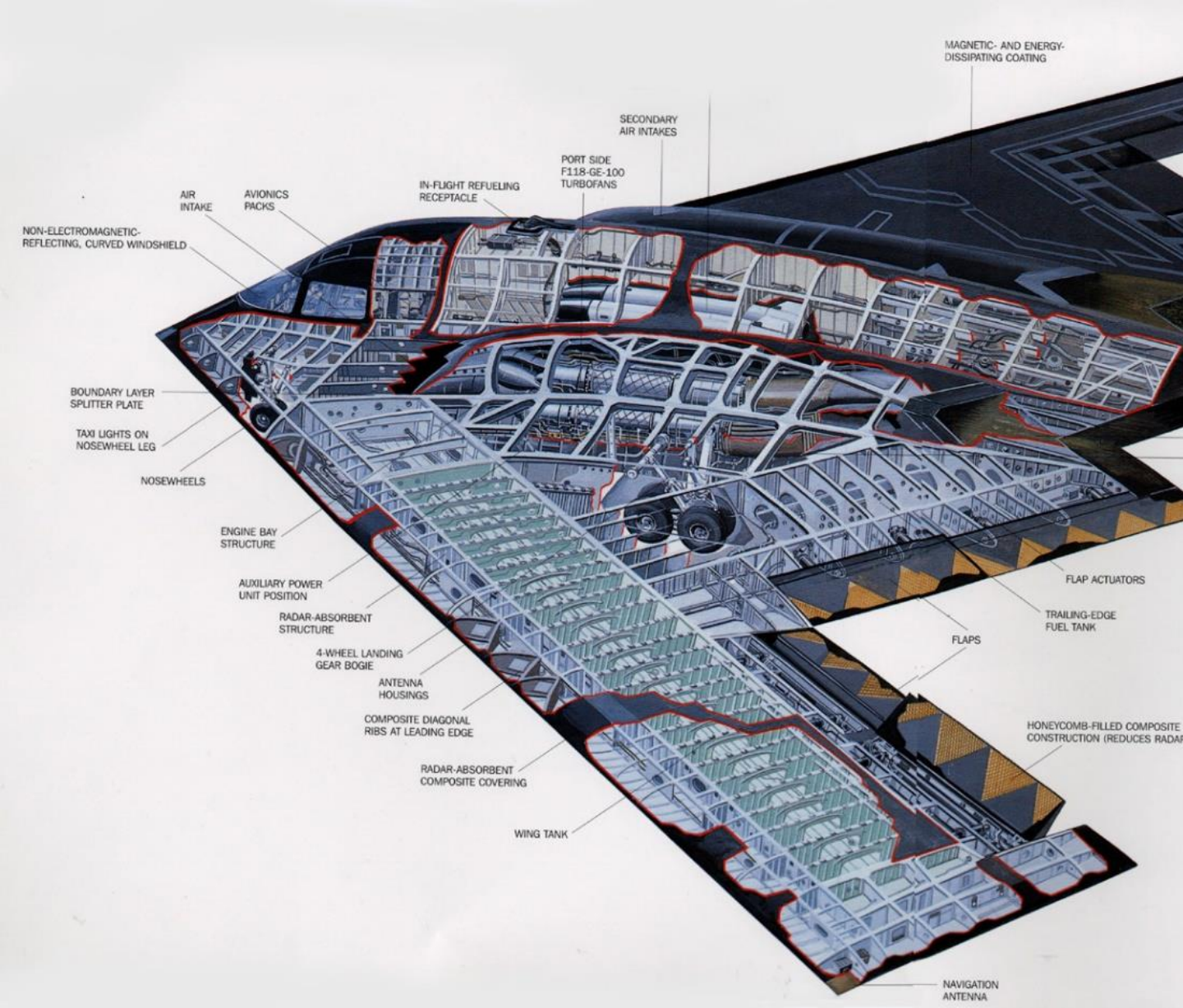
The Raid



In the B-2, the only inhabitable space is the cockpit, and the flight crew consists of merely two people. Though they are cross-trained to perform any role in flight, the one in the right seat is the mission commander, who handles the weapons and military communications, and the one in the left seat is considered the pilot, who performs the lesser tasks of flying the airplane and dealing with air traffic control. On that January morning, all of the crew members were mid-ranking men

and graduates of advanced B-2 training at the United States Air Force Weapons School, in Nevada. The airplanes had been fawned over for days by ground crews, but in fine aeronautical tradition the responsibility for their condition lay ultimately with the pilots. They loaded their gear into the cockpits, gaining access by climbing a short ladder and pulling themselves up through a hatch in the floor. They then performed a traditional walk-around, followed by extensive system checks and flight-plan entries. This took about 90 minutes. No problems were discovered. They closed the cockpit hatches, strapped into their seats, and while still in the hangars started their engines. Each B-2 has four jet engines—not clunky cylinders but turbofans embedded sleekly in the wings, like gills in a shark, so as to limit radar, infrared, and acoustic signatures. The engine start is

Once the engines had started, the B-2s emerged in unison from their hangars and pivoted to form a single-file line. A low overcast blackened the sky. The air was cold and moist—conditions conducive to engine-induction icing while the plane is idling on the ground, one of several weather-related weaknesses from which the B-2 suffers as a result of the uncompromising purpose of its design. Because of the potential for icing, the pilots were eager to get their ships into the air. Spaced 500 feet apart, the B-2s taxied briskly toward the top of the runway—an array of wings with no fuselages, no tails, and no vertical stabilizers, barely recognizable as airplanes except for their hefty landing gear and the whine of their hidden engines. The first three took off 30 seconds apart and were swallowed by the night. The others, which had been spun up in case the primary aircraft experienced problems, taxied back to their hangars and shut down. When I later expressed surprise at this level of redundancy, one of the pilots explained that it had been necessary to ensure the bombs would be released at the chosen time: within the first several seconds of January 19, 2017. The timing seemed so arbitrary that I asked about the reasoning behind it. My question was amateurish, and the pilot did not appreciate it. “I was not privy to those discussions,” he said. “I just go when they tell me to go.”

The B-2s were going to Libya. The most expensive and capable tool in the Air Force arsenal had just been deployed against a group of fighters in the desert, asleep in scattered locations across two camps. The plan was for the B-2s to fly 6,000 miles and drop a 500-pound bomb on every one of those fighters.

I. Into the Night

B-2 pilots make fighter pilots look like dandies. Their mission requires them to fly straight and level, and to live the same way. What passes for jauntiness among them is the use of the word *jet* for the airplane and *gas* for the fuel. Sometimes they call themselves drivers. They give one another nicknames. But that’s as cute as it gets.

The three jets that took off last January each weighed 336,500 pounds and carried more than 129,500 pounds of gas—enough, for instance, for them to get from Missouri to Maine and back without aerial refueling. Immediately after takeoff, the drivers retracted the landing gear and

switched on the autopilot; the three airplanes turned eastward and climbed at a gentle 3,000 feet a minute, doing a relatively sedate 320 miles an hour. Once they reached the mid-30,000-foot range, they cruised, maintaining a stacked-in-trail formation: the lead airplane lowest, followed by the second airplane a little way back and slightly higher, followed by the tail airplane in the same basic geometry. With the seats raised high, visibility from the cockpits was good. The seats were extremely comfortable, and part of an elaborate ejection system. Crews are required to wear helmets and masks during phases of flight when ejection might be required—on takeoff, landing, and aerial refueling, and over hostile territory. For now the pilots removed the gear and put on Bose headsets.

The ride was smooth and above the weather, under winter stars and a waning moon. Their course passed south of Chicago, north of New York, and across New England. Traffic was light. The commander of the lead airplane was a slightly built captain in his early 30s with a wife and an infant daughter at home. He probably should have taken the opportunity to unstrap from his seat and stretch out in the back of the cockpit. The space there is occupied by a toilet, a microwave oven, and typically a couple of Styrofoam coolers containing food the pilots pack for themselves. It allows just enough room for an average-size man to lie down. Managing sleep on long-duration flights is a crucial part of the job. Some crews bring a cot for the purpose, and others roll out a camping pad. For this flight, the commander didn't even try.

I'll call him Scatter. He was flying his first combat mission. He had been preparing for it for 10 years. I can say this much about him: He grew up in Pittsburgh, graduated from high school in 2003, and went to college in North Dakota to get a degree in aviation. He wanted to be an airline pilot. He had a cousin who had been an Army tank commander in Kosovo. His cousin said, "Hey, man, you should check out the military. I think you'd be good at it." Scatter joined the ROTC, enjoyed it, and received his Air Force commission upon graduation, in 2007. By then he had several commercial-pilot licenses. The Air Force sent him to pilot training in Texas for two years and assigned him to fly B-52s out of Louisiana. He flew B-52s for the next three years, accumulating 900 hours of flight time.

In 2013 he transferred to the B-2, which he called a pretty cool airplane, the varsity bomber, and one that, unlike the old-fashioned, overcrewed B-52, involves its pilots fully in all aspects of the flight. There was a negative to the move as well: Because Whiteman had more than 100 B-2 pilots, and because 100 hours of maintenance were required for every hour of flight, time at the controls was extremely limited—no more than 100 hours a year—and it could be a struggle to meet the minimum combat-readiness requirement of two flights a month. So Scatter, who had just emerged from intensive training at the Air Force Weapons School, considered himself lucky to have met the minimum, and then to have been chosen to command the lead ship that night. He was up past his bedtime, but not inclined to doze off.

Over Maine, in the darkness, the planes joined up with four KC-135 tankers—one to fuel each of the three B-2s, and a spare to provide redundancy. The KC-135 is a four-engine jet, a derivative of the old Boeing 707. It carries a crew of three or four. These had flown to the intercept from bases as far away as California. Scatter led his flight into a modest descent, to altitudes where the heavily laden B-2s would have more thrust available for maneuvering. The formation then split apart as each airplane approached its assigned tanker from behind and below. Aerial refueling is the most challenging piece of flying that B-2 pilots face. It is accomplished entirely by hand, with the autopilot off, in all weather conditions, sometimes with both airplanes blacked out. It requires the B-2 to be held in an unusually restrictive position in relation to the tanker, and specifically to the boom that delivers fuel through a door located on the top of the bomber, aft of the cockpit and out of sight.

Whoever came up with that design did not have pilots' needs much in mind. When I mentioned this to Scatter, he shrugged it off. He said, "The airplane is very much built to go into combat and be low-observable. It is not built to make it easy on us. For us to fly in weather or even for us to fly in a national airspace system, I can't even just tell my airplane to go to a five-letter fix"—the worldwide navigational waypoints embedded in the databases of other aircraft—"I have to enter the lat./long., because the airplane is designed to go bomb a country. It's not designed to fly into LAX."

The B-2 is designed to fly into the maelstrom when Los Angeles is burning and GPS signals have been jammed. It is made to defeat the world's most advanced air-defense systems. In addition to its conventional navigational capabilities, it has autonomous systems that operate independently from any ground- or space-based transmitters. The primary one is an inertial unit that slowly drifts, as inertial units do, but can be recalibrated in flight by using a stellar navigation system that observes stars day and night, or alternatively by using the airplane's synthetic-aperture radar to pick out ground features at thousands of locations worldwide, which are known to an airborne database. It is impressive what you can persuade yourself to think you need once a supplier like Northrop perceives that there is no limit to cost.

But fighting a nuclear war is getting ahead of things. The intended target now was a fractured country with no air defenses at a time when GPS satellites were functioning unimpeded, and indeed would be guiding the bombs. The refueling took 15 minutes. When it was over, the tanker crews went off to land somewhere local and get some rest. Dawn was approaching. The B-2s climbed back to cruising altitude, and their crews ran a final operational check. It showed that every system and weapon in all three airplanes was functioning correctly. Scatter cleared the third B-2 to return to Missouri, and he led the flight, now of two, into the first Atlantic crossing of his bombing career.

II. Squirters

The origin of the mission was the NATO intervention in Libya in March 2011, during the Arab Spring—an initiative that President Barack Obama later admitted was one of the worst of his administration. The intervention meant that the United States would be married to the confusion that followed the downfall of the Libyan dictator Muammar Qaddafi. Qaddafi came from the coastal town of Sirte, halfway between Tripoli and Benghazi. In strongman style, he had spent decades building it into a monument to himself. After he was driven from Tripoli, he retreated to Sirte, and for a few months made a stand, until rebels overran the place.

On October 20, 2011, an American drone strike stopped a convoy in which he happened to be fleeing. Rebels captured and killed him. By then, fighting and air strikes had nearly destroyed Sirte. The long-suffering residents began rebuilding under the precarious protection of a militia with Islamist ties, while the rest of Libya descended into a welter of factions aspiring to national power. In 2014, soon after the Islamic State gained ground in Syria and Iraq, Libyan militants began declaring their allegiance to its leader, Abu Bakr al-Baghdadi, and his cause. By early 2015 they were able to infiltrate Sirte, shift the aspirations of the militia members in place, and declare the town part of the blessed caliphate. Militants from outside Libya joined them, until their numbers in the city swelled to about 2,000. They imposed their version of Islamic law, leveled usurious taxes, and committed various atrocities. They made propaganda videos of their heroics and posted them online.

In Washington this was seen as America's problem. Ever since the disintegration of the Qaddafi regime, the Obama administration had been struggling to invent a new Libyan state—one not quite to its taste, but complete at least with a single capital and government. The solution settled on by the international community was an assembly that was founded in late 2015 as the Government of National Accord and declared by foreign diplomats to be the sole legitimate executive authority in Libya, even though it could not control the capital and much of Libya violently opposed it.

In 2016, militia forces from the city of Misrata, apparently seeking legitimacy, declared their allegiance to the Government of National Accord and with 6,000 fighters advanced to retake Sirte from Isis. They arrived in May and got bogged down in house-to-house fighting against die-hard militants holding strong positions. Overseeing the battle from afar was the U.S. Africa Command, one of the Pentagon's 10 joint-combat groups, based in Stuttgart, Germany. Africa Command had a few Special Forces on the ground to observe and advise, as well as drones over the city and a wealth of other resources as needed. The drones were flown remotely by pilots in the United States. Early in the fight they were given authority to fire on individually specified targets. This seems to have had little effect.

In July 2016 a new commanding officer arrived in Stuttgart, a Marine Corps general named Thomas D. Waldhauser. In August he ordered an increase in air strikes, with carrier-based Marine Corps Harrier jets and helicopter gunships joining in. Over the following few months, the U.S.

carried out nearly 500 strikes. That may seem like a lot, but these were pinpoint hits, and actually an exercise in restraint. President Obama had insisted on the need to avoid civilian casualties. Speaking about Africa Command, an observer at the Pentagon explained to me that it had faced the standard frustration of counterinsurgency campaigns: "They didn't know who was who in the zoo." Gradually, however, ISIS was worn down and defeated.

Of the original 2,000 ISIS fighters, many had died, but a good number had managed to slip away, even though checkpoints had been set up around Sirte. Africa Command knew it. In the Air Force, escapees are called "squirters" because, rather than being crushed, they squirt out from the pressure of strikes. In Sirte, some squirters turned around and launched attacks from the rear. Others squirted into the cities, where they disappeared. One relatively small group—no more than 100 men—squirted into the desert about 30 miles southwest of town. They established two camps, about 10 miles apart. The Pentagon would later state that they were planning attacks on Europe. On the evidence, they were also unusually ineffectual people. Despite the known presence of American drones overhead, they had chosen to congregate in the open desert, away from any protections offered by the presence of civilians. Their incompetence was Waldhauser's liberation. For once there was no need to know who was who in the zoo.

III. "Ready to Do This?"

Early last January, Waldhauser concluded that taking action was a matter of grave national importance. Cost was apparently not a factor. The objective was to kill every man in the two ISIS camps without placing Americans at significant risk. The use of Special Forces was unlikely to achieve either goal. Only air strikes would do. Now there was a choice to be made among weapons platforms: Navy cruise missiles; Air Force drones; Navy, Air Force, or Marine Corps fighter-bombers; Army or Marine Corps helicopter gunships; Air Force strategic bombers; or some combination of these options. In theory, the decision-making process should have been clean. Waldhauser would have come up with several courses of action as well as a recommendation, and he would have run the package through the Joint Chiefs of Staff to the secretary of defense, who would have taken it across the Potomac to the National Security Council, and ultimately to the president for a decision. The president could have responded with a simple confirmation of the recommended plan and an order to proceed—leaving the operational details to the military.

In this case, after the initial presentation was made, long discussions ensued in the White House. As usual, the weapons had constituencies at the Pentagon. The Navy in particular made a case for its cruise missiles, at more than $1 million each, because they would allow the killing to be done from offshore. The problem was that the targets, though clustered around the two camps, did not dwell in structures that could be hit, and tended to spend their days and nights widely dispersed. A cruise-missile strike would likely allow many to escape. In the end, the idea of using Air Force heavy bombers prevailed because of their ability to deliver dozens of self-steering, individually

targeted bombs; then to linger in the vicinity, waiting for surveillance assessments from the drones; and if necessary to deliver more bombs.

The Air Force has three types of heavy bombers, any of which could have done the job. The choice of the B-2 was surprising because it is by far the most expensive airplane to fly and maintain, and Libya post-Qaddafi had no air defenses that might require a stealth capability to penetrate. Bombing ignorant gunmen camped out in a desert of a non-country is a far cry from launching an attack against a modern military adversary. But the high cost of the mission was perhaps an attraction by bureaucratic if not military logic—you may lose money if you don't spend it—or the B-2s might have just needed some work to do. The Air Force says simply that after a formal process of consideration, the B-2 was deemed the appropriate platform.

Here's how the process worked: Waldhauser wanted the B-2. While his request was being studied at the White House, the Joint Chiefs of Staff formally asked Strategic Command about the availability of the assets. Stratcom is headquartered at Offutt Air Force Base, in Nebraska, where the B-29s that demolished Hiroshima and Nagasaki—the *Enola Gay* and the *Bockscar*—were built, in 1944. Stratcom occupies a building named after Curtis LeMay. It passed word of a possible B-2 strike to one of its subordinate units, Air Force Global Strike Command, which is headquartered at Barksdale Air Force Base, in Louisiana. Global Strike Command controls all of the Air Force's heavy bombers and intercontinental ballistic missiles. It contacted the 509th Bomb Wing, home to the B-2s at Whiteman. All the way down through the chains of command, the only thing anyone asked was "Are your guys available and ready to do this?" Stupid question. The 509th is the direct descendant of a bomber group formed in 1944 for the purpose of dropping nuclear weapons on Japan. It was commanded last January by the grandson of its commander then. Hundreds of military personnel at Whiteman—pilots and ground crews alike—had been training for years, and were not just ready but straining to go.

Preparations for the air strike began immediately, more than a week before the launch. The planning was shrouded in secrecy, most of it taking place in a secure basement. The room's screens displayed classified information from the military's vast command, control, and intelligence systems, and were closely linked to a team at Global Strike Command in Louisiana, which was making the targeting decisions. The feeds included video of the intended targets, streaming in from the armed drones that were maintaining a round-the-clock watch overhead. The flight crews and B-2s—both primary and standby—were selected. On Wednesday evening, January 11, six days before the launch, the munitions squadron received orders to assemble several hundred bombs. The assembly involved 3,500 pieces and 78,000 pounds of explosives.

The task, starting Thursday morning at 5 a.m., was carried out in 30 hours by more than 100 people working 12-hour shifts. The senior sergeant in charge knew that this was for real and not just another exercise. Many of the people doing the work were young recruits, new to the Air

Force, but they got the job done. The sergeant said, “Trust the process. Trust the training.” He himself seemed young to me when I met him, but he had been in the Air Force for 18 years, and was planning to retire in another two. He loved the Air Force for the lifestyle it had afforded him. He did not have to go into the field as he would have if he had joined the Army. About the field, he said, “They call it ‘the suck.’ ” Compared with any Army outpost, Whiteman is Pleasantville. The sergeant was proud of his team. Thinking back on the effort, he told me, “They were in Missouri—central Missouri—fighting terrorists all the way from here. They got to see what they had raised their hands for, what they had signed up to do.”

IV. Benghazi on the Left

In advance of the mission, the pilots were told to go home for a mandatory crew rest of three days, but they all had wives and young children, and that weekend there was an ice storm. Fatigue was of no concern to Scatter when he got the call on Monday afternoon to report for duty. He drove to the base in his paid-off 2002 Dodge Ram truck. The flight across the Atlantic was smooth. At 35,000 feet the skies were clear. To avoid the political complications of overflying countries on such a raid, the route to the Mediterranean lay farther south than the shortest great-circle course. The pilots were in contact with oceanic air traffic control. Communication between military aircraft and controllers is routine, and necessary for safety in ordinary airspace; the controllers would have assumed that the B-2s were on a training mission.

The pilots were in contact as well with their Air Force mission controller in Louisiana. And they were busy. A quarter of their bombs had been programmed before takeoff to hit any vehicles or physical structures, but the rest of the bombs had to be programmed in flight based on the latest information coming from the drones—essentially, the precise geographic coordinates of individual ISIS fighters who could be seen settling in for the night. That information began to flow to the airplanes two hours shy of their reaching the Mediterranean. The programming-and-confirmation process took hours. Scatter told me, “It’s not like Steve Jobs designed the interface.”

Night came quickly after a short day. Once they passed into the Mediterranean, the pilots used their radar to find three tankers that had come from Germany to meet them for their second refueling, and to map some thunderstorms that were active in the area at the time. Because of its composite structure, the B-2 is particularly vulnerable to static discharges and lightning strikes, and is required to stay 40 miles away from thunderstorms—twice as far as other airplanes.

During the refueling and afterward, the B-2 pilots spoke with European air traffic control. The skies cleared. Approximately 250 miles north of the Libyan coastline, the pilots turned south, switched off their transponders, and disappeared from air-traffic-control radar. They had now been flying for 15 hours. Still offshore, they went into a holding pattern that had been planned as a cushion to allow them to get the timing just right. It was nearly midnight Zulu Time—two in the morning local time. They heard the mission controller order the drones to clear out to the south,

and authorize them to return immediately after the strike to kill anyone who survived. The drones were MQ-9 Reapers armed with laser-guided supersonic Hellfire missiles. Their pilots were sitting in front of control panels back in the United States. Scatter was surprised by the blanket authorization to fire. He had never heard that one before.

The B-2s left the holding pattern and moved toward the camps at 35,000 feet, on autopilot, doing 480 miles an hour. They spread into a rough line-abreast formation, each headed for a virtual hockey puck in the sky, a "launch acceptability region," where all they had to do was release the bombs, which would guide themselves to their targets. As the B-2s approached the coast, Scatter could see the lights of Misrata on the right and Benghazi on the left. For some reason he thought of vacationing with his family in Europe. He told me that the view of Libya seemed surreal. The pilots crossed the coastline, entered their launch acceptability regions about 10 miles from their targets, opened their bomb-bay doors exactly on schedule, and released their weapons as planned. Scatter released 62 of his 80, and the other aircraft commander released 23. That left 75 bombs in the airplanes should another attack be needed. The B-2s did not lurch when the bombs were released. A slight vibration could be felt when the bomb-bay doors opened, but that was all. The doors were open only for about 30 seconds. From above, Scatter saw the impacts as orange glows through an undercast of cloud. The effect was oddly beautiful.

V. Ripped Apart

It looked different on the ground. The ISIS camps consisted of a few small structures with walled dirt yards—too small to serve as living quarters, but useful for the storage of weapons. They stood along a rarely traveled track, in terrain that for all its desolation allowed for a scattering of bushes and scrubby trees. For several weeks, the Air Force drones had watched the scene from above, establishing detailed profiles known as "patterns of life," which mapped out daily activities, mealtimes, and the outdoor locations to which individuals dispersed in the darkness to sleep—typically by certain bushes or trees. The images in daylight were high resolution and in full color. The images at night were of the ghostly night-vision kind. There were no women or children. The combatants spent their days talking and sometimes handling small arms, or perhaps explosives. They had some Japanese pickup trucks, which they tried to hide under camouflaged tarpaulins.

It was a chilly night on the ground, with temperatures in the 40s. From my own experience in that desert, I imagine that the ISIS fighters were sleeping fully clothed and wrapped in blankets, and perhaps were nestled for comfort in undulations of the terrain. If any were awake, they would not have heard the jets high overhead; the only forewarning of the attack would have been a brief sound of rushing air before the first bomb hit.

For the next 30 seconds, the bombs came at them with demonic accuracy. Each 500-pound bomb was set to detonate just above its target for maximum lethality, operating more through overpressure than fragmentation. The resulting vacuum condition sucks air from the lungs while

the shock wave pulverizes bone and ruptures or liquefies the internal organs of anyone within about 50 yards. That is how most of the ISIS fighters died: hugging the earth to no avail as their innards turned to mush and the night was ripped apart by the explosions.

For the handful of survivors, the ordeal was not yet over. The dust had hardly settled when the Reaper drones moved back in, looking for squirters. Figures could be seen in real time, running frantically. With their Hellfire missiles, the Reapers began picking off anyone spotted trying to get away. Killing with Hellfires is very different from killing with GPS-guided bombs. It requires the Reaper crews to get personal, laying a laser device on magnified images of each individual victim and then watching the missile as it strikes. A Hellfire missile has a blast radius of 50 feet and a "wounding radius" of up to 300 feet. It could kill hundreds of people as easily as it could kill one. Once the Hellfires had mopped up, the only sound in the desert was the hum of the Reapers' engines.

VI. Crickets

After releasing their bombs, the B-2s banked gently to the left and retreated to a holding position safely offshore. The ride was smooth, pressurized, and comfortable. Plans called for the bombers to stay quietly on station for another six hours in case their services were needed again. Scatter explained it this way: "You've got a desert with people camped out in the middle of nowhere. You drop a bomb on them; it's like kicking an anthill. They may run. They may need a reattack." Scatter listened on the mission-control frequency over the next hour, until the Reaper crews finished up. It was obvious, even without a formal battle-damage assessment, that the toll on the ground was heavy. Eventually the mission controller asked for any signs of life, and the Reaper crews answered in the negative. Scatter said, "Then it was just, like, crickets on the radio."

Not long after, the B-2s got the clearance to return to Missouri. They refueled over the Mediterranean south of France. Then they went over the Strait of Gibraltar and out across the Atlantic. The return trip seemed slow, as return trips do. Scatter spent much of the time writing a formal mission report. He left his seat, stretched out on the floor in the back of the cockpit, and took a two-hour nap. His pilot did the same. In the other B-2, the aircraft commander took an officially issued "go pill" to stay alert. He got out of his seat, stripped down to nothing, sponged himself with camping towelettes, washed his face, brushed his teeth, put on a fresh flight suit, and made sure that his hair looked good. He told me a lot of guys do the same thing, and it refreshes them. I took it as further evidence that the Air Force is not the Army.

They refueled again over Maine, with the same crews who had refueled them on the way out. When they got back to Missouri, the weather was low, and they had to shoot an approach to 200 feet off the ground before they could make out the runway at Whiteman. They had been 33 hours in the air. As the second B-2 came in, the control tower canceled its landing clearance because of a coyote on the runway. The pilot was too tired to be bothered. He called back, "Negative. I'm

landing this jet," and the coyote obliged by getting out of the way. When they taxied to the ramp and shut down their engines, they were surprised to find a film crew waiting, along with half the colonels on the base. A meal of steak and eggs and beer had been laid out for them.

Scatter got home that afternoon. He had been up since forever, but he'd have to stay awake a little while longer. His wife put the baby in his arms. She had an errand to run.
[Source: The Atlantic | William Langewiesche | June 24, 2018 ++]

William Langewiesche, a former national correspondent for The Atlantic and a professional pilot, has written about subjects including aviation, national security, and North Africa. Full bio