by Colonel Zoltan Szugyi.

The Ejtoernyos participated in numerous actions on the Eastern Front, most notably in the relief of Hungarian troops during the struggle for Stalingrad. During March 1944, the paratroopers were part of Axis efforts to shore up the southeastern flank in danger of collapse caused by Romania’s defection to Stalin. Colonel Szugyi and his men established a strong defensive perimeter in the Carpathian Mountains, the last natural emplacement of its kind in the East. Warriors of the hard-pressed Bertalan Battalion held their positions against 10-to-1 odds, suffering many casualties, but repeatedly frustrated the combined Russian-Romanian offensive long enough for regular German and Hungarian troops to withdraw with their weapons and equipment in good order.

Ejtoernyos survivors re-grouped on October 20 with two other light infantry battalions in the understrength St. Laszlo Division, named after the victorious medieval king, Saint Ladislas I. It was commanded by Zoltan Szugyi, who had been promoted to General for his exemplary defense of the Carpathian Mountains. In November, the St. Laszlo Division transferred to the Lake Balaton area, where, after fruitlessly trying to stem the Red Army tide for 10 days, the paratroopers and their comrades pulled back to defend the Hungarian capital. By December 1, they were surrounded in Budapest by the Soviets, but broke through enemy lines before the city capitulated on February 12, 1945.

Ejtoernyos remnants still fought cohesively as a unit, retreating into Austria, until the last day of the war, when General Szugyi surrendered with a handful of survivors to the British Army on May 10 to escape capture by the Russians. Instead, they were all placed under arrest and transported to the East. Lieutenant-General Szombathelyi, Commander in Chief of the Hungarian Army during 1941, had been similarly turned over to Communist authorities in Belgrade, where, after a well-publicized show trial, was executed by impalement. General Sziigyi’s death sentence was commuted to life imprisonment only

after he had been sufficiently tortured into a fulsome confession. Meanwhile, his paratroopers disappeared behind the Iron Curtain that fell over Hungary for the next 43 years.

On April 16, 1945, two weeks before the close of hostilities, Dezsd Szentgyorgyi destroyed the last of his 32 confirmed victims-an Ilyushin 11-4 bomber-making him Hungary's leading ace. Such skills were not only reflected in his aerial victories: during the course of more than 220 sorties, he was never shot down, nor ever crashed under any circumstances. After the war, he flew as a commercial pilot for MASZOVLET, Hungarian-Soviet Airlines, from 1946 until 1949, but was arrested the following year for his past association with the criminalized Magyar Legiero.

His death sentence was commuted to life imprisonment, but he was freed during the Budapest Uprising of 1956. Following its blood-stained suppression, the new Soviet authorities, not wishing to further antagonize their restive subjects, dismissed all charges against Szentgyorgyi and allowed him to resume his aviation career with the renamed Malev Hungarian Airlines. Over the next 15 years, he logged 12,334 flight hours over more than three million miles, dying on August 28, 1971, in his one and only crash near Copenhagen, less than three weeks short of his retirement. The aircraft in which he died had been built by the same company that made his final victim of World War II-Ilyushin.

Today, the Hungarian armed forces at Kecskemet operate the 59th "Szentgyorgyi Dezso" Air Base.

Chapter 9

ROMANIA'S "AMERICAN SEASON"

> At the side of the glorious armed forces of the National Socialist Greater German Reich, the Romanian folk has entered the war for right and justice, for freedom and civilization. If history is just-and it can only be just-it will honor us in the anticommunist crusade of the Axis powers and in the struggle of that great fighter and creator, Adolf Hitler, as a gift to our civilization and to Europe.
>
> -Ion Antonescu, Romanian Prime Minister'

On the morning of August 1, 1943, Consolidated B-24 Liberators attached to the IX USAAF Bomber Command were winging their way over the Eastern Mediterranean Sea toward Romania. Their target was supremely important, so much so, its obliteration could drastically affect the entire course of the European War. Ploie~ti was the enemy's chief source of petroleum, averaging 450,000 tons per month. If production could be curtailed, the Wehrmacht on every front must grind to a halt.

The Romanian oilfields had been struck once before, almost a year to the day earlier, when a dozen Liberators flying from Fayid, Egypt, staged a dawn raid that caused negligible damage, but the Americans suffered no casualties. Ground fire had been weak, and no defending aircraft were encountered, leading Allied strategists to conclude that Axis personnel and equipment were almost entirely engaged in fighting on the Eastern Front. German forces at the time were embroiled in the gigantic and distant Battle of Kursk, so no serious opposition was anticipated. Sufficient numbers of heavy-bombers were not available for follow-up raids on Ploie~ti until after the close of the North African Campaign in May 1943, when planning for Operation Tidal Wave could begin. It called for a sustained aerial offensive that must level the Romanian city before the Luftwaffe could recall enough of its fighters from Russia to put up an adequate defense. The Romanians themselves were dismissed as an insignificant, pre-industrial people incapable of offering real resistance.

Liberators of August 1943 approached the Romanian border with Bulgaria, drawing close to combine their firepower and dropped down into a low-level attack mode for maximum accuracy. Ploie~ti had no sooner come into view, however, when the most ferocious ground fire they ever encountered erupted within their formation. Before they reached the target area, 15 bombers had been shot down in rapid succession, and many others were damaged, some too seriously to proceed.

As the remaining B-24s initiated their bomb run, they were beset by Messerschmitt-109G fighters of the I./JG 4 and twin-engine Bf 110s interceptors from a Romanian night-fighter squadron. Joining the fray was an aircraft new to the Americans, and some of them

guessed it was a variant of the Luftwaffe's Focke-Wulf-190. It was not a German fighter, however, but the Romanian-designed and manufactured Industria Aeronautica Romana 81, or IAR 81, the foremost bomber-killer of the Fortelor Regal ale Aeriene Romana (FRAR), the Romanian Air Force. Although not particularly fast at 317 mph, the IAR 81 could climb to 16,400 feet in just six minutes and was exceptionally maneuverable at low altitudes.

The IAR 81s and Messerschmitts tore into the B-24s, throwing off their attack, which missed the crude oil pumping plants. Some refineries were damaged, but all of them were back operating at their former out-put shortly thereafter. During the engagement, the Romanians lost 2 planes but claimed 25 enemy aircraft destroyed. Of the 178 U.S. bombers that set out for the raid,1 crashed on takeoff, 15 lost their bearings en route to the target, 22 went astray or AWOL to land at neutral and other Allied airfields, and 51 were lost in combat. Just 89 Liberators returned to their base; 110 USAAF personnel had been captured by the enemy.

The Romanians' vigorous defense of the skies over their homeland was rooted in a love of aviation that went back to the first years of the 20th century. Various flying clubs that sprouted throughout the country were often founded and led by cavalry officers, who eventually pooled their experience and resources to form the Fortelor Regal ale Aeriene Romana in 1913. During the years thereafter, three companies-the Societates Pentru Exploatari Technice, the Industria Aeronautica Romana, and Interprenderes de Constructii Aeronautice Romanesti-produced original designs and built foreign aircraft under license, a remarkable achievement for a predominantly agrarian nation.

The Romanian Air Force suddenly swelled with the addition of more than 250 Polish aircraft escaping from the German Blitzkrieg of September 1939. While most would serve as much-needed trainers and transports behind the lines, among them were about 60 fighters. These were examples of the PZL P.11, the world's best fighter at the time it entered service during 1934. In the six years since then, it had been outclassed by the Messerschmit-109, but could still hold its own against many contemporary aircraft, and was superior to more than a few, thanks chiefly to its excellent handling capabilities and pilot visibility.

Romania was now a real air power in the Balkans, her squadrons a mix of indigenous aircraft and imports mostly from France and Poland, with fewer examples from Britain and Italy, as support for a strong army. These armed forces were unable, however, to deter Soviets annexation of Bessarabia and northern Bukovina on June 28, 1940. More Romanian lands were lost to Hungary and Bulgaria, further compromising national self-esteem. The crisis sparked by these seizures and the Kremlin's intimidating posture brought about a fundamental change in the Bucharest government.

The former Minister of Defense, Marshal Ion Antonescu, was appointed Prime Minister by King Carol II, who was promptly deposed and replaced by Crown Prince Mihail, a virtual figurehead for the new dictatorship. In what Atonescu regarded as an inevitable confrontation between the USSR and Europe, he believed that alliance with the Third Reich would not only help end the growing Communist menace, but result in the

return of his country's territories parceled out to other countries by the framers of the Versailles Treaty after World War I, the despised Bulgarians and Hungarians, and Stalin. Accordingly, Romania joined the Tripartite Pact on November 23 and began building up her military strength.

Benefitting the FRAR were new arrivals from Germany. Heinkel's 112 had lost out in Luftwaffe competition to the Messerschmitt-109, because the latter was faster, more reliable, and easier to mass produce. But the HE-112 was its superior in structural strength, handled better, and 30 specimens received by the Fortelor Regal ale Aeriene Romana joined its mixed company of British Hawker Hurricanes, Polish PZL high-wing fighters, Italian Fiat CR-42 biplanes, French Potez-63B2 light-bombers, and indigenous Romanian designs.

In mid-May 1941, these and all FRAR aircraft were painted with a new national insignia-a yellow cross outlined in blue and white with a blue dot at the center encircled by a red ring. This Maltese design was formed by a connected quartet of the letter "M;' after the vainglorious but neither especially intelligent nor resolute King Mihail. Antonescu nonetheless tolerated him as a transitional figure to the folkish totalitarian society he envisioned for Romania. That goal seemed virtually achieved on September 14, 1940, when the new Prime Minister shared power with the Iron Guard in the creation of a National Legionary State. Founded 13 years earlier, the fascist Garda de Fier had become a powerful political phenomenon before the close of the 1930s. It was, however, made up of too many uncompromising hot-heads, whose disciplinary problems fatally sabotaged not only their own movement and Antonescu's plans, but contributed to Romania's ultimate betrayal by King Mihail, whose conspiratorial monarchy they inadvertently strengthened through their unruly behavior.

Although passed over by Luftwaffe officials in favor of the Messerschmitt-109, Heinkel's 112 was almost as good, and served in the Romanian Air Force with distinction during early fighting on the Eastern Front. (Courtesy Art-Tech)

By the time Operation Barbarossa, the invasion of the Soviet Union, began on June 22, 1941, the FRAR fielded 253 warplanes in 17 fighter squadrons and 16 reconnaissance

squadrons. Fourteen bomber squadrons were a mixed bag of patently out-dated hand-me-downs from a dozen foreign air forces, plus 40, aging Junkers Ju.87B-2 Stuka dive-bombers received from Germany the year before. All Romanian aircraft participating in the Eastern Campaign belonged to the Gruparea Aeriana de Lupta, but those directly involved in combat operations were combined in their own unit as the Corpul Aerian Roman, the "Romanian Air Corps:" However, several dozen machines were either undergoing conversion or being repaired, allowing only 205 warplanes available for actual combat.

Like all Axis aircraft participating in the opening phase of Barbarossa, their engine cowlings were painted bright yellow. An identically colored band encircled the rear fuselage and covered the underside wing-tips for recognition purposes. One of these newly adorned warplanes was flown the second day of the Campaign by Lieutenant Agarici Horia in company with seven other Hawker Mk.1 Hurricanes of the 53rd Fighter Squadron patrolling the Black Sea port-city of Constanta. Sometime into the flight, oil spewed over his windscreen, and he returned to the airfield.

While mechanics attended to a ruptured gasket, air raid sirens announced the approach of Soviet bombers. Horia jumped back into the cockpit and cranked up the Hurricane's unrepaired 1,030-hp RollsRoyce Merlin engine. At 6,000 feet, he closed on the lead intruder, an Ilyushin DB-3. Squinting through the oil rising again over his windscreen, he surprised the medium-bomber to squeeze off an accurate fusillade from his eight, 303-inch Browning machine-guns on one of his target's twin 950-hp Nazarov M-87 radial engines. It was abruptly consumed in fire, sending the Ilyushin out of control and into the sea.

Defensive fire from another DB-3's trio of 7.62-mm ShKAS machineguns and 20-mm cannon could not save the Romanian lieutenant's second victim from crash landing outside Constanta, where its crew was taken prisoner. The third bomber turned away and fled, but Horia took up the pursuit and shot it down in flames. Unnerved by these swift kills, Ilyushin pilots of another in-coming formation aborted their attack and circled back into the East. After Horia was able to land his oil-coated Hurricane, he was awarded the Virtutea Aerinautica Order Gold Cross. Before the year was out, he rose to the status of "ace" by destroying two more Soviet aircraft. He was flying an IAR-80 with the 58th Fighter Squadron on April 4, 1944, when he claimed a B-24 Liberator of the 15th Air Force, and went on to survive the war with 10 confirmed, plus 2 probable "kills:"

As early in the Campaign as was Horia's success, it had been preceded several hours by Sit av Teodor Moscu in the Escaclrila 51 vdnatoare's attack on Bulgarica airfield, in southern Bessarabia. His gray Heinkel-112 was jumped by five Polikarpov Ratas, three of which he shot down in such quick succession; the remaining two bolted from the scene. Soviet ack-ack offered fierce resistance, destroying 11 Romanian warplanes, 4 of them irreplaceable Bristol Blenheims. But the FRAR pilots, known as vknatori, got in the first strike, strafing 40 aircraft parked in the open at Bulgarica, and claiming another 8 in combat.

On July 12, the Red Army mounted a powerful counteroffensive to cut off Romanian forces battling for Bessarabia. As an immediate response, FRAR commanders ordered into

the air 59 bombers-mostly Italian and Polish hand-me-downs-covered by 54 IAR-80s, Heinkel112s, Hawker Hurricanes, Fiat Falcons, and PZL P.11s. This mixedassortment armada swept the Soviets from the skies, then decimated enemy artillery, troops, transports, and tanks gathering in large numbers east of the Falciu bridgehead.

The bombing and strafing were unrelenting, and the desperation of the fighting was exemplified by the vknatori themselves. After expending all ammunition for his IAR-80's twin 7.92-mm machine-guns in destroying three of the six Ratas attacking him, Sit av Vasile Claru rammed an 1-16 flown by Lieutenant Ilya M. Shamanov, a Soviet deputy squadron commander. Neither man survived the collision. On the ground, the Red Army counter-offensive had been reduced to a smoldering salvage dump.

By July 26, the FRAR established air supremacy over Bessarabia and northern Bukovina, having flown 5,100 missions at the cost of 58 aircraft shot down and 18 pilots killed. Against these losses, the vdnatori destroyed 88 enemy warplanes in aerial combat, together with another 108 on the ground, plus 59 brought down by flak. Romanian anti-aircraft gunners were among the deadliest of World War II, a reputation they would re-enforce later in defending the Ploie~ti oil fields against USAAF raiders. Elsewhere, however, the Romanians were badly outnumbered in the air, as they would be for the rest of the war. During an early morning patrol east of the Dnestr River on August 21, Sit av Micrea Dumitrescu was beset by eight Polikarpov I-16s. During the ensuing melee, his ex-Polish PZL fighter outmaneuvered the Soviet monoplanes to escape, but not without incurring significant damage.

Fresh from their victories in Bessarabia and northern Bukovina, Corpul Aerian Roman crews supported the Romanian 4th Army's struggle for Odessa, the Black Sea's primary harbor and communications facility. Stalin insisted that this vitally important center must not fall under any circumstances, but Axis commanders were no less determined to take it, as affirmed by the massive artillery barrage they hurled at the fortified city on August 8. The defenders continued to hold out for more than a month, waiting for a promised Soviet counter-offensive that would break the siege. It came during the night of September 21, when Red Army troops established a bridgehead at Chebanka-Grigorievka, from which they were about to attack the Romanian 4th Army's weaker right flank.

Before they could move, 32 FRAR bombers escorted by 62 fighters, supplemented by another 23 Italian warplanes of the Regia Aeronautica, dove on the Soviet serpent as it was about to strike. A few Italian fighter pilots actually served with Romanian squadrons, such as Capitano Carlo Maurizio Ruspoli, Prince of Poggio Suasa, flying a Macchi C.200 Saetta "Thunderbolt" After 10 hours of nonstop bombing and strafing, the Red Army bridgehead was pulverized, and Stalin's counteroffensive turned into a demoralized withdrawal. More than 20 Russian aircraft had been destroyed for the loss of a single FRAR fighter in aerial combat, plus four more to ground fire, which additionally claimed an Italian Savoia-Marchetti bomber. Odessa managed to hang on for another three weeks, but its capture on October 16 represented Romania's greatest conquest of the war.

During these first few months of Operation Barbarossa, the FRAR's most successful fighter squadron had been Escadrila 53 vdnatoare. Its pilots flew only Hawker Hurricanes,

with which they accounted for nearly 100 enemy warplanes for the loss of just one comrade, five-kill ace, Cpt av loan Rosescu, before Odessa fell. Their prominence was something of an embarrassment to Hermann Goering, who learned that a British-built fighter had out-performed Germany's own Heinkel112 in the hands of the Reich's allies. Accordingly, he immediately donated specimens of the more up-to-date Messerschmitt-109E to FRAR squadrons, whose pilots were to prove that his Emil could indeed surpass the Hawker Hurricane in combat.

With the fall of Odessa, the vdnatori flew cover for the 3rd Army in its advance through Ukraine and then into the Crimea. They also operated the 101st and 102nd Seaplane Squadrons equipped, respectively, with 24 German Heinkel-114C1s and a dozen Italian CANT Seagulls for reconnaissance and anti-shipping duties over the Black Sea, with their main base at Mamaia. The Heinkel had been originally manufactured just prior to the outbreak of war specifically for the Kriegsmarine, performing spotter-plane duties aboard German warships. Armament consisted of a single, 7.92 mm MG 15 machine-gun on a flexible mount for the rearward observer, plus two, 110-pound bombs.

More important was the seaplane's BMW 132K nine-cylinder radial engine, which delivered 960 hp for an operational range of 571 miles. The antiquated but sturdy aircraft carried out numerous reconnaissance flights, even attacks on Soviet shipping. Twenty one years after the type's maiden flight in 1939, the last Heinkel-114 was retired from active duty with the Romanian Air Force, during May 1960. By early 1943, the doughty biplanes were being joined by another German contribution to FRAR operations over the Black Sea. With an effective range nearly 100 miles greater than the He-114, the better known and far superior Arado Ar. 196 began equipping the Romanian Escadrila 102 operating out of conquered Odessa.

Larger than the twin-float twin-place Arado was Italy's CANT Z.501 flying boat. The aircraft's prodigious range, together with its payload of 1,411 pounds of bombs, served Black Sea operations well. A turret mounted midway atop the 73-foot, 10-inch wing, while extremely unorthodox, afforded an almost unprecedented 365-degree field of fire for its 7.7-mm machine-gun. Outstanding was the sinking of two Soviet submarines by a single Gabbiano in August 1941, the surrender of an armed merchantman to a flight of Heinkels the following October, and effective cover provided to retreating Romanian forces during early summer 1944 by low-flying Arados. Other operations were less spectacular but quite useful. More often, the Romanian-crewed seaplanes were busy monitoring the whereabouts and movements of the Red Navy for Luftwaffe dive-bombers, which, with participation from Escadrila 102, extirpated Soviet submarines from the Black Sea by late fall 1941.

Throughout 1942, the CorpulAerian Roman was part of the Axis advance that swept irrepressibly across Russia toward the Don River Basin. Although its pilots continued to score heavily against the Red Air Force, they faced a growing crisis in the shortage of parts and aircraft. Before year's end, most of their mounts were worn out beyond operational use, and the homeland's industrial production of IAR 80s could not keep pace with the rate of attrition. Polish PZL fighters, now totally obsolete, were retired from

frontline positions and relegated to training duties. Once lost or badly damaged, British warplanes in service with the Romanians could not be replaced after they opened hostilities against the Western Allies. The Wehrmacht, in its conquest of Greece, captured some Hawker Hurricanes, Bristol Blenheims, and Supermaine Spitfires, and these were duly dispatched to Grupl Aerien de Lupa squadrons on the Eastern Front.

The Germans also contributed all the Potez and Bloch bombers that survived 1940's French Campaign in reasonably good condition, but these measures could not entirely meet replacement needs. Repeated requests for Luftwaffe aircraft were turned down on the grounds that the Geschwaeder were themselves inadequately equipped. In truth, Hitler did not share his best weapons with the Romanians, because he knew that their inveterate hatred for fellow Axis ally, Hungary, could flare into armed conflict at any moment, thereby jeopardizing the entire Campaign. His mistrust of them softened only because of their energetic participation in the debacle at Stalingrad, when he allowed Reichsmarschal Goering to send the first of 115 D-series Stukas to the FRAR.

Both on the ground and in the air, the Romanians accompanied German and Italian forces toward the infamous city. Based at Karpovka from early September to mid-November 1942, Corpul Aerian Roman fighter pilots escorted Axis bombers. Four or five missions were flown daily, although enemy opposition was rarely encountered, because Red Air Force losses over the previous 15 months had drastically reduced its effectiveness, and Stalin was hording surviving warplanes for a decisive offensive he planned to spring on the invaders. Their intensive bombing of his namesake city made him lose his temper, and he prematurely threw a powerful wave of interceptors at the relentless enemy overhead.

These consisted mostly of Russia's best fighter, the Yak-lb, a step up over earlier variants with heavier armor, a control column copy of the Messerschmitt-109's stick, and retractable tail-wheel that allowed for slightly increased speed. Its Klimov M-105PF liquid-cooled, V-12 engine generated 1,880 hp for a maximum speed of 368 mph but stalled when negative-G forces pinched off the flow of fuel-unfortunately for Soviet pilots, because negative-G forces were by then part of aerial confrontations.

The plywood warplane built on a steel frame, not surprisingly, suffered structural problems, which could lead to its mid-air disintegration under stressful maneuvers. Vibration additionally caused the spotwelded fuel tanks to leak, leading to on-board fires (not a good thing in a wood airplane), and pilots were unable to open the canopy at high speeds, preventing them from bailing out once the aircraft went into a dive. Their short-range radio was so unreliable they often ditched it to save weight, contributing to the Russians' already chaotic field communications dilemma. Despite these considerable drawbacks, the Yak was better at the time than any other fighter in the Red Air Force-faster and quicker, delivering a powerful punch with its 20-mm ShVAK cannon and single 12.7-mm Berezin UBS machine-gun.

In five days-from September 12-17, 1942-the Romanians shot down 38 Soviet interceptors, mostly Yak lbs, for the loss of just one IAR-81, the victim of a desperate ramming attack. Thereafter, Axis bombers resumed their devastation of Stalingrad

unmolested.

The situation changed radically on November 19, when Stalin's winter offensive fell with all its overwhelming fury on the Romanian 3rd and 4th Armies, which were quickly surrounded. While repeated bombing and strafing runs were conducted to save their fellow countrymen on the ground, the airmen were in danger of having their own base overrun by the enemy. After sunset on November 22, a Russian reconnaissance vehicle was destroyed by Romanian flak guns as it approached the airfield, alerting its defenders to impending attack. In the predawn hours of the next day, as a veritable horde of tanks rumbled toward Karpovka, radios and as much armor as possible were stripped from each of the 16 Messerschmitt-109Es to make room for another pilot or mechanic in the cockpit.

The airmen had not been trained in night-flying techniques, but the approaching T-34s left them no alternative. The tanks fired on and hit the first Emil endeavoring to take off, and two other aircraft collided in the darkness. Abundant flames rising from these calamities sufficiently illuminated the airstrip for the other 13 fighters to take off. Their escape was covered by the suppressive fire of the flak gunners left behind, who fought to the death at Karpovka.

Throughout December 1942, Romanian transports undertook as many as 50 flights per day to relieve their fellow countrymen and Germany's 6th Army trapped by the Russians. Braving appalling weather conditions and interdiction by Red Air Force fighters, civilian pilots and planes from LARES, Romania's national airline, continued relief efforts after too many military transports were lost. Every IAR 81, an improved variant of the "80" additionally armed with a pair of Mauser MG 151/20 20-mm cannons, of Grupl 6 threw themselves on enemy ground forces in repeated low-level attacks from December 12-13, as Panzergruppe Hoth attempted a breakthrough to the encircled 6th Army.

The Soviets responded with a new offensive against the understrength Italian 8th Army, and the entire front burst like a lanced boil. On Christmas Eve, the Red juggernaut over-ran the Grupi Aerien de Lupa's main airfield at Tazinskaya, effectively crippling Romanian air operations on the Eastern Front. Surviving aircraft operated over Stalingrad to the last day and virtually the last pilot. On February 20, 1943, just three fighters remained for evacuation from Grupi 7 behind the lines to Stalino. It was a tragic end to the vdnatori on the Eastern Front. Although the Gruparea Aeriana de Lupta was to soldier on in Russia, undertaking a variety of missions from liaison and transport to bombing and reconnaissance duties, the fighters were recalled home to protect their Motherland from anticipated Anglo-American raids.

Hitler wholeheartedly endorsed the Romanians' departure, because they were necessary to protect the Ploie~ti oil fields, upon which his entire war machine depended. Impressed by the Romanians' contribution to the battle, he allowed them to operate modern Luftwaffe aircraft for the first time. By early spring, the backbone of the German bomber force, the Heinkel He. 111 H-3, began appearing in growing numbers with Grupul 6 of Romania's Corpul1 Aerien then operating throughout the Ukrainian Zaporozh'ye area.

The Fuehrer encouraged Mussolini to join him in assisting the Romanians, whose 3rd

Air Corps received the first 24 of 48 SavoiaMarchetti SM.79-JRs from Italy. This was a twin-engine version of the trimotor Sparviero. Versatile beyond its original role, the JR version was powered by a French pair of 1,000-hp W Gnome-Rhone Mistral Major 14 K engines for mostly transport duties. Its long range (2,110 miles) and rugged construction were so favored by the Romanians, they built another 16 Sparrowhawks themselves under license.

In June, Grupl 3 was outfitted for the first time with Junkers Ju-87D Stuka dive-bombers on behalf of operations over the Straits of Kerch, on the eastern tip of the Crimea, where German and Romanian troops were endeavoring to hold the Kuban bridgehead. The same Grupl also received the latest version of Henschel's Hs 129, the B-2/R2, purpose-built for the tank-busting role. Armed with two MC 151/20 20-mm cannons, a pair of MG 17 7.92-mm machine-guns and a single MK 101 30-mm cannon slung under the fuselage, the twin-engine aircraft featured a windscreen made of 75-mm armored glass and an armor-plated nose section. In the hands of Grupl3 pilots, the Hs.129 became the scourge of Russian ground forces. An aviation writer, Werner Neulen, observed, "its operations were to bring Soviet tank and infantry attacks to a halt time and again. 112

In late October 1943, Grupl 8 flew to the rescue of the Romanian 24th Infantry Division, which had been cut off on the isthmus between Perekop and Genitsesk. IAR 81 pilots softened up the Soviet encirclement sufficiently to allow for the breakout of 10,000 of their comrades on the ground. A far greater challenge of a similar kind came just a few days later, on November 1, when seven Romanian divisions and the entire German 17th Army were cut off from the Crimea by a Red Army offensive against the Dniepr. A Luftwaffe-FRAR air bridge of mostly Junkers-52 trimotors evacuated 21,937 troops, until the Crimea fell six months later, in early May 1944.

By then, German assistance had grown generous, allowing the Grupl Aerien de Lupa to receive enough of the latest Messerschmitt Bf 109Gs to completely make up for all fighters lost in action. But these additions, however welcome, could not stem the Red tide flowing westward. As some measure of the desperation that characterized the Axis at this time, Executive Officer Ian Milu's Messerschmitt Gustav destroyed three LaGG-3s in two different engagements involving 10 Soviet interceptors on May 6 after he completed a successful bombing run. Milu would go on to down 52 enemy aircraft, becoming his country's third, top-scoring ace and achieving a record number of "kills"-five Soviet warplanes-in one day.

On May 14, Grupl 3 Stukas destroyed a bridge about to be crossed by Soviet troops over the Prut River, Romania's pre-war boundary with the USSR. On the 30th, Grupl 6 transferred from Krosno, in Poland, to participate in joint sorties against enemy armor and artillery, flying 93 missions in 24 hours. June 1 saw 69 Romanian Stukas blast the serried ranks of T-34 tanks to begin a week of non-stop attacks. The lull in action that followed was just the quiet before the storm, however, as the battered but immense Soviet Army Group South Ukraine prepared its offensive for subjugating the Balkans. Meanwhile, opposition elements-including a Moscow-directed underground-in the monarchy at

Bucharest plotted to extricate their country from impending invasion.

A far more apparent, if distant, threat had suggested itself on May 8, 1943, when the Anglo-Americans conquered North Africa, thereby putting the Balkans within striking range of enemy bombers. Less than a month later, the Corpul1 Aerian Roman was officially activated during an impressive and popularly acclaimed parade of its crews through Kirovograd before Marshal Antonescu. The first day of August was their baptism of fire, when a flight of in-coming American heavy-bombers was detected by German Freya radar. Luftwaffe and FRAR pilots were waiting for them at altitude, but were surprised to observe not only the lumbering enemies' low pass at just 500 feet, but their singular color scheme: all 133 Liberators had been painted entirely pink-to what end, the Axis airmen could not imagine.

Recovering from their astonishment, they promptly dispatched nearly 40 B-24s, severely damaging another 12, for the loss of a single IAR-81 and one Romanian-flown Messerschmitt-110. The Germans lost another twin-engine "destroyer," plus a Gustav. The object of the raid-the Ploie~ti oil fields-escaped serious damage. Far from having been "knocked out;' as the Americans claimed, production was uninterrupted, and returned to pre-attack levels before the end of the month.

By spring 1944, the Allied advance through Italy made possible the construction of forward bases, bringing Romanian territory itself within easier striking distance. On April 4, Bucharest was raided for the first time by a flight of Consolidated Liberators from the 14th Air Force to bomb a civilian housing district. The capital's medical personnel and morticians were overwhelmed with 2,673 non-combatants killed and almost as many wounded.

"The Americans appeared so quickly, most of us were caught out in the streets, and didn't have time to seek shelter;" Maria Kleinover tells how her grandmother, Ana, remembered that day: "We heard and saw them coming over very low, and could plainly see the white stars on their wings. They made directly for the city hospital which had been draped in a huge, Red Cross banner, and we thought, `They're just using it to get their bearings: But then, bombs fell on the hospital building. We couldn't believe it, because an entire ward had been set aside for Jewish patients, like my son. Some people ran into the burning building and carried out as many of the living as possible. I climbed the stairs and found my boy had not been directly hurt, although he suffered smoke inhalation. Most other patients, doctors and nurses seemed dead or wounded. There were dismembered bodies and screaming people everywhere"3

The 15th Air Force's alleged targets-Gara de Nord, Bucharest's main railway station, and its adjacent marshalling yard-were unscathed, while the 57 vknatori and Luftwaffe pilots that had been scrambled destroyed 11 B-24s for the loss of three Axis airmen.

The next day, 334 Liberators and B-17 Flying Fortresses from the 449th Bomber Group escorted by 119 twin-engine fighters, P-38 Lightnings, took off from Foggia, in Allied-occupied Italy. But most of the pilots got lost in deteriorating weather conditions, and just 32 bombers found their way to Romania. Many fell between ground fire and Luftwaffe and FRAR defenders. Ploie~ti escaped unscathed.

The American flyers' reputation as "sky terrorists" was not helped when they machine-gunned four-victory Lieutenant Flaviu Zanfirescu while he was hanging helplessly in his parachute harness. His death was by no means an exception, as U.S. fighters routinely shot Romanian pilots bailing out of their stricken aircraft. The best-known victim was the wing commander of Grupl1 vdnatoare, Captain laon V. Sandu, the highest ranking FRAR officer to die in aerial combat, when he was killed suspended beneath his parachute by a U.S. fighter pilot. Such atrocities required none of the usual propaganda embellishments to engender a profound loathing and contempt for Roosevelt's "Liberators;' while stiffening resistance at all levels of Romanian society.

By this time, the Romanians were supplementing their meager resources with a growing number of captured American and Soviet aircraft. These at first included a Lockheed P-38 Lightning, Consolidated B-24D heavy-bomber, several Polikarpov Po-2 general purpose "Mules;' and many more 1-16 "Rats:" Other downed Allied warplanes would help replenish FRAR stocks.

In the face of their Balkan disappointment, the Americans marshaled another raid on April 14, when more than 150 fighters escorted 448 heavy-bombers to strike at railroad yards, factories, communication centers, and troop concentrations across Yugoslavia and Romania. They were joined by RAF units, which engaged in nighttime raids against the same targets. These operations were eventually suspended after the loss of too many twin-engine Wellingtons. German and Romanian night-interceptors were by then equipped with Al radar sets, which allowed them to infiltrate the British formations unnoticed, then shoot down the venerable medium-bombers at will.

April 21 was a black day for the vdnatori, when they met long-range USAAF P-51B/C Mustangs for the first time. Although the Romanians were out-classed and out-numbered, losing a dozen aircraft, they clawed their way against overwhelming odds to destroy six Liberators.

Over the next two months, the Americans amassed more than 600 bombers protected by hundreds more P-51s and P-38s in six additional raids against Romanian targets. These overwhelming numbers prevented the relatively meager forces of the Luftwaffe and FRAR from achieving much in the way of defense. Attrition and continual repairs had reduced their interceptors to no more than 120 machines, all that remained with which to defend the entire country.

As a consequence, the Anglo-Americans' stepped-up, intensive bombing campaign went on to take the lives of 7,693 civilians, although few war plants were destroyed. Indeed, Allied photo reconnaissance revealed that Ploie~ti was still functioning at near normal capacity: most of the bombs meant for the refineries and crude oil pumping plants had gone wide of the mark. Since Flying Fortresses and Liberators did not have the pin-point accuracy necessary to strike these specific targets, it was reasoned that P-38s, each carrying a single 500-pound bomb, would be better suited for scoring direct hits on such detailed objectives.

Accordingly, on the morning of June 10, 46 Lightnings of the 82nd Fighter Group out-fitted as dive-bombers were escorted by an additional 39 twin-engine fighters to the great

oil depot. They were detected by Romania's Freya and Wuetzburg radar network in time for homedefense interceptors to achieve altitude, falling on the low-flying Americans approaching Grupl 6 vknatoare's base at Popest-Leordeni. The Lightnings' own attack was their undoing, however, because the IAR 81 could outperform them at low altitude.

The Romanians flew rings around the P-38s, additionally encumbered as they were by 500-pound payloads, shooting down 24 Lightnings in 12 minutes. Some tried to escape at tree-top level and crashed into the ground, while others collided with each other. Luftwaffe pilots downed five more, and flak claimed three. None of the enemy's 500pound high-explosives found their way to Ploie~ti, and the "Forked-Tail Devils" never returned as would-be bombers. One quarter of their formation had been destroyed, "the highest loss ratio for any mission flown by a significant number of P-38s in World War Two;' according to aviation historian, Denes Bernad.4 Three Axis fighters were lost in the engagement, though none to the enemy: two suffered accidents, and one was mistakenly brought down by friendly ground fire.

On July 22, the vdnatori bounced an enemy formation approaching Bucharest, shooting down seven Lightnings at no loss to the defenders. They were themselves surprised, however, and traded seven of their own fighters lost, when the Americans, returning from a shuttle raid, attacked unexpectedly from the east with more than 100 P-51s and P-38s to the Romanians' 17 interceptors. The American air offensive was relentless and gradually eroded all FRAR stocks of fighters. By August 18, attrition had whittled their numbers down to just 46 Messerschmitt Gustavs. These were nonetheless scrambled to oppose at least twice as many P-51s above the Carpathian Mountains, when Luftwaffe Major Juergen Harder shot down a Mustang, the day's only Axis kill.

The FRAR had been decimated. Ploie~ti's defense now lay primarily in the hands of its anti-aircraft gunners, who continued to knock down enemy aircraft, but never enough to deter the many hundreds of Liberators and Flying Fortresses that dominated the skies over Romania. For all their sustained operations, however, the Americans never succeeded in demolishing the great refineries, which continued to supply Axis forces, although at a diminished productivity, until Ploie~ti was overrun by the Russians late in the war.

On August 19, after elements of the 15th Air Force blasted the refineries for the fourth consecutive day, the USAAF headquarters in Italy received a request from the Soviet high command to cease all further attacks on Ploie~ti. The Red Army was about to launch its major offensive against Romania, and Stalin wanted to capture as much of the enemy's oil capital intact as possible. The Americans obliged him, thereby ending their prolonged, ultimately unsuccessful attempt to obliterate Polesti or, at least, prevent its petroleum from reaching Hitler's Panzers.

In defending this essential resource, the Romanian Air Force played a major role in the Axis war effort. From 1943's Operation Tidal Wave to the last raid against Ploie~ti in August 1944, the FRAR lost 80 interceptors, but shot down, with the help of Romania's renowned flak gunners, 223 Anglo-American bombers and 36 fighters. Luftwaffe pilots scored an additional 66 aerial victories. Allied casualties amounted to 1,706 killed, with another 1,123 taken prisoner.

While a handful of Luftwaffe fighters remained in charge of protecting the skies over their country, remnants of the FRAR were hurriedly transferred to the Jassy-Kishinev sector of the Eastern Front, where massive Soviet forces were storming the Romanian border. The Reds were covered by 1,952 warplanes pitted against a combined FRARLuftwaffe resistance of 250 serviceable machines. As testimony to their skill and determination during this extremely uneven confrontation, the vdnitori destroyed one Lavochkin-5FN, almost an equal to Germany's Messerschmitt ME.109G and Focke-Wulf-190; two Lavochkin7s-by then, Russia's best fighter, the only one to have shot down a German jet; one P-39; plus 10 more Soviet aircraft of various types in 48 hours.

The loss of just five IAR 81s was greater than these low numbers suggested, however, because Alexandru Serbanescu was among the fallen. Although Romania's second-highest-scoring ace, he achieved the extraordinary feat of shooting down one Soviet bomber and five Aircobras, two of them in 24 hours, during the last 10 days of May 1943. Serbanescu was an expert hunter of Shturmoviks, the Russian nemesis of Axis ground forces, accounting for 14 of these "cement bombers;' plus 41 other Allied warplanes, before he was killed by an American P-51 on August 18, 1944.

Introduced in late 1944, the Lavochkin La-7 was Russia's best fighter of the war, superior to the Messerschmitt-109, but plagued with serviceability issues and not quite a match for Focke-Wulf's "Butcher-Bird' (Courtesy Art-Tech)

Four days later, King Mihail informed Antonescu that he believed immediate, unconditional surrender was their only alternative to annihilation. The Marshal emphatically objected, telling him that "the land battle for our country has only just begun. What will the world and historyfuture generations-think of us, if we give up now without a fight? Signing unconditional surrender with the Reds is like jumping out of a plane without a parachute! No matter how desperate our situation, so long as we resist, there is always hope. Throwing ourselves on the tender mercies of the Bolsheviks must condemn our people to mass-murder and slavery. Given his reputation, how long do you imagine

Stalin will allow you and your royal family to live, once we've turned ourselves over to him?"'

But the lecture went unheeded. At a given signal from the King, soldiers arrested Antonescu and his cabinet members, all of them taken in charge by Communist partisans with whom the monarchists were cooperating. That same evening, Mihail broadcast a cease-fire, but it did not prevent the Soviet offensive from crashing into Romania. He pleaded with his people to offer no resistance, urging them instead to appease the invader by taking up arms against their German ally, who had not been informed of his decision. The King's announcement threw his country's armed forces into utter chaos. While some were paralyzed with inaction, others continued to fight the on-going Russian offensive beside their German comrades of the previous three years. In the skies overhead, FRAR pilots were no less confused.

While Captain Lucian-Eduard Toma was the first Romanian to shoot down a Luftwaffe aircraft-an unarmed Junkers-52 transport, its crew oblivious to King Mihail's pronouncement-Lieutenant Stefan Florescu destroyed a Soviet Pe-2, the last kill ever made by a Messerschmitt-109 Emil. Red Air Force crews referred to Petlyakov's dive-bomber sardonically as the Peshka, or "Pawn:"

With the collapse of any organized resistance, Soviet forces swept into Bucharest on August 31. Part of the deal Mihail cut with them was to turn over all German officers and men, including wounded, none of whom were seen again. With a stroke of his pen, the Fortelor Regal ale Aeriene Romana was abolished, absorbed by the 5th Soviet Air Army, and former FRAR flight crews were obliged to continue the war against Germany, as were all armed forces personnel.

On September 22, they were part of a Red Army offensive aimed at smashing an already attenuated Panzer corps defending the Turda region. Most Romanian soldiers followed orders under duress, but their heart was not in the fighting. They felt shamed by their weak King's opportunistic betrayal to the despised Communists. The formerly vigorous conquerors of Bessarabia and Odessa had been reduced to reluctant cannon fodder, some 30,000 of them falling over the next nine months at the behest of their Soviet taskmasters.

Desertions to the German side were common on both the ground and in the air. First of the vdnatori to defect was Adj av loan Vanca on September 9, followed by a steady stream of his comrades until war's end. On March 26,1945, after Corporal Virgil Angelescu and Subaltern Aurelian Barbici landed their fighters behind the lines at Trentschin, they "expressed their willingness to fight against the Bolsheviks on the German side, in their view the only force capable of stopping the spread of Communism over their homeland;' according to interrogators.'

Defections grew to such proportions that desperate measures were employed to curtail them. When the Romanian pilot of a Henschel-129 broke formation to head for German-occupied Hungary on February 9, 1945, a fellow Romanian, Corporal Gheorghe Crecu, shot him down. Crecu was awarded the "Order of the Red Banner" by his Soviet superiors. There were other vdnatori who had no compunctions about turning on their

former allies. Virtually all of them were ideologically indifferent, acting under orders supposedly of their King, who continued to play the role he knew best: as a compliant figurehead for whoever controlled his country at the time. Others regarded aerial combat as nothing more than a sport, in which an opponent's insignia was irrelevant.

The FRAR's top-scoring ace, Prince Constantin Cantacuzino, with 56 "kills;' was such a huntsman, although even this wealthy playboy came to regret his participation with the Voenno-Vozdushnye Sily, the USSR's "Military Air Forces;' by defecting less than three years later to Franco's Spain. Already low vdnatori morale was further depressed by the Soviets' own behavior. Incalcitrant demands that Romanian fighter pilots use impossibly muddied airstrips resulted in them losing a third of their available numbers in take-off and taxiing mishaps. Other losses were not so obviously "accidental:"

On September 8, the first day of supposedly joint operations between the newly reformed Corpul 1 Aerian Roman and the V.V.S. got off to an ominous start when Adjutant Gheroghe Buholtzer was shot down and killed "by an over-zealous female Soviet flak gunner," according to Bernad. "This was only the first of a series of fatal incidents in which Soviet flak crews erroneously (or deliberately) shot down German-built aircraft flown by Romanian pilots:"' Tension between vdnatori and Russian airmen was so high by war's end, they came to blows on May 4, 1945, when Lieutenant Dumitru Baciu and Executive Officer loan Milu were attacked by a pair of Soviet fighters flying over northern Hungary. Trying to evade confrontation, Milu crashed in Austria, but Baciu turned to destroy one of the Yak-3s, then landed near the town of Kremsler. Baciu was murdered shortly after the war.

Romanian fighter pilots who had flown so effectively against Russian and Anglo-American opponents from 1941 to 1944 performed far less admirably when faced by German opponents during the war's last eight months. In less than two weeks, Unteroffizer Heinrich Tammer alone shot down 10 Romanian aircraft flying for the Soviets, thereby exceeding the combined score of the vdnatori in operations against their former comrades-in-arms. Another Luftwaffe ace, Leutnant Peter Duettmann, destroyed three IAR 80s in just 12 minutes. During 25 aerial battles together, the Romanians could claim just 3 kills for the loss of 17 of their own. Even these meager successes were mostly achieved over aircraft less able to defend themselves, such as Lieutenant Ion Dobran's destruction of a Junkers-188 in September 1944. Return fire from the medium-bomber also brought down its attacker.

The FRAR's last mission was no less dismal. Although the Germans had already surrendered on May 9, 1945, their anti-Communist allies in the Russkaya Osvoboclitel'naya Armiya still offered stiff resistance to the Soviet occupation of Czech territory. Attrition of V.V.S. aircraft had by then left their commanders with so few warplanes, they drafted what was left of the Romanian pilots to wipe out the Russian Liberation Army. In 1,160 sorties flown against ROA troops lacking air cover, the vdnatori achieved little for the loss of 10 fighters to ground fire.

In the days that followed, King Mihail predictably fled into exile when Ana Pauker (born Hannah Rabinsohn), the postwar Stalinist premier, abolished his monarchy and

brought Romania solidly into the Soviet Bloc. There it would remain as an impoverished tyranny until the regime of Nicolae Ceaucescu was overthrown by popular revolt in 1989.

During the 44 years of that unrelieved nightmare, even aircrews that flew for the Reds after August 1944 were regarded with suspicion by the Moscow-dominated authorities. All of them, save those few pilots who ostensibly embraced Communism, were expelled from the service without pension and forbidden to fly. Many found themselves jailed for "conspiracy against the social order;" a retroactive charge aimed at criminalizing their wartime experiences prior to the Soviet occupation. Among these hounded veterans was Dan Valentin Vizanty. Released from prison, Romania's fourth-ranking ace and leading destroyer of Anglo-American bombers was prevented from earning anything more than a subsistence living as late as 1977, when he finally escaped to France.

In the course of their World War II flight operations, Vizanty and his fellow fighter pilots destroyed more than 1,200 enemy aircraft in the air and on the ground, for the loss of slightly more than 100 of their own killed in action.

Although the vdnatori are largely unknown to the outside world, every year since the day Alexandru Serbanescu died in 1944, his comrades hold commemorative ceremonies at the Ghencea Military Cemetery grave site of Romania's extraordinary airman. Elsewhere in Bucharest, traffic today moves along Alexandru Serbanescu Boulevard.

Chapter 10

SLOVAKIA'S TATRA EAGLES

> In full solidarity with the Greater German Reich, the Slovakian folk takes its place in the defense of European culture.
>
> -Slovakian Prime MinisterJozef Tiso'

The 2.8 million Sudeten Germans freed by Czechoslovakia's disintegration, beginning in September 1938, triggered the liberation of other minorities stranded for nearly 20 years behind the borders of that artificial state. Teschen, with its predominantly Polish population, went back to Poland; and Hungarians in Ruthenia, at Czechoslovakia's extreme eastern section, declared independence on March 14,1939. During the afternoon of that same day, the Slovak people proclaimed their own state, which the Romanian government in Budapest officially recognized 24 hours later.

The Hungarians were likewise determined to reclaim the rest of their fellow countrymen, who made up a majority population in northeastern Slovakia, where they had been stranded since passage of the Versailles Treaty following World War I. On March 23, Honvedseg troops stormed across a border as ill-defined as it was ill-defended. Unprepared troops of the Slovak Army were routed, then rallied, but were ultimately unable to contain the invaders. Hardly less auspicious was the fledgling Slovenske vzclusne zbrane, the Slovak Air Force, really nothing more than the former 3rd Czech Air Regiment. Although the Letecky pluk 3 still possessed 230 aircraft, there were only 80 pilots and observers to man them.

They nonetheless seized the initiative on the opening day of hostilities, when their open-cockpit biplanes struck the Hungarian-occupied cities of Mukacheve, Roznava, and Uzhorod. One of the Letov bombers was brought down by flak, which additionally destroyed two fighters and inflicted damage on four more, plus another bomber. Undaunted, the Slovaks returned 24 hours later for their first aerial combat. They flew the Czech-designed and -manufactured Avia B-534, among the last of the great biplane fighters, such as Britain's Gloster Gladiator, Italy's Falco, and Russia's Chaika.

Powered by an 850-hp Hispano-Suiza HS 12Y drs 112-cylinder, Vee piston engine, the Avia could achieve a maximum speed of 245 mph at 12,435 feet, with a service ceiling of 34,775 feet, and a 360mile range. These qualities won laurels for the rugged aircraft at 1937's International Flying Meet in Zurich, where it proved at least equal to all competition and out-performed Germany's own biplane fighter, the Heinkel-51. The B-534 was not envisioned strictly as a fighter, however, and made to serve a ground-attack role. As such, four Model 30, 7.92-mm machine-guns installed in the sides of the fuselage were synchronized to fire through the propeller, or, alternately (as the Bk 534), a single, 20-mm cannon firing from the nose was supplemented by a pair of 7.92-mm machine-guns at the sides. Provision was also made for six 44-pound bombs. It was in this mode

that three Avias tangled with an equal number of Hungarian-flown Italian fighters in the early morning of March 23.

The Avia owned a 12-mph speed advantage over the Fiat CR.32, but better-trained Magyar Legier6 pilots prevailed. The 264-pound payload aboard CO porucik (second lieutenant) Jan Prhacek's aircraft was hit and exploded, atomizing his aircraft and killing him instantly, but desiatnik (corporal) Cyril Martis dropped his bombs before crash-landing upside down in a swamp. With the sudden loss of his commanding officer and comrade, and faced by three-to-one odds, slobodnik (lance corporal) Michal Karas out-maneuvered his opponents, escaping unscathed to the base at Spisska Nova Ves. Shortly after his escape, two of three Avias attempting to attack enemy tanks advancing on Tibava a Sobrance were brought down by ground-fire.

Three more B-534s returned to the same general area escorting a trio of Letovs, but were met this time by nine Fiats. Although the observer, porucik Ferdinand Svento, parachuted from a bomber falling in flames, his body was riddled with 18 rounds of machine-gun fire, as he hung helpless in his harness. Another Letov was shot down outside the village of Strazske, but one survived the carnage to return to base. All three Avias were destroyed without cost to the Hungarians. Later that same day, 10 Junkers Ju. 86K-2 bombers purchased by the Hungarians from Germany before the advent of hostilities struck Spisska Nova Ves in the first raid of its kind on Slovakian soil. A dozen soldiers and civilians perished, with almost 100 injured, but the base did not suffer crippling damage.

A flight of seven Avias attempted retaliation by diving on advancing enemy troop concentrations in the vicinity of Paloc, but nine defending Fiat CR.32s claimed all the Slovak fighters at no loss to themselves. By then, the Hungarians had achieved limited objectives on the ground and sued for peace. In what the Slovaks referred to as Matti vojn, "The Little War," they lost 58 dead (22 soldiers and 36 civilians) against 23 Hungarian fatalities (8 soldiers and 15 civilians) during a week and a day of fighting. They were determined to learn from this premature baptism of fire, however, and initiated a serious reorganization of their armed forces, with special attention given to pilot training in the SVZ.

The Slovaks inherited a broad variety of aircraft from the Czechs, but many were worn out or hopelessly obsolete. These were either scrapped or consigned to student pilot squadrons, while frontline machines were refurbished almost entirely by innovative mechanics, because Slovakia did not possess a modern aviation industry. The already small SVZ was downsized still further, but its organizational structure tightened up, and a parachute brigade established. Just five months after the conclusion of the Little War, the Slovakian Air Force was a noticeably improved, although far from perfected service, when a much larger war broke out on September 1, 1939.

Joining Hitler's Blitzkrieg against Poland were 35,000 Slovak troops set in motion by their Prime Minister, Jozef Tiso. Their limited objectives were recovery of original Slovak territories in Javorina, Orava, and Spis seized by the Poles during 1920, 1924, and 1938. Slovak participation in the Campaign was not entirely self-serving, however, because Tiso

was himself a convinced Fascist and trusted friend of the Germans. They had informed him of the up-coming invasion as early as August 28, when he arranged for part of the their attack to be launched from Slovak areas bordering Poland. Beyond the recapture of former regions, he put his air force at the disposal of the Wehrmacht.

To the SVZ warplanes' national insignia (a red disc with blue twincross outlined in white) were added black-and-white Luftwaffe Balkenkreuzen ("Balkan Crosses;' Iron Crosses) on either side of fuselages and wing surfaces. Tiso dispatched 20 Letov S.328s and as many Avias to scout for his advancing troops, but even after they took Javorina, Orava, and Spis, the fighters stayed on in Poland to escort German Stukas divebombing enemy railroad yards around Drogobytch and Lvov. During one of these attacks, on September 9, anti-aircraft fire brought down an Avia flown by catnik (sergeant) Viliam Grun. He was captured and became a prisoner of war, but shortly thereafter made good his escape to rejoin his unit, Number 12 Squadron.

Three days earlier, a lone, unidentified aircraft flew over military installations inside Slovakia. A trio of Avias scrambled to investigate and intercepted a Lublin R-XIII (not a RWD-XVII aerobatic trainer, as sometimes reported),' the Polish Army's standard liaison-spotter. Forty-nine of the parasol monoplanes had been organized into eskadra obserwacyjna, or special observation squadrons, for long-range photographic missions. The Lublin was a versatile workhorse. Its tough construction and remarkably short takeoff run of just 204 feet were likewise ideally suited to field operations of all kinds, including courier and ambulance duties.

One R-XIII had tried to attack an enemy vessel on when the elderly Schleswig-Holstein-a pre-dreadnought battleship from 1908-was mercilessly pounding Polish defenders at Danzig with an unremitting, hours-long fusillade of 11-inch shells fired at virtually point-blank range. Unable to find his target, the pilot dropped a stick of 55-pound bombs on a German residential neighborhood instead. But a single 7.7.-mm Lewis machine-gun operated by the observer was inadequate defense against the three Avias, which handily shot down the reconnaissance plane in flames. Its destruction signified the young SVZ's only kill of the Campaign and its first-ever aerial victory.

These were not the only Slovakian warplanes operating over Poland, however. When the brunt of Luftwaffe aircraft was thrown into the siege of Warsaw, and Wehrmacht ground forces in the south suddenly lost their eyes in the sky, the Slovaks volunteered their open cockpit, two-place biplanes. The Czech-built Hispano-Suiza Vr-36 engine could only provide 740 hp for a maximum speed of 170 mph, but when the Aero A.100 was not shooting photographs of enemy troop movements, it fired four 7.92-mm wz.29 machine-guns or dropped 1,300 pounds of bombs, thereby offering German ground forces much-needed air cover they would have otherwise missed.

The territories Tiso's soldiers reclaimed during 1939s conquest of Poland more than compensated for regional losses to the Hungarians earlier that year and brought closer ties with the Third Reich. Yet, less than two years later, Hitler did not include the Slovaks in his original plan to invade the USSR, and even tried to dissuade them from participating, because he believed too many of Tiso's people would side with their fellow Slavs in

Russia. But the President argued persuasively on behalf of his fellow countrymen's loyalty, and Slovakia was eventually allowed to join Germany's other allies in their combined assault on the citadel of Communism.

However, he was disappointed to learn from the SVZ commander in chief, General Anton Pulanich, that just 33 Avias and 30 Letovs were in fully operable condition. Moreover, they could only be fueled with a unique alcohol-benzene-gasoline mixture not employed by any other aircraft on the Eastern Front. Supplies of this singular concoction needed to be constantly brought up from Slovakia, a process made increasingly difficult, as operations moved further away into the East. Despite these drawbacks, three fighter squadrons (the 11th, 12th, and 13th Letky) joined as many bomber-reconnaissance squadrons (the 1st, 2nd, and 3rd Letky) in western Ukraine by July 7, 1941.

Only then did General Pulanich realize that the homeland had been left without enough interceptors to defend against attack and re-assigned the 11th Letky to Piestany. His already small armada was now down to only 20 fighters. These were inadequately supplemented by 10 former Czech elementary trainers pressed into service for reconnaissance duties, for which the Praga E-39-with its 150-hp, nine-cylinder Walter Gemma, air-cooled, radial engine-had never been designed.

A restored Avia B534 in postwar Czech insignia. When flown by Slovak pilots, this quick, tough biplane performed admirably against Soviet counterparts during the early months of Operation Barbarossa, the Axis invasion of the USSR. (Courtesy Art-Tech)

With a top peed of just 106 mph, the rugged little biplanes were surprisingly effective, flying cover and observation for Slovakian ground forces in the conquest of Lvov, Kiev, and Rostov. Fortunately for the defenseless Pragas, skies above these cities had already been mostly swept clear of Soviet machines by the Luftwaffe, making aerial combat unlikely. But Red Army anti-aircraft fire remained dangerous, and catnik Frantisek Brezina's Avia B-534 was the first Slovak to fall to Russian flak on July 25, while in the act of flying escort for a German Henschel Hs.126 observation plane.

Forced into an emergency landing far behind enemy lines, he came under fire from approaching troops. These were strafed by his squadron comrade, catnik Stefan Martis, who then landed as close as possible to Brezina, enabling him to jump aboard the lower, port wing. More Russian soldiers fired on the Avia, as it took off with the rescued pilot clinging to a strut for dear life. Although Martis was shot in the leg and his fuel tank holed by gunfire, he managed to safely reach the SVZ airfield at Tulczyn with a badly wind-blown, but otherwise sound Brezina.

The incident was important, because it for the first time won the favorable attention of Luftwaffe brass, who awarded Martis the Iron Cross Second Class, in addition to the Silver Medal for Heroism he received from his own country. When, merely five days later, another downed flyer was rescued in an identical fashion by a SVZ pilot, Slovak courage featured prominently in the German press.

Still, more than a month was to pass before General Pulanich's airmen finally confronted the Red Army Air Force on July 29, with inconclusive results, neither side claiming any "kills:" In August, however, fighters of the 12th Letky destroyed three Polikarpov I-16s near Kiev without loss to themselves. While these numbers are not high, the Slovak achievement was nonetheless significant, because the Soviets' low-wing monoplane Rata was more than 80 mph faster than the Avia double-deckers.

The fighting around Kiev spilled into early September, when 10 B234s attacked 9 of the markedly superior Polikarpovs, shooting down two of them without suffering casualties. A third Rata was destroyed 24 hours later, during a patrol of three Avias above the Dniepr bridge. While no Slovaks had been killed yet on the Eastern Front, their equipment was so badly worn out, continued operations were no longer feasible, and all squadrons were reassigned to the homeland before the close of 1941. Thus ended the purely Slovakian phase of the SVZ's involvement in World War II. But Hermann Goering had been impressed by these doughty crews, winning victories with patently obsolete aircraft, and offered to provide them pilot instruction for an all-Slovak squadron. Designated 13 (slow)/JG 52, it would be attached to a Luftwaffe unit (II. JG 52) with its own Messerschmitt-109s.

Accordingly, 19 Slovakian students arrived at Karup airfield in occupied Denmark on February 25, 1942, to complete their conversion training some four months later, when they were transferred on behalf of advanced combat instruction in Piestany. They finally left during October for their new operational base at Maikop, where they awaited the arrival of their fighters. The aircraft were something of a disappointment: outdated Messerschmitt-109Es, scarred veterans of the Battle of Britain. Some, in fact, were repaired crash victims. Undeterred, the Slovaks were committed to proving themselves and dressed their seasoned Emits in the new national insignia of a dark blue cross outlined in white with a red disc at the center.

On November 29, just two 13 (slow)IJG 52 Messerschmitts took on nine Polikarpov Chaikas, shooting down three of them, suffering no losses of their own. During the weeks that followed, the Slovaks escorted Luftwaffe Junkers-88 and Heinkel-111 bombers, and undertook ground attacks against enemy transportation. They were rewarded by Goering

in mid-December when he replaced their used-up Emits with the much-improved Messerschmitt Me-109F-4. The Slovak pilots immediately took to this more up-to-date model, as evidenced by their escalating number of kills. The Friedrichs came just in time, because the Soviets were replacing their out-moded Chaikas and Ratas with far better Yaks, Migs, and Lavochkins. It was at the controls of 109Fs that the first Slovakian aces began to make their impact on the Eastern Front during early 1943.

While flying Avia biplanes, they were fortunate to get a crack at the enemy. Now, pilots such as Jan Reznak, Jan Gerthofer, and Jozef Jancovic were competing among themselves for the position of Top Gun. As testimony to the desperate measures undertaken by Red flyers to destroy their Slovak opponents, Jancovic returned to base after a memorable encounter on January 20, when a Polikarpov 1-16 left part of its wing embedded in his own aircraft! The Rata pilot had attempted to ram Jancovic head on.

A rapidly growing tally of successful sorties collected by the Slovaks yet again caught Hermann Goering's eye, and he re-equipped their squadron with the latest Messerschmitt Me-109G-4s. These state-ofthe-art warplanes and their crews were soon put to the test when they were moved from Maikop to an airfield on the Taman Peninsula. According to CO stotnik (captain) Jozef Palenicek, "In the sector to which the squadron has been assigned, enemy air activity has increased to such an extent that pilots-mainly on escort flights-have to engage with forces up to nine times more numerous"'

The Red Army Air Force mounted a maximum effort for undisputed ascendancy over the Kuban, a region of southern Russia surrounding the Kuban River on the Black Sea between the Don Steppe, Volga Delta, and Caucasus. It was here that Stavka, the Soviet high command, intended to break the Axis on the Eastern Front. Never before had the Slovak airmen been caught up in such ferocious and relentless engagements, which intensified throughout March, when one of their leading aces, catnik "Jozo" Jancovic, was killed. Reznak likened him to "a bird of prey, who never took any account of his own safety in air combat;' a recklessness that prevented him from noticing a Lavochkin interceptor while attacking Shturmovik bombers.' Although pulled from his crashed landing, Jancovic died of his injuries soon after at a Zaporoshskaya field hospital.

He had at least lived long enough to celebrate his squadron's 50th confirmed victory on March 21, when porucik Gerthofer splashed a Petlyakov Pe-2 into the Black Sea. This victory was also the first Peshka dive-bomber claimed by 13 a success that drew widespread congratulations, including a personal telegram from Reichsmarshal Goering. His chief of the air department at the Deutsche Luftwaffenmission in der Slowakei, Oberleutnant Ignacius Weh, reported after inspecting the Taman base, "the Slovak fighter squadron is delighted to fight:"

As some measure of the intense struggle for Kuban airspace, 13 (slow)IJG 52 doubled its total number of "kills" in little more than a month. Aviation historian Rajlich writes that two pilots often managed "to destroy as many as four aircraft each in a single day"6 They cite the redoubtable Gerthofer, who shot down a pair of Lavochkins, one Shturmovik, and a U.S. Boston medium-bomber, all on April 24. Five days later, four Yak-1 fighters fell one after the other under the guns of rotnik (staff sergeant) Izidor Kovarik. These

achievements were widely publicized back home, where the crews were popularly revered as “the Tatra Eagles;’ after the high mountain range bordering Poland.

Continuous Slovak and German air victories resulted in unacceptable losses for the Soviets, who gradually relinquished their bid for the Kuban, and the focal point of the Eastern Front gradually shifted away toward a confluence of the Kur, Tuskar, and Seym Rivers around the city of Kursk. As history’s greatest tank battle got under way there on July 4, a Petlyakov bomber burst into flames under the accurate marksmanship of nadporucik (first lieutenant) Vladimir Krisko. It was not only his ninth and last success, but the final victory won by13 (slow)/ JG 52’s first team members, who were sent home after a grueling eight months of combat. They were relieved by crews whose average age was just 24 years old, although each pilot benefited from more extensive training.

Their preparation was soon apparent in the 48 enemy aircraft that fell under their guns during the first 12 weeks of engagement. Moreover, the Soviets’ venerable Polikarpovs and Yaks were being replaced by American Aircobras and British Spitfires, which could match the Messerschmitt-109 in many particulars. It was especially to their credit then, that the airmen of 13 (slow)IJG 52 could celebrate their 2,000th combat mission on August 28. In October, they moved to Bagerovo airfield, west of Kerch, where its strait connects the Black Sea with the Sea of Azov, an area soon to be hotly contested between the Wehrmacht and the Red Army.

But the Slovaks were more concerned for the immediate protection of their homeland, which had recently come within striking capabilities of long-range U.S. heavy-bombers after Allied forces occupied airfields along the eastern Italian peninsula. Goering gave the Tatra Eagles leave to dissolve 13 (slow)IJG 52 and return home, but not before a Lavochkin La-5 fighter fell into the Kerch Channel under the guns of rotnik Frantisek Hanovec, as a parting shot at the Soviets, and the last Slovak aerial victory on the Eastern Front.

Since August 1941, the Slovaks accounted for 221 confirmed, plus 29 unconfirmed “kills;’ in more than 2,600 sorties. These numbers are aside from very many ground attack, anti-partisan, reconnaissance, and escort duties additionally undertaken during some 16 months of combat. Their achievement seems particularly remarkable when we learn that it was accomplished by less than 100 pilots, only 4 of whom were killed. Seventeen became aces, shooting down at least five enemies each. Such statistics speak to the high skill and determination of the Slovak airmen, who usually fought against opponents that not only outnumbered them, but flew warplanes, which, later in the war, technologically matched their own.

As the Slovak veterans returned to their country, however, they found conditions changed, and not for the better. During the previous two years, Soviet intelligence had waged a concerted campaign to infiltrate Slovakia with numerous covert operatives, who prepared the ground for revolt. They found the general population, and especially the peasantry, still favorably disposed to the Tiso regime, but made important allies among urban residents and the aristocracy, which in large measure controlled the nation’s armed forces. Importantly assisting the agents was Germany’s deteriorating military situation,

which certain SVZ commanders hoped to use for disengaging Slovakia from the war.

Meanwhile, the former 13 (slow)IJG 52 crews were formed into a new unit, the "Readiness Squadron;' for homeland defense on January 31, 1944. It began with shining hopes for the future, and among the brightest was its outstanding pilot, zastavnik (master sergeant) Izidor Kovarik, the nation's second-highest-scoring ace with 28 confirmed kills. In April, he transferred as an instructor at the Tri Duby flying school, where he and his student died the following July 11 in the crash of his Gotha Go 145 biplane trainer after the structural failure of its upper wing. His loss was a terrible blow to the entire SVZ and particularly to his comrades in the Readiness Squadron.

Their 11, aging Emils and three Avias were almost hopelessly inadequate as interceptors, so Goering rushed 15 new Messerschmitt Me109G-6s straight from their Regensburg factory to Piestany, plus the first of some 25 Stukas. A trio of Junker Ju-87Ds arrived in time for the Soviet spring offensive against the Carpathian Mountains at the country's eastern border. The SVZ-flown Doras operated with three more Letov bombers out of Spisska Nova Ves in numerous ground-attacks on the advancing Red Army.

In June, a dozen more dive-bombers were received-mostly older B and D models (some unarmed for use as trainers)-plus five, factory-fresh D-5s. A final 11 Doras arrived from Germany the following August. But as the U.S. bomber streams overflew Slovakia, they went unopposed by Readiness Squadron fighter pilots, who stayed well beyond firing range. They were under secret orders by the treasonous Minister of National Defense (!) and Chief of Staff of Land Forces to save themselves for an anti-German insurrection in the making. A few commanding officers were briefed of these plans; most pilots were not, but nonetheless forced to obey orders. Their passive resistance to the enemy came to a head on June 16, when Bratislava was attacked by Boeing B-17 Flying Fortresses and Consolidated B-24 Liberators for the first time. The capital city suffered extensive damage, and 717 men, women, and children were killed, with another 592 injured.

The Readiness Squadron pilots in their new Messerschmitts had been eye-witnessed by too many civilians circling far out of harm's way. A pair of bombers destroyed by loyal anti-aircraft gunners were the only intruders shot down. Popular reaction was outraged, with loud denunciations of disloyalty hurled at the airmen. Luftwaffe observers condemned them as cowards. Stung by these accusations, Deputy CO nadporucik Juraj Puskar ignored the orders of his scheming superiors to lead a full-scale attack against the next American bomber formation 10 days after the Bratislava raid. In what was to be the greatest Axis aerial opposition over Slovakia, 203 Luftwaffe interceptors were joined by 30 Hungarian fighters and 8 Tatra Eagles.

They arose to confront more than 500 Flying Fortresses and Liberators protected by 290 P-38 Lightnings and P-51 Mustangs on their way to strike oil refineries and depots in the vicinity of Vienna. Puskar and his pilots dove into the air armada, but only rotnik Gustav Lang broke through its ring of escorts to fire on a single B-24 that crashed at Most na Ostrove. His Messerschmitt was immediately thereafter riddled with .50-caliber rounds fired by USAAF fighters. Three of his remaining seven comrades were killed in short order by overwhelming numbers of the enemy, another was gravely wounded, and all their

aircraft gunned down. The Readiness Squadron had been shattered.

In late August 1944, armed forces' plotters made their move to overturn the Tiso regime and expel German forces from Slovakia. Their action, according to Milan S. Durica, Slovakia's leading historian, was less the "national uprising" portrayed by postwar Communist propaganda and picked up by uncritical scholars in the West, than a collection of criminals armed and organized by Soviet agents.' In any case, after two months of chaos during which Slovakian peasants were predominantly the defenseless victims of murder and looting, it petered out, as much for lack of popular support, as for the intervention of Wehrmacht troops, who were more often than not welcomed and aided by the rural populace in hunting down the bandits. The revolt was chiefly notable for one of the few combat successes achieved by the insurgents, when an Avia flown by Frantisek Cyprich shot down a German Junkers Ju-52 transport plane with Hungarian markings on September 2. The elderly trimotor was unarmed, its crew unaware that any "national uprising" had taken place.

Earlier, on February 15, 1942, President Tiso's Ministry of Defense began organizing and recruiting for an airborne infantry aimed at striking important targets not otherwise accessible deep behind enemy lines. These would include Red Army headquarters, fuel and ammunition depots, and railway centers. By October, the first volunteers had been selected for the Junior Air Cadets' School at Trencianske Biskupice, commanded by 1st Lieutenant Juraj Mesko. His men were trained as infantry sappers in close-quarter combat, sabotage, demolitions, and field communications.

The pace of their instruction was slowed by lack of sufficient aircraft and basic supplies, due to exigencies of the Eastern Front. But June 12, 1943, Mesko and three top-scoring classmates-Jozef Lachky, Ladislav Lenart, and Jozef Pisarcik-were provided officer training at the Deutsche Fallshirmjagerschule II (German Paratrooper School-II), in Wittstock-Dosse, 60 miles northwest of Berlin. There, they were familiarized with equipment and tactics and learned the Fallschirmjager's Ten Commandments:

1. You are the elite of the Wehrmacht. For you, combat shall be fulfillment.
2. You shall seek it out and train yourself to stand any test.
3. Cultivate true comradeship, for together with your comrades you will triumph or die.
4. Be shy of speech and incorruptible. Men act, women chatter. Chatter will bring you to the grave. Calm and caution, vigor and determination, valor and a fanatical offensive spirit will make you superior in attack.
5. In facing the foe, ammunition is the most precious thing. He who shoots uselessly, merely to reassure himself, is a man without guts. He is a weakling and does not deserve the title of paratrooper.
6. Never surrender. Your honor lies in Victory or Death.
7. Only with good weapons can you have success. So look after them on the principle: First my weapons, then myself.

8. You must grasp the full meaning of an operation, so that, should your leader fall by the way, you can carry it out with coolness and caution.

9. Fight chivalrously against an honest foe; armed irregulars deserve no quarter.

10. Keep your eyes wide open. Tune yourself to the top-most pitch. Be nimble as a greyhound, as tough as leather, as hard as Krupp steel, and so you shall be the Aryan warrior incarnate.'

After two months at Wittstock-Dosse, the young Slovaks returned to their homeland and a new school in Banska Bystrica, at the Tri Duby airport. The 34 cadets underwent intensive instruction, making their public debut on October 30, when they jumped for the first time en masse from a pair of German aircraft before President Tiso near the town of Zilina. The right side of their helmets were then hand-painted (not decaled) with Slovakia's airpower insignia: a white patriarchal cross standing above three, blue hills with a red sun rising in the background, the same emblem applied to engine cowlings of aircraft operated by Slovak crews. The sleeve of their dress uniform featured the image of a deployed chute on a blue patch encircled by a white band.

During January 1944, the paratroopers pursued advanced training, including night-time jumps-the first exercises of their kind in military history, not even attempted by the German Fallschirmjagern. In February, winter instruction took place near the village of Lieskovec. Before spring, the unit experienced an influx of new members, so much so, they passed abreast in review during Bratislava's annual Armed Forces' Day parade on March 14. However, development had been hindered since the group's inception by a dearth of supplies and aircraft, virtually all of it eventually provided by Germany.

Short on supplies themselves, the Fallschirmjagern spared what chutes, jump smocks, and helmets they could, and Goering dispatched several medium-bombers modified to accommodate 16, fully equipped airborne soldiers each. These were examples of the Heinkel He.111K-20/ R1, among the last production variants of this famous warplane, having entered service when the Slovaks were in need of just such an aircraft. Its spacious, ventral hatch facilitated rapid jumps, and FuBI 2H blindlanding equipment aided night operations in which the paratroopers specialized.

When the "national uprising" erupted in August, some 80 Slovak paratroopers located at Banska Bystrica warded off all attacks on the Tri Duby airport. They and the rest of their comrades later participated in fierce fighting along the Zvolen-Kremnica railway and around the villages of Gajdel, Jasenovo, and Svaty Kriz. A few of Lieutenant Mesko's men deserted; one, captured by the Germans, was executed, while another, severely wounded, was killed when the truck in which he was being driven to a prisoner-of-war camp infirmary was strafed by USAAF fighters.

After the insurgency was put down, Slovak paratroopers continued to engage the invading Soviets, but with the loss of every Heinkel and no prospect for re-supply, plus the seizure of most airfields by the enemy, their unit's further existence as an airborne organization was no longer justified, and they disbanded in mid-November.

Although some SVZ pilots, for various reasons, joined the insurgency, Slovakia's most

successful airmen did not. Jan Reznak, his country's leading ace with 32 confirmed and 3 unconfirmed "kills;' refused to switch sides. His comrade and friend, Jan Gerthofer (26 "kills"), even though imprisoned by the Germans at Austria's Stalag XVIIA prisoner-of-war camp, until his release in February 1945, likewise remained loyal to the Tiso regime.

After the war, both men enlisted in the newly reconstituted Czechoslovak Air Force as flight instructors. But their past eventually caught up with them. In 1948, Reznak was discharged for his "negative attitude toward the People's Democracy"' Three years later, he was grounded permanently, when his pilot's license was confiscated by the State Security Police. By 1951, Gerthofer had become a civil transport pilot, but in June he, too, was forbidden to fly for political reasons, and the highscoring ace was forced to work as a manual laborer.

Critics of Prime Minister Tiso fault him for bringing his country into World War II against even Adolf Hitler's early advice. Yet, neutrality would not have spared Slovakia from the Red Army that overran all of Eastern Europe in 1945. So too, the Slovakian Air Force could not, alone, fundamentally influence the course of events, due to its numerical disadvantage. Yet, the achievement of its crews was all out of proportion to its relatively small size, and they did, after all, significantly contribute to events on the Eastern Front. As such, they secured an especially high position for gallantry in the history of military aviation.

PART III
THE MIDDLE EAST

Chapter 11

“FLYER LEADER IRAQ”

> The Arab Freedom Movement in the Middle East is our natural ally against England. In this connection, special importance is attached to the liberation of Iraq. I have therefore decided to move forward in the Middle East by supporting Iraq.
>
> -Adolf Hitler, May 23, 1941, Order Number 301

Long before U.S. President George W. Bush characterized Iraq as part of an “Axis of Evil” in the early 21st century, that country had, in fact, been allied with the Third Reich and Fascist Italy. Predating Iraq’s brief association with the real Axis powers, the English occupied it prior to 1920, when they received Iraq as a remnant of the defunct Ottoman Empire in a mandate imposed on the Iraqi people without their consent by the League of Nations.

A puppet Hashimite monarchy was set up under the despotic Prime Minister Nuri al-Said to front for British Petroleum’s exploitation of Iraqi oil fields. This arrangement prompted Shiites and Kurds to oppose London’s colonial administrators, who ruled with military heavy-handedness. After 12 years of bloody civil unrest, an ersatz independence for Iraq was proclaimed, and the hated Nuri al-Said replaced by a string of impotent figure heads (Faisal, Ghazi, Faisal II, etc.), which left Britain’s occupation forces and oil monopoly still in place.

Taking advantage of England’s declining military fortunes, opposition Iraqi Prime Minister Rashid Ali al-Kaylani staged a coup d’etat on April 1, 1941. He replaced the latest foreign cat’s paw, Abd al-Ilah, with a National Defense Government, demanding that the British abandon their army bases forthwith and withdraw from the country. Churchill was hardly willing to forsake oil-rich Iraq, however, and ordered the 1st Battalion King’s Own Royal Regiment flown to Shaibah. This not inconsiderable force was carried from Karachi in India aboard 15 transport planes, including 7 examples of the Vickers Type 264 Valentia, a heavy (19,500 pounds loaded weight), cargo biplane (even its empennage was biplane configured) with a pair of 650-hp Bristol Pegasus II L3 engines.

The Valentias were accompanied by a lumbering quartet of oversized, underpowered Armstrong Whitworth AW.15 Atalantas, fourengine high-wing monoplanes of 1932 vintage, plus four DC-2s from the United States. The obsolescence of these aircraft, save for the Douglas Aircraft Corporation’s more modern airliner, testified as much to the daring of the airlift, as to its desperation. By more conventional means, the 20th Indian Infantry Brigade, composed of the 2nd battalion 8th Gurkha Rifles, 2nd battalion 7th Gurkha Rifles, and 3rd battalion 11th Sikh Regiment, arrived later at Basra aboard Convoy BP7.

The invasion staged by these forces constituted a self-evident act of war, prompting

Prime Minister Ali to request formal aid from Germany on April 17, and Hitler responded favorably by ordering his Luftwaffe to prepare support operations in Iraq. At the time, the Royal Iraqi Air Force (RIAF) at Ali's disposal possessed seven squadrons based primarily at Baghdad's Rashid Airfield and in Mosul, some 240 miles north of Baghdad. Of its 116 warplanes-with 9 more not allocated to any specific squadron, plus 19 held in reserve-perhaps 60 were in serviceable condition. They were a bizarre mix of varied types from both Allied and Axis sources, including British Gloster SS.37 Gladiator fighters, Hawker Nisr close cooperation aircraft, and two-place, open-cockpit Vickers Vincent general purpose antiques, dated biplanes all.

Far better, though still behind the times, were sturdy, reliable Northrop A-17 ground-attack bombers purchased a year before from the United States. The relatively modern, all-metal, low-wing monoplane was under-powered by its 750-hp Pratt & Whitney R-1535-11 Twin Wasp Jr., two-row, air-cooled, radial engine. But it could carry 1,200 pounds of bombs over 565 miles, and was both stable and pleasant to fly. Although four 7.62-mm M1919 Browning machine-guns were fixed forward, a single Browning operated by the rear gunner provided inadequate defense.

Similarly dated was Italy's only dive-bomber, the Breda 65, a hero of the Spanish Civil War, but left behind by developments in military aircraft design after that conflict. Undoubtedly, the best warplane operated by the Royal Iraqi Army was the Savoia-Marchetti S.M.79 mediumbomber, the Regia Aeronautica's tough and still viable Sparviero. But without effective fighter protection, the few underdefended Sparrowhawks would be unable to achieve much. Moreover, Iraqi pilots were inexperienced and not well trained, even though they operated their own instruction center in Baghdad. Now, they were faced by RAF Battle of Britain veterans flying Hawker Hurricanes.

Instead of waiting for promised help to arrive from Germany and Italy, the Iraqis impetuously launched their own offensive, taking the plateau to the south of the enemy's Habbaniya base, occupying the strategic town of Fallujah, seizing vital bridges over the Tigris and Euphrates Rivers, and reinforcing their garrison at Ramadi-place-names that would become all too familiar to Americans and Britons during the first decade of the next century. The jubilant Iraqis had easily and quickly achieved these initial victories through the sheer weight of their numbers and Britain's temporary weakness in Iraq.

On the ground, they encircled and effectively cut off Habbaniya, but not from the air. Before dawn on May 2, 33 British warplanes took off from Habbaniya in a coordinated operation with 8 Vickers Wellington medium-bombers joining up from Shaibah to blast Iraqi transports, armored cars, and cannons on the surrounding plateau. While troops and materiel there suffered losses, Iraqi artillery responded with a furious barrage on the British base, killing 13 men, wounding 21 others, destroying and damaging arms and supplies.

The RAF meanwhile expanded its attacks to include airfields near Baghdad, where 22 Iraqi planes were destroyed on the ground. Further, successful raids were conducted on railways outside Shaibah. Although the British completed 193 sorties, 5 of their 23 aircraft left behind at Habbaniya were destroyed by artillery shelling, which damaged several

more, rendering them unserviceable for some time, plus, remarkably, two more Wellingtons destroyed by Iraqi fighter pilots flying Gloster Gladiators.

The following day, devastating aerial attacks on troops and gun positions atop the Iraqi-occupied escarpment intensified, and a lone RIAF Sparviero on its way to bomb Habbaniya was shot down. May 4's aerial assault against the surrounding Iraqis was relentless, as the eight Wellingtons hit enemy airfields at Rashid, which were additionally strafed by Bristol Blenheim light-bombers firing their four, 7.7-mm Browning machine-guns. Attempts at interception by inferior, outnumbered RIAF fighters were frustrated by escorting Hawker Hurricanes.

After two more full days of incessant bombing, the siege of Habbaniya was broken. Iraqi forces withdrew late on May 6, leaving behind substantial quantities of arms and equipment, together with 1,000 casualties and many more men taken prisoner. Five miles from Habbaniya, retreating survivors met an Iraqi relief column from Fallujah, but were soon after spotted in the open without cover and machine-gunned by 40 low-flying Hurricanes. The hapless Iraqis suffered over 1,000 casualties before surrendering.

The British were less successful taking Rutbah. Iraqi Desert Police and government irregulars held the strategically located fort after four days of non-stop assault, frustrating all repeated attacks by the powerfully organized and equipped al-jaysh al-Arabi. This "Arab Legion" consisted of 1,600 elite troops, the strongest unit of its kind in the British Army, commanded by the renowned Glubb Pasha, Lieutenant-General Sir John Bagot Glubb. When even their consistent, costly efforts to dislodge the stubborn Iraqi defenders came to nothing, he called in a heavy airstrike on May 9. Hour after hour, the entire 203 Squadron of Bristol Blenheims continuously pounded Rutbah, pausing only long enough to allow the Arab Legionnaires another opportunity for taking the fort. Despite severe losses, firing from the ruins of their city, survivors of the Iraqi Desert Police and government irregulars yet again sent Glubb Pasha's men packing. The next day, having exhausted all their ammunition, the indomitable Iraqis abandoned Rutbah.

Their determined stand inspired RIAF pilots to carry out a maximum effort against Habbaniya the following day. On May 10, 9 Bredas dive-bombed anti-aircraft defenses and parked warplanes, followed by 12 high-flying S.M.79s that carpetbombed the city, then anything of apparent significance on the ground was shot up by 15 Northrups. The Iraqi airmen suffered no casualties during the raid, but it was their last hurrah. Within the next 48 hours, the Royal Iraqi Air Force was practically eliminated by far-ranging British aerial operations concentrated at Baghdad and Rashid, where crews and their equipment were decimated.

Its place was immediately taken, however, by the first Luftwaffe aircraft to arrive at an air base about 240 miles north of Baghdad, on May 11. They belonged to Fliegerfuhrer Irak ("Flyer Leader Iraq") under the tactical direction of Oberst Werner Junck, a World War I ace, now "Commander of Aviation Iraq:" His forces consisted of 100 crewmen and mechanics, several Flugabwehrkanone 30, or FlaK 30 20-mm antiaircraft guns, 12 Messerschmitt Bf.110 ground-attack aircraft, as many Heinkel He.111 medium-bombers, and a trio of Fieseler Fi.156 Storks for reconnaissance and liaison. One Ju.90 and two

Junkers Ju.52 transport planes arrived directly from Germany, covering 1,200 miles in 36 hours.

Fully loaded at 42,391 pounds, the less famous Ju.90 was a large, former airliner powered by four, 820-hp BMW 132 H-1 radial engines, its 114-foot ten-inch wings spread over 1,980 square feet. All German aircraft operating in Iraq had their Luftwaffe Iron Crosses and swastikas replaced by RIAF insignia: a black band enclosing a green triangle, at the center of which was a red, angular figure-eight with a white diamond inside the bottom loop.

Due to tires badly damaged upon landing in central Syria, a pair of over-loaded He.111s had to be left behind at the Palmyra airstrip. On Churchill's direct order and over the protestations of his military advisors, the stranded Heinkels were strafed and disabled by intrusive British fighters, a violation of neutral French airspace that would have serious ramifications (see chapter 12).

After setting up Fliegerfuhrer Irak's headquarters in Mosul, Junck met with Iraqi civil and military authorities, excoriating them for having launched their offensive prior to his arrival. Together, they could have moved quickly to secure Iraq before the British got up to full strength. Now, everything depended on the fate of Habbaniya. The 1st Battalion King's Own Royal Regiment was on the march and had to be stopped prior to reaching and reinforcing the city. That his bombers would attempt to do. If they failed, Iraqi ground forces, covered by every Messerschmitt and Heinkel, must take Habbaniya at once.2

These objectives contrasted with Adolf Hitler's far bigger hopes for "Flyer Leader Iraq" With the British driven out of the Middle East, as they had been from Dunkirk to Greece and Crete, they would not only be deprived of that region's abundant oil supplies, thereafter available to Germany and Italy. The Fuehrer envisioned an Afrika Korps offensive that would allow General Erwin Rommel's Italo-German forces to push eastward through Egypt, then north into Palestine, Syria, and Iraq, where his armies would be undoubtedly hailed as liberators by the Arab inhabitants, and poised to seize the Caucasus, the most oil-rich region of the USSR. Combined with the main thrust of his invasion through eastern Poland, the Soviets would be caught in gigantic pinchers.'

While his own general staff officers looked askance at Hitler's proposal as an impossibly crazy scheme, the Allies took it far more seriously. On August 25, 1941, just two months after the conclusion of the fighting in Iraq, they launched a massive air, land, and naval invasion of neutral Iran, replacing the pro-Nazi Reza Shah Pahlavi with his underage son. At the conclusion of Operation Countenance on September 17, the joint Anglo-Soviet takeover had killed over 1,000 Iranian soldiers and civilians, scotching Hitler's plan to ally with Pahlavi for an attack through the Caucasus.'

During the previous May, Oberst Junck was in no position to help fulfill such broad strategies. To his alarm, the quality of aircraft fuel available in Iraq was far below German standards, cutting into both the serviceability and performance of his warplanes. They were, moreover, without any fighter protection against British fighters, which outnumbered them by three-to-one odds. Due to far larger and more critical operations simultaneously taking place in the Balkans and the Aegean, the hard-pressed Luftwaffe

could only provide him with 39 aircraft, and of these, 10 invaluable Junkers transports were snatched away just before he departed for Iraq.

With hard fighting raging throughout the Eastern Mediterranean Theater, he could expect reinforcements from Germany in neither personnel nor equipment. Hardly less crucial, he had been provided with no spare parts, a dilemma his ingenious flight mechanics were tasked to remedy by fabricating replacements from inadequate RIAF stores. Junck was nevertheless confident that if he and his Iraqi allies moved with alacrity and determination, they could win a decisive victory. To that end, a Heinkel he dispatched on May 15 found and surprised the 1st Battalion King's Own Royal Regiment, then bombed and strafed it, inflicting significant casualties, before being driven away by intercepting Hawker Hurricanes. Their presence in large numbers showed that his small force of unescorted bombers was too weak to destroy or stop the British relief column.

By then, Iraq's military misfortunes were in direct inverse proportion to its political successes. Prime Minister Rashid Ali al-Kaylani's new National Defense Government was winning official recognition from a growing number of foreign governments, not all of them belonging to the Axis camp, including those in Moscow and Dublin.

One day after Junck's Heinkel located the 1st Battalion King's Own Royal Regiment, he ordered six Messerschmitts and three bombers to raid the enemy base at Habbaniya. They caused important materiel damage, killing and wounding several defenders. But the loss of a single He.111 to the determined pilot of a Gloster Gladiator highlighted Fliegerfuhrer Irak's crucial lack of fighter protection, when even an old biplane could shoot down a fast medium-bomber. Too late, escorting Messerschmitts destroyed the offending Gladiator, together with an Audax India, a tropical version of the two-place Hawker Hart light-bomber, on the ground.

Aerial combat escalated two days later, when six Bristol Blenheims from 84 Squadron hit the Germans hard at Mosul, obliterated a couple of Messerschmitts on the ground and damaged four more, including the big Ju.90 transport, before one of two, accompanying, cannonfiring, long-range Hawker Hurricanes was brought down by flak. Meanwhile, two Gloster Gladiators destroyed as many Bf.110s attempting to take off from Baghdad's Rashid Airfield.

Fliegerfiihrer Irak had been reduced to eight, serviceable Messerschmitts, four Heinkels, and its original pair of Junkers 52s. Aware that these forces were insufficient to cover a land operation against Habbaniya, Junck defied enemy fighter protection by sending a trio of Messerschmitts against the 1st Battalion King's Own Royal Regiment, about another week away from the British base. The Bf.110s shot up and slowed down the long column, inflicting casualties without loss to themselves, but they could not stop it.

On May 19, 57 Vickers Wellingtons, Hawker Audax Indias, and Bristol Blenheims, escorted by 43 Hurricanes and Gladiators, dropped 10 tons of bombs on Fallujah in 134 sorties. Taking advantage of their absence, all available He.111s and Bf.110s struck the Habbaniya airfield with Fliegerfuhrer Irak's most effective raid of the Campaign, causing extensive destruction and damage to parked aircraft, installations, machine sheds, supplies, and defenses. No German aircraft were shot down. Junck insisted that the best

possible conditions now existed for launching an immediate, combined air-land assault against the British base.

Ignoring his advice, and passionately vowing revenge for the fall of Fallujah, commanders of the Iraqi 6th Infantry Brigade, of the Iraqi 3rd Infantry Division, instead conducted a fierce May 22 counter-attack in the opposite direction. It began at 02:30 hours with a frontal assault by Fiat L6/40 Carro Armato light tanks, each armed only with a single, 20-mm Breda 35 cannon and one eight-mm Breda 38 machine-gun, purchased the year before from Italy. After half an hour, they fought their way into the northeastern sections of the city, where all 11 were knocked out in short order.

The Iraqis pushed into and held southeastern Fallujah, resisting every effort to dislodge them until reinforcements-infantry companies of the Essex Regiment-were called in from Habbaniya. Fierce houseto-house fighting continued until 18:00, when the Iraqi 6th Infantry Brigade withdrew, leaving behind six more light tanks.

Although Junck regretted the misbegotten attempt to liberate Fallujah, his Messerschmitts successfully attacked enemy positions there in three, separate strafing runs the following day. They returned in greater force, accompanied by Heinkel bombers, on May 25, effectively blasting British defenses in preparation for a larger assault by the entire Iraqi 3rd Infantry Division. If seizing Habbaniya was no longer an option, retaking Fallujah might still be possible.

On May 27, a dozen Fiat CR.42s from Italy touched down at the Mosul airfield, too late to provide much-needed fighter protection for what was left of Fliegerfiihrer Irak. By that time, it had been reduced to a solitary pair of He.111s with just four bombs between them. All other Luftwaffe aircraft were either destroyed or under repair. The following day, as more than 100 British tanks approached Habbaniya in the vanguard of the 1st Battalion King’s Own Royal Regiment, surviving officers and men of the Reich’s military mission quietly withdrew under cover of darkness.

Twenty-four hours later, the Italians, on their own initiative, flew over Baghdad to no effect, as Rashid Ali al-Kaylani, together with other members of the National Defence Government, fled to Iran, leaving their successors on May 31 to sign an armistice. It was not well received by the masses of Iraqis. Their Jewish fellow citizens had naturally expressed pro-Allied sentiments during the Campaign, and welcomed the British victors. Consequently, major rioting, remembered as the Farhud, equivalent to “pogrom;’ tore up Baghdad’s Jewish quarter, where some 120 residents were killed, with another 850 or so injured.

As Iraq agonized in civil unrest and a return to foreign domination, Rashid Ali al-Kaylani left Iran ahead of the Anglo-Soviet invasion for Germany. In Berlin, he was received by Hitler, who recognized him as the leader of the Iraqi government in exile. After the war, Ali made his way to Saudi Arabia, finally returning to Iraq in 1958 following the monarchy’s overthrow. As leader of a failed revolt against the new, pro-Western government, he was arrested and sentenced to death, but later pardoned and lived out the rest of his life in Beirut, Lebanon, where he died in 1965.

Werner Junck, the former “Commander of Aviation Iraq;’ went on to win the Knight’s Cross of the Iron Cross on June 9, 1944, as general major and commanding general of the II. Jagdkorps (the 2nd Fighter Corps) for his efforts opposing the Allied landings at Normandy. He survived the war to die in Munich, in 1976.

As part of the overall collapse of the British Empire shortly after World War II, English occupation forces withdrew from Iraq on October 26, 1947. By then, historical forces set in motion by the recently concluded conflict would destabilize the Middle East and jeopardize world peace throughout the remainder of the 20th century and beyond.

Chapter 12

IN THE SKIES OF SYRIA

> The last words spoken by Jesus, “Forgive them, Father, for they know not what they do,” might be applied to the British, who, through their pitiless air war against the ordinary citizens of Syria, are unleashing consequences throughout the Middle East they themselves cannot understand, but with which they will be plagued for generations to come. The bombs they drop today on Palmyra will explode tomorrow in London.
>
> -Antun Saadeh, leader of the Syrian Social Nationalist Party, July 1, 79471

To reach Iraq in May 1941, the German military mission needed Syria as a stopover for its aircraft. In accordance with the previous year’s Paris Protocols, which outlined relations between France and the Axis after conclusion of the Western Campaign, Vichy French authorities allowed Luftwaffe and Regis Aeronautics warplanes the use of Syrian bases. Churchill responded on May 11 by ordering RAF fighters to violate sovereign Syrian airspace and strafe a pair of Luftwaffe bombers parked at the Palmyra airstrip, where they had been previously immobilized by burst tires. While their destruction was not a particularly serious setback to Axis intentions, the incident pushed France to closer cooperation with Hitler.

Franco-German relations warmed still further on the 19th, when Hawker Hurricanes returned to shoot up French aircraft on the ground at Damascus-Mezze for the first time. Damaged or destroyed were a few, modern, twin-engine reconnaissance Potez 63.11s, together with some ancient, World War I-style, open-cockpit, single-engine Potez 25 TOE biplanes. These losses were more than made good by 25 D.520 fighters, which downed their premiere victim-a Bristol Blenheim IV bomber-on the day of their arrival, May 28. Forty-eight hours later, the Iraqi revolt collapsed, but not Allied resolve to maintain momentum in the Middle East. Free French troops were less enthusiastic, however, about the prospect of killing fellow countrymen to make their colony part of the British Empire, as demonstrated by a growing number of defections, which began with Vichy’s first aerial victory in Syria.

The country was invaded by Anglo-Gaullist forces on June 8, when a Hawker Hurricane fell in flames under the guns of Lieutenant Pierre Le Gloan, an 11-“kill” veteran ace of 1940’s Blitzkrieg, who would go on to destroy seven more RAF and Australian aircraft over the next few weeks. His comrades claimed another three Fairey Fulmars for the loss of four D.520s on the opening day of hostilities. The Fulmar was a sturdy, if slow and cumbersome, though heavily armed, carrier-based fighter with eight 7.7-mm Browning machine-guns mounted in its wings. The Armee de /Air Vichy seized the initiative the following day, when Lieutenant Gloan shot down 2 more Hurricanes, as part of the 23 Vichy French fighter missions undertaken on the 9th.

At the same time, Escadrille 3/39 sortied against the British fleet, losing a pair of twin-engine bombers in the attack, during which some hits were scored, but no enemy ships sunk. The aircraft were Bloch MB.200s, clumsy, high-wing monoplanes, structurally weak, with a fixed undercarriage and bulbous, slow-turning gun turret in the nose. These thoroughly obsolescent types were replaced the next day by nine LeO 451 medium-bombers, three of which were lost in short order while trying to land at night. Nine more Liore et Oliviers arrived on June 13 in time for another raid on the British fleet next day, with negligible effect.

To achieve better results, the High Commissioner in the Levant, General Henri Dentz, asked the Vichy government to request at least a few Stuka dive-bombers from the Luftwaffe. Instead, they sent him General Pierre Bergeret. The Secretary of State for Air told the defenders of French Syria that their chief duty was to avoid losses, expressed his doubts about the necessity of their struggle, and sympathized with the futility of their suffering. His defeatism was infectious and spread throughout Vichy armed forces in the Middle East. Later, Bergeret deserted to the British, who rewarded him with a lucrative position as the Allied Police Prefect of Algiers. Meanwhile, Vichy French pilots were either disheartened or defiant, a division of spirit that could only lead to disaster. It was not long in coming.

On June 21, just four days after Bergeret's deleterious arrival, General Dentz's men lacked the fortitude to vigorously oppose approaching Allied forces, which took Damascus without much of a struggle, although six LeO 451s sortied against ground targets in the vicinity of Palmyra on the 25th. Trusting to their speed and defensive armament, minus protecting fighters, three of the medium-bombers were destroyed by U.S.-built P-40 Tomahawks. The French failed to learn from their mistake, and paid twice as much for its repetition on the 28th, when six more unescorted Martin Marylands attempted to raid occupied Palmyra. None survived. Sluggish bombers were easier meat than fighters, however.

The Vichy pilots' best mount, the Dewoitine, had already claimed 31 British and Australian "kills:" Accordingly, the Allies shifted their target priorities to surprising enemy airfields of parked warplanes, and French attrition soared. Of the 35 D.520s lost during the Syrian Campaign, most were destroyed on the ground; only 11 fell in aerial combat. Replacements continued to arrive from France, but they were older, feebler aircraft. An hour after three LeO H.257s touched down at the Aleppo airstrip, the doddering biplane bombers were strafed into flames by low-flying P-40s.

Typical, perhaps, of the Gallic temperament, increasingly hopeless conditions inspired the French to greater resistance. After the fall of Palmyra on July 2,14 LeO 451s, this time escorted by a dozen Dewoitine fighters, broke through a ring of protecting Tomahawks to strike Allied ships and troops assembling at Damour, without suffering any casualties. The remaining, determined Escadrille AC airmen assembled for a final confrontation with the Allies the following week. Their fighters tore through escorting Australian Tomahawks to shoot down a trio of Bristol Blenheim bombers, losing two D.520s in the fierce engagement that raged across the skies between Beirut and Zahle.

Cut off from outside supplies of equipment, munitions, and fresh water, General Dentz ordered his forces to stand down, as he negotiated an armistice with the Allies on July 12, but not before most of his operational aircraft escaped to German-held Greece. In a parting shot, six Morane-Saulnier fighter pilots made a low-level pass against Anglo-Australian motorized columns, shooting up transport trucks and armored cars on the morning that the armistice went into effect, before banking away over the Aegean Sea.

Theirs was the last of 3,090 missions undertaken by Vichy aircrews during 34 days of combat, an indication of the ferocity that typified the Campaign, and proof that Charles de Gaulle had yet again misjudged his fellow countrymen. Instead of coming over to his cause at the earliest opportunity, as he confidently predicted, they fought for Syria with determination and might have won a defensive victory there, a la Dakar, had they not been undermined at a crucial moment by a corrupt turncoat.

In autumn 1941, of the 38,331 Vichy servicemen taken prisoner by the Allies, more than 33,000 turned down enlistment with de Gaulle, electing repatriation to Vichy France.

PART IV
ASIA

Chapter 13

CHINA'S "AUSPICIOUS CLOUD" OF AIR POWER

> How bright is the auspicious cloud! How broad is its brilliancy! The light is spectacular with sun or moon. How it revives dawn after dawn!
>
> -National anthem of the Republic of China, 1938 to 79451

Until 1933, German relations with China could have been characterized as indifferent, at best. But soon after Adolf Hitler's seizure of power on January 30, he established close economic ties with the Chinese, bartering prodigious amounts of their raw materials-particularly tungsten used in manufacturing armor-piercing warheads, and antimony sulfide, ammunition's essential component-for his country's industrial and military know-how.

During May, Reichswehr organizer, General Johannes Friedrich "Hans" von Seeckt, arrived in Shanghai to become senior overseer of China's economic and military development, and brought with him the first Luftwaffe aircraft to operate in Asia. His three Junkers Ju.52 transports began flying for Eurasia Airlines, later serving in the National Government of China Air Force. Thereafter, the Reich extended a RM 100 million line of credit to the Kuomintang government, which, over the next three years, purchased several dozen German aircraft, among them, 11 specimens of the Heinkel He.111A, billed (incorrectly) following its debut in 1935 as "the fastest airplane in the world:"

These were joined over the next three years by nine Henschel divebombers. Though an open-cockpit biplane with fixed landing gear, the Hs.123 was a tough, versatile machine that excelled in all close-support roles-so much so-it was still performing with exemplary success on the Eastern Front as late as mid-1944.

Four examples of another medium-bomber, the Junkers Ju.86, made their way to China. Its two 600-hp Junkers Jumo 205C-4 diesel engines provided a maximum speed of just 202 mph at 9,840 feet, but it could carry 1,764 pounds of bombs over 932 miles. German production was limited, with a few Ju.86s pressed into service as transports during the Battle of Stalingrad; or high-altitude reconnaissance planes, one variant of which, the "P," reached a world-record altitude of 41,010 feet in the summer of 1940, until it was broken shortly thereafter by a supedup Spitfire that shot down the high-flying spy. More up to date was the Messerschmitt Bf.109B-1, 14 specimens of which went to the Chinese, who received additional Ju.52 transports by mid-1938.

To save wear and tear on engines and airframes during very long flights from the Reich, all Luftwaffe deliveries were sent via rail to China, where they were assembled under supervision of representatives from various German manufacturers. Most of these

aircraft were engaged, and many of them lost, fighting other Chinese, as petty warlords battled among themselves in fruitless, self-destructive skirmishes, like so many street gangs.

On June 13, 1937, the Kuomintang finance minister, H.H. Kung, met Hitler in Berlin. The Fuehrer hoped China, as a valued trade partner and possible future ally against International Communism, would cooperate with Japan, and offered to personally mediate any disputes between them. Two days before, while visiting with Hermann Goering, Kung asked the Reichsmarschal, “Which country will Germany choose as her friend, China or Japan?” Somewhat evasively, Goering replied that China could be a mighty power some day, and Germany would take China as a friend. 2

Early the following month, the Second Sino-Japanese War broke out, and, as Hitler had promised, he endeavored to negotiate an end to the fighting, while still sending German arms and military experts to China. He abruptly terminated these efforts, however, as soon as he learned that the Kuomintang, without notifying him, had concluded a “nonaggression” agreement with Soviet Russia on August 21. Only the valuable import of tungsten and antimony prevented him from immediately severing relations with the Chinese, although he did allow efforts at a German-mediated truce to continue.

The Japanese, for their part, were willing to suspend all military operations in China and allow an opportunity for talks, but Kuomintang officials refused to participate in any such discussions after the fall of Nanking in December. Thereafter, the Reich officially recognized Manchukuo as an independent nation, Goering forbade all further shipment of war materials to China, and he recalled German advisors to the Fatherland.

As Kuomintang fortunes declined, several collaborationist states in areas occupied by the Imperial Japanese Army combined in the Zhonghuk Mingu6 Weixkn Zhengfu, the Reformed Government of the Republic of China, established at Nanking in 1938. While these governments have been described as “puppets” of the Japanese, many Chinese, particularly university students, common peasants, and members of the intelligensia and aristocracy, regarded a strong Japanese presence in China as the only deterrent to the chaos of warlord rivalry that had made life in their country unbearable for decades.

A Reformed Government of China Air Force (RGCA) was organized mostly from the few German aircraft still in serviceable condition, but began receiving substantial Japanese replacements after Wang Jingwei became Head of State on March 29, 1940. A close associate of Sun Yat-sen, he went on to become one of the most important and famous members of the early Kuomintang, before championing cooperation with Japan. Moreover, Jingwei and Hitler were old friends, having first met during the NSDAP’s fourth Party Congress in August 1929, so the Fuehrer readily granted official recognition to the Nanking government.’ He was glad to re-open amiable relations with China, which resumed shipments of raw materials to the Reich in exchange for crated aircraft, plus military and industrial hardware, until Germany’s war with the Soviet Union in late June 1941 terminated direct contact between the two allies.

Earlier that year, Jingwei joined the signatories of 12 other nations by endorsing the Anti-Comintern Pact against Soviet Russia, and renamed the RGCA, the National

Government of China Air Force, which quickly expanded with enough Japanese imports to create its own fighter, bomber, reconnaissance, transport, and instruction squadrons. An advanced trainer was the Tachikawa Ki-55, a modern, low-wing monoplane known to the Allies as “Ida;’ powered by a 510-hp Hitachi Army Type 98 Ha-13a, nine-cylinder, air-cooled, radial engine. Intermediate training was provided by another Tachikawa, the Ki-9 “Spruce;’ a twoseat, unequal wing biplane with a Nakajima Ki-43Ia engine rated at 350 hp. Both the Ida and the Spruce were additionally pressed into service to undertake reconnaissance duties.

A utility aircraft for liaison and communications tasks was the Nakajima Ki-34. Originally built as a civil airliner, its design was influenced by the Douglas DC-2, which it somewhat resembled. With its twin Nakajima Kotobuki 2-1, nine-cylinder, air-cooled, radial engines, each rated at 710 hp, the all-metal “Thora” carried eight passengers over 746 miles at a cruising speed of 193 mph.

The National Government of China Air Force fighter plane was the nimble Nakajima Ki-43, at 329 mph, superior to anything flown by enemy counterparts operating for either Chiang Kai-shek’s nationalists or Mao Zedong’s communists. To supplement their handful of He.111s, the Chinese sometimes fitted their “Peregrine Falcons” with two, 550pound bombs for ground attacks. Sources disagree whether or not an earlier Nakajima fighter-the Ki-27 “Nate”-was operated by the RGCA.

Insignia for upper and lower wings, plus tail surfaces, were drawn from the Republic’s national colors: horizontal bands in red, gold, blue (with red and gold flames at its center), white and black, each color signifying China’s five, traditional cultures.

Most missions were flown against the Communist Party-directed New Fourth Army, active south of the Yangtze River. This Xkn 4 Jun formed half of a “United Front” with nationalist forces led by Chiang Kai-shek, but the two “allies” against Japan and Jingwei’s China were more often at each others’ throats in numerous skirmishes, culminating in the Warman Incident. Beginning on January 5, 1941, more than 100,000 of them clashed at Maolin Township, in southern Taiwan, where at least 7,000 were killed, including the New Fourth Army’s political commissar, Xiang Ying, together with large numbers of civilians.

Taking advantage of this self-devouring chaos, Jingwei ordered his military commanders to ignore Chiang Kai-shek and, at least temporarily, concentrate all their attacks on the already weakened Communists, in the hope of winning converts from the nationalists. Some defections to the Nanking Government did take place, but more important were serious blows dealt Mao’s Xkn 4 Jun, which did not recover its strength until late in the war.

Jingwei’s Heinkels and Nakajimas bombed and strafed Red troop columns almost at will and with virtual impunity, while Spruce biplanes reconnoitered freely for lack of any serious opposition from either ground fire, which was typically desultory and inaccurate, or Communist interceptors, as seldom encountered, as they were ineptly piloted. Following these successes, the Republic of China declared war against Britain and the United States on January 9, 1943. That year witnessed the decline of Imperial Japan’s military fortunes, but signaled Jingwei’s growing responsibility to defend his country, with

dwindling assistance from Tokyo. During late 1944, he left Nanking to undergo medical treatment in Japan. Five years earlier, an attempt on his life at the behest of Chiang Kai-shek had left a serious wound that never properly healed. While undergoing surgery at a Nagoya hospital, Wang Jingwei died on November 10.

Ernst Heinkel’s He.111E-3 was a pre-war version of this famous medium bomber flown with great success by Republican Chinese airmen against Mao Zedong’s Communist forces during and even after World War II. (Library of Congress)

He was succeeded by his deputy and close personal friend, Chen Gongbo, who had lived in the United States, obtaining a master’s degree in Economics at Columbia University, in 1925. Under Gongbo’s leadership, during the last 10 months of the war, RGCA crews and their comrades on the ground managed to fend off invasion simultaneously on two fronts from the armies of both Chiang Kai-shek and Mao Zedong.

Of all Axis allies, the Republic of China was the last to surrender on September 9, 1945, when it still controlled more of its original territory than any other Axis power. The commanding nationalist general, He Yingqin, who accepted Nanking’s surrender, was less interested in the politics of his former enemies than in beating the far-more hated Communists, so he enlisted all Republican Chinese armed forces officers and men to pursue the New Fourth Army with the same vigor demonstrated throughout the war. Pilots and planes of the defunct National Government of China Air Force once more took to the skies against their old enemy.

No clemency was extended to Chen Gongbo, however. With the end of hostilities, the American occupation authorities extradited him from Japan to China. Before his execution in front of a Nationalist firing squad at Suzhou, Jiangsu, on June 3,1946, he stated calmly, “Soon, I will be reunited with Wang Jingwei in the next world.“4

Chapter 14

JAPAN'S IMPERIAL ARMY AND NAVAL AIR FORCES

> The victors write their own version of history, and we are all losers if we believe them.
>
> -Hideo Suzuki, Imperial Japanese Army Air Force veteran, 20091

Post-World War II historians argued that Japan was foredoomed to defeat in that conflict, primarily because her means of production were overwhelmed by the superior industrial output of the United States. Their conclusion that the Japanese cause was hopeless from the start seemed reaffirmed by public disclosure of American success in breaking Japan's secret wartime diplomatic and military codes, thereby enabling Allied strategists to anticipate all enemy moves. But these two, complementary opinions fail to consider America's critical unpreparedness for military operations of any kind beginning in late 1941; the continuing disarray of that country's armed forces during the first, most crucial, half-year of war; and the inertia of her industrial production, which needed at least as many months to get under way. Foreknowledge of Japanese plans meant little, if one did not possess the wherewithal to counteract them. By contrast, Japan opened hostilities in the air with not only numbers, but quality on her side. Such ascendancy was essential for success, because the Pacific War was largely determined, especially during its first years, by the forces of naval aviation.

The Dai-Nippon Teikoku Kaigun Koku Hombu, or Imperial Japanese Navy Air Service, was a venerable, even historic institution going back to 1913, with the conversion of a transport, the Wakamiya, into a seaplane tender. She went on to conduct naval-launched aerial raids from September to November the following year, when her four, French-built Maurice Farman seaplanes completed 50 sorties against enemy positions and ships around Tsingtao, then colonized by Imperial Germany. Such operations were without precedent. Another pioneering achievement was 1922's Hosho, the first purpose-built "flat-top;' followed by a conversion program for rebuilding battleships and battle cruisers into aircraft carriers.

While she was still under construction, Britain's Royal Naval Air Service dispatched a military technical mission to Japan for the express purpose of modernizing that country's naval air arm. The deputation of 29 instructors was led by William Francis Forbes-Sempill, a World War I veteran of the Fleet Air Arm, and later president of the Royal Aeronautical Society. He brought along examples of the latest warplanes used to school the Japanese in torpedo bombing and formation flying. The British also shared architectural plans of state-of-the-art aircraft carriers, HMS Argus and HMS Hermes. Their advanced features influenced HOshO's final construction.

Sempill's 18-month stay with his fellow engineers and airmen provided the Imperial Japanese Naval Air Force "with a quantum leap in aviation training and technology," for which he was awarded the Order of the Rising Sun by his hosts.2 The root cause for such generous technical assistance lay in Britain's souring relations with the United States, envisioned as an opponent in the next war by many military and government strategists, including Winston S. Churchill. If so, they needed a powerful Imperial Japan as a counterweight to any American presence in the Pacific.

Building on the Sempill Mission's vital contribution, and instituting a training program as selective as it was rigorous, the Dai-Nippon Teikoku Kaigun Koku Hombu developed a high-quality pilot corps throughout the 1920s. During the following decade, instruction was welded to operational experience when the Japanese invaded China, while aeronautical development in Japan produced some of the world's finest military aircraft of all types. Pilot safety in the forms of cockpit armor or self-sealing fuel tanks was sacrificed for performance and maneuverability, because warriors in the sky were no less expected to die fighting than their comrades-in-arms on land and at sea.

By 1941, thanks in large measure to its 5 air fleets comprising 3,500 aircraft, the Imperial Japanese Navy was the most powerful force of its kind on Earth. That April, its 10 carriers had been combined into a single unit of unprecedented strength, although most naval warplanes were based on land. These were supplemented by the Imperial Japanese Army Air Force of 1,500 no-less-experienced and highly trained pilots flying some of the world's finest bombers and fighters. The Imperial Japanese Army Air Force's pedigree pre-dated even that of the Dai-Nippon Teikoku Kaigun Koku Hombu, when hot-air balloons reconnoitered enemy troop movements and positions during the Russo-Japanese War in 1904. Six years later, the Japanese Army purchased its first aircraft, a Farman biplane. Immediately prior to Japan's attack at Pearl Harbor, she had at her disposal an offensive strike capability unmatched by the Allies.

Contemporaneous U.S. pilots, although skilled and well trained, lacked combat experience in the face of the nine-year veteran airmen of the Sino-Japanese War. Moreover, the Americans were saddled with mostly inferior aircraft, and their command structure-of both the Army and Navy-was hamstrung by too many career officers with only college diplomas to show for themselves. High hopes had been placed in the U.S. Navy's submarine service, which was forecast to handily blockade Japan, forcing a surrender after little more than a year, as a better answer to the more bloody, time-consuming strategy of island hopping.

Throughout 1942, however, the submarine offensive proved an abject failure, primarily due to the extremely poor quality, in all respects, of American torpedoes. The boats themselves made for miserable vessels, slow to submerge, poor performers, and inadequately defended, making them easy targets for enemy patrol aircraft, which claimed most of the 52 U.S. submarines lost in the Pacific. Significantly contributing to Japan's early advantage was American overconfidence. From the uppermost echelons of the U.S. armed forces command structure, down to enlisted men, the Japanese were dismissed as physically and intellectually incapable of carrying out real military operations, easily

beaten in the open, and only good at “sneak attacks;’ such as the raid on Pearl Harbor. During the months that followed, this attitude was turned inside out by unrelieved Allied retreat across the length and breadth of the Pacific Theater, to be replaced by its exact opposite-a near panic in which the Japanese were feared as invincible supermen.

Clearly, the United States was more vulnerable, militarily and psychologically, than at any other time in her history. Just how vulnerable was never appreciated by the leaders of Imperial Japan. So much so, it was their failure to comprehend the extent of American unpreparedness and a complete misunderstanding of the American mentality that led them to lose the war before it began. Their fundamental plan was to deal out crippling blows against U.S. forces in the Central and Eastern Pacific, where an impregnable defensive line would allow for the seizure of vital natural resources-particularly oil-from the Philippines and Southeast Asia. Frustrated by an unbreakable defensive perimeter, the Americans would be forced to sue for an armistice. The transparent folly of such an unrealistic strategy ultimately foredoomed Japan’s struggle, no matter how successful initially. As such, all Japanese military operations become comprehensible in the context of this seminal error, which revealed itself from the opening day of hostilities at Pearl Harbor.

It began on December 7, 1941, at 7:48 A.M. Hawaiian Time, as six Japanese aircraft carriers began launching 353 bombers and fighters at the island of Oahu. Their initial attack wave consisted of three groups, the first of which comprised 50 Nakajima B5N tactical bombers, plus 40 more under-slung with torpedoes. A stable, tough machine capable of delivering a 1,764 payload with precision accuracy over 1,200 miles, the “Kate;’ as nicknamed by the Americans, bested its U.S. and British counterparts-the TBD Devastator and Fairey Swordfish. Although, by chance, no U.S. “flat-tops” were caught at Pearl Harbor during the raid, B5Ns later went on to distinguish themselves by sinking the aircraft carriers Hornet, Lexington and Yorktown.

Nakajima B5N attack-bombers spearheaded the raid on Pearl Harbor, going on to win additional laurels across the Pacific. (Courtesy Art-Tech)

The Second Group was made up of 54 Aichi D3A “Val” dive-bombers, while fighter

escort was provided by the Third Group with 45 Mitsubishi A6M Zeroes. The torpedo-bombers sortied against Battleship Row, as dive-bombers and fighters neutralized Oahu's air bases, beginning with the largest at Hickam Field, together with the chief USAAF fighter installation, Wheeler Field. U.S. aircraft losses amounted to 188 aircraft destroyed, with another 155 damaged, out of the 402 stationed throughout the Hawaiian Islands. All but 6 of the 33 PBY Catalina flying boats were lost, and half of these escaped only because they happened to be away on patrol at the time.

A second strike by 171 Kates, Vats, and Zeroes completed the 90-minute raid that sank four battleships and two destroyers. A third destroyer was severely damaged, as well as three cruisers, a seaplane tender-the Curtiss-and a repair vessel, the Vestal, whose captain ran her aground as a desperate alternative to sinking and blocking the harbor entrance. Torpedoed and with flames billowing from her forward deck, the battleship Nevada strove to escape under a rain of 250-pound bombs. The Nakajimas caused so much further damage and spread her fires that she was deliberately beached to avoid being sunk. Her sister ship, the Oklahoma, was less fortunate, rolling over with four torpedo hits in her sides after pairs of bombs and torpedoes sank the California. A torpedo exploding against the light-cruiser Helena generated a blast powerful enough to capsize a nearby mine-layer, the Oglala.

For the first half-year of the Pacific War, Mitsubishi's A6M "Zero-Sen" reigned everywhere supreme. (National Museum of Naval Aviation)

American fatalities included 2,345 servicemen. Almost half of them died when the forward magazine of the battleship Arizona exploded as the result of a direct hit by a 551-pound bomb. Another 1,247 military personnel were wounded. Japanese losses comprised 55 airmen killed and 27 warplanes shot down. Four Japanese midget submarines were sunk and another run aground for the deaths of nine sailors and one captured.

The December 7th raid is still popularly regarded as a “sneak attack;’ a true-enough characterization only in so far as the military authorities in Oahu were not warned the day before of the approaching Japanese, as were all other U.S. garrisons throughout the Pacific. The blame was later laid on “inefficient communication handling;’ but in view of abundant foreknowledge of imminent danger, such an explanation seems farfetched.’ For example, as early as January 27, 1941-just days after Japanese high command strategists discussed the American naval base at Oahu as a legitimate target for the first time-Joseph C. Grew, the U.S. Ambassador in Japan, “reported talk in Tokyo of a surprise attack on Pearl Harbor.“4

On September 25, 1941-72 days before the “sneak attack”-U.S. cryptanalyst, Harry L. Clark, broke Japan’s top secret diplomatic, naval, and army codes in Operation Magic. Henceforward, American military planners were able to read every Japanese intention before it could be carried out. Other Allied code-breaking services were no less successful. Ultra intercepts informed Winston Churchill of the upcoming raid on the Hawaiian island, and even Joseph Stalin, in distant Moscow, knew about the attack almost a week before it took place.5

For days prior to and including December 7th, the American aircraft carriers Lexington and Enterprise were ferrying additional warplanes to Wake and Midway in anticipation of an impending confrontation with a Japanese armed convoy. While these and other U.S. islands were on heightened alert, as some indication of the relaxed atmosphere that dominated Pearl Harbor on its “Day of Infamy,” munitions bins there were locked, and most of the defenses went unmanned. Only a quarter of the machine-guns were operable, and just 4 of the Army’s 31 batteries got into action. The Naval History and Heritage Command, the official history program of the Department of the Navy, reported, “There was no ready ammunition at any anti-aircraft gun position on the island.“6

Casualties aboard the USS Arizona were inordinately high, because many of her crew members were badly hung over from the previous Saturday night’s drunken revels. Told to be on the lookout for saboteurs instead of enemy warplanes, Major General Walter Campbell Short, the Commander responsible for U.S. military installations in Hawaii, ordered aircraft parked in the field wingtip to wingtip, out in the open, maximizing their vulnerability to bombs and bullets. As such, virtually no fighters could take off in the defense of Pearl Harbor. The only interceptors able to get airborne were a few, mostly ineffectual P-36 Hawks and P-40 Warhawks.

The raid had been launched to neutralize the U.S. Pacific Fleet and prevent it from interfering in Japan’s acquisition of oil and rubber from Malaya and the Dutch East Indies. Destroying prestigious battleships was deemed sufficient to cow the Americans into submission. Accordingly, the power station, Navy yard, maintenance depots, oil storage tank farms, fuel and torpedo storage warehouses, and submarine piers were not attacked, because the war was supposed to be over before these facilities assumed any significance. Had they been targeted, “serious [American] operations in the Pacific would have been postponed for more than a year;’ according to U.S. historian Harry Gailey.’

Instead, Pearl Harbor was restored to operational status within days after the attack. By

the following summer, five disabled battleships and two cruisers had been refloated and sent to shipyards on the island or in California for extensive repair. Six of the eight battleships sunk or damaged were repaired and returned to service. Even the otherwise destroyed Arizona contributed much of her armament and equipment for use aboard other vessels.

Inspiration for the Pearl Harbor raid had been Britain's assault on the Italian Fleet at Taranto the previous November 11, the first allaircraft naval operation of its kind in history. Twelve Fairey Swordfish from HMS Illustrious sank three enemy battleships for the loss of two Royal Navy bombers, and the subsequent retreat of the Regia Marina headquarters to Naples temporarily shifted the balance of power in the Central Mediterranean to Great Britain. Until then, successful torpedo runs in shallow harbor waters were deemed impossible. But lost in all the propaganda hoopla of the brilliant action were the Italians' successful salvage efforts.

Winston Churchill was shocked to learn that the Littorio and Caio Duilio had been restored to active service within six months following their sinking, because he assumed they were irretrievably sunk. Both went on to escort supplies and weapons for Italo-German forces in North Africa throughout 1942, and blasted British warships during the battles of the Sirte. The more badly damaged Conte di Cavour was about to be recommissioned when Mussolini was overthrown in July 1943. While Taranto proved that carrier-launched bombers were capable of sinking prestigious capital ships in port and wrecking a strategically valuable harbor, it likewise demonstrated that even extensive damages were not invariably permanent, and might be made good in less time than imagined possible.

Apparently, the latter part of this lesson was lost on Japanese observers. Some of their junior officers, such as the leader of the First Group that struck Pearl Harbor, Captain Mitsuo Fuchida; Minoru Genda, chiefly responsible for designing the attack; and even Nogumo's own second-in-command, Rear Admiral Gunichi Mikawa, called emphatically for a third wave. Later, they were seconded by their Commanderin-Chief of the Combined Fleet, Isoroku Yamamoto, the most powerful man in the Imperial Japanese Navy. But they could not persuade Admiral Chuichi Nagumo in overall command of the task force. The previous April 10, he had been appointed Commander-in-Chief of the First Air Fleet, less because of any outstanding abilities he displayed than due to his seniority.

"Nagumo was an officer of the old school, a specialist in torpedo and surface maneuvers;' recalled Admiral Nishizo Tsukahara, who would help make possible Japan's successful invasion of the Philippines. "He did not have any idea of the capability and potential of naval aviation"' According to U.S. naval authority Paul Dull, "Many contemporaries and historians have doubted his suitability for this command" By the time he took over the main carrier battle group, he had visibly aged, physically and mentally, and become a cautious officer. Later, in 1942, as Commander in Chief of the Third Fleet, his indecisive leadership during the Guadalcanal Campaign culminated in his defeat. Clearly, Admiral Nagumo was not ideally suited for so bold an action as the raid on Pearl Harbor.

He was dissuaded from launching a third strike, because he feared three-quarters of the Combined Fleet's aircraft were in danger of being lost to ground fire, given American marksmanship, which had dramatically improved from the first to second attacks. Uncertain how many enemy bombers still survived, he wondered if they might rally to attack his surface units, perhaps to team up with the pair of U.S. carriers whose whereabouts were still unknown. Readying a third wave would not have been possible before late afternoon, he argued, requiring returning pilots to set their bombers and fighters down on pitching carrier decks around sunset at a historical period when only Britain's Royal Navy airmen were trained to perform such landings after nightfall. The excessively long-range operation had taxed Nagumo's task force to the limit of its fuel capacity, which strictly circumscribed the time parameters of his stay in enemy waters.

But simply diverting the 50 Nakajima B5N tactical bombers of the first attack wave from Battleship Row to the shipyards, power station, maintenance depots, and oil storage tank farms, while allowing the 40 other Kates to proceed with their torpedoes against surface units, would have rendered a third attack, with its dangerous potential for fuel consumption and hazardous nighttime landings, unnecessary. More significantly, as a conservative officer, Nagumo upheld the traditional Japanese Navy practice of foregoing the total destruction of an opponent to save one's own strength. Sensible as these precautions might have seemed, they paled before the life-and-death struggle sparked at Pearl Harbor.

Clearly, nothing less than an all-out effort to hurt an industrially superior enemy to the greatest possible extent would have made a final Japanese triumph possible. Whatever initial losses incurred, no matter how great, would be utterly obscured by later, far-more severe sacrifices suffered in vain attempts to reverse the tide of events. The limited, even narrow objectives and strategy instituted by the Japanese high command and expressed in the less-than-total attack launched by Admiral Nagumo doomed Imperial Japan from before the beginning of hostilities. As Tadaichi Hara, Commander of the 8th Cruiser Division, correctly observed, "We won a great tactical victory at Pearl Harbor, and thereby lost the war."°

Instead of being lost on that first day, it could have easily been won just as quickly. Contrary to Nagumo's concern that the foe might have sufficiently recovered to offer powerful resistance, panic reigned throughout the Hawaiian Islands. During the attack, the Americans shot down 11 USAAF planes, including U.S. Navy Wildcat fighters and Dauntless dive-bombers from the Enterprise. "Friendly fire brought down some U.S. planes on top of that;' according to Alan Zimm." Civilian casualties at Pearl Harbor included 57 dead and 35 wounded, not, as Allied propaganda asserted, wantonly strafed by Japanese pilots, but the victims of American gunners who mistook the private automobiles of non-combatants for enemy armored cars.

Hours after the last Zero departed the skies over Oahu and Nagumo's task force was steaming homeward across the Pacific Ocean, the alert sounded again, as every surviving gun opened fire on "a super battleship" breaking into Pearl Harbor. Following the expenditure of considerable ammunition, control officers called a halt to the shelling,

when they realized that their target was a nearby mountain casting its own shadow in the setting sun. The thunderous artillery fire had echoed across the island, throwing its residents into terrified confusion. Similar examples of hysteria persisted for days after the attack.

Major General Short stated after the war that the defenders were as psychologically shattered as they were materially devastated, and in no condition to offer serious resistance to a Japanese invasion, which would have undoubtedly succeeded with little difficulty."

In any case, the raid on Pearl Harbor opened the first of three, major phases through which the Pacific War progressed. The period from December 7, 1941, to June 4, 1942, represented Imperial Japan's sole window of opportunity before American forces could properly coordinate themselves with Magic's ability to crack enemy's military codes.

The rapid and complete success the Japanese achieved wherever they struck was made possible by gaining immediate air supremacy through concentrated, constant strikes against Allied airfields. As a precursor to their conquest of the Philippines, while Pearl Harbor was under attack, they raided air bases around Manila, destroying 103 fighters, bombers, and assorted aircraft, damaging many more. The U.S. Far East Air Force was annihilated. Just three days later, the British suffered their own "Day of Infamy" in the South China Sea. Informed by "Ultra" cryptanalysts of Tokyo's designs on Southeast Asia, a Royal Navy battleship, one battle cruiser, and four destroyers were hurriedly assembled as "Force Z" and dispatched to intercept an enemy invasion fleet north of Malaya.

Although the Japanese possessed no equivalent to "Ultra" or "Magic;' and might have been ambushed by the British warships, Churchill saved them the trouble by publicly announcing their arrival days in advance. Thus alerted, Admiral Yamamoto strengthened the Kanoya, Mihoro, and Genzan Air Groups with 36 additional Mitsubishi G4M mediumbombers. The Type 1 Land-Based Attack Aircraft traded vulnerability for speed and long range. Stripped of armor, without self-sealing fuel tanks and armed with only four 7.7-mm Type 92 machine-guns at nose, waist, and top turrets, the Hamaki, or "Cigar;' as it was nicknamed for its portly fuselage, could carry a 1,892-pound Type 91 Kai-3 aerial torpedo over 2,664 miles at a maximum speed of 265 mph. The only real concession to self-defense was a single 20-mm Type 99 cannon in the tail position that made enemy attacks from directly astern especially perilous.

The Hamaki's outstanding advantage was its ability to hit unsuspecting targets long distance, then run before interception could be mounted. It was a very rugged warplane, often capable of remaining airborne despite severe damage, although the G4M's inflammable design contributed to its deprecation among U.S. fighter pilots as the "Flying Zeppo;' or the "One-Shot Lighter;" an epithet likewise applied by Japanese airmen to the "Betty;" as it is better remembered in the West.

The Cigar's tradeoff of self-protection for performance had been duplicated in another Mitsubishi offering, the G3M Type 96, known to the Allies as "Nell:" Slower by 32 mph than the "Betty," it could fly 66 miles further on its twin-Mitsubishi Kinsei 45, radial engines rated at 1,075 hp each, although armament and payload were equivalent. The Nell

was lighter on the controls, however, and capable of making evasive maneuvers when pursued by an enemy fighter. Skillfully flown G3Ms were known to spoil the aim of Allied interceptors, enabling escape.

Sixteen of the sleek twin-tailed medium-bombers belonged to the Kanoya, Mihoro, and Genzan Air Groups, whose pilots made proper use of Churchill's advanced warning to undertake, last-minute, refresher training exercises. While Admiral Yamamoto placed full responsibility for the destruction of Force Z in their hands, Admiral Tom Phillips, commanding the British group, refused all offers of air cover from No. 453 Squadron RAAF and No. 488 Squadron RNZAF as unnecessary. He deemed the combined anti-aircraft firepower of his warships more than sufficient to deter any aerial assault launched by the Japanese, whose military effectiveness in general he considered far below average, an opinion shared by most of his fellow officers at the time. Moreover, no capital ship at sea, anywhere in the world, had so far been sunk by aircraft.

The Mitsubishi G3M Type 96 long-range medium bomber scored numerous victories throughout a long career, most notably, its destruction of British sea power in the Pacific with the sinking of HMS Prince of Wales and Repulse. (Courtesy Art-Tech)

On December 8,1941, the battleship Prince of Wales-veteran of the previous May's disastrous encounter with the German battleship Bismarck, which blew up HMS Hood and reduced the Prince of Wales to little more than a floating wreck-and battle cruiser Repulse, in company with destroyers Electra, Express, Tenedos, and Vampire, sailed from Singapore against a Japanese convoy bound for Malaya. Their intercept course was changed by Admiral Phillips at 0050 the following day, when he learned of enemy landings storming the east coast of Malaya, halfway between Singapore and Kota Bharu, and made to attack them.

Later that morning, two squadrons from the Genzan Air Group dove on Force Z. They were greeted by walls of intense anti-aircraft fire that promptly splashed a Mitsubishi Nell.

But the other G3Ms pressed on through the barrage to within range of the Prince of Wales, which suffered six torpedo hits. Her speed abruptly fell below 15 knots (18 mph), and her electrical power failed. Not enough of it could be restored to operate all her gun turrets, nor keep sufficient numbers of her pumps baling 2,400 tons of water sucked into the stricken vessel. At 1318, the Prince of Wales capsized and sank, scraping against and almost taking with her a destroyer that had come alongside.

As HMS Express was in the process of rescuing surviving crew members, Admiral Phillips not among them, eight bombers of the Mihoro Air Group struck simultaneously from two directions. But all their torpedoes aimed at Repulse were dodged in a brilliant display of defensive maneuvering. Against the 26 Mitsubishi G4Ms of the Kanoya Air Group, however, she was less successful. Once more, the skillfully commanded battle cruiser avoided every attack, sidestepping no less than 19 torpedoes, while shooting down two Betty bombers.

An impromptu reorganization of tactics via radio by the Kanoya pilots caught Repulse between a pair of simultaneous attacks that hit her with four torpedoes. She slowed to a halt, then listed to port for about six minutes before rolling over and sinking for the loss of 513 lives. They joined the 327 crew members that went down with the Prince of Wales.

For the first time in military history, capital ships steaming in the open sea and engaged against an enemy had been sunk solely by air power. The scene of battle was overflown a day later by Lieutenant Haruki Iki, who dropped two flower wreaths into the sea from his G4M bomber. One was a memorial to his Kanoya Air Group comrades who died in the attacks; the other was in honor of the British sailors of Force Z. In the words of the Pacific war historian Frank Owen, “This was because their display of bravery in defense of the ships had gained them the utmost admiration from all pilots in his squadron.“3

But Churchill lamented, “There were no British or American capital ships in the Indian Ocean or the Pacific except the American survivors of Pearl Harbor, who were hastening back to California. Over this vast expanse of waters Japan was supreme, and we everywhere were weak and naked.“4

The Japanese were quick to take advantage of their triumph. Within six months, they were victorious from Eastern India and Burma, down through Sumatra, Borneo, the Philippines, New Guinea, the Dutch East Indies, eastward across the Central Pacific, and north to the Aleutian Islands. The vast extent of their conquest in so little time was historically unprecedented. But Japanese failure to neutralize Pearl Harbor at the very start of the Pacific Campaign was the canker that would grow to undermine all their success. Among the December 7 installations deliberately left untargeted by Nagumo’s airmen was the Old Administration Building, headquarters of the cryptanalytic unit that decoded Japan’s military ciphers, and would continue to do so with increasing efficiency throughout the war.

By mid-April, U.S. forces had partially, if not sufficiently, recovered from their losses over the previous four-and-a-half months to act on information provided by Magic. Intercepts revealed Admiral Yamamoto’s top-secret plans for the invasion of New Guinea’s Port Moresby, which he regarded as necessary for strengthening his positions in

the South Pacific. With this vital foreknowledge, American strategists planned to ambush his forces as they passed into the Coral Sea with two U.S. Navy carrier task forces and a joint Australian-American cruiser force. Admiral Yamamoto's Operation Mo involved the fleet carriers Zuikaku and Shokaku, light carrier Shoho, 2 heavy cruisers, and 6 destroyers as escorts for 11 transports carrying 5,500 troops, who were expected to overcome the slightly outnumbered, far-less well-trained and underequipped defenders of Port Moresby.

On May 6, the invaders were spotted and bombed repeatedly by Australian-based B-17s without effect. The next day, Japanese aerial reconnaissance sent warplanes from the Shokaku after what was supposed to have been a pair of enemy aircraft carriers. Instead, the bomber and fighter pilots found a U.S. warship and a Cimarron-class oiler for the American task force. Three of the four 551-pound bombs aimed by Aichi Vals struck the Sims, breaking the destroyer in half and sending her to the bottom with 178 of her 192-man crew. Anti-aircraft fire from the USS Neosho shot down a dive-bomber that fell flaming onto the oiler's foredeck. Seven bombs thereafter reduced her to a slowly sinking wreck, a serious loss to the Americans, because she provided their refueling at sea.

That same morning, scouts from the fleet carriers Yorktown and Lexington found the Shoho protected by just six Zeroes and two Mitsubishi A5M Claudes, still good but out-dated open-cockpit, low-wing monoplanes with fixed landing-gear, while the rest of the Japanese carrier's aircraft were being readied below decks.

Douglas Dauntless SBDs dropped two 1,000-pound bombs on the Shoho, which additionally received four torpedo hits delivered by Douglas TBD Devastators. She was decimated by another 11 1,000-pound bombs and 2 more torpedoes from a second wave of U.S. Navy bombers, 3 of which had been shot down. The Shoho lost her entire compliment of 18 warplanes, together with 631 of her 834 men aboard.

Revenge sought by pilots from the Zuikaku was frustrated by 11 radar-directed Grumman F4F Wildcats, which lost 3 of their own for 8 Nakajima torpedo bombers and an Aichi dive-bomber shot down. Reconnaissance scouts for either side spotted each others' task forces almost simultaneously, and both opposing carrier groups hurried to get their planes airborne. The Japanese got in the first strike with 33 Val dive-bombers and 18 Kate torpedo bombers screened by 30 Zeroes. Once again, Wildcat fighters-9 of them this time-were vectored by radar to meet the incoming enemy. But they missed the quartet of high-flying Nakajimas, their torpedoes shooting harmlessly past USS Yorktown.

The other 14 B5Ns executed a pincher run on the Lexington, which shuddered with two exploding torpedo hits, compounded by two more 551-pound bombs dropped by Aichi D3As. Another Val scored a direct hit on the center of Yorktown's flight deck. The armor-piercing bomb penetrated four decks, then exploded to kill 66 men and cause severe structural damage.

Following the battle, the smoldering Lexington erupted into a series of three explosions that transformed her into a blazing hulk, killing 216 of her 2,951 crewmembers, and destroying all 36 aircraft aboard. Abandoned by her survivors, a U.S. destroyer scuttled Lexington by firing a close spread of five torpedoes into her starboard side at point-blank range. Yorktown, unable to replenish her dwindling fuel reserves

because the task force tanker, Neosho, had been the battle's earliest victim, withdrew first from the Coral Sea, conceding tactical defeat.

For the loss of a light carrier and one destroyer, the Japanese sank a vital enemy oiler, one destroyer, and a fleet carrier that represented onequarter of U.S. carrier strength. But never before had a Japanese invasion force been compelled to abort its mission. Imperial Japan's hitherto invincible expansion had been stopped. Historically, the Battle of the Coral Sea signified an unprecedented fleet engagement between carriers, the first naval battle in which no surface ships sighted or fired at each other, because all action had been confined to warplanes and antiaircraft fire.

Most critically, it represented the beginning of operational cooperation between Allied code breakers and U.S. forces. Had the Japanese military codes remained unbroken, timely American intervention in the Coral Sea would not have been possible, and Port Moresby would have certainly fallen to Yamamoto. Strangely, he never wondered why a fully prepared enemy appeared at precisely the right place, a world away from its home base at an obscure corner of the Pacific Ocean, just in time to take advantage of his Operation Mo during its most vulnerable moment.

The Shoho was gone, Shokaku suffered extensive damages that put her out of action for nearly three months, and the Zuikaku lost too many airmen for her immediate redeployment. No less critical, the deaths of 90 skilled pilots could not be made good in time for more decisive confrontations in the offing. Even so, the proposed capture of Port Moresby had been, from its inception, a diversion that diluted Yamamoto's forces at a particularly decisive period when he needed to concentrate all of them in a single action before time ran out. After the unnecessary Operation Mo, he did not possess the qualitative or numerical edge required to win the far-more crucial Battle of Midway.

That pivotal engagement was a direct result of a single action undertaken by a handful of warplanes against Tokyo three weeks before the Battle of the Coral Sea. On April 18, 1942, 16 B-25B Mitchell mediumbombers, utterly unsuited to launching from a carrier deck, successfully took off from USS Hornet, 750 miles east of Tokyo. They were led by USAAF Lieutenant Colonel James "Jimmy" Doolittle, who conceived of the strike purely as a desperate propaganda deed to raise American morale, badly depressed after the previous four months of unrelieved defeat. The raid took the Japanese by complete surprise. Desultory, infrequent bursts of flak caused light damage to one of the twin-engine aircraft, and the few fighters encountered were piloted by utterly bemused Japanese airmen, too stunned by the enemy's inconceivable appearance over their sacred homeland to offer any serious interception, as the B-25s carried out their missions against Yokohama, Yokosuka, Nagoya, Kobe, Osaka, and Tokyo.

All of them were lost during forced landings in China, where most of the crews-including Doolittle, who ingloriously parachuted into the dung heap of a rice paddy near Chuchow-were rescued by troops of Chang Kai-Shek's Nationalist Army. A single Mitchell crashed inside Russian territory 40 miles beyond Vladivostok, unfortunately for the crewmen, who were incarcerated under appalling conditions. Not until the following year were they able to make good their escape through Iran from "our gallant Russian

allies:”

Three Americans died in separate crashes after the Doolittle operation, or while bailing out, and another eight who came down outside Japanese-occupied Shanghai were taken prisoner. They were charged as war criminals after unexploded ordinance dropped by one of the bombers was retrieved in Tokyo. Investigators correctly ascertained that each of the B-25s carried a bundle of incendiaries in long tubes designed to separate and scatter over a wide area after release. The obvious purpose of such an arrangement was to inflict as many human casualties as possible, not to cause material damage to legitimate, military, or industrial targets.

Prosecution claims seemed underscored by Lieutenant Everett W. Holstrom, who jettisoned his 500-pound bombs over a civilian area before reaching the target area, when he was approached by fighters. Three of the Americans were executed for “the murder of non-combatants;’ while five survivors had their death sentences commuted to imprisonment on a starvation diet. The Japanese believed “that indiscriminate bombing constituted a war crime punishable by executon.“15 After one of the airmen died, the last four were moved to remote Nanking, where food was more abundant, and they were supplied with books, including copies of the Bible, care of Wang Jingwei’s pro-Japanese, fascist Chinese Republic.

The “Do-nothing Raid;’ as Japanese propaganda mocked it, caused insignificant physical damage and killed or injured only a few civilians, because it happened to coincide with a practice air drill that had most city residents already in underground shelters before the bombers arrived overhead. Otherwise, human casualties would have been much higher. Far beyond the scope of its meager material impact, strategic effects set in motion by Doolittle’s raid transformed the entire course of the Pacific War. The Japanese had deemed such an event unthinkable. To prevent its recurrence, a Fast Carrier Task Force was withdrawn from the Indian Ocean to protect home waters. The transfer of its six aircraft carriers that had very recently inflicted serious losses on the Royal Navy provided the British with breathing space to regroup and rebuild.

Yet more fateful, Admiral Yamamoto determined that the enemy carriers needed to be hunted down and destroyed in their own operational area at Midway Island, which he intended to occupy. Success there would not only provide an outpost in an extended defensive perimeter against further air attacks on the homeland, but hand the Americans another demoralizing defeat that would force them to negotiate a peace favorable to Japan. In other words, the Japanese were going back to the Central Pacific to finish the work they began the previous December 7th. Had they mounted the same kind of invasion of Oahu at that time, they would have almost certainly prevailed. Instead, the curse of an unoccupied or undestroyed Pearl Harbor was about to ruin their unrealistic hopes for final victory.

Although badly damaged during the Battle of the Coral Sea, USS Yorktown was restored to operational status in time for her important participation at Midway, thanks to repair crews at Pearl Harbor’s shipyards, which went untargeted by Japanese warplanes four months earlier. Since then, aircraft protection of the Hawaiian Islands had been substantially increased, forcing Yamamoto to forego his preference for invading Oahu.

Sketchy intelligence misled him to believe that most U.S. carriers had been either sunk or temporarily knocked out of action, leaving him only Enterprise and Hornet to confront.

In sharp contrast, Magic cryptanalysts learned the enemy's order of battle, his number and distribution of ships, plus the operation's proposed date and hour days in advance of Yamamoto's attack, enabling the forewarned U.S. Navy to ambush the unsuspecting Japanese. They believed Midway Island itself lacked much for air power because its defenders were supposedly oblivious to the impending invasion. Instead, 4 squadrons of B-17 heavy-bombers, 19 SBD Dauntless divebombers, 7 F4F-3 Wildcat fighters, 17 SBU-3 Vindicator dive-bombers, 21 Brewster F2A-3 Buffalo fighters, 6 Grumman TBF-1 Avenger torpedo planes, and 5 B-26 Marauder medium-bombers were stationed and on alert at the atoll. They were later joined by additional fighters and divebombers from Hornet.

Yamamoto additionally knew nothing about the movements of his opponents, and could only guess at their true strength and dispositions. Because of losses incurred at the previous Battle of the Coral Sea, he had at his command just four carriers, thereby handing something approaching numerical parity to his opponents. The Japanese were also missing a majority of their most experienced pilots who died in Operation Mo, while many of the surviving Zero fighters, Mitsubishi torpedo planes and Aichi dive-bombers were increasingly unreliable and practically worn out after half a year of incessant combat. With the cards stacked so heavily in the Americans' favor, they could have hardly failed to play a winning hand. As demonstrated during the Battle of Midway, however, they still had much to learn about aerial warfare at sea, and Chuichi Nagumo-December 7th's hesitant Admiral, yet again in charge of another supremely decisive engagement-might have at least cut his losses by taking quick advantage of their blunders, had he been a less conventional commander.

Nine B-17s flying out of Midway opened the battle in the early afternoon of June 3 by attacking a group of enemy transports approaching 656 miles from the west. All bombs missed their targets. Shortly after midnight, a PBY Catalina flying boat torpedoed but failed to sink an oil tanker, the Akebono Maru. These ineffectual, feeble air attacks encouraged the Japanese, who arrived within range of Midway shortly before dawn. They were further heartened by the immediate success of their three flights of fighters, dive-bombers, and torpedo-bombers at 36 warplanes each. They shot down most of the 16 U.S. Marine-flown Wildcats and Buffalos in a matter of minutes, leaving only 2 American interceptors in operable condition, for the loss of three Zeroes, three Kates, and a Val, some of them claimed by flak. These light casualties were more than offset by severe damage inflicted on the island, enough, Yamamoto assumed, to make invasion possible. But heavy reinforcements at the base necessitated another strike.

That same morning, unescorted Avengers and Marauders from Midway made torpedo runs on the Japanese fleet. The warships' combined, concentrated defensive fire and protecting fighters splashed 7 of the 10 American bombers, which failed to score any hits, although 2 Claudes were shot down. Shortly thereafter, as his aircraft were being readied for a second strike against Midway, the pilot of a scout plane from the heavy cruiser Tone

belatedly signaled Admiral Nagumo with word of sizeable U.S. Navy units approaching from the east. Determined to attack them, he ordered replacement of contact bombs with torpedoes. This time-consuming process crowded carrier decks, drastically limiting space for fighters to take off in defense of their ships.

During these vulnerable moments-when inflammable gasoline hoses snaked across flight decks and armed munitions, no longer safely locked away in their magazines, were stacked up in the open-American warplanes appeared over the horizon. Their approach was sloppy and piecemeal, dampening the overall effect of their attacks, while opening themselves to substantially higher casualties. The first incoming wave of unescorted Devastators was annihilated without making a single hit, leaving one man alive. Avengers of Torpedo Squadron 8 followed, and were similarly obliterated with nothing to show for their sacrifice. But the defending Zeroes had virtually exhausted their ammunition and fuel, while drifting far away from their stations protecting the fleet.

Just then, three squadrons of Dauntless dive-bombers in two separate formations from the northeast and southwest fell on the Japanese carriers. The warships' fire that had devastated slow, vertical bombers was far less effective against SBDs diving on them from high overhead at nearly 300 mph. A near miss off Akagi's stern resulted in a powerful geyser of water that bent her flight deck upward and badly deformed her rudder, while another 2,250-pound bomb exploded in her upper hangar deck. Kaga and Soryu each took four hits. Within the space of six minutes, all three carriers were blazing wrecks abandoned and soon after scuttled by their crews.

Meanwhile, Aichi dive-bombers struck USS Yorktown, knocking out her boilers and leaving her dead in the water with a 26-degree list to port. Before the afternoon was over, one of her scout planes located the last surviving enemy carrier, and 10 dive-bombers were immediately dispatched to attack her, along with others from Enterprise. They broke through a ring of 14 defending Zeroes to score several hits on the Hiryu, which erupted into flames from stem to stern.

Yamamoto ordered his four heavy cruisers, a dozen destroyers, and five battleships-including the Yamoto, the world's largest-to hunt down the U.S. carriers and destroy them. But the Americans, forewarned by Magic intercepts, withdrew to the East and escaped detection. At least the Japanese got in the last shots, when the already stricken Yorktown succumbed to two torpedoes fired by the submarine 1-168. A third one struck the USS Hammann tied up alongside to supply auxiliary power. The destroyer's depth charges detonated, splitting her in half, killing 80 sailors.

But the destruction of four fleet carriers and failure to take Midway meant that Japan had forever lost the strategic initiative. From now on, her ship-building programs could not hope to successfully compete against the gathering momentum of American industry. Nor was she able to quickly replace too many casualties among skilled airmen. At Midway alone, as many Imperial Japanese Navy Air Force crew members died in a single day as its prewar training program graduated during an entire year. Japan's carrier strength did not recover until 1944, by which time its replacement pilots lacked the cutting-edge experience and intensive flight instruction of their predecessors. In sharp contrast, most

U.S. Navy pilots survived Midway to form the core of an increasingly potent air arm continuously augmented by well-trained recruits, plus more and improved warplanes.

At least as crucial as these factors was the ability of U.S. cryptanalysts to decipher all Japanese orders, even on the squadron level, before they could be implemented. In a letter to the Republican candidate for president, General Marshall confided to Thomas Dewey, "To explain the critical nature of this set-up, which would be wiped out in an instant if the least suspicion were aroused regarding it, the Battle of Coral Sea was based on deciphered messages and therefore our few ships were in the right place at the right time. Further, we were able to concentrate our limited forces to meet their naval advance on Midway when otherwise we almost certainly would have been some three thousand miles out of place. We had full information on the strength of their

The Pacific War's second phase, which forever terminated Japanese expansion, opened after the Battle of Midway. From June 1942, Japanese forces were steadily expelled from all of the territories they occupied during the first six months of hostilities, in large measure because the Imperial Navy was down to just five carriers, and of these, only Shokaku and Zuikaku were still formidable. Far less so were the second-rate Ryujo, Junyo, and Hiyo. Damages suffered by Japan's military machine at Midway were irreparable, its offensive capability permanently blunted. The Americans followed up on their victory by offensives at Guadalcanal and New Guinea, thereby beginning a process that gradually but inexorably shrank Japan's crumbling defensive perimeter.

What successes the Japanese did achieve after Midway were limited to individual actions, such as surprise raids accomplished by Imperial Navy flying boats against Rabaul and the Dutch East Indies. The Allied defenders there, convinced their remote location insured invincibility against enemy attack, were taken unawares by devastating raids carried out by long-range flying boats of the Imperial Japanese Navy Air Force. These were Kawanishi H6K Type 97s, huge aircraft with prodigious endurance, capable of undertaking 24-hour patrols over 4,112 miles.

With a wingspan greater than 131 feet and over 84 feet long, "Mavis;' as the Americans called it, stood higher than 20 feet, with a maximum takeoff weight of 47,300 pounds. Although its nine crew members defended themselves with five 7.7-mm machine guns in nose, dorsal, and waist positions, plus a 20-mm cannon in the tail turret, their lumbering flying boat was vulnerable to U.S. Navy fighters, such as the Grumman Hellcat. Before these interceptors appeared in large numbers, the H6K's 12,205 pounds of bombs devastated American facilities, later finding gainful employment in transport, reconnaissance, and maritime patrol.

If the Pacific War's second phase was predominantly characterized by Japanese retreat, its third phase began and persisted with renewed victories enjoyed by Japan's airmen. They realized by early 1944 that the USAAF was preparing a major strategic bombing campaign against their home islands with a new warplane that promised unparalleled destructiveness. To counter this threat, the Imperial Japanese Army launched Operation Ichi-Go (Operation "Number One;' also known as Tairiku Datsu Sakusen, or "Continent Cross-Through Operation") on April 17 to capture bases in southern China before

construction of airfields for the B-29s' XX Bomber Command was completed, thereby pushing the Superfortresses outside their operational range.

While Magic intercepts provided the Americans with advance information and all pertinent details of the coming offensive, they were mostly powerless to oppose it because virtually all their land forces were engaged in Europe. The Pacific Theater had been placed primarily in the hands of the U.S. Navy and Marines. Not since Japan's heydays of late 1941-early 1942 had she enjoyed such success. Her troops captured Changsha on June 18, then marched south to take Hengyang airfield a week later.

U.S. armed forces planners had banked on supplying Chang KaiShek's National Army and working in concert with it to drive the enemy out of China, from which an invasion of Japan could be launched. But the almost consistently poor fighting performance of the Chinese, even when abundantly equipped and partially led by the Allies, shifted American strategy away to island-hopping across the Pacific toward Japan. Their change of resolve was underscored by Operation Ichi-Go's irrepressible capture of Allied airfields, which seriously imperiled envisioned aerial operations against Japan.

Unreasonably high hopes had been placed in such a bombing campaign, because USAAF brass were convinced it alone could break the enemy and compel his surrender. The Boeing Company had been assigned to produce an aircraft specifically for this purpose as far back as 1938; namely, to devastate Nazi Germany with a bomber that could fly higher and faster than any interceptor. By the time the B-29 made its debut five years later, however, Luftwaffe fighters not only bested its top speed of 357 mph, but regularly operated above its 33,600-foot service ceiling.

Accordingly, just a single Superfortress appeared furtively and only once in the skies over Europe for a one-time photo-op. Japanese defenses were supposed to be far inferior to their German counterparts. They were not expected to offer serious opposition to the faster, higherflying B-29s, which their commanders believed would singlehandedly annihilate Japan's industrial output and bring about her unconditional surrender in 1944.

As the new heavy-bombers began arriving in India during mid-April prior to the construction of forward bases in China, they were observed by Japanese Army Air Force pilots of the 64th Sentai (air group) operating out of Burma. On April 26, in the first combat between a B-29 and its opponents, the shortcomings of both sides were revealed. For half an hour, three Nakajima Ki-43s tried to bring down the single B-29 being ferried over the Indian border on behalf of the 444th Bombardment Group. The monstrous aircraft seemed impervious to 12.7-mm rounds fired by their Ho-103 machine-guns, and the maximum speed of their Oscars, as the old fighters were known to the Allies, was 28 mph slower, making interception almost impossible. The ineffectual Nakajimas reinforced American belief that the Superfortress would win the war.

But some of its serious defects showed through from the beginning. Its vaunted defensive armament of a dozen .50-inch caliber machineguns damaged none of the attacking Oscars due to mechanical failures with the remotely controlled turrets and an inoperable 20-mm cannon in the tail position. Problems such as these and others were endemic to an overcomplicated design additionally compromised by deadlines that

adversely affected proper development and only revealed themselves during combat operations, when their solutions could be temporary, at best. Ready or not, the XX Bomber Command equipped with the new heavy-bombers mounted their first raid against Japan on June 15.

Because Allied air bases in China were being occupied or threatened by the advancing forces of Operation Ichi-Go, the 68 B-29s were compelled to operate at the maximum extreme limits of their 3,250mile range, at low cruising speed, and under 11,000 feet, each carrying a scaled-back payload of just two tons, to stretch out every drop of fuel. As such, the vaunted performance and capabilities of the Superfortresses were mostly canceled out.

Their operational debut was no surprise to the Japanese, who had been training on beefed-up interceptors in anticipation of the big bombers for the previous two months. Based in western Honsu at Ozuki airfield, the 4th Sentai was equipped with the Kawasaki Ki-45 Toryu, “Dragon-slayer:” Like the German Luftwaffe’s remarkably similar Messerschmitt BE 110 Zerstoerer, “Destroyer;” the powerfully built “Nick;’ as it was known to the Americans, failed its original design purpose as a twin-engine fighter, but found success in the ground-attack and nightinterception roles. Armament varied from a 20-mm cannon and two 12.7-mm machine guns, plus a pair of 7.92-mm machine guns, or one 37-mm and two 20-mm cannons, to a single 40-mm cannon.

Kawasaki’s Ki-45 Toryu was aptly named the “Dragon-slayer” for the heavy toll it took on USAAF B-29 Superfortresses brought down over Japan. (Courtesy Art-Tech)

Shortly after the XX Bomber Command formation became airborne, it was reported by Japanese Army observers in China, sequentially detected by radar stations in the East China Sea off the Korean coast at Cheju Island, finally registering across the monitors of the Western Air Defense Command at Fukuoka, on the Japanese mainland. All this advance warning gave the ground and air crews of the 4th Sentai abundant time to prepare their counterattack. Meanwhile, the B-29s were experiencing mechanical problems, and six of them had to abort while still over China. Toryu pilots were already in position at

altitude, waiting for the American intruders, who approached their targets after dark.

A “Dragon-slayer” dove on one of the Superfortresses, promptly shooting it down in flames, but the other Kawasaki interceptors, slower by 21 mph, could not catch up with the B-29s, which targeted Yawata’s iron and steel works at the northern coast of Kyushu Island. All 132 tons of explosive they dropped missed, save only a single 500-pound bomb that caused negligible damage. The 4th Sentai suffered no casualties. Japanese and American airmen were heartily disappointed with their respective results but vowed to do better next time. They would have a long wait, because the continuing advance of Operation Ichi-Go pushed the USAAF further away from Japan with the capture of more landing fields.

The important base at Hengyang fell on August 8, and another at Kweilin was seriously threatened. In a last opportunity to use shrinking Chinese territory, the XX Bomber Command assembled 76 Superforts from four groups for another crack at Zawata. On behalf of improved speed and reduced fuel consumption, their payload was further downsized to one-and-one-half tons each.

The Sino-Japanese early warning radar network yet again alerted the defenders, whose numbers had grown to more than 100 interceptors. These comprised veteran pilots of the 59th Sentai flying the Kawasaki Ki-61 Hien, or “Swallow.” The Americans referred to it as “Tony” in the mistaken belief that the sleek, low-wing monoplane with an untypically Japanese liquid-cooled engine was a Macchi C.202 Folgore (“Lightning”) from Japan’s Italian ally. In truth, the Ki-61 was closely based on a German design, the Heinkel He-100, which set a world speed record in 1939.

The aircraft was highly advanced for its time, but its 1,175 hp Daimler-Benz DB 601M, supercharged V12 engine and some of its innovative, if complex, features proved too unreliable for Luftwaffe brass, who refrained from placing an order for the high-performance fighter. Three examples were sold to Japan, along with licensing for production and a set of jigs, in May 1940. Imperial Japanese Navy Air Force officers were deeply impressed with the He-100, and hoped to put it into production as soon as possible as a land-based interceptor. But because factories were already tooling up for domestic fighters of equivalent performance, such as Mitsubishi’s J2M Raiden, the Heinkels were set aside.

The Kawasaki Ki-61 was code-named “Tony” by the Americans in their mistaken belief that it was an Italian design. In truth, the Hien (“Swallow”) was Germany’s Heinkel He.100, which became one of the best Imperial Japanese Army fighters. (National Museum of Naval Aviation)

They were immediately thereafter taken up by Kawasaki executives, who reintroduced the He-100 as the Ki-61. Like its previous German incarnation, the Hien suffered teething problems with its Ha-40 inverted V-12 engine modeled after the original Daimler-Benz version. Despite maintenance problems, the Ki-61 was superior to most U.S. fighters, such as the Curtiss P-40 Warhawk or Grumman F6F Hellcat, and able to at least hold its own against the better P-51 Mustang and P-47 Thunderbolt. Of more immediate importance to pilots of the 59th Sentai, it was faster than the B-29, and powerfully armed with twin 20-mm cannons and two 12.7-mm machine guns.

Two more JAAF groups-the 51st and 59th-were equipped with the Nakajima Ki-84, code named “Frank” by its American opponents. They regarded this Type 4 Fighter as the best Japanese aircraft of its kind mass produced during the Pacific War. With a maximum speed 30 mph faster than a Superfortress, and rate of climb at 3,790 feet per minute, the Hayate, or “Gale;’ was a formidable bomber-killer.

By the time the B-29s returned to Yawata, they were already short nine of their number, not due to enemy attacks, which had not yet begun, but through mechanical malfunctions. The Japanese had used the two-month pause in raids to improve their anti-aircraft defenses, which featured Type 88 flak cannons with a range of 27,000 feet. The heavy-bombers came in just 1,000 feet under this ceiling, and nine of them were damaged, at least one fatally. Their aim was spoiled by ground fire, and most of their payloads missed the targets-yet again, the iron and steel works-except for a pair of minor hits. For the destruction of two coke ovens, 14 B-29s were shot down, the defenders losing five interceptors and three airmen.

Two of them perished when Sergeant Shigeo Nobe, frustrated by his Toryu’s inability

to catch up with the faster enemy, suicided into a Superfortress that had just dropped its payload. In the words of aviation historians Koji Takaki and Henry Sakaida, “the Nick’s right wing sliced into the B-29’s left wing between the tip and No. 1 engine. The bomber’s wing tank exploded in a fireball, while the remains of Nobe’s fighter cartwheeled backwards through the formation.“7 Great shards of flaming wreckage sailed passed the next Superfort and smashed into another, shearing off its horizontal stabilizer and sending it into a fatal spin. Sergeant Nobe would have been gratified to know that his selfsacrifice slew two “dragons:”

Nakajima’s Ki-84 Hayate (“Gale”) made its introduction during late 1944’s Battle of Leyte Gulf, where it outperformed the American’s leading fighter planes, the P-51 “Mustang” and P-47 “Thunderbolt:” (Courtesy Art-Tech)

On September 4, the Japanese juggernaut in China captured another vital airbase, this one at Lingling, then went on to finally take Kweilin, followed by the last, remaining USAAF airfields at Liuchow and Nanning. The XX Bomber Command was forced to withdraw, effectively ending all further operations, making Operation Ichi-Go one of the war’s most influential offensives. As a consequence, enemy aircraft were absent from the skies over Japan for nearly three months, save for the infrequent appearance of a high-flying reconnaissance mission. Having been deprived of their Chinese bases, U.S. engineers furiously got to work building airfields in the Mariana Islands, at Guam, Tinian, and Saipan. Thanks to faulty intelligence gathering and heavy attrition suffered by the Imperial Navy, an inadequate number of Japanese bombers struck these bases under construction too late and with too little.

A night attack on November 2 by 10 Mitsubishi G4Ms flying out of Iwo Jima dropped five 1,764-pound bombs on Saipan’s nearly completed airfield. Although the attack set back the Americans’ timetable for their renewed B-29 offensive by almost a month, two mediumbombers had been brought down by the intense, radar-directed antiaircraft fire through which the raiders flew, and another fell under 20-mm shells fired by a similarly

radar-equipped Black Widow. Northrop's big (66-foot wingspan, 29,700-pound), twin-engine P-61 night-fighter was among the USAAF's most deadly aircraft.

The surviving, seven Bettys returned five nights later in a low-level run to escape detection by enemy radar and confound anti-aircraft gunners. While such an approach avoided any casualties, it mostly spoiled the attackers' accuracy. Their Kawasaki escorts strafed the new runway to little effect. These raids frustrated, but could not indefinitely postpone the resumption of America's strategic bombing offensive against the Japanese mainland.

On the early morning of November 24, an armada of 111 Superfortresses took off from the Marianas en route to Tokyo. Before they reached target areas, 17 turned back with mechanical difficulties; the bomb-bay doors of six B-29s refused to open. The presence of an exceptionally powerful jet stream prevented all but 27 of the heavy-bombers from reaching the Musashino aircraft engine factory, which incurred damages of less than one percent. Fifty-nine others attacked the city docks with similarly marginal results. The same jet stream bedeviling the Americans was scattering the 74 Japanese defenders all over the sky. They struggled to control their aircraft, and conventional interception proved impossible, as three Hayate pilots learned to their misfortune, when they were shot down by the silvery behemoths' formidable return fire.

Corporal Yoshio Mita's Nakajima Ki-44 made too close a pass, striking a B-29's left elevator and vertical stabilizer in a collision that destroyed both aircraft. One more Superfort was claimed by a deliberate ramming attack, when 1st Lieutenant Motokuni Ise flew his Mitsubishi Ki-46 into the heavy-bomber. The addition of these two, new types had been intended to bolster the overall effectiveness of home defense. The Nakajima Ki-44 Shoki was a true "Demon Queller," designed specifically for high-altitude interception. Recognized by the Americans as "Tojo;' it found a home at the 47th Sentai, which specialized in bombercollision tactics.

The twin-engine Mitsubishi Ki-46 "Dinah" was a reconnaissance plane wholly unsuited for any kind of fighter role and simply thrown into battle against the enemy for lack of enough interceptors. With a maximum speed of 375 mph, it was, however, fast enough to overtake and ram a B-29, something Lieutenant Ise realized. Thus equipped, the Japanese were not resigned entirely to defense, and sortied against the Superfortress base at Saipan on November 27 with 11 Zeroes and two Nakajima C6N reconnaissance Saiuns ("Colored Clouds"), at 379 mph, the fastest carrier planes of the war. They raked Isley Field with cannon and machine-gun fire, destroying four B-29s parked in the open. Several more were holed before all the attackers were downed by flak.

Tokyo was targeted again by a December 3 formation of 86 Superforts, whose combined firepower claimed 10 Kawasaki Hiens. Two of them rammed their opponents for five B-29s brought down altogether. Another 13 were damaged, some seriously, and many carried dead or wounded aboard. No bombs fell on the Musashino aero-engine factory.

A daylight operation undertaken by 78 Superfortresses 19 days later aimed at annihilating Nagoya's Mitsubishi factory. Bombs dropped by one formation missed by 40

miles. The Americans shifted their attention back to Tokyo on the 27th, losing 5 to Tonys, which damaged another 25 of the big bombers. Two interceptors were lost in ramming attacks, and another pair shot down, but the Musashino war plant went largely unscathed, and its production continued uninterrupted.

Originally something of a failure for its disappointing performance as a reconnaissance aircraft, Mitsubishi's Ki-46 proved far more successful when armed with 20-mm and 37-mm cannons, downing American B-29 heavy bombers in Japanese airspace. (Courtesy Art-Tech)

Switching back to Nagoya on January 3, 1945 meant another mission with negligible results. Of the 97 B-29s that took off for the untouched Mitsubishi factory,1 crashed for unknown causes, and another 18 aborted before reaching Japan. Suspicions began to arise among USAAF commanding officers that "mechanical failure" was not invariably to blame, as depressed morale among air crews of the 73rd Bomber Wing was sinking ever lower. As always, those who pushed on were confronted by defenders determined to crash their own aircraft into the Superfortresses, two of which were lost to ramming, one fell under the guns of a Tony, and another exploded with a direct hit scored by flak. Two Japanese pilots were lost for 59 American flight personnel killed and a dozen wounded. No bombs reached the Mitsubishi factory.

Another raid 6 days later could not break the cycle of failure in which the B-29s had been caught for the previous 10 months. They had nothing to show for their high losses of men and machines, resulting in a profound crisis for U.S. strategy. It had been predicated on the assumption (nee, conviction) that heavy-bombers signified the decisive instrument for final victory. But their consistent incapacity to affect the enemy's infrastructure implied the only alternative, and a most frightful one; namely, an invasion of Japan's home islands. Such an operation, by all accounts, could cost the Americans a million casualties, something no government politician or military commander would dare endorse. Yet, the Allies had loudly and repeatedly committed themselves to "unconditional surrender" of the Axis powers.

With high hopes for the Superfortress practically dashed, gloom and indecision descended on U.S. policy makers. An early victim of this dilemma was Brigadier General Haywood “Possum” Hansell, who was sacked from the 73rd Bomber Wing, which he commanded since October 1944, to be replaced by General Curtiss LeMay on January 20, 1945. LeMay fully appreciated that the immediate future of the strategic bomber offensive had been thrust into his hands. He canceled the missions against specific, military targets, replaced all contact bombs with incendiaries, and targeted urban residential areas. Not only the factories but the workers who labored in them, together with related cottage industries made up of civilian families, were to be destroyed.

On February 4, more than two-and-a-half million square feet of Kobe were burned out for the loss of two Superfortresses to flak. A similar raid six days later on the Nakajima aircraft plant at Ota destroyed 98 Hayate fighters on the production line and gutted 37 factory buildings in the firestorm that raced in a broad swath across the ground, incinerating everything and everyone in its path. The B-29s did not escape unscathed, however. A dozen were lost, four in ramming attacks that caused two pairs to collide. Seven JAAF pilots fell in the engagement, compared to 120 Americans killed.

But LeMay was determined to succeed where Hansell had failed, when, on February 19, he dispatched 150 Superforts to destroy Tokyo’s elusive Musashino factory. They missed it entirely, although secondary targets in the vicinity were obliterated through saturation bombing. Interceptors arrived too late to prevent the attack, but destroyed two by ramming and shot down four more.

If the B-29s had begun to make some impact on the ground, their casualty rate was topping six percent, with severe psychological implications for air crews. Captain Stanley Samuelson confided to his personal diary, “It’s so very hard living under these circumstances. It’s humanly impossible to get used to seeing your buddies go down all the time … we don’t pray that everyone comes out okay, all we ask is that we come out alive:” These words comprised the last entry in Samuelson’s diary. He died in the February 19th raid. By contrast, another young pilot, Corporal Kenji Yamada, wrote shortly before his death in the skies over Japan, “I have been chosen as a member of a special attack unit. What a great honor it is! I feel a joy I was born as a man. What a pleasure it is to ram!””

At this nadir in B-29 personnel morale, General LeMay called for what most believed would be a suicide mission. He had the Superfortresses stripped of their defensive weapons for higher speed in a raid against Tokyo scheduled during the night of March 16-17. Moreover, they were supposed to execute their run between 5,000 and 9,000 feet, increasing their accuracy and vulnerability.

Of the 325 heavy bombers assigned to the attack, no less than 46 turned back before reaching Japan, and not entirely or even mostly due to “mechanical failures:” As expected, the B-29s ran into intense opposition, which downed 14 of them and damaged 2 dozen more. But the results of their sortie out-stripped all expectations. Some 16 square miles of the city had been transformed into a blazing cauldron that consumed the lives of one-and-a-half million persons.‘9 Hundreds of thousands more were injured and made homeless,

while Tokyo's industrial capacity had been abruptly reduced by half.

General LeMay later confided to his man in the Air Force's Office of Statistical Control, Robert S. McNamara (decades later, the U.S. Secretary of Defense under the Kennedy and Johnson administrations), that had Japan, not America, been victorious in 1945, LeMay would have been rightly prosecuted and executed as a war criminal of the first magnitude.20

Despite additional fire-bombing raids over the next three months, Japanese industry, while severely damaged and unable to produce at its formerly higher levels, continued to manufacture weapons and supplies, mostly in preparation for an Allied invasion. JAAF interceptors still took their toll of Superfortresses until after June 22. With the fall of Iwo Jima and the creation there of air bases for fighter escorts, the Japanese pilots found themselves overwhelmed by P-51 Mustangs and P-47 Thunderbolts, which allowed the B-29s free reign over Japan, destroying all targets at will. Thus ended the third phase of the Pacific War.

The fourth and final phase had begun earlier on October 21, 1944, with the Imperial Navy Air Force's first organized suicide attack, the kamikaze. The term belongs to a "Divine Wind" that scattered an otherwise invincible armada of Mongol ships set to invade Japan in 1281. While individual Japanese pilots occasionally crashed their planes into enemy ships on their own initiative earlier in the Pacific War, establishment of the first tokubetsu kogeki tai, or Special Attack Unit (usually abbreviated to tokkotai) signified the institution of military policy. Hideo Suzuki, a Special Attack Unit pilot in training when the war ended, remembered "in 1944, the United States produced 209 times more oil and one hundred times more tanks than Japan. And for every Japanese bullet fired, 524 U.S. bullets were fired back. By 1944, the U.S. air arsenal was 8.6 times bigger than the Japanese

For example, the Nakajima Ki-43 Hayabusa was the Imperial Japanese Army Air Force's most numerous fighter type. But its 5,751 examples fell far short of the 13,738 Curtiss P-40 Warhawks delivered to the USAAF, which received even more P-47 Thunderbolts and P-51 Mustangs. In view of these numerical disadvantages, Suzuki stated, "Japan came up with the idea of suicide bombers to speed up the end of the war. But tokkotai members were not crazy, brainwashed suicide bombers:'22 Many had lost family members in the B-29 firestorms that burned to death some two million of their fellow countrymen and loved ones at Tokyo and other cities, and felt ashamed to have survived their awful immolation without having drawn blood from the murderous foe. Typical was Higher Flight Petty Officer Keisuke Yamamura, who wore a long headband with the words, "Turning myself into a fireball, I shall now take revenge for one hundred million people!"23

From a practical point of view, by late 1944, offering conventional combat against the numerically overwhelming and often technically superior Americans was itself tantamount to suicide, with negligible results, if any. "We had few planes and no fuel to train pilots;' explained Lieutenant Commander lyozoh Fujita, a Battle of Midway veteran, "so we had no other Kamikaze operations were less the fanatically desperate attempts of a hopelessly

defeated armed forces than a tactic aimed at scoring some significant hits on the enemy after more than two years of mostly ineffectual resistance and unremitting defeat. Ultimately, kamikaze pilots hoped to provide their country time to develop new strategies for defense, if not victory.

Tokkotai pilots were usually student aviators with little or no training, so their kamikaze instruction concentrated only on fundamentals. They were told how to aim for a point between the bridge tower and the smoke stacks, not the warship's bridge itself or gun turret, which were heavily armored. Good targets were aircraft carrier elevators, where a fire started could potentially roll into and spread through the bowels of a vessel. Wood flight decks were also favored targets. Vertical dives were ideal for their speed, impact, and resistance to enemy interception, but required skill to achieve. Most attacks were horizontal and meant to strike amid ships, just above the waterline or the base of a smokestack.

Just before the crash, the pilot yelled "Hissatsu!;' or "Kill without fail!;' as loudly as he could. If his escorts were able to see him through a protective ring of American fighters, he had to face the combined flak of sometimes hundreds of enemy warships. Each one of his chief targetsU.S. Navy aircraft carriers-was defended by machine guns, 40 40-mm Bofor, and 50 20-mm Oerlikon cannons.

The tokubetsu kogeki tai's first victim was a heavy cruiser, the flagship of the Royal Australian Navy, hit by a Mitsubishi Ki-51. The attractive Type 99 Assault Plane was an Imperial Army light-bomber/dive-bomber veteran going back to the war in China, when even then, at a maximum speed of just 263 mph, it proved too slow to properly defend itself from enemy fighters. The "Sonya;' as American servicemen called it, nonetheless performed ground-attack roles admirably against Anglo-Indian forces, when the Ki-51's rugged construction served her well on the improvised rough airfields of Burma.

The old Mitsubishi was apparently still good enough to fly as a kamikaze, because the specimen that collided with HMAS Australia's superstructure above the bridge spewed great sheets of flaming gasoline and burning debris over much of the vessel, killing 30 crew members, including the commanding officer, Captain Emile Dechaineux, and wounding Commodore John Augustine Collins, the officer in charge of all Australian forces at Leyte Gulf. Doubtless, the self-sacrificing Sonya would have wrought even greater havoc, had its 441-pound bomb not failed to explode.

On October 24,1944, again in Leyte Gulf, the first vessel to be sunk by a kamikaze was the USS Sonoma, a humble ocean tug of 1,120 tons. A far more substantial kill was made later that same day, when a Zero trailing smoke from its damaged engine crashed into a large escort carrier on the port side of her hangar deck, where aircraft were in the process of refueling and rearming. Fires broke out and spread to the torpedo and bomb magazine of the 7,800-ton USS St. Lo, which exploded and sank with her full complement of 28 bombers. Of the 889 men aboard, 113 were killed or missing, and about 30 others died of their wounds. Meanwhile, the damaged Australia was struck by another kamikaze that forced her to withdraw. Suffering 70 fatalities, she steamed to the New Hebrides for repairs.

Of the 55 “special attack unit” planes thrown at the Allies in one day, they sank 5 ships and damaged 35, 23 heavily, compelling most of them to retreat from Leyte Gulf. Among the casualties were the large escort carriers USS Sangamon, Suwannee, and Santee, plus the smaller escorts USS White Plains, Kalinin Bay, and Kitkun Bay. These vessels were the kamikazes’ prime targets because disabling them reduced “both the number of American aircraft carriers and the ability of the American forces to send up such overpowering numbers of planes against them;’ explained Pacific War historian Hatsuho Naito.25 Forty seven ships, seven of them carriers, were hit, and more than a thousand Australian and American sailors died in the onslaught, with hundreds more wounded.

The outstanding success of this initial suicide operation encouraged officers in both the Imperial Navy and Army to pursue the tokubetsu kogeki tai as the most effective weapon at their disposal. Soon, they lacked enough aircraft to accommodate the large number of volunteers. While recruits were in training, obsolete warplanes, such as the Sonya, were converted to the kamikaze role.

The USS Ward was patrolling off Leyte Gulf’s invasion area, when a Mitsubishi bomber kamikazed into her hull amidships. Stopped dead in the water and beset with uncontrollable fires, her crew abandoned the 1,247-ton vessel. In one of modern history’s poignant coincidences, precisely three years earlier to the day, the Ward had fired the first shots of the Pacific War to sink a Ko-hyoteki-class midget submarine at the entrance to Pearl Harbor several hours before the first Japanese warplanes attacked. No less ironically, William W. Outerbridge, her commanding officer on December 7, 1941, happened to be the captain of USS O’Brien, a destroyer forced to scuttle the badly damaged Ward with gunfire on December 7, 1944.

By then, “Special Attack Unit” sorties had grown in scope and frequency to become Imperial Japan’s leading offensive weapon. Despite improving radar detection, beefed-up airborne interception, and intense anti-aircraft barrages, Allied commanders calculated that at least 14 percent of kamikaze pilots broke through these combined defenses to make a strike. And of those vessels hit, nearly 8.5 percent were sunk. Substantially higher percentages applied to surviving ships that incurred heavy damage and were therefore almost as good as lost, because they had to withdraw from combat, sometimes for months of repairs, or the rest of the war. Added to these purely material concerns was the terrible erosion of Allied morale resulting from mounting casualties inflicted by an enemy more willing to die.

The Japanese began converting most of their remaining aircraft, of whatever type, into kamikazes. A particularly effective example was Nakajima’s B6N Tenzan, the “Heavenly Mountain;’ more familiar to the Americans as “Jill:” One of the finest torpedo bombers of the war, its introduction in mid-1944 took place at a time when the Imperial Navy possessed very few aircraft carriers from which it had been designed to operate. In any case, these surviving carriers were by then rendered practically inoperable by U.S. air supremacy over the Pacific Theater. Fast, at 300 mph and capable of delivering a 1,764-payload over 1,892 miles, Jill became a feared suicide plane.

The kamikaze campaign climaxed during the Battle of Okinawa that raged through

spring 1945, when the Imperial Japanese Naval Air Force had already lost more than 14,300 air crews and 1,600 officers killed since the Pacific War began.26 Operation Kikusui ("Floating Chrysanthemums;' signifying suicide planes) opened during early April with 1,465 aircraft thrown at the American invasion fleet in successive waves over the next three months. They primarily targeted Allied warships on picket duty.

A typical attack occurred on April 2, when a Kawasaki Ki-45 Toryu approached from astern to clip the smokestacks of USS Dickerson and collide with the bridge, knocking her out of control and killing the commanding officer. Moments later, a second "Dragon-Slayer" slammed into the destroyer, tearing a 23-foot-wide hole in her foredeck, from which billowed a fireball that demolished the ship and killed 54 crewmen. With some notable exceptions, most sorties against aircraft carriers were less successful; many escaped largely unscathed, particularly those of the British Pacific Fleet, thanks to their armored decks, which were, in any case, not invariably impervious to attack.

On May 4, one Zero plummeted in a vertical dive from high altitude directly over HMS Formidable. Hits the kamikaze sustained from defending flak could not deflect it from crashing into the Royal Navy target. The carrier's thickly armored deck broke open under the impact into a 10-foot-wide gash through which a long steel splinter shot down through the hangar deck and the main boiler room-piercing and rupturing a steam line-to spear a fuel tank near the aircraft park. A firestorm erupted below decks, where 8 crew members perished and 47 were wounded. Although the Formidable survived, 1 of her ChanceVought F4U Corsair fighters and 10 Grumman TBF Avenger torpedo bombers were destroyed.

One week later, a Zero appeared unexpectedly out of low cloud cover to crash into the flight deck of USS Bunker Hill. Several gassedup Hellcat fighters exploded in a conflagration that threatened to engulf the entire Essex Class carrier. Thirty seconds later, another Zero avoided antiaircraft fire to drop a 551-pound bomb that penetrated and detonated below decks, setting off additional fires and explosions. This second Zero itself collided with the flight deck near the control tower. Although the scorched and badly damaged Bunker Hill remained afloat, she limped back to Pearl Harbor with 346 dead, 43 missing, and 264 wounded for repairs that took her out of the war.

USS Sangamon was similarly knocked out of action in the same operation that damaged HMS Formidable. A kamikaze smashing into the center of the escort carrier's flight deck exploded internally, hurling shrapnel in all directions. The hanger and fuel decks were engulfed in a conflagration created by Sangamon herself, when, in trying to avoid the incoming Zero, she hove into the wind, which fanned the flames into a powerful tornado. Within 15 minutes, communications from the bridge went silent, and the ship began careening out of control. Eventually, through the frantic efforts of every man aboard, the numerous fires were contained and the vessel gradually brought back on course, although contact with the outside world was limited to a single radio from her lone surviving Hellcat fighter. Sangamon withdrew forever from combat with 36 fatalities and 21 seriously wounded.

OnMay14, akamikaze struck USS Enterprise- the victor ofMidwayhurling her forward

elevator 400 feet into the air. With her flight deck twisted beyond use, her hangar on fire and suffering 48 casualties, the “Big E” withdrew for repairs to Puget Sound Navy Yard, where she waited out the rest of the war.

During the Battle of Okinawa, kamikaze attacks sank or disabled approximately 35 Allied vessels-mostly destroyers and landing craftincluding three U.S. merchant ships, while ships of all classes suffered material damages and personnel casualties.

Less than two months after the Special Attack Units received official authorization on June 19, 1944, plans were presented to the Imperial Navy’s general staff for a purpose-built kamikaze, unlike any aircraft ever conceived, before or since. The Kuugisho/Yokosuka MXY-7 Model 11 Type 22 Suicide Attacker-Ohka, or “Cherry Blossom,” for short-was a manned flying bomb powered by three Type 4 Model 1 Mark 20 solid-fuel rocket motors. Construction was rudimentary for quick and uncomplicated mass production. Development proceeded with urgent haste, but flight tests in October revealed the Cherry Blossom’s exceptional stability and forgiving flight characteristics, essential qualities much appreciated by inexperienced pilots with little instruction.

The Yokosuka MXY7 Ohka (“Cherry Blossom”) was a suicide rocket specializing in attacking enemy naval forces, such as the USS Mannert L. Abele, a destroyer sunk on April 12, 1945. (Courtesy Art-Tech)

Naito described the interior of this unique weapon: “Bulletproof, steel plates were installed in the front and back of the pilot’s seat to protect him if he came under attack before he reached his target. The only instruments in the cockpit were an airspeed indicator, an altimeter, fore and aft indicators for the pilot to use in lining up his target, and a speaking tube for the pilot to communicate with the mother plane before he was dropped. There was also a rocket ignition button on the control bar for the pilot to depress after he was detached from the mother plane. The little plane was to be attached to the mother plane by a metallic ring fixed to the front of the cockpit. The aircraft was to be

detached from the mother plane by an explosion detonated from the mother plane. The pilot in the mother plane was provided with a manual wire release to pull in case the explosion failed to break the connection between the two planes.“27

The Type 22 Suicide Attacker had been designed in one week, and shortly after, the first Ohka volunteers were formed into the Jinrai Butai, the “Thunder Gods Corps;’ to began training.

“The pilot sat in the Ohka, which was carried under the belly of a much larger mother plane;’ according to Special Attack Unit veteran, Hideo Suzuki. “Smaller aircraft surrounded the mother plane to protect the Ohka from enemy fire. Once a U.S. aircraft carrier was spotted, the Ohka was released, and the pilot navigated it, dodging enemy fire, as it glided at up to 375 mph before firing its rocket engine and crashing into the target. The explosion was enormous, because an Ohka’s tiny, eighteen-foot-long body was filled with around 2,645 pounds of explosives. At that point, the mother plane would turn back and pick up another Ohka, but sometimes the seven other airmen aboard decided to follow the Ohka, and also crashed into the U.S. ship. They wanted to cause even more damage to it, and since they had trained together with the Ohka pilot, they wanted to join him.“28

Each Cherry Blossom operation was exceptionally vulnerable to enemy interdiction. Attacks were slow because the heavily laden Mitsubishi G4M “Betty” or Yokosuka P1Y Ginga “Frances” medium-bomber could only release its 4,718-pound, short-range flying bomb within 23 miles of the target. As such, most Ohkas were destroyed along with their mother planes before they were able to launch. But those few that did penetrate the double ring defenses of interceptors and anti-aircraft fire were sufficient to sow terror through U.S. Navy personnel awestruck by the kamikazes’ determination to destroy themselves.

On April 12, 1945, of the 16 “Thunder Gods” trying to attack enemy surface units at Okinawa, all save one were shot down before they could get within striking distance. But a single, unstoppable Ohka scored a direct hit on the Mannert L. Abele’s starboard side to detonate in the engine room. The force of the explosion tore the destroyer in half, sending her to the bottom inside three minutes with 114 officers and enlisted men.

Two days later, the pilot of a rocket plane overshot his target, but the exploding near miss was so tremendous, it caused extensive damages to USS Jeffers, forcing her to withdraw. On May 4, an Ohka’s 500-mph attack speed combined with its 4,720 loaded weight to carry it clear through the starboard side of another destroyer, detonating beyond the port side on the surface of the water. An officer and 26 men were killed, 91 others wounded, as the USS Shea was suddenly reduced to a floating wreck with a five-degree list to port. On the 10th, the destroyer USS Hugh W Hadley was struck aft by a “Cherry Blossom” that similarly took her out of the war.

Spectacles such as these had an unnerving effect on observers. Naito reported “radio messages flying between American ships and planes indicated that the crews of the ships were exhausted from having to stand watch twenty four hours a day and contend with repeated suicide attacks against which they had no effective defense … The American forces were exhausted, and it was feared that this might lead to a crisis.“29

Hit by Japanese flak, a USAAF “Havoc” explodes in a fire ball, while a camouflaged Mitsubishi G4M medium bomber parked at its aerodrome is under attack by parafrag bombs dropped from another Douglas A-20. The “Betty, as it was known to its American opponents, could deliver a 2,205-pound payload with precision over 2,694 miles, and was fast at nearly 300 mph, but lacked sufficient self-defensive firepower or armor. (U.S. Air Force)

As proof of the kamikaze’s effectiveness, 192 of the 240 U.S. warships sunk or damaged during the Okinawa invasion were hit by tokkotai aircraft. Japan’s rocket planes sank or damaged just seven American vessels, because the Jinrai Butai became operational too late in the war, when enemy fighters were numerous enough to intercept most of their mother planes en route to targets. Had the entire Special Attack Unit program been instituted even three months earlier than its authorization in August 1944, the tokkotai would have undoubtedly made a more significant impact on the course of events. Suicide attacks during April 1945’s Battle of Okinawa forced the diversion of B-29 raids on Japan’s urban industrial centers to any installations supposedly associated with the kamikazes. These Superfortress attempts were largely ineffective, because tokkotai planners had anticipated USAAF reaction by secluding their aircraft in numerous caves that lined the east coast of Honsu.

Prior deployment of Special Attack Units would have diverted the heavy-bombers

before they undertook their genocidal sorties against Tokyo and other population areas. In the previous Battle of the Philippine Sea, the Japanese lost more than 600 aircrews from June 19-20, 1944. Earlier that year, according to P-40 historian Carl Molesworth, "fledgling JAAF pilots were being sent into combat with a pitiful sixty or seventy hours of flight experience, and the results were Imperial Navy Air Force students were limited to equivalent hours. Instead of having been wasted in what the Americans, who still lost 123 planes in an engagement referred to as "The Great Marianas' Turkey Shoot;' they would have made a far greater impact as kamikazes.

By war's end, 2,525 Imperial Japanese Naval airmen died as part of tokkotai operations. Another 1,387 perished flying suicide missions for the JAAF. Altogether, they sank "or damaged beyond repair" more than 70 U.S. vessels, knocking out of commission dozens of others, some of them capital ships, according to historians Wilmott, Cross, and Messenger.31 While this figure seems low compared to the nearly 4,000 tokkotai lost in action, they killed and wounded at least twice as many Allied personnel and destroyed several hundred enemy aircraft. Most importantly, the kamikazes were influential enough to drastically affect U.S. Pacific strategy and sabotage its timetable.

"I wished I had died in an Ohka," Hideo Suzuki confessed during an early 21st century newspaper interview. "For months, I kept seeing my comrades off. They all smiled as they boarded the plane, thinking that we would soon meet in Yasukuni Shrine;' where a surviving "Cherry Blossom" may still be seen at Tokyo's most controversial sacred site.32 Elsewhere in Japan, the Thunder Gods are remembered today at Kashima City's Ohka Park, the Ohka Monument in Kanoya City, and the Kamakura Ohka Monument at Kencho-ji Kamakura.

Given the foregoing, can we answer the question posed at the outset of this chapter: Could Japan have won the Pacific War? Had Admiral Nagumo's raid targeted the shipyards, power station, maintenance depots, oil storage tank farms, and, most importantly, the cryptanalyst station at Pearl Harbor, New Guinea's Port Moresby would have fallen, resulting in the neutralization of Australia. Minus severe losses in planes, ships, and personnel otherwise incurred at the Battle of the Coral Sea, the Imperial Navy would have enjoyed a substantial material and qualitative advantage at Midway, probably enough to capture the island as a stepping-stone to Alaska's Aleutian chain.

More certainly, had the events of December 7, 1941, culminated in Oahu's invasion and occupation, the Japanese would have possessed a virtually impregnable forward base separated from the U.S. mainland by an 800-mile-wide moat. Such a defensive perimeter would have indefinitely placed American forces on the defensive, rendering counterinvasions of the Hawaiian Islands or Midway as good as impossible, at least for the foreseeable future.

Moreover, long-range Kawasaki flying-boats could have easily sortied from an occupied Pearl Harbor against major cities along the California coast. The psychological and economic impact made by these raids would have further weakened American resolve because generations had not known hostile military operations on their soil since the Civil War, and not in California since Spanish Conquistadors fought the Indians. Mass

migrations of panicked refugees would have fled inland to generate the kind of logistical chaos invariably caused by such social dislocation. Concurrently, coastal defense plants would have been dismantled and transferred to the Rocky Mountains, just as the Soviets packed up their heavy industries for the Urals.

“Actually, it was lucky for us that the Japanese didn’t attack the west coast;’ recalled Edgar McElroy, a veteran B-25 pilot of the Doolittle raid on Tokyo, “because we just didn’t have a strong enough force to beat them off.””

The potent political consequences of these demographic and economic traumas could have resulted in an armistice, not a U.S. capitulation, as the Japanese never intended to invade North America. All this they missed, when they pulled their first punch at Pearl Harbor.

Chapter 15

MANCHURIAN DRAGON-SLAYERS

> Until just five years ago, Manchurians were little more than backward bandits squabbling over pieces of torn fiefdoms. Today, we operate our own air force against all the enemies of a modernized Manchukuo.
>
> -Nobuhiro Uta, 1st Lieutenant, Doi ManshuTeikoku Kugun'

In 1640, Ming Dynasty control over China was falling apart. Widespread crop failures, followed by starvation on a scale too massive for government redress, and peasant revolts broke out to badly shake the nearly 300-year-old order. Taking advantage of these upheavals, Manchu raiders from the north approached the capital on May 26, 1644. Beijing was defended by an unfed, unpaid army unwilling to oppose the invaders, who entered its gates just as the last Ming emperor hung himself on a tree in the imperial garden.

The Manchus replaced his dynasty with their own, the Qing (or "clear"), that ruled until the early 20th century. Demise of the Manchurian imperium in 1912 had been preceded by decades of corruption, military defeats, and foreign exploitation, leading inevitably toward revolution. Organized society dissolved, as private armies fought each other for control during the so-called Warlord Era.

Observing this calamitous decline from afar were the Japanese. They knew that someone would eventually emerge from the chaos to unify the country, thereby fulfilling Napoleon's dire warning about China being a sleeping giant that, once awakened, would terrify the world. In 1931, Japanese forces invaded Manchuria to extirpate its contentious warlords, restore some semblance of social order, and, most importantly to themselves, create a buffer state, rich in natural resources, between Japan and the USSR.

On February 18, 1932, Manchukuo was established with assistance from former Qing Dynasty officials, including Pu-Yi, "the last emperor." Unlike Bernardo Bertolucci's 1987 film of that name, the new "State of Manchuria" was not entirely a Japanese "puppet;' or colony, although it had elements of both. Like most Asian monarchs of his time, including Japan's Emperor Hirohito, Pu-Yi was mostly a figurehead: the nation's symbolic personification. Real power lay in the hands of state council cabinet ministers, who belonged to the Xiehehui Kyowakai. This "Concordia Association" embodied the principles of Minzoku Kyowa, the "concord of nationalities;' a pan-Asian ideology aimed at making Manchukuo into a multi-ethnic nation that would gradually replace the Japanese military with civilian control.

By granting different ethnic groups their communal rights and limited self-determination under a centralized state structure, a balance was created between federal

power and minority rights, thereby avoiding the same kind of separatism that had undermined the Hapsburg's Austro-Hungarian monarchy or Russia's Czarist empire. Accordingly, emigres were allowed their own independent groups, which included a wide spectrum of agendas, from White Russian Fascists and Romanov monarchists, to Jews involved in several Zionist movements. Together with these diverse populations, Mongols, Hui Muslims, and Koreans, as well as native Manchu, Japanese settlers, and the majority of Chinese found workable representation in the Concordia Association that dispensed with former animosities.

Because the rights, needs, and traditions of each group were officially respected, religious liberty was guaranteed by law. Mongol lamas, Manchu shamans, Muslim ahongs, Buddhist monks, Russian Orthodox priests, Jewish rabbis, and Confucian moralists were equally supported by the state. Corporatist, anticommunist and anticapitalist, Minzoku Kyowa aimed at class collaboration by organizing people through religious, occupational, and ethnic communities. Manchukuo was intended to be the ideal and standard by which the rest of China was to be reconstituted.

Other similar states set up by the Japanese were the Mangjiang government for Inner Mongolia, the Reformed Government of the Republic, and the Provisional Government of the Republic for the eastern and northern areas of China, respectively. These last two were combined by 1940 in the Nanjing National Government headed by Wang Jingwei, perhaps the most brilliant Chinese statesman of the 20th century. After Sun Yat-sen's death in 1925, as described in Chapter 13, Jingwei became the leader of the Kuomintang, China's Nationalist Party, but was subsequently ousted by backstage intrigue to put Chiang Kai-shek in control.

Jingwei believed with the Japanese that China only avoided being a military, economic, and ideological threat to the outside world and itself, while preserving its culture from foreign influences, by a decentralized system of cooperative independence for the various provinces, with emphasis on their ethnic individuality. In this, the Japanese envisioned themselves as the power center of Asia's Co-Prosperity Sphere. Heavy Japanese investment helped Manchukuo to become an industrial powerhouse, eventually outdistancing Japan itself in steel production.

Manchuria operated its first airline, the most modern in Asia outside Japan. Flying with the Manchukuo Air Transport Company were Junkers Ju.86s and Fokker Super Universals. The German Junkers was powered by a pair of Jumo 207B-3/V, 1,000-hp diesel engines, able to carry its 10 passengers nearly 1,000 miles above 30,000 feet, making it an ideal transport for China's mountainous terrain.

The Dutch-designed Fokker F.18 Super Universal was actually produced in the United States during the late 1920s, later manufactured under license by Canadian Vickers and Nakajima in Japan. Chosen for its ruggedness, especially the reliability of its 450-hp Pratt and Whitney Wasp B engine in very cold conditions, a Super Universal known as the Virginia served in Richard E. Byrd's 1928 Antarctic expedition. He additionally valued the conventional, eight-place, high-wing, cantilever monoplane for its 138-mph performance at 19,340 feet over 680 miles.

Even before the Manchukuo Air Transport Company was renamed “Manchukuo National Airways;’ the city of Changchun had likewise undergone a change to Xinjing, the “New Capital” of Manchukuo. The former whistle-stop town was transformed almost overnight into a beautiful, modern, and large city, the most culturally brilliant in China at the time. Manchukuo was officially recognized by 23 foreign governments from all the Axis powers and the USSR to El Salvador and the Holy See. The League of Nations denied Manchukuo’s legitimacy, however, prompting Japan’s withdrawal from that body in 1934, while the United States opposed any change in the international status quo “by force of arms;’ as stated by America’s Stimson Doctrine.

Still, Manchukuo experienced rapid economic growth and progress in its social systems. Manchurian cities were modernized, and an efficient and extensive railway system was constructed. A modern public educational system developed, including 12,000 primary schools, 200 middle schools, 140 teacher preparatory schools, and 50 technical and professional colleges for its 600,000 pupils and 25,000 teachers. There were additionally 1,600 private schools; 150 missionary schools; and, in the city of Harbin, 25 Russian schools. By 1940, of Manchukuo’s 40,233,950 inhabitants, 837,000 were Japanese, and plans were already afoot to increase emigration by 5 million persons over the next 16 years, in the partial relief of Japan’s overpopulation crisis.

Bordering as Manchukuo did the Russian frontier, the necessity for self-defense was apparent. In February 1937, an air force, the Dai Manshu Teikoku Kugun, was formed. To begin, 30 officers were selected from the Imperial Army for training with Japan’s Kwantung Army at Harbin. By late summer, their first unit was established at the Xinjing airfield under the command of 1st Lieutenant Nobuhiro Uta. His taskto make something of the fledgling service-was daunting, because he had only a single aircraft at his disposal, a World War I-era biplane.

The Nieuport-Delage Ni-D.29 had made its prototype debut in August 1918 and looked every bit its age with its open cockpit and fixed tail skid. Even then, the French-built pursuit aeroplane did not pass muster, because it could not achieve altitude requirements. The Ni-D.29 received a new lease on life when, stripped of its cumbersome military baggage and its Gnome 9N rotary engine replaced by a 300-hp HispanoSuiza 8Fb V-8, it won eight speed records, including the Coupe Deutsche and Gordon Bennet Trophies of 1919 and 1920, respectively.

Nieuport-Delage executives cashed in on the aircraft’s new prestige by making it a lucrative export to Belgium, Italy, Spain, Sweden, Argentina, Japan, and Thailand. Their swift model saw action in North Africa, dropping 20-pound antipersonnel bombs on native insurgents unhappy with French and Spanish colonialism. By 1937, the old double-decker’s top speed of 146 mph and 360-mile range made it something of a relic, but Lieutenant Uta made good use of its forgiving handling characteristics in the training of his novice aviators.

Appeals to Japan resulted in more modern aircraft for the nascent Dai Manshu Teikoku Kugun. First to arrive were examples of a Kawasaki KDA-2 reconnaissance biplane. It had been designed specifically for the Imperial Japanese Army by Richard Vogt, an aero

engineer from Germany's renowned Dornier Flugzeugewerke. Following successful trials, the KDA-2 entered production with Kawasaki as "Type-88-1, in 1929. Its unequal span wings and slim, angular fuselage married to a 600-hp BMW VI engine provided a respectable range of 800 miles at 31,000 feet.

The aircraft's remarkable stability and rugged construction lent itself well to the light-bomber role when fitted with 441 pounds of bombs. Lieutenant Uta's men also received the Nakajima Type 91, until recently replaced by the Kawasaki Type 95, Japan's leading fighter. The parasol monoplane's Bristol Jupiter VII, 9-cylinder radial engine was rated at 520 hp, allowing a service ceiling of 29,500 feet and 186-mph maximum speed. Twin 7.7-mm machine-guns synchronized to fire forward through the propeller arc were standard for the time.

In July 1938, Soviet troops violated the 78-year-old Treaty of Peking between Russia and China by establishing their common Manchurian border, a move that alarmed the Japanese, suspicious of Stalin's plans for a Communist China. On the 15th, Japan's attache in Moscow called for the withdrawal of newly arrived Red Army forces from a strategic area between the Shachaofeng and Changkufeng Hills west of Lake Khasan, near Vladivostok. His demand was rejected because, he was told, 1860's Treaty of Peking was invalid, having been signed by "Czarist criminals"2 Soon after, he learned that the Soviets had relocated the original 19th century demarcation markers to make their territorial claims appear legitimate.

Japan answered this deception on the 29th by launching its 19th Division and several Manchukuo units at the Red Army's 39th Rifle Corps, without success. Although the Nakajima fighter planes stayed behind for homeland defense, the Manchurians used their Kawasaki reconnaissance aircraft to scout Russian weak spots without being detected. Based on photographic information made available by the high-flying biplanes, the Japanese renewed their offensive on July 31, this time expelling the enemy from Changkufeng Hill in a nighttime attack. Beginning on the morning of August 2, General Vasily Blyukher, commanding the Far Eastern Front, ordered a massive, relentless, week-long artillery barrage that drove the Japanese and Manchurians back across the border. Hostilities ceased on August 11, when a peace brokered by the United States came into effect, and Soviet occupation of the compromised Manchurian border was affirmed.

Far from being honored as the victor of the short-lived campaign, General Blyukher was arrested by Stalin's political police and executed for having suffered higher casualties than the enemy. Russian dead amounted to 792, plus 2,752 wounded, compared with 525 Japanese and Manchurians killed, 913 wounded.

Although the Changkufeng Incident, or Battle of Khasan, as it is still sometimes known, was a Japanese defeat, it afforded the young Dai Manshu Teikoku Kugun its first operational experiences. More were to come in less than a year during another, far more serious frontier dispute with the USSR, when Manchukuoan horse soldiers drove off a cavalry unit of the Mongolian People's Republic that had crossed into Manchuria across the Khalkha River, near the village of Nomohan on May 11, 1939.

Forty-eight hours later, they returned in numbers too great to be removed by the

Manchurians alone. The next day, Lieutenant-Colonel Yaozo Azuma, leading a reconnaissance regiment of the 23rd Division, supported by the 64th Regiment of the same division, forced out the Mongols. They returned yet again later that month, but as the Japanese moved to expel them, Azuma's forces were surrounded and decimated by overwhelming numbers of the Red Army on May 28; his men suffered 63 percent casualties.

One day short of a month later, Japan's 2nd Air Brigade, in conjunction with the Manchurian Air Force, staged a massive raid on the Red Air Force base at Tamsak-Bulak in Mongolia. Numerous Soviet aircraft were caught on the ground before they could get airborne, and those that did were mostly shot down. Manchukuoan-flown Nakajimas came in low to strafe the airfields, setting fuel dumps ablaze and holing bombers parked out in the open, defying intense and accurate ground fire. Dai Manshu Teikoku Kugun fighters suppressed enemy opposition for the arrival almost immediately thereafter of their comrades flying Kawasaki Ki-32s. Just previous to the attack on Mongolia, these more modern light-bombers replaced the Manchurians' Kawasaki Army Type 88/KDA-2 biplanes. Code named "Mary" by the Americans, the Ki-32 carried 990 pounds of bombs used by DMTK airmen to virtually obliterate the Soviet air base. The Red Air Force defenders of Tamsak-Bulak suffered heavy damage, with more than twice as many Russian warplanes than Japanese-Manchurian lost.

The effective strike had been ordered by Kwantung Army commanders without permission from Imperial Japanese Army headquarters in Tokyo, which grounded any further air raids. Henceforward, the battlefield situation went from bad to worse for the Japanese, who were decimated by waves of heavy armor attacks against which they had little defense, and forced to accept an armistice on August 31.

The very next day, Germany's invasion of Poland precipitated World War II, an event that promised greater significance than the Nomohan Incident. Soviet forces halted at the Manchurian border, as Stalin concluded a neutrality agreement with Japan, then turned his attention to Europe. Fearing an inevitable resumption of hostilities in the uncertain future, the Japanese began seriously outfitting more Manchukuoan squadrons.

In July 1940, Japan's Air Defense Headquarters worked in conjunction with the Dai Manshu Teikoku Kugun's 1st Air Unit at Xinjing. At first, only Japanese pilots and ground crews served in Air Defense, but Manchus underwent specialized flight training soon after. A flight school was established on August 30, 1940, in Fengtien to teach both military and civilian pilots. The following January, some 100 cadets, unused to strict discipline and incited by Communist agent provocateurs, murdered their instructors, then fled Manchukuo.

By 1941, the Dai Manshu Teikoku Kugun's 1st Air Unit at Xinjing had 5 Japanese and 6 Manchurian officers, 14 NCOs of similarly mixed backgrounds, and about 90 pilots. They were joined by a 2nd Air Unit at Fengtien, a 3rd Air Unit Ordnance Depot of 15 Japanese and 30 Chinese officers from the National Government of China Air Force at Harbin, the Aircraft Arsenal Air Unit (supply), and the Tongliao Independent Air Unit Flying School, which increased the following year to three squadrons. In September and

October 1942, the school was issued more than 20 training aircraft. These included the Tachikawa Ki-9, a two-place biplane rigged for blind-flying with a folding hood over the rear cockpit for the student. Powered by a 350-hp Hitachi Ha-13a radial engine, the Spruce, as it was known to the Americans, topped 149 mph, making the Ki-9 a respectable intermediate trainer. Staff officer transport versions featured a glazed canopy.

Another Tachikawa was fitted was a 510-hp Hitachi Ha-13, a ninecylinder, radial engine, that gave the advanced biplane an outstanding maximum speed of 216 mph. Air Ministry officials were so impressed with its performance, the Ki-55 was occasionally fitted with a single, fixed forward-firing 7.7mm machine-gun to serve as a fighter the Allies called Ida.

The Tongliao Independent Air Unit Flying School was also sent several examples of the Mansyu Ki-79 for advanced training. More immediately significant, the Dai Manshu Teikoku Kugun received its first modern warplanes. These were the Nakajima Ki-27 and Kawasaki Ki-32, known in the West, respectively, as Nate and Mary. The former, as some indication of Japanese regard for the Manchukuo Air Force, was Japan's premiere fighter at the time, and had been selected for production primarily for its outstanding handling characteristics, by virtue of which it rapidly assumed ascendancy over all other pursuit aircraft in Chinese skies.

K-27s were superior to their Red Air Force opponents at 1938s Battle of Khasan but roughly handled one year later during the Nomohan Incident by Polikarpov 1-16 Ratas able to outrun them by 12 mph. A weaker airframe additionally prevented the Nakajima from holding up under stress during high-speed maneuvers, allowing the faster, sturdier, if more unwieldy Soviet monoplane to escape in a dive the Japanese warplane could not follow. Moreover, the Ki-27 lacked pilot armor protection or self-sealing fuel tanks, and the 7.7-mm rounds spat by its twin Type 89 machine-guns were weak. Fortunately for the Japanese, Nate was replaced as their leading fighter by Mitsubishi's more famous and altogether superior A6M Zero in time for the attack on Pearl Harbor.

The Dai Manchu Teikoku Kugun received fewer numbers of Kawasaki's Ki-32. Vulnerable to flak and a sitting duck for enemy interceptors, the sluggish, low-wing monoplane with its non-retractable, drag-inducing landing gear, would have been butchered in any confrontation with the Red Air Force. Instead, an 850-hp Kawasaki Ha-9-llb liquid-cooled, V-12 engine enabled the tough, reliable light-bomber to deliver its 990pound payload over a 1,220-mile range, rendering Mary ideally suited for the antipartisan role to which she was assigned. In the hands of Manchurian pilots, her interdiction of distant enemy truck convoys and supply concentrations often came as an unpleasant surprise for both Communist and Nationalist opponents.

When Manchukuo came within range of USAAF heavy bombers, the Japanese 2nd Air Army assumed direction of the Dai Manshu Teikoku, augmenting it with the 104th Sentai ("Group"), plus the 25th and 81st Dokuritsu Chutai ("Squadron"). These units were equipped with the Kawasaki Ki-45, known appropriately as the Toryu, or "Dragon Slayer;" for the many American Superfortresses it claimed since four night-fighter sentais were established to defend the home islands in autumn 1944. One sentai alone scored 8

“kills” during their first engagement with B-29s, going on to destroy another 150.

Reorganization comprised the new Fangfu Air Corps of Manchu pilots manning 120 fighters, mostly Nakajima Ki-27s. With their service ceiling of 32,940 feet, they could not even approach incoming waves of B-29s operating 660 feet higher. More powerful 710-hp Ha-lb, nine cylinder, radial engines were installed to carry the Nates just above the Superfortresses’ operational altitude and boosted maximum speed to nearly 300 mph, but that was still 65 mph slower than the strategic bombers. Even if the old fighters were able to maneuver into firing position, their twin, 7.7-mm machine-guns were outmatched by-per B-29-10,12.7-mm Browning machine-guns firing from remotely controlled turrets.

Yet, odds against the defenders were not as hopeless as they appeared. The Superforts were unable to open their bomb bay doors above cruising speed at 220 mph, giving the Nates a temporary nearly 80-mph speed advantage. But the huge silvery enemy’s real Achilles’ heel was his oxidized aluminum skin, which was prone to fire in the worst way, consuming the entire aircraft, fore and aft. Japanese and Manchu pilots found that hits of even their puny, 7.7-mm rounds just about anywhere along the frame of a B-29 could sometimes set it entirely alight. But getting close enough to do so was made extremely hazardous by combined defensive fire thrown up by the Superfortresses, and many would-be interceptors paid with their lives before they could get within range of their own guns.

B-29s first struck Manchuria three years to the day of Japan’s attack at Pearl Harbor. Their anniversary raid was not coincidental but deliberately timed to encourage the more than 1,600 American prisoners of war incarcerated near Mukden. The mission’s tactical objective was destruction of the city’s aircraft factories.

Of the original 108 Superforts that set out with the XX Bomber Command, no less than 17 were forced to drop out, due to unforeseen problems caused by extremely low temperatures. Inside and outside surfaces of canopies iced over, and the big warplanes struggled, not always successfully, to gain altitude in the thin air. These worsening conditions forced another 10 B-29s to haphazardly jettison their payloads over a railroad yard long before reaching Mukden, utterly missing this secondary target, before banking away for home base. When the remaining 80 Superfortresses arrived over the city, flight crews found it entirely obscured by a heavy smokescreen. Undeterred, they unloosed their combined 800 tons of bombs, which fell mostly within residential districts, killing about 1,000 civilians, injuring several thousand more. The primary targeted aircraft factories escaped unscathed.

USAAF commanders had anticipated no enemy interdiction, regarding the Manchukuoan Air Force as nothing more than a propaganda joke, while all Japanese fighters were believed to have been recalled to defend the home islands. But the Americans were to be deceived as much about opposition over Manchuria, as they had been concerning its climate conditions.

As they approached Mukden, Sergeant Shinobu Ikeda of the 25th Dokuritsu Chutai attacked one of the monstrous bombers from behind with his Kawasaki interceptor. Before he could draw a bead on the B-29, a stream of .50-inch caliber rounds found and shattered his canopy and set his right engine alight. Wounded in a damaged airplane on fire and

spinning toward the ground, Ikeda eventually regained control of the Dragon Slayer, climbed back on one engine after the same target, and deliberately collided with its tail section. The Superfortress nosed over into a steep dive from which only one gunner parachuted to safety. Like the other 10 men aboard the big bomber, Ikeda perished in the collision.

Another Japanese pilot died when the B-29 he rammed with his Nakajima was consumed in a terrific explosion that fortuitously ejected a pair of surviving crew members uninjured into space. Two more Superforts fell under conventional attacks, one each shot down by Japanese and Manchurian pilots. Three B-29s, trailing debris and smoke, escaped the combat zone, but were so badly damaged they had to be written off. For the Superfortresses' first raid against Manchukuo, they missed all their targets, losing 7 aircraft and 44 crew members for 1 Japanese and 2 Manchurians killed in action.

Fourteen days later, 40 of the survivors returned to inaccurately and ineffectually raid Mukden, veiled once more under its obscuring smokescreen. Eighty-eight tons of high explosive intended for the earlier targeted aircraft factory yet again fell wide of the mark. This time, a Manchurian Air Force pilot, 1st Lieutenant Sono-o Kasuga, crashed his Nakajima fighter into one of the Superfortresses, which exploded for the loss of its entire crew. Another B-29 was similarly destroyed by 2nd Lieutenant Tahei Matsumoto, a Japanese pilot serving with the Dai Manshu Teikoku Kugun.

To oppose both December raids on Mukden, the Japanese and Manchurians lost 7 pilots and planes against 12 American bombers destroyed with 121 men killed and captured. Instead of taking heart at the appearance of USAAF warplanes high overhead, Allied POWS had watched in horror, as one Superfortress after another tumbled out of the sky in flames. Pilots of the Dai Manshu Teikoku Kugun, together with their Japanese comrades in the 104th Sentai and the 25th and 81st Dokuritsu Chutai, achieved a real defensive victory, when, following the December 21 raid, XX Bomber Command terminated all further operations against Mukden as too costly for the negligible results achieved.

Thereafter, the war shifted away from Manchuria and virtual peacetime conditions prevailed there throughout most of 1945. By late summer, however, a buildup of Soviet forces along the Mongolian border made invasion from that quarter evident, and Manchukuo Air Force personnel underwent intensive training for ground-attacking armored vehicles. Between the Imperial Japanese Army Air Force and Dai Manshu Teikoku Kugun, they were able to muster 1,800 aircraft, mostly trainers and obsolete types fit only for self-destruct missions.

Just 50 Nakajima fighters were on hand, without, however, enough fuel to operate them all against the 5,368 Red Air Force warplanes they faced. Manchukuo's Defense Force comprised 40,000 troops in 8 divisions, insufficiently supplied and poorly equipped. Supporting them were more than 600,000 men in the Imperial Japanese Kwantung Army, but they, too, were threadbare. Their armor consisted of 1,215 light tanks and armored cars, together with 6,700 mostly light field pieces, opposed by 5,556 Red Army heavy tanks and 28,000 artillery.

On the morning of August 9, one-and-a-half-million Russian and Mongolian troops inundated the Manchurian border. Impossibly outnumbered, both the Manchukuo Defense Force and Kwantung Army melted away. Tsuyoshi Hasegawa, a revisionist historian at the University of California (Santa Barbara), has shown that this Red Army offensive, not the nuclear destruction of Hiroshima and Nagasaki, prompted Japan's capitulation.' Japanese leaders knew that the Red Army juggernaut would not stop with the easy conquest of Manchukuo, but roll on into Japan itself.

Indeed, Stalin was ready to implement the invasion of Hokkaido long before U.S. commanders intended to put their forces ashore at Kyushu. Despite Emperor Hirohito's broadcast surrender on August 15, the Soviets refused to halt their offensive, sweeping across northeastern China into Korea, coming to a halt at the 38th Parallel, where they met their American allies. It was also the place where the next war would erupt just five years later, in Korea.

Meanwhile, occupied Manchukuo was handed over to Mao Zedong, who, after a bloody purge of the country's intellectual and propertyowning classes, used Manchuria as a headquarters for his ultimately victorious revolution.

Chapter 16

THAI FALCONS AND HAWKS

> To many of us who saw the Americans' mighty B-29 bomber for the first time in the skies over Bangkok, it seemed that the evil dragon from old folk tales we learned about as children had suddenly come to life.
>
> -Flight Lieutenant Therdsak Worrasap, Royal Thai Air Force'

Generally unknown to the outside world, Thailand possesses one of the oldest air forces in the history of military aviation. Its roots go back to February 6, 1911-just seven years after the Wright brothers' premiere flight-when Charles Van Den Born flew his 37-mph biplane around Bangkok's Sra Pathum racetrack to the astonishment of an immense crowd. Den Born was among the earliest licensed pilots-the 37th in France; 6th in his native Belgium-and his French Farman IV was the first airplane equipped with ailerons.

Unlike most observers in Europe and America, Siamese Army authorities grasped at once the military potential of manned flight. Just days after Den Born's exhibition, Prince Chakrabongse Bhuvanath, the Minister of War, dispatched three officers for aeronautic training in France on the 28th. The following November 2, Major Luang Sakdi Salyavudh, Captain Luang Arvudhsikikorn, and Lieutenant Thip Ketudat returned with four Breguet Type R.Uls, three Nieuport IIs, and the ability to fly them. Soon after, Chao Phraya Apai Bhubet (Chum Aphaivong) donated a fourth Breguet to the Ministry of War. With these eight French aircraft, the Ministry of War set up a flight section ("Army Aviation Unit)" in December under the command of General Prince Purachatra Jayakara, Inspector General. Thus, the Royal Aeronautical Service of Siam, as the country was then known, came into being.

The RAS was not a separate air force but organized as a unit of the Army. France's Breguet had particularly impressed the Thais, because its company president-Henry Breguet-had used this aircraft to successfully complete a pioneer nonstop, cross-country flight from Casablanca to Fes, Morocco, in September 1911. His aesthetically attractive R.U1 may still be seen, suspended from the ceiling of a former church, today's Musee des Arts et Metiers, in Paris. At 78 mph, the Nieuport monoplane was considered fast for its time. Over the following decades, mostly French aircraft were purchased for the Royal Air Force of Siam.

A favorite was the World War I bomber, Breguet 14, redesignated 14TOE for Theatres Iles Operations Exterieures, exported to Indochina. This version of the big biplane proved so popular with the Thais, they manufactured their own, license-built Breguets throughout the 1920s, when it was to become more numerous than any other type in service. During the next decade, however, French aeronautical development fell behind U.S. and Japanese designs, which became more favored imports. Foremost among them was Mitsubishi's Ki-21, a large medium-bomber later and better known in the West as "Sally." Its twin 14-

cylinder, Mitsubishi Type 100 Ha-101 radial engines delivered 1,500 hp each to carry a 2,200-pound payload over 1,680 miles at 301 mph, an outstanding performance for 1937. Altogether, 15 Ki-21s were purchased by the Siamese.

The stable Ki-30-another Mitsubishi addition to the Royal Air Force of Siam-was a tough, steady light-bomber with a fixed undercarriage admirably suited for rugged field conditions. The “Nagoya;’ as Thai servicemen referred to it, was moderately fast at 263 mph and could effectively deliver 882 pounds of bombs within a range of 1,066 miles. Its exceptionally long canopy also helped Ann to successfully fulfill reconnaissance missions when and where the exigencies of land warfare demanded. American imports included the ungainly Curtiss BF2C Goshawk, originally designed as a shipboard fighter for the U.S. Navy in early 1933. Irreparable difficulties with its manually operated retractable landing-gear caused withdrawal of the type after just a few months.

Even slower than Mitsubishi’s Nagoya by 38 mph, the Goshawk was unpopular with pilots for its generally sluggish performance, and all specimens were sold off to foreign bidders. Chinese-flown BF2Cs nevertheless scored some “kills” against Imperial Japanese Army aircraft in 1937. Thai pilots found useful the biplane’s capability to carry 500 pounds of droppable stores, but its twin, 7.62-mm Browning machine-guns lacked punch. A better Curtiss design was the almostmodern Hawk 75N. The all-aluminum low-wing monoplane with motorized retractable landing gear was quick at 313 mph, even though its single, 7.62-mm M1919 and one 12.7-mm M2 Browning machine-guns comprised irregular, if scarcely adequate, armament for a fighter of the times.

More abundant were 70 Vought 02U Corsairs, looking every bit their 1927 vintage-“scouts” reminiscent of fugitives from flying circuses or aero squadrons, their tubular steel frames stretched with laminated cloth and braced with wood struts. These open-cockpit biplanes for pilot and observer performed marginally better than their World War I look-a-likes, but the Corsairs obviously belonged to that bygone era. From the same year came Siam’s first aircraft entirely designed and built by Thais, a two-place double-decker christened the Baribatra (after Prince Boripatra Sukumpant, then Minister of Defence) by King Rama VII. A 450-hp Jupiter engine provided the “Bomber Type 2;’ which engaged primarily in goodwill missions to India and throughout French Indochina a maximum speed of 157 mph. Altogether, 12 Baribatras were manufactured.

Two years later, Siam’s second indigenous design appeared in a fighter plane known as the Prajadhipok Its name derived from Phra Bat Somdet Phra Poramintharamaha Prajadhipok Phra Pok Klao Chao Yu Hua, the reigning monarch, more accessible as the Rama VII mentioned above, and mostly notable for having been the only Siamese monarch to abdicate. Although the Prajadhipok’s performance proved no less lackluster than that of its royal namesake, the unremarkable biplane was drafted into service during World War II. The cause of this aircraft’s unwarranted longevity lay in the central problem confronting Thai military aviation; namely, an almost complete reliance on outside sources for equipment abetted by a perpetual scarcity of spare parts. Both the Baribatra bomber and Prajadhipok fighter represented attempts at breaking free from such foreign dependence.

Thai naval aviation began in 1935 with the purchase of two 1,400-ton corvettes from Japan. TheMaeklongand Tachin were each equipped with a Nakajima E4N2 Type 90-2-2 shipboard spotter aircraft. Launched by catapult, the single-float seaplane with twin, wing-mounted outriggers was powered by a 580-hp Nakajima Kotobuki-2, nine-cylinder, radial engine for a cruising speed of just 92 mph over a 633-mile range. Armament for the two-place biplane comprised a fixed, forward-firing, 7.7 mm machine-gun, and one, flexible, 7.7 mm machine-gun in the rear cockpit, plus 66 pounds of bombs. While these characteristics hardly qualified the Nakajima as a high-performance aircraft, it for the first time provided coastal surveillance for the Thai fleet, whose personnel received their flight training from the Royal Siamese Air Force at Don Muang.

Two years later, they were particularly intrigued by a better Japanese spotter plane. The Watanabe E9W1 was something of an innovation, the first successful reconnaissance aircraft designed specifically for operations from a submarine. It was also the first aircraft from Watanabe Tekkojo, the Fukuoka-based Watanabe Ironworks, which went on to build other airplanes throughout World War II and, thereafter, automobiles, until it went out of business as recently as 2001.

While the E9W1's performance was similar to that of the Nakajima floatplane, it was carried in its own hangar aboard the Imperial Japanese Navy's largest submarine and could be reassembled and airborne in 2 minutes, 30 seconds. Returning from its mission, personnel dismantled the Watanabe and stowed it away one minute faster. The 372-footlong J3 type submarine from which it operated displaced 2,919 tons, was staffed by 114 crew members, and capable of extended voyages over 16,000 nautical miles at 16 knots.

The Royal Siamese Navy possessed four submarines, but none were capacious enough to store an E9W1, which the Thais envisioned for surface warships, despite some misgivings regarding the aircraft's lessthan-forgiving handling properties. Accordingly, they ordered their own tailor-made version-the WS-103 "S" for "Siam"-from Watanabe, which began production during November 1937.

The first specimen completed its maiden flight in February 1938 to the satisfaction of Siamese naval officers, who took charge of six initial examples the following May. Wings and fuselage were extended for improved stability, and they featured more powerful armament: three Madsen 8-mm machine-guns, one in the fuselage and two mounted in the upper wing, with an additional 7.7-mm machine-gun operated by the observer. The Thai reconnaissance plane was also equipped with a short-wave radio, and some versions had a set of dual controls for use as advanced trainers.

While the WS-103 "S" represented a thoroughly modern, even ultramodern concept, the Royal Siamese Air Force more often had to make do with outdated equipment. Recently turned obsolete was the formerly cutting-edge Martin B-10, enabled by its twin, 755-hp Wright R-182033 (G-102) Cyclone radial engines to outrun every pursuit plane at 213 mph when introduced in 1934, since overtaken by interceptor development, but still capable of carrying 2,260 pounds of bombs. Siam's Royal Air Force received six of these rapidly aging medium-bombers in 1937. On April 12 of that year, the Army relinquished

its hold on the Royal Aeronautical Service, allowing it to become an independent branch of the armed forces, the Kong 7hab Akat Thai (KTAT), or Royal Thai Air Force, as it was henceforward known.

Two years later, “Siam” changed its name to “Thailand;’ a fundamental transformation coinciding with the eruption of war on the other side of the world. German triumph in the West during June 1940 spawned a collaborative French government Thai leaders hoped would be more amenable than past regimes to the uneasy independence of their country. It had been surrounded on almost all sides since 1900 by a single, large colony comprising Cambodia, Laos, and Vietnam. Referred to by outsiders as Indochina, it encompassed 289,577 square miles with a population of 21,599,582. Not content with this vast “protectorate;’ the French began adding to it by laying claims to additional slices of western Siam, which had so far escaped absorption into the imperialist amoeba.

The alarming seizure of these territories had been duly brought to the notice of the League of Nations, whose delegates offered sympathy, but nothing else, in deference to France, then regarded by anti-Nazis everywhere as Hitler’s most effective nemesis, and, therefore, not to be antagonized over distant, colonial quibbles. Hence, the political backdrop for the buildup of Siam’s armed forces and its growing alignment with Imperial Japan.

Thailand’s own Prime Minister Phibun Songkhram, more popularly known as Marshal Phibun, was himself pro-Fascist, and anticipated some kind of mutually amiable accommodation with the new Vichy government. Diplomats on both sides pursued negotiable solutions throughout the summer of 1940, but the French only implied that some minor concessions might be made in the future. By late autumn, further talks appeared fruitless, and Marshal Phibun decided on military action.

His goals were strictly limited to restoring lost areas of Thailand, not expulsion of the foreigners from Southeast Asia. On the contrary, he admired the French and regarded the preservation of their status quo in Indochina as a powerfully civilizing influence. Phibun’s armed forces had been nevertheless preparing for the eventuality of such a campaign since he became Prime Minister in 1932. His 60,000 soldiers were organized into four armies, the largest one being the Burapha Army, which was made up of five divisions supported by a signal’s battalion and one engineer battalion, plus an artillery battalion equipped with more World War I German Krupp field guns than modern British Bofor howitzers.

Standing against these formidable ground forces was a colonial army of 50,000 men, but only 12,000 thousand of them were French. The rest were more or less reliable Cambodians, Laotians, and Vietnamese organized into 41 infantry battalions, two artillery regiments, and a battalion of engineers. While the French tanks were no less antiquated than those operated by their opponents, only 20 5.6-ton Renault FT17s, with 37-mm cannon or 7.92-mm machine-gun, faced 60 1.5-ton Carden Loyd T-27 tankettes and 30 16-ton Vickers A6 medium tanks of the Royal Thai Army’s two motorized cavalry battalions and one armored regiment. Britain’s A6 mounted a three-pounder cannon, but the little tankette fired only one .303-inch machine-gun.

The Armee de /Air was less disadvantaged. It counted somewhat less than 100

machines against 5 air wings of 140 warplanes flown by the Royal Thai Air Force, but its crews were better trained and experienced and its aircraft more modern. The finest fighter in Indochina at the time was the twin-engine Potez 630, although the French possessed them in numbers too small to make much of a difference in any major confrontation with the Thai. A distant second was the admittedly substandard but more plentiful Morane-Saulnier M.S.406.

Far less up to date were four Farman 221s, each powered by quartets of 950-hp Gnome-Rhone 14N, radial engines-two pushing and two pulling-in pairs of nacelles slung under an 188-foot wingspread. The ungainly heavy-bomber was inadequately defended by just three, 7.5mm MAC 1934 machine-guns from dorsal and ventral positions and in a bulbous nose turret, but it could carry 9,240 pounds of pounds over 1,245 miles if unmolested by interceptors or accurate ground fire.

Also on hand were 30 Potez 25 TOE sesquiplane fighter-bombers comparable to World War I predecessors, eight Loire 130 flying boats, and several examples of the Breguet 19 and 27, vulnerable reconnaissance biplanes. Other machines at the Armee de /Air's disposal were six half-wood-and-aluminum Potez 542 high-wing monoplanes of questionable utility.

Hostilities opened in an aerial campaign when several doddering Vought Corsairs attacked a French patrol ship on December 1, 1940. The Beryl had violated Thai sovereignty by cruising off the Cambodian coast. She not only escaped all 14 bombs hurled at her by the attackers, but claimed one of the 02Us with her antiaircraft guns. Eight days later, a Corsair scored the conflict's first aerial victory by destroying a Potez observation plane scouting for the French. Another Thai OSU was lost, however, on the 9th, when it was brought down by return fire from a Loire 130. The gunners aboard this particular flying boat proved their exceptional accuracy again on December 12 by knocking another enemy interceptor out of the sky, this one a wholly superior Curtiss Hawk from the Thai's 70 Squadron.

Marshal Phibun had hoped that the French might be persuaded to relinquish their hold on occupied Thai territory after administering a few, powerful blows. But the disappointing performance of his pilots paralleled events on the ground, and he resigned himself to a longer struggle with an official declaration of war on December 24. After a two-week mobilization period, he ordered the Burapha and Isan Armies to launch joint offensives in early January 1941 against Laos, which was quickly overrun, and Cambodia, where French resistance was heavy.

The Kong Thab Akat Thai meanwhile carried out its first official operation on January 7, when 23 Mitsubishis blasted French targets across Cambodia. The following day, three Curtiss Hawks escorted nine Ki-30 bombers in a raid against the French airfield at Siem Reap. In a daring low-level run, five Thai Goshawks braved heavy concentrated ack-ack to shoot up a line of valuable Potez 630 fighters parked in the open.

Beginning on the 9th, and over the next 48 hours, more Thai warplanes engaged in daylight attacks against the cities of Battambang, Sisofon, Vientiane, and Pakse. Only now did the Armee de lAir make its appearance in the form of a Morane-Saulnier fighter

piloted by Captain Tivoliere. He avoided Sergeant Boon Suksabi's rearward-facing 7.7-mm machine-gun by climbing up from beneath the Nagoya and blasting its 14-cylinder Nakajima Ha-5 kai radial engine. Suksabi and pilot Boonyam Bansuksawat were the first KTAT airmen killed in action, when their Ki-30 crashed and burned near Sisofon.

During the early morning hours of January 10, an antiquated Breguet-19 reconnaissance plane ominously soloed over the Thai capital. By early afternoon, the French struck Bangkok in force. Potez 25 sesquiplanes and Farman heavy-bombers were accompanied by every other aircraft capable of carrying even the smallest payload in an all-out attempt to incinerate the city, built mostly of wood structures. Due to a total lack of any advance warning system, KTAT commanders were taken unaware, and failed to scramble a single fighter, while Thai antiaircraft batteries missed all their targets. The French were far more accurate, creating major damage that left Bangkok in flames. Only a concerted effort undertaken by fire-brigades with the assistance of virtually the entire civilian population prevented complete destruction.

The next day, motivated crews of the Royal Thai Air Force responded by striking the Nakorn-Bat airfield near Siem Reap, where the Farmans were based. The first incoming wave of Vought fighters was intercepted by Moranes of Escadrille 2/595, which shot down two Corsairs in quick succession. Hard on their heels came nine Mitsubishi bombers protected by four Curtiss Hawks. Lieutenant Labussiere halved the number of escorts by scoring a pair of "kills" against them, while Captain Tivoliere-the same pilot who scored the first French aerial victory of the war during the previous day-claimed a Ki-21. Undeterred by these sudden losses, the Thai airmen pressed their attack. A Morane fell in flames under the guns of Sergeant Sangvan, just as Warrant Officer Tongkam destroyed another M.S.406. Labussiere was himself wounded and his aircraft set on fire by Sergeant Blengkam's accurate marksmanship, but the French pilot escaped with his life from a crash landing.

During this ferocious air battle, French ground crews at NakornBat frantically manhandled most of their heavy-bombers into sheltering caverns used as natural hangars. Before the last big Farman could be moved, however, it was set upon by a trio of Mitsubishis and blown to bits. The other five Ki-21s blasted an antiaircraft battery and cratered the airstrip, rendering it temporarily inoperable. KTAT vengeance resumed on the 15th, when a Martin bomber and five Curtiss Goshawks surprised enemy warplanes on the ground at the Dong Hene airfield. The raiders escaped without loss, leaving behind a pair of Potez 25 TOE bombers and two Morane fighters on the ground in flames, plus a control tower reduced to ruins.

Thai success in the air contrasted with events on the ground, where neither side could gain an advantage. A French counterattack of January 16, 1941, on the Thai-held villages of Yang Dang Khum and Phum Preav in Cambodia ignited the war's bloodiest battle. Victorious Thai forces were too weak to pursue the French, who withdrew in good order and effectively covered their retreat with accurately directed Foreign Legion artillery fire.

Admiral Jean Decoux, the Governor General of Indochina and Commander-in-Chief of Naval Forces, argued that Thailand's power in the air and on land proved stronger than

anticipated, but her forces were decidedly inferior at sea. He pointed out how the Royal Thai Navy comprised little more than two modern Japanese-built coastal defense vessels, each displacing 2,500 tons and armed with pairs of 8-inch guns. They were joined by 12 torpedo boats, 4 submarines, and a pair of old British-built, armored gunboats with 6-inch guns.

While these elements were outclassed and outnumbered by available French units, more vexing to Decoux were the 20 aircraft of the Royal Thai Navy, especially if they could be backed up in a timely fashion by far greater numbers dispatched from the Kong Thab Akat Thai. He nonetheless decided on an aggressive operation by placing the Groupe Occasionnel, a warship squadron, under the command of Capitaine de Vaisseau Regis Berenger, with orders to support a planned ground offensive against advancing Thai troops: “Attack the Siamese coastal cities from Rayong to the Cambodian frontier, compelling Siam government forces to retreat from the Cambodian

Berenger chose to attack the enemy anchorage at Koh Chang because its numerous, often lofty islets offered superb cover for an ambush. He needed to know the disposition of enemy surface forces before proceeding, so he ordered reconnaissance aircraft to be launched at first light on January 17. His two Gourdou-Leseurre GL-832 HYs were metal, low-wing monoplanes featuring twin floats and fabric-covered wings capable of being folded to permit stowage aboard ship. But the scouts with their unusual tailplanes attached to the underside of the rear fuselage, and two open cockpits in tandem for pilot and observer were inoperable due to a malfunctioning catapult.

Fortunately for the Groupe Occasionnel, it was covered by flyingboats based at Ream, and one of them reported the presence of a coastal defense ship accompanied by two torpedo boats on the early morning of January 14. Lieutenant Pleniemaison’s Loire 130 attacked with 330 pounds of bombs, while 7.5-mm rounds from its twin Darne machineguns raked the decks of HTMS Chonburi. But she out-maneuvered the onslaught, and drove off the seaplane with intense return fire.

Alerted to the presence of the enemy, Chonburi tried to break out of Ko Chang Harbor with another Thai torpedo boat, HTMS Songhkla, but they were surprised by Berenger’s flagship. Both vessels sank rapidly under a relentless barrage fired by the 9,350-ton light cruiser. The Lamotte-Piquet, then trained her eight 6.1-inch guns on a coastal defense ship, which had quickly gotten up steam and was trying to make good her escape on a northwest heading at 06:38. HTMS Thonburi traded shot for shot with the Lamotte-Piquet in a running battle amid the anchorage’s many islands. The former warship’s eight-inch shells could have wreaked havoc with her French opponent, but Thai gunnery was poor, and fires resulting from several hits broke out on the Thonburi by 07:15. Her speed fell off, enabling the sloops Dumont d’Urville, Amiral Charner, Tahure and Marne to catch up and join in the slaughter.

Against these overwhelming odds, she continued to fight on, even though suffering mounting damage. Desperate, repeated radio transmissions to the Royal Thai Air Force went unanswered, because its nearby base at Chanthaburi was closed until the beginning of the regular work day! Only an hour after the 7honburi began to burn did Kong 7hab

Akat Thai commanders learn of the naval battle taking place just 12 miles away. In their panicky haste to make up for precious lost time, KTAT Corsairs mistakenly bombed vessels of their fellow countrymen, including the Dunburi, a coastal defense monitor, and, still worse, the Royal Thai Navy's own flagship. The pilots' inability to distinguish friend from foe was equaled by their attack skills, which, fortunately for all concerned, failed to inflict any casualties or damages. Twenty minutes later, a single Corsair appeared over Koh Chang to finally sortie against the real enemy. A bomb exploded within 15 feet of the Lamotte-Piquet, partially rupturing her port side hull, and damage control reported flooding.

Shortly thereafter, a combined flight of Martin B-10s and Mitsubishi Ki-21s went after the same warship. Impressive defensive fire from its four 75-mm antiaircraft guns spoiled the aim of the attackers, their bombs falling wide of the entire Groupe Occasionnel by 600 feet. By then, the badly damaged but resolute HTMS Thonburi got the range of the Lamotte-Piquet to make some hits on the light cruiser, until the burning Thai vessel's decks ran with the blood of crew members killed in action, including her captain, Commander Luang Phrom Viraphan. His second in command redirected fire on the less-well-armored sloops, particularly the Admiral Charner, inflicting some damages and casualties before a salvo from the Lamotte-Picquet put the Thonburi's after turret out of action.

No longer able to properly defend herself and beset with spreading fires, she made a dash for the imagined safety of shallow waters, where the French could not follow for fear of grounding their deep-keel warships. The Lamotte-Picquet fired a parting shot of 550-mm torpedoes after the fleeing vessel, one of which hit HTMS Thonburi, and she disappeared, presumed sunk, behind an island.

At 08:40, Corporal Chamraj Moungpaseart dove his Corsair on the enemy cruiser, hitting her squarely amid ships with a single, 110-pound bomb that failed to explode, though it did cause some damage. When Admiral Decoux read Capitaine Berenger's report of Moungpaseart's attack, he remarked that some Thai airmen obviously flew with the skill of veteran dive-bombers.' A final, ineffective raid by KTAT Nagoyas at 09:40 closed the Battle of Koh Chang, which decimated Thai sea power with the loss of five warships and 36 men on the Thonburi, Songkhla, and Chonburi.

Eleven French sailors had been killed aboard the Lamotte-Picquet and her sloops. But all that remained of the Royal Thai Navy were four submarines and a few, small support vessels. No French ships had been sunk in the action, but every one incurred damages of varying degrees, particularly the Lamotte-Picquet, which required prolonged repairs. She would continue to serve as a light cruiser until disarmed during December 1941, in Saigon, where she was retired as a training ship. On January 12, 1945, carrier-based bombers from U.S. Task Force 38 sank the immobilized Lamotte-Picquet at her moorings.

Contrary to Berenger's assumption, however, he did not sink the Thonburi. Although on fire and listing badly to starboard, she ran herself aground on a sand bar at the mouth of the Chantaboun River. After the French departed the combat zone, her surviving crew members were rescued by HTMS Chang, a transport that towed their gallant warship back

to Koh Chang Harbor. She was later sent to Japan for repairs and used as a training vessel-as was her opponent-until her retirement after World War II. Today, her gun and deck belong to a memorial at the Royal Thai Naval Academy in Samut Prakan.

Undaunted by KTAT's failure to turn the Battle of Koh Chang in their favor, its airmen continued to engage the enemy. In late January, the first of a dozen, two-place Mitsubishi Ki-30 light-bombers arrived from Japan. Powered by a 950-hp Nakajima Ha-5-kai, 14-cylinder, radial engine, the "Ann;' as the Americans later called it, could carry 882 pounds of bombs over 1,066 miles at 236-mph cruising speed.

On the 24th, Flight Lieutenant Chalermkiat Wattanangura led a patrol of three Curtiss Hawks along the Thai border. At Ban Yang, near Aranyapradesh, they jumped a Potez 25 escorted by two Moranes. During the aerial combat that ensued, the French fighters were engaged, while Chalermkiat shot down the reconnaissance plane. Four days later, nine Mitsubishi Anns, four Curtiss Goshawks, and three Martin bombers, escorted by a trio of Curtiss Hawks, raided the Armie de /Air's important airfield at Angkor, near Siem Reap. Several French fighters standing in the open were blown up or badly holed by shrapnel, and irreplaceable repair depots wrecked. Elated by his success, Wing Commander Fuen broke formation from the homeward-bound attackers, and flew back alone over Angkor to personally document the carnage at Angkor.

While photographing the smoldering enemy facility, he was himself jumped by a pair of Morane-Saulniers that had somehow managed to take off from the recently cratered airstrip. Fuen could not hope to fly a slow, ponderous bomber against two nimbler, faster interceptors, but he was left with no other option. Fighting for his life, he put the rugged Nagoya through maneuvers it had not been designed to withstand, while his rear gunner endeavored to keep both M.S.406s at bay by constantly firing in their general direction. This decidedly uneven aerial combat went round and round until both Moranes had exhausted all their ammunition. The French pilots flew alongside Fuen, and, to his amazement, waved goodbye before peeling away. After returning to the KTAT base at Chantaburi, he was further astounded to observe that his Mitsubishi had escaped the engagement without incurring a single bullet hole.

In fact, the Franco-Thai War, perhaps because of its brevity, was unmarred by atrocities on either side, but, on the contrary, generally conducted with chivalry and mutual, if grudging respect. The conflict's last KTAT mission was conducted by Martin bombers of the 50th Bomber Squadron screened by 13 60th Fighter Squadron Curtiss Hawks and two Curtiss Goshawks on that same day, at 07:10 hours, against Pailin and Sisophon, which suffered extensive damage. These last, two Royal Thai Air Force missions went unopposed, because attrition had bitten deeply into the dwindling stocks of Armee de lAir fighters. By then, the war was stalemating. The Thais were marginally ascendant in the air, but they had been decisively defeated at sea, and both sides were deadlocked on land. Like Prime Minister Phibun, Japanese authorities wanted his armed forces to conclude their operations with the limited expulsion of colonial occupation troops in as short a time as possible, certainly inside a month.

After the French success at Koh Chang, however, the probability of a prolonged

conflict, wherein Thailand's ultimate victory was no longer certain, prompted Tokyo to impose an armistice on both warring powers. For its intended invasion of Burma and Malaya and the valuable raw materials-particularly oil-of these lands, Imperial Japan needed an active, cooperative alliance with either power, who were weakening each other in a mutually destructive conflict. The war came to a close when a January 28 cease-fire went into effect at 10:00 hours, followed May 9 with a Tokyo peace treaty signed by representatives of all three governments. In dictating its terms, the Japanese showed remarkable impartiality and fairness, making the French relinquish those original Thai enclaves of what had since become colonialized Cambodia and Laos but nothing more. While these territories comprised some 43,000 square miles, they nonetheless represented a fraction of French Indochina and had been, in any case, negotiated with Thai diplomats long prior to the outbreak of war.

The French, afraid all their colonial holdings would be carved up between Japan and Thailand, were relieved to learn so relatively little was demanded of them. Unlike the Treaty of Versailles, Tokyo's accord did not demand reparations or stipulate a guilt clause, and neither side was declared "victor" nor "vanquished:" Its goal was the satisfaction of most, but not all territorial claims against the French, whose honor and colonial integrity were to be upheld, at least until early autumn, when gathering American intervention in China necessitated occupying the port of Haiphong by the Japanese.

Their formal request for "this temporary concession, to be returned to French authorities as soon as the military situation permits;' was rebuffed by Governor General Decoux. Without further notice, Japanese forces took Haiphong against virtually no resistance. They were covered by some 500 warplanes, which prevented the badly outnumbered Armee de /Air crews from carrying out anything more than infrequent reconnaissance missions and furtive sorties against invading ground troops.

On September 25, the conflict's one and only aerial combat took place when Nakajima Ki-27 fighters of the 84th Sentai claimed a Potez 25 observation aircraft. Before its Morane-Saulnier escort was also shot down, its pilot-the redoubtable Captain Tivoliere, who yet again managed to survive-scored a "kill" against his attackers. These were the only "official" losses in the air, although Sergeant Labussiere-the same Labussiere who had survived a crash landing following aerial combat with Thai fighters the previous January 11-jumped and destroyed a single Nakajima on patrol duty during the afternoon of October 20, after the agreed cessation of hostilities. Decoux concealed all knowledge of the attack. If word of the illegal "kill" had leaked to the outside world, international law would have obligated him to surrender the impetuous Labussiere to the Japanese for prosecution on homicide charges. Otherwise, the French would have to face a renewal of Japan's overpowering aggression. As far as the Japanese knew, the lone Ki-27 simply went missing.

Throughout Thailand, the May peace agreement was celebrated with ecstatic acclaim as a unique, unmitigated triumph. Never before had a Southeast Asian people extracted concessions of any kind from European imperialists, an achievement unmatched in the whole modern history of the Orient since Japan defeated the Russian armada at Tsushima,

back in 1905. But the billowing of national pride swelled into overconfidence among some Thai politicians and generals, who were certain their armed forces were now strong enough to deal equally with all outsiders.

They were soon put to the test during the evening of December 7, 1941, when a request was received from Japan for free passage of its troops through Thai territory on their way to the invasion of Burma and Malaya. The sudden mobilization of British armies there necessitated rapid deployment, the Japanese explained, and Thailand was invited to take part in the operation for the reconquest of additional lost territories. If the Thais refrained from joining, permission was asked to cross their borders for “temporarily” engaging the enemy. The Japanese formally apologized for the urgency of the situation, which required an immediate response.

The note sparked intense debate among Thai government and military officials meeting in emergency session. Some urged defiance of the Japanese; others pointed out the suicidal futility of resistance. A few wanted to accept their offer of alliance. Still others hesitated to accept any proposal. While these contentious discussions raged back and forth, the impatient Japanese took matters into their own hands early the next day by simultaneously landing at four different places along Thai coastal provinces, including Samut Prakarn, south of the nation’s capital.

Individual army and air force commanders, minus any orders from their indecisive superiors in Bangkok, opposed the invaders at their own initiative with predictably disastrous results. The first three Curtiss Hawks that tried to take off from Weatatna Nakorn base at Aranya Prathet were quickly destroyed by 11 Nakajima fighters of the 77th Sentai sweeping in low over the airfield. Another pair of Hawks was similarly dispatched at Prachaub Kirikhan, where most of the 39 KTAT personnel lost during the brief campaign perished, and 120 survivors, grounded by the abrupt annihilation of their aircraft, were somewhat more successful as infantrymen, defending the base from numerically superior assaults. As soon as reports of the fighting arrived at Bangkok, Prime Minister Phibun contacted the Japanese over the strenuous minority objections of his government, and a cease-fire went into effect at 07:30, little more than three hours after the invasion began.

The Japanese proved themselves nonvindictive and ultimately generous conquerors. Thailand’s independence and the lands reclaimed during the recent war with the French were untouched, while troops and supply columns, seen nowhere else in the country, only occupied a territorial corridor enabling them to pass through a narrow strip of Thailand toward Burma. Instead of treating the Thais as defeated enemies, the Japanese once again solicited their alliance. On December 21, both peoples concluded a pact that guaranteed mutual assistance and close cooperation “in perpetuity.” Thereafter, KTAT received from Japan the first of what would eventually amount to perhaps 200 warplanes. Never before, or since, had the Royal Thai Air Force become so powerful.

But the price for such growth was Thailand’s participation in the invasion of Burma, plus a January 25,1942, declaration of war against the Anglo-Americans. Changing signs of the times were most apparent in the new insignia now carried by KTAT aircraft. Their

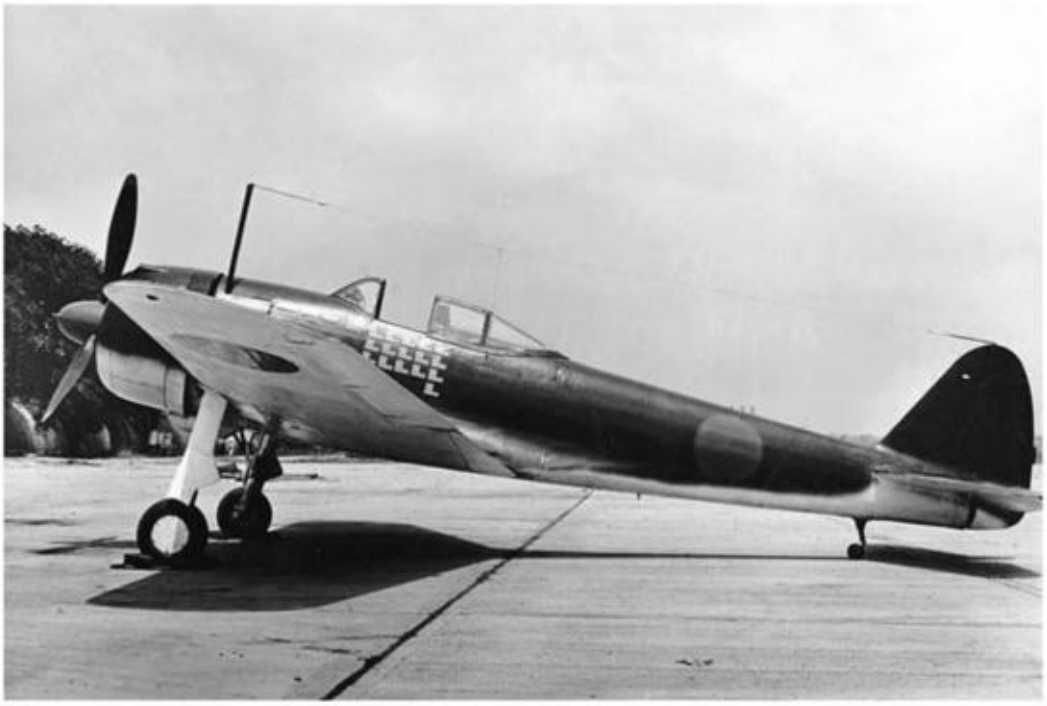
blue-white-red roundels too closely resembled Allied markings, and were replaced by rectangles of the same colors. When these, too, resulted in occasional misidentification, they were substituted later that year by the image of a white elephant on a red triangle. This deltoid insignia appeared on either side of the fuselage, plus the upper and under-wing surfaces. Vertical stripes of the national tricolor adorned vertical stabilizers. Upper sides were dark green; undersides, light green, as worn by Imperial Japanese Army Air Force warplanes to further avoid confusion with the Allies, who, in fact, operated some of the same types flown by the Thais.

The arrival of Japanese aircraft in Thailand filled out the Kong Bin Yai Phasom Phak Payab, or "Northern Combined Air Wing;' based at Lampang, where three squadrons-Foong Bin 21, 41, and 62-were already equipped, respectively, with Vought Corsairs, Curtiss Hawks, and newly arrived Nakajima Ki-27bs. Code named "Nate" by its U.S. opponents, Thai pilots knew the agile fighter as Ota after the Japanese city where the type was manufactured. Additional numbers replaced Curtiss Hawks of the Foong Bin 16 and were highly valued for their 3,010 footper-minute rate of climb afford by a 650-hp, air-cooled, radial engine. The b (Army Type 97b) was an improved version of the Ki-27, featuring a canopy affording better visibility and a more efficient oil cooler, together with provision for additional fuel tanks or four 55-pound bombs under the wings, which qualified the Ota for ground-attack duties.

To assist the Royal Air Force in flight instruction, the Imperial Japanese Army donated three gliders, all built by the Nihon Kogata Company: a Tobi primary kasa (literally, "umbrella"), one Ootori "soarer," and a Hato elementary glider. In April 1941, the big Mitsubishi Ki-21s were at last available for service, enabling KTAT to establish its first bomber wing, Kong Bin Noi 6. They missed out on the Franco-Thai War, because crews were still in training, but now, throughout December, men and machines were winging their way over the Shan region of Burma in concert with old Martins, usually escorted by Nakajima fighters flying out of Lampang's Koh Kha's air force base in northern Thailand. During early 1942, Kong Bin Noi 6 extended its reach into China at the behest of its Japanese allies. Targets were confined to arms plants and marshalling yards in Yunna province, defended exclusively by antiaircraft batteries. They scored a few hits on the Thai bombers more by chance than design, but none were shot down.

In appreciation of these successes, the Japanese donated a dozen Martin B-10s recently captured from the Dutch East Indies Air Force. They and the Mitsubishis were temporarily diverted from bombing raids to humanitarian missions in October, when Kong Bin Noi 6 flew food supplies to the residents of Bangkok, then plagued by major flooding. On January 29, 1943, Kong Bin Noi 6 resumed its operations over China, striking the Mong Sae air base, which, reconnaissance revealed, had just received a batch of Allied fighters. These were destroyed with incendiaries, along with an arms depot that illuminated the city with its fiery annihilation. Several Thai aircraft were hit by flak, incurring only light damage. Crews of Kong Bin Noi 6 undertook almost 47 continuous months of missions against Burma and China for the loss of just one "Sally," which accidentally crashed into a mountainside on September 6, 1942.

By late 1943, the squadron was relocated further south to Lom Sak air base, in Phetchaboon province, because the war that had already ravaged other Axis powers now threatened Thailand itself. As Allied longrange bombers were about to strike across Southeast Asia, Nakajima Ki-43-II-bs began to arrive from Japan for homeland defense. Known as the Hayabusa, or “Peregrine Falcon;’ it was responsible for the destruction of more Allied aircraft than any other Japanese fighter, including the more famous Zero. The fighter was light at just 5,710 pounds, maneuverable, and easy to fly, with a 1,150-hp Nakajima Ha-115 radial engine for a maximum speed of 329 mph at 13,125 feet. A pair of fixed forward-firing Ho-103 machine-guns mounted in the cowling fired 500 12.7-mm rounds.



The Nakajima Ki-43 Hayabusa (“Peregrine Falcon’) was an exceptionally agile type, accounting for more enemy aircraft destroyed than any other Japanese fighter. (National Museum of Naval Aviation)

Most of the 24 imported Hayabusas were formed into a special interception squadron, FoongBin 16, headquartered at Don Muang. Their first encounter with U.S. aircraft came on December 31,1943, as a flight of B-24 Liberators from the China-based 308th Bomber Group raided Chaing Mai and Lampang without causing any damage because both target areas were altogether missed. No less ineffectual were KTAT efforts to engage them. Thai pilots needed better instruction in the fine points of interception. They were on the receiving end of a March 2, 1944, raid carried out by Curtiss P-40s of the 14th Air Force. A pair of Warhawks strafed the airfield at Kengtung, but only destroyed a single Vought Corsair between them. Events in the South Pacific theater distracted the Americans for the next three months.

Their first attack on Bangkok occurred June 5, but KTAT fighter pilots, prepared this time for the reappearance of the old Liberators, were unable to catch up with the 55 B-29s, which were 28 mph faster. The XXth Bomber Command’s ineffectual raid on the Thai capital represented the operational debut of this new and monstrous warplane. When the

same number of Superfortresses returned to destroy Bang Sue's marshalling yards on November 2, they were intercepted this time by seven Ki.43s of Foong Bin 16 and twice as many Japanese Hayabusas. Flight Lieutenant Therdsak Worrasap scored accurate hits on one of the big bombers, which later crashed with the loss of all hands before reaching its base, but was himself shot down by the enemy's defensive fire. He survived with severe burns, parachuting over Petchburi. Another B-29 was badly shot up by Pilot Officer Kamrop, who, like Worrasap, thereafter received his second Medal of Valor.

The KTAT and IJAAF pilots had pressed home 45 attacks against the combined firepower of 660 12.7-mm Browning Ms/AN machine-guns, losing two Thai and five Japanese fighters. Their interception spoiled the American bombardiers' aim, and the marshalling yards suffered no hits.

On November 11, nine P-51 Mustangs and seven P-38 Lightnings sortied against a railway line between Chiang Mai and the Ban Dara bridge, damaging a locomotive, then turned their attention to Lampang airfield defended by just five serviceable Nakajima fighters. Out-numbered by more than three-to-one odds and almost totally outclassed by superior fighter planes, the Thai airmen fought like the peregrine falcons after which their aircraft had been named. A Lightning spun out of control under the guns of Pilot Officer Kamrob Plengkham, who then dove on a P-51 that disengaged from the battle after receiving several hits. Two more Mustangs were badly shot up by his comrades, and fled the scene of combat before one crashed in northern Thailand, the other inside China.

After making a forced landing, Flight Lieutenant Chalermkiats Ota sprinted from the wreckage of his Ki-43, as it was strafed by one of the Americans. They had nonetheless been prevented from destroying all but one of Lampang's Hayabusas left parked in the open on the airfield. Although every KTAT pilot had been shot down and wounded, Chief Warrant Officer Nat Sunthorn was the only Thai fatality.

A week later, 10 B-24s raiding Bangkok were opposed by just three Hayabusas, which were mostly intimidated by the Liberators' heavy defensive fire. Flight Sergeant 1st Class Wichien Buranalekha alone damaged a single B-24, which broke formation trailing smoke from its inner starboard engine, but successfully limped back to base.

Forty five more Superfortresses once more raided the Bang Sue marshalling yards on November 27. Although unopposed this time in the air, they yet again failed to hit their target and did not return until the following year, on January 3, 1945, to attack Bangkok's Rama VI bridge. By then, attrition, unavailability of replacements, and lack of spare parts had so impacted the Royal Thai Air Force that it could only field five Nakajimas and three Curtiss Hawk biplanes, none of which was able to catch up with the much faster enemy bombers.

USAAF Mustangs reappeared on April 7, destroying seven fighters on the ground and killing as many personnel at the Don Muang airfield. Forty P-51s returned two days later, but were opposed by two Hayabusas. Both were promptly shot down, although their pilots survived to witness the further destruction of four more KTAT warplanes. The Royal Thai Air Force had been reduced to 14 Ki.43s, 4 of which were still operational, plus 8 Nakajimas, and 6 of these were not in service.

These few, surviving fighters were all that opposed a British Navy task force of nine destroyers, a cruiser, and the aircraft carrier, HMS Ameer, gathering to attack Chalong Bay, Phuket, between July 24 and 25, 1945. Commanders of the Royal Thai Naval Air Service had wisely withdrawn most of their own, remaining seaplanes before the operation commenced. Accordingly, supporting U.S. Navy F6F Hellcats found just one Watanabe to destroy; two more were damaged. A dozen of the reliable floatplanes were still in flying condition, and had performed their coastal patrol duties effectively, spotting enemy submarines and chasing off Allied reconnaissance aircraft. Imperial Japanese Navy commanders had been impressed with Thai diligence, and donated three specimens of their best seaplane in 1942 to the 1st Naval Squadron, which was upgraded to a Naval Wing with bases at Sattahip and Chalong Bay.

The “Jake;’ as Allied pilots referred to it, was a vast improvement on the old Watanabes, with its 1,080-hp Mitsubishi Kinsei 43 radial engine. It was fast for a seaplane at 234 mph, and could do more than merely reconnoiter with its 551 pounds of bombs. An extended endurance over 1,300 miles rendered it suitable for long patrols above coastal waters, where USAAF long-range heavy-bombers attempted mine laying operations in early 1944. Appreciative Japanese officials presented three more Aichi E13A-ls to the Naval Wing in May, after a B-24 was shot down into the Gulf of Thailand. This aerial victory bespoke Thai skill and determination, because the Jake had no forward armament, and carried only a single, rearward-firing, 7.7-mm Type 92 machine-gun for its observer.

The very notion of this lightly armed seaplane taking on a faster heavy-bomber bristling with 10 .50-caliber machine guns, let alone destroying it, was extraordinary. Apparently, the Aichi’s Thai pilot made straight for the intruder, setting a head-on collision course. Just before impact, he dove underneath the big bomber and along the underside, allowing his observer to fire upward into its belly. A fireball consumed the Liberator from which only its wings twirled into the Gulf.

World War II came to an end for Thailand on August 15, 1945, with the surrender of the last, remaining Japanese troops to the Allies. Just four years earlier, a Victory Monument had been erected to Thai servicemen who fell in the war against the French. It still stands in the capital’s Ratchathewi district, on a traffic island at the center of one of Bangkok’s busiest intersections.

An institution more specifically aimed at commemorating KTAT’s World War II veterans is the Royal Thai Air Force Museum, located on Phanonyothin Road, just south of Wing 6, at the Don Muang Airport’s domestic terminal. Established in 1952 for the preservation and restoration of historic aircraft used by the Kong Thab Akat Thai, its collection displays more than one ra’ra a’vis. Featured are the original Tobi and Hato gliders donated by Japan. Nearby stands KTAT’s leading fighter during the Franco-Thai War, a Curtiss Hawk 75N. Only two other examples exist-one at the National Museum of the United States Air Force, in Dayton, Ohio; the other at Duxford, in England’s Fighter Collection.

So, too, just three specimens still exist of the Curtiss BF2C Goshawk, one of which is housed at the Royal Thai Air Force Museum, together with an ancient Breguet 19. Found

nowhere else is the Thais' indigenous Baribatra Bomber Type 2, and the wreck of an Imperial Japanese Army Air Force Nakajima Ki-27b discovered by local fishermen near Nakhon Si Thammarat in January 1981.

Most rare is a Vought 02U Corsair, once the mainstay of nine air forces around the world, now the last one of its kind anywhere on Earth.

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Joseph served as editor in chief of Ancient American, a national popular science bi-monthly, from its inception in 1993 until his retirement in 2007. Today a feature writer for The Barnes Review (Washington, D.C.), where his articles deal primarily with military history, he is currently at work on another book-length project concerning the turning points of World War II.

Born in Chicago and educated at Southern Illinois University's School of Journalism, Frank Joseph undertook several international trips, beginning in 1983, to interview World War II veterans from both sides, and to research original source materials pertinent to that conflict not otherwise available outside of their respective countries.

A member of the Oriental Institute at the University of Chicago and a scuba diver since 1962, Joseph has participated in underwater archaeological expeditions in the Bahamas, Yucatan, the Canary Islands, the Aegean, and Polynesia. A frequent guest speaker across the United States, he has lectured in Britain, Slovenia, and throughout Japan, where he was made "Professor of World Archaeology" by Kyushu's Savant Society. Before the close of the past century, Japanese national television broadcast two different programs about his work.

In 1998, he received the Victor Moseley Award for his work on behalf of cultural diffusionist archaeology from Ohio's Midwest Epigraphic Society (Columbus). He also received 1999s Burrows Cave Society Award, and his work has been additionally commended by the Ancient American Artifacts Preservation Foundation (Marquette, Michigan).

Frank Joseph has published more books and magazine articles about the lost civilization of Atlantis than any other author in history. He lives today with his wife, Laura, and Norwegian Forest Cat, Sammy, near Lake Pepin, the widest stretch of the Mississippi River.