H-Gram 006: Battle of Midway 75th Anniversary

24 May 2017

Contents:

Torpedo Squadron 6 (VT-6) TBD-1 aircraft are prepared for launching on USS Enterprise *(CV-6) at about 0730-0740 hrs, 4 June 1942 (80-G-41686).*

1. 4 June

On the 4th of June, 1942, four Japanese aircraft carriers faced off against three U.S. aircraft carriers and an island (248 Japanese aircraft to 360 U.S. aircraft). None of the remainder of the overwhelming Japanese force was in a position to affect the outcome of the battle. The reason was because Japanese Admiral Yamamoto had a bad plan based on faulty intelligence, and a gross underestimation of our will to fight. Admiral Nimitz, on the other hand, had a good plan based on exceptional intelligence that gave the us the crucial element of surprise. Like almost everyone in the U.S. Navy at the time, Admiral Nimitz overestimated U.S. operational and tactical prowess relative to the Japanese (Pearl Harbor was not seen as a "fair fight"). Nevertheless, Admiral Nimitz had good reason to believe that he was taking a "calculated risk" with a reasonable chance of success; he did not believe he was making a desperate gamble with the precious remaining U.S. aircraft carriers (or else he wouldn't have done it, and the Marines would still be talking about being abandoned at Midway). As a result, at 0900 on the morning of 4 June, the commander of the Japanese carrier task force, Vice Admiral Chuichi Nagumo had no clue that 152 carrier aircraft were en route to attack him (only at 0820 did he even know one U.S. carrier was even in the area).

Nevertheless, we almost blew it, because at 0900 77 of those aircraft were heading in directions that would miss the Japanese carriers entirely, and had already fractured into at least seven uncoordinated groups. Meanwhile the first waves of U.S. attacks originating from Midway Island were being slaughtered in multiple separate extremely valiant but futile attacks; the costly raids from Midway, and the ferocious resistance of Marine AAA on Midway to the Japanese morning attack, instigated Vice Admiral Nagumo's fateful decision to re-arm his 107-plane reserve strike package with land-attack in

place of anti-ship weapons, before he knew about the first U.S. aircraft carrier. The three U.S. carrier torpedo squadrons attacked in three uncoordinated waves; of 41 aircraft only six would survive. The protracted sacrifice of the Midway aircraft and the carrier torpedo bombers would prevent the Japanese from spotting their counterstrike package on deck, which ultimately prevented the Japanese from inflicting severe loss to the U.S. carriers. Of the 77 aircraft that initially missed the Japanese, the 33-plane USS Enterprise *(CV-6) dive-bomber strike would by both chance and the astute judgment of Lieutenant Commander Clarence Wade McClusky find their way to the Japanese carriers at the same time 17 dive-bombers from USS* Yorktown *(CV-5) arrived over target. As a result, three Japanese carriers Akagi, Kaga, and Soryu became flaming wrecks (although Akagi nearly survived because of a U.S. tactical blunder). Fifty U.S. carrier aircraft were unable to engage the Japanese in the first strike. Forty percent of the U.S. carrier aircraft that flew the first strike were shot down, ditched due to battle damage or ran out of fuel, or recovered but were no longer airworthy.*

The Japanese carrier Hiryu would survive to get off two separate strikes that left the Yorktown in sinking condition, before a late-afternoon U.S. counterstrike left her a flaming wreck too; all four Japanese carriers would be scuttled by Japanese torpedoes overnight. Just as it appeared that heroic damage control efforts would save the Yorktown, she was torpedoed, along with the destroyer Hammann, by Japanese submarine I-168 on 6 Jun. Hammann sank immediately, and Yorktown went down the morning of 7 June. A Japanese heavy cruiser, the Mikuma, which had been escorting her sister the Mogami, seriously damaged in a collision, was sunk on 6 June by U.S. carrier aircraft. The cost to the Japanese was all four carriers involved, all 248 carrier aircraft, and a heavy cruiser. Although more than 75% of the Japanese aviators lived to fight (and die) another day, the carriers were irreplaceable. Over 3,000 Japanese sailors lost their lives. The cost to the U.S. was the Yorktown and Hammannsunk, about 145 aircraft lost, and 307 personnel killed. The U.S. carriers Enterprise *and USS* Hornet *(CV-8) were never found by Japanese strike aircraft, although both their air groups suffered extensive losses. The battle turned the tide and changed the course of the Pacific War, and had significant impact on the entire course of WWII and the post-war that followed.*

2. Midway: For Additional Reading

Attachment H-006-*1 "Battle of Midway Overview" provides a concise recounting of the entire battle and the results.*

Attachment H-006-2 *"ISR at the Battle of Midway" provides an analysis of U.S. intelligence and reconnaissance success, and Japanese failure, at Midway. It explains why the battle was fought at all.*

Attachment H-006-3 *"The Sacrifice" provides an analysis of the initial Midway and torpedo bomber strikes. If you are short of time, I would strongly recommend reading this one; it depicts one of the most extreme examples of extraordinary courage against overwhelming odds in all of history, and the sacrifice of these brave Americans deserves to be remembered by everyone in the Navy today.*

Attachment H-006-4 *"The Victory—Barely" depicts the dive-bomber strikes and aftermath that led to victory, also at considerable sacrifice, and one that we could have easily lost.*

3. Artifact of the Month

Attachment H-006-5 *is a photo of SBD-2 Dauntless (Bureau Number 2106), one of the most historically significant aircraft in the world, and one of the most important artifacts in the U.S. Navy collection, currently on display at the National Naval Aviation Museum in Pensacola, Florida. The aircraft was parked on Ford Island during the Japanese attack on Pearl Harbor on 7 December 1941. Launched from USS* Lexington *(CV-2) during the 10 March 1942 raid on Lae-Salamaua, New Guinea, her pilot, Lieutenant (j.g.) Mark Whittier was awarded a Navy Cross for pressing home his attack on Japanese troop transports. Subsequently transferred to the USMC and based at Midway Island, this aircraft, flown by 1st Lieutenant Daniel Iverson of VMSB-241, participated in an unsuccessful attack on the Japanese carrier*

Hiryu *on 4 June 1942, barely returning to Midway Island with 219 holes from Japanese fire. Iverson was awarded a Navy Cross. Later lost on a training mission over Lake Michigan on 11 June 1943 (the pilot survived, but the plane sank), the aircraft was raised from the lake by A and T Recovery on behalf of the U.S. Navy in 1994, restored and placed on display in 2001. (See attachment H-006-5 for the complete history of SBD-2 2106.)*

I also recycled H-005-2 "Carrier vs. Carrier" from the previous H-gram on the Coral Sea in the event you want to review the differences in U.S. and Japanese carrier capability, doctrine, and tactics.

This H-gram came out pretty long, but it is the only 75th Anniversary of the greatest naval battle in history.

If you are a die-hard and this isn't enough, read Shattered Sword *by Parshall and Tully; extraordinary research, mostly from the Japanese side, and source of much of the revised (and I believe more accurate) interpretations of the battle.*

"IJN Plane Sights U.S. Fleet," painting, oil on wood, by John Hamilton, circa 1975 (84-066-I)

H-006-1: Battle of Midway—Overview

H-Gram 006, Attachment 1
Samuel J. Cox, Director NHHC
May 2017

Revised and updated 28 October 2019*

"…the enemy lacks the will to fight…"

—Japanese Midway Operations Order, Commander's Estimate of the Situation

The Battle of Midway (4–6 June 1942) was one of the most critical battles of World War II, and one of the most one-sided battles in all of history, although achieved at a very high cost for the U.S. aircraft and aircrew responsible for the victory. It was not, however, a "miracle." At the decisive point of contact, it was four Japanese aircraft carriers (248 aircraft) and 20 escorts against three U.S. aircraft carriers (233 aircraft) and 25 escorts and an island airfield (127 aircraft = 360 total U.S. aircraft). The Japanese had some significant qualitative advantages, principally the ability to launch a massive integrated multi-carrier strike package rapidly, fighter maneuverability, and better torpedoes. However, the United States had some advantages as well, such as the element of surprise, radar, superior damage control, and the ability of U.S. aircraft to absorb damage. Although the total number of Japanese forces committed to the Midway operation (essentially, almost every operational ship in the Imperial Japanese Navy) far exceeded that of the U.S. Navy none but the four carriers were in a position to effect the

outcome of the battle at the critical point and time. In terms of numbers and capabilities of the decisive weapon system of the battle, dive-bombers, the two sides were at rough parity.

Commander in Chief of the Combined Fleet Admiral Isoroku Yamamoto based his plan on inadequate intelligence and an inaccurate understanding of American intent, specifically the incorrect assumption that the "demoralized" Americans would have to be drawn out to fight. Therefore, Yamamoto's force distribution was not optimized for mutual support, but rather for operational deception, to conceal the true extent of the forces employed so as to not prematurely spook the Americans into refusing to give battle. To a degree, his plan worked, in that Commander in Chief of the Pacific Fleet Admiral Chester Nimitz did not know that Yamamoto's main body of battleships was trailing several hundred miles behind the Japanese carriers (with Yamamoto embarked on the new super-battleship *Yamato*), intent on ambushing U.S. forces that took the bait of the Midway invasion force. However, by doing so, the main body and other formations in the highly complex Japanese plan had no opportunity to engage U.S. forces in battle. Yamamoto was further hampered by a poorly planned and executed surveillance and reconnaissance effort. He had no idea the American carriers were already northeast of Midway waiting in ambush, and refused to consider the possibility that his plan might be compromised. (In pre-battle war games, the Japanese commander playing the U.S. "OPFOR" did exactly what Nimitz did, with results that were remarkably close to what actually happened, but his actions were ruled "impossible" by the game umpire, and the Japanese game losses were resurrected.)

Admiral Nimitz, on the other hand, had a very accurate understanding of Japanese intent, based on intelligence, of which code-breaking was only a part, albeit significant. Based on breaking the Japanese Navy general operating code (JN-25B) and the work of Commander Joseph Rochefort's team in Station Hypo at Pearl Harbor, Nimitz knew that Midway was the objective of Japanese Operation "MI," knew the approximate timing and approximate forces employed (four or five carriers), and knew that the concurrent Aleutian operation ("AL") was not the Japanese main effort. Armed with this useful, but still somewhat vague code-breaking intelligence, Nimitz nevertheless insisted that his intelligence officer, Commander Edwin Layton, produce a more precise estimate of where the Japanese carriers would be located when first detected. Using all means of intelligence at his disposal, including his intimate understanding of Japanese thought process from his years of language training in Japan, Layton came up with an estimated bearing, range, and time from Midway Island (325 degrees, 175 nautical miles, at 0600 4 June 1942) that Admiral Nimitz later said was "five degrees, five miles, and five minutes off." The actual location was a little father off than Nimitz stated, but not by much. Actually, the Japanese carriers arrived a day later than planned, but Layton's estimate had accounted for weather and the Japanese plan had not (see attachment H-006-2 "ISR at Midway"). Nimitz's decision, although audacious and risky, was not as much of a "desperate gamble" that some accounts have portrayed, but rather was completely in accord with the principle of "calculated risk" that guided Nimitz and other operational commanders during the battle.

Nimitz also later said that the battle was "essentially a victory of intelligence." Up to a point, Nimitz's statement is true. Forearmed with Layton's estimate, Rear Admiral Frank Jack Fletcher's two carrier task forces were in the perfect position (designated "Point Luck") to ambush the Japanese carriers on the morning of 4 June 1942 while the Japanese air strike on Midway Island was recovering. The task forces were TF-17 centered on *Yorktown* [CV-5] with Fletcher embarked, and TF-16 centered on *Enterprise* [CV-6] and *Hornet* [CV-8] and commanded by Rear Admiral Raymond Spruance.

Spruance had replaced Vice Admiral William Halsey, bed-ridden with shingles (2019 update: There are some interesting studies by medical historians that indicate it was not shingles, but some other debilitating skin condition with a name I can neither pronounce nor remember.)

Once Spruance made the decision to launch full strike packages from both Enterprise and Hornet as early (and at as long range) as he did, the die was cast. Given the Japanese weakness in shipboard anti-aircraft defense and the inexperience of Japanese fighters, however numerous, in dealing with a protracted multi-axis attack, there were enough U.S. aircraft in the air (117) to deal a mortal blow to all of the Japanese carriers, so long as the American strikes actually found them. Once *Enterprise* and *Hornet* launched their strikes, all the Japanese could do at that point would have been to even up the score had they been able to get a counterstrikes airborne (which they weren't) before the U.S. strikes arrived over their targets.

Nevertheless, although intelligence could set the stage for victory, the battle still actually had to be fought and won by the skill, courage, and blood of those who flew the planes, manned the anti-aircraft batteries, and peered through the periscopes. The Japanese fought with great tactical prowess, and extreme tenacity and bravery, as evidenced by Japanese pilots who somehow held their flaming planes in the air long enough to drop their bombs and torpedoes. Despite the initial U.S. advantage of surprise, the battle could have easily gone the other way, such as when *Hornet*'s air group, except for the torpedo bombers, completely missed the Japanese; or had the Japanese carrier *Akagi* survived the one bomb that actually hit her, the Japanese counterstrike from that carrier could well have taken out all three U.S. carriers—based on how much damage was later inflicted on *Yorktown* by *Hiryu*'s relatively small and uncoordinated last-ditch strikes (three direct bomb hits and two torpedo hits).

Far from being indecisive as portrayed in many historical accounts, the Japanese carrier task force (*kido butai*—mobile strike force) commander, Vice Admiral Chuichi Nagumo, moved aggressively and in accordance with Japanese doctrine to counter threats, and it was his extreme offensive mentality that typified Japanese naval officers that arguably cost him the battle. However, with a little luck he might have finished off the American carriers despite his losses. If there is any enduring lesson of Midway, it is that never again should the U.S. and Japan face each other on opposite sides of a field of battle.

In the end, the battle was won by the initiative, toughness, and incredible valor of the U.S. pilots who pressed home their attacks against great odds. In the face of staggering losses, not one U.S. bomber is known to have turned away before either delivering ordnance or being shot down. Several *Yorktown* dive-bombers even attacked after they had accidentally jettisoned their bombs. The ferocity of the Marine anti-aircraft fire on Midway Island and the valiant fight by the Mariness' hopelessly outclassed fighters shocked the Japanese by hitting almost half of the early-morning 108-plane Japanese strike on the island, downing 11 aircraft and seriously damaging 14. This set in motion Nagumo's fateful decision to re-arm his 107-plane reserve strike package for another attack on Midway before he knew U.S. carriers were present, in violation of Yamamoto's orders to keep his reserve armed for anti-ship strikes.

Four waves of U.S. torpedo bombers (six new TBF Avengers and four USAAF B-26 Marauders from Midway, and 41 older TBD Devastators in three squadrons from the carriers) suffered grievous losses likened to the Charge of the Light Brigade, each wave encountering between 15 and 30 Zero fighters, but not one torpedo bomber turned away. One TBF and two B-26s crash-landed on Midway afterward, and only six of the TBDs made it back to the carriers; only three of the aircraft

were flyable. Of the 99 men in the 42 torpedo planes that were lost, only three survived the battle. The skipper of Torpedo Squadron EIGHT (VT-8) off *Hornet*, Lieutenant Commander John Waldron, had told his squadron during the pre-launch brief that "if only one plane is left, I want that man to go in and get a hit." That's exactly what his squadron tried to do, following Waldron's direction to the last man. As 14 of the 15 TBDs of VT-8 went down one after the other in flames, the last plane, piloted by Ensign George "Tex" Gay, stayed on course and dropped his torpedo at the carrier *Soryu* before being shot down. *Soryu* avoided the torpedo and Gay was the sole survivor of the attack. The other two torpedo squadrons (VT-6 and VT-3) displayed equal valor with the same result: no hits and great loss.

The slaughter of the torpedo bombers was not part of the American plan, but was the result of the U.S. inability to effectively coordinate a multi-carrier strike, or even a single air group strike. Nevertheless, the sacrifice of the torpedo bombers was not in vain. Their attacks, and those of Midway-based Marine Corps SBD Dauntless dive-bombers (8 of 16 lost) and SB2U Vindicator dive-bombers (4 of 11 lost), and Army Air Forces B-17 Flying Fortresses, strung out over two and a half hours (all with numerous near misses but no hits), forced the Japanese carriers to constantly launch and recover fighter aircraft in between wild defensive maneuvering. The result was that the Japanese carriers were unable to spot their decks for a counter-strike launch. They were still over 45 minutes from being ready to launch their dive-bombers and torpedo planes (not five minutes as in early accounts), when the decisive attack by U.S. Navy dive-bombers commenced. Two squadrons from *Enterprise* and one squadron from *Yorktown* (launched over an hour later) arrived simultaneously over the Japanese carriers by complete coincidence (see H-006-2: "Battle of Midway: The Sacrifice").

The U.S. dive-bomber strike crippled the Japanese carriers *Akagi*, *Kaga*, and *Soryu*. *Hiryu* survived to get off two small strikes that left *Yorktown* in sinking condition. Late in the afternoon, dive-bombers from *Enterprise* and *Yorktown* (flying off Enterprise) crippled *Hiryu* (see H-006-3: "Battle of Midway: The Victory—Barely"). None of the Japanese carriers were actually sunk by U.S. bombs, although flaming wrecks, all four had to be dispatched by Japanese torpedoes to ensure the still-floating ships did not fall into U.S. hands. Two days later, the Japanese heavy cruiser *Mikuma*, accompanying her more heavily damaged sister *Mogami*, both damaged in a collision while avoiding the submarine USS *Tambor* (SS-198), was sunk by carrier dive-bombers (mostly due to secondary explosions from her own oxygen-fueled torpedoes).

Over 3,000 Japanese sailors were killed in the battle, most while valiantly trying to save their ships, including over 700 aircraft technicians/maintainers (a very limited skill in the Japanese navy). All 248 carrier aircraft were lost, most going down with their ships, along with several cruiser- and battleship-launched float planes. However, most Japanese pilots were rescued; only 36 were lost on the carriers and 74 in the air, mostly from *Hiryu*. Most of Japan's Pearl Harbor–veteran pilots would survive Midway only to perish in the meat-grinder battle of attrition in the skies around Guadalcanal and the Solomon Islands later in the year, where over 1,000 Japanese aircraft would be lost. It was not the loss of pilots at Midway that crippled Japan's ability to wage offensive naval operations, but rather the loss of the most important Japanese strategic asset, the irreplaceable aircraft carriers. Only one new Japanese fleet carrier would make it into a major fleet action during the war, only to be sunk by a U.S. submarine in her first battle.

Admiral Nimitz, who had commanded several submarines early in his career, was disappointed in the performance of the U.S. submarines at Midway. Of 19 U.S. submarines in TF 7, only three

made contact with the Japanese (although seven were guarding the approaches to Hawaii, and therefore would not have made contact since the Japanese didn't go there). *Grouper* (SS-214) was repeatedly strafed, bombed, and depth-charged, and was unable to close on the Japanese carriers. For whatever reason, *Tambor* (SS-198) did not engage the heavily damaged cruisers *Mikuma* and *Mogami* (and her skipper was immediately relieved of command after the battle). *Grayling* (SS-209, host to Nimitz's Pacific Fleet change-of-command ceremony) was mistaken for a Japanese cruiser and bombed by U.S. B-17s (fortunately, no bombs hit, which was also the case with over 320 bombs dropped by the B-17s on actual Japanese ships).

Nautilus (SS-168), Lieutenant Commander William Brockman commanding, tried to attack the Japanese carrier force and was strafed by an aircraft, tried again and was bombed by an aircraft, and tried again and was depth-charged by the light cruiser *Nagara* while setting up an attack on the battleship *Kirishima*. As soon as the depth charging ceased, Brockman boldly came back to periscope depth and fired on *Kirishima* with two torpedoes. One hung in the tube and the other missed, and *Nautilus* was then heavily depth-charged. Later in the day, Brockman tried yet again and succeeded in firing a spread of four torpedoes, all of which malfunctioned, at the dead-in-the-water and burning *Kaga*, only to barely survive another brutal depth-charge attack (42 depth charges, two of which clanged off her hull, but did not explode). The one torpedo that hit *Kaga* failed to explode and the buoyant after body served as a flotation device for swimming Japanese sailors. Brockman was awarded a Navy Cross. Of note, however, it was the Japanese destroyer *Arashi*, trying to catch up to the Japanese carriers after being left behind to depth-charge *Nautilus*, that led Lieutenant Commander Clarence Wade McClusky and two *Enterprise* dive-bomber squadrons to the Japanese carriers and their doom. Later in the war, however, armed with torpedoes that actually worked, more aggressive skippers like Brockman, and a steady stream of "Ultra" intelligence (derived from broken Japanese codes), U.S. submarines would go on to inflict significantly more losses to the Japanese than any other U.S. weapons system, at great cost (52 submarines) as well.

At the end of 4 June, the gravely damaged and heavily listing *Yorktown* was still barely afloat. Through the heroic damage-control efforts of her crew, incorporating numerous hard lessons learned at the Battle of the Coral Sea, the carrier was still afloat on the morning of 6 June and under tow to Pearl Harbor. (Of note, *Yorktown*'s air group, demonstrating the value of combat experience, was the only carrier air group to successfully execute a coordinated, near-simultaneous torpedo bomber, dive-bomber, and fighter strike on the Japanese carriers). However, in broad daylight, the skipper of the Japanese submarine *I-168* (which had previously provided accurate, and ignored, intelligence on Midway Island's state of readiness, and had even shelled the island) picked his way through five escorting U.S. destroyers and torpedoed Yorktown at pointblank range. *I-168* sank the destroyer *Hammann* (DD-412) that was alongside *Yorktown*, which went down in under four minutes, many of her swimming crew killed by the detonations of her own un-safed depth charges (81 of 251 crew lost). Even with the two additional torpedo hits, *Yorktown* remained afloat until finally succumbing on the morning of 7 June. *I-168* subsequently survived, with heavy damage including leaking chlorine gas, an extensive depth-charge attack (61 depth charges) by the U.S. destroyers.

In addition to failing to protect *Yorktown* from submarine attack, no Japanese aircraft were confirmed to have been downed by anti-aircraft fire from any escorts, due primarily to the inadequacy of their AAA fit. (Japanese shipboard anti-aircraft fire was equally as ineffective). The AAA certainly did damage aircraft and disrupt bombers' aim. *Enterprise* and *Hornet* were never

located or attacked by Japanese bombers, so their escorts were never tested. Nevertheless, the Japanese surface navy failed to get the memo that the tide of war turned at Midway, and the U.S. surface navy would get its chance to prove its mettle and extreme valor in the following months, persevering in several of the most savage and hard-fought ship-to-ship battles in naval history in Ironbottom Sound off Guadalcanal, at a cumulative cost of many more Sailors than Pearl Harbor.

The Battle of Midway was not won by "Citizen-Sailors." It was won mostly by volunteer, professional naval officers and Sailors (the draft had only been in effect for a little over a year). The more senior officers and enlisted Sailors had endured many years of inadequate resources, misguided treaty limitations, low pay, slow promotions, the intense isolationist and anti-war backlash from the carnage of World War I, and a profound lack of appreciation and respect for U.S. military personnel in the interwar years by much of the U.S. population. Yet it was these volunteers, and a few draftees, in many cases armed with obsolete, inadequate weapons and hampered by fiscal constraints that severely curtailed realistic training, who held the line and paid with their lives to buy the time necessary for the United States to mobilize its massive resources in people and equipment that ultimately won the war. Compared to the Japanese, the American cost in blood was much less, but still profound: 307 Americans were killed in the battle. The bulk of the losses fell upon the aviators—Marines, Army Air Forces, but mostly Navy. Of the carrier aircraft that engaged the Japanese fleet on 4 June 1942, 40 percent were shot down, ditched due to battle damage or fuel exhaustion, or were no longer airworthy despite recovering on a carrier. Well over 150 U.S. aviators, most of them Navy, made the ultimate sacrifice in winning one of the greatest battles of all time. Although only one Medal of Honor (posthumous) was awarded in the battle (Captain Richard Fleming, USMC), approximately 170 Navy Crosses were awarded to Navy personnel, mostly aviators, many posthumously.

Some historians argue that Midway was not "decisive" because (with 20/20 hindsight) the ultimate victory over Japan was never in doubt, Midway or no Midway, but was merely the inevitable application of overwhelming U.S. industrial power. Although "what-if" scenarios are generally frowned upon by professional historians, had the battle resulted in a military defeat for the United States, President Roosevelt would have had an extremely difficult time maintaining his very politically unpopular "defeat Germany first" strategy. Imagine a very different world in which Nazi Germany had had time to develop an atomic bomb, or the Soviets had had time to overrun all of western Europe. British Prime Minister Churchill's statement regarding the Royal Air Force in the Battle of Britain, that "never had so much been owed by so many to so few" applied just as well to the few naval aviators who turned the tide at the Battle of Midway.

After the battle, the *New York Times* banner headline read "US Army Fliers Blast Two Jap Fleets at Midway."

The headline in the *Japan Times* in Tokyo read "[Japanese] Navy Wins Epochal Victory."

(Over the years I have read probably almost every book on Midway ever written, including the classics, *Incredible Victory* by Walter Lord, *Miracle at Midway* by Gordon Prange, and, of course, Samuel Eliot Morison's coverage of the battle. However, declassification of most World War II intelligence records in the 1970s and newer access to Japanese sources have significantly changed many of the conclusions of those earlier works. A relatively recent work, *Shattered Sword* by Jonathan Parshall and Anthony Tully, is an extraordinary piece of research, telling the battle mostly from the Japanese side using many Japanese sources, and is probably the most comprehensive and accurate book on Midway I

have read. For this reason most of the numbers for casualties, etc., that I use are from this book, although other sources may vary.)

Joseph J. Rochefort, shown here as a captain (NH 84826).

H-006-2: Battle of Midway—Overview

H-Gram 006, Attachment 2
Samuel J. Cox, Director NHHC
May 2017

*****Revised and Updated 28 October 2019*****

"To Commander Joe Rochefort must forever go the acclaim of having made more difference at a more important time than any officer in history." At least, that's what Captain Edward L. "Ned" Beach, Jr. (skipper of USS *Triton* [SSNR-586] during her around-the-world submerged voyage and author of *Run Silent, Run Deep* and other submarine classics) said. There is no question that Rochefort, commander of Station Hypo at Pearl Harbor, had profound effect on the outcome of the battle. He also had a lot of help, including from Japanese mistakes.

Station Hypo was a short-hand term used for the U.S. Navy's code-breaking and signals intelligence operation, more formally known as the Combat Intelligence Unit, embedded within the naval communications station in the basement of the 14th Naval District Headquarters (commanded by Rear Admiral Claude Bloch), with Rochefort as officer-in-charge of communications. The 14th Naval District reported to the CNO, and

Rochefort reported to OP-20G at Navy headquarters in Washington, DC. Officially, any intelligence developed by Hypo was to be sent to Washington (Station Negat) for analysis and dissemination. However, Rochefort had a long-established relationship and friendship with the Pacific Fleet intelligence officer, Lieutenant Commander Edwin Layton, when both underwent Japanese language training in Japan earlier in their careers. Rochefort routinely passed intelligence directly to Layton (to the consternation of Washington), who was only one of two officers accorded immediate and direct access to Admiral Nimitz at any hour.

Nimitz was a firm believer in the principle, first recorded by Sun Tzu and implemented by Julius Ceasar, that the commander should receive his intelligence directly from his intelligence sources, unfiltered by anyone else. Despite the fact that both Layton and Rochefort had been in the same jobs for the Pearl Harbor debacle, Nimitz recognized Layton's unique talents and retained him, and made no effort to remove Rochefort (who technically didn't work for Nimitz anyway). Nimitz told Layton that his job was to think like Admiral Yamamoto and provide estimates of what he thought the Japanese intended to do. Neither Layton nor Rochefort were intelligence officers (or code-breakers) —there was no such thing. Both were line officers who had had a few intelligence assignments among the line assignments necessary for promotion; intelligence work was generally considered non–career enhancing (junior officers assigned to an intelligence billet on battleships were known to be made the ship's laundry officers), but was considered acceptable for a non–Naval Academy officer like Rochefort. Layton was a rare Annapolis line officer with exceptional talent, who had also willingly served in multiple intelligence assignments, and who, like Rochefort, spoke fluent Japanese.

The U.S. Navy code-breaking effort dated back almost to World War I, had progressed in fits and starts in the 1920s and 1930s, and had benefited greatly from Office of Naval Intelligence (ONI) "black-bag jobs" such as breaking and entering a Japanese consulate to copy codebooks, etc. (which would be illegal now, and technically was illegal even then). By the time of Pearl Harbor, U.S. Navy and U.S. Army cryptologists (they took turns on alternate days) were breaking and reading the Japanese diplomatic code (called "Purple," and the program "Magic") faster than the Japanese embassy in Washington. Initial inroads were being made on breaking the Japanese navy general operating code, known at the time as the "5 num" code, and retroactively, as the JN-25 series (JN-25B at the time leading up to Pearl Harbor and Midway—changed to JN-25C a week before Midway). Rochefort was not the "code-breaker"—he was in charge of code-breakers. He had some previous tours in signals intelligence and code-breaking, and was well-suited for the assignment. The senior code-breaker in Station Hypo was actually Lieutenant Commander Carter Ham. At the time of Pearl Harbor, Hypo had been assigned to beat their heads against the wall trying to break the Japanese flag officers code (which was never broken), while Station Negat in Washington and Station Cast at Cavite, Philippines, worked on JN-25B.

After Pearl Harbor, Hypo was allowed to work on JN-25B and began to have success. Each raid by U.S. carriers on outlying Japanese garrison islands in early 1942 resulted in a flurry of Japanese communications (and communications security violations) tied to a specific, known event, which greatly aided the code-breaking effort. In conjunction with "traffic analysis" (analysis of message externals: to, from, precedence, length, etc.), this led to increasingly accurate estimates of Japanese force disposition and intent. However, even at best, the United States was only intercepting about 60 percent of Japanese naval communications, analyzing about 40 percent, and actually breaking and reading only about 10–15 percent, frequently only fragments of message internals (the "text"). Even when broken, the message was still in esoteric, highly technical,

jargon-laden "navalese" Japanese, i.e., very difficult to translate by even the best linguists (coupled with the fact that very many geographic locations in the Pacific had multiple different names). So, it was not as if Nimitz had his own copy of the Japanese operations order before Midway. All he had was fragments, amplified by traffic analysis, other signals intelligence (intercepted clear voice), and other basic intelligence analysis techniques, and the experience and intuition of Layton.

Nevertheless, throughout the spring of 1942, Nimitz gained increasing confidence in the intelligence being provided by Layton and Rochefort. It was intelligence that led him to commit *Yorktown* (CV-5) and *Lexington* (CV-3) to counter the Japanese invasion attempt on Port Moresby, New Guinea, that resulted in the Battle of the Coral Sea on 7–8 May. On 12 May, Rochefort's code-breakers got the first indications that the Japanese were planning a major operation in the Central Pacific, and Rochefort informed Layton that it was "really hot." As more message traffic was intercepted, both Rochefort and Layton became convinced that Midway Island was the target, and they convinced Nimitz as well. Washington was not convinced, even though OP-20G/Negat and War Plans were analyzing the same intelligence.

Before Pearl Harbor and well into the spring of 1942, the intelligence situation in Washington, DC, was dysfunctional (contributing significantly to the disaster at Pearl Harbor). Four different directors of Naval Intelligence in a little over a year (none with intelligence background; most who didn't want the job) didn't help, nor did the constant reorganizations. The bitter, long-running bureaucratic (and resource) battle between naval communications and naval intelligence over who should own "communications intelligence" (and code-breaking) had a detrimental effect, and, at the time, naval communications was in the driver's seat. After Pearl Harbor, the "father of U.S. Navy code-breaking," Commander Laurance Safford, was removed and replaced as OP-20G by a line officer who had no experience in the subject. ONI was also involved in a bitter losing battle with the War Plans Division, under Rear Admiral Richmond Kelly Turner, in which ONI was barred from providing "assessments" of intelligence, since Kelly convinced CNOs Stark and King that assessments were a War Plans operational function and ONI was just supposed to provide the raw intelligence. Just prior to Pearl Harbor, Kelly officially assessed that the Japanese would not attack the United States, but would attack Russia instead. ONI held a different view. Also, Layton and Rochefort had experienced the chaotic period after Pearl Harbor in which a flood of bogus rumors ("RUMINT") had paralyzed operational decision-makers. Station Negat on the other hand, "under new management" still chased after and reported numerous false and contradictory leads, providing "worst case" analysis to King.

Contrary to many books and movies, the famous "AF" gambit run by Rochefort was an attempt to get Washington to believe that "AF" stood for Midway, not to convince Nimitz. With an idea provided by Jasper Holmes, one of his staff, Rochefort had a message sent via secure underwater cable to Midway for the base to broadcast a phony radio message in the clear saying that its fresh water–making capability was broken. The Japanese intercepted the message and retransmitted the information, which was intercepted and broken by Hypo, confirming that "AF" stood for Midway. Still, many in Washington were unconvinced under the "this is too good to be true" principle. There were also a lot of good reasons why invading Midway Island seemed to make no sense. In fact, the Japanese Naval General Staff had made the same arguments in a losing battle against Yamamoto's plan. There was also considerable argument about the wisdom of basing a plan around Japanese intent rather than Japanese worst-case capability, and that it all might be an elaborate Japanese deception. Eventually CNO King came around after ordering

an assessment be provided to him directly from Rochefort.

On 17 May, convinced that Midway was the main Japanese objective, Nimitz sent an eyes-only (and "no CNO") message to Vice Admiral William Halsey, embarked on USS *Enterprise* (CV-6), directing him to deliberately expose *Enterprise* and TF-17 to Japanese reconnaissance aircraft in the vicinity of the Gilbert Islands, which Halsey dutifully did. This accomplished several objectives. By "blowing" Halsey's operation, Nimitz had a pretext to recall Enterprise and Hornet to Pearl Harbor (the damaged Yorktown was already en route Pearl Harbor for repair after Coral Sea). This way he could concentrate his forces at Midway and get King off his back about keeping a carrier in the South Pacific to counter a possible Japanese thrust against the Fiji/Somoa area, which deeply concerned King. It also fooled the Japanese into thinking at least one of the U.S. carriers was in the South Pacific, which would enable the Midway operation to defeat the U.S. carriers piecemeal.

On 18 May, Nimitz directed Layton to provide his best estimate of where and when the Japanese carriers would first be detected. Layton provided the estimate on 27 May (see H-006-1: Battle of Midway—Overview) and the same day Nimitz issued OPLAN 29-42, directing *Enterprise* and *Hornet* to proceed to the vicinity of Midway, and *Yorktown* to follow suit as soon as temporary repairs were complete at Pearl. Nimitz also directed that Task Force ONE (TF-1), the battleships, several of which had been repaired after Pearl Harbor, to remain on the West Coast, to the dismay of TF-1 commander Vice Admiral William S. Pye (and to some degree CNO King) because they were too slow, too vulnerable, and used up too much fuel.

Nimitz also directed that Midway Island's defenses be significantly increased, to include additional reconnaissance aircraft. By early June 1942, the 127 aircraft based on Midway Island included 31 PBY Catalina flying boats, a few rigged to carry a torpedo. Seventeen USAAF B-17 bombers also provided additional reconnaissance capability. The PBYs began to fly missions out to 700 miles from Midway, and, on 3 June, sighted the Japanese minesweeper group coming from Guam and also the Japanese invasion/occupation force, which was also sighted and reported by a U.S. submarine. B-17s also bombed the invasion force, albeit with no hits (although many were claimed). Thick fog to the northwest of Midway covered (and delayed) the Japanese carrier force.

Before dawn on 4 June, 15 B-17s launched to attack the invasion force again, while 22 PBYs commenced reconnaissance flights, mostly to the northwest. *Yorktown*, at "Point Luck" northeast of Midway, also launched 10 SBD Dauntless dive-bombers on a relatively short 100–nautical mile search pattern to assure Rear Admiral Fletcher that no Japanese carriers were in close proximity.

At 0530, a PBY flown by Lieutenant Howard P. Ady sighted Japanese ships northwest of Midway and issued a sighting report at 0534. At 0545 another PBY, flown by Lieutenant William Chase sighted the inbound Japanese air strike and reported "many aircraft heading Midway." Several minutes later, at 0552, Chase sighted two of the Japanese carriers. Midway radar detected the incoming strike at 0553. Word of the Japanese carriers reached Fletcher, Spruance, and Nimitz shortly after 0600 (almost right on Layton's estimate).

Japanese ISR at Midway

The Japanese navy had a relatively robust intelligence capability, in particular a very effective shipboard radio intelligence capability that could intercept and translate U.S. clear voice communications in near–real time, providing useful tactical information to Japanese commanders even in the heat of battle. The Japanese were also relatively proficient at traffic analysis. Japanese radio intelligence picked up and reported the greatly increased volume of high-precedence U.S. messages in the days

before Midway, but the significance was lost on senior Japanese commanders, who remained fixated on the plan and the belief that it could not have been compromised. Japan's extremely long-range reconnaissance seaplanes were also very capable, although also very vulnerable to U.S. fighters. The Japanese, however, were not able to break U.S. Navy codes (but not for want of trying), which left them at a significant disadvantage. Also, the small but effective Japanese human intelligence network on Oahu was rolled up very quickly after Pearl Harbor, and Japanese-Americans (*Nisei*) in Hawaii (or the mainland United States) never engaged in espionage as feared. (In fact, the official ONI assessment was that the *Nisei* were not a threat and recommended against internment, but the Navy was overruled by the Army and President Roosevelt.)

Without a human intelligence network in Hawaii, the Japanese plan depended on reconnaissance of Pearl Harbor by flying boat, and a line of submarines between Hawaii and Midway. Both operations failed miserably. Operation K was to be a reconnaissance of Pearl Harbor by two Kawanishi H8K Type 2 "Emily" long-range flying boats from the Marshall islands, which would refuel from submarines at French Frigate Shoals (midway between Oahu and Midway Island), specifically to determine the whereabouts of the U.S. carriers. The Japanese had done this before. On the night of 3–4 March, two Kawanishi flying boats conducted a reconnaissance/bombing mission over Pearl Harbor. Station Hypo provided advance warning of the operation, but night and overcast prevented intercept, but also precluded reconnaissance or accurate bombing by the Japanese. One of the flying boats dropped its bombs through the overcast onto the foothills near the Punchbowl. No one knows where the other plane's bombs went. (This is also the known as the "second air raid on Pearl Harbor.") The Japanese tried another similar operation with one flying boat on 9–10 March, but this was also compromised, and the flying boat was shot down by a Marine Corps fighter from Midway Island. The Japanese did not catch on that this might be a bad idea.

When Operation K was implemented, the Japanese submarine sent to conduct reconnaissance of French Frigate Shoals discovered a U.S. seaplane tender and destroyer camped out there. The U.S. ships were sent there deliberately by Nimitz to keep the Japanese from doing exactly what they were trying to do. The two refueling submarines *I-121* and *I-123* lingered for a couple days hoping the U.S. ships would go away, but on 31 May, Operation K was cancelled, depriving the Japanese of critical intelligence on the U.S. carriers. The implication that the United States might be forewarned was also ignored by senior Japanese commanders.

The Japanese submarine reconnaissance line was an even bigger failure. The plan called for seven submarines to be stationed along a line north of the Hawaiian Islands and seven more south of the Hawaiian Islands, at the midpoint between Midway and Oahu, to detect and report the transit of U.S. carriers. However, most of the submarines committed were among the oldest and least reliable in the Japanese Navy, although this was known, and ignored by senior Japanese commanders. What Yamamoto and Nagumo did not know was that the entire submarine force had been held back by mechanical difficulties of several boats, and none of the submarines reached station when they were supposed to. The politically connected and imperial family–related Rear Admiral Marquis Teruhisa Komatsu, commander of Sixth Fleet (submarines), decided not to tell anyone about the late departure. Actually, it wouldn't have made any difference. Even if the submarines had arrived on schedule, all three U.S. carriers had already gone past.

The only Japanese submarine to distinguish itself in a reconnaissance role was *I-168* (which also later sank *Yorktown*). *I-168* observed Midway Island for several days before the battle,

accurately reporting that Midway's defenses had been greatly beefed up, that the island was on high alert, and that numerous U.S. reconnaissance aircraft were flying missions out to extreme range, based on how long they were airborne. This information was also filed under "gee, that's nice" by Japanese commanders.

On the morning of 4 June, the Japanese carrier force executed a woefully inadequate search plan. Like the Americans, the Japanese knew very well from pre-war exercises that whichever carrier force found the other one first had a decisive advantage. Despite this, the Japanese much preferred not to "waste" carrier-based strike aircraft on reconnaissance, preferring to rely instead on long-range land-based aircraft and catapult-launched floatplanes from battleships and cruisers. Relying on land-based aircraft did have an operational security advantage, in that reconnaissance by land-based aircraft did not give away the presence of an aircraft carrier. This, however, was not an option for the Japanese at Midway. It was an option for the U.S., which is why Rear Admiral Fletcher kept his morning reconnaissance flight close to his carriers (within 100 miles) so as to not give away is presence, relying on the Midway-based PBY Catalina's to find the Japanese carriers. Given the complexity of the Japanese plan, floatplane capable escort ships were spread thin. Within the Japanese carrier force, the two battleships, Haruna and Kirishima, carried three floatplanes (of limited range) and the two cruisers *Tone* and *Chikuma* had been built to carry five longer-range floatplanes.

Just before daybreak on 4 June, the Japanese launched seven aircraft to conduct a search of about a 200-degree sector, which resulted in Swiss cheese coverage, particularly given the cloud conditions to the east-northeast, which is where the U.S. carriers were. Vice Admiral Chuichi Nagumo and his staff understood that the search plan was weak, but accepted it. They still believed they had the element of surprise, and they were fixated on maximizing the first strike on Midway Island. They also still believed that it was unlikely any U.S. ships would be in the area, and, if there was a carrier, there wouldn't be more than one. The Japanese believed that *Lexington* (CV-2) had been torpedoed and sunk by a submarine in January (actually, it was *Saratoga* [CV-3]—which was only damaged). They also believed they had sunk both Yorktown and Saratoga (because they'd already "sunk" her sister *Lexington*) at Coral Sea. One carrier had been spotted near the Gilberts (either *Enterprise* [CV-6] or Hornet [CV-8]) and, although the Japanese didn't know for sure where *Ranger* (CV-4) and Wasp (CV-7) were, they had last been located in the Atlantic. That left one U.S. carrier to oppose the Midway strike, and the Japanese remained convinced, based on no evidence, that this carrier was cowering in Pearl and would need to be drawn out to fight. Their complacency, a symptom of "victory disease" (the sense of their own invincibility coupled with the fatigue of six months of non-stop operations), would prove fatal.

Tone's No. 4 scout (an Aichi E13A Type 0 "Jake") launched late, due to reasons that still remain unclear, to fly the No. 4 search line. Its late launch has been cited by many historians as a key factor in the Japanese defeat since it did not detect the U.S. carriers until it was too late. Actually, *Chikuma*'s No. 1 scout, launched on time, and flying No. 5 search line, should have seen TF-17 at approximately 0615, but did not due to clouds or other factors that remain unclear. Even if *Chikuma* No. 1 had found the U.S. carriers at 0615, it was already too late for Nagumo to launch the reserve strike (107 aircraft , armed with anti-ship weapons) before the U.S. carriers started launching. Nagumo lost the battle as soon as he launched the first strike on Midway Island (in accordance with Yamamoto's plan) without knowing the U.S. carriers were in the vicinity. Had *Chikuma* No.1 sighted the U.S. carriers earlier, the best Nagumo could have done would have been to trade blows (a typical outcome of pre-war U.S. exercises). If *Tone* No. 4 had launched on time and flown the

prescribed route, she would have missed the U.S. carriers, and the first indication Nagumo would have had of them was the 15 TBDs of *Hornet*'s Torpedo Squadron EIGHT.

Rochefort's reward for his success was to be recalled to Washington by OP-20G on a pretext, never to return to Hypo, and to be given command of a floating dry dock. Nimitz' recommendation that Rochefort be awarded the Distinguished Service Medal was denied by CNO King on the recommendation of Rochefort's Washington chain of command, which then took credit for having broken the Japanese code and predicted the Midway operation, even though they had done no such thing. Nimitz tried to get King to reconsider, but got sidetracked by having a world war to run. Not until intelligence records became declassified in the 1970s did the real story become known to the public. And, not until after a years-long campaign by Rear Admiral Donald "Mac" Showers, who had been an ensign in Station Hypo with Rochefort, was Rochefort posthumously awarded the Navy Distinguished Service Medal by President Ronald Reagan in 1985.

A Douglas TBD-1 Devastator torpedo bomber, carrying a Mk. 13 torpedo, en route to attack the Japanese carrier force during the morning of 4 June 1942. This plane is probably from Torpedo Squadron THREE (VT-3), launched from USS Yorktown *(CV-5) at about 0840 (80-G-21668).*

H-006-3: The Sacrifice

H-Gram 006, Attachment 3
Samuel J. Cox, Director NHHC
May 2017

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The first American strike aircraft to reach the Japanese carriers on the morning of 4 June 1942 were six new, state-of-the-art U.S. Navy TBF torpedo bombers and four U.S. Army Air Forces B-26 Marauder twin-engine bombers, each rigged to carry a torpedo. Upon warning by PBY Catalinas and radar of the incoming 108-plane Japanese strike, every operational aircraft on Midway was launched. The TBFs (the name "Avenger" would be bestowed after the battle) and the B-26s had only arrived on Midway a couple days previously. The TBFs were led by Lieutenant Langston Kellogg Fieberling (commissioned as an aviation cadet), and were a detachment of USS Hornet's (CV-8) Torpedo Squadron EIGHT (VT-8) that had been left behind in Norfolk several months earlier to transition from the TBD Devastator to the TBF, and had then made its way to Midway. The B-26s, led by Captain James Collins, were from two different USAAF bomb groups, diverted from their transit to Australia. None of the aircrews had combat experience, and none had ever dropped a live torpedo.

Shortly after 0600, the TBFs launched immediately after the Marine Corps fighters that would attempt to defend Midway, and the faster B-26s launched right after the TBFs. Some accounts say Fieberling failed to wait to follow a plan to form up with Marine Corps dive-bombers that launched after

the B-26s. Other accounts say there was no plan for a coordinated strike. Regardless, Collins independently made the exact same decision as Fieberling to attack immediately and separately. Armed only with a range and bearing to a reported two Japanese carriers, both strike leaders led their flights on a direct line to the reported position. Arriving at the Japanese carriers at the almost the same time, shortly after 0700, the TBFs and B-26s conducted a near-simultaneous, but not coordinated, attack. They also ran headlong into 30 Japanese Zero fighters from four aircraft carriers.

The Japanese had never seen TBFs before (Ensign Albert "Bert" Earnest was flying the first TBF off the Grumman production line). B-26s had flown their first combat mission in the Pacific only a month before, at Rabaul, but the Japanese carrier fighters had never encountered one before. The Japanese were in for a rude shock as both types of aircraft proved incredibly difficult to shoot down. As the swarms of Zeroes jockeyed for position for a kill, their 7.7-mm nose-mounted machine guns appeared to have little effect, forcing the Zeroes to rely on their wing-mounted 20-mm cannons, which required the Zeroes to remain steady for longer because it was harder to hit a target with a cannon. This made the Zeroes more vulnerable to defensive fire. The shocking result, for the Japanese, was that the first planes shot down were a Zero by a TBF and another by a B-26. Nevertheless, the Zeroes continued to press their attacks, shooting the U.S. planes full of holes, killing and wounding defensive gunners, but were forced to fly into the anti-aircraft fire from their own ships in an increasingly desperate attempt to bring down the low-flying bombers, which identified them as ship-killing torpedo bombers to the Japanese.

Fieberling led his strike against the Japanese carrier *Hiryu*, flagship of Rear Admiral Tamon Yamaguchi, commander of Carrier Division Two, while Collins led his B-26s against *Akagi*, flagship of Vice Admiral Chuichi Nagumo, commander of the entire *Kido Butai* (mobile strike force). Had Fieberling and Collins concentrated on one carrier, they might have had a chance. By going after two different carriers, neither group had adequate numbers to execute a doctrinal "hammer and anvil" torpedo attack (i.e., attacking the target from both port and starboard bow simultaneously). This gave *Akagi* and *Hiryu* the opportunity to outmaneuver and outrun the torpedoes. In addition, the cumulative damage from repeated hits took their toll. One B-26 was shot down, and the TBFs began to go down one after the other. Two of the TBFs got close enough before being shot down to launch their torpedoes, which *Hiryu* avoided.

One TBF, flown by the wounded Ensign Earnest, his instrument panel, hydraulics, and control surfaces shot away, his turret gunner dead and radioman tunnel gunner unconscious, and believing he was about to crash, veered away from *Hiryu*, and launched his torpedo at the closer light cruiser *Nagara* (which later served as Nagumo's flagship after *Akagi* was crippled) and missed. Just before hitting the water, Earnest discovered he could still keep his aircraft aloft with only his trim tab, and despite several more firing passes by Zeroes, managed to nurse his crippled plane to a crash landing on Midway. Earnest received two Navy Crosses, one for the attack and one for bringing his plane back despite being hit by nine 20-mm cannon rounds and at least 69 7.7-mm machine-gun rounds. Seven other Navy Crosses were awarded to Fieberling and the other pilots and two gunners, six posthumously. Sixteen of the 18 aircrewmen on the mission were killed. (The Avenger on display in the National Naval Aviation Museum in Pensacola used to carry the name of Ensign Bert Earnest until it was painted over in favor of Lietenant [j.g.] George H. W. Bush).

The first two B-26s, still under fire by Zeroes and Japanese ships, dropped their torpedoes at the *Akagi*, which avoided them. The second B-26, "Susie-Q," flown by 1st Lieutenant Jim Muri, then

buzzed *Akagi*'s flight deck, flying the entire length level with the carrier's bridge, his wounded gunners strafing the deck, killing two Japanese anti-aircraft gunners. The third heavily damaged B-26, which may or may not have dropped its torpedo, flew directly at *Akagi*'s bridge and missed hitting Nagumo and his entire staff by a matter of feet before crashing in the water on the opposite side. Whether the B-26 was out of control, or whether the pilot was trying to deliberately hit the bridge with his crippled aircraft remains unknown, but to Nagumo it certainly looked like the latter. Collins and Muri managed to crash-land their bombers on Midway; Muri's B-26 had been hit over 500 times, and all three of his gunners were wounded. The B-26 was an extremely difficult plane to fly, but able to absorb incredible punishment. (The B-26 "Flak Bait," currently being restored at the Smithsonian's Udvar-Hazy Center, survived numerous hits in her record 207 combat missions in Europe). The mission by the B-26s at Midway was the first and last time U.S. Air Force aircraft ever attempted a torpedo attack.

Only minutes before the attack by the TBFs and B-26s, Vice Admiral Nagumo had received a code-word message from Lieutenant Joichi Tomonaga, leader of the Midway strike, signifying that a second strike on Midway would be required. Nagumo would not know until the strike recovered aboard just how badly it had been shot up by Midway's defenses: 11 aircraft shot down, 14 severely damaged, 29 hit, (almost half the strike lost or damaged), and 20 aviators killed or missing. Expecting to catch Midway by surprise, the Japanese strike was caught by surprise by the airborne Marine Corps fighters, 21 obsolete F-2A Brewster Buffalos and seven F-4F Wildcats of VMF-221 (sources conflict on how many got airborne). The Marine fighters downed and damaged three Japanese Kate torpedo bombers (being used as horizontal bombers in the strike) before the surprised Japanese Zeros turned the tables, shooting down most of the U.S. fighters (13 F-2As and 3 F-4Fs). Of the Marine fighters that recovered on Midway, only two would still be flyable. The Japanese bombers were in turn astonished by the intensity of antiaircraft fire over Midway, suffering even more losses to ground fire, while they nevertheless pummeled structures on the island. Nagumo knew none of this detail, but having barely survived being killed by the B-26, needed no further convincing that the Midway defenses were extremely dangerous and needed to be dealt with immediately. At 0715, as a result of Tomonaga's message, the nearly fatal attack by the TBFs and B-26s, and the fact the his scout aircraft had not located any U.S. ships (and should have done so by then), Nagumo promptly ordered that the 107-plane reserve on the four carriers be re-armed from anti-ship weapons to land attack (i.e., torpedoes to bombs on the Kates).

Nagumo's decision went against Admiral Yamamoto's previous verbal guidance that the reserve should remain armed with anti-ship weapons in the unlikely event U.S. ships were in the area. Neither Yamamoto nor Nagumo knew that the Japanese submarine screen had arrived on station too late to detect the passage of the American carriers from Pearl Harbor to Midway. With 20/20 hindsight, Nagumo's decision became one of the most criticized in all of naval history. Yet, Yamamoto's guidance was based on the assumption that Midway would be caught by surprise and only one strike would be needed. Nagumo opted to deal with a very real, immediate, and apparently very dangerous threat (land-based bombers), rather than a hypothetical one (U.S. carriers). The result was a chain of events that led to disaster. What Nagumo did not know was that *Enterprise* (CV-6) and *Hornet* (CV-8) were already launching 117 aircraft to strike him from a different direction.

At 0740, the No. 4 scout floatplane from the Japanese cruiser *Tone*, flown by Petty Officer First Class Hiroshi Amari, reported sighting ten U.S. surface ships northeast of Midway. The late launch of *Tone* No. 4, due to unknown reasons, has been

widely viewed as a significant contributing factor to the Japanese defeat. The reality is that had *Tone* No. 4 catapulted on time and flown the prescribed search route (instead of cutting it short) it would have completely missed the U.S. task groups. The late launch was actually one of Nagumo's few lucky breaks, and had he chosen caution and opened the range to the U.S. surface contacts while ascertaining the true force composition, he might have taken his carriers out of range of the undetected incoming *Enterprise* and *Hornet* strikes. Instead, steeped in the Japanese navy's offensive mindset, he turned toward the possible threat, and closed the range. Nagumo quickly ordered the scout plane to determine if U.S. carriers were present—so urgent was this transmission that it was sent in the clear and intercepted by U.S. radio intelligence.

Around 0800, as the Japanese Midway strike force, with many damaged aircraft, neared the Japanese carriers for recovery, a second wave of U.S. bombers from Midway attacked: 16 Marine Corps SBD-Dauntless dive-bombers of VMSB-241, led by squadron commander Major Lofton Henderson (whose name would be immortalized at Henderson Field on Guadalcanal), which had launched after the B-26s, but taken a long time to form up. None of Henderson's pilots had more than a few hours in the SBD and none had sufficient experience to conduct a true dive-bomb attack. Henderson was forced to lead his squadron on a shallower glide-bomb approach, which both decreased accuracy and increased vulnerability compared to dive-bombing. Henderson was aided because the Japanese fighter combat air patrol was at a momentary low ebb, with only nine Zeroes airborne. Nevertheless, the Zeroes attacked, and Henderson's plane was the first to go down. Six SBDs were shot down during the attack, and two more were so badly damaged they did not make it back to Midway, but yet again the Zeroes had to pursue the SBDs into their own shipboard triple-A envelope to do it and the SBDs shot down a Zero in the process. All of the surviving dive-bombers pressed their attacks and straddled the carrier *Hiryu* with numerous near-misses, which, to the amazement of even the Japanese, came through unscathed. One of the surviving SBDs, BuNo. 2106, hit 219 times, is now on display at the National Naval Aviation Museum in Pensacola (after being raised from the bottom of Lake Michigan in 1994).

Following the SBDs was a flight of 11 older, obsolete SB2U Vindicator dive-bombers, lead by VMSB-241's executive officer, Major Benjamin Norris. As the SBDs were being cut to ribbons, Norris prudently opted to attack the Japanese battleship *Haruna*, on the periphery of the Japanese formation, rather than attempt to penetrate with his vulnerable aircraft to the Japanese carriers. Norris' decision, coupled with the Zeroes being low on ammunition, enabled all but four of his aircraft to survive (two were shot down and two ditched due to battle damage while returning to Midway). However, *Haruna*, like *Hiryu*, came through multiple near-misses undamaged.

While the U.S. Marine attack was developing, a flight of 12 Midway-deployed B-17 Flying Fortress four-engine bombers, under the command of Lieutenant Colonel Walter Sweeney, arrived overhead the Japanese carrier force and commenced high-altitude bombing. Fifteen B-17s had been launched before dawn to attack the Japanese invasion force west of Midway (the force had been sighted the day before, and then had attacked by the B-17s later that day without result. Moreover, overnight, four Midway-deployed PBY flying boats had conducted a daring attack on the invasion force, with a new and untried capability to carry torpedoes. At 0153 one of the PBYs, flown by Ensign Gaylord Probst, hit a Japanese tanker, *Akebono Maru*, the only U.S. torpedo to damage a Japanese ship in the entire battle). When the Japanese carriers were sighted, Sweeney's bombers were diverted in the air to attack the carriers, and arrived about the same time as the Marine strikes. Several Japanese

Zeroes attempted to challenge the B-17s, but at that altitude the Zeroes' performance dropped off markedly, the B-17s' defensive firepower was quite formidable, and the Zeroes' weapons had little effect, so they gave up. During the course of the day, the mostly unmolested B-17s would drop over 320 bombs on Japanese ships, not one of which hit. Nevertheless, although high-altitude level bombing was already known to be notoriously ineffective against maneuvering warships, the fact is the target ships had to actively maneuver to avoid the bombs. The bombs could not just be ignored, and a wildly maneuvering carrier cannot conduct flight operations, contributing to cascading delays and disruptions on board the Japanese ships.

As the Japanese ships maneuvered violently to avoid bombs from the SBDs, Vindicators, and B-17s, USS *Nautilus* (SS-168), under the command of Lieutenant Commander William Brockman (the first war patrol for both sub and skipper), stuck her periscope up in the middle of the Japanese formation, and was quickly strafed by an alert Japanese fighter and then bombed by an alert Japanese floatplane. Brockman had been drawn to the location by smoke from the first attack by Midway aircraft. On his second attempt, he was depth-charged again before he finally got off two torpedoes at the Japanese battleship *Kirishima*—one hung in the tube and the other missed. His tenacity was rewarded with yet another sustained depth-charge barrage. As the Japanese carriers moved away toward the northeast, the destroyer *Arashi* stayed behind to keep the pesky U.S. submarine under, and her last depth charges would nearly do in *Nautilus*. *Arashi*'s high-speed transit to catch up to the Japanese carriers would prove fateful.

Also in the midst of multiple air and submarine attacks, and preparations to recover the Midway strike that had been loitering to wait out the attacks, *Tone* No. 4 scout plane reported sighting a carrier at 0820. Nagumo and his staff immediately grasped the grave implications of this, and he promptly ordered that the re-arming of the torpedo bombers in his reserve strike be halted, and those that had already been re-armed with bombs, be re-armed with torpedoes. Nagumo understood the danger: It was obvious the Americans knew where he was, and any carrier in range would have almost certainly already launched a strike (which was true—by then, two U.S. carrier strikes had pushed, and *Yorktown* would commence launching a 35-plane strike at 0838 after recovering her morning scouts, which had seen nothing).

Nagumo was faced with a number of unpalatable options. If he were to immediately spot his decks with the full reserve strike, while violently maneuvering under fire from bombs and strafing (not recommended by NATOPS), some would still be carrying inappropriate weapons. More importantly, Nagumo's Midway strike (half his aircraft) would run out fuel and have to ditch. Rear Admiral Yamaguchi actually recommended this solution, so dire did he perceive the threat. Another option was to get off a relatively small quick strike with only the ready dive-bombers, which were still struck below due to the constant cycling of fighters on the flight deck, and still had to be armed, with minimal or no fighter escort. In hindsight, this is what Nagumo probably should have done, although it violated well-established Japanese doctrine and training, which was to strike with a coordinated multi-dimensional attack (dive- and torpedo bombers with a strong fighter escort). Armchair historians have postulated all manner of creative solutions to solve Nagumo's dilemma (e.g., bring the carrier strike on deck, pull forward of the barricade, recover the Midway strike aft of the barricade and strike it below, pull back and launch—never mind that the returning Midway strike had many badly damaged and potentially uncontrollable aircraft, making this option also a recipe for disaster, nor was it something the Japanese had ever trained to do). Nagumo also probably reasoned that nothing he could do at that point could prevent the launch by the one U.S. aircraft carrier he knew about, so he

might was well wait until he had a full strike package fully and correctly armed to attack the U.S. carrier, relying on his fighter CAP to protect him, which, so far, had been effective enough at dealing with squadron-sized attacks. By not knowing that three U.S. carriers were already waiting for him, Nagumo was in extremis from the moment he launched the strike on Midway Island just before dawn, but at 0900 he had no idea the full extent of his danger, and was about to pay for the lackluster Japanese scouting effort.

Because of battle damage to aircraft, the recovery of the Midway strike took even longer than normal, and was only completed on all four carriers between 0900 and 0910. Nagumo could now begin to spot the deck for the launch of the full carrier strike, which would take about 45 minutes. The Japanese fueled their aircraft in the hanger, but could not warm them up there because the hanger decks (an upper and lower on each carrier) were fully enclosed, which would prove a major design flaw. By Japanese doctrine, torpedo bombers were loaded while in the hanger, while the dive-bombers were loaded on the flight deck. However, given the urgency, some of the torpedo bombers that had not yet completed re-re-arming with torpedoes were ordered to launch with bombs.

At 0918, as the Japanese were about to begin spotting their decks to launch the anti-ship strike, 15 low-flying aircraft were sighted coming in from the north-northeast (almost opposite the direction from Midway). These aircraft were TBD Devastator torpedo bombers of Torpedo Squadron EIGHT (VT-8) that had launched from USS *Hornet*, led by the squadron skipper, Lieutenant Commander John C. Waldron. Waldron was a highly respected naval aviator, proud of his Lakota Sioux heritage, whose leadership was revered by his squadron—the kind of leader people would willingly follow into hell, which is exactly what they did.

(2019: The "flight to nowhere" by the *Hornet* Air Group remains highly controversial to this day. I discuss the differences more fully in H-006-3 Battle of Midway: The Victory—Barely. What is certain is that *Hornet*'s torpedo squadron found the Japanese, and the rest of *Hornet*'s air group did not. I find the "flight to nowhere" hypothesis more compelling, but there are some significant countervailing aspects.)

The night before the battle, *Hornet*'s air group commander, Commander Stanhope Ring, had decided that all the escorting fighters would remain with the dive-bombers, over the heated objections of Waldron and the fighter squadron (VF-8) commander, Lieutenant Commander Samuel "Pat" Mitchell, but Ring was supported by *Hornet*'s skipper, Captain (and rear admiral–select) Marc "Pete" Mitscher. The reason for the decision is unknown. It may have been that the F-4F Wildcats had a better chance against the Zeroes if they were high, and it may also have been a "lesson learned" from Coral Sea, where the Japanese fighters went after the dive-bombers and none of the torpedo bombers were lost. Actually, the real lesson learned was that whoever got to the Japanese first would pay the price. So, no matter what Waldron did, he would not have fighter escort.

Just prior to launch, Ring and Mitscher agreed that the strike would proceed on a course almost due west. Waldron objected again, as that course would not lead to the Japanese carriers, but was overruled again by Mitscher. The reason for this decision is also unknown, but a plausible explanation is that Mitscher and Ring were "mirror-imaging" Japanese carrier operations with those of the U.S. Navy. Up to that point, none of the PBY scouts had seen more than two carriers at once, leaving two, or three, unaccounted for (based on the intelligence estimate of four or five carriers). Neither Mitscher nor Ring knew that the Japanese operated all carriers in a single formation, and not in multiple independent task groups as the U.S. did, and may have assumed that the unaccounted carriers might have been operating some distance behind (i.e., further

north-northwest) than the carriers that had been sighted. If so, Mitscher did not communicate this intent to Rear Admiral Spruance, nor did Ring communicate such intent to his own air group.

Once airborne, as Ring led Hornet's 59-plane strike on what would come to be known as the "flight to nowhere," Waldron broke radio silence to tell Ring he was going the wrong way. Ring ordered Waldron to maintain course. Waldron replied with some version of an expletive, followed by "I know where the Japanese are," and turned his squadron southwest, leading them on a beeline direct to the Japanese carriers. Waldron did not necessarily expect his squadron to arrive at the Japanese carriers first, and alone. He may have expected that the strike from *Enterprise* would have already arrived on target. Had not *Enterprise*'s dive-bombers missed and overshot the Japanese to the south, and had not *Enterprise*'s torpedo bombers launched late, Waldron would have been right. Waldron also did not know that he did in fact have fighter escort. *Enterprise*'s fighters of VF-6, led by Lieutenant James Gray, had mistakenly followed Waldron's torpedo bombers at higher altitude instead of those of Enterprise. But, not knowing that, Waldron did not know to call down Enterprise's fighters when he ran into trouble, not that it would have made any difference. When Waldron sighted the Japanese, he radioed his position and that he was commencing attack. The *Hornet* Air Group heard the transmission (but Ring still held his westerly course), but the *Enterprise* fighters did not. The number of Zeroes airborne when Waldron's squadron was first sighted was down to about 18. However, the Japanese quickly launched more fighters (which further delayed spotting the counter-strike on deck). So, not only did VT-8 run into about 30 Zeroes, it happened that the pilots of those Zeroes were a "who's who" of Japanese naval aces.

The torpedo-bombers of VT-8 never had a chance, but many began to get uncomfortably close to the northern-most Japanese carriers (*Soryu* and *Hiryu*) as the swarm of Zeroes interfered with each other trying to get a kill, but were also somewhat more cautious due to the earlier losses from defensive fire. The Japanese carriers turned away at high speed (*Soryu* and *Hiryu* were the fastest Japanese carriers, capable of 35 knots, the same top speed of the U.S. Mk. 13 air-launched torpedo) in order to put the torpedo planes into a protracted tail chase to get ahead of the carriers, giving the Zeroes even more time to engage. The slow TBDs (the aircraft had been "state-of-the-art" only four years previously), were limited even further by the speed and altitude restriction of the Mk. 13 torpedo (100 knots, 100 feet), and they began to go down one after the other. The TBDs got close enough that Waldron ordered the squadron to split in order to attempt a hammer and anvil attack on *Soryu*, but the Zeroes were able to herd the TBDs back into one ever-smaller group. Despite the massacre, not one TBD pilot deviated from his attack course. All were shot down by Japanese fighters, none by shipboard AAA. When Waldron was last seen, he was standing with one leg on his wing root and one in his flaming cockpit, possibly still trying to keep his plane airborne to the last. Waldron would never know that the detachment he left behind in Norfolk had managed to get to Midway Island and had been the first to attack the Japanese, and whose young pilots had displayed the same valor and determination as if he had been with them.

As the last remaining TBD got in range of Soryu, Ensign George "Tex" Gay tried to maneuver around the carrier, which was taking evasive action herself, for the best shot. *Soryu* won and the torpedo missed. Gay flew directly over *Soryu* (his gunner already dead or incapacitated) and was jumped by five Zeroes on the far side and shot down. Gay had stayed true to his skipper's direction before the strike that "if only one plane is left, I want that man to go in and get a hit." Gay had done his utmost, against a highly skilled Japanese carrier skipper (Captain Ryusaku Yanagimoto), who knew what he was doing. For

the remainder of the day, Gay prudently avoided being seen by the Japanese while treading water, thereby avoiding the fate of three other aviators from other squadrons who would later be "rescued" by the Japanese, and interrogated, tortured, tied with weights, and thrown over the side to drown. Gay also had a ringside seat to the disaster that befell the Japanese an hour later.

Shortly after the Zeroes finished off Torpedo EIGHT, the Japanese sighted 14 low-flying aircraft coming in from the southeast around 0940. What this meant to the Japanese was that another torpedo attack was coming in, that they were up against at least two U.S. carriers, and that their swarm of Zeroes were almost 30 miles out of position. As the Zeroes raced to intercept, many with depleted 20-mm cannon ammunition, the 14 TBDs from Torpedo Squadron SIX (VT-6) off *Enterprise*, led by squadron skipper Lieutenant Eugene "Gene" Lindsey, took aim at the southern Japanese carrier division (CARDIV 1, *Akagi* and *Kaga*). Meanwhile, the carriers began to race away from the torpedo planes to give the fighters more time to engage. These were initially mostly ineffective probably due to lack of cannon ammunition. As Japanese fighters engaged, Lindsey made the prearranged call for support from his fighter escort, which, however, was orbiting much farther north, having followed Waldron instead of Lindsey, and never heard the call. All of the escort fighters would return to *Enterprise* without firing a shot. They could see some of the Japanese carriers on the horizon, but did not know what was happening below the clouds to either VT-8 or VT-6, nor did any Japanese fighters engage them.

More of Lindsey's planes got closer to the Japanese carriers than Waldron had, and the squadron was able to execute a hammer and anvil split targeting Kaga. Just as it appeared VT-6 would put Kaga in the vice, nine freshly launched, fully armed Zeroes off *Akagi* and *Kaga* shot down Lindsey and disrupted the timing of the attack. They then proceeded to do to VT-6 what had been done to VT-8. *Kaga* was able to first outmaneuver two torpedoes coming in from her port side, and then outmaneuver three torpedoes from the starboard side. By the time VT-6's attack was over around 1000, nine TBDs had been shot down, and five torpedoes had failed to hit Kaga, although VT-6 did take one Zero down with them. Somewhat inexplicably, the Zeroes seemed to let some of the five surviving TBDs go, one of which had to ditch on the way back to *Enterprise* (its two-man crew drifted for 17 days before being rescued). Four TBDs recovered on *Enterprise*. VT-6's impact on the battle was the same as that of VT-8: By forcing continuing launch and recovery of fighters, and forcing the carriers into evasive maneuvers, they furthered the disruption and delay in Japanese attempts to spot and launch their counter-strike package.

At around 1010, the Japanese sighted yet another wave of 12 low-flying aircraft approaching from the east, heading for the northern group, *Hiryu* and *Soryu*. These aircraft were TBD Devastators from Torpedo Squadron THREE (VT-3), transferred from the *Saratoga* Air Group to replace *Yorktown*'s torpedo squadron following the Battle of the Coral Sea while *Yorktown* was undergoing rapid damage repair at Pearl Harbor. Led by Lieutenant Commander Lance M. "Lem" Massey, VT-3 had launched from *Yorktown* almost an hour after VT-8 left *Hornet* and a half hour after the delayed launch of VT-6 from *Enterprise*. Unlike VT-8 and VT-6, VT-3 did have a fighter escort, two F-4F Wildcats in close proximity and four more Wildcats at higher altitude, led by VF-3 squadron skipper, the great Navy ace, Lieutenant Commander James "Jimmie" Thach. It made no difference.

The initial Zeroes to intercept went after the Wildcats, quickly stripping them away from the TBDs. The two Wildcats providing close escort were badly shot up and barely managed to survive, although they shot down one Zero and flew another into the water. Thach's greatly outnumbered quartet immediately lost one

Wildcat. In a desperate move, Thach executed a tactic that he had previously devised, but had not implemented or practiced with his squadron. Using hand signals with his other two Wildcat pilots, he improvised what he called a "beam defense maneuver," which later became more popularly known as the "Thach Weave." The tactic, which relied on cooperation and discipline among the Wildcats, was stunningly successful, as Thach shot down three Zeroes and his wingman shot down another. The result was that more and more Zeroes, infuriated by their losses, piled into the fight. The Zeros had already shown the fatal weakness of Japanese fighter defense, which was the strong propensity to play the Japanese term for "little kids' soccer." With no radar, unreliable radios, and no real shipboard fighter direction of any kind, the Japanese fighters were pretty much on their own once they left the deck, and Thach's fight with them resulted in a further breakdown in Japanese fighter discipline in covering other sectors. Thach's fight for survival, however, left Massey's TBDs on their own, and the Japanese did to VT-3 what they had done to the previous torpedo squadrons.

Virtually every Zero airborne that was not engaged with Thach went after the TBDs, with the Wildcats and TBDs occupying the attention of roughly 30 Zeroes. Massey led his TBDs against the carrier *Hiryu*, already steaming at maximum speed in the opposite direction, resulting in yet another lengthy tail chase. Massey was one of the first to be shot down, and Zeros picked off the other TBDs one by one. At least five got close enough to execute the hammer and anvil split, but the timing was off, and *Hiryu* went into an effective high-speed circle, resulting in three torpedoes from one side and two from the other missing. Like *Soryu*'s skipper, Captain Tomeo Kaku of *Hiryu* knew his business. The cost was 10 TBDs shot down, for no hits, and one Zero shot down by "friendly fire" from *Hiryu*. Only one man would initially survive from the 10 downed TBDs; however, Ensign Wesley Osmus would be captured, interrogated, and later killed by the Japanese. At 1020, the Japanese were still at least 45 minutes from being able to launch a full counterstrike, the same position they had been in when the first TBFs and B-26s attacked just after 0700. However, with the cloud cover and their attention focused on the low-altitude fight, and strung out horizontally as well, what none of the Zeroes saw was the arrival overhead of 48 SBD Dauntless dive-bombers converging from two directions.

Corpsmen treating casualties on board USS Yorktown *(CV-5), shortly after the carrier had been hit by Japanese bombs on 4 June 1942. The dead and wounded were members of the crew of 1.1-inch machine gun mount Number 4, in the center background. They were struck by fragments from a bomb that exploded on the flight deck just aft of the midships elevator. This view looks directly to starboard from the front of the midships elevator. The aircraft crane is at left, with 1.1-inch gun mount Number 3 visible in the upper left corner. Note bearded chief petty officer walking by, flight deck clothing worn by some of those present and fire extinguisher in the lower left (80-G-312021).*

H-006-4: The Victory—Barely

H-Gram 006, Attachment 4
Samuel J. Cox, Director NHHC
May 2017

*****Revised and updated 28 October 2019*****

The near simultaneous arrival of three U.S. dive-bomber squadrons overhead the Japanese carriers at 1020 on 4 June 1942 was a total fluke. Forty-five minutes to an hour minutes earlier, the "incredible victory" and "miracle at Midway" was shaping up to be an unmitigated disaster for the Americans. As wave after wave of uncoordinated attacks by Navy and USAAF torpedo bombers and Marine Corps dive-bombers were slaughtered one after the other without a single hit, the air group from *Hornet* (CV-8) was on a course to completely miss the Japanese carriers to the north (2019: or by original counts to the south). Meanwhile, the air group from *Enterprise* (CV-6) was on a course to completely miss the Japanese carriers to the south. *Yorktown*'s (CV-5)

air group, minus the scout bomber squadron (VS-5) that Rear Admiral Fletcher held back, was launched almost an hour later, but was on a direct course to the Japanese carriers. However, with only one dive-bomber squadron and the torpedo bomber squadron, the size of the *Yorktown* strike was well within the numbers that the Japanese fighters had already proven they were able to handle.

When the first contact reports on the Japanese carriers were received, Rear Admiral Spruance, in command of TF 16, embarked on *Enterprise*, made the aggressive decision to launch full strikes from both *Enterprise* and *Hornet*commencing at 0700, while the Japanese force was still at close to maximum range for his strike aircraft. Spruance's intent was to hit the Japanese while they were in the middle of recovering their aircraft that had just struck Midway Island, and he intended to close the range to the Japanese so the U.S. strike aircraft would not have to fly so far back to recover.

To launch a full strike from a U.S. carrier required two deck spots, and could take almost an hour to launch the first deck load, then bring up the next deck load from the hangar and launch it, too. The coordination of the American strike began to break down almost immediately. *Hornet*'s two launches went relatively normally (i.e., slowly). However, the second launch from *Enterprise*, which included the torpedo bombers, took so long that Spruance ordered the dive-bombers to depart without waiting for them. (2019: Spruance would be criticized for waiting as long as he did.) Meanwhile, *Enterprise* escort fighters mistakenly followed *Hornet*'s torpedo bombers, so neither *Enterprise's* dive-bombers nor torpedo bombers had fighter escort.

(2019 update: It should be noted that although the "flight to nowhere" by the *Hornet* Air Group as I describe below has generally been accepted by contemporary historians, it differs from the traditional view [and Samuel Eliot Morison's] and provokes heated dissent from some historians. The most compelling argument against it, in my view, are reports from two *Hornet* fighter pilots that state they saw Kure Atoll during the flight. This would not have been possible had they flown the 265 course of the "flight to nowhere" school instead of the 240 course of the "traditional" school. There are also some questions regarding the interviews of some of the sources upon which the "flight to nowhere" is based. Without looking at original primary sources and notes, I can't really make a determination. In my view, the "flight to nowhere" dovetails better with Japanese reports and makes more sense to me as an explanation for why *Hornet*'s dive-bombers and fighters completely missed the Japanese. However, I would characterize it more as a hypothesis than fact. There also some who object to the "flight to nowhere" on the grounds that, if true, it impugns the reputation of the revered Pete Mitscher. However, some of those same folks have no problem criticizing Fletcher for tactical error in where he positioned the carrier task groups and Spruance for holding the *Enterprise* dive-bombers overhead too long waiting for the torpedo bombers to launch (both of which criticisms are arguably true). Anyway, one of the challenges of reading different accounts of battles is sometimes wondering if the authors were actually writing about the same battle.)

Unbeknownst to Spruance, the *Hornet* Air Group commander, Commander Stanhope Ring, with the concurrence of *Hornet*'s skipper, Captain Marc "Pete" Mitscher, had decided to take his strike on a course that would take them well north of the reported Japanese position. Even after VT-8's skipper, Lieutenant Commander John Waldron, flying far below Ring's formation, broke away to the southwest (followed by the fighters from *Enterprise*), Ring continued to the west. Even after Waldron radioed that he had made contact with the Japanese carriers, Ring continued to the west. Even after his fighters passed the point of no return, Ring continued west in search of nonexistent ships. Too late, and without asking

permission, the fighters turned back toward *Hornet*; all ten ran out of gas and had to ditch. Two fighter pilots were never recovered. Then, the skipper of *Hornet*'s dive-bomber squadron (VB-8), also running low on fuel, unilaterally decided to break from Ring's formation and head toward where Waldron had reported Japanese carriers. Unfortunately, they were already too far west, and they also missed the Japanese. The VB-8 formation fell apart as three aircraft headed toward *Hornet*, and made it, while the others headed for Midway. Two ditched short of fuel and 11 landed, after being fired upon by Marine gunners without being hit. As Ring still continued west, at 0940, the skipper of the Scout Squadron EIGHT (VS-8) unilaterally turned back toward *Hornet*. Shortly after, Ring's two wingmen bailed on him and turned back, and for several minutes Ring flew on alone on his westerly course before turning back. Ring and VS-8 recovered on *Hornet*, barely, and the planes from VB-8 that landed on Midway returned to *Hornet* later in the afternoon. With the exception of *Hornet*'s torpedo squadron, which had been wiped out, none of *Hornet*'s morning strike even sighted the Japanese.

Hornet Air Group's "flight to nowhere" remains controversial to this day, because *Hornet*'s official after-action report (and accompanying chart), signed by Mitscher, states that the *Hornet* Air Group flew on a southwest course toward the reported position of the Japanese carriers. However, it missed the enemy to the south in the same way that the *Enterprise* Air Group initially did. The report also noted that Waldron's squadron broke to the northwest and encountered the Japanese. In the report, no mention is made that Ring nearly ran the entire air group out of gas, nor does it mention the "insubordination" of Waldron, and the flight leads of the fighter, bomber, and scout squadrons who broke from Ring's formation. Although Ring's wingman maintained until his death that the *Hornet* Air Group flew southwest, every other account by survivors of the mission says they flew west (2019: There is, however, dispute over this.) However, other than the one report filed by Mitscher, none of *Hornet*'s squadrons submitted a separate after-action report, which was not in accordance with standard procedure. Even an account written by Ring found in Ring's personal papers after his death is not clear on which direction he really flew. Probably the most significant evidence is that Japanese reports all say Waldron's attack came from a northerly direction at the northernmost carriers (*Hiryu* and *Soryu*). It is possible Mitscher and Ring falsified their after-action report to cover up that they had deliberately not flown toward the reported Japanese position, but presumably had flown to a position where they thought other Japanese carriers might be. It is also pretty clear that Spruance doubted the accuracy of Mitscher's report, stating in his report to Admiral Nimitz that in any case of discrepancy between the *Hornet* and *Enterprise* reports, *Enterprise*'s was to be taken as the authoritative account. None of this kept Rear Admiral–select Mitscher from making three stars and serving as the much revered commander of U.S. carrier task forces (TF-58) later in the war, but does explain why Spruance never really trusted him.

Meanwhile, as Ring was taking *Hornet*'s air group out of the battle, the *Enterprise* Air Group commander, Lieutenant Commander Clarence Wade McClusky, was doing the same with his 33-plane dive-bomber strike. However, in McClusky's case, this was because Nagumo had aggressively turned his force to the northeast in response to the first report of U.S. surface ships in order to close the distance to the American ships rather than continue on his course toward Midway. As a result, McClusky was too far south and overshot that Japanese force. McClusky turned to the northwest, under the assumption that the Japanese carriers might have backtracked from their original course, but still no sighting. Unbeknownst to McClusky, *Hornet*'s dive-bomber squadron, VB-8, was heading in roughly the reciprocal direction from the north, but both groups were by then too far west.

McClusky's fuel state had reached a critical point, and he faced a decision whether to turn back toward *Enterprise* or to take the shorter, and presumably safer, option to land at Midway. At that point, McClusky spotted a lone Japanese ship at 0955, transiting at high speed toward the northeast. McClusky made the assumption, proved correct, that the ship was trying to catch up to the Japanese task force. The ship was the destroyer *Arashi*, which had been left behind to depth-charge the USS *Nautilus* (SS-168) after the submarine had made multiple unsuccessful attempts to attack Japanese ships.

McClusky's 33 SBD Dauntless dive-bombers (16 in Bombing SIX [VB-6], led by Lieutenant Richard Best, and 16 in Scouting SIX [VS-6], led by Lieutenant Wilmer Gallaher, plus McClusky's command plane) approached the Japanese from the southwest and came across Carrier Division 1 (*Akagi* and *Kaga*) first. Carrier Division 2 (*Hiryu* and *Soryu*) were hidden by clouds farther north, and the *Enterprise* Air Group never saw them. Japanese fighters were still down low attacking *Yorktown*'s torpedo-bomber squadron (VT-3) which had launched much later than *Hornet* or *Enterprise*, but had made a direct transit to the Japanese carriers and were attacking *Hiryu*. There were enough Japanese fighters airborne, by then around 45, to reach the altitude of the dive-bombers, but clouds blocked the view and neither the fighters nor shipboard anti-aircraft directors saw the dive-bombers until it was too late.

It was at this point that McClusky, a hero of the Battle of Midway, made a critical mistake. He had only recently transitioned from fighters to dive bombers, and he gave an order that was contrary to established doctrine. In the event of two squadrons finding two high-value targets, the lead squadron was supposed to attack the far target and the trail squadron would attack the near target. McClusky directed the lead squadron to take *Kaga*, which was the near target, while the trail squadron followed doctrine and also attacked the near target. As a result, both squadrons commenced dives on *Kaga* and none on *Akagi*.

(2019 update: There continues to be a raging historic food fight over whether it was McClusky or Best who made the error. Some accounts indicate Best got low and fast, and more significantly, ahead, of McClusky, and therefore it was his "ill discipline" that resulted in the confusion. There is also dispute between "squadron doctrine" vsersus "air group doctrine." Since Best is the hero of the new Midway movie, McClusky takes the fall.)

The first several bombs missed *Kaga*, and the carrier shot down one SBD, the only U.S. plane shot down by Japanese carrier AAA fire in the battle. Then, however, *Kaga* was deluged by hits, at least four, probably five before the Japanese lost count and the explosions of bombs became indistinguishable from secondary explosions aboard the ship. (One of the pilots who hit the *Kaga* was Lieutenant [j.g.] N. Jack "Dusty" Kleiss, who would later hit the carrier *Hiryu*, and then the heavy cruiser *Mikuma*. He was the only U.S. pilot to hit three different ships at the Battle of Midway. Dusty died in 2016 at the age of 100, the last surviving Midway dive-bomber pilot—a great account of his life is in a just-released book *Never Call Me a Hero*.)

Contrary to most early accounts of the battle, the Japanese carriers' flight decks were not packed with aircraft about to take off for the counter-carrier strike. The strike aircraft were still below in the hangars, as fighters cycled on and off the flight deck to deal with the stream of U.S. torpedo bomber raids. The aircraft in the hangar were fully fueled, and in the case of *Kaga* (and *Akagi*), some of the torpedo bombers were armed with torpedoes and some still had bombs. The resulting explosions of fueled aircraft inside the enclosed hangars were devastating. In addition, one of the first bombs to hit *Kaga* was a direct hit on the bridge, which killed Captain Jisaku Okada

and effectively decapitated *Kaga*'s leadership, with direct impact on her crew's ability to fight the fires.

Fortunately for the Americans, as soon as Best realized that both squadrons were attacking the *Kaga*, he pulled out of his dive, along with his two wingmen, and flew toward *Akagi*, but it was too late to divert the rest of the squadron. As a result, 28 or so SBDs dive-bombed *Kaga* and three attacked *Akagi*. Unable to regain enough altitude for a textbook dive-bombing attack, Best led his three-plane section into a shallower-than-normal approach. Best planted his bomb dead center on *Akagi*'s flight deck; it penetrated into the upper hangar deck, touching off secondary explosions among fueled and armed aircraft. The other two bombs were damaging near-misses, one forward and one aft, and the one aft eventually resulted in *Akagi*'s rudder being jammed hard over. (2019 update: By some accounts, it was the second plane, flown by Lieutenant [j.g.] Sonderling, that made the direct hit, and Best's was the first near-miss).

Unlike *Kaga* (and *Soryu*), which were so badly damaged by the initial bombs that there was virtually no hope of containing the fires, *Akagi* did have a chance and her crew waged an incredibly valiant, and incredibly costly, nine-hour battle to try to contain the fires and save the ship. Initially, Vice Admiral Nagumo refused to transfer his flag to another ship, because at first the damage to *Akagi* did not seem so bad. The initial damage was sufficient to prevent further flight operations. Had it not been for Best's quick thinking, *Akagi* would have come through the attack undamaged, and her air group alone, which had suffered the least loss during the Midway strike, had enough combat power to have seriously damaged or even sunk all three U.S. carriers had she been able to launch a counterstrike.

While the *Enterprise* Air Group was attacking the southern Japanese carriers, 17 SBDs of *Yorktown*'s dive-bomber squadron (VB-3), led by Lieutenant Commander Maxwell "Max" Leslie, was commencing its attack on the northern Japanese carriers, *Hiryu* and *Soryu*, and none of them saw the southern group. *Yorktow*n's air group had launched much later than *Enterprise* and *Hornet*. TF-17 commander, Rear Admiral Frank Jack Fletcher, had sent ten SBD scout bombers aloft in the early morning on a relatively short search pattern to ensure the Japanese weren't waiting to ambush him. He opted to recover his scouts before launching *Yorktown*'s strike against the Japanese. As a result, the *Enterprise* strike commenced launch at 0700 and pushed shortly before 0800, and *Yorktown* didn't commence launch until 0838. While the *Enterprise* Air Group flew its circuitous route, the *Yorktown*'s air group flew what turned out to be a direct route, and the near-simultaneous arrival over target was sheer coincidence.

Of the three carriers, *Yorktown* had the most battle experience, including surviving the battle of the Coral Sea. (*Hornet*, on the other hand, had no battle experience, except launching Doolittle's bombers). As a result, *Yorktown*'s air group was the only one that conducted some semblance of a coordinated attack. *Yorktown*'s dive-bombers (VB-3), torpedo bombers (VT-3), and fighter escort from VF-3, all flew the same path and arrived at the Japanese carrier force at about the same time, the torpedo bombers and fighters at lower altitude and the dive-bombers at high attitude. However, what Leslie did not know because of radio silence, was that *Yorktown*'s second launch was cancelled and the SBD dive-bombers of VS-5 held on deck. Fletcher was concerned that no scout aircraft thus far had seen more than two Japanese carriers, and he held VS-5 to have a reserve strike ready in case other Japanese carriers turned up in an unexpected place. While prudent, this action arguably led to the almost total destruction of Torpedo Squadron THREE, and had not the *Enterprise* Air Group belatedly found their way to the southern Japanese carriers, the *Yorktown* strike would have been insufficient to sink more than one carrier. This would have left

Fletcher (and Spruance) facing three fully alerted and highly capable carrier air groups to his three (and with *Hornet*'s fighter defenses severely depleted). In addition, due to an electrical problem with a new-type arming switch, Leslie and three other of his 17 dive-bombers accidentally jettisoned their bombs instead of arming them (they pressed with the attack to draw fire away from those that still had bombs).

In a textbook strike by U.S. (and Japanese) doctrine, the dive-bombers would strike just before the slower and more vulnerable (but also more dangerous) torpedo bombers. Fighters would keep the opposing fighters off the bombers, or strafe ships for AAA suppression if there were no enemy fighters. However, as the *Yorktown* Air Group approached the northern Japanese carriers, Leslie led VB-3 toward the far target, *Soryu*, in accordance with doctrine, assuming that VS-5 trailing him would take the near target, *Hiryu*. Had VS-5 actually been there and attacked *Hiryu*, and drawn away some Japanese fighters, the torpedo bombers of VT-3 might have had a prayer as they were attacking the first target they saw, namely *Hiryu*. With visibility unlimited at the horizon, but obscured at higher altitudes, the Japanese fighters saw the torpedo bombers and the escorting fighters coming at great distance, but never saw the dive-bombers. As a result, while VB-3 was rolling in on *Soryu*, VT-3 was being cut to ribbons attempting to torpedo *Hiryu*. *Soryu* took three solid direct hits from bombs, with the same devastating effect as on *Kaga*, while *Hiryu* came through unscathed, for which the *Yorktown* would pay. In the space of five minutes, three Japanese carriers were turned into flaming wrecks, and the course of World War II changed.

Although only one U.S. dive-bomber was lost to AAA fire, many were damaged, and Japanese fighters were still airborne and took a toll of SBDs trying to return to *Enterprise* and *Yorktown*. About half the SBDs from *Enterprise* were forced to ditch due to battle damage or running out of fuel. Seventy U.S. carrier-based aircraft were lost in the morning strikes: 37 torpedo planes, 21 dive-bombers, and 12 fighters—40 percent of the planes involved.

The undamaged carrier *Hiryu*, flagship of the very aggressive Carrier Division 2 commander, Rear Admiral Tamon Yamaguchi, launched a counterstrike by 1040, only 15 minutes after the devastating U.S. attack. *Hiryu*'s 18 "Val" dive-bombers had not participated in the Midway strike, and Yamaguchi had ordered them armed in the hangar rather than on deck as was standard practice, and therefore was able to launch the counterstrike very quickly. However, *Hiryu*'s "Kate" torpedo bombers had participated in the Midway strike (as horizontal bombers), and had suffered several losses and extensive damage These would take much longer to re-arm, refuel, and be ready for launch. Yamaguchi opted for a quick one-dimensional (dive-bomb) strike now, rather than a coordinated bomb-torpedo strike later. Eighteen Vals and six escorting Zero fighters were on the way to attack the U.S. carriers, which the Japanese knew by then to be at least three, based on how many torpedo squadrons had attacked them, and by sighting reports from their own floatplane scouts. Both carrier forces had been closing on each other while the U.S. air groups were in the air and were only about 90 miles apart by then.

The Japanese were able to get their counterstrike off so fast that their fighter escort caught up with a group of six damaged SBD stragglers from *Enterprise*, led by Lieutenant Charles Ware. In a serious tactical error, the Zeroes left their dive-bomber charges and attacked the SBDs. Ware led his section through an innovative tactic that maximized the group's defensive firepower, and two of the Zeroes were badly shot up; one had to ditch and the other managed to make it back to the *Hiryu*. The others broke off the ill-advised attack. One of the damaged SBDs ran out of fuel and ditched, its crew of Ensign Frank O'Flaherty and AMM1/c Bruno Gaido was picked up, interrogated, and later killed by the Japanese (see

H-Gram 004 for the Bruno Gaido story). One other SBD was able to ditch near *Yorktown* and its crew was rescued. The other four SBDs, with eight men, missed *Enterprise*and vanished into the Pacific without a trace. Before the Zeroes could catch up to the Japanese dive-bombers, 20 U.S. F-4F Wildcats off *Yorktown*, aided by early radar detection, intercepted the unescorted dive-bombers and shot most of them down before the four remaining Zeroes could intervene. Only seven of the Val dive-bombers made it through the fighter gauntlet, but those seven would set a stunning example of dive-bombing proficiency. Undeterred by intense AAA fire from *Yorktown*'s escorts, the dive-bombers attacked the carrier from multiple directions at once.

In a perfectly executed Japanese dive-bomb attack, the first plane to roll in normally carried a bomb fuzed to detonate immediately on impact to suppress the target's AAA fire. In this attack, the first Japanese plane to dive on *Yorktown* approached from the stern, and was hit by fire from the two quad 1.1-inch mounts located aft of the island. However, before the plane broke up, the pilot released his bomb, which scored a direct hit on the AAA mounts that had just shot him down, killing almost their entire crews, 19 men. The second plane was also hit, but scored a damaging near-miss off the stern before crashing. By the time the attack was over, the seven dive-bombers had scored three direct hits and two damaging near misses, leaving *Yorktown* billowing black smoke and slowing down. The five surviving Japanese dive-bombers reported that they left *Yorktown* in sinking condition.

Meanwhile *Hiryu* was preparing to launch her Kate torpedo bombers. However, due to losses and damage inflicted by the Marine air defenses on Midway, only 10 torpedo bombers were available instead of 18. The strike would be led by Lieutenant Joichi Tomonaga, who had led the strike on Midway that morning. His plane had been damaged in the initial encounter with Marine fighters near Midway, but he had still carried out the strike and made it back to *Hiryu*. However, the damage to his plane could not be completely fixed and it was still leaking fuel. Tomonaga knew before he launched that he would not be able to make it back. More junior pilots tried to get him to trade aircraft, but he refused. Launched at 1330, Tomonaga's strike was under orders to attack one of the undamaged U.S. carriers. However, by the time Tomonaga's strike reached the U.S. carriers, *Yorktown*, although severely damaged, had put out her fires, regained a fair amount of speed, and could still launch aircraft. From an approaching aircraft, *Yorktown* appeared undamaged.

Tomonaga's inbound low-level strike was detected later (at 1355) and the fighter defenses were more effective than the earlier dive-bomber attack. *Yorktown* F-4Fs downed one of the ten Kates with two F-4Fs shot down by Zeroes. Tomonaga went after the first carrier he saw, which appeared undamaged, but was *Yorktown*. A section of *Enterprise* Wildcats was directed by *Enterprise*'s fighter direction officer to assist *Yorktown*'s fighters against Kates that had gotten through. However, the flight leader's guns jammed, and in a hand-signal mix-up, the other three fighters broke off the intercept instead of pursuing the torpedo bombers. Equally undeterred by ineffective shipboard AAA fire, the Kates pressed their attack, splitting to attack *Yorktown* from different sides. At the last minute, *Yorktown* was able to launch several more fighters, and Tomonaga ran headlong into none other than the great Jimmy Thach, who hit Tomonaga's plane, which caught fire. Thach would later express respect for the incredible skill and bravery of the Japanese pilot (Tomonaga) who held his flaming aircraft in the air and steady, drawing fire away from other aircraft, long enough to launch his torpedo, which missed, before he crashed and was killed. Other Kates were downed by fighters, and one damaged Kate made an unsuccessful suicide run at *Yorktown*. Yorktown avoided two torpedoes, but two more hit her amidships on the port side. Unlike U.S. torpedoes,

the Japanese torpedoes exploded, with devastating effect. *Yorktown* came to a stop, and quickly developed an extremely serious list that could not be corrected. Thirty-five of *Yorktown*'s crew had been killed in the two raids. As the risk of capsizing increased, Captain Elliott Buckmaster gave the order to abandon ship as dusk approached. Rear Admiral Fletcher shifted his flag to USS *Astoria* (CA-34), with limited command-and-control capability, and transferred tactical control of the entire force to Rear Admiral Spruance. Five Kates and four Zeroes made it back to *Hiryu*.

As *Yorktown* wallowed with apparently fatal damage, *Hiryu*'s number would soon be up, as she was sighted at 1430 by one of *Yorktown*'s airborne scouts. Spruance ordered a strike, and *Enterprise* launched a polyglot strike package at 1525 made up of 26 aircraft from various squadrons including her own aircraft and *Yorktown* aircraft that had recovered on *Enterprise* (VB-3, VS-6, VB-6), led by Lieutenant Wilmer Gallaher. *Hornet*'s woes continued, as she was recovering her aircraft that had previously landed at Midway Island from the morning strike, when the order came. As a result, *Hornet*'s 16-SBD strike, led by Lieutenant Edgar Stebbins, launched almost half an hour after the one from *Enterprise*.

When the combined *Enterprise/Yorktown* flight reached *Hiryu* around 1700, the Japanese carrier was trying to launch a desperation dusk strike with her ten remaining operational aircraft. The airborne Japanese fighters put up intense resistance to defend their last flight deck, pursuing U.S. dive-bombers into their dives, shooting down two and disrupting several others. At this time, the USAAF B-17s returned, six from Midway and six that had flown directly from Hawaii, and proceeded to drop their bombs through the dive-bomber formation, hitting nothing. Captain Kaku skillfully avoided the bombs, although several of the B-17s flew low enough to hit *Hiryu* with machine-gun fire. The *Enterprise/Yorktown* strike had initially divided, with half to take *Hiryu* and the other half to take the battleship *Haruna*. However, the dive-bombers attacking *Hiryu* kept missing as the carrier continued evasive maneuvers. Concerned that *Hiryu* might not get hit, the dive-bombers targeting *Haruna*diverted and attacked the carrier. In the end, *Hiryu* took four direct hits on her forward flight deck, leaving her burning furiously and out of action, but afloat and still able to make considerable speed. One of the hits was by Lieutenant Best, hitting his second carrier of the day. By the time *Hornet*'s strike arrived, it seemed that *Hiryu* was finished, so *Hornet*'s dive-bombers attacked the heavy cruisers *Tone* and *Chikuma*, but scored no hits, leaving the *Hornet* Air Group with a perfect score for the day, zero hits. To add insult to injury, a refugee fighter from *Yorktown*, with a wounded pilot, made a hard recovery on *Hornet* and the plane's un-safed machine guns sprayed *Hornet*'s flight deck, killing Lieutenant Royal Ingersoll II, son of Vice Royal Ingersoll (Atlantic Fleet commander in chief) and four of *Hornet*'s Marine detachment, with 20 other crewmen wounded.

As darkness fell on 4 June 1942, all five damaged carriers were still afloat. Spruance, with delegated tactical command from Fletcher, withdrew U.S. forces to the east, leaving the destroyer USS *Hughes* (DD-410) behind to torpedo the abandoned and listing *Yorktown* in the event Japanese ships arrived in the vicinity. Spruance was concerned that if he continued to pursue the Japanese to the west, he could wind up in a night fight with superior Japanese surface forces, a fight that the American forces neither needed nor were prepared for, as demonstrated by the early battles near Guadalcanal several months later. Spruance's caution was subsequently widely criticized. However, Japanese records confirm his concern, because Vice Admiral Nagumo, flying his flag in the light cruiser *Nagara*, was steaming easterly at high speed with his two battleships, two heavy cruisers, and whatever destroyers were not standing by the stricken carriers. Nagumo's intent was to force exactly the night surface action

that Spruance was intent on avoiding. Farther to the southwest, four other Japanese heavy cruisers, under the command of Vice Admiral Takeo Kurita, were racing toward Midway Island intent on bombarding the airfield at night to preclude any further flight operations the next day. The submarine *I-168* was ordered to shell Midway Island, which it did, with minimal damage.

As the night wore on, with no sign of American surface forces, both Nagumo and Yamamoto came to the conclusion that further pursuit to the east would leave Nagumo's force vulnerable to air attack at daybreak, and Nagumo commenced withdrawal to the northwest. The same situation applied to the four cruisers en route Midway as they would not be able to complete their mission before daybreak, and these were ordered to reverse course. Although all four carriers were still burning, they remained afloat because their hull integrity had not been breached by torpedo hits—except *Kaga,* which had been hit by a torpedo from USS *Nautilus* that failed to explode. The Japanese still harbored hope that *Hiryu* could be saved, and *Akagi* was only given up after a lengthy fight to try to save her. *Soryu* and *Kaga* were so badly damaged that saving them was not realistic, but that didn't stop their crews from trying. Nagumo ordered *Kaga*, *Soryu*, and *Akagi* to be sunk by torpedoes from Japanese destroyers. Yamamoto initially countermanded the order to scuttle *Akagi*, considered the crown jewel of the Japanese navy, until he, too, was finally convinced that she could not be saved.

Captain Okada of *Kaga* had been killed on the bridge by one of the first bombs to hit. Captain Yanagimoto of *Soryu* decided to go down with his ship; his crew attempted to forcibly remove the highly popular and respected skipper, but he stared them down and he remained on board as his ship was torpedoed and sunk. Captain Aoki of *Akagi* also initially elected to go down with his ship, but after remaining alone on board for several hours while the scuttling was delayed, some of his crew went back on board to convince him to relent, which he finally did. The order to scuttle *Hiryu* came later, and both Rear Admiral Yamaguchi and Captain Kaku elected to go down with the ship after a surreal ceremony that included *Hiryu*'s several hundred surviving crewmembers in formation on the flight deck listening to speeches and toasts, and singing songs, before conducting a most orderly abandon ship. Nevertheless, after *Hiryu* had been torpedoed by a Japanese destroyer, approximately 30–40 *Hiryu* crewmen who had been trapped in the engineering spaces made their way topside. However, the Japanese destroyer on-scene commander elected to leave them behind. Upon learning this, *Nagumo* ordered a different destroyer, *Tanikaze*, to proceed to the *Hiryu*'s location to retrieve survivors. Meanwhile, the survivors embarked in a cutter, in which 34 endured until 17 June, when they were rescued and captured by the seaplane tender USS *Ballard* (AVD-10). After daybreak, an aircraft off the Japanese light carrier *Hosho* (Japan's first carrier, and still embarking biplanes), covering Yamamoto's battleship Main Body, discovered that *Hiryu* was still afloat. *Hiryu* finally went down later in the morning on 5 June.

As the Japanese carriers were being scuttled, the four cruisers withdrawing from the cancelled Midway bombardment encountered the submarine USS *Tambor* (SS-198) just after midnight on 5 June. In the ensuing evasive action, *Mogami* collided with *Mikuma*, and 40 feet of *Mogami*'s bow was sheared off, dramatically reducing her speed. As *Kumano* and *Suzuya* continued west at high speed, *Mikuma* remained behind to aid the limping *Mogami*. Fully expecting to be attacked by aircraft from Midway at daybreak, and unable to maneuver defensively, the skipper of *Mogami* elected to jettison all his Type 93 oxygen-fueled torpedoes (later known as "Long Lance") to preclude them exploding on board in the event of a bomb hit. *Mikuma* did not follow suit, which would seal her fate the next day.

At daybreak on 5 June, Rear Admiral Spruance reversed course and began a westerly pursuit of the Japanese, but most were already out of range (hence the after-the-fact criticism). The Americans could only muster about one air group's worth of aircraft from the three carriers, and only a handful of aircraft on Midway Island were still flyable. Nevertheless, aircraft from *Enterprise* and *Hornet* scouted to the northwest of Midway looking for the possible fifth carrier that had been estimated by U.S. naval intelligence. (*Shokaku* had not participated in Midway due to heavy damage at the Battle of the Coral Sea and *Zuikaku* had not participated due to Japanese inability to reconstitute her air group following losses at the Coral Sea. The Japanese were trying to figure out how to get the light carrier *Zuiho* [the "fifth carrier"] into the battle. *Zuiho* had been well back covering the Invasion Force west of Midway, and her 24 aircraft—12 fighters and 12 torpedo bombers—weren't likely to change the outcome of the battle). Throughout the day, the only Japanese ship the U.S. carrier aircraft spotted was the destroyer *Tanikaze*, which was trying to catch up to what was left of Nagumo's force following a fruitless search for the survivors of *Hiryu* who had been left behind the night before. Having found nothing else, over 50 dive-bombers from *Enterprise* and *Hornet* (VB-3, VB-6, VS-6, VS-5), along with nine B-17s in two waves attacked the solitary destroyer. The skipper of *Tanikaze*, Commander Motoi Katsumi, skillfully, and luckily, avoided every one of 90 bombs, although splinters from a near-miss penetrated his after turret and killed six men. One SBD crashed diving on *Tanikaze*. During the attack, one of the B-17s also accidentally jettisoned its auxiliary bomb-bay fuel tank, and the bomber ran out of fuel and was lost with all hands returning to Midway. Another B-17 ran out of fuel that day on a search mission and was also lost with her crew. Some of *Hornet*'s aircraft returned after dark, and Captain Mitscher turned on *Hornet*'s lights, an action he would become even more famous for during the Battle of the Philippine Sea in June 1944.

Meanwhile, eight B-17s and the few flyable Marine Corps dive-bombers from Midway (six SBDs and six SB2Us) attacked *Mogami* and *Mikuma*. The B-17s, flying at high altitude, hit nothing. The big, powerful heavy cruisers (the Japanese had cheated on Washington Naval Treaty limitations) put up a ferocious anti-aircraft barrage, and shot down the SB2U flight lead, Captain Richard E. Fleming, USMC. Fleming had led the section of VMSB-241's remaining SB2Us after both the skipper (Henderson) and executive officer (Norris) had been lost the previous day. Fleming pressed his attack with great determination and crashed alongside *Mikuma*. Many books on Midway with photos of the *Mikuma* identify wreckage on top of an after turret as being Fleming's SB2U Vindicator, which erroneous reports said hit the cruiser after being damaged. The wreckage is actually not Fleming's plane. Nevertheless, for his courageous attack flying an obsolete aircraft, Fleming was awarded the Medal of Honor, posthumously, which was somewhat amazingly the only Medal of Honor awarded in the entire battle. The six Marine SBDs attacked *Mogami* and the six SB2U's attacked *Mikuma*. No bombs hit.

During the day on 5 June, Captain Buckmaster led damage-control parties back onto the still-floating *Yorktown*, jettisoning everything possible in an attempt to bring the list into more manageable parameters, with some success. It increasingly appeared *Yorktown* could be saved, weather permitting. However, the carrier's position was reported by a Japanese cruiser-launched floatplane, and the submarine *I-168*, under the command of Lieutenant Commander Yahachi Tanabe, was ordered to proceed to that position and attack. The position proved quite accurate, and Tanabe sighted *Yorktown* before dawn on 6 June. Tanabe carefully and skillfully picked his way through the five screening destroyers, taking most of the morning to do so, apparently aided by abysmal acoustic conditions that seriously degraded U.S. sonar. When Tanabe put his scope up for what he thought would be

the final time, he discovered he was too close to *Yorktown*; his calculation had been thrown off because by then the carrier was moving under tow. Finally, Tanabe fired four torpedoes in a tight spread. One torpedo missed aft. One torpedo hit the destroyer *Hammann* (DD412), alongside *Yorktown*, and blew her in half. Two other torpedoes passed under the *Hammann* and hit *Yorktown* on her starboard side. Sailors on *Hammann* were seen to make a valiant effort to reach the depth-charge racks on the stern and disarm the depth charges, but the ship sank too fast. When the depth charges detonated underwater, virtually all of *Hammann*'s crew that had been blown or jumped into the water were killed, and the shock broke legs and ankles of damage control parties on *Yorktown* (81 of *Hammann*'s 251-man crew were lost).

Tanabe escaped by taking *I-168* directly under *Yorktown*, and then survived 61 depth charges with severe damage to the sub. With insufficient battery power to remain under until sunset, and leaking chlorine gas, Tanabe surfaced and prepared for a surface gun duel. U.S. destroyers initially pursued and fired on *I-168*, but Tanabe generated a smoke screen, obscured the boat, was able to get just enough charge on his batteries to re-submerge, and then make good his escape under cover of darkness. *I-168* returned to Japan for a heroes' welcome, one of the few Japanese ships, if not the only one, to do so. Despite the damage from *I-168*'s torpedoes, *Yorktown* remained afloat, but too low in the water to attempt to continue the tow. The tough ship finally went under after dawn on 7 June.

Also on 6 June, U.S. carrier aircraft caught up to *Mogami* and *Mikuma*, still trying to reach the perceived protection of Japanese aircraft based at Wake Island. The first strike was carried out by 14 SBD dive- bombers off *Hornet*, led by Commander Ring. The strike was complicated by the fact that a previous sighting had reported a battleship in the area. (Japanese heavy cruisers were constantly misidentified as battleships by aviators and submariners throughout the war). This time, Ring correctly identified *Mogami* and *Mikuma* as heavy cruisers, and flew past them in a vain attempt to find the non-existent battleship, before finally reversing course and attacking the cruisers. The cruisers shot down two SBDs, and only two bombs hit *Mogami* and none hit *Mikuma*. A second strike launched from *Enterprise* (a mix of *Enterprise* and *Yorktown* aircraft) also flew by *Mogami* and *Mikuma* is search of the unicorn battleship, before reversing course and attacking the heavy cruisers. This time, *Mikuma* sustained five direct hits and two near-misses. The three surviving flyable U.S. torpedo bombers accompanied the raid, but were under orders not to attack if there was any AAA opposition at all, so all three stayed clear. *Mikuma* absorbed enormous punishment, but still continued her slow escape attempt, demonstrating just how hard it was to sink ships using only bombs, until fires set off her torpedoes, initiating a massive secondary explosion that caused the loss of the ship. Most of *Mikuma*'s crew of 888 would go down with the ship. Twenty-three more SBDs from *Hornet* attacked later in the afternoon at 1500. One bomb hit *Mogami*, another hit the still-floating *Mikuma*, and one hit the destroyer *Arashio*, killing many of the few *Mikuma* survivors that had been rescued from the water. *Mogami*, despite severe damage from collision and air attack, and the two destroyers escaped to fight another day. Two survivors of *Mikuma* would be picked up by the USS *Trout* (SS-202).

It took a while for Admiral Yamamoto to come to grips with the catastrophic scale of the Japanese loss, and throughout 5 and 6 June his staff concocted all manner of desperate and unrealistic plans to salvage some semblance of victory out of a monumental defeat. In the end, the Japanese decided the best solution was to lie about it and claim a great victory, which was trumpeted in the Japanese press. The only person Yamamoto and senior navy leaders told the truth to was Emperor Hirohito himself; Prime Minister Tojo and army leadership were kept in the dark. When they did

learn the truth, the army leaders reacted in accord with the poisonous inter-service relationship that had existed for many years, believing that the navy got what was coming to it. To maintain the deception, neither Yamamoto nor Nagumo nor any other senior officers were relieved of command. Nagumo remained in command of the *Dai-Ichi Kido Butai* (First Mobile Strike Force) now reduced to *Shokaku* and *Zuikaku* and redesignated as Carrier Division One, until after the Battle of Santa Cruz in October 1942. The Japanese navy went to great lengths to isolate the survivors of Midway, especially the wounded, who were treated in an appalling manner as disgraced losers. All were barred from writing to or visiting family after the battle, before being shipped out to the far reaches of the empire, where the great majority would ultimately die.

Although the Japanese did manage some lessons learned from the battle, the need to cover up the results resulted in many being lost. For example, the new Japanese carrier *Taiho* incorporated one lesson learned (an armored flight deck), but not others, like damage control, and was destroyed by the same aviation fuel line ruptures that sank *Lexington* at Coral Sea and contributed to the loss of four carriers at Midway. It was not until after the war that any serious Japanese introspection began concerning the cause of their defeat at Midway (and, even then, they did not suspect their codes had been broken). Commander Mitsuo Fuchida, *Akagi*'s air group commander, who had led the attack on Pearl Harbor, but had been too ill to fly at Midway, attributed the loss to "victory disease." After six months of constant operations racking up one overwhelming victory after another, the judgment of Japanese naval leaders was clouded by a fatal combination of fatigue and hubris. It was a belief in their own superiority and invincibility that caused them to ignore all kinds of warning signs that their plans had been compromised and that the enemy was alert and waiting for them. They completely failed to understand that after the humiliation of Pearl Harbor, the Sailors of the U.S. Navy not only had the will to fight, but were prepared to take stunning losses and still keep coming without faltering. Had they taken note of how tenaciously U.S. ships had fought in the Philippines and the Dutch East Indies, this would not have come as a surprise. Although I am not a big fan of the German philosopher Nietzsche, one of his quotes is applicable: "Victory makes the victor stupid and the vanquished vengeful." Or, as Commander Minoru Genda, planning architect of Pearl Harbor, remarked to Fuchida as they watched their carriers burning on 4 June 1942: "*Shimata*" (roughly, "We screwed up").

Photo of SBD-2 Dauntless (Bureau Number 2106), one of the most historically significant aircraft in the world, and one of the most important artifacts in the U.S. Navy collection, currently on display at the National Naval Aviation Museum in Pensacola, Florida (NNAM).

H-006-5: SBD-2 Dauntless (Bureau Number 2106)

H-Gram 006, Attachment 5
Samuel J. Cox, Director NHHC
May 2017

H-006-6: SBD-2 Dauntless, BuNo 2106, Battle of Midway Veteran

H-Gram 006, Attachment 6
Hill Goodspeed, National Naval Aviation Museum Historian
May 2017

Rolling off the Douglas Aircraft Company assembly line in El Segundo, California, in December 1940, SBD-2 Dauntless (Bureau Number 2106) was delivered to Bombing Squadron (VB) 2 at Naval Air Station (NAS) San Diego, California, on the last day of 1940. For the better part of the following year the aircraft flew with that squadron, logging hours flying from the deck of the aircraft carrier *Lexington* (CV-2) and participating in large-scale military maneuvers in Louisiana.

During the first week of December 1941, with *Lexington* earmarked to deliver aircraft of a Marine scout bombing squadron to Midway Atoll, the aircraft was off-loaded from the carrier to make room for the additional aircraft and left at Pearl Harbor when "Lady Lex" put to sea. Thus, on the morning of 7 December 1941, it was on Ford Island in the middle of Pearl Harbor when the Japanese attacked. Put back aboard *Lexington* when she returned to Pearl, the aircraft embarked in the carrier to the South Pacific. On 10 March 1942, flown by Lieutenant (junior grade) Mark T. Whittier with Aviation Radioman Second Class Forest G. Stanley as his gunner, the aircraft joined 103 other planes from *Lexington* and *Yorktown* (CV-5) in a raid against Japanese shipping at Lae and Salamaua in New Guinea. Credited with pressing home his attack against a Japanese ship, Whittier received the Navy Cross.

When *Lexington* returned to Pearl Harbor following the raid, the museum's SBD-2 was again put ashore and earmarked for transfer to Marine Scout Bombing Squadron (VMSB) 241 on Midway Atoll, arriving there with eighteen other SBD-2s on 26 May 1942, on board the aircraft transport *Kitty Hawk* (APV-1).

On the morning of 4 June 1942, with 1st Lieutenant Daniel Iverson as pilot and Private First Class Wallace Reid manning the .30-caliber machine gun in the aft cockpit, the museum's aircraft was one of sixteen SBD-2s of VMSB-241 launched to attack Japanese aircraft carriers to the west of Midway. Approaching the enemy carrier *Hiryu*, the Marine planes came under fire from antiaircraft gunners and fighters of the enemy combat air patrol. Iverson, with two Japanese Zero fighters following him down in his dive, released his bomb at an altitude of 800 feet. During his egress from the target area, the Zeroes on Iverson's tail were joined by two others, which pursued the Dauntless for miles. Enemy fire holed Iverson's plane 219 times, knocking out his hydraulic system and wounding Reid. One bullet came so close that it clipped Iverson's throat microphone cord. Nevertheless, the pilot managed to return to Midway, making a one-wheel landing on the atoll. His was one of only eight SBD-2s of VMSB-241 to return from the attack against the Japanese fleet. For their actions, Iverson received the Navy Cross and Reid was awarded the Distinguished Flying Cross.

Returned to the United States, the museum's SBD-2 was repaired and eventually assigned to the Carrier Qualification Training Unit (CQTU) at NAS Glenview, Illinois. On the morning of 11 June 1943, with Marine 2nd Lieutenant Donald A. Douglas Jr. at the controls, the aircraft ditched in the waters of Lake Michigan during an errant approach to the training carrier *Sable* (IX 81). Douglas was retrieved from the water by a Coast Guard rescue boat, but his aircraft sank to the bottom of the lake.

Recovered in 1994, the aircraft underwent extensive restoration at the museum before being placed on public display in 2001. Elements of its

original paint scheme when delivered to the fleet are still visible on its wings and tail surfaces. A survivor of the Pearl Harbor attack and two combat actions, including the famous Battle of Midway, it is one of the most historic aircraft in existence anywhere in the world.