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By Elliot Ackerman and Admiral James Stavridis

Backchannel
02.23.2021 07:00 AM

2034, Part V: Sailing Into Darkness

“Somewhere in that black hole was the *Zheng He* and the rest of the Chinese fleet. And she would be expected to find and destroy it.”

Two men having a conversation in a trophy room.

Illustration: Owen Freeman
07:26 MAY 06, 2034 (GMT+8)
SOUTHEAST OF THE SPRATLY ISLANDS

Lin Bao could see early light on the water. It had been so long since he had been at sea. So long since he had held command.

Not so long, however, since their great victory in these waters, or since his government had released to the world news of its victory over the Americans—thirty-seven ships sunk from the Seventh Fleet, to include the carriers *Ford* and *Miller*—and that same stunned world had woken to a new reality: The balance of power on the ocean had shifted.

And not so long since he had received his orders from Minister Chiang himself to take command of the *Zheng He* Carrier Battle Group. He had left his wife and daughter in Beijing three days before and arrived at the South Sea Fleet Headquarters at Zhanjiang with his orders in hand.

Lin Bao was thinking of Ma Qiang as he flew out to meet what was now his ship. The two young pilots of his twin-rotor transport had invited him to sit in the cockpit's third jump seat. They were cheerful and proud of their assignment to deliver their new commander from Zhanjiang to his carrier, assuring him of a smooth flight and a perfect landing, “… which is good luck for a new commander,” one of them said with a toothy grin as they finished their preflight. Observing the sea from the cockpit, Lin Bao wondered if Ma Qiang's body was somewhere beneath him. His old classmate's dying wish having been a burial at sea. This, Lin Bao knew, was all part of a legend that Ma Qiang had orchestrated throughout his life, up to his death, which conveniently had arrived at the moment of his greatest victory. Like the naval hero Admiral Horatio Nelson at Trafalgar, Ma Qiang

had maneuvered his flagship recklessly close to the action, inviting the peril that would assure his glory. When one American aircraft, an old model F/A-18 Hornet, slipped the *Zheng He*'s defenses, the pilot did something distinctly un-American. The pilot had kamikazed into the *Zheng He*'s flight deck, right beneath the bridge.

The *Zheng He* now appeared on the horizon, as small as a postage stamp.

As his plane lined up its approach, Lin Bao imagined it wasn't all that different than the final journey taken by the Hornet. He recalled Minister Chiang's reaction to the news that several sailors, two junior officers, and Admiral Ma Qiang had been killed in this American kamikaze attack. “That was a very brave pilot,” the minister had said of the American, saying nothing of Ma Qiang, whose glory-hunting seemed to annoy Minister Chiang far more than his death seemed to disturb him. To Lin Bao, he had only added, “I suppose you'll be getting your command after all.” And if Minister Chiang had been privately dismissive of Ma Qiang and what he perceived to be the undue risks he'd taken, publicly the defense minister and the entire membership of the Politburo Standing Committee had extolled the virtues of Admiral Ma Qiang, the hero of what they had already enshrined as the Victory of the South China Sea.

Nothing like replacing a hero, thought Lin Bao, as the plane made its descent toward the flight deck. He could hear the familiar chatter of air traffic control through his headset as they held their glide path. Only two of the four arresting wires on the deck of the *Zheng He* were operational. The one-wire and four-wire had been damaged during the battle and still, more than a week later, had gone unrepaired, a deficiency Lin Bao made a note of as he imagined the work ahead when preparing this crew for the battles that surely awaited them.

Some low-level turbulence then caused their aircraft to pitch violently. As they descended below one thousand feet, Lin Bao noticed that the flight deck was crowded, or at least more crowded than usual, as off-duty members of the crew assembled to catch a glimpse of their new commander's landing. When their aircraft hit the deck, it touched down a little long. The pilots throttled the engine to give their aircraft the extra power for a second pass.

The pilot who had flubbed the landing turned toward Lin Bao in the jump seat and sheepishly apologized. “Very sorry, Admiral. That turbulence knocked us off our glide path. We'll get you in on the next pass.”

Lin Bao told the pilot not to worry about it, though privately he added this failure to the deficiencies he was cataloging at his new command.

As they gained altitude, perhaps the pilot could sense Lin Bao's disappointment, because he continued to prattle on as he lined up their aircraft for a second approach. “What I was saying before, sir,” the pilot continued, “about landing on the first pass being good luck for your command—I wouldn't put too much stock in that either.”

Another jolt of turbulence hit the aircraft.

“I remember when Admiral Ma Qiang took command,” the pilot added cheerfully. “Variable winds that day. His plane didn't land until the third pass.”

13:03 APRIL 28, 2034 (GMT+5:30)
NEW DELHI

If not for the Chinese government's decision to wait twenty-four hours before releasing the news of its victory in the South China Sea, Chowdhury never would have sprung Wedge from the Iranian embassy. In the days after that operation, Chowdhury had begun to see Wedge's detention as a first misstep in what had otherwise been a series of perfectly executed moves by the Chinese, beginning with the phone call from their M&M-eating defense attaché about the *Wén Rui* those weeks before.

The release of Major Mitchell had been a risky proposition. When Chowdhury first appeared in his room at the Iranian embassy, Wedge had looked decidedly disappointed. He later told Chowdhury that he'd been expecting a Red Cross nurse, not a string bean of a diplomat. This disappointment immediately dissipated when Chowdhury explained that the Indian government had that very morning negotiated with the Iranians for his release into their custody. Chowdhury added only one word: “Hurry.”

Chowdhury and Wedge were rushed out a back service entrance by two officers from India's Intelligence Bureau.

Later, when Wedge asked Chowdhury how his uncle had convinced the Iranian ambassador to release him into Indian custody, a move that certainly wasn't in the best interests of the Iranian government, Chowdhury had answered with a single Russian word: *kompromat*.

Don't Miss the Next Chapter

“Kompromat?” asked Wedge.

“Little boys,” Chowdhury answered, explaining that India's Intelligence Bureau made it a point to develop and cache bits of leverage over any foreigner, particularly one of ambassadorial rank. And it just so happened that this ambassador was a pederast. When Chowdhury's uncle had gone to the Iranian ambassador with the facts, the ambassador's calculation had been simple. He would face a lesser reprimand from his government for being duped by the Indians than he would if his sexual proclivities ever became known. “That's why they released you, Major Mitchell.”

“My friends call me Wedge,” he said, a wide grin stretching across his still-bruised face.

Chowdhury left Wedge at the hospital with the embassy staff, who would arrange his flight back to the US, or to wherever else the Marine Corps saw fit to send him. Chowdhury needed to return to Washington, to his duties, and to his daughter. From the hospital he was taken by car to the visitors' annex of the embassy, where he would collect his things and head to the airport. When he arrived at his quarters, he was in such a rush to pack that

he walked straight to the bedroom, right past his uncle, who was sitting on the living room sofa, waiting patiently.

“Sandeep, may I have a word?” Chowdhury jumped when he heard the baritone voice behind him. “Sorry to startle you.”

“How'd you get in here?”

The old admiral rolled his eyes, as if he were disappointed that his nephew would ask such a naive question. Patel had in a single morning used his connections within his country's intelligence services, diplomatic corps, and military to arrange the release of a downed American flyer from Iranian custody; if he could handle that, he could certainly handle one locked door. Nevertheless, Patel gave his nephew a proper answer: “A local member of your embassy staff let me in.” Then, as if sensing this explanation wasn't quite sufficient, he added, “Someone we've done some favors for in the past.” Patel left it at that.

Chowdhury agreed to have a drink with his uncle. The two of them stepped outside and into a waiting black Mercedes sedan. Chowdhury didn't ask where they were going and his uncle didn't tell him. They barely spoke on the drive, which was fine with Chowdhury. In the few days he'd been in New Delhi, he'd hardly left the embassy complex; now, for the first time in his life, he had an opportunity to absorb the city. He was struck by how much it differed from his mother's descriptions, and from the photos he'd seen growing up. Gone were the dust-choked streets. Gone were the ramshackle shanties overflowing into those same streets. And gone, too, were what his uncle once called “the inconvenient and combustible masses prone to rebellion.”

The streets were clean. The homes were new and beautiful.

The shift in India's urban demographics had begun two decades before, under President Modi, who along with the other nationalist leaders of that era had sloughed away the old India by investing in the country's infrastructure, finally bringing the Pakistani threat to heel through a decisive victory in the Ten-Day War of 2024, and using that victory to build out India's military.

Chowdhury could have gleaned the history simply by looking out the car window, at the streets without litter, at the proliferation of glass high-rises, at the packs of impeccably turned-out soldiers and sailors ambling down the freshly laid sidewalks, on leave from their tank divisions or on liberty from their ships. Modi and his acolytes had brushed away all resistance to their reforms, hiding the vast social wreckage. This makeover was hardly complete—much of the countryside still had a distance to go—but clearly the road ahead was smoothing as the century unfolded.

Finally, they arrived at their destination, which wasn't a step forward but rather a step backward in time: the Delhi Gymkhana, his uncle's club. A long, straight driveway led to its canopied entrance, while on the left and right teams of mowers kept the vast lawns perfectly cropped. Off in the distance Chowdhury could make out the grass tennis courts and shimmer of turquoise water in the swimming pool. After his uncle exchanged pleasantries with the staff, who all greeted him with obsequious bows, they were led to the veranda, which looked out on the elaborate gardens, another legacy from the club's founding at the height of the British Raj.

They ordered their drinks—gin and tonic for Patel, a club soda for Chowdhury, which evoked a disappointed sigh from the admiral. When the server left them, Patel asked, “How is my sister?” She was fine, Chowdhury answered. She enjoyed being a grandmother; his father's death had been very hard on her—but then he cut himself off, feeling suddenly as if he didn't quite possess the license to inform on his mother to her estranged brother. The conversation might have ended there were it not for a commotion inside the club, near the television above the bar. The well-turned-out patrons, most of whom wore tennis whites, along with the jacketed waiters and busboys, had gathered to listen to the news. The anchors were piecing together early reports of a massive naval engagement in the South China Sea, touching their earpieces and staring vacantly into the camera as some new fact trickled across the wire, all of which built to a single, astounding conclusion: The United States Navy had been soundly defeated.

Only Chowdhury and his uncle didn't feel the need to crowd around the television. They took the opportunity to sit, alone, on the now empty

veranda. “It will take people a while to understand what this all means,” Patel said to his nephew as he nodded toward the bar.

“We're at war; that's what it means.”

Patel nodded. He took a sip of his gin and tonic. “Yes,” he said, “but your country's defeat is just beginning. That's also what this means.”

“Our navy is as capable as theirs, even more so,” Chowdhury replied defensively. “Sure, we underestimated them, but it's a mistake we won't make again. If anything, they're the ones who've made the mistake.” Chowdhury paused and changed the inflection of his voice. “*I fear all we have done is to awaken a sleeping giant and fill him with a terrible resolve.*”

His uncle knew the quote. “Admiral Isoroku Yamamoto,” replied Patel. “But this isn't Pearl Harbor. This is a very different situation. Look around you. Look at this club. When empires overreach, that's when they crumble. This club, with its fusty Britishness, is a monument to overreach.”

Chowdhury reminded his uncle that his country had far from overreached; that it had suffered a single defeat, perhaps two if you counted the “ambush of our flotilla,” as Chowdhury referred to what had happened to the *John Paul Jones* and its sister ships. “Also,” he added, allowing his voice to enter a graver register, “we haven't even discussed our country's tactical and strategic nuclear capability.”

The old admiral crossed his arms over his chest. “Listen to yourself. *Tactical and strategic nukes.* Do you hear what you're saying? With those weapons, no one wins.”

Chowdhury glanced away, and then, speaking under his breath like a petulant teenager, he muttered, “Hiroshima … Nagasaki … we won that.”

“*We*? Who is this *we*?” His uncle was becoming increasingly annoyed. “Your family lived not three miles from here in those days. And why do you think America prospered after the Second World War?”

“Because we *won*,” answered Chowdhury.

Patel shook his head. “The British won too; so did the Soviets, and even the French.”

“I don't see what you're getting at.”

“In war, it's not that you win. It's *how* you win. America didn't used to start wars. It used to finish them. But now”—Patel dropped his chin to his chest and began to shake his head mournfully—“now it is the reverse; now you start wars and don't finish them.” Then he switched the subject and began to ask again about his sister. Chowdhury showed him a photograph of his daughter; he spoke a bit more about his divorce, his mother's antipathy toward his wife—the Ellen DeGeneres clone, as his mother called her, though Patel didn't get the reference. After listening to his nephew, his only response was a question: “Would you ever consider returning home?”

“America is my home,” answered Chowdhury. “Nowhere else on earth could I, the son of an immigrant, rise up to work in the White House. America is special. That's what I've been trying to tell you.”

Patel sat, respectfully listening to his nephew. “Do you know what I most enjoy about belonging to this club?” he asked.

Chowdhury returned a vacant gaze.

“Come,” said Patel, pushing back his chair, its legs stuttering across the tiled floor of the veranda. They stepped into a room immediately inside, which appeared to be a trophy room, the walls lined with glass-fronted cabinets that contained resplendent two-handled cups engraved with years that reached back into other centuries. Patel took Chowdhury to a framed photograph in the far corner. Three ranks of British army officers stood flanked by their turbaned sepoys. The date was nearly one hundred years ago, a decade before Indian independence. Patel explained that the photograph was of the Rajputana Rifles, whose British officers were members of this club, and that it was taken on the eve of the Second World War, before the regiment shipped out for the Pacific theater. “Most of the officers were killed in either Burma or Malaya,” said Patel. Their sepia-

toned expressions stared hauntingly back at Chowdhury. Then his uncle took a silver pen from his pocket, which he indexed on one face, that of a mustachioed orderly with a squat build and single chevron, who scowled at the camera. “Him, right there. You see the name?” Patel tapped his pen on the bottom of the photograph, where there was a roster. “Lance Naik Imran Sandeep Patel … your great-great-grandfather.”

Chowdhury stood silently in front of the photograph.

“It isn't only in America where people can change their fortunes,” his uncle said. “America is not so special.”

Chowdhury removed his phone from his pocket and snapped a photograph of his ancestor's face. “How do you think your government will respond?” he asked, gesturing toward the television and the breaking news about what seemed to be the certainty of an impending war.

“It's difficult to say,” his uncle told him. “But I believe we'll make out very well.”

“Why do you say that?”

“Because we have learned the lessons that you have forgotten.”

11:42 MAY 13, 2034 (GMT+9)
YOKOSUKA NAVAL BASE

First it was her flight home that was canceled.

Then her orders.

A medical evaluation was scheduled for her at the naval hospital.

This time she passed it.

A below-the-zone promotion came next, to rear admiral (lower half)—a one-star. A new set of orders followed. The assignment shocked her. The Navy was giving her command of the *Enterprise* Strike Group, which included the carrier itself as well as nearly twenty other ships. This all took

a week. In another week she'd meet the flotilla at Yokosuka. The night before the *Enterprise* arrived, Hunt had the first of the nightmares that would come to plague her.

In them, she is watching what is left of the *Ford* and *Miller* carrier strike groups limp into port, just three ships. She stands on the dock, where one of the ships, a destroyer, drops its gangplank. But the destroyer isn't part of the group that went out with the *Ford* and *Miller*; no, it's her old flagship, the *John Paul Jones*. Her crew files down the gangplank. She recognizes many of the young sailors. Among them is Commander Jane Morris. She is smoking a cigar, the same cigar they shared on the bridge of the *John Paul Jones* those weeks before. Which feel like a lifetime before. When Hunt approaches Morris, her former subordinate walks right past her, as if she doesn't exist. There's no malice in Morris' reaction; rather it is as though Hunt is the ghost and these ghosts are the living. Then, while Hunt is trying to gain Morris' attention, she glimpses a young petty officer coming down the gangplank and onto the dock. Hunt is drawn to him because unlike the other sailors he is wearing his dress whites, the wide bell-bottoms flaring out over his mirror-shined leather shoes. Two chevrons are sewn to his sleeve. His Dixie cup hat balances on his head at a jaunty angle. He can't be more than 25 years old. And although he's a young petty officer, he wears a dizzying array of medals and ribbons, such as the Navy Cross, lesser awards for valor, and several Purple Hearts, to include the one that got him killed. He's a SEAL. He crosses the dock, comes right up to Hunt, and takes her by the hand. He squeezes it three times—

I / LOVE / YOU—just as her father used to do. He looks at her, still holding her hand, still waiting. He is clean-shaven, strong; his torso angles toward his waist in a V. And his palm is soft. She can hardly recognize him. In her memory he is always older, worn down; she never remembered her father's medals and ribbons as shining. But they shine now, spectacularly so. His blue eyes are fixed on hers. She squeezes his hand four times—I / LOVE / YOU / TOO.

He looks at her and says, “You don't have to do this.” Then he drops her hand and walks away.

She calls after him, “Do what?” but he doesn't turn around.

This excerpt appears in the February 2021 issue. Subscribe to WIRED.

Illustration: Owen Freeman

This is where the dream always ends. Hunt had just woken from it on the morning the *Enterprise* pulled into port. She was still shaken by the question in the dream as she met her crew on the docks of Yokosuka. She caught herself looking around, as if she might see him, or even Morris, wandering among the other sailors as they descended the gangplank. Her crew was young. Most of the officers and enlisted filled positions that were one or two grades senior to their rank, a result of the Navy struggling to account for its most recent losses at sea as well as what in recent years had become perennial manpower shortages. Hunt consoled herself with the idea that if the crew was young, then it was also hungry, and she would take enthusiasm over experience.

The *Enterprise* was scheduled for a week in port after an arduous transit from Fifth Fleet and the Arabian Gulf. Its sister carrier, the *Bush*, had recently suffered the ignominy of losing a pilot over Iranian airspace, and the crew of the *Enterprise* seemed determined to avoid a similar humiliation in the performance of their mission. As to the specifics of that mission, they remained unclear. They knew the Chinese navy possessed an offensive cyber capability that they'd yet to effectively counter, and that this capability reduced their high-tech platforms—whether it be navigation, communications, or weapons guidance systems—to little more than a suite of glitching computers. Nevertheless, they understood that whatever their specific mission was, it would certainly include the more general objective of destroying, or at least neutralizing, the flotilla of Chinese vessels that threatened to destabilize the balance of power in the region.

First, however, they would need to find the Chinese fleet, specifically the *Zheng He* Carrier Battle Group. If the *Wén Rui* incident and the sinking of the *Ford* and *Miller* demonstrated anything, it was that China's cyber capability could effectively black out a vast swath of ocean. While Hunt was having her retirement canceled by Seventh Fleet Headquarters, that same headquarters had scrambled reconnaissance drones across the South China Sea and even the far reaches of the Pacific in an effort to map the disposition of Chinese naval forces and infer their next move. A variety of

drones were tasked, from the latest stealth variants of MQ-4C Tritons, to RQ-4 Global Hawks, to even the CIA's RQ-170 Sentinels, each fully integrated into America's network of satellites. However, as was the case with the F-35 at Bandar Abbas, the Chinese were able to take control of these drones once they came into a certain range, disabling their sensors and controls. The result was that all Hunt had from Seventh Fleet was a circular black hole with a radius of nearly eight hundred nautical miles. This included the waters around Japan, Vietnam, Taiwan, and the Philippines. Somewhere in that black hole was the *Zheng He* and the rest of the Chinese fleet. And she would be expected to find and destroy it.

She made a request to disable all of the avionics in one of her fighter squadrons, VMFA-323, the Death Rattlers, the only Marine squadron aboard the *Enterprise* and the only one that still used the antiquated F/A-18 Hornet airframe. She would be given two days to modify the aircraft in port, and then whatever extra time she could steal once she got underway. She would, in effect, be refashioning one of her squadrons as a "dumb squadron."

The squadron's commanding officer had stridently objected. He had told Hunt that he wasn't sure all of his pilots were up for this type of flying—without instruments, by the seat of their pants alone. She had dismissed his concerns, not because she didn't think they had merit but because she had little alternative. She knew that when they next fought, they would fight blind.

That was, of course, if she could find the *Zheng He*.

09:00 MAY 21, 2034 (GMT-4)
QUANTICO

Wedge just wanted to go home. Back to San Diego. Back to the beach. Back to 06:00 at the gym, to a 08:00 preflight, to a 09:00 first hop, then lunch, then a second hop at 13:30, then postflight and debrief, followed by drinks at the officers' club and a night spent in a bed that wasn't his own. He wanted to wear his Ray-Bans. He wanted to surf the point at Punta Miramar. He wanted to talk shit to his buddies in the squadron, and then

back that shit up when they did dogfight maneuvers at Fallon Naval Air Station.

What he didn't want?

He didn't want to be in Quantico. He didn't want the master sergeant whom Headquarters Marine Corps had assigned as his “escort while in the WDCMA” to keep following him around. “What the fuck is the WDCMA?” Wedge had asked the humorless master sergeant, who had shit for ribbons except a bunch of drill field commendations and about a dozen Good Conduct Medals.

“Washington, DC, Metro Area, sir,” the master sergeant had said.

“Are you shitting me?”

“Negative, sir.”

In the weeks since Wedge had arrived back in the States, or CONUS as the master sergeant insistently referred to it, the two had had this exchange numerous times. About Wedge's denied request to have dinner with an old college buddy who lived near Dupont Circle (“Are you shitting me?” “Negative, sir.”), or the master sergeant insisting on coming with him to the base theater when he wanted to see a movie (“Are you shitting me?” “Negative, sir.”), and, lastly—and perhaps most bitterly—each time his enforced stay in Quantico was extended by at first a day, then two, then a week, and then another (“Are you *motherfucking* shitting me?” “Negative, sir.”).

The reason, nominally, for Wedge's lengthening stay was a series of debriefings. Within the first week of coming home, he had breezed through meetings with officers from CIA, DIA, NSA, State, and even the National Geospatial-Intelligence Agency. He had explained to them in detail the malfunctions he'd had with the F-35, the series of troubleshooting procedures he'd employed (to include putting a bullet into the avionics —“When all systems became unresponsive, I disabled them manually”— which was met with skeptical looks by the career bureaucrats and defense

contractors), and he had gone on to explain his captivity. Or at least what he could remember of it.

“Tell us a bit more about this Iranian officer.”

“Guy had three fingers on his right hand, a short temper, and kicked the shit out of me. What more do you want to know?”

The bureaucrats scribbled studiously in their notepads.

Wedge was bored. That was the real problem. He spent most of his day sitting around, watching the news. “Thirty-seven ships,” he'd often say aloud, as if from nowhere. Each time he said it he hoped that someone—maybe the buttoned-down master sergeant—would refute him and tell him that none of it had happened; that the *Ford* and *Miller* with all their escorts were still afloat; that the whole thing was a dream, an illusion; that the only reality was American greatness. Wedge knew a number of the now-dead pilots from flight school in Pensacola a decade before. “We got our teeth kicked in,” Wedge would say of the battle, running his tongue over his own missing teeth. On his second week in Quantico, he had a four-hour dental appointment, and it was the dentist who revealed the real reason he was being held on base. After finishing her handiwork, a total of five replaced teeth, she held up the mirror so Wedge could take a look. “What do you think?” she asked. “You'll be in good shape for when they take you over to the White House.”

Another week passed.

So that's what he'd been waiting for, a debriefing at the White House.

The master sergeant explained to Wedge his brush with celebrity while behind bars, even showing him the *#FreeWedge* threads on social media. The president was, after all, a politician, so it seemed little wonder she wanted to have a photo op with Wedge. It was a box she needed to check. But their meeting kept getting delayed. All Wedge had to do was turn on the news to see why. The Chinese fleet had disappeared. Vanished. Vamoose. The SECDEF, the chairman of the joint chiefs, even the national security advisor—that chicken hawk Trent Wisecarver—all of them held press

conferences in which they made thinly veiled threats in response to “Sino aggression.”

The Chinese were watching. They didn't respond.

After weeks of saber rattling, the administration seemed as if it had tired itself out. The first day without a press conference was when Wedge finally received his summons to the White House. On the car ride north from Quantico, he kept checking and rechecking his service alpha uniform the Marine Shop had rush-tailored for him. The president, he was told, was going to present him with the Prisoner of War Medal. She would ask him a few questions, they'd have their picture taken, and he'd be done. As Wedge fiddled with the ribbons on his chest, he kept running his tongue over his new teeth.

“You look good, sir,” the master sergeant said. Wedge said thanks, and then stared out the window.

When they arrived at the West Wing visitor entrance, it seemed as though no one was expecting them. The Secret Service didn't have Wedge in the system for a visit that day. Wedge suggested to the master sergeant that maybe they should get a bite nearby; they could grab sliders and a couple of beers at the Old Ebbitt Grill or the Hay-Adams bar and then come back later. The master sergeant wasn't having it. He kept arguing with the Secret Service uniform division officer, who eventually called his supervisor. This went on for half an hour as phone calls were placed to the Pentagon and Headquarters Marine Corps.

Then Chowdhury walked past. He knew about Wedge's visit and volunteered to escort him inside. The master sergeant would have to wait, as Chowdhury was only authorized to escort one person at a time. While he and Wedge navigated through the cramped West Wing offices, Chowdhury apologetically explained, “Since the blackout none of our systems have come back online properly.” He then found Wedge a seat where he could wait. “I know you're on the schedule for today, but things are pretty fluid at the moment. Let me find out when we're going to get you in.” And then Chowdhury disappeared into a hive of activity. Wedge knew a crisis when he saw one. Staffers hurrying in one direction down the corridor, only to

turn around suddenly and head in the opposite direction. Heated conversations taking place in whispers.

Phones urgently answered. The men hadn't shaved. The women hadn't brushed their hair. People ate at their desks.

“So you're him?” said a man who had crept up next to Wedge, a red binder tucked beneath his arm, his frameless glasses balanced on the tip of his nose, evaluating Wedge as though he were a painting of dubious provenance.

Instinctively, Wedge stood, making a sir sandwich of this introduction. “Yes, sir, Major Chris Mitchell, sir,” he said, as though he was once again an officer candidate on the parade field in Quantico. Trent Wisecarver introduced himself not by name, but by his position, as in “I'm the president's national security advisor,” and then he weakly shook Wedge's hand as though he couldn't muster enough regard for a heartier grip. “Major Mitchell,” he continued, referring to the binder tucked beneath his arm, “you are on the schedule; however, this evening the president has an address to the nation that she's preparing for. So today has gotten a little busy. I must apologize, but I've been instructed to present you with your award instead.” Wisecarver then unceremoniously handed over the red binder, as well as a blue box that contained the medal itself. He paused for a moment, searching, it seemed, for the appropriate words, and mustered a paltry “Congratulations” before excusing himself as he rushed off to his next briefing.

Wedge wandered out of the West Wing to the visitor area, where the master sergeant dutifully waited for him. Neither spoke as they stepped out onto Pennsylvania Avenue and into the public garage where they'd left their government car. The master sergeant didn't ask for the details of Wedge's presidential visit. He seemed to intuit the unceremonious nature with which Wedge had been handled, and as if trying to cheer up the major, he reminded him that the next day they could cut his orders. He was now free to rejoin a squadron. Wedge smiled at this, and as they drove down to Quantico the two of them filled the silence with music from an oldies station. Until that station and every other was interrupted by a public service announcement followed by the president's remarks.

The master sergeant turned up the radio. Wedge stared out the window, into the night.

"My fellow Americans, hours ago our navy and intelligence services reported the appearance of a large Chinese fleet off the coast of Taiwan, an ally of the United States. In the context of recent hostilities with Beijing, this represents a clear and present danger not only to the independence of that island nation but also to our own. Recent military setbacks have limited our options for dealing with this threat. But, rest assured, those options remain ample. To quote the words of our thirty-fifth president, John F. Kennedy, 'Let every nation know, whether it wishes us well or ill, that we shall pay any price, bear any burden, meet any hardship, support any friend, oppose any foe, in order to assure the survival and the success of liberty.' This statement proved true during the darkest hours of President Kennedy's administration, to include the Cuban Missile Crisis. And it proves true today.

"To the citizens and government of the People's Republic of China, I wish to speak to you directly: Through your cyber weapons you have degraded our ability to offer a more conventional, measured response. The path of war is not one we wish to travel, but if forced, travel it we will. We will honor our commitments to our allies. Turn your ships around, return them to port, respect the freedom of navigation of the seas, and catastrophe may still be avoided. However, a violation of Taiwan's sovereignty is a red line for the United States. A violation of that red line will be met with overwhelming force at a time and place of our choosing. To stand with our allies and to stand up for ourselves, I have preauthorized the employment of select tactical nuclear weapons to our commanders in the region."

Wedge turned off the radio.

Traffic was flitting by them on I-95. Here and there, cars had pulled over on the shoulder with their hazard lights flashing into the darkness. Inside, Wedge could see the silhouettes of drivers and passengers leaning forward, listening attentively to the address on the radio. Wedge didn't need to hear anything more. He understood what was coming.

The master sergeant muttered, “Jesus, tactical nukes,” and then, “I hope they've got their shit wired tight at the White House.”

Wedge only nodded.

They drove a bit more in silence.

Wedge glanced down on his lap, to where he held the red binder with the citation for his Prisoner of War Medal, as well as the blue box that contained the decoration itself.

“Let's see that medal of yours, sir,” said the master sergeant. Wedge opened the box.

It was empty.

Neither he nor the master sergeant knew quite what to say. The master sergeant sat up a little bit straighter in his seat. He affixed his hands firmly at ten and two o'clock on the steering wheel. “No big deal,” he muttered after a moment, glancing once more into the empty box that rested on Wedge's lap. “There must've been an oversight today at the White House. Tomorrow, we'll unfuck it.”

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Illustrations by Sam Whitney; Getty Images

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By Elliot Ackerman and Admiral James Stavridis

Backchannel
02.16.2021 07:00 AM

2034, Part IV: The Spratly Islands Ambush

“Where will America be after today? In a thousand years it won't even be remembered as a country. It will simply be remembered as a moment. A fleeting moment.”

 A scene with two men at a conference table.

Illustration: Owen Freeman
12:13 APRIL 23, 2034 (GMT+4:30)
ISFAHAN

Qassem Farshad had taken the deal he was offered. Discipline against him had been decisive and swift. In less than a month he was delivered a letter of reprimand for his excesses during the interrogation of the American pilot, followed by an early retirement. When he had asked if there was anyone else he might appeal his case to, the administrative officer who'd been sent to deliver the news showed him the bottom of the page, which held the signature of the old man himself, Major General Mohammad Bagheri, chief of the General Staff of the Armed Forces. When Farshad received the letter, he'd been on suspension at home, at his family's country residence an hour outside of Isfahan. It reminded him of Soleimani's home in Qanat-e Malek. It was peaceful there, quiet.

Farshad tried to settle into a routine. In the first few days he hiked his three miles each morning and began to sort through boxes of notebooks he'd kept throughout his career. He had an idea to write a memoir, maybe something that would be instructive to younger officers. However, it was difficult for him to concentrate. He was afflicted by a phantom itching in his missing leg, something he'd never experienced before. At midday he would break from his attempts at writing and take a picnic lunch to an elm tree that sat in a field on the far end of his property. He would rest with his back to the tree and have a simple lunch: a boiled egg, a piece of bread, some olives. He never finished his meal. His appetite had recently waned, and he would

leave the remains for a pair of squirrels who lived in the tree and who, with each passing day, edged closer and closer to him in search of his scraps.

He remembered and then re-remembered his last exchange with the old general, how Soleimani had wished him a soldier's death. Farshad couldn't help it; he felt as though his outburst in Bandar Abbas had let his father's old friend down. On the other hand, striking a prisoner had never before been grounds for dismissal for a Revolutionary Guards officer. In Iraq, in Afghanistan, in Syria, and in Palestine, all through his career, intelligence work was often done with fists. He knew many who'd ascended into positions of high command by virtue of their brutality alone. But Farshad's superiors had expected more from him. They had told him—in no uncertain terms—that he was the most junior person they could trust. And he had betrayed that trust. Although they might have thought that Farshad had momentarily lost control of himself in the presence of an impertinent American flyer, it was more profound than that.

Farshad hadn't lost control. Far from it.

He had known exactly what he was doing. He had known exactly how important this American was, even if he hadn't understood every detail. What he had known was that by beating this American to a pulp, he was pushing his country closer to war with the same alliance of Western powers that had killed both his own father and the old general. Perhaps neither would be disappointed in me after all, thought Farshad. Perhaps they would be proud of me for taking our people one step closer to the inevitable confrontation with the West that our feckless leaders have long avoided. He thought of himself as seizing an opportunity that fate had thrust before him. But it seemed to have backfired and cost him the twilight of his career.

For days and then weeks, Farshad kept to his routine and eventually the phantom itching in his missing leg began to subside. He lived alone in his family's empty home, hiking his three miles, taking his walk at lunch. Each day, the pair of squirrels who lived in the tree came ever closer, until one of them, whose fur was a very rich shade of brown and who he assumed to be the male (as opposed to the female, whose tail was snowy white), had plucked up enough courage to eat from the palm of Farshad's hand. After lunch he would return home and write through the afternoon. At night he

prepared himself a simple dinner, and then he read in bed. His existence was reduced to this. After a career in command of hundreds and at times thousands of men, it surprised him how he enjoyed being responsible for himself alone.

No one stopped by. The phone never rang. It was only him.

So the weeks passed, until one morning he noticed that the single road that bordered his property was filled with military transports, even the occasional tracked vehicle. Their exhausts belched smoke. Beyond the line of trees that partially screened his house he could see them stuck in a traffic jam of their own creation as officers and noncommissioned officers barked orders at their drivers, trying to move things along. They seemed in a frenzy to reach their destination. Later that morning, as Farshad was leisurely filling a notebook with his memories, the phone rang, startling him so much that his pen skipped across the page.

“Hello,” he answered.

“Is this Brigadier Qassem Farshad?” came a voice he didn't recognize.

“Who is this?”

The voice introduced itself quickly, as though its name were designed to be forgotten, and then informed the brigadier that the General Staff of the Armed Forces had ordered a mobilization of retired and reserve officers. Farshad was then given the address of a mustering office. The building was in a nondescript part of Isfahan, far from the military's power centers in Tehran where he'd spent much of his career.

Farshad finished transcribing the particulars of where he was to report, leaving his notes on a scrap of paper. He felt tempted to ask the voice for details about whatever incident had precipitated this mobilization, but he decided against it. He thought that he knew, or at least had an instinct. When Farshad asked if there was anything else, the voice said no and wished him well.

Don't Miss the Next Chapter

Farshad set down the phone. He had a radio upstairs. He could've turned it on to find out specifically what had happened, but he didn't want to, at least not yet. It was midday and he wanted to pack up his lunch, take his walk, and sit beneath his tree, as had become his custom. Farshad knew that if he didn't report for duty there'd be no recourse. No one would dare say he hadn't done enough for the Islamic Republic.

A few weeks ago, his choice would've been an easy one; he would've packed his things and happily marched off to another war. But, surprisingly enough to him, he had come to appreciate this quieter life. He had even begun to imagine that he might settle here, in the country, with some measure of contentment.

He left the house for his walk. His stride was loose, his pace quick.

By the time Farshad reached his familiar tree, he was famished. He'd hiked nearly twice his usual distance. It was the first time in a long time that he could remember having such an appetite. With his back against the trunk of the tree, he ate. He savored each bite, angling his head upward as the blotchy sunlight filtered through the canopy of branches and fell onto his smiling face.

He was finished with his meal and on the cusp of a nap when the familiar pair of squirrels approached. He could feel the one, darker squirrel brush against his leg. When he opened his eyes, the other, smaller squirrel, the female with the snow-white tail, lingered not far behind, watching. Farshad brushed a few breadcrumbs off his shirt and placed them in his palm; it was the best he could do. The darker squirrel perched on Farshad's wrist while it dipped its head into Farshad's cupped palm. Farshad was amazed. He didn't think it possible that anything, particularly a squirrel, could be so unafraid of him, so trusting.

In his amazement, Farshad didn't notice that the dark squirrel was hardly satisfied by meager crumbs. The squirrel twitched its head toward Farshad and then, realizing that nothing else would be offered, sunk its teeth into Farshad's palm.

Farshad didn't flinch. He snatched the dark squirrel around the body and squeezed. The squirrel's mate, who had been waiting at a more cautious distance, began to run in frantic circles. Farshad squeezed harder. He couldn't stop, even had he wanted to. And a part of him did want to stop, the same part of him that wanted to stay here, under this tree. Nevertheless, he squeezed so hard that his own blood, the blood from the bite, began to seep out from between his fingers. The dark squirrel's body struggled and twitched.

Until it didn't—until to Farshad it felt as though he were squeezing an empty sponge. He stood and dropped the dead squirrel by the roots of the tree.

Its mate ran to it and glanced up at Farshad, who looked over his shoulder in the direction from which he'd come. He walked slowly back to the house, back to the slip of paper with an address on it.

06:37 APRIL 23, 2034 (GMT+8)
BEIJING

Lin Bao's new job, as the deputy commander for naval operations to the Central Military Commission, was a bureaucratic morass. Although the ministry was on a war footing, it only increased the intensity and frequency of the interminable staff meetings he needed to attend. Lin Bao often saw Minister Chiang at these meetings, but the minister had never again brought up Lin Bao's request for command of the *Zheng He*, let alone any command. And Lin Bao had no license to raise the topic. On the surface his job was suitable and important, but privately he sensed that he was a long way from a return to sea duty. Ever since the *Zheng He* Carrier Battle Group's great victory over the Americans, a panic had begun to grow within Lin Bao.

He couldn't pinpoint it to one thing, but rather to a collection of annoyances, the mundane trivialities that can, at times, make life unbearable. As the military attaché to the United States, his position had been singular and of the greatest import. Now, while his nation faced its greatest military crisis in a generation, he was stuck commuting each morning to the Defense Ministry. He no longer had the driver he'd enjoyed in Washington. When his wife needed the car to drop their daughter at school, he was forced to carpool into work. Sandwiched in the back seat of a minivan between two short officers who spoke of nothing but basketball and whose careers had dead-ended long ago, he could not imagine ever standing on the bridge of his own carrier.

These weeks had brought only exaltation for Ma Qiang. It had been announced that for his actions he would receive the Order of August First, the greatest possible military honor. Once the award was conferred on Ma Qiang, Lin Bao knew it was highly unlikely that he would ever take command of the *Zheng He*. Whatever disappointment he felt was, however, tempered by his appreciation that their recent undertaking against the Americans had initiated events beyond any one person's control.

And so Lin Bao continued his staff work. He continued to carpool into the ministry with officers he deemed inferior to himself. He never again brought up his ambition for command to Minister Chiang, and he could feel the mundane ferocity of time passing. Until it was soon interrupted—as it always is—by an unanticipated event.

The unanticipated event was a phone call to Lin Bao that came in from the South Sea Fleet Headquarters in Zhanjiang. That morning, a reconnaissance drone had spotted “a significant American naval force” sailing southward at approximately twelve knots toward the Spratly Islands, along a route that was often used for their so-called “freedom-of-navigation patrols.” Immediately after the drone observed the American ships, communications between it and the South Sea Fleet Headquarters cut off. It was the commander of the South Sea Fleet himself who had contacted the Central Military Commission. His question was simple: Should he risk sending out another drone?

Before Lin Bao could offer a thought on the matter, there was a slight commotion in his workspace as Minister Chiang entered. The mid-level officers and junior sailors who served as clerks sprang to attention as the minister breezed past them, while Lin Bao himself stood, clutching his telephone's receiver. He began to explain the situation, but Minister Chiang raised his outstretched palm, as if to save him the trouble. He already knew about the drone and what it'd seen. And he already knew his response, snatching the telephone's receiver so that now Lin Bao was only privy to one side of the conversation.

“Yes … yes …” muttered Minister Chiang impatiently into the line. “I've already received those reports.”

Then the inaudible response.

“No,” answered Minister Chiang, “another flight is out of the question.”

Again, the inaudible response.

“Because you'll lose that flight as well,” Minister Chiang replied tersely. “We're preparing your orders now and will have them out within the hour. I'd recommend you recall all personnel on shore leave or otherwise. Plan to be busy.” Minister Chiang hung up. He took a single, exasperated breath. His shoulders slumped forward as if he were profoundly tired. He was like a father whose child has, once again, bitterly disappointed him. Then he looked up and, with a transformed expression, as if energized for whatever task lay ahead, ordered Lin Bao to follow him.

They walked briskly through the vast corridors of the Defense Ministry, a small retinue of Minister Chiang's staff trailing behind. Lin Bao wasn't certain what Minister Chiang's countermove would be if it wasn't the deployment of another reconnaissance drone. They reached the same windowless conference room where they'd first met.

Minister Chiang assumed his position at the head of the table, leaning backward in his cushioned swivel chair, his palms resting on his chest, his fingers laced together. “I suspected this was what the Americans would do,” he began. “It is disappointingly predictable …” One of the underlings on

Minister Chiang's staff was setting up the secure video teleconference, and Lin Bao felt certain he knew with whom they'd soon be speaking. “By my estimation, the Americans have sent two carrier battle groups—the *Ford* and the *Miller* would be my guess—to sail right through our South China Sea. They are doing this for one reason and one reason alone: to prove that they still can. Yes, this provocation is certainly predictable. For decades, they have sent their ‘freedom-of-navigation patrols’ through our waters despite our protests. For just as long they have refused to recognize our claim over Chinese Taipei and insulted us in the UN with their insistence on calling it Taiwan. All the while we've endured these provocations. The country of Clint Eastwood, of Dwayne Johnson, of LeBron James, it can't imagine a nation like ours would submit to such humiliations for any other reason but weakness …

“But our strength is what it has always been—our judicious patience. The Americans are incapable of behaving patiently. They change their government and their policies as often as the seasons. Their dysfunctional civil discourse is unable to deliver an international strategy that endures for more than a handful of years. They're governed by their emotions, by their blithe morality and belief in their precious indispensability. This is a fine disposition for a nation known for making movies, but not for a nation to survive as we have through the millennia. And where will America be after today? I believe in a thousand years it won't even be remembered as a country. It will simply be remembered as a moment. A fleeting moment.”

Minister Chiang sat with his palms on the table, waiting. Across from him was the video teleconference, which hadn't yet established its secure connection. He stared at the blank screen. His concentration was intense, as if willing an image of his own future to appear. And then the screen turned on. Ma Qiang stood on the bridge of the *Zheng He*, exactly as he'd done six weeks before. The only difference was the yellow, gold, and red ribbon with a star in its center fastened above the pocket of his fire-resistant coveralls: the Order of August First.

“Admiral Ma Qiang,” the minister began formally, “a reconnaissance flight from our South Sea Fleet has gone missing approximately three hundred nautical miles east of your current position.” Ma Qiang straightened up in

the frame, his jaw set. It was obvious he understood the implications of such a disappearance. The minister continued, “Our entire constellation of satellites are now under your command. The Central Military Commission grants you all contingent authorizations.”

Ma Qiang nodded his head slowly, as if in deference to the great scope of the mission he was now set upon, which Lin Bao implicitly understood was no less than the destruction of two US carrier battle groups.

“Good luck.”

Ma Qiang nodded once again.

The connection switched off and the screen went blank. Although the conference room was far from empty, with various staff members entering and exiting, it was only Lin Bao and Minister Chiang sitting at the table. The minister stroked his smooth round chin, and for the first time that morning Lin Bao detected a hint of uncertainty in his expression.

“Don't look at me like that,” said Minister Chiang.

Lin Bao averted his eyes. Perhaps his expression had betrayed his thoughts, which were that he was observing a man who had condemned thousands of other men to their deaths. Did any of them really think that their navy, despite its advanced cyber capability, was up to the task of destroying two US carrier battle groups? The *Gerald R. Ford* and *Doris Miller* sailed with a combined force of forty vessels. Destroyers armed with hypersonic missiles. Utterly silent attack submarines. Semisubmersible frigates. Guided missile cruisers with small, unmanned targeting drones and long-range land-attack hypersonic missiles. Each possessed the latest technology manned by the world's most highly trained crews, all of it watched over by a vast constellation of satellites with deep offensive and defensive cyber capabilities. Nobody knew this better than Lin Bao, whose entire career had centered on his understanding of the United States Navy. He also understood the United States itself, the nation's character. It was woefully misguided for the leaders of his country to believe diplomatic niceties could de-escalate a crisis in which one of their allies had taken an American pilot prisoner and in which their own navy had destroyed three American ships.

Did leaders like Minister Chiang really believe that the Americans would simply cede freedom of navigation in the South China Sea? American morality, that slippery sensibility, which had so often led that country astray, would demand a response. Their reaction of returning with two carrier battle groups was completely predictable.

Minister Chiang insisted that Lin Bao sit beside him while all through that day a procession of subordinates entered and exited the conference room, receiving orders, issuing updates. The morning extended into the afternoon. The plan took shape. The *Zheng He* maneuvered into a blocking position south of the Spratly Island Chain, deploying in attack formation toward the last recorded position of the *Ford* and *Miller*. The American carrier battle groups would in all likelihood be able to get off a single salvo of weaponry before the *Zheng He* could disable their guidance systems. After that, the proverbial elephant would be blind. The American smart weapons would no longer be smart, not even dumb; they'd be brain-dead. Then the *Zheng He*, along with three surface action groups, would strike the *Ford* and *Miller*.

That had been the plan.

But by late afternoon, there was still no sign of the Americans.

Ma Qiang was on the video teleconference again, updating Minister Chiang as to the disposition of his forces, which at that moment were deployed in a racetrack formation extending over dozens of nautical miles. As Ma Qiang spoke of current conditions at sea, Lin Bao glanced surreptitiously at his watch.

“Why are you looking at your watch?” snapped Minster Chiang, interrupting the briefing.

Lin Bao felt his face turn red.

“Do you have somewhere else to be?”

“No, Comrade Minister. Nowhere else to be.”

Minister Chiang nodded back toward Ma Qiang, who continued on with his briefing, while Lin Bao settled exhaustedly into his chair. His carpool had left fifteen minutes before. He had no idea how he would get home.

04:27 APRIL 26, 2034 (GMT+5:30)
NEW DELHI

The phone rang. “Are you up?”

“I'm up now.”

“It's bad, Sandy.”

“What's bad?” he asked Hendrickson, swallowing the dryness from his throat as he rubbed his eyes, his vision slowly coming into focus so he could read the digital display of his alarm clock.

“The *Ford* and the *Miller*, they're gone.”

“What do you mean *gone*?”

“They got the drop on us, or shut us down, or I don't even know how to describe it. Reports are nothing worked. We were blind. When we launched our planes, their avionics froze, their navigation systems glitched out and were then overridden. Pilots couldn't eject. Missiles wouldn't fire. Dozens of our aircraft plunged into the water. Then they came at us with everything. A carrier, frigates and destroyers, diesel and nuclear submarines, swarms of unmanned torpedo boats, hypersonic cruise missiles with total stealth, offensive cyber. We're still piecing it all together. The whole thing happened middle of last night … Christ, Sandy, she was right.”

“Who was right?”

“Sarah—Sarah Hunt. I saw her weeks ago when I was in Yokosuka.” Chowdhury knew that the board of inquiry had cleared Hunt of all culpability in the Battle of Mischief Reef and the loss of her flotilla, but he also knew the Navy had wanted to consign her defeat to a fluke. That would be far easier than taking a hard look at the circumstances that led to it. It

would now be impossible for the Navy—or the nation—to ignore a disaster on this scale. Thirty-seven warships destroyed. Thousands of sailors perished.

This excerpt appears in the February 2021 issue. Subscribe to WIRED.

Illustration: Owen Freeman

“How did we do?” Chowdhury asked tentatively. “Did our long-range air score any hits? How many of theirs did we sink?”

“None,” said Hendrickson.

“None?”

The line went silent for a moment. “I've heard that we might have scored a hit on their carrier, the *Zheng He*, but we didn't sink any of their ships.”

“My God,” said Chowdhury. “How's Wisecarver reacting?”

He was up now, his bedside lamp on, stepping into each leg of his trousers, which he'd draped over the back of a chair. He'd arrived at these bland quarters in the embassy's visitors' annex two days before. While Chowdhury dressed, Hendrickson explained that the news hadn't yet leaked to the public: One of the benefits of the blackout the Chinese had employed was that it allowed the administration to control the news, or at least to control it until the Chinese used that information against them. Which they had, strangely, not yet done.

Hendrickson explained that the White House had succumbed to panic. “Jesus, what will the country say?” had been the president's response on hearing the news. Trent Wisecarver had contacted NORAD and elevated the threat level to DEFCON 2, with a request to the president to elevate it to DEFCON 1. In an emergency meeting of the National Security Council he had also requested preemptive authorization for a tactical nuclear launch against the *Zheng He* Carrier Battle Group, provided it could be found and targeted. Remarkably, his request had not been rejected outright. The

president, who only days before had wanted to de-escalate tensions, was now entertaining such a strike.

De-escalation had been the entire reason the administration dispatched Chowdhury to New Delhi. Negotiations surrounding the release of Major Chris “Wedge” Mitchell had progressed to the point where the Iranians agreed to transport him to their embassy in India, and a prisoner swap seemed imminent. Chowdhury believed—and the analysts at CIA backed him up—that the sole reason the Iranians were dragging their feet on the major's release was because they wanted his wounds to heal a bit more, particularly his face. The last contact Chowdhury had with the Iranians—a contact brokered through officials at India's Foreign Ministry—they'd assured him that Major Mitchell would be released within a week, as he now explained to Hendrickson. “A week's too long,” Hendrickson replied. “Once the Iranians learn what's happened—if they don't know already—they'll take Major Mitchell back to Tehran. You've got to get him out now, or at least try. That's why I'm calling—” There was a pause on the line as Chowdhury wondered how Hendrickson could possibly expect him to accomplish such a task. Then Hendrickson added, “Sandy, we're at war.” The words might once have sounded melodramatic, but now they didn't; they had become a statement of fact.

04:53 APRIL 26, 2034 (GMT+9)
YOKOSUKA NAVAL BASE

Dawn vanished the fog as the day broke bright and pure. Three ships on the horizon. A destroyer. A frigate. A cruiser.

They were sailing slowly, barely moving in fact. The frigate and cruiser were very close together, the destroyer a little further off. This view from Sarah Hunt's window early that morning was a curious sight. Her flight to San Diego was scheduled for later that day. As she watched the three ships limping closer, she wondered if they would pull into port by the time she left. What she saw didn't make much sense to her. Where were the *Ford* and *Miller*?

A red flare went up, followed by one and then two more. On the deck of the destroyer was a signal lamp; it began to flash.

Flash, flash, flash ... flash ... flash ... flash ... flash, flash, flash ...

Three short … three long … three short …

Hunt recognized the message immediately. She ran out of her barracks room toward Seventh Fleet Headquarters.

05:23 APRIL 26, 2034 (GMT+8)
BEIJING

Victory had been total. Beyond what they could have hoped for.

It almost unsettled them.

It had been past midnight when Ma Qiang reported contact with the vanguard of destroyers from the *Ford* Battle Group. He was able to neutralize their weapons systems and communications with the same offensive cyber capability his fleet had employed weeks before to great effect near Mischief Reef. This allowed a dozen of his stealthy unmanned torpedo boats to close within a kilometer of the vanguard and launch their ordnance. Which they did, to devastating effect. Three direct hits on three American destroyers. They sank in under ten minutes, vanished. That had been the opening blow, delivered in darkness. When the news was reported in the Defense Ministry, the cheers were raucous.

After that, all through the night their blows fell in quick succession. A single flight of four Shenyang J-15s launched from the *Zheng He* scored a total of fifteen direct hits divided between three destroyers, two cruisers, and a frigate, sinking all six. A half dozen torpedo-armed Kamov helicopters launched from three separate Jiangkai II-class frigates scored four out of six hits, one of which struck the *Ford* itself, disabling its rudder. This would be the first of many strikes against both American carriers. Those carriers responded by launching their aircraft while the surface ships responded by launching their ordnance, but they all fired blindly, into not only the darkness of that night but the more profound darkness of what they could no longer see, reliant as they had become on technologies that failed to serve them. Chinese cyber dominance of the American forces was complete. A highly sophisticated artificial intelligence capability allowed

the *Zheng He* to employ its cyber tools at precisely the right moment to infiltrate US systems by use of a high-frequency delivery mechanism. Stealth was a secondary tool, though not unimportant. In the end, it was the massive discrepancy in offensive cyber capabilities—an invisible advantage—that allowed the *Zheng He* to consign a far larger force to the depths of the South China Sea.

For four hours, a steady stream of reports filtered in from the bridge of the *Zheng He* back to the Defense Ministry. The blows struck by Ma Qiang's command fell with remarkable rapidity. Equally remarkable was that they fell at such little cost. Two hours into the battle, they hadn't lost a single ship or aircraft. Then, the unimaginable happened, an event Lin Bao never thought he would see in his lifetime. At 04:37 a single Yuan-class diesel-electric submarine slipped toward the hull of the *Miller*, flooded its torpedo tubes, and fired a spread at point-blank range.

After impact, it took only eleven minutes for the carrier to sink. When this news arrived, there wasn't any cheering in the Defense Ministry as there'd been before. Only silence. Minister Chiang, who had sat diligently at the head of the conference table all through the night, stood and headed for the door. Lin Bao, as the second-most-senior officer in the room, felt obliged to ask him where he was going and when he might return—the battle wasn't over yet, he reminded the minister. The *Ford* was out there, injured but still a threat. Minister Chiang turned back toward Lin Bao, and his expression, which was usually so exuberant, appeared tired, contorted by the fatigue he'd hidden these many weeks.

“I'm only stepping out for some fresh air,” he said, glancing at his watch. “The sun will be up soon. It's a whole new day and I'd like to watch the dawn.”

05:46 APRIL 26, 2034 (GMT+5:30)
NEW DELHI

After Hendrickson hung up with him, Chowdhury knew who he needed to call, though it was a call he didn't wish to place. He quickly calculated the time difference. Though it was late, his mother would still be up.

“Sandeep, I thought I wasn't going to hear from you for a few days?” she began, sounding slightly annoyed.

“I know,” he said exhaustedly. And his exhaustion wasn't as much from his lack of sleep, or even his gathering realization of how dire circumstances had become for the Seventh Fleet, as it was from having to apologize to his mother. He'd said he wasn't going to phone on this trip. Yet when he needed her, as he did now, she had always been there. “There's been a problem at work,” said Chowdhury, pausing dramatically, as if to give his mother's imagination sufficient time to conjure what a “problem at work” currently meant for her son, given the circumstances. “Can you put me in touch with your brother?”

The line went silent, as he knew it would.

There was a reason Chowdhury hadn't referred to retired vice admiral Anand Patel as “my uncle,” but instead as “your brother.” Because Anand Patel had never been an uncle to Chowdhury, and he hadn't been much of a brother to his sister Lakshmi. The cause of their estrangement was an arranged marriage between a teenage Lakshmi and a young naval officer—a friend of her older brother's—that ended in an affair, a marriage-for-love to Chowdhury's father, who had been a medical student with plans to study at Columbia University, which led to Lakshmi's departure for the United States while the family honor—at least according to her elder brother—was left in tatters. But that was all a long time ago. Long enough that it'd been twenty years since the young naval officer who was meant to be Lakshmi's husband died in a helicopter crash, and ten years since Sandy's father, the oncologist, had died of his own cancer. In the meantime, Lakshmi's brother, Sandy's uncle, had climbed the ranks of India's naval service, ascending to the admiralty, a distinction that was never spoken of in the Chowdhury household but that now might prove useful as Sandy scrambled to play the inside hand that would assure Major Mitchell's release. That is, if his mother would oblige. “I don't understand, Sandeep,” she said. “Doesn't our government have contacts in the Indian government? Isn't this the sort of thing that gets worked out in official channels?”

Chowdhury explained to his mother that, yes, this was the sort of thing that was usually worked out in official channels, and that, yes, their government

did have any number of contacts inside the Indian government and military —to include certain intelligence assets that Chowdhury didn't mention. However, despite these formidable resources, oftentimes the key to severing the Gordian knot of diplomacy was a personal connection, a familial connection.

“That man is no longer family of mine,” she snapped back at him.

“Mom, why do you think they picked me, *Sandeep Chowdhury*, to come here? Plenty of others could have been given this assignment. They gave it to me because our family is from here.”

“What would your father say to that? You're American. They should send you because you're the best man for the job, not because of who your parents—”

“Mom,” he said, cutting her off. He allowed the line to go silent for a beat. “I need your help.”

“Okay,” she said. “Do you have a pen?” He did.

She recited her brother's phone number by heart.

09:13 APRIL 26, 2034 (GMT+5:30)
NEW DELHI

The swelling on his face had gone down considerably. His ribs were doing much better. When Wedge took a deep breath it no longer hurt. There were some scars, sure, but nothing too bad, nothing that would turn off the girls he imagined hanging on his every word in the bars around Miramar Air Station when he made it home with his stories. A few days before, they'd given him a clean change of clothes, added some sort of stringy meat to his diet, and placed him on a government airplane with stewardesses, fruit juice, and bagged peanuts—all he could eat. He hadn't been alone, of course. A plainclothes entourage of guards with pistols brandished in their waistbands and mirrored sunglasses masking their eyes kept a watch over him. When Wedge clownishly tossed a few of the peanuts into the air and

caught them with his mouth, the guards even laughed, though Wedge couldn't be certain whether they were laughing at or with him.

The plane had landed in darkness, a choice he assumed was intentional. Then he was whisked from the airport in a panel van with blacked-out windows. No one told him anything until late that night, when he was getting ready for bed in the carpeted room where they'd placed him, more like a drab hotel room than a cell, and nicer than anything Wedge had seen for weeks. Still, no one told him where he'd been flown to. All they told him was that tomorrow a representative from the Red Cross would pay a visit. That night, excited by the prospect, he hardly slept. The image of an attractive nurse, of the type that entertained GIs at USO tours in another era, relentlessly came to mind. He could see her generically beautiful face, her white uniform, her stockings, the cap with the little red cross. He knew that wasn't how Red Cross women looked these days, but he couldn't help it. His room was empty, though he assumed a guard was posted outside his door, and in the emptiness of that room his imagination became ever more expansive as he fantasized about this meeting, his first contact with the outside world in nearly two months. He could see her lipsticked mouth forming the reassuring words: *I'll get you home*.

When his door opened the next morning and a slight Indian man appeared, his disappointment was acute.

09:02 APRIL 27, 2034 (GMT+4:30)
ISFAHAN

At the Second Army's administrative center nobody knew for certain what had happened in the South China Sea. The General Staff of the Armed Forces had issued a nationwide mobilization order; the country was going to war, or was at least on the brink of war, yet no one could say exactly why. When leaving his family's home, Farshad thought of wearing his uniform but decided against it. He was no longer a brigadier in the Revolutionary Guards, let alone a brigadier in the elite Quds Force. He was a civilian now, and even though it had only been a few weeks the break felt permanent—less a break, more an amputation. Whether this amputation was reversible Farshad would soon discover. He was waiting in a line that extended down a corridor on the third floor of this vast administrative

annex. He was, he guessed, the oldest person in the line by several decades. He could feel the others stealing glances at this man with all the scars and three fingers on his right hand.

After less than an hour, he was escorted out of the line and up a set of stairs to an office on the fourth floor. “Now wait here,” said a corporal, who spoke to Farshad as though he outranked him. The corporal stepped into the office only to emerge moments later and wave Farshad in.

It was a spacious corner office. Behind the large oak desk were a pair of crossed flags; the first was the flag of the Islamic Republic and the second that of the army. A uniformed man, a colonel in the administrative service, approached Farshad with his hand outstretched. His palm was smooth and his uniform had been starched and ironed so many times that it shined with a metallic patina. The colonel asked for the old brigadier, the hero of the Golan Heights, the recipient of the order of Fath, to sit and join him for tea. The corporal set the glasses out, first in front of Farshad and then in front of the colonel.

“It is an honor to have you here,” said the colonel between sips of tea.

Farshad shrugged. An obsequious exchange wasn't the point of his visit. Not wanting to appear impolite, he muttered, “You have a nice office.”

“I'm sure you've enjoyed nicer.”

“I was a field commander,” Farshad answered, shaking his head. “I can't remember ever really having an office.” Then he took another sip of tea, finishing his glass in a single gulp and placing it loudly on the tray, as if to indicate that the pleasantries were over and Farshad wanted to get down to business.

From a drawer, the colonel removed a manila envelope and slid it across the desk. “This arrived late last night from Tehran via courier. I was told if you appeared here to hand it to you personally.” Farshad opened the envelope: It contained a single document printed on thick stock, riddled with calligraphy, seals, and signatures.

“It is a commission as a lieutenant commander in the navy?”

“I was instructed to convey that Major General Bagheri, the chief of the General Staff of the Armed Forces, has, himself, asked that you consider accepting this commission.”

“I was a brigadier before,” said Farshad as he dropped the letter of commission on the colonel's desk.

To this, the colonel had no response.

“Why are we mobilizing?” asked Farshad.

“I don't know,” replied the colonel. “Like you, I don't have a full explanation, only my orders at this point.” Then he took another envelope from his desk and handed it to Farshad. It contained a travel itinerary for a flight to Damascus with a transfer to Russia's naval base in the Syrian port city of Tartus, where he was to report for “liaison duties.” Farshad couldn't tell if the assignment was legitimate or designed as an insult. That confusion must have shown in his expression: The colonel began to explain how from “an administrative standpoint” it would be very difficult to reappoint a reprimanded officer to a commensurate rank within the same branch of the armed forces. “I happen to know,” the colonel continued, “that the senior ranks of the Revolutionary Guards are oversubscribed. Your service to the Islamic Republic is needed; this is the only vacancy that can be afforded to you.” The colonel reached into his drawer again and removed a pair of shoulder boards embroidered with the gold piping of a navy lieutenant commander. He placed them on the desk between himself and Farshad.

Farshad stared contemptuously at the rank, which was a demotion for him three times over. Had it come to this? If he wanted a role in the impending conflict, would he have to prostrate himself in this way, and not even for a frontline assignment but for some auxiliary job as a liaison with the Russians? And to be a sailor? He didn't even like boats. Soleimani had never had to suffer such an indignity, nor had his father. Farshad stood and faced the colonel, his jaw set, his hands balled into fists. He didn't know

what he should do, but he did know what his father and Soleimani would have told him to do.

Farshad gestured for the colonel to hand him a pen, so that he could sign the acceptance of his commission. Then he gathered up his orders and his itinerary to Tartus and turned to leave. “Lieutenant Commander,” the colonel said as Farshad headed toward the door. “Forgetting something?” He held up the shoulder boards. Farshad took them and again made for the door.

“Aren't you forgetting something else, Lieutenant Commander?” Farshad looked back blankly.

Then he realized. He struggled to control a familiar rage from deep in his stomach, one that on other occasions had spurred him to violence. This fool in his over-starched uniform, with his corner office that he never left. This fool who'd no doubt gone from cushy assignment to cushy assignment, all the while posing as though he were a real soldier, as though he knew what fighting and killing were. Farshad wanted to choke him, to squeeze him by the neck until his lips turned blue and his head hung limply by the stump of his neck.

But he didn't. He buried that desire in a place where he could later retrieve it. Instead he stood up straight, at attention. With his three-fingered right hand, Lieutenant Commander Qassem Farshad saluted the administrative colonel.

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By Elliot Ackerman and Admiral James Stavridis

Backchannel
02.09.2021 07:00 AM

2034, Part III: One Left to Tell the Tale

“When the planes didn’t come in straight for the attack, a collective silence fell over the crew, like a breath sucked in. Why didn’t they finish the job?”


jet flying over water toward a ship

Illustration: Owen Freeman

11:01 MARCH 13, 2034 (GMT+8)

SOUTH CHINA SEA

They charged out of the east, two silvery flashes on the horizon, and made an orbit around the badly wounded *John Paul Jones*. Nearly half the crew, more than one hundred sailors, had perished since that morning, either incinerated in the blast from the pair of successive torpedo impacts or entombed in the flooded compartments belowdecks that their shipmates had been forced to secure with them still trapped inside. There were very few wounded, mostly dead, as was usually the case in naval engagements, where there was no battlefield for the injured to rest upon, only the consuming sea.

When the two planes didn't come in straight for the attack, a collective silence fell over the crew, like a breath sucked in. Within that breath was a fleeting hope that these planes had been sent from Yokosuka, or perhaps launched from a friendly carrier dispatched to their aid. But as soon as the crew of the *John Paul Jones* glimpsed their wings, which were laden with munitions, and observed that the two aircraft kept a cautious distance, they knew they weren't friendly.

But why didn't they strike? Why didn't they drop their ordnance and finish the job?

Captain Sarah Hunt couldn't waste her time on speculation. Her full attention remained where it had been since the first torpedo hit the day before. She needed to keep her flagship afloat. And it was, sadly, her ship

now. Commander Morris hadn't been seen since the second impact. Hunt hadn't heard from the *Levin* or *Chung-Hoon* either. She'd only watched, helplessly, as each was crippled and then sunk. This was the fate that would soon befall her and the surviving members of her crew. Although they'd contained most of the fires on the *John Paul Jones*, they were taking on more water than they could pump out. As the weight of the water contorted the steel hull, it creaked mournfully, like a wounded beast, as minute by minute it came closer to buckling.

Hunt stood on the bridge. She tried to occupy herself—checking and rechecking their inoperable radios, dispatching runners for updates from damage control, replotting their position on an analog chart, since anything that required a GPS had failed. She did this so her crew wouldn't despair at their captain's inactivity and so that she herself wouldn't have to imagine the water slipping over the mast. She glanced up, at the twin attack planes from the *Zheng He*. How she wished they would stop taunting her, that they would stop their impudent circling, drop their ordnance, and allow her to go down with her ship.

“Ma'am … ” interjected one of the radiomen standing beside her, as he pointed toward the horizon.

She glanced up.

The flight of two had changed their angle of attack. They were darting toward the *John Paul Jones*, flying low and fast, staggered in echelon. When the sun glinted off their wings, Hunt imagined it was their cannons firing. She grimaced, but no impacts came. The flight of two was closing the distance between them. The weapon systems on the *John Paul Jones* had been taken out of action. On the bridge there was silence. Her command—the hierarchy that was her ship and its crew—it all melted away in these, their final moments. The radioman, who couldn't have been more than 19, glanced up at her, and she, surprising herself, placed her arm around him. The flight of two was so close now, so low, that she could observe the slight undulation of their wings as they passed through the uneven air. In a blink their ordnance would drop.

Hunt shut her eyes.

A noise like thunder—a boom.

But nothing happened.

Hunt glanced upward. The two planes turned aerobatic corkscrews around each other, climbing higher and higher still, losing and finding themselves in striations of cloud. Then they descended again, passing a hundred feet or less above the surface of the ocean, flying slowly, right above stall speed. As they passed in front of the bridge, the lead plane was so close that Hunt could see the silhouette of the pilot. Then he dipped his wing—a salute, which Hunt believed was the message he'd been sent there to deliver.

The planes ascended and flew back the way they came.

The ship's bridge remained silent.

Then there was a crackle of static. For the first time in more than a day, one of their radios turned on.

12:06 MARCH 13, 2034 (GMT+8)
BEIJING

The video teleconference shut off. The screen withdrew into the ceiling. Lin Bao and Minister Chiang sat alone at the vast conference table.

“Do you think your friend Admiral Ma Qiang is upset with me?”

The question took Lin Bao off guard. He never imagined that someone in Minister Chiang's position would concern himself with the emotional state of a subordinate. Not knowing how to answer, Lin Bao pretended that he hadn't heard, which caused Minister Chiang to ruminate a bit about why he'd asked.

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“Ma Qiang is an excellent commander, decisive, efficient, even cruel. But his effectiveness can also be his weakness. He is an attack dog only. Like so many military officers, he doesn't understand nuance. By sparing the *John Paul Jones*, he believes that I've denied him a prize. However, he doesn't understand the true purpose of his mission.” Minister Chiang arched an eyebrow. What the true purpose of that mission *was* hung in the air as an unanswered question, one that Lin Bao wouldn't dare ask aloud but instead asked through his silence, so that Minister Chiang continued, “Tell me, Lin Bao, you studied in the West. You must've learned the story of Aristodemus.”

Lin Bao nodded. He knew the story of Aristodemus, that famous Spartan who was the sole survivor of the Battle of Thermopylae. He'd learned it at the Kennedy School, in a seminar pompously titled “The History of War” taught by a Hellenophile professor. The story went that in the days before the final stand of the famous Three Hundred, Aristodemus was stricken with an eye infection. The Spartan king, Leonidas, having no use for a blind soldier, sent Aristodemus home before the Persians slaughtered what was left of his army.

“Aristodemus,” said Lin Bao, “was the only Spartan who survived to tell the story.”

Minister Chiang leaned back in his armchair. “This is what Ma Qiang doesn't understand,” he said with an amused half smile. “He wasn't sent to sink three American warships; that was not his mission. His mission was to send a message. If the entire flotilla was destroyed, if it disappeared, the message would be lost. Who would deliver it? Who would tell the story of what happened? But by sparing a few survivors, by showing some restraint, we will be able to send our message more clearly. The point here is not to start a needless war but to get the Americans to finally listen to us, to respect the sovereignty of our waters.”

Minister Chiang then complimented Lin Bao on his effectiveness as the American attaché, noting how well he'd managed the baiting of the *John Paul Jones* with the *Wén Rui*, and how American culpability in the seizure of that intelligence vessel disguised as a fishing trawler would undermine the international outcry that was certain to begin at the United Nations and then trickle from that ineffectual international organization to others that were equally ineffectual. Then, being in a pensive mood, Minister Chiang held forth on his vision of events as they might unfold in the coming days. He imagined the surviving crew members of the *John Paul Jones* recounting how they had been spared by the *Zheng He*. He imagined the Politburo Standing Committee brokering a deal with their Iranian allies to release the downed F-35 and its pilot as a means of placating the Americans. And lastly, he imagined their own country and its navy possessing unfettered control of the South China Sea, a goal generations in the making.

By the time he'd finished his explication, Minister Chiang seemed in an expansive mood. He placed his hand on Lin Bao's wrist. “As for you,” he began, “our nation owes you a great debt. I imagine you'd like to spend some time with your family, but we also need to see to your next posting. Where would you like to be assigned?”

Lin Bao sat up in his chair. He looked the minister in the eye, knowing that such an opportunity might never again present itself. “Command at sea, Comrade Minister. That's my request.”

“Very well,” answered Minister Chiang. He gave a slight backhanded wave as he stood, as if with this gesture alone he had already granted such a wish.

Then as Minister Chiang headed for the door, Lin Bao plucked up his courage and added one caveat, “Specifically, Comrade Minister, I request command of the *Zheng He* Carrier Battle Group.”

Minister Chiang stopped. He turned over his shoulder. “You would take Ma Qiang's command from him?” Then he began to laugh. “Maybe I was wrong about you. Perhaps you are the cruel one. We'll see what can be arranged. And please, take those damn M&M's with you.”

16:07 MARCH 22, 2034 (GMT-4)
WASHINGTON, D.C.

For ten days Sandeep Chowdhury had slept on the floor of his office. His mother watched his daughter. His ex-wife didn't harass him with a single email or text message even after internet and cellular service resumed. His personal life remained mercifully quiet. He could attribute this détente to the crisis consuming the country's attention and his family's knowledge that he was playing a central part in its management. On the political left and political right, old adversaries seemed willing to dispense with decades of antipathy in the face of this new aggression. It had taken the television networks and newspapers about a day, maybe two, to understand the magnitude of what had occurred in the South China Sea and over the skies of Iran:

A flotilla wiped out.

A downed pilot.

The result was public unity. But also, a public outcry.

This outcry had grown louder and louder, to the point where it had become deafening. On the morning talk shows, on the evening news, the message was clear: *We have to do something.* Inside the administration a vociferous group of officials led by National Security Advisor Trent Wisecarver subscribed to the wisdom of the masses, believing that the US military must demonstrate to the world its unquestioned supremacy. “When tested, we must act” was the refrain echoed by this camp in various corners of the White House, except for one specific corner, the most important one, which was the Oval Office. The president had her doubts. Her camp, of which Chowdhury counted himself a member, had no refrain that they articulated within the administration, or on television, or in print. Their doubts manifested in a general reluctance to escalate a situation that seemed to have already spun out of control. The president and her allies were, put simply, dragging their feet.

Illustration: Owen Freeman

Ten days into this crisis, the strategy of de-escalation seemed to be failing. Like the sinking of the *Lusitania* in the First World War, or the cries of "Remember the *Maine*!" at the outbreak of the Spanish-American War, a new set of names had replaced these historical ones. Within days, every American knew about the sinking of the *Carl Levin* and the *Chung-Hoon*, as well as the survival of the *John Paul Jones*, which hadn't really survived but had been scuttled by the submarine that had rescued its few dozen remaining crew members, to include the commodore of the flotilla, whom the Navy had kept out of the limelight as she faced a board of inquiry.

If Sarah Hunt had, at least up to this point, managed to remain relatively anonymous, the opposite held true for Marine Major Chris "Wedge" Mitchell. After the Battle of Mischief Reef, as the media dubbed the one-sided engagement, senior Chinese officials reached out to the administration. Minister of Defense Chiang was particularly engaged, insisting that this crisis was one large misunderstanding. As a gesture of goodwill, he offered himself to the Americans as an intermediary between them and the Iranians. He would personally negotiate the return of the F-35 and the release of its pilot. When a delegation of Chinese emissaries arrived with this message at the US embassy in New Delhi—their own embassy in Washington having been shut down in the wake of the crisis—the administration replied that it was the height of dishonesty to pretend that the F-35 would be turned over before the pilfering of its many sensitive technological secrets by the Chinese and Iranians. As for the pilot, the administration was under an intense amount of pressure to recover him.

Three days after Major Mitchell went missing, his name was leaked by someone in the administration to a cable news network. An anchor at that network then paid a visit to the Mitchell family home outside of Kansas City, Missouri, where she found quite a story: four generations of Marine fighter pilots. The anchor conducted her interview in a living room with nearly one hundred years of memorabilia hanging on the walls, from captured Japanese battle flags to a blood-splattered flight suit. On camera, Major Mitchell's father described his son, from time to time staring vacantly into the backyard, out toward a tree with the two rusted steel anchor points

of a swing set drilled into its thickest branch. The elder Mitchell spoke about the family, the decades of tradition, all the way back to his own grandfather, who had flown with the vaunted *Black Sheep* squadron in the Second World War. The segment integrated photos of the young, handsome Major Chris "Wedge" Mitchell alongside photos of his father, and of his "Pop," and of his "Pop-Pop," the passage of generations linking the America of this time to the America of another time, when the country had been at the height of its greatness.

The video went up online, and within hours it had been watched millions of times.

At a National Security Council meeting in the Situation Room on the fifth day of the crisis, the president asked if everyone had seen the segment. They all had. Already, *#FreeWedge* had begun to trend heavily on social media. One only had to look out of any West Wing window to see the proliferation of black POW/MIA flags that overnight picketed the Washington skyline. The president wondered aloud why the plight of this one pilot seemed to resonate more profoundly than the deaths of hundreds of sailors in the South China Sea. The room grew very quiet. Every staffer knew that on her desk for signature were the letters of condolence to the families of the *Levin*, *Chung-Hoon*, and *John Paul Jones*. Why, she asked rhetorically, does he matter more than them?

"He's a throwback, ma'am," Chowdhury blurted out.

He didn't even have a seat but was standing against the wall among the other backbench staffers. Half the cabinet turned to face him. He immediately regretted that he'd opened his mouth. He glanced down at his hands, as if by looking away he might convince the room that someone else had spoken, that his comment had been some strange act of ventriloquism.

In a firm but measured tone the president asked him to explain.

"Wedge is a link in a chain," Chowdhury began hesitantly, gaining confidence as he went. "His family ties us back to the last time we defeated a peer-level military. The country can intuit what might be coming. Seeing

him reminds people of what we as a nation are capable of accomplishing. That's why they're so invested in him."

No one either agreed or disagreed with Chowdhury.

After a few beats of silence, the president told the room that she had one goal, and one goal alone, which was to avoid an escalation that would lead to the type of peer-to-peer conflict Chowdhury had mentioned. "Is that clear?" she said, leveling her gaze at those around the conference table.

Everyone nodded, but a lingering tension made it evident that not everyone agreed.

The president then stood from her seat at the head of the table and left, a trail of her aides following behind her. The hum of conversation resumed. The various secretaries and agency heads engaged in sidebar discussions, leaning in to one another as close as conspirators as they filtered out into the corridor. A pair of junior aides swept into the room and checked that no sensitive notes or errant document had been left behind.

As Chowdhury migrated back to his desk, his boss, Trent Wisecarver, found him. "Sandy …" Like a child who can tell whether he is in trouble from the inflection of a parent's voice, Chowdhury could tell immediately that Wisecarver was upset with him for speaking out of turn in the meeting. Chowdhury began to equivocate, apologizing for his outburst and making assurances that it wouldn't happen again. More than a decade before, Wisecarver's young son had perished in the coronavirus pandemic, a personal tragedy to which many attributed Wisecarver's hawkish political awakening and which made him adept at projecting fatherly guilt onto those subordinates he treated as surrogate children.

"Sandy," repeated Wisecarver, though his voice was different now, a bit softer and more conciliatory. "Take a break. Go home."

03:34 MARCH 20, 2034 (GMT+4:30)
TEHRAN

At first Wedge thought he was home. He'd woken up in a dark room, in a bed with clean sheets. He couldn't see a thing. Then he noticed a single bar of light beneath what must have been a shut door. He lifted his head to take a closer look. That's when the pain hit him. And with the pain came the realization that he was very far indeed from home. He returned his head to the pillow and kept his eyes open to the dark.

He couldn't quite remember what had happened at first, but slowly, details began to emerge: his starboard wing dancing along the border … losing flight control … his attempt to eject … his descent toward Bandar Abbas … his smoking a Marlboro on the tarmac … the man with the scars … the pressure of that three-fingered grip against his shoulder. It took an entire night for these details to resurface.

He ran his tongue through his mouth and could feel the gaps among his teeth. His lips felt fat and blistered. Light began to suggest itself at the rim of the curtains. Wedge was soon able to take in his surroundings, but his vision was blurred. One of his eyes was swollen shut, and he could hardly see through the other.

Without his vision, he'd never fly again.

Everything else would heal. Everything else could be undone. Not this.

He tried to reach his hand to his face, but his arm couldn't move. His wrists were cuffed to the frame of the bed. He pulled and then pulled again, his restraints rattling as he struggled to touch his face. A hurried procession of footsteps advanced toward his room. His door opened; balanced in the brightly lit threshold was a young nurse wearing a hijab. She held her finger to her mouth, shushing him. She wouldn't come too close. She formed both hands into a pleading gesture and spoke softly in a language Wedge didn't understand. Then she left. He could hear her running down the corridor.

There was light in his room now.

Hanging from a metal arm in the far corner was a television.

Something was written on its bottom.

Wedge relaxed his throbbing head against the pillow. With his unswollen eye, he focused on the television and the piece of text embossed at its base. It took all of his concentration but, slowly, the letters became sharper, shoring up around the edges. The image gathered itself, coming into focus. Then he could see it, in near twenty-twenty clarity, that fantastic and redeeming name: PANASONIC.

He shut his eyes and swallowed away a slight lump of emotion in his throat.

“Good morning, Major Wedge,” came a voice as it entered. Its accent was haltingly British, and Wedge turned his attention in its direction. The man was Persian, with a bony face cut at flat angles like the blades of several knives, and a precisely cropped beard. He wore a white orderly coat. His long, tapered fingers began to manipulate the various intravenous lines that ran out of Wedge's arms, which remained cuffed to the bed frame.

Wedge gave the doctor his best defiant stare.

The doctor, in an effort to ingratiate himself, offered a bit of friendly explication. “You suffered an accident, Major Wedge,” he began, “so we brought you here, to Arad Hospital, which I assure you is one of the finest in Tehran. Your accident was quite severe, but for the past week my colleagues and I have been looking after you.” The doctor then nodded to the nurse, who followed him around Wedge's bedside, as though she were the assistant to a magician in the midst of his act. “We very much want to return you home,” continued the doctor, “but unfortunately your government isn't making that easy for us. However, I'm confident this will all get resolved soon and that you'll be on your way. How does that sound, Major Wedge?”

Wedge still didn't say anything. He simply continued on with his stare.

“Right,” said the doctor uncomfortably. “Well, can you at least tell me how you're feeling today?”

Wedge looked again at the television; PANASONIC came into focus a bit more quickly this time. He smiled, painfully, and then he turned to the

doctor and told him what he resolved would be the only thing he told any of these fucking people: His name. His rank. His service number.

09:42 MARCH 23, 2034 (GMT-4)
WASHINGTON, D.C.

He'd done as he'd been told. Chowdhury had gone home. He'd spent the evening with Ashni, just the two of them. He'd made them chicken fingers and french fries, their favorite, and they'd watched an old movie, *The Blues Brothers*, also their favorite. He read her three Dr. Seuss books, and halfway through the third—*The Butter Battle Book*—he fell asleep beside her, waking after midnight to stumble down the hall of their duplex to his own bed. When he woke the next morning, he had an email from Wisecarver. Subject: *Today*. Text: *Take it off*.

So he dropped his daughter at school. He came home. He made himself a French press coffee, bacon, eggs, toast. Then he wondered what else he might do. There were still a couple of hours until lunch. He walked to Logan Circle with his tablet and sat on a bench reading his news feed; every bit of coverage—from the international section, to the national section, to the opinion pages and even the arts—it all dealt in one way or another with the crisis of the past ten days. The editorials were contradictory. One cautioned against a phony war, comparing the *Wén Rui* incident to the Gulf of Tonkin, and warned of opportunistic politicians who now, just as seventy years before, "*would use this crisis as a means to advance ill-advised policy objectives in Southeast Asia.*" The next editorial reached even further back in history to express a contradictory view, noting at length the dangers of appeasement: "*If the Nazis had been stopped in the Sudetenland, a great bloodletting might have been avoided.*" Chowdhury began to skim, coming to, "*In the South China Sea the tide of aggression has once again risen upon the free peoples of the world.*" He could hardly finish this article, which sustained itself on ever loftier rhetoric in the name of pushing the country toward war.

Chowdhury remembered a classmate of his from graduate school, a Navy lieutenant commander, a prior enlisted sailor who'd gotten his start as a hospital corpsman with the Marines in Iraq. Walking past his cubicle in the study carrels one day, Chowdhury had noticed a vintage postcard of the

USS *Maine* tacked to the partition. When Chowdhury joked that he ought to have a ship that *didn't* blow up and sink pinned to his cubicle, the officer replied, “I keep it there for two reasons, Sandy. One is as a reminder that complacency kills—a ship loaded out with fuel and munitions can explode at any time. But, more importantly, I keep it there to remind me that when the *Maine* blew up in 1898—before social media, before twenty-four-hour news—we had no problem engaging in national hysteria, blaming it on ‘Spanish terrorists,’ which of course led to the Spanish-American War. Fifty years later, after World War Two, when we finally performed a full investigation, you know what they found? The *Maine* blew up because of an internal explosion—a ruptured boiler or a compromised ammunition storage compartment. The lesson of the *Maine*—or even Iraq, where I fought—is that you better be goddamn sure you know what's going on before you start a war.”

Chowdhury closed his newsfeed. It was nearly lunch time. He walked home lost in thought. His desire for de-escalation didn't stem from any pacifistic tendencies on his part. He believed in the use of force—after all, he worked on the National Security Council staff. His fear of escalation was more instinctual. Inherent in all wars, he knew, was a miscalculation: When a war starts, both sides believe that they will win.

As he walked, he struggled to put words around his reservations as if he were writing a white paper to himself. His opening sentence came to him. It would be, *The America that we believe ourselves to be is no longer the America that we are …*

He thought this was a true statement. He pondered just how fraught a statement it was, how an overestimation of American strength could be disastrous. But it was lunch time, and there was nothing he could do about such existential questions, at least at this moment. This crisis, like every other, would likely pass. Cooler heads would prevail because it seemed that they always did.

He rooted around in the fridge. Not much there.

In the background, CNN was playing. The anchor announced some breaking news. “We have obtained exclusive video of downed Marine pilot

Major Chris Mitchell."

Chowdhury banged the back of his head as he startled up from the fridge. Before he could get to the television, he heard the warning that the video was graphic, that it might prove disturbing to some audiences. Chowdhury didn't wait around to see it. He already knew how bad it was. He climbed into his car and rushed to the office, forgetting to turn off the television.

He texted his mother to see if she could pick up Ashni from school, lest he appear negligent to his ex-wife. His mother wrote back immediately and, uncharacteristically, didn't complain about yet another change in plan. She must have already seen the video, thought Chowdhury. He was listening to the radio on his fifteen-minute drive into work; MSNBC, Fox, NPR, WAMU, even the local hip-hop station WPGC—everyone was talking about what they'd just seen. The image quality was grainy, pixelated, but what they all fixated on was how Wedge—lying on his side, with that brute of an Iranian officer standing over him, kicking him in the ribs and head—kept repeating only his name, rank, and service number.

The divergence of views Chowdhury had read in the paper that morning was quickly yielding to a consensus. Every voice he heard on the drive into work agreed: The defiance displayed by this downed flyer was an example to us all. We wouldn't be pushed around, not by anyone. Had we forgotten who we were? Had we forgotten the spirit which made us that single, indispensable nation? Chowdhury thought of yesterday's debate in the Situation Room and the president's policy of de-escalation. With the release of this video, such a policy would become untenable.

When he barged into his office, the first person he saw was Hendrickson, whom he hadn't seen since the crisis began. The offices of the national security staff were packed with Pentagon augments who were helping with —or at times getting in the way of—the administration's response to the Iranians. "When did the video come in?" Chowdhury asked Hendrickson.

He pulled Chowdhury into the corridor. "It came in last night," he said in a conspiratorial whisper, glancing side to side as though he were about to cross the road. "A signals intercept from Cyber Command—weird that it didn't come from NSA. It seems this Iranian brigadier in the video lost his

cool. He's well connected, and his superiors didn't quite believe what he'd done until a video circulated internally of the interrogation. We picked it up in their email traffic. Cyber defense has never been a strong suit for the Iranians. They have a tendency to focus on offensive cyber but kind of forget to guard the barn door."

"How did it get to the press?" asked Chowdhury.

Hendrickson gave him a look, one Chowdhury had seen many times before when they'd attended the Fletcher School and either Chowdhury or one of his classmates had asked a question with an answer so obvious that its very asking annoyed Hendrickson. Nevertheless, Hendrickson obliged with an answer. "How do you think? A leak."

Before Chowdhury could ask Hendrickson who he thought had leaked the video, Trent Wisecarver stepped out from the office and into the corridor where the two stood. His frameless glasses were balanced on the tip of his nose, as if he'd been reading. Under his arm were several binders marked TOP SECRET//NOFORN. Based on their thickness and on the fact that they were paper, not electronic, Chowdhury assumed them to be military operational plans of the highest sensitivity. When he saw Chowdhury, Wisecarver made a face. "Didn't I tell you to take the day off?"

16:23 APRIL 09, 2034 (GMT+9)
YOKOSUKA NAVAL BASE

Captain Sarah Hunt ventured out to the commissary on foot. For three weeks she'd been trapped on base without a car, living in a room at the bachelor officers' quarters, its only amenities a television that played the antiseptically boring American Forces Network and a kitchenette with a mini-fridge that didn't make ice. Why the Navy chose to perform her board of inquiry here, at Yokosuka, instead of her home port of San Diego, was a mystery to her. Her best guess was that they wanted to avoid any undue attention paid to the proceedings, but she couldn't be certain. The Navy wasn't in the business of explaining its decisions, not to anyone, and most certainly not to itself, at least at her level of command. And so she'd spent the intervening weeks since the Battle of Mischief Reef stowed away in this crappy room, reporting to a nondescript office building once or twice a day

to give recorded answers to questions and hoping that the deliberations in progress might clear her name so that the administrative hold she'd been placed under would soon lift, allowing her to retire in peace.

She'd begun to think that the board of inquiry might never reach its conclusion when an optimistic note arrived in the form of a voicemail left by her old friend Rear Admiral John Hendrickson, in which he announced that he “happened to be on base” and asked if he could stop by for a drink. When he was a lieutenant on faculty at Annapolis, Hendrickson had volunteered as one of the softball coaches. As a midshipman, Hunt had been one of his star players. She'd been the catcher. And Hendrickson and the other players had affectionately nicknamed her “Stonewall” for the way she guarded home plate. On occasions too numerous to count, a runner rounding third would find herself flat on her back along the baseline, staring up at an expanse of sky, while Midshipman Sarah “Stonewall” Hunt stood triumphantly over her, ball in hand, with the umpire bellowing, “Ouutt!”

Sarah Hunt now stood in the checkout line of the commissary. She'd bought two six-packs of IPA, a jar of Planters mixed nuts, some crackers, some cheese. While she waited in line, she couldn't help but feel as though the other sailors were eyeing her. They knew who she was, stealing glances while trying to pretend that they didn't notice her. She couldn't decide whether this reaction was awe or contempt. She had fought in her country's largest naval battle since the Second World War.

She was, at this moment, the only officer who had ever held command at sea during a peer-level naval engagement, her three subordinate commanders having gone down with their ships. As she worked her way through the checkout line, she wondered how the sailors at Pearl Harbor felt in the days after that iconic defeat. Although eventually they had been celebrated, were the veterans of that battle first vilified? Did they have to suffer through boards of inquiry?

The cashier handed Hunt her receipt.

Back in her room, she put the nuts into a plastic bowl. She laid the crackers and cheese on a plate. She popped open a beer. And then she waited.

It didn't take long.

Knock, knock, knock … knock … knock … knock … knock, knock, knock …

Unreal, thought Hunt.

She called out for him to come in. Hendrickson opened the unlocked door, crossed the room, and sat across from Hunt at the small table in the kitchenette. He exhaled heavily, as though he were tired; then he took one of the beers that sat sweating condensation on the table, as well as a fistful of the salty nuts. They knew each other so well that neither had to speak.

“Cute with the knocks,” Hunt eventually said.

“SOS, remember?”

She nodded, and then added, “But this isn't Bancroft Hall. I'm not a 21-year-old midshipman and you aren't a 27-year-old lieutenant sneaking into my room.”

He nodded sadly.

“How's Suze?”

“Fine,” he answered.

“The kids?”

“Also fine … grandkid soon,” he added, allowing his voice to perk up. “Kristine's pregnant. The timing's good. She just finished a flight tour. She's slated for shore duty.”

“She still with that guy, the artist?”

“Graphic designer,” Hendrickson corrected.

“Smart girl,” said Hunt, giving a defeated smile. If Hunt had ever married, she knew it would've needed to be an artist, a poet, someone whose ambition—or lack thereof—didn't conflict with her own. She had always

known this. That was why, decades before, she'd broken off her affair with Hendrickson. Neither of them was married at the time, so what made it an affair—because affairs are illicit—was their discrepancy in rank. Hendrickson thought after Hunt's graduation from Annapolis they could be out in the open. Despite Hunt's feelings for Hendrickson, which were real, she knew she could never be with him, or at least never be with him and have the career she wanted. When she explained this logic weeks before her graduation, he had told her that she was the love of his life, a claim that in the intervening thirty years he'd never disavowed. She had offered him only the same stony silence they now shared, which in that moment again reminded him of her namesake from those years ago—Stonewall.

“How you holding up?” Hendrickson eventually asked her.

“Fine,” she said, taking a long pull off her beer.

“The board of inquiry's almost finished with its report,” he offered.

She looked away from him, out the window, toward the port where she'd noticed over the past week an unusually heavy concentration of ships.

“Sarah, I've read over what happened. The Navy should've given you a medal, not an investigation.” He reached out and put his hand on her arm.

Her gaze remained fixed on the acres of anchored gray steel. What she wouldn't give to be on the deck of any of those ships instead of here, trapped in this room, at the end of a career cut short. “They don't give medals,” she said, “to commodores who lose all their ships.”

“I know.”

She glared at him. He was an inadequate receptacle for her grievances: from the destruction of her flotilla; to her medical retirement; all the way back to her decision never to have a family, to make the Navy her family. Hendrickson had gone on to have a career gilded with command at every level, prestigious fellowships, impressive graduate degrees, and even a White House posting, while also having a wife, children, and now a grandchild. Hunt had never had any of this, or at least not in the proportions

that she had once hoped. “Is that why you came here?” she asked bitterly. “To tell me that I should've gotten a medal?”

“No,” he said, taking his hand off her arm and coming up in his seat. He leaned toward her as if for a moment he might go so far as to remind her of their difference in rank, that even she could push him too far. “I came here to tell you that the board of inquiry is going to find that you did everything possible given the circumstances.”

“What circumstances are those?”

Hendrickson grabbed a fistful of the nuts, dropping them one at a time in his mouth. “That's what I was hoping you might tell me.”

The board of inquiry wasn't the only reason Hendrickson had flown from Washington to Yokosuka. This should've been obvious to Hunt, but it hadn't been. She was so ensconced in her own grief, in her own frustration, that she hadn't given much thought to broader events. “You're here to coordinate our response?” she asked.

He nodded.

“What's our response going to be?”

“I'm not at liberty to say, Sarah. But you can imagine.”

She glanced back out to the port filled with ships, to the twin carriers at anchor studded with parked fighters on their decks, to the low-set submarines brooding on the surface, and then to the new semisubmersible frigates and the more traditional destroyers with their bladelike hulls facing out to sea.

This was the response.

“Where are you and your bosses going to send these ships?”

He didn't answer, but instead held forth on a range of technical issues. “You told the board of inquiry that your communications shut down. We haven't figured out how they did this, but we have some theories.” He asked her

about the frequency of the static she heard from her failing radios, about whether the Aegis terminal turned off or simply froze. He asked a series of more runic questions above the classification level of the board of inquiry. She answered—at least as best she could—until she couldn't stand it anymore, until Hendrickson's questions began to prove that whatever response he and his masters at the White House had planned against their adversaries in Beijing was fated to be a disaster.

“Don't you see?” she finally said, exasperated. “The technical details of what they did hardly matter. The way to defeat technology isn't with more technology. It is with no technology. They'll blind the elephant and then overwhelm us.”

He gave her a confused, sidelong glance. “What elephant?”

“Us,” she added. “We're the elephant.”

Hendrickson finished off the last of his beer. It'd been a long day and a tough few weeks, he told her. He'd return in the morning to check on her, and then he had a flight out the following afternoon. He understood what she was saying, or at least wanted to understand. But the administration, he explained, was under enormous pressure to do something, to somehow demonstrate that they wouldn't be cowed. It wasn't only what had happened here but also this pilot, he said, this Marine who'd been brought down. Then he ruminated on the curse of domestic politics driving international policy as he stood from his seat and made for the door. “So, we'll pick up again tomorrow?” he asked.

She didn't answer.

“Okay?” he added.

She nodded. “Okay.” She shut the door behind him as he left.

That night her sleep was thin and empty, except for one dream. He was in it. And the Navy wasn't. It was the two of them in an alternative life, where their choices had been different. She woke from that dream and didn't sleep well the rest of the night because she kept trying to return to it. The

following morning, she woke to a knock at her door. But it wasn't him; it wasn't his familiar SOS knock, just a plain knocking.

When she opened her door, a pimply faced sailor handed over a message. She was to report to the board of inquiry that afternoon for a final interview. She thanked the sailor and returned to her dim room, where the darkness congealed in the empty corners. She threw open the drapes to let in the light. It blinded her for a moment.

She rubbed at her eyes and looked down onto the port.

It was empty.

Illustrations by Sam Whitney; Getty Images

This excerpt appears in the February 2021 issue. Subscribe now.

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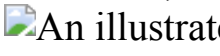
Paul Ford

Ideas
02.08.2021 07:00 AM

The Secret, Essential Geography of the Office

A workplace has its own informal cardinal directions: elevatorward, kitchenward, bathroomward. It's a map we share.


An illustrated map of an office building.
Illustration: Elena Lacey

I once worked for a few weeks at a big, busy company, and one day I asked, jokingly, “Where do I go to cry?” An hour later, I was taken aside and told in seriousness about a specific stairwell. Another person there led me on a five-minute walk through the skyscraper to a tiny, hidden conference room, and then made me promise to keep the location a secret, a vow I have kept. (They also cried.)

I think of those as “weeping paths,” part of the secret map of every office. You cannot sob at your desk, so you must go on a journey, smiling at the floor, until you find a place where emotion can flow. Offices have their own mental maps. “Oh,” they say, “she’s moving to the 17th floor.” And everyone says: *the 17th floor!* And you know, being a social primate, exactly where you are in the organization relative to that floor. Offices all have their formal and informal maps, whether inside a bank, statehouse, cathedral, museum, school, or open-plan tech firm. I say “West Wing” and you know what I’m talking about.

I keep reading that the office era is over—that our pandemic has proven that “office culture” is an oxymoron. When the virus hit we left our desks and threw away our commutes, and now no one can tap our shoulders (or, much

worse, massage them). And aren't we better for it? Don't humans work better as nodes in a network than as cattle in a pen? We are, finally, free to get to it.

But I don't buy this. There's a book I love, *Space and Place*, by the human geographer Yi-Fu Tuan. Human geography is a beautiful '70s-style academic discipline, and Tuan is its gentlest practitioner. *Space and Place* is only about 200 pages of thoughtful prose, but I've never finished it; I read a paragraph at a time, and that fills up my brain. I've been reading it for a decade. He writes: "The manager's office may be only two doors from the vice president's office, but it will take the manager years of hard work to get there. The vice president's office is a temporal goal. Goal is also a place in space, the promised land on the other side of the ocean or mountain." And then there's a little subway map where one train line is time, ending in the vice presidency, and the other is distance, ending in the "promised land." You need to see it. (So beautifully broad. Everyone today has to be so specific.)

I love visiting offices, listening to their hum. Literally: I sometimes went to a giant financial firm where they traded different kinds of securities on different floors, and if it was a big day in bonds the fourth floor would be loud, loud; the fifth floor, though, focused on shorter-term investments, would be almost silent. You could *hear* the economy.

I enjoy the rituals of visiting. First, there is security: How long will I wait? Who will greet me in the lobby, should I ever gain access—a human whose job is to handle ingress and egress, or is each person expected to greet their own visitors? Will I get a VISITOR sticker, and will the sticker change color in a day, for security purposes? Is the coffee brought to me or may I get it myself? Sometimes you learn that people have had sex in a given office, which is hard to forget. There are cardinal directions—elevatorward, kitchenward, bathroomward. Favored stalls. Better sinks. Teensy little geographies shared between humans.

I have a friend who worked at the White House, back in calmer times, and he told me about some of his workplace battles. I said to him one of the dumbest things I've ever said in my life: "The White House seems like a really political place to work." I still cringe to think of it. Yet it's a place

where power is absolutely explicit and geography means everything. And "place," as Tuan points out, is really a proxy for time. The president might summon anyone any moment of the day, from anywhere in the nation. If you work in one of the rare offices in the West Wing, instead of across the alley at the enormous Executive Office Building, you can be in the Oval Office in a minute. It's purely about time, measured in the count of footsteps between you and power. Everyone knows that. The West Wing offices themselves absolutely suck. The whole place smells weird.

Home is supposed to be a constant, steady place, a shelter for a family. It shouldn't change very much. But an office is basically a big clock with humans for hands. And I find that the people who don't want to go back to pre-pandemic office culture are the people who are the most concerned about their time. Sometimes this is their personality; they are engineers who look at travel as a waste, who seek efficiencies in their work and health. Sometimes they're people with other stress, like parents of young children who triangulate between the day care's schedule, their boss's expectations, and kids' needs. For a disabled person, working from home can save hours of daily, needless negotiation. All of these cases are utterly valid. And yet we're going back. Maybe not all of us, maybe with hybrid schedules. But most of us. We all know it.

If you don't believe me, try making a map of your office. See what you remember. Where do people go when they are rewarded, punished? Where is power concentrated, and where do you sit? What paths do people take to accomplish their goals? Are some emotions possible in one space and not another? (Take a picture and send it to me. I want to see.)

Now make a map of your "digital office." It will be a bunch of squares and a screenshot of a web browser. I like working at home. It's efficient and I'm glad for the time I get back. But digital work has a lousy clock. Hours blur. Meetings all look the same. My map of our company's office is filled with pathways, memories, art, people who came and went. (And it's a small, single-floor, open office!) It's got a history. Some nights I stayed late, ordered takeout, and sang loudly while getting some terrible presentation done. Sometimes I presented to 60 people in a room. So did the companies

that occupied the space before—publishers, textile wholesalers—going back a full century.

I like existing in that continuum of memories. Someone will move in after we move out. Screens hang all over the office so that our remote employees can be present. We spend a lot of time and money making sure that they can share in office events. It doesn't have to be all or none. But the office doesn't so much give meaning to my work as it is the meaning of my work. It'd be hard to give that up.

By Elliot Ackerman and Admiral James Stavridis

Backchannel
02.02.2021 07:00 AM

2034, Part II: Blackout in Washington, DC

“So much was happening—the *Wén Rui*, the F-35, Air Force One, which had seemed to vanish—and yet they had no news. Everything had been compromised.”

soldiers with guns drawn on a person who is cuffed and blindfolded

Illustration: Owen Freeman

18:42 MARCH 12, 2034 (GMT-4)
WASHINGTON, D.C., EN ROUTE TO BEIJING

Anyone who lived through the war could tell you where they were the moment the power went out. Captain Sarah Hunt had been on the bridge of the *John Paul Jones*, fighting to keep her flagship afloat while trying to ignore the panicked cries coming from belowdecks. Wedge had his wrists flex-cuffed in the small of his back as he was driven blindfolded under armed escort across the tarmac of Bandar Abbas airfield. Lin Bao had recently departed Dulles International Airport on a Gulfstream 900, one of a suite of private jets made available to members of the Central Military Commission.

Lin Bao had, over the course of his thirty-year career, flown on these jets from time to time, either as part of a delegation to an international conference or when escorting a minister or other senior-level official. However, he'd never before had one of these jets sent for him alone, a fact that signified the importance of the mission he'd now completed. Lin Bao had placed his call to Chowdhury right after takeoff, while the flight attendants were still belted into their jump seats. The Gulfstream had been ascending, cresting one thousand feet, when he hung up with Chowdhury and sent an encrypted message to the Central Military Commission, confirming that this final call had been placed. When he pressed send on that message the response was immediate, as though he had thrown a switch. Below him, the scattered lights of Washington went dark and then came right back on. Like a blink.

Lin Bao was thinking of that blink while he watched the eastern seaboard slip beneath the Gulfstream, as they struck out into international airspace and across the dark expanse of the Atlantic. He thought about time and how in English they say, *it passes in the blink of an eye*. While he sat alone on the plane, in this liminal space between nations, he felt as though his entire career had built to this one moment. Everything before this day—from his time at the academy, to his years shuffling from assignment to assignment in the fleet, to his study and later grooming in diplomatic postings—had been one stage after another in a larger plan, like a mountain's ascent. And here he stood at the summit.

He glanced once more out of his window, as if expecting to find a view that he might admire from such a height. There was only the darkness. The night sky without stars. The ocean below him. Onto that void, his imagination projected events he knew to be in progress half a world away. He could see the bridge of the carrier *Zheng He*, and Rear Admiral Ma Qiang, who commanded that battle group. The trajectory of Lin Bao's life, which had made him the American defense attaché at this moment, had been set by his government years ago, and it was every bit as deliberate as the trajectory set for Ma Qiang, whose carrier battle group was the perfect instrument to assert their nation's sovereignty over its territorial waters. If their parallel trajectories weren't known to them in the earliest days of their careers, when they'd been contemporaries as naval cadets, they could have been intuited. Ma Qiang had been an upperclassman, heir to an illustrious military family, his father and grandfather both admirals, part of the naval aristocracy. Ma Qiang had a reputation for cold competence and cruelty, particularly when it came to hazing underclassmen, one of whom was Lin Bao. In those days Lin Bao, an academic prodigy, had proven an easy target. Despite eventually graduating first in his class, with the highest scholastic record the faculty could remember, he'd arrived as a sniveling, homesick boy of half-American, half-Chinese descent. This split heritage made him particularly vulnerable, not only to derision but also to the suspicions of his classmates—particularly Ma Qiang.

But that was all a long time ago. Ultimately, it was Lin Bao's mixed heritage from which his government derived his value, eventually leading him to his current position, and it was Ma Qiang's competence and cruelty

that made him the optimal commander of a fleet that at this moment was striking a long-anticipated blow against the Americans. Everyone played their role. Everyone did their part.

Part of Lin Bao wished he were the one standing on the bridge of the *Zheng He*, with the power of an entire carrier battle group arrayed in attack formation behind him. After all, he was a naval officer who had also held command at sea. But what offset this desire, or any jealousy he felt about his old classmate Ma Qiang's posting, was a specific knowledge he possessed. He was one of only a half dozen people who understood the scope of current events.

Ma Qiang and the thousands of sailors under his command had no idea that on the other side of the globe an American F-35 stealth fighter had been grounded by a previously unknown cyber capability their government had deployed on behalf of the Iranians, nor how this action was related to his own mission. Those qualities Lin Bao had always admired in the Americans —their moral certitude, their single-minded determination, their blithe optimism—undermined them at this moment as they struggled to find a solution to a problem they didn't understand.

Our strengths become our weaknesses, thought Lin Bao. Always.

The American narrative was that they had captured the *Wén Rui*, a ship laden with sensitive technologies that Lin Bao's government would do anything to retrieve. For the *Wén Rui*'s capture to precipitate the desired crisis, Lin Bao's government would need a bargaining chip to force the Americans' hand; that's where the grounded F-35 came in. Lin Bao knew that the Americans would then follow a familiar series of moves and countermoves, a choreography the two nations had stepped through many times before: A crisis would lead to posturing, then to a bit of brinksmanship, and eventually to de-escalation and a trade. In this case, the F-35 would be traded for the *Wén Rui*. Lin Bao knew, and his superiors knew, that it would never occur to the Americans that pilfering the sensitive technology on the F-35 was a secondary objective for their adversary and that whatever was on the *Wén Rui* was of little value. The Americans wouldn't understand, or at least not until it was too late, that what Lin Bao's government wanted was simply the crisis itself, one that would allow them

to strike in the South China Sea. What the Americans lacked—or lost somewhere along the way—was imagination. As it was said of the 9/11 attacks, it would also be said of the *Wén Rui* incident: It was not a failure of American intelligence but rather a failure of American imagination. And the more the Americans struggled, the more trapped they would become.

Lin Bao remembered a puzzle he'd seen in a novelty shop in Cambridge, when he'd been studying at Harvard's Kennedy School. It was a tube made of a woven mesh material. The man behind the counter of the store had seen him looking at the puzzle, trying to figure out what it was. “You stick your fingers in either end,” he had said in one of those thick Boston accents Lin Bao always struggled to understand. Lin Bao did as he was told. When he went to remove his fingers, the woven mesh cinched down. The more he tugged, the more tightly his fingers became stuck. The man behind the counter laughed and laughed. “You've never seen that before?” Lin Bao shook his head, no. The man laughed even harder, and then said, “It's called a Chinese finger trap.”

05:17 MARCH 13, 2034 (GMT+4:30)
BANDAR ABBAS

Brigadier General Qassem Farshad sat on a plastic fold-out chair in an empty office next to one of the holding cells. It was early in the morning, and he was in a sour mood. But no one seemed to notice, because his appearance was always fearsome. His reputation equally so. This made it difficult to gauge his moods, as his expression at rest seemed to convey mild annoyance or even low-level rage, depending on who was looking at him. Farshad had scars, plenty of them. Most prominent was his right hand, where he'd lost his pinkie and ring finger when assembling an IED in Sadr

City on his first assignment as a young lieutenant. This misstep had almost cost him his job within the elite Quds Force. But Farshad's namesake, Major General Qassem Soleimani, the commander of the Quds Force, had intervened, blaming the incident on the incompetence of the Jaish al-Mahdi militiamen whom Farshad was advising.

This was the only time in his more than thirty years working within the Quds Force that Farshad had ever used his special connection with Soleimani to his advantage. His father, who had achieved the rank of lieutenant colonel, had died subverting an assassination attempt on Soleimani's life weeks before Farshad was born. The particulars of that incident had always remained shrouded in mystery, but the idea that Soleimani—one of the great protectors of the Islamic Republic—owed a debt to the elder Farshad lent the younger's career an aura of mystique as he ascended the ranks of the Revolutionary Guards. This mystique endured even after Soleimani's death, magnified by Farshad's inherent competence and daring.

The history of his exploits was etched across his body in scar tissue. When advising Syrian government forces in the Battle of Aleppo, a piece of shrapnel from a mortar had sliced a tidy diagonal gash from above his eyebrow to below his cheek. When advancing on Herat after the 2026 collapse of Afghanistan's last Kabul-based national government, a sniper's bullet had passed through his neck, missing his jugular and arteries, leaving a coin-sized entrance hole at one side of his neck and the same-sized exit wound at the other. That scar made his neck appear like Frankenstein's with the bolts removed, which inevitably led to a nickname among the younger troopers. And lastly, in the battle that was the pinnacle of his career, he'd led a regiment of Revolutionary Guards in the final assault to retake the Golan Heights in 2030. In this, his crowning achievement, the one that would earn him his nation's highest award for valor, the Order of Fath, the retreating Israelis had fired a cowardly but lucky rocket that had struck beside him, killing his radio operator and severing his right leg below the knee. He still limped slightly from this wound, although Farshad hiked three miles each morning on a well-fitted prosthetic.

The missing fingers. The scar on his face. The leg lost below the knee. All those wounds were on his right side. His left side—apart from the scar on his neck—had never been touched. If his troopers called him “Padishah Frankenstein” (which translated to English as “Great King Frankenstein”), the intelligence analysts at Langley had given him a different nickname, one that corresponded with his psychological profile. That name was “Dr. Jekyll and Mr. Hyde.” Farshad was a man with two sides, the one with the scars and the one without. He was capable of great kindness but also great rage. And that rageful side, the one that easily moved him into his reckless tempers, was very much present now as he waited in the empty office next to the holding cell at Bandar Abbas.

Five weeks before, the General Staff of the Armed Forces had issued Farshad his orders directly. His government planned to down an American F-35, and Farshad was to interrogate the pilot. He would have two days to extract a confession. The plan was to create one of those videos his government could use to shame the Americans. After that, the pilot would be released, and the aircraft's technology exploited and then destroyed. When Farshad protested that this was the work of an interrogator far junior to him in rank, he was told that he was the most junior person who could be entrusted with so sensitive a task. This could, the General Staff had explained, bring their two nations to the brink of war. The incident his government would precipitate was delicate. And so Farshad had been ordered to remain at this remote airfield for more than a month, waiting for the Americans to fly their plane overhead.

I've been reduced to this, Farshad thought bitterly. *The most junior man who can be trusted*.

Gone were his days of active service. Farshad had accumulated all of the scars he ever would. He remembered General Soleimani's end. When the Americans killed him, cancer had already developed in his throat and was slowly eating the great commander alive. Several times over those months, the disease had confined his father's old friend to his bed. During a particularly dire episode, he had summoned Farshad to his modest country house in Qanat-e Malek, a hamlet three hours' drive outside of Tehran where Soleimani had been born. The audience hadn't lasted long. Farshad

was brought to the general's bedside, and he could see slow death in the smile that greeted him, the way Soleimani's gums had receded, the purple-white shade of his chapped lips. He told Farshad in a raspy voice that his father had been the lucky one, to be martyred, to never grow old, this was what all soldiers secretly desired, and he wished a warrior's death for the son of his old friend. Before Farshad could answer, Soleimani abruptly dismissed him. As he traveled out of the house, he could hear the old man retching pathetically from behind his closed door. Two months later, Soleimani's great adversary, the Americans, would grant him the most generous of gifts: a warrior's death.

Waiting in the empty office in Bandar Abbas, Farshad thought again of that last meeting with Soleimani. He felt certain his fate wouldn't be like his father's. His fate would be to die in his bed, like the old general nearly had. And if he was in a sour mood that day at Bandar Abbas, it was because of this. Another war was brewing—he could feel it—and it would be the first war in his life from which he wouldn't walk away with a scar.

A young trooper with a freshly washed and perfectly creased uniform stood at the door. “Brigadier Farshad, sir …”

He looked up, his gaze eager to the point of cruelty. “What is it?”

“The prisoner is ready for you now.”

Farshad stood slowly. He pushed his way past the young trooper, toward the cell with the American. Whether he liked it or not, Farshad still had a job to do.

21:02 MARCH 12, 2034 (GMT-4)
WASHINGTON, D.C.

Sandy Chowdhury knew the situation was bad. Their government email accounts, their government cell phones, even the vending machine that took credit cards and operated off a government IP address—all of it was down. No one could log in. Not a single password worked. They'd been locked out of everything. *This is bad, this is bad, this is bad*; it was all Chowdhury could think.

He couldn't contact Central Command or the Indo-Pacific Command, and his imagination raced as he projected a host of possible outcomes for the F-35 they'd lost, as well as the fate of the *John Paul Jones* and its sister ships in the South China Sea. In this gathering panic, Chowdhury's thoughts wandered unexpectedly.

A memory kept reoccurring.

When he was in high school in Northern Virginia, he'd run hurdles. He was quite good too, until an accident curtailed his track career. He'd broken an ankle on the anchor leg of the 4 x 400-meter relay. It was junior year, at the regional championships. When he fell on the track, he could feel his skinned knee and palms, the burn of sweat in those cuts, but he couldn't feel his badly broken ankle. He simply sat there in the middle of the race, his competitors passing him by, staring dumbfounded at his foot as it dangled numbly from the bottom of the joint. He knew how much it would soon hurt, but it hadn't started hurting yet.

That was what this moment was like; he knew something had broken, but he felt nothing.

Chowdhury, Hendrickson, and their modest staff scrambled about, tapping at keyboards, unplugging and replugging phones that refused to give a dial tone, troubleshooting systems that refused to be troubleshot. Air Force One had been scheduled to land at Andrews more than an hour ago, but there was still no word as to its status. There was no way to get a call into Andrews. Their personal cell phones worked, but no one wanted to dial through an unsecured line, particularly after Lin Bao had proven to Chowdhury that his own phone had been compromised.

Illustration: Owen Freeman

Time passed strangely in the hours after the blackout. Everyone knew the minutes were critical, everyone could intuit that events of the type that shape history were unfolding at this very moment. But no one understood their form; no one understood what those events were or what that history

would be. So much was happening—the *Wén Rui*, the F-35, Air Force One, which had seemed to vanish—and yet they had no news. Frantic as they were to understand the scope of this attack, they couldn't even make a secure phone call. Everything had been compromised.

They carried on in a general, ineffectual frenzy, with Chowdhury and Hendrickson bunkered up in the Situation Room, leaning over its conference table, scribbling on legal pads, hatching plans and then discarding them. Until after a few hours Chowdhury's boss, Trent Wisecarver, the national security advisor, stood in the open doorway.

At first they didn't notice him.

“Sandy,” he said.

Chowdhury glanced up, stupefied. “Sir?”

Decades before, Wisecarver had played tailback at West Point, and he still looked the part. His shirtsleeves were rolled up over his thick forearms, his tie was loosened around his trunk of a neck, and his flop of salt-and-pepper hair was uncombed. He wore a pair of frameless eyeglasses (he was severely myopic) and looked as though he'd slept in his rumpled Brooks Brothers suit. “How much cash do you have?”

“Sir?”

“Cash. I need eighty bucks. My government credit card isn't working.”

Chowdhury fished through his pockets, as did Hendrickson. Between them they came up with seventy-six dollars, three of which were in quarters. Chowdhury was passing the handful of coins and the crumple of bills to Wisecarver as they marched from the West Wing out toward the White House vestibule and North Lawn, where, pulled up on the curved driveway by the fountain, there was a metro taxi. A uniformed Secret Service guard handed Chowdhury the taxi driver's license and registration and then returned to his post. Chowdhury's boss curtly explained that his plane had been forced to divert to Dulles and land under the guise of a civilian aircraft. That meant no escort to meet them, no Secret Service motorcade,

no elaborate security detail. POTUS herself was due back at Andrews within the hour. From Air Force One her communications proved limited; she could reach the four-star commanding general at Strategic Command and had spoken to the VP, but these carve-outs in their communications hierarchy were clearly designed by whoever instigated the attack as a way to avoid an inadvertent nuclear escalation. Beijing (or whoever did this) surely knew that if she had no communications with her nuclear capability, protocols were in place for an automatic preemptive strike. She did, however, have no direct communications with the secretary of defense or any of her combatant commanders in the field other than Strategic Command. Establishing contact with them was Wisecarver's job. Refusing to wait for official travel arrangements when his plane landed, he had rushed into the main terminal at Dulles and gotten in a cab so he'd have communications working at the White House by the time POTUS arrived. And here Wisecarver was, without a dime to pay the fare.

Chowdhury examined the taxi's registration. The driver was an immigrant, South Asian, with a last name from the same part of India as Chowdhury's own family. When Chowdhury stepped to the taxi's window to hand back the documents, he thought to mention something about it but decided not to. This wasn't the time or the place. Wisecarver then paid the driver, meticulously counting out the fare from the wad of cash and coins, while the twitchy Secret Service agent he'd traveled with scanned in every direction for threats, whether real or imagined.

10:22 MARCH 13, 2034 (GMT+8)
BEIJING

Lin Bao hadn't slept much on the flight. When the Gulfstream touched down, he was shepherded by a heavily armed official escort—dark suits, dark sunglasses, concealed weapons—to the Ministry of National Defense headquarters, an ominous building in the heart of the smog-choked capital. Lin Bao guessed his escorts were officers of the Ministry of State Security but couldn't be sure. Without a *hello* or *goodbye* or any pleasantry whatsoever, they brought him up to a windowless conference room on the building's sixth floor and shut the door behind them.

Lin Bao waited. The conference table in the room's center was massive, designed to receive international delegations and to host negotiations of the highest sensitivity. In a vase at the center of the table were some flowers, peace lilies, one of the few species that required no sunlight to grow. Lin Bao ran his fingers beneath their white, silky petals and couldn't help but appreciate the irony of the choice in this place.

Also on the table were two silver platters, piled with packets of M&M's. He noticed the writing on the packets: It was in English.

Two double doors at the opposite end of the conference room swung open. Startled, Lin Bao sat up straight.

Mid-level military officers flowed into the room, dropping down a projection screen, establishing a secure video-teleconference connection, and arraying fresh pitchers of water on the table. Then, like a tidal surge, they moved back through the door as quickly as they had appeared. In their wake a diminutive man entered the room, his chest glinting with a field of medals. He wore a tobacco-colored dress uniform made of fine but poorly cut fabric, the sleeves extending almost to his knuckles. His demeanor was gregarious and his earlobes pendulous, framing a very round face whose full cheeks creased in a fixed smile. His arm was extended in a handshake like an electric plug in search of a socket. “Admiral Lin Bao, Admiral Lin Bao,” he repeated, turning the name into a song, a triumphal anthem. “Congratulations. You have done *very* well.”

Lin Bao had never met Defense Minister General Chiang, but that face was as familiar as his own. How often had he seen it hung in one of those hierarchical portrait collages that adorned the anodyne military buildings in which he'd spent his career? It was the minister's smile that set him apart from the rest of the party officials who so assiduously cultivated their dour expressions for the photographer. His habitual courtesy, which could have been interpreted as weakness, was the smooth sheath that contained the force of his office. Minister Chiang gestured toward the silver platters spread across the conference table. “You haven't touched your M&M's,” he said, barely suppressing a laugh.

Lin Bao felt a sense of foreboding. If he assumed that Minister Chiang and the Central Military Commission had recalled him for a debriefing, he was quickly disabused of this belief. They knew everything already, including the smallest of details. Every exchange. Every gesture. Every word. Down to a single comment made about M&M's. This was the point of the platters: to let Lin Bao know that nothing escaped their attention, lest he come to believe that any individual might assume an outsize role in this enterprise, lest he ever think that any one person could become greater than a single cog in the vast machinery of the People's Republic—their republic.

Minister Chiang reclined in his plush office chair at the head of the conference table. He gestured for Lin Bao to sit beside him. Although Lin Bao had served nearly thirty years in his country's navy, this was the first time he'd ever met directly with a member of the Central Military Commission. When he'd studied at Harvard's Kennedy School as a junior officer and later at the US Naval War College in Newport as a mid-level officer, and when he'd attended exercises with his Western counterparts, he was always fascinated by the familiarity so common among senior and junior-level officers in their militaries. The admirals often knew the first names of the lieutenants. And used them. The deputy assistant secretaries and secretaries of defense had once been Annapolis or officer candidate school classmates with the commanders and captains. The egalitarian undercurrents ran much deeper in Western militaries than in his own, despite his country's ideological foundation in socialist and communist thought. He was anything but a “comrade” to senior officers or officials, and he knew it well. While at the war college in Newport, Lin Bao had studied the Battle of Kursk, the largest tank engagement of the Second World War, in which one of the great flaws of the Soviet army was that only command-variant tanks possessed two-way radios. The Soviets couldn't see any reason for subordinates to speak up to their commanders. The subordinate's job was solely to follow orders, to remain a cog in the machine. How little had changed in the intervening years.

The screen at the far end of the conference table flickered to life. “We've won a great battle,” explained Minister Chiang. “You deserve to see this.” The secure connection was perfect, its sound clear, and the image as unfiltered as if they were staring through a window into another room. That

room was the bridge wing of the carrier *Zheng He*. Standing center frame was Ma Qiang.

“Congratulations, Admiral,” said Minister Chiang, showing his small, carnivorous teeth. “I have an old friend of yours here with me.” He gestured to Lin Bao, who awkwardly leaned into the frame so that he might nod once respectfully.

Ma Qiang returned the gesture, but otherwise ignored Lin Bao. He launched into a situation update: His carrier battle group had sunk two American destroyers, which they'd identified as the *Carl Levin* and the *Chung-Hoon*. The former had suffered a massive explosion in its magazine, leaving few survivors among the crew of nearly three hundred, while the latter had taken all night to sink. In these first hours of the morning, Ma Qiang's ships had picked up a few American survivors. The final ship in the flotilla, the crippled *John Paul Jones*, was taking on water. Ma Qiang had already called for the captain to surrender, but she had flatly refused, replying with an expletive-laced transmission that, at first, Ma Qiang's translator hesitated to put into Mandarin. The *Zheng He* Carrier Battle Group had been on station for the last thirty-six hours, and Ma Qiang was growing increasingly concerned that the Americans, having heard nothing from their flotilla, might send a contingent of ships to investigate. He sought permission to strike the fatal blow against the *John Paul Jones*. “Comrade Minister,” Ma Qiang said, “I have no doubt as to our success against any American naval reinforcements, but their arrival would lead to the escalation I've been instructed to avoid. I have a flight of J-31 interceptors ready for launch against the *John Paul Jones*. Total mission time with recovery is fifty-two minutes. We're awaiting your order.”

Minister Chiang rubbed his round and very smooth chin. Lin Bao watched the screen. In the background, beyond the hurried comings and goings of the sailors on the bridge, he could see the horizon. A haze hung about the ocean. It took Lin Bao a moment to understand what had caused it—this haze was all that was left of the *Carl Levin* and the *Chung-Hoon*. And it would, he suspected, soon be all that was left of the *John Paul Jones*. Ma Qiang's concern was merited, Lin Bao thought. This operation from its inception had always been limited in scope. Its objective—the final,

uncontested control of the South China Sea—could only be undermined in one of two ways: first, if their forces failed to destroy this US flotilla; and second, if through a miscalculation this crisis escalated beyond a single, violent demonstration.

“Admiral,” Minister Chiang began, addressing Ma Qiang, “is it your belief that the *John Paul Jones* can be saved?”

Ma Qiang paused for a moment, spoke to someone off-screen in a hushed voice, and then returned his attention to the teleconference. “Comrade Minister, our best estimates are that the *John Paul Jones* will sink within three hours if unaided.” Lin Bao could see that the *Zheng He* was turning into the wind to be in the most advantageous position to launch its aircraft. Suddenly on the distant horizon a stitch of dark smoke appeared. At first it was so faint that Lin Bao mistook it for an imperfection in the teleconference's connection. Then he understood: It was the *John Paul Jones* burning a dozen miles off.

Minister Chiang began stroking his chin as he weighed whether to order this final blow. A decisive engagement was essential, but he needed to proceed with caution lest a miscalculation cause the incident to spiral into a broader conflict, one that could threaten his nation's interests further afield than the South China Sea. He leaned forward in his seat. “Admiral, you are cleared for launch. But listen closely; there is a specific message we must deliver.”

06:42 MARCH 13, 2034 (GMT+4:30)
BANDAR ABBAS

“This fucking place stinks.”

The dank air. The putrid scent. If Wedge hadn't known any better, he would've thought he'd been detained in the public restroom of a Greyhound bus terminal. Blindfolded, he sat cuffed to a steel chair bolted to the floor. He couldn't see anything except for the irregular permutations of shadow and ashy light that played around the room from what he suspected was a window near the ceiling.

A door creaked open, heavy on its hinges. From the sound, Wedge could tell it was metal. A set of uneven steps approached, like someone with a slight limp. Then a scrape on the floor as a chair was dragged over. Whoever sat across from him sat clumsily, as if the movement were awkward for them. Wedge waited for the person to say something, but there was only the smell of their cigarette. Wedge wouldn't be the one to speak first. He knew the Code of Conduct for POWs, an exclusive club into which he'd been inducted only hours before.

“Major Chris ‘Wedge’ Mitchell …” came the voice across from him.

Then his blindfold was yanked off. Overwhelmed by the light, even though the room was poorly lit, Wedge struggled to see. He couldn't quite focus on the dark figure across from him, who continued, “Why are you here, Major Wedge?”

Slowly, his eyes adjusted. The man asking questions was dressed in a green uniform with gold embroidered epaulets of some significance. He had an athletic build like a runner and a hostile face with a long, hook-shaped scar that traced from above his eyebrow to below his cheek. His nose was compressed into a triangle, as if it had been broken and reset many times. In his hands he held the name patch that had been velcroed onto Wedge's flight suit.

“It's not Major Wedge. It's just Wedge. And only my friends call me that.”

The man in the green uniform frowned slightly, as if this hurt his feelings. “When we finish here, you will be wanting me as a friend.” He offered Wedge a cigarette, which he refused with a wave. The man in the uniform repeated his question. “Why are you here?”

Wedge blinked his eyes. He inventoried the bare room. A single window with bars in one corner, which cast a square of light on the damp concrete floor. His chair. A metal table. And another chair where this man now sat. Based on his epaulets, Wedge guessed he was a brigadier. In the far corner of the room was a pail, which Wedge assumed was his toilet. In the near corner was a mat, which he assumed was his bed. Above the mat a shackle with a chain was bolted into the wall. He realized they planned to restrain

him while he slept—if they let him sleep. The room was medieval, except for a single camera. It was hung high in the center of the ceiling, a red light blinking at its base. It was recording everything.

Wedge felt a sinking sensation in the pit of his stomach. He found himself thinking of his great-grandfather, the stories of gunsights marked in grease pencil on his canopy, and Pappy Boyington, the greatest of Marine aces. Pappy had wound up as a prisoner too, finishing the war in a Japanese POW camp. He also thought of his grandfather slinging snake and nape up north in I Corps while kids back home smoked dope and burned their draft cards. Lastly, and in some ways most bitterly, he thought of his own dad. Wedge feared the old man might hold himself responsible if his son wound up rotting in this prison. Wedge had always wanted to be like his dad, even if it killed him. For the first time he entertained the idea that it might.

The brigadier asked him once again why he was there.

Wedge did what he'd been trained to do, what the Code of Conduct demanded: He answered the brigadier's question by giving only his name, rank, and service number.

“That's not what I asked you,” said the brigadier. “I asked why you are here.”

Wedge repeated himself.

The brigadier nodded, as if he understood. He circled the room until he stood behind Wedge. The brigadier rested both his hands on Wedge's shoulders, allowing the three fingers of his mangled right hand to crawl crab-like toward the base of Wedge's neck. “The only way we can resolve this situation is to work together, Major Mitchell. Whether you like it or not, you've trespassed. We have the right to know why you are here so we can resolve this. Nobody wants things to escalate further.”

Wedge glanced toward the camera in the center of the ceiling. He repeated himself for a third time.

“Would it help if I turned that off?” the brigadier asked, looking up at the camera. “You could tell just me. Everything doesn't have to be recorded.”

Wedge knew from his survival training that the brigadier was trying to ingratiate himself and build trust, and then through that trust to elicit a confession. The goal of an interrogation wasn't information but rather control—emotional control. Once that control was taken—preferably by building rapport, but just as often through intimidation, or even violence—the information would flow. But something didn't add up with this brigadier: his rank (he was too senior to be a first-line interrogator), his scars (he had too many of them to have spent a career in intelligence), and his uniform (Wedge knew enough to recognize that he wasn't standard Iranian military). What Wedge felt was nothing more than his intuition, but he was a pilot, reared from a long line of pilots, all of whom had been taught to trust their well-cultivated intuition, both in and out of the cockpit. And it was his trust in this intuition that led him to go on the offense, to make a desperate attempt to gain control of the situation.

The brigadier asked Wedge one more time why he'd come.

This time Wedge didn't answer with his name, rank, and service number. Instead, he said, “I'll tell you, if you tell me.”

The brigadier appeared surprised, as if his reason for being there was obvious. “I'm not sure that I understand.”

“Why are you here?” asked Wedge. “If you tell me, then I'll tell you.”

The brigadier was no longer standing behind Wedge but had returned to his seat across from him. He leaned curiously toward his prisoner. “I'm here to question you,” the brigadier said tentatively, as if this fact embarrassed him in some way he didn't recognize until the very words had escaped his mouth.

“Bullshit,” said Wedge.

The brigadier came out of his seat.

“You're no interrogator,” continued Wedge. “With a face like that you want me to believe you're some intel weenie?”

And that entire face, aside from the scar tissue, began to turn shamefully red.

“You should be out in the field, with your troops,” said Wedge, and he was smiling now, with a reckless grin. He'd taken a gamble, and from the brigadier's reaction he knew he'd been right. He knew he had control. “So why are you in here? Who'd you piss off to get stuck with this shit duty?”

The brigadier was towering over him. He swung back and struck Wedge so hard that he knocked his chair out of the floor where it had been bolted. Wedge toppled over. He hit the ground lifeless as a mannequin. As he lay on his side with his wrists still bound to the chair, the blows fell on him in quick succession. The video camera with its solid red light, high up in the center of the ceiling, was the last thing Wedge saw before he blacked out.

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Illustrations by Sam Whitney; Getty Images

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Vince Beiser

Backchannel
02.02.2021 07:00 AM

The Lion, the Polygamist, and the Biofuel Scam

How a member of a breakaway Mormon sect teamed up with a Lambo-driving, hard-partying tycoon to bilk the government for hundreds of millions of dollars.
Illustration: Reshidev RK

Jacob Kingston waited anxiously at the tiny airport in Brigham City, Utah, for the private jet. His new business partner from Los Angeles was arriving on this frigid January day in 2012, and Jacob desperately wanted to make a good impression. Too embarrassed to bring his humble Toyota Tercel, he had rented a Cadillac Escalade to pick up his guest.

Jacob, a beefy 35-year-old with a large forehead topping a rectangular face and wide-open eyes, had high hopes for this visit. After all, he had three wives and many children to support. Jacob was already one of the top earners of the Davis County Cooperative Society—also known as the Order—a breakaway Mormon polygamist sect based in Salt Lake City that emphasized "consecrating" its members' income back to the group. But, of course, one could always do better.

Jacob had known his new partner, Lev Dermen, for only a couple of weeks, but the man obviously knew something about making money. The thickly built Armenian immigrant who stepped off the plane, a pair of bodyguards in tow, controlled a small empire of truck stops and gas stations across Southern California.

Once they had settled in to the capacious Escalade's leather seats, Jacob drove Dermen half an hour north through high mountain-rimmed flatlands to the remote hamlet of Plymouth. The town is home to some 460 people, and to the operation Dermen had come to see: Jacob's biodiesel plant, a recently built complex of storage tanks, prefab buildings, and trucks. Jacob's wife Sally and other staff members turned out to greet Dermen with a gift basket of Armenian fruits and a cowboy hat. The visit went well. After touring the plant, Dermen invited Jacob and Sally to dinner. "We're going to Seattle," he explained casually.

This article appears in the March 2021 issue. Subscribe to WIRED.

Illustration: Reshidev RK

A few hours later, Jacob and Sally found themselves aboard Dermen's jet, en route to Washington. That evening in Seattle, Dermen took them to a friend's house where they dined on sushi while a hired Russian singer serenaded the group. Dermen and his friends were still partying at 2 am when Sally and Jacob—whose religious beliefs discourage drinking alcohol—went off to the hotel room Dermen had arranged for them. On the way to the airport the next day, Dermen stopped off at a seafood store. "Do you like crab and lobster?" he asked. They did. According to Jacob, Dermen proceeded to buy out the store's entire stock—about 15 boxes—and give it to the couple as a gift.

Jacob's world, up to this point, had not involved private jets or impulse buys of cases of lobster. At the time he met Dermen, he was living with Sally and their children in a cabin where, as he later said, "the heat didn't work, the water didn't work, and it had rats and snakes." Dermen's lifestyle looked mightily appealing. And in a surprisingly short time, Jacob would be living it himself. He and Dermen were about to embark on a byzantine series of business ventures that would involve barges of recycled grease, real estate from Texas to Turkey, forged paperwork, phantom truck trips—and swindling the federal government out of hundreds of millions of dollars.

In 1890, when the Church of Jesus Christ of Latter-day Saints—better known as the Mormons—renounced polygamy, many of its members

considered the move heresy. Forty-odd years later, in the depths of the Depression, a white-haired die-hard named Elden Kingston, husband to five wives and father of 17 children, convinced a few other families to join him in establishing a communal splinter sect on some land just north of Salt Lake City. They would pool their wealth, exalt the taking of multiple wives, and generally live a rigorously observant life. While other such fundamentalist sects have set up shop in dilapidated compounds in remote parts of the West, the better to avoid the temptations of the outside world and the attention of law enforcement, the several thousand members of the Order—also sometimes simply called the Kingston group—mostly live in and around Salt Lake City. They wear ordinary clothes, work ordinary jobs, and generally blend in.

The Kingston group is organized along strictly hierarchical lines, summed up in the teaching of "one above the other." Men defer to their fathers, and on up the chain to the sect's hierarchy of "numbered men," a ranked list of powerful and honored members. Founder Elden Kingston was number one; the Order's current leader, Paul Kingston, is number nine.

Collectively, the Kingston group has built up a sizable economic base. Order members control more than 100 businesses across the American West, including a grocery store, pawn shops, a casino, a cattle ranch, and a tactical firearms company recently visited by Donald Trump Jr. Family members make up much of the workforce. Many of those workers, according to former members, are children; girls file and answer phones in the group's offices, and boys work on the ranches and in factories. Mary Nelson, a former member who left the Order, says she was put to work in the group's central financial office when she was just 6 years old. "That was normal to me," she says. "That's how I grew up. The Order school bus would drop a lot of kids off at the office to start working after school." (A spokesperson for the Order says that allegations of illegal child labor are false.)

Women often marry young as well. *The Salt Lake Tribune* has reported that since 1997, at least 65 Kingston group girls under the age of 18 have been married. Jacob's dad, John Kingston, husband of at least 14 wives and father to some 120 children, was imprisoned in 1998 after pleading no

contest to charges that he beat his 16-year-old daughter unconscious after she ran away from an arranged marriage to her uncle.

Jacob Kingston, one of Paul's favored nephews, is number 95 in the hierarchy. He grew up in Salt Lake City, the second oldest of seven kids in a small two-bedroom house. He also has scores of half-brothers and half-sisters, whom his father sired with a dozen-odd other wives.

As a descendant of the group's second leader, Jacob's bloodline supposedly goes straight back to Jesus. Jacob's behavior, however, wasn't exactly Christlike. "He was a troublemaker," says Jacob's former wife Julianna Johnson, who is also his aunt. "He did stupid, childish stuff as a teenager, like skipping school, vandalizing stuff." He once spray-painted a stripe down her cat's back, she recalls. Other former members remember him as an arrogant kid who made fun of overweight people.

Jacob worked summers on his father's cattle ranch in northern Utah, where he started learning about machines. By the time he was 17, he'd moved out of his mom's house and married his first wife, Sally, also 17. He married Julianna, his second wife, two years later. She was 15 at the time.

Julianna left the Order and Jacob nearly 20 years ago, she says, largely because her marriage was so awful. She hadn't wanted to get married in the first place, but her family pressured her into accepting Jacob's proposal. "He never treated me well as a wife," she says. On nights Jacob was supposed to spend with her, according to Julianna, he'd show up at midnight, after spending the evening with Sally.

His home life notwithstanding, Jacob was a steady student. He went on to earn a PhD in mechanical engineering from the University of Utah. By the time he graduated, he and Sally already had half a dozen children. That's a lot of mouths for anyone to feed. While he was at university, though, Jacob had heard about a small but fast-growing industry that sounded like a good prospect.

In the 1970s, the OPEC oil embargo woke up the Western world to the fact that it relied overwhelmingly on foreign, often unfriendly countries for its most crucial fuel. Research into alternative fuels was suddenly in vogue. By

the early 1980s, researchers were making good progress on a form of diesel made from vegetable oils—aka biodiesel. It wasn't an entirely new idea; when Rudolf Diesel, a German engineer, invented his eponymous engine back in the 1890s, it could run on all kinds of fuels, including oils made from vegetables. But plant-based oils had been shunted aside by the cheap, abundant petroleum that was flooding into the world market.

For a country intent on breaking its dependence on imported oil, biodiesel —one of several types of biofuels, a category that also includes ethanol— has a powerful appeal. It can be used to power trucks and heavy equipment, and as heating oil. It can be made from renewable, all-American feedstocks: oils derived from vegetables like soybeans, corn, palm, and canola, or even used cooking grease, like the stuff left at day's end in a McDonald's french-fry fryer. Those all contain high levels of triglycerides. To make biodiesel, you mix one of those feedstocks with methanol or some other form of alcohol and throw in a little sodium hydroxide or potassium hydroxide as a catalyst. That process, called transesterification, separates the oil into glycerin and fatty acid methyl esters—the chemical name for biodiesel. In industry parlance it's called B100, as in "100 percent biodiesel." This stuff burns more cleanly than conventional diesel and overall produces lower CO_2 emissions.

The problem is that it's expensive to produce. So beginning in 2005, Congress, prodded by worries about energy independence and carbon emissions, as well as by farmers eager for a new market, has offered up billions of dollars' worth of subsidies to spur biodiesel production. Some states have chipped in additional incentives. The shape, size, and number of these subsidies have shifted over the years, but there are two that are important to the tale of Jacob Kingston and Lev Dermen. These subsidies kick in at two different steps along the biodiesel manufacturing chain.

Step one: production. Every gallon of B100 that a producer distills from raw feedstock is given a "renewable identification number" by the US Environmental Protection Agency. Those identification numbers work sort of like carbon credits. Big oil producers are mandated by Congress to either produce or buy a certain amount of biofuel; they can get around this

requirement by simply buying the numbers from someone else—in effect, paying another company to make the biodiesel.

Step two: blending. Producers then mix the B100 with a little regular diesel to produce what they call B99. (Pure B100 can be used as fuel for trucks and heavy equipment, but its high viscosity tends to gum up conventional engines.) Every gallon of B99 produced earns them a $1 “tax credit,” which is actually a direct payment from the IRS. The B99 then gets sold down the line to customers like fuel stations or trucking companies, which usually add more diesel to the mix, depending on their requirements.

Those subsidies have worked: American biodiesel production shot from around 100 million gallons in 2005 to around 1.7 billion in 2019. But the industry is far from self-sustaining, and supporting it hasn't come cheap. A 2019 report by Taxpayers for Common Sense reckons biodiesel credits have cost American taxpayers at least $12 billion so far—not all of which was used as intended, to say the least.

In 2006, shortly after getting his PhD, Jacob borrowed some money, built a small biodiesel production plant on land his father owned, and with Sally’s help launched a company they dubbed Washakie Renewable Energy. They soon added Jacob’s mother, Rachel, to the payroll. She asked Jacob to hire his younger brother Isaiah as well—he’d been out of work for some time after a bout with cancer and desperately needed a job to support his wife and two kids. (Later, Isaiah added a second wife.) Isaiah had a bachelor’s degree in economics, so Jacob put him on accounting, paying him $11 an hour. He made clear to Isaiah that, brother or not, he could be fired if he screwed up.

Business was terrible. The plant wasn’t near any sources of the raw materials it needed, so Washakie had to pay to haul in soybean oil from the Midwest and used cooking oil from restaurants as far away as Las Vegas. Even with the subsidies from the IRS, EPA, and other agencies, the company made zero profits those first couple of years. Jacob looked around, talked to other folks in the industry, thought about those federal subsidies, and came up with a new strategy: fraud.

The Kingstons are not strangers to the idea of ripping off government programs, according to state and federal law enforcement officials. In the 1980s, the Order's then leader was forced to pay a $250,000 settlement for alleged welfare fraud (though he never admitted guilt). Former members told me a common scam is for multiple wives of one husband to declare themselves destitute single mothers in need of state aid for themselves and their children. Mark Shurtleff, Utah's attorney general from 2001 to 2013, believes members of the group also shuffle money around between their various businesses to avoid paying taxes. Though he was never able to marshal enough evidence to bring a case, "there is absolutely no doubt in my mind that they are committing financial fraud," he says. Federal investigators are currently looking into allegations of welfare fraud and student loan fraud. (A spokesperson for the group told me via email that allegations of welfare fraud are false and that "the Davis County Cooperative Society condemns in the strongest terms fraudulent business practices and stresses to members and nonmembers alike that this behavior is not in line with our beliefs or principles.")

The biodiesel industry, with all that government money sloshing through it, presented an enticing target—and not just to Jacob. In recent years, more than 30 people from California to New Jersey have been charged with bilking the government out of millions of dollars in biodiesel-related fraud. Over a dozen have been imprisoned—including one guy who sold $9 million worth of counterfeit renewable identification numbers from his Baltimore garage without making a drop of actual fuel.

In 2010, according to federal court documents, Jacob met a New York–based wheeler-dealer named Andre Bernard who said he could connect Jacob with suppliers of used cooking oil. Bernard introduced Jacob to Tom Davanzo, owner of a company called Biofuels of Colorado. Davanzo had recently produced some biodiesel, but, according to Jacob, his company lacked the proper license to make it eligible to claim renewable identification numbers. Washakie, however, had just such a license. So the pair agreed to phony up paperwork to make it look as if their two companies were connected in such a way that they could claim the identification numbers. It worked, and Davanzo and Jacob divvied up the proceeds.

From there, Davanzo and Jacob faked a series of other deals. In one, Washakie pretended to sell Biofuels of Colorado a load of feedstock that simply didn't exist. At year's end, the two companies hauled in $2.5 million in tax credits. Easy money.

Those claims, though, apparently raised a few official eyebrows. In October of that year, EPA agents came to inspect Washakie's facility in Plymouth, asking questions about production and renewable identification numbers. The agency wouldn't tell me what specifically sparked its interest in Washakie, but it seems likely the Feds already had their eyes on Jacob's new business partners. Bernard and Davanzo were both convicted several years later for other biodiesel-related tax fraud scams, and both are now in prison.

At the time, though, Jacob apparently felt he'd found an excellent new business model, EPA inspections or no. With some help from Bernard, he struck up illicit deals with a handful of other biofuel outfits scattered around the country, creating paperwork to claim federal credits for biodiesel that wouldn't otherwise qualify, or that sometimes never existed at all. Washakie was soon pulling in millions of dollars in fraudulent tax credits.

One of Jacob's new partners was Deryl Leon, then 32, a Miami-based former musician with a trim build and a lazy smile who had gone into buying, selling, and transporting used cooking oil and other liquid fuels. In 2011, with Leon's help, Jacob launched an especially audacious scheme. First, the two bought $2.3 million worth of B99 from a Florida biodiesel company. Then they faked paperwork to make the B99 look like raw feedstock, and more paperwork to make it look like Washakie had processed that feedstock into B99. Voilà: tax credits! Then they sold the original B99 to buyers in India.

But their luck turned sour. While the fuel was in transit, the Indian buyers went out of business. They refused to take possession of the cargo when it arrived. Jacob was stuck having to ship back nearly 700,000 gallons of B99, which, after sitting in hot shipboard containers for many months, had likely gone rancid. Jacob needed to recoup his investment, but what kind of operator would buy $2 million worth of secondhand, potentially foul fuel?

For a stubby guy, only 5'7" and weighing some 200 pounds, Lev Aslan Dermen, aka Levon Termendzhyan, carried himself with serious swagger. He rolled through the streets of Los Angeles in a Lamborghini, a Maybach, a Rolls-Royce, or an armored SUV. Expensive watches adorned his wrist, and black-clad bodyguards hovered at his elbow. He had an office on Rodeo Drive and a mansion in Bel Air, and he took meetings at the Beverly Wilshire. He kept his graying black hair and beard well-trimmed and liked to dine well and party hard. His personal totem, and sometimes nickname, was the Lion. (When he changed his name to its current, more American version, he added the middle name Aslan, which means *lion* in Turkish.)

It was a long way from Armenia, the then Soviet republic he had emigrated from at 14. As a teenager in Los Angeles, Dermen grabbed the opportunities America offered with both hands. While he was still a student at Hollywood High School, he took a job driving a fuel delivery truck. That might not sound like the most promising career move, but Dermen made it one. He saved up and soon launched his own trucking company, Lion Tank Lines. From there, he leased some pumps and gradually built his own chain of filling stations, truck stops, and petroleum companies.

It's a classic American success story—though it seems to have been more Elmore Leonard than Horatio Alger. Over the years, Dermen has been investigated, though never convicted, for selling customers watered-down gasoline, dealing in stolen fuel, evading taxes, laundering money, assault, and brandishing a gun at a police officer. In 2016 someone shot his son's bodyguard five times as the young man was headed home from Dermen's office in a black Escalade.

Jacob had tasked a salesman in Southern California with finding a buyer for his rejected B99, and at the tail end of 2011, that salesman found his way to Dermen. The Lion spotted an opportunity. He called up Jacob and told him to come to LA to discuss, pronto. Kingston number 95 was in Houston at the time; the next day, he was on a plane to Los Angeles.

From the airport, Jacob made his way to a desolate, warehouse-lined street in the gritty LA suburb of Commerce. Dermen had a NOIL (*Lion* backward, get it?) gas station out there, with two black lion statues standing guard in front. Behind the station sat a double-wide trailer that Dermen used as a

field office. A couple of bodyguards loitered outside by Dermen's Escalade while Dermen and Jacob talked.

Jacob had never dealt with anyone who kept bodyguards around, but he liked what Dermen had to say. Dermen apparently wasn't troubled about the biodiesel's quality. "I move a lot of fuel," he told Jacob, according to federal court documents. Jacob says that Dermen told him he'd dumped everything "from motor oil to yellow grease" in his tanks—and that he agreed to buy the fuel then and there.

According to court documents, the two decided to sweeten the deal with a little dash of forgery. They phonied up documents that declared the incoming B99 to be feedstock, documents that showed the "feedstock" getting trucked from Dermen's storage tanks in Long Beach to Washakie's facility in Utah, documents that showed the "feedstock" being converted into biodiesel, and documents showing the "new" B99 getting trucked back down to Long Beach. In fact, once the ship from India arrived, the fuel was just loaded into Dermen's tanks in Long Beach. Jacob and Dermen happily reaped the identification numbers and tax credits.

Two weeks later Dermen made that private-jet trip out to Utah. By the time everyone was home from Seattle, they were in business. With Dermen on board, Washakie's scams shifted into overdrive.

Sometimes the new partners would three-card-monte money between bank accounts to make it look as if they were buying and selling biodiesel when they weren't. Sometimes they'd claim to have produced biodiesel that didn't exist at all. At one point, Deryl Leon, now a partner, helped them rotate bargeloads of B99 in a circle from port to port in Texas and Louisiana, claiming credits on the same batch of fuel more than a dozen times. At one point they reprised the India operation, buying about 100 shipping containers of B99 from dealers in Florida and Texas, relabeling it as used cooking oil, and shipping it to the east coast of Panama. There, it was unloaded onto trucks, hauled to the *west* coast of Panama, reloaded onto another ship, and sent to California, where they pretended to process it into the B99 it was in the first place.

Why go to all the trouble of actually moving tons of product thousands of miles? Because all the legitimate shipping documentation generated on the way—when added to the falsified invoices, production records, and bills of lading—created a much more convincing package than if they had simply faked everything. Jacob was learning fast about the importance of having legitimate-looking paperwork: In addition to the EPA's ongoing investigation, the IRS launched an audit of Washakie's books in 2012.

That summer, at Jacob's direction, Isaiah came out to the Brigham City airport to bring his brother a couple of checks. Jacob took them inside Dermen's plane and reemerged carrying a bag stuffed with cash. Isaiah had already been wondering about the legitimacy of Washakie's business, and this seemed like pretty good evidence that something wasn't right. "What's going on?" he asked Jacob, according to court documents. "Well," Isaiah says that Jacob explained, "those projects that you and Mom did were fraudulent." No need to worry, though—Dermen would protect them.

According to court documents, Jacob said that even with the Feds snooping around, Dermen had assured him they were being kept safe from prosecution by Dermen's "umbrella"—a network of police and government officials he said were on his payroll. To Jacob, that seemed plausible. Dermen had taken him out to many a dinner with LA-area police officers, some of whom worked as his bodyguards in their off hours, as well as with a former Secret Service agent and at least one Homeland Security agent. Eventually, according to Jacob, Dermen told him he'd have to start paying to keep his place under the umbrella. Jacob did as instructed; the bill would ultimately run into many millions of dollars. (Dermen's lawyer says his client never touted an umbrella.)

But that seemed like a bargain considering the tens of millions the partners were hauling in. According to Jacob, Dermen liked to keep wads of it around in cash, bundles of $10,000 tied with two rubber bands. At one point he handed Jacob a Ferrari bag stuffed with $600,000.

Isaiah was uneasy, but Jacob was starstruck. When Dermen called, according to Isaiah, Jacob would drop whatever he was doing to answer. He started showing up at Washakie's Salt Lake City office smelling of cologne and wearing the same kinds of expensive shirts and shoes Dermen wore. A

$40,000 Ulysse Nardin watch that Dermen had given him glittered on his wrist. (Jacob returned the gesture by giving Dermen a watch worth $137,000.) Isaiah said Jacob even trimmed his brown beard to look more like Dermen's.

And the more they reeled in from the US Treasury, the more ideas Dermen had about what to do with it. Jacob flew to LA almost weekly, and soon the two of them were traveling around the world looking for deals and investments. They stayed in plush hotels in New York, Miami, and Las Vegas. They bought property in Utah and Texas. They visited Malaysia, Venezuela, and Belize, where they invested in a casino, and Turkey, where they sank cash into a range of businesses. Over time, Jacob sent more than $130 million to Turkey. Dermen was well connected there. When Jacob's son Jacob Jr. got married, Dermen threw a party for a dozen-plus Kingstons aboard a boat off the shores of Istanbul, followed by a weeklong stay at a resort on the southern coast. At the airport, an official whisked the Kingstons to the front of the customs line. A police escort shouldered aside traffic for the bus that took the family to their hotel.

The teetotaling fundamentalist from a hardscrabble background was delighted to find himself hanging out in louche nightclubs and ritzy hotels with politicians, high rollers, the prime-minister-elect of Belize, and, once, the president of Turkey, Recep Tayyip Erdoğan. Jacob invested in a clothing line with a Haitian-American rapper named Won-G and a talent-showcasing app for would-be "global superstars" called MobStar. He bought a suite at Salt Lake City's top sports arena and hung out with Utah Jazz basketball players.

To Order members who wondered why he was suddenly living like a movie star while so many of them were struggling, Jacob explained that it was just part of his job, which would ultimately benefit them all. "He said he needed to project an image of success so people would work with him," says Shirley Hansen, a former Order member who worked at Washakie. "People thought he was doing great, earning lots of money for the group." Which, in fact, he was: In line with the group's traditional practice, Washakie often bought goods and services from other businesses owned by members of the Order, sometimes deliberately paying extra as a way to spread the wealth

around. All told, Washakie steered some $30 million to other Order-related businesses.

Also, word went around: Don't cross Jacob's friend from Los Angeles. Hansen says Jacob told her, "You don't wanna make him mad. He's the guy who can make or break us. It's thanks to him that we've got money to pay your wages."

At one point, Jacob confided to Dermen that Sally was unhappy with his being away from home so much. A new house closer to the office in Salt Lake City might help, he thought. After touring a coffee-colored, 10 bedroom, $3.1 million mansion near the city, Jacob says Dermen told him, "This is the house you need to buy, because this is our style." Jacob bought the house the next day. (Isaiah, though he had by then been promoted to CFO, lived in a house worth less than one-tenth the price of Jacob's.)

Dermen came out to help negotiate the deal, arriving in a chrome Lamborghini, plus the usual duo of bodyguards in a black Escalade. While he was in town, Jacob invited him to the Kingstons' annual family picnic. It's a major event in the Order's calendar. Hundreds of members gather to swim, eat, and play on a tree-fringed swath of Order-owned land, 20 minutes north of Salt Lake City, where the group's founder, Elden Kingston, supposedly met the Savior. Jacob and Dermen rolled up in the Lamborghini, trailed by the bodyguards. People crowded around to meet Jacob's mysterious friend; having any kind of outsider at the picnic was exceedingly rare, let alone one that showed up in a gleaming supercar.

Jacob introduced Dermen to his father and uncle Paul. Dermen was invited to join them for a kids' talent show, sitting with family members in the front row. "It was kind of a shock, because outsiders are never allowed to those parties," says Michelle Michaels, an Order member who was there and has since left the group. "Jacob said they were his friends, and they were helping him become a millionaire."

As the picnic wound down, Jacob walked back to the Lamborghini with Dermen, trailed by agog relatives snapping pictures. Dermen turned to Jacob, handed him the car's keys, and said off-handedly, "Here. It's yours."

While Jacob's star was rising in the Order, Mary Nelson—the girl who had gone to work in the financial office at age 6—was making plans to escape it. Mary's father, David, is Jacob's uncle; her mother is David's fifth wife. When she was a kid, she says, Mary and her mother were so broke they had to dumpster-dive for food.

When she was 17, in 2013, Mary climbed out of her bedroom window and ran across a field. Bryan Nelson, an outsider she was dating—they met at community college—was waiting on the other side to take her away with him. The two were married soon after. (This kind of thing happens often enough that there are four seasons of a reality show called *Escaping Polygamy,* which follows ex-Kingston group wives as they help others escape their own and other, similar groups.)

Sickened by the Order's practices, which they claim include sexual abuse as well as incest, child labor, and fraud, Mary and Bryan Nelson have since made it their mission to expose the group. "I want to see the Order dismantled, and its leaders pay the price for what they've done to all the thousands of people they control," Mary says. (The spokesman for the Order said, "To allege widespread fraud of any kind is completely false.")

During the years Mary worked in the Kingston group's central office, she helped process financial records, including some pertaining to Washakie, the most lucrative Order-affiliated business. She and Bryan gathered documents and mapped out the Kingstons' labyrinthine family tree on paper, and then tried to get the Feds' attention.

"It's extremely hard getting a meeting with the FBI," Bryan says. "Eventually I got the cell number of the local FBI office head. I called him up and tried to explain the Order in one phone call. That's not easy." In January 2014, at the agent's request, Bryan sent an email summarizing information he claimed to have about the Order—including fraud perpetrated by Washakie leadership. The couple didn't hear anything back for six months. Then an email came with an invitation: The FBI wanted them to meet with some agents in the bureau's Salt Lake City office. That day, Bryan says, "they took a lot of notes. It lasted two hours, and they asked us to meet them again." At the next meeting, Mary says, "they brought us into a conference room with a lot of different people," including

IRS agents. The couple handed over names, numbers, and connections between the Order's multifarious members and businesses.

(Bryan and Mary have since brought a federal lawsuit against the Order, accusing the group of committing millions of dollars' worth of welfare fraud. They say they are working with federal officials to bring charges for other crimes as well. Fearing Order members might seek retribution against them or their children—Mary and Bryan say they have been followed and once had a brick thrown through their window—the couple has moved out of the Salt Lake area.)

All the money pouring into Washakie was, by then, starting to attract attention elsewhere. "You had this little plant in Utah claiming to be producing millions of gallons of biodiesel," says IRS agent Stephen Washburn. "That was a red flag." In 2014, while the EPA's civil division was still looking into Washakie's renewable identification number claims, the agency's criminal arm quietly opened an investigation. The IRS' criminal branch—where Washburn works—soon followed suit. Agents from both organizations got busy subpoenaing documents from banks, shipping companies, and other outfits that Washakie had done business with —along with warnings not to tell anyone at the company about those subpoenas.

Somehow Dermen smelled the feds getting closer. It's not clear exactly how extensive the truck stop tycoon's umbrella really was, but several court cases have revealed that he did have well-compensated allies inside law enforcement, including at the Glendale, California, police department, the FBI, and the Department of Homeland Security. In March 2014, according to court documents, Dermen and Jacob took Dermen's private plane to Houston to meet with their trusty fixer, Deryl Leon. After lunch at a local steakhouse, Dermen motioned for Leon to come outside with him and Jacob. He led Leon to a corner of the parking lot, out of earshot of the valets. Suddenly, he grabbed Leon's wrist, which held a $22,000 Rolex.

According to Leon, Dermen said, "You're being too flashy. You're looking for too much attention." He pointed at Jacob. "Do you appreciate what this man has done for you? Do you care about him?"

“Yes,” said Leon, fear rising in him.

“Would you do anything for this man?”

“Sure.”

“Would you be willing to leave the country?”

By now Leon was terrified. “What do you mean?”

“I’m worried because you’re weak. If they come at you, you’ll talk.”

Dermen then insisted Leon drive back to their hotel with him and two of his bodyguards. Riding in the passenger seat, Leon was petrified, he later testified. He thought he was about to get shot in the back of the head.

A few weeks later, Leon met Dermen again, at a gigantic birthday party for Jacob in Utah. (Dermen gave Jacob a present of a gold Ferrari. Nice, but not quite as impressive as the $1.8 million Bugatti that Jacob had recently given Dermen for *his* birthday.) Dermen again took Leon outside.

“How well do you know your wife?” he asked.

Leon spluttered. “We’ve been together 16 years!”

“Somebody’s talking,” said Dermen. “I don’t know if it’s her or who. Somebody’s talking.” He left it there. (Dermen’s lawyer, it should be noted, says these incidents didn't happen.)

Despite his misgivings, the Lion apparently kept chasing his prey. In March 2015, Washakie banked $164 million in IRS tax credits. Jacob claims Dermen insisted they up the ante. Early the following year, Washakie filed for credits totaling $644 million. At that point, the company wasn’t producing a single gallon of biodiesel.

When Isaiah saw those claims, he freaked. “What are you doing?” he asked Jacob. “You just sent us to prison!” Not to worry, Jacob told him; Dermen had it all under control. They had the umbrella. But the sky was getting awfully dark.

In early February of 2016, according to Jacob, he got a call from someone at the Salt Lake City IRS office—he claims not to know who—with an urgent message: Federal agents were planning to raid Washakie's offices. The family scrambled. Michelle Michaels, the former Order member, says her mother, who worked in one of the Washakie offices, told everyone there, "If you don't need the record, shred it." Michaels, 15 at the time, was drafted to help alter computer records. Hard drives on computers belonging to Jacob, Isaiah, and Rachel were replaced. Isaiah grabbed binders full of documents and stashed them in his car. According to court documents, Jacob says he called Dermen. The Lion was soothing. "I checked," Dermen told him. "There's not going to be a raid."

At 8 am on February 10, a swarm of IRS, EPA, and Homeland Security agents rousted Jacob and Sally from bed. All those documents the investigators had been gathering had yielded enough probable cause for a search warrant. Jacob watched as they rummaged through his home for a solid nine hours. Meanwhile, more agents from the EPA and IRS were searching several other Order-related offices in Salt Lake City.

But they didn't turn up much. "Federal agents found computers that had been wiped or recently replaced, empty desks, and empty bookcases with dust outlines where binders and other documents were recently stored," prosecutors later noted sourly in court papers.

Two days after the raids, a badly rattled Jacob was in Las Vegas, meeting with Dermen in a suite at the Wynn, a high-end hotel on the Strip. According to Jacob, the fuel tycoon had Jacob strip down to his underwear to prove he wasn't wearing a wire. With that confirmed, he told Jacob he hadn't known about the raid but that "his boys" would try to take care of it. "Stay strong," Dermen told him—and go tell Deryl Leon to stay strong too.

So Jacob boarded a plane to Florida and pressured Leon to meet him in a cheap motel room in North Miami, not far from the beach. Taking his cue from Dermen, Jacob had Leon take off his shirt and put his phone in the microwave. Leon assured Jacob he was not talking to the government. "Don't worry," Jacob told him. "There are people on the inside who are going to take care of this."

“My attorney says I’m looking at a 20-year sentence,” Leon said.

According to Leon, Jacob growled, “There are worse things than a 20-year sentence.”

Jacob’s barely veiled threat was a little late. Leon had panicked when he heard about the raid and immediately hired a lawyer to cut a plea deal. He was already talking eagerly to federal investigators by the time Jacob showed up. “He realized that search was the first card to fall in the house of cards they’d built,” says Washburn. “He decided he wanted out.” Leon was crucial, says Washburn, in cluing the investigators in to Dermen’s central role. Until then, they’d been primarily focused on the Kingstons.

The noose was tightening. A federal grand jury had been set up and was hauling in Washakie employees, and even one of Jacob’s wives, to testify. Federal agents were also rooting out other people who had spun scams with Washakie in the past and were pressuring them to talk. In March 2017, a Homeland Security agent who had worked with Dermen and Jacob was arrested and charged with illegally helping a business associate of Dermen’s travel between Mexico and the US. That August, federal agents waving search warrants ransacked Dermen’s home and businesses. It seems even Dermen started getting paranoid: According to one of his former secretaries, Dermen accused her of feeding information to the Feds and fired her—after she’d worked for him for 12 years.

Jacob later said that Dermen was ever confident and promised the Kingstons he could still make the investigation go away. But it would require spreading around some serious cash. Jacob added that Dermen told him he and Isaiah had to send $6 million to a go-between in Turkey.

At that point, though the brothers had bilked the government out of more than $500 million, they were almost broke. The money had been shared with Dermen, given to other Order businesses, invested in Turkish real estate, and blown on sports cars and parties. The brothers frantically drained all of Washakie’s bank accounts, laid off employees, and sold everything they could, including Jacob’s fancy cars and watches. Even Sally’s jewelry.

Jacob said they got the money to Dermen's man in Turkey. But by then, he had apparently decided the umbrella wasn't going to protect him from what was coming down.

On August 23, 2018, Jacob walked down a sky bridge at the Salt Lake City airport, heading for a gate from which a KLM flight to Turkey was departing. According to *Bloomberg Businessweek*, two of Jacob's sons and their wives, along with Sally, were already on the plane. But before Jacob could board the aircraft, plainclothes federal agents stepped out and arrested him. Isaiah and Dermen were also taken into custody in Salt Lake City and Los Angeles, respectively, the same day.

In seven years Jacob had gone from living in a badly heated cabin in northern Utah to luxurious foreign hotels to a jail cell.

For a few months Jacob and Isaiah kept insisting to federal prosecutors that they were innocent. But then the Feds indicted their mother and Jacob's wife Sally as well, for mail fraud and money laundering. They were all looking at possibly decades behind bars. Soon, all four agreed to enter guilty pleas and testify against Dermen in exchange for lighter sentences.

Being associated with the big-spending Armenian American and his polygamist partner has since become a serious liability. In February 2020, Belize's prime-minister-elect resigned over allegations that he took a $50,000 bribe to help Dermen get citizenship in the tiny Central American nation. President Erdoğan is reportedly petitioning a Turkish court to have a picture of him with Jacob removed from news sites. A Beverly Hills lawyer pleaded guilty to bribing federal agents on Dermen's behalf, and at least one of those agents is awaiting trial.

At one point, Jacob and Dermen found themselves in the same cell. "What happened?" Jacob asked.

It's your fault, Dermen told him. It's your family's fault.

"You ruined my life," replied Jacob.

Dermen's trial began in January 2020. It lasted nearly two months. His lawyer, Mark Geragos, a high-dollar LA attorney whose former clients include Michael Jackson and Colin Kaepernick, argued that all of the fraud had been committed by the Kingstons; Dermen, he insisted, was just their innocent business partner. Much of the extensive testimony from Jacob, Leon, and others that incriminated Dermen, says Geragos, was false—confessed criminals trying to shift blame away from themselves. Via email, Geragos told me that the meeting in which Dermen had Jacob strip down to his underwear never happened. "Jacob is delusional," Geragos wrote. The jury, however, thought otherwise. Dermen was convicted.

Dermen and Jacob are still sitting in the Salt Lake County jail awaiting sentencing, which has been delayed by the coronavirus pandemic. (In March, Geragos pushed for a retrial, arguing that the pandemic had panicked the jurors. He was denied. He is still fighting for a new trial on other grounds. Among other things, Geragos says that recently disclosed evidence shows Dermen had no involvement in the $6 million that Jacob sent to Dermen's associate in Turkey just before his arrest, and that the money was sent to cover legitimate legal and business expenses.)

Dermen was found guilty of 10 counts of mail fraud and money laundering. He could spend the rest of his life behind bars. Jacob, even with his sentence reduced thanks to his cooperation, is still likely to spend many years in prison. He admitted to a total of 41 charges, including obstructing justice, fraudulently claiming to have made biofuel, and laundering more than $100 million.

"It was tax fraud on an almost unimaginable scale," says Jacob's own lawyer, Marc Agnifilo. "It's really a simple fraud. The government is writing these million-dollar checks, $5 million checks, $20 million checks, just because you gave them some paperwork that shows that maybe you made biodiesel."

Here's hoping that the federal government has, then, learned something from the saga of the Lion and the Numbered Man. Because just one month before Dermen's trial got underway, former president Donald Trump signed a five-year extension of the $1-per-gallon biodiesel blenders tax credit program.

This excerpt appears in the March 2021 issue. Subscribe now.

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Roxanne Khamsi

Backchannel
01.28.2021 07:00 AM

May I Borrow Your Covid Immunity?

Whenever a new virus emerges—be it HIV or SARS-CoV-2—a few lucky people put up a potent natural defense. Monoclonal antibody drugs let them share the health.

Illustration: Najeebah Al-Ghadban; Getty Images

A year ago, in January, when John Mascola heard that a new coronavirus had been detected in an animal market in Wuhan, China, he left everything at his desk on the fourth floor of the US government's Vaccine Research Center and walked up one flight of stairs to the office of a longtime colleague, Nicole Doria-Rose. Felicitously, Mascola, who is the center's director, had been working on ways to immunize people against coronaviruses. A vaccine against this new bug, soon to be known as SARS-CoV-2, was the first priority, the only surefire way of halting the growing pandemic. Mascola and Doria-Rose, an immunologist, go way back. And they hoped there was another approach that might also contribute to the cause, one they'd been chasing for more than a decade. They wanted to find a monoclonal antibody.

Everybody knows about vaccines, which train the immune system to fight invaders, but monoclonal antibody drugs are less familiar. To develop them, scientists must generally find a person whose body has done better than most at fighting a disease; scour their immune system, needle-in-a-haystack style, to locate the most effective antibody; and use it as a blueprint to fashion a drug for people who are sick. When former New Jersey governor

Chris Christie came down with Covid-19 in early October, he was given an experimental monoclonal antibody drug made by Eli Lilly. That treatment —with the exceedingly unpronounceable name bamlanivimab—can be traced directly back to the conversation Mascola had with Doria-Rose at the start of the pandemic. The Food and Drug Administration approved it for emergency use on November 9. Similarly, a combination of two other antibody drugs, made by the company Regeneron, was given to then-president Donald Trump when he contracted the virus. Like the vaccines made by Pfizer and Moderna, these monoclonals were deployed in record time.

Mascola became interested in monoclonal antibody treatments in the early 2000s, not long after he joined the Vaccine Research Center in Bethesda, Maryland. Back then, if you studied infectious diseases, as Mascola did, you were probably trying to understand HIV. It had killed an estimated 22 million people and seemed unstoppable. HIV wasn't as easy to contract as a respiratory illness—bodily fluids such as blood or semen, not the air you breathe, are the media for transmission—but once the virus took hold, its passage through the body was relentless. Patients suffered an array of painful symptoms, including mouth ulcers, skin sores, and pneumonia, before succumbing to a total collapse of the body's defenses. But there was a small percentage of people who held out longer; they made stronger antibodies against the virus.

Other researchers had shown it was possible to isolate one of those superpowered antibodies, and starting in 2006, Doria-Rose joined Mascola in setting out to catalog the immune systems of exceptional HIV fighters. They first had to find HIV patients who had been infected for years but had remained relatively healthy; then, from each of those people, they had to collect and analyze samples of blood to know if the donors were among the estimated 1 percent of people with the virus who made highly effective antibodies. The blood was processed through machines that quickly separated out antibody-producing cells, called B cells, which were then deposited into the tiny wells of a tray resembling a Keebler elf's muffin tin. From there, Mascola's team would capture the antibodies produced by each cell cocooned in the individual wells.

Next, they tested the antibodies for strength. They took a line of specially engineered human cells, designed to glow green when infected with an HIV-like virus, and bathed them in antibodies. Then they exposed the cells to the virus. If the antibody was a dud, the infected cells would glow; if it had superpowers, they wouldn't. Most of the time the mixture glowed. This went on for months; hundreds of samples failed.

But one day in 2009, while Mascola was sitting in the laboratory break room about to eat a sandwich, one of his scientists bounded toward him with a big smile on her face: They'd found the no-glow they'd been looking for.

That antibody came from a man known as Donor 45. Doria-Rose, who met with study participants when they came in for their regular checkups, says that Donor 45 was an exceedingly private gay Black man in his sixties from the Washington, DC, area. They dubbed the antibody VRC01—the first from the Vaccine Research Center.

It took almost a decade to develop a drug from this antibody and set up a clinical trial to make sure it was safe and effective. Other HIV researchers going down different roads came up with anti-retroviral drugs—the famous "triple cocktail"—that effectively treat and prevent HIV infections by interfering with the virus's ability to make copies of itself. The crisis wasn't over. People still contracted HIV, but with the antiretrovirals they could live mostly normal lives. As access to those drugs expanded, the effort to use antibodies to make HIV drugs became less urgent. It plugged along, a clinical trial was started, but not as many people were paying much attention.

And then came Covid-19. That day in January 2020, Mascola immediately saw that everything he and his colleagues had learned from studying HIV antibodies could be mobilized to treat the new pathogen. It would be "the culmination of a life's work," he says.

Mascola is a restrained kind of guy. He communicates with economy. "When he puts one exclamation point in an email, you know you have done something phenomenal!" Doria-Rose wrote to me. So when he came to her office, they got straight down to business. Doria-Rose began asking team

members to fire up the cell-sorting machines and fill the tiny muffin tins and engineer test cells that glowed. They overhauled their work schedules and went all in.

Even before you were born, your immune system started making antibodies to fight potential pathogens. They are stunningly diverse: The average person has billions of B cells that can produce somewhere between 9 and 17 million distinct antibodies. Antibody molecules are Y-shaped, and their tips have nooks and crannies that can lock onto specific viruses or bacteria. When that binding happens, the antibodies block the invaders from attaching to healthy cells and shuttle them away. The truly ingenious thing, however, is not just that an antibody can seek out its enemy for destruction, but that the act of locking onto the pathogen is also a signal to the immune system to make more of that particular shape. Even one antibody can call up the troops, allowing your immune system to wage war against an invading army.

Unfortunately, when an entirely new pathogen like HIV or the new coronavirus emerges, a well-matching shape is rare, even in our massive preexisting natural repertoire of antibodies. Vaccines, which typically consist of a weakened virus or fragments of a virus, train the body to develop a locking antibody—one that will bind to and neutralize the real pathogen when we encounter it in the world. This is known as active immunity. The body's immune system goes to basic training, and it emerges with a fit fighting force. In contrast, antibody therapies like the ones Mascola worked on for HIV give you passive immunity: A mercenary army is introduced into the body to temporarily do the work for you.

The discovery of passive immunity reaches back to the end of the 19th century, when Emil Behring, a German scientist with sad, hooded eyes and a trim beard, began injecting 220 children with animal blood. The children had all contracted diphtheria, a gruesome disease that slowly suffocated its victims. Behring had been trying to treat the disease, experimenting with rabbits, guinea pigs, goats, and horses, giving infected animals the blood of recovered ones. He didn't know why, but the sick animals improved. So he gave the children the blood of diphtheria-exposed animals, and in 1894 he published the results: About twice as many children as would normally be

expected to survive actually did survive. Behring's "serum therapy" approach was deemed such a success that he later received the first-ever Nobel Prize in Physiology or Medicine.

Over the next century, scientists discovered that antibodies in the blood serum accounted for the success of the diphtheria treatment. They were then able to figure out how to isolate individual antibodies from lab animals and manufacture them. A defining moment came in 1986, when the US Food and Drug Administration approved the first monoclonal therapy. It was derived from mice and stopped the body from attacking and rejecting transplanted organs.

HIV, however, is tricky. One of the wiliest viruses, it mutates rapidly, shape-shifting to outmaneuver the body's attempts to find a locking antibody. In the early 1990s, when the struggle to combat HIV accelerated, an immunologist at the Scripps Research Institute in La Jolla, California, named Dennis Burton set his sights on solving that problem.

First, Burton had to find an antibody that worked against many different strains of HIV—what he called a "broadly neutralizing" antibody. He and his collaborators landed on one from a man in the US, in 1994. They called it B12, and it neutralized many of the virus strains they tested against it. Finally, there was proof that finding and deploying antibodies against HIV was possible. Burton's work inspired Mascola and his colleagues, who discovered VRC01.

Since then, some 100 antibody drugs have arrived on the market in the US or the European Union. About half are designed to fight cancer, and most of the rest work against autoimmune disorders. Very few of them target infectious diseases. In fact, only seven such treatments have ever been approved by the FDA—the first for a deadly lung infection in 1998 and the most recent for Ebola, more than two decades later. For Covid-19, there are more than 40 efforts to produce antibody-based treatments. Just as Covid-19 revved up vaccine researchers to do in a year what used to take a decade, so has it sped up development of new infectious disease treatments.

Born in a suburb of Boston, Mascola came to the National Institutes of Health after medical school and various government research positions. His

defining character trait is an absorbed single-mindedness. About 20 colleagues in a meeting once pranked him by each wearing a sweatshirt printed with an image of his face. The joke was to see how long it would take him to notice. “I think they clocked it at like two and a half minutes,” Mascola says, “which obviously is a long time.”

Outwardly reserved, Mascola is inwardly optimistic. When he switched gears in January to focus on the coronavirus, he was buoyed by the apparent stability of SARS-CoV-2. While extremely contagious, it did not seem to mutate quickly. Unlike with HIV, scientists wouldn’t need to find someone whose antibodies had kept a virus at bay over a long period of time. They just needed to find someone who had definitely been sick with Covid-19 and whose body had mounted a successful response.

When the first US cases emerged in Washington state, a vial of blood from a patient who had recovered was shipped to a Canadian company called AbCellera for analysis. The firm’s specialized machines and software enabled it to screen more than 5 million immune cells from the very first sample and identify more than 500 antibodies within five days. AbCellera FedExed tiny plastic vials of some of these antibodies to Mascola’s team in Bethesda. Over years of studying HIV, Doria-Rose and others had developed more automated and efficient methods of vetting antibodies, and the staff tested them against SARS-CoV-2, all day and on nights and weekends.

Around the time the antibodies were arriving at the Vaccine Research Center in late February, the institute went into lockdown. Doria-Rose attended weekly video conferences with AbCellera scientists and experts around North America. At one of those meetings in March, a colleague shared a spreadsheet of the antibodies isolated from one of the first individuals from Seattle who had been hospitalized and volunteered to donate blood to the effort. The sheet was color-coded (though, for the layperson, counterintuitively): Green rows indicated antibodies that bound weakly to SARS-CoV-2, yellow rows were for moderately good antibodies, and red rows indicated antibodies that were the best candidates to turn into drugs. “You’re scanning down an Excel spreadsheet looking for red,” Mascola told me. “And it was a little bit disappointing at first. There were

lots of green—lots of weaks—and a couple of yellows. Within hundreds and hundreds of rows from that one patient, there were just a couple of reds."

One of them, number 555, stood out. The antibody seemed to be a potent neutralizer. It worked well against SARS-CoV-2 at lower concentrations than any other in the spreadsheet. A promising lead.

The Vaccine Research Center can do a lot of things, but it's still a government agency. It doesn't have factories where it manufactures drugs. So it shared its findings with AbCellera, which inked a partnership with Eli Lilly, a maker of monoclonal antibodies for cancer and other illnesses. The antibody that stood out in the spreadsheet became known as LY-CoV555.

At Lilly, the person responsible for managing the developing Covid antibody treatments was Dan Skovronsky, the company's chief scientific officer. It was up to him to decide whether to go ahead and test LY-CoV555 in a clinical trial or wait to see if a better antibody would crop up later. It was a weighty choice. Clinical trials and drug development cost hundreds of millions of dollars. For Skovronsky, though, expense wasn't the main consideration. Lilly had factories that could produce monoclonal antibodies at a large scale, but at the time there were limited free slots in the assembly line. "If we picked wrong," he says, "we could have been delayed by as much as a couple of months before there was another slot and another molecule could go in."

Skovronsky's team was divided. Some people thought they should wait for a better antibody candidate. Lilly's computer algorithms, designed to predict how well antibodies would perform, were suggesting that LY-CoV555 would clear rapidly from the patient's body, presumably reducing its efficacy. But there was no time to rigorously test that assumption. In normal times the next step would be monthslong efficacy tests in different animals. But the coronavirus was spreading rapidly. It was April, and cities had shut down. Hospitals in New York and New Orleans were overrun. More than 13,000 people in the US had already died of the virus. Time was critical.

Finally, one Saturday evening during dinner, Skovronsky excused himself and took his plate to his home office, where he dialed in to a long call with about a dozen collaborators from Lilly and AbCellera. He had to make a decision. Going forward with the antibody meant rejecting the findings of the company's predictive algorithm, a step Lilly had introduced at great cost in order to make more sensible drug development decisions. But by the end of the call, he'd decided to move forward with LY-CoV555. It continued to work better at lower concentrations than other antibodies studied by Lilly and its academic collaborators. He emailed his team to let them know. The next day—a Sunday—the company started the lengthy process of manufacturing enough of the antibody for the clinical trials it hoped to launch by early summer.

Settling on LY-CoV555 so early was a risk. But it turned out to be a worthwhile gamble: Skovronsky's team kept looking for more powerful antibodies over the next several months and none came along. "Remarkably," he says, "555 still looks to be the best, the most potent antibody—which we can only say is luck."

This spring, Alex Stemer, a medical director within the Symphony Care Network, a chain of nursing homes in the Midwest, got an unexpected call from an old friend and former medical student he had mentored named Myron Cohen. An infectious disease specialist at the University of North Carolina at Chapel Hill, Cohen also helped design clinical trials and knew that Eli Lilly needed older volunteers, who were among the most vulnerable, to test its new preventive Covid therapy. He'd instantly thought of Stemer and the nursing home residents.

In March, Symphony had experienced a terrible tragedy. At its facility in Joliet, Illinois, a maintenance worker diligently installed tables in residents' rooms so they wouldn't risk spreading Covid while mingling in the dining hall. But in a horrible twist, the worker turned out to be a presymptomatic carrier of the virus. An outbreak followed, and within a month 26 people had died, including the maintenance worker himself.

Read all of our coronavirus coverage here.

Stemer was an obvious choice to oversee the chain's Covid-19 response. He has been passionate about treating infectious diseases ever since he alerted his colleagues to a salmonella outbreak in a hospital while he was a medical resident. Stemer, who had worked in the field for years in Indiana, was eager to participate in the Lilly trial. He connected Cohen with the Symphony leaders. In his first call, Cohen made his pitch with all the scientific nitty-gritty of how antibody therapies work. Then the conversation took an unexpectedly emotional turn. The Symphony team wanted to start collaborating right away. Cohen had to explain that it would take weeks or perhaps months before the antibodies were ready and available for testing. "But people are dying right now," they told him. "It was probably one of the more upsetting conversations I've ever had," Cohen says. The urgency continued in follow-up calls. "I literally just about cried after every phone call," he says.

It took until the end of May to manufacture enough doses of LY-CoV555 for clinical testing to get going. Lilly began launching some of the four key clinical trials, starting with people already sick with Covid-19 in a hospital. Near the end of August, Stemer got a call that set things into motion: An employee at Symphony's assisted living facility in Chesterton, Indiana, had tested positive for Covid-19. On Saturday, August 29, after Stemer was done making his rounds, he made his way into a large conference room. There, about 30 residents along with Stemer and other staff, were given an intravenous infusion containing either saline solution (the experimental control) or molecules of LY-CoV555. Could the drug prevent the spread in the center? The trial could provide an answer.

Antibody therapies didn't need a hype man, but they found one in President Trump. On October 8, he tweeted a video of himself standing on the sunny White House lawn, six days after receiving the drug made by Regeneron. "I went into the hospital a week ago; I was very sick and I took this medicine and it was incredible," he said. Not long after, Chris Christie, who spent seven days in the ICU, said he received antibodies from Lilly. After Christie recovered, he thanked Lilly for access to "their extraordinary treatments," although nobody can say for sure whether the drugs helped either of these politicians more than any of the other treatments they were given.

Both Regeneron and Lilly released preliminary data from their trials last fall, reporting that people who got their drugs were less likely to require hospital or emergency room care than the people who got the saline-solution placebo. That prompted the FDA to bless both companies' monoclonal antibodies with an emergency use authorization, allowing doctors to prescribe them for people who have tested positive for the new coronavirus. The US government committed to buying 1.5 million doses of Regeneron's drug to distribute at no cost to patients, along with almost a million doses from Lilly.

It took just 10 months from Mascola's conversation with Doria-Rose to get to a drug with provisional approval from the FDA. In some ways, though, that ended up being the easy part. Monoclonals work best when administered to Covid-19 patients within days of their first symptoms. But to get them within a recommended 10-day window, you need a Covid-19 test result and must meet certain eligibility requirements. In many places, patients simply don't learn they are eligible in time and are disqualified from getting the treatment. Hospitals feared there would be a shortage of the drugs, but in fact they often go unused. The delivery mechanism for monoclonals like Lilly's—a slow IV infusion rather than a quick stab in the bicep—can be another barrier to distribution. The wards where infusions typically take place are reserved for cancer treatments; hospitals are understandably averse to seating infectious Covid-19 patients in areas with vulnerable cancer patients. In the midst of a pandemic, many haven't had the staff or facilities to do it elsewhere.

By January, two vaccines had been approved for use in the US, but their rollout has been achingly slow. At the same time, new variants of Covid-19 have been detected in the United Kingdom, South Africa, and Brazil. There's worry, based in part on data from Lilly's own lab experiments, that individual monoclonal treatments might not be effective on some emerging variants.

Still, health officials in different parts of the country are optimistic about the drug. Jeremy Cauwels, chief physician of Sanford Health, a network of hospitals in the Midwest, believes that the antibody treatments will prove their worth during these months as people are waiting for the vaccine—and

after, for those who refused to get it and become ill. Several hospitals he oversees did manage to create antibody drug infusion centers by repurposing spaces and recruiting surgical and other nurses who were less busy during the pandemic. By his calculations, over several months these medications prevented an estimated 35 people from having to be admitted into the Sanford system. Those 35 people got to go home and be treated as outpatients, which was good for them. And their absence translated into more than 200 days of open hospital beds, which was good for the patients who needed them.

In early December, health officials in El Paso, Texas, made the infusions of monoclonal antibodies available at the city's convention center, which had been operating as a dedicated Covid treatment site for people with mild to moderate cases of the disease. Those patients didn't have to go to the hospital to get infusions. "That, for us, was sort of a game changer in terms of everybody then feeling comfortable not only talking about it but disseminating it and getting it to patients," says Ogechika Alozie, an infectious disease specialist and a cochair of El Paso's Covid-19 task force. "The first two or three weeks were really slow. All of a sudden, around Christmas, it ramped up."

On January 21, Lilly issued a press release. The company said it had data from the trial of nursing home staff and residents in which Alex Stemer had participated. The results gave new hope. The company said that bamlanivimab could actually prevent people from getting infected with the pandemic coronavirus. While the results have yet to be peer-reviewed, the data suggested that the drug reduced the risk of infection with SARS-CoV-2 by 57 percent among the participants, and up to 80 percent among the particularly vulnerable nursing home residents. The next week, Regeneron released data suggesting that its antibody combination could also reduce the risk of becoming infected by the pandemic coronavirus.

The Covid-19 pandemic has brought so much death and economic devastation. But at least in the scientific response to the virus, we've been lucky—lucky that this fearsome coronavirus happens to mutate slowly; lucky that researchers had been working on relevant vaccine and treatment technology for years. But, of course, luck doesn't truly describe what

happened. It wasn't chance that researchers knew exactly what to do when Covid-19 hit. They'd been well prepared by a long progression of meticulous, hard-fought scientific steps. But their work on this virus is also a cautionary tale. We might not be so prepared with the next virus. In fact, we're still struggling with HIV.

HIV is trickier than SARS-CoV-2, despite the emergence of new concerning variants. Not only does HIV mutate much more quickly than the coronavirus, it also hides in a sugar coat that makes it an especially slippery target for antibodies to bind to. HIV still infects some 1.7 million people around the world every year. Antiretrovirals have made it possible to live with the disease, and even prevent transmission if taken daily. But the real goal is to stop people from getting HIV in the first place. Unfortunately, scientists have tried and failed for more than three decades to come up with a working HIV vaccine. Now, some of them say monoclonal antibody drugs —given prophylactically, rather than as a treatment—might be the best immediate bet to prevent new infections.

The fierce push for antibody drugs in the current coronavirus pandemic may ultimately give a lift to the HIV research that laid the groundwork in the first place. Companies like AbCellera and Regeneron have gotten faster and better at both finding and manufacturing monoclonals. Moreover, the benefit conferred by antibody drugs against the coronavirus in early clinical trials has also been encouraging. "The success of monoclonals in Covid is going to shine a brighter light on the potential of HIV monoclonals," says Myron Cohen, "both in treatment and prevention."

In January, results finally were presented from a pair of four-year-long clinical trials for the antibody against HIV that had come from Donor 45. The trials involved more than 4,600 people from Brazil to Botswana to Switzerland who were at high risk for contracting HIV. Researchers knew, based on testing in the lab, that certain strains of the virus are more susceptible to the antibody, and the results seemed to confirm it: The number of patients who contracted those strains was 75 percent lower than normal. But the antibody was no silver bullet. Overall, the drug didn't significantly reduce HIV infections, because only about a third of the strains were susceptible to the powers of VRC01. Still, the trials were an

important proof of concept: They showed that an antibody drug could block HIV infection. Mascola is quick to point out that, in recent years, even more potent antibodies against HIV have been discovered, including several that are already in clinical testing. “Some of these antibodies are about tenfold more potent than VRC01, and they also are active against a greater number of HIV viruses,” Mascola says. He remains an optimist.

So why did Donor 45 possess an antibody that could fend off the worst of HIV’s assaults and survive for years while so many others died? No one really knows. The human immune system is bafflingly complex. When scientists sequenced the human genome two decades ago, they skipped over detailing the immune system genes, because these bits of DNA are so variable and have a propensity to rearrange randomly during cell division.

This ability, of course, is also what makes our immune system so amazing. According to the work of Dennis Burton, the Scripps researcher, and his collaborators, humans have the potential to generate 1,000,000,000,000,000,000 different kinds of antibodies, which means that we all, theoretically, possess the ability to neutralize a vast number of pathogens. The immune system is a randomizer, evolution’s way of preparing for uncertainty. We can’t predict exactly what terrible new virus will emerge, but we know one will. And by harnessing the most effective antibodies—like the antibodies from Donor 45—we might be able to find solutions for humanity.

Donor 45 died in 2013 but surpassed all expectations of how long someone could live with HIV without any medication. He and the other “elite neutralizers” who made potent antibodies were lucky, of course, to have survived longer with a disease that had killed so many of their friends and lovers. But their survival also left them alone, isolated. Doria-Rose kept a box of tissues in her office for these visits. “I cried with Donor 45 one time,” she says, recalling how the loneliness weighed on him, as did the burden of knowing he survived when others hadn’t.

When the Vaccine Research Center scientists isolated VRC01, it was Doria-Rose’s job to tell Donor 45 that his blood contained a powerful molecule that might help others. She printed out a copy of a scientific report detailing the findings and showed it to him when he next visited the clinic. He had

expressed to her all along a desire to aid research so that others could benefit. Donor 45 did not live to see this month's trial results, but on that day, he seemed to understand. "He got it," she says, "that we had found what we had been looking for." This time, they didn't cry.

WIRED Staff

Security
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2034: A Novel of the Next World War, an Exclusive Excerpt

What if things escalated? What if communications were knocked out? What if cyberwar was just the start? A note about this special six-part series.

 world map overlaid on a grid
The world of *2034*: 1. Washington, D.C. **2.** Quantico **3.** Barents Sea **4.** Tehran **5.** Isfahan **6.** Bandar Abbas **7.** Strait of Hormuz **8.** New Delhi **9.** Beijing **10.** Yokusuka Naval Base **11.** Zhanjiang **12.** Taouan Airport **13.** Taipei **14.** South China Sea **15.** Spratly IslandsIllustration: Getty Images

WIRED has always been a publication about the future—about the forces shaping it, and the shape we'd like it to take. Sometimes, for us, that means being wild-eyed optimists, envisioning the scenarios that excite us most. And sometimes that means taking pains to envision futures that we really, really want to avoid.

By giving clarity and definition to those nightmare trajectories, the hope is that we can give people the ability to recognize and divert from them. Almost, say, the way a vaccine teaches an immune system what to ward off. And that's what this issue of WIRED is trying to do.

Over the past several years, relations between the US and China have moldered. And they're not likely to solidify any time soon. At this point, the two countries are not only strategic and economic competitors; they've also begun to split into increasingly separate technological spheres—turning the race for innovations in artificial intelligence, quantum computing, and cyberweapons into what could become a zero-sum game.

Hypernationalist politics aren't liable to go away either. It's something that eats at us.

A few months back, we were on the phone with the writer and novelist Elliot Ackerman, discussing edits on another WIRED story, when he said something that made our ears perk up. He mentioned he was finishing a novel with Admiral James Stavridis that imagines how the political and technological conditions of today might erupt into a war between the US and China.

This article appears in the February 2021 issue. Subscribe to WIRED.

Illustration: Owen Freeman

A bit about these two authors: Ackerman, who has written five novels and a memoir, also served five tours of duty as a Marine in Iraq and Afghanistan, as well as one term as a White House fellow during the Obama administration. Stavridis commanded fleets of destroyers, a carrier strike group, and the US Southern Command before serving as supreme allied commander of NATO from 2009 to 2013; after that he became dean of the Fletcher School of Law and Diplomacy at Tufts University. The two authors think deeply about national security. And neither has any appetite for war with China.

When we talked to them, Stavridis told us that he was inspired to write this novel by works of fiction that came out of the Cold War. Maybe one reason why that conflict didn't erupt into World War III, he said, was that so many authors worked meticulously to imagine the worst-case scenario—to make the unthinkable as vivid as possible. Stavridis rattled off a few examples. (One that loomed large: *The Third World War*, by John Hackett.) We were reminded of 1983's *The Day After*—the most-watched made-for-TV movie of all time, which painstakingly depicted the aftermath of nuclear war in a Kansas town. It was seen by 100 million Americans, including the president and the joint chiefs.

Ackerman and Stavridis' collaboration, *2034: A Novel of the Next World War*, is a supremely well-informed effort to cast a similar kind of spell against sleepwalking into a war with China. "The case for this book with

Elliot was that a cautionary tale might help us stay out of any event like that," says Stavridis.

So we've decided to do something unusual: We gave over the whole February print issue of WIRED to an excerpt from their book, and here at WIRED.com, we are rolling it out in six parts, once a week on Tuesdays. (The full novel will be available where books are sold, on March 9.) Consider this another vaccine against disaster. Fortunately, this dose won't cause a temporary fever—and it happens to be a rippingly good read. Turns out that even cautionary tales can be exciting, when the future we're most excited about is the one where they never come true. —*The Editors*

By Elliot Ackerman and Admiral James Stavridis

Backchannel
01.26.2021 07:00 AM

2034, Part I: Peril in the South China Sea

“We've got a ship in duress that's sailing without a flag and that hasn't sent out a distress signal. Something doesn't add up.”

aircraft carrier with an American flag
Illustration: Owen Freeman
14:47 MARCH 12, 2034 (GMT+8)
SOUTH CHINA SEA

It surprised her still, even after twenty-four years, the way from horizon to horizon the vast expanse of ocean could in an instant turn completely calm, taut as a linen pulled across a table. She imagined that if a single needle were dropped from a height, it would slip through all the fathoms of water to the seabed, where, undisturbed by any current, it would rest on its point. How many times over her career had she stood as she did now, on the bridge of a ship, observing this miracle of stillness? A thousand times? Two thousand? On a recent sleepless night, she had studied her logbooks and totaled up all the days she had spent traversing the deep ocean, out of sight of land. It added up to nearly nine years. Her memory darted back and forth across those long years, to her watch-standing days as an ensign on the wood-slatted decks of a minesweeper with its bronchial diesel engines, to her mid-career hiatus in special warfare spent in the brown waters of the world, to this day, with these three sleek Arleigh Burke-class destroyers under her command cutting a south-by-southwest wake at eighteen knots under a relentless and uncaring sun.

Her small flotilla was twelve nautical miles off Mischief Reef in the long-disputed Spratly Islands on a euphemistically titled *freedom-of-navigation patrol*. She hated that term. Like so much in military life it was designed to belie the truth of their mission, which was a provocation, plain and simple. These were indisputably international waters, at least according to established conventions of maritime law, but the People's Republic of China claimed them as territorial seas. Passing through the much-disputed

Spratlys with her flotilla was the legal equivalent of driving doughnuts into your neighbor's prized front lawn after he moves his fence a little too far onto your property. And the Chinese had been doing that for decades now, moving the fence a little further, a little further, and a little further still, until they would claim the entire South Pacific.

So … time to doughnut-drive their yard.

Maybe we should simply call it that, she thought, the hint of a smirk falling across her carefully curated demeanor. Let's call it a *doughnut drive* instead of a *freedom-of-navigation patrol*. At least then my sailors would understand what the hell we're doing out here.

She glanced behind her, toward the fantail of her flagship, the *John Paul Jones*. Extending in its wake, arrayed in a line of battle over the flat horizon, were her other two destroyers, the *Carl Levin* and *Chung-Hoon*. She was the commodore, in charge of these three warships, as well as another four still back in their home port of San Diego. She stood at the pinnacle of her career, and when she stared off in the direction of her other ships, searching for them in the wake of her flagship, she couldn't help but see herself out there, as clearly as if she were standing on that tabletop of perfectly calm ocean, appearing and disappearing into the shimmer. Herself as she once was: the youthful Ensign Sarah Hunt. And then herself as she was now: the older, wiser Captain Sarah Hunt, commodore of Destroyer Squadron 21—*Solomons Onward*, their motto since the Second World War; "Rampant Lions," the name they gave themselves. On the deck plates of her seven ships she was affectionately known as the "Lion Queen."

She stood for a while, staring pensively into the ship's wake, finding and losing an image of herself in the water. She'd been given the news from the medical board yesterday, right before she'd pulled in all lines and sailed out of Yokosuka Naval Station. The envelope was tucked in her pocket. The thought of the paper made her left leg ache, right where the bone had set poorly, the ache followed by a predictable lightning bolt of pins and needles that began at the base of her spine. The old injury had finally caught up with her. The medical board had had its say. This would be the Lion Queen's last voyage. Hunt couldn't quite believe it.

The light changed suddenly, almost imperceptibly. Hunt observed an oblong shadow passing across the smooth mantle of the sea, whose surface was now interrupted by a flicker of wind, forming into a ripple. She glanced above her, to where a thin cloud, the only one in the sky, made its transit. Then the cloud vanished, dissolving into mist, as it failed to make passage beyond the relentless late-winter sun. The water grew perfectly still once again.

Her thoughts were interrupted by the hollow clatter of steps quickly and lightly making their way up the ladder behind her. Hunt checked her watch. The ship's captain, Commander Jane Morris, was, as usual, running behind schedule.

10:51 MARCH 12, 2034 (GMT+4:30)
STRAIT OF HORMUZ

Major Chris “Wedge” Mitchell hardly ever felt *it*. …

His father had felt *it* a bit more than him, like that one time the FLIR on his F/A-18 Hornet had failed and he'd pickle-barreled two GBU-38s “danger close” for a platoon of grunts in Ramadi, using nothing but a handheld GPS and a map. …

“Pop,” his grandfather, had felt *it* more than them both when, for five exhausting days, he'd dropped snake and nape with nothing more than an optical sight on treetop passes during Tet, where he dusted in so low the flames had blistered the fuselage of his A-4 Skyhawk. …

“Pop-Pop,” his great-grandfather, had felt *it* most of all, patrolling the South Pacific for Japanese Zeros with VMF-214, the famed *Black Sheep* squadron led by the hard-drinking, harder-fighting five-time Marine Corps ace Major Gregory “Pappy” Boyington. …

This elusive *it*, which had held four generations of Mitchells in its thrall, was the sensation of flying by the seat of your pants, on pure instinct alone. (*Back when I flew with Pappy, and we'd be on patrol, it wasn't all whizbang like you have it now. No targeting computers. No autopilot. It was just your skill, your controls, and your luck. We'd mark our gunsights on the canopy with a grease pencil and off we'd fly. And when you flew with Pappy you learned pretty quick to watch your horizon. You'd watch it close, but you'd also watch Pappy. When he'd toss his cigarette out of the cockpit and slam his canopy shut, you knew he meant business and you were about to tangle with a flight of Zeros.*)

The last time Wedge had heard that little speech from his great-grandfather, he'd been 6 years old. The sharp-eyed pilot had only the slightest tremor in his voice despite his 90-plus years. And now, as the clear sun caught light on his canopy, Wedge could hear the words as distinctly as if his great-grandfather were riding along as his back-seater. Except the F-35E Lightning he flew had only a single seat.

This was but one of the many gripes Wedge had with the fighter he was piloting so close to Iranian airspace that he was literally dancing his starboard wing along the border. Not that the maneuver was hard. In fact, flying with such precision took no skill at all. The flight plan had been inputted into the F-35's onboard navigation computer. Wedge didn't have to do a thing. The plane flew itself. He merely watched the controls, admired the view out his canopy, and listened to the ghost of his great-grandfather taunting him from a nonexistent back seat.

Jammed behind his headrest was an auxiliary battery unit whose hum seemed impossibly loud, even over the F-35's turbofan engine. This battery, about the size of a shoebox, powered the latest upgrade to the fighter's suite of stealth technologies. Wedge hadn't been told much about the addition, only that it was some kind of an electromagnetic disrupter. Before he'd been briefed on his mission, he'd caught two civilian Lockheed contractors

tampering with his plane belowdecks and had alerted the sergeant at arms, who himself had no record of any civilians on the manifest of the *George H. W. Bush*. This had resulted in a call to the ship's captain, who eventually resolved the confusion. Due to the sensitivity of the technology being installed, the presence of these contractors was itself highly classified. Ultimately, it proved a messy way for Wedge to learn about his mission, but aside from that initial hiccup every other part of the flight plan had proceeded smoothly.

Maybe too smoothly. Which was the problem. Wedge was hopelessly bored. He glanced below, to the Strait of Hormuz, that militarized sliver of turquoise that separated the Arabian Peninsula from Persia. He checked his watch, a Breitling chronometer with built-in compass and altimeter his father had worn during strafing runs over Marjah twenty-five years before. He trusted the watch more than his onboard computer. Both said that he was forty-three seconds out from a six-degree eastward course adjustment that would take him into Iranian airspace. At which point—so long as the little humming box behind his head did its job—he would vanish completely.

It would be a neat trick.

It almost seemed like a prank that he'd been entrusted with such a high-tech mission. His buddies in the squadron had always joked that he should've been born in an earlier time. That's how he'd gotten his call sign, “Wedge”: the world's first and simplest tool.

Time for his six-degree turn.

He switched off the autopilot. He knew there'd be hell to pay for flying throttle and stick, but he'd deal with that when he got back to the *Bush*.

He wanted to feel *it*.

If only for a second. And if only for once in his life.

It would be worth the ass-chewing. And so, with a bunch of noise behind his head, he banked into Iranian airspace.

14:58 MARCH 12, 2034 (GMT+8)
SOUTH CHINA SEA

“You wanted to see me, Commodore?”

Commander Jane Morris, captain of the *John Paul Jones*, seemed tired, too tired to apologize for being almost fifteen minutes late to her meeting with Hunt, who understood the strain Morris was under. Hunt understood that strain because she herself had felt it on occasions too countless to number. It was the strain of getting a ship underway. The absolute accountability for nearly four hundred sailors. And the lack of sleep as the captain was summoned again and again to the bridge as the ship maneuvered through the seemingly endless fishing fleets in the South China Sea. The argument could be made that Hunt was under that strain three times over, based on the scope of her command, but both Hunt and Morris knew that the command of a flotilla was command by delegation while the command of a ship was pure command. *In the end, you and you alone are responsible for everything your ship does or fails to do.* A simple lesson they'd both been taught as midshipmen at Annapolis.

Hunt fished out two cigars from her cargo pocket.

“And what're those?” asked Morris.

“An apology,” said Hunt. “They're Cubans. My dad used to buy them from the Marines at Gitmo. It's not as much fun now that they're legal, but still … they're pretty good.” Morris was a devout Christian, quietly evangelical, and Hunt hadn't been sure whether or not she'd partake, so she was pleased when Morris took the cigar and came up alongside her on the bridge wing for a light.

“An apology?” asked Morris. “What for?” She dipped the tip of the cigar into the flame made by Hunt's Zippo, which was engraved with one of those cigar-chomping, submachine-gun-toting bullfrogs commonly tattooed onto the chests and shoulders of Navy SEALs or, in the case of Hunt's father, etched onto the lighter he'd passed down to his only child.

“I imagine you weren't thrilled to learn that I'd picked the *John Paul Jones* for my flagship.” Hunt had lit her cigar as well, and as their ship held its course the smoke was carried off behind them. “I wouldn't want you to think this choice was a rebuke,” she continued, “particularly as the only other female in command. I wouldn't want you to think that I was trying to babysit you by situating my flag here.” Hunt instinctively glanced up at the mast, at her commodore's command pennant.

“Permission to speak freely?”

“C'mon, Jane. Cut the shit. You're not a plebe. This isn't Bancroft Hall.”

“Okay, ma'am,” began Morris, “I never thought any of that. Wouldn't have even occurred to me. You've got three good ships with three good crews. You need to put yourself somewhere. Actually, my crew was pretty jazzed to hear that we'd have the Lion Queen herself on board.”

“Could be worse,” said Hunt. “If I were a man you'd be stuck with the Lion King.”

Morris laughed.

“And if I were the Lion King,” deadpanned Hunt, “that'd make you Zazu.” Then Hunt smiled, that wide-open smile that had always endeared her to her subordinates.

Which led Morris to say a little more, maybe more than she would've in the normal course: “If we were two men, and the *Levin* and *Hoon* were skippered by two women, do you think we'd be having this conversation?” Morris allowed the beat of silence between them to serve as the answer.

“You're right,” said Hunt, taking another pull on her Cuban as she leaned on the deck railing and stared out toward the horizon, across the still impossibly calm ocean.

“How's your leg holding up?” asked Morris.

Hunt reached down to her thigh. “It's as good as it'll ever be,” she said. She didn't touch the break in her femur, the one she'd suffered a decade before during a training jump gone bad. A faulty parachute had ended her tenure as one of the first women in the SEALs and nearly ended her life. Instead, she fingered the letter from the medical board resting in her pocket.

This excerpt appears in the February 2021 issue. Subscribe to WIRED.

Illustration: Owen Freeman

They'd smoked their short cigars nearly down to the nubs when Morris spotted something on the starboard horizon. “You see that smoke?” she said. The two naval officers pitched their cigars over the side for a clearer view. It was a small ship, steaming slowly or perhaps even drifting. Morris ducked into the bridge and returned to the observation deck with two pairs of binoculars, one for each of them.

They could see it clearly now, a trawler about seventy feet long, built low amidships to recover its fishing nets, with a high-built prow designed to crest storm surge. Smoke billowed from the aft part of the ship, where the navigation bridge was set behind the nets and cranes—great dense, dark clouds of it, interspersed with orange flames. There was a commotion on deck as the crew of maybe a dozen struggled to contain the blaze.

The flotilla had rehearsed what to do in the event they came across a ship in duress. First, they would check to see if other vessels were coming to render assistance. If not, they would amplify any distress signals and facilitate finding help. What they wouldn't do—or would do only as an absolute last resort—was divert from their own freedom-of-navigation patrol to provide that assistance themselves.

“Did you catch the ship's nationality?” asked Hunt. Inwardly, she began running through a decision tree of her options.

Morris said no, there wasn't a flag flying either fore or aft. Then she stepped back into the bridge and asked the officer of the deck, a beef-fed lieutenant junior grade with a sweep of sandy blond hair, whether or not a distress signal had come in over the last hour.

The officer of the deck reviewed the bridge log, checked with the combat information center—the central nervous system of the ship's sensors and communications complex a couple of decks below—and concluded that no distress signal had been issued. Before Morris could dispatch such a signal on the trawler's behalf, Hunt stepped onto the bridge and stopped her.

“We're diverting to render assistance,” ordered Hunt.

“Diverting?” Morris' question escaped her reflexively, almost accidentally, as every head on the bridge swiveled toward the commodore, who knew as well as the crew that lingering in these waters dramatically increased the odds of a confrontation with a naval vessel from the People's Liberation Army. The crew was already at a modified general quarters, well trained and ready, the atmosphere one of grim anticipation.

“We've got a ship in duress that's sailing without a flag and that hasn't sent out a distress signal,” said Hunt. “Let's take a closer look, Jane. And let's go to full general quarters. Something doesn't add up.”

Crisply, Morris issued those orders to the crew, as if they were the chorus to a song she'd rehearsed to herself for years but up to this moment had never had the opportunity to perform. Sailors sprang into motion on every deck of the vessel, quickly donning flash gear, strapping on gas masks and inflatable life jackets, locking down the warship's many hatches, spinning up the full combat suite, to include energizing the stealth apparatus that would cloak the ship's radar and infrared signatures. While the *John Paul Jones* changed course and closed in on the incapacitated trawler, its sister ships, the *Levin* and *Hoon*, remained on course and speed for the freedom-of-navigation mission. The distance between them and the flagship began to open. Hunt then disappeared back to her stateroom, to where she would send out the encrypted dispatch to Seventh Fleet Headquarters in Yokosuka. Their plans had changed.

04:47 MARCH 12, 2034 (GMT-4)
WASHINGTON, D.C.

Dr. Sandeep “Sandy” Chowdhury, the deputy national security advisor, hated the second and fourth Mondays of every month. These were the days,

according to his custody agreement, that his 6-year-old daughter, Ashni, returned to her mother. What often complicated matters was that the handoff didn't technically occur until the end of school. Which left him responsible for any unforeseen childcare issues that might arise, such as a snow day. And on this particular Monday morning, a snow day in which he was scheduled to be in the White House Situation Room monitoring progress on a particularly sensitive test flight over the Strait of Hormuz, he had resorted to calling his own mother, the formidable Lakshmi Chowdhury, to come to his Logan Circle apartment. She had arrived before the sun had even risen in order to watch Ashni.

“Don't forget my one condition,” she'd reminded her son as he tightened his tie around the collar that was too loose for his thin neck. Heading out into the slushy predawn, he paused at the door. “I won't forget,” he told her. “And I'll be back by the time Ashni's picked up.” He had to be: His mother's one condition was that she not be inflicted with the sight of Sandy's ex-wife, Samantha, a transplant from Texas' Gulf Coast whom Lakshmi haughtily called “provincial.” She'd disliked her the moment she had set eyes on her skinny frame and blonde, pageboy haircut. A poor man's Ellen DeGeneres, Lakshmi had once said in a pique, having to remind her son about the old-time television show host whose appeal she'd never understood.

If being single and reliant upon his mother at 44 was somewhat humiliating, the ego blow was diminished when he removed his White House all-access badge from his briefcase. He flashed it to the uniformed Secret Service agent at the northwest gate while a couple of early-morning joggers on Pennsylvania Avenue glanced in his direction, wondering if they should know who he was. It was only in the last eighteen months, since he'd taken up his posting in the West Wing, that his mother had finally begun to correct people when they assumed that her son, Dr. Chowdhury, was a medical doctor.

His mother had asked to visit his office several times, but he'd kept her at bay. The idea of an office in the West Wing was far more glamorous than the reality, a desk and a chair jammed against a basement wall in a general crush of staff.

He sat at his desk, enjoying the rare quiet of the empty room. No one else had made it through the two inches of snow that had paralyzed the capital city. Chowdhury rooted around one of his drawers, scrounged up a badly crushed but still edible energy bar, and took it, a cup of coffee, and a briefing binder through the heavy, soundproof doors into the Situation Room.

A seat with a built-in work terminal had been left for him at the head of the conference table. He logged in. At the far end of the room was an LED screen with a map displaying the disposition of US military forces abroad, to include an encrypted video-teleconference link with each of the major combatant commands, Southern, Central, Northern, and the rest. He focused on the Indo-Pacific Command—the largest and most important, responsible for nearly 40 percent of the earth's surface, though much of it was ocean.

The briefer was Rear Admiral John T. Hendrickson, a nuclear submariner with whom Chowdhury had a passing familiarity, though they'd yet to work together directly. The admiral was flanked by two junior officers, a man and a woman, each significantly taller than him. The admiral and Chowdhury had been contemporaries in the doctoral program at the Fletcher School of Law and Diplomacy fifteen years before. That didn't mean they'd been friends; in fact, they'd overlapped by only a single year, but Chowdhury knew Hendrickson by reputation. At a hair over five feet, five inches tall, Hendrickson was conspicuous in his shortness. His compact size made it seem as though he were born to fit into submarines, and his quirky, deeply analytic mind seemed equally customized for that strange brand of naval service. Hendrickson had finished his doctorate in a record-breaking three years (as opposed to Chowdhury's seven), and during that time he'd led the Fletcher softball team to a hat trick of intramural championships in the Boston area, earning the nickname “Bunt.”

Chowdhury nearly called Hendrickson by that old nickname, but he thought better of it. It was a moment for deference to official roles. The screen in front of them was littered with forward-deployed military units—an amphibious ready group in the Aegean, a carrier battle group in the Western Pacific, two nuclear submarines under what remained of the Arctic ice, the

concentric rings of armored formations fanned out from west to east in Central Europe, as they had been for nearly a hundred years to ward off Russian aggression. Hendrickson quickly homed in on two critical events underway, one long planned, the other “developing,” as Hendrickson put it.

The planned event was the testing of a new electromagnetic disrupter within the F-35's suite of stealth technology. This test was now in progress and would play out over the next several hours. The fighter had been launched from a Marine squadron off the *George H. W. Bush* in the Arabian Gulf. Hendrickson glanced down at his watch. “The pilot's been dark in Iranian airspace for the last four minutes.” He went into a long, top secret, and dizzyingly expository paragraph on the nature of the electromagnetic disruption, which was occurring at that very moment, soothing the Iranian air defenses to sleep.

Within the first few sentences, Chowdhury was lost. He had never been detail oriented, particularly when those details were technical in nature. This was why he'd found his way into politics after graduate school. This was also why Hendrickson—brilliant though he was—did, technically, work for Chowdhury. As a political appointee on the National Security Council staff, Chowdhury outranked him, though this was a point few military officers in the White House would publicly concede to their civilian masters. Chowdhury's genius, while not technical, was an intuitive understanding of how to make the best out of any bad situation. He'd gotten his political start working in the one-term Pence presidency. Who could say he wasn't a survivor?

“The second situation is developing,” continued Hendrickson. “The *John Paul Jones* command group—a three-ship surface action group—has diverted the flagship from its freedom-of-navigation patrol nearby the Spratly Islands to investigate a vessel in duress.”

“What kind of vessel?” asked Chowdhury. He was leaning back in the leather executive chair at the head of the conference table, the same chair that the president sat in when she used the room. Chowdhury was munching the end of his energy bar in a particularly non-presidential fashion.

“We don't know,” answered Hendrickson. “We're waiting on an update from Seventh Fleet.”

Even though Chowdhury couldn't follow the particulars of the F-35's stealth disruption, he did know that having a $2 billion Arleigh Burke guided missile destroyer playing rescue tugboat to a mystery ship in waters claimed by the Chinese had the potential to undermine his morning. And splitting up the surface action group didn't seem like the best idea. “This doesn't sound good, Bunt. Who is the on-scene commander?”

Hendrickson shot a glance back at Chowdhury, who recognized the slight provocation he was making by using the old nickname. The two junior staffers exchanged an apprehensive look. Hendrickson chose to ignore it. “I know the commodore,” he said. “Captain Sarah Hunt. She is extremely capable. Top of her class at everything.”

“So?” asked Chowdhury.

“So, we'd be prudent to cut her a little slack.”

15:28 MARCH 12, 2034 (GMT+8)
SOUTH CHINA SEA

Once the order to render aid was given, the crew of the *John Paul Jones* worked quickly. Two RHIBs launched off the fantail and pulled alongside the burning trawler. The stocky, blond lieutenant junior grade had been placed in charge of this tiny flotilla of inflatable boats, while Hunt and Morris observed from the bridge, listening to the updates he sent over his handheld radio with all the baritone hysteria of plays being called at the line of scrimmage. Both senior officers forgave his novice lack of calm. He was putting out a fire with two pumps and two hoses in hostile waters.

Hostile but completely calm, rigid as a pane of glass as the drama of the fire and the trawler played out a couple of hundred yards off the bridge. Hunt found herself staring wistfully at the water, wondering again if perhaps this might be her last time seeing such a sea, or at least seeing it from the command of a naval vessel. After a moment's thought, she told the officer of the deck to send a signal to her other two destroyers to break off the

freedom-of-navigation patrol and divert on-scene. Better to have a bit more firepower in close.

The *Levin* and *Hoon* reversed course and increased speed, and in a few minutes they had taken up positions around the *John Paul Jones*, sailing in a protective orbit as the flagship continued a dead slow approach toward the trawler. Soon, the last of the flames had been extinguished and the young lieutenant junior grade gave a triumphant announcement over the radio, to which both Hunt and Morris volunteered some quick congratulations followed by instructions for him to board and assess the extent of the damages. An order that he followed. Or at least tried to follow.

The crew of the trawler met the first boarding party at the gunnels with angry, desperate shouts. One went so far as to swing a grapple at a boatswain's head. Watching this struggle from the bridge of the *John Paul Jones*, Hunt wondered why the crew of a burning ship would so stridently resist help. Between radio transmissions, in which she encouraged a general de-escalation, she could overhear the trawler's crew, who spoke in what sounded like Mandarin.

“Ma'am, I suggest we cut them loose,” Morris eventually offered. “They don't seem to want any more help.”

“I can see that, Jane,” responded Hunt. “But the question is, why not?”

She could observe the boarding party and the crew of the trawler gesticulating wildly at one another. Why this resistance? Hunt saw Morris' point—with each passing minute her command became increasingly vulnerable to intercept by a People's Liberation Army naval patrol, which would undermine their mission. But wasn't this their mission as well? To keep these waters safe and navigable? Ten, maybe even five years before, the threat level had been lower. Back then, most of the Cold War treaties had remained intact. Those old systems had eroded, however. And Sarah Hunt, gazing out at this trawler with its defiant crew, had an instinct that this small fishing vessel represented a threat.

“Commander Morris,” said Hunt gravely, “pull your ship alongside that trawler. If we can't board her from the RHIBs, we'll board her from here.”

Morris immediately objected to the order, offering a predictable list of concerns: first, the time it would take would further expose them to a potential confrontation with a hostile naval patrol; second, placing the *John Paul Jones* alongside the trawler would put their own ship at undue risk. “We don't know what's on board,” cautioned Morris.

Hunt listened patiently. She could feel Morris' crew going about their tasks on the bridge, trying to ignore these two senior-most officers as they had their disagreement. Then Hunt repeated the order. Morris complied.

As the *John Paul Jones* came astride the trawler, Hunt could now see its name, *Wén Rui*, and its home port, Quanzhou, a provincial-level anchorage astride the Taiwan Strait. Her crew shot grapples over the trawler's gunnels, which allowed them to affix steel tow cables to its side. Lashed together, the two ships cut through the water in tandem like a motorcycle with an unruly sidecar. The danger of this maneuver was obvious to everyone on the bridge. They went about their tasks with a glum air of silent-sailor disapproval, all thinking their commodore was risking the ship unnecessarily for a bunch of agitated Chinese fishermen. No one voiced their collective wish that their commodore let her hunch go by the boards and return them to safer waters.

Sensing the discontent, Hunt announced that she was heading belowdecks.

Heads snapped around.

“Where to, ma'am?” Morris said by way of protest, seemingly indignant that her commander would abandon her in such a precarious position.

“To the *Wén Rui*,” answered Hunt. “I want to see her for myself.”

And this is what she did, surprising the master-at-arms, who handed her a holstered pistol, which she strapped on as she clamored over the side, ignoring the throbbing in her bad leg. When Hunt dropped onto the deck of the trawler, she found that the boarding party had already placed under arrest the half dozen crew members of the *Wén Rui*. They sat cross-legged amidships with an armed guard hovering behind them, their wrists bound at their backs in plastic flex-cuffs, their peaked fishing caps pulled low, and

their clothes oily and stained. When Hunt stepped on deck, one of the arrested men, who was oddly clean-shaven and whose cap wasn't pulled low but was worn proudly back on his head, stood. The gesture wasn't defiant, actually quite the opposite; he was clear-eyed. Hunt immediately took him for the captain of the *Wén Rui*.

The chief petty officer who was leading the party explained that they'd searched most of the trawler but that a steel, watertight hatch secured one of the stern compartments and the crew had refused to unlock it. The chief had ordered a welding torch brought from the ship's locker. In about fifteen minutes they'd have everything opened up.

The clean-shaven man, the trawler's captain, began to speak in uncertain and heavily accented English: “Are you command here?”

“You speak English?” Hunt replied.

“Are you command here?” he repeated to her, as if perhaps he weren't certain what these words meant and had simply memorized them long ago as a contingency.

“I am Captain Sarah Hunt, United States Navy,” she answered, placing her palm on her chest. “Yes, this is my command.”

He nodded, and as he did his shoulders collapsed, as if shrugging off a heavy pack. “I surrender my command to you.” Then he turned his back to Hunt, a gesture that, at first, seemed to be a sign of disrespect, but that she soon recognized as being something altogether different. In his open palm, which was cuffed behind him at the wrist, was a key. He'd been holding it all this time and was now, with whatever ceremony he could muster, surrendering it to Hunt.

Hunt plucked the key from his palm, which was noticeably soft, not the calloused palm of a fisherman. She approached the compartment at the stern on the *Wén Rui*, popped off the lock, and opened the hatch.

“What we got, ma'am?” asked the master-at-arms, who stood close behind her.

“Christ,” said Hunt, staring at racks of blinking miniature hard drives and plasma screens. “I have no idea.”

13:47 MARCH 12, 2034 (GMT+4:30)
STRAIT OF HORMUZ

When Wedge switched to manual control, the Lockheed contractors on the *George H. W. Bush* immediately began to radio, wanting to know if everything was okay. He hadn't answered, at least not at first. They could still track him and see that he was adhering to their flight plan, which at this moment placed him approximately fifty nautical miles west of Bandar Abbas, the main regional Iranian naval base. The accuracy of his flight proved—at least to him—that his navigation was as precise as any computer.

Then his F-35 hit a pocket of atmospheric turbulence—a bad one. Wedge could feel it shudder up the controls, through his feet, which were planted on the rudder pedals, into the stick, and across his shoulders. The turbulence threatened to throw him off course, which could have diverted him into the more technologically advanced layers of Iranian air defenses, the ones that expanded outward from Tehran, in which the F-35's stealth countermeasures might prove inadequate.

This is *it*, he thought.

Or at least as close to *it* as he had ever come. His manipulation of throttle, stick, and rudder was fast, instinctual, the result of his entire career in the cockpit, and of four generations' worth of Mitchell family breeding.

He skittered his aircraft on the edge of the turbulence, flying for a total of 3.6 nautical miles at a speed of 736 knots with his aircraft oriented with 28 degrees of yaw respective to its direction of flight. The entire episode lasted under four seconds, but it was a moment of hidden grace, one that only he and perhaps his great-grandfather watching from the afterlife appreciated in the instant of its occurrence.

Then, as quickly as the turbulence sprung up, it dissipated, and Wedge was flying steadily. Once again, the Lockheed contractors on the *George H. W.*

Bush radioed, asking why he'd disabled his navigation computer. They insisted that he turn it back on. “Roger,” said Wedge, as he finally came up over the encrypted communications link, “activating navigation override.” He leaned forward, pressed a single innocuous button, and felt a slight lurch, like a train being switched back onto a set of tracks, as his F-35 returned to autopilot.

Wedge was overcome by an urge to smoke a cigarette in the cockpit, just as Pappy Boyington used to do, but he'd pushed his luck far enough for today. Returning to the *Bush* in a cockpit that reeked of a celebratory Marlboro would likely be more than the Lockheed contractors, or his superiors, could countenance. The pack was in the left breast pocket of his flight suit, but he'd wait and have one on the fantail after his debrief. Checking his watch, he calculated that he'd be back in time for dinner in the pilots' dirty-shirt wardroom in the forward part of the carrier. He hoped they'd have the “heart attack” sliders he loved—triple cheeseburger patties with a fried egg on top.

It was while he was thinking of that dinner—and the cigarette—that his F-35 diverted off course, heading north, inland toward Iran. This shift in direction was so smooth that Wedge didn't even notice it until another series of calls came from the *Bush*, all of them alarmed as to this change in heading.

“Turn on your navigation computer.”

Wedge tapped at its screen. “My navigation computer *is* on … Wait, I'm going to reboot.” Before Wedge could begin the long reboot sequence, he realized that his computer was nonresponsive. “Avionics are out. I'm switching to manual override.”

He pulled at his stick.

He stamped on his rudder pedals.

The throttle no longer controlled the engine.

His F-35 was beginning to lose altitude, descending gradually. In sheer frustration, a frustration that bordered on rage, he tugged at the controls,

strangling them, as if he were trying to murder the plane in which he flew. He could hear the chatter in his helmet, the impotent commands from the *George H. W. Bush*, which weren't even really commands but rather pleadings, desperate requests for Wedge to figure out this problem.

But he couldn't.

Wedge didn't know who or what was flying his plane.

07:23 MARCH 12, 2034 (GMT-4)
WASHINGTON, D.C.

Sandy Chowdhury had finished his energy bar, was well into his second cup of coffee, and the updates would not stop coming. The first was this news that the *John Paul Jones* had found some type of advanced technological suite on the fishing trawler they'd boarded and lashed to their side. The commodore, this Sarah Hunt, whose judgment Hendrickson so trusted, was insistent that within an hour she could offload the computers onto one of the three ships in her flotilla for further forensic exploitation. While Chowdhury was weighing that option with Hendrickson, the second update came in, from Seventh Fleet Headquarters, "INFO" Indo-Pacific Command. A contingent of People's Liberation Army warships, at least six, to include the nuclear-powered carrier *Zheng He*, had altered course and was heading directly toward the *John Paul Jones*.

The third update was most puzzling of all. The controls of the F-35, the one whose flight had brought Chowdhury into the Situation Room early that snowy Monday morning, had locked up. The pilot was working through every contingency, but at this moment, he was no longer in control of his aircraft.

"If the pilot isn't flying it, and we're not doing it remotely from the carrier, then who the hell is?" Chowdhury snapped at Hendrickson.

A junior White House staffer interrupted them. "Dr. Chowdhury," she said, "the Chinese defense attaché would like to speak with you."

Chowdhury shot Hendrickson an incredulous glance, as if he were willing the one-star admiral to explain that this entire situation was part of a single, elaborate, and twisted practical joke. But no such assurance came. “All right, transfer him through,” said Chowdhury as he reached for the phone.

“No, Dr. Chowdhury,” said the young staffer. “He's here. Admiral Lin Bao is here.”

“Here?” said Hendrickson. “At the White House? You're kidding.”

The staffer shook her head. “I'm not, sir. He's at the northwest gate.” Chowdhury and Hendrickson pushed open the Situation Room door, hurried down the corridor to the nearest window, and peered through the blinds. There was Admiral Lin Bao, resplendent in his blue service uniform with gold epaulets, standing patiently with three Chinese military escorts and one civilian at the northwest gate among the growing crowd of tourists. It was a mini-delegation. Chowdhury couldn't fathom what they were doing. The Chinese are never impulsive like this, he thought.

“Jesus,” he muttered.

“We can't just let him in,” said Hendrickson. A gaggle of Secret Service supervisors gathered around them to explain that the proper vetting for a Chinese official to enter the White House couldn't possibly be accomplished in anything less than four hours; that is, unless they had POTUS, chief of staff, or national security advisor-level approval. But all three were overseas. The television was tuned to the latest updates on the G7 summit in Munich, which had left the White House without a president and much of its national security team. Chowdhury was the senior NSC staffer in the White House at that moment.

“Shit,” said Chowdhury. “I'm going out there.”

“You can't go out there,” said Hendrickson.

“He can't come in here.”

Hendrickson couldn't argue the logic. Chowdhury headed for the door. He didn't grab his coat, though it was below freezing. He hoped that whatever message the defense attaché had to deliver wouldn't take long. Now that he was outside, his personal phone caught signal and vibrated with a half dozen text messages, all from his mother. Whenever she watched his daughter she would pepper him with mundane domestic questions as a reminder of the favor she was performing. Christ, he thought, I bet she can't find the baby wipes again. But Chowdhury didn't have time to check the particulars of those texts as he walked along the South Lawn.

Cold as it was, Lin Bao wasn't wearing a coat either, only his uniform, with its wall of medals, furiously embroidered epaulets in gold, and peaked naval officer's cap tucked snugly under his arm. Lin Bao was casually eating from a packet of M&M's, picking the candies out one at a time with pinched fingers. Chowdhury passed through the black steel gate to where Lin Bao stood. “I have a weakness for your M&M's,” said the admiral absently. “They were a military invention. Did you know that? It's true—the candies were first mass-produced for American GIs in World War II, specifically in the South Pacific, where they required chocolate that wouldn't melt. That's your saying, right? *Melts in your mouth, not in your hand*.” Lin Bao licked the tips of his fingers, where the candy coloring had bled, staining his skin a mottled pastel.

“To what do we owe the pleasure, Admiral?” Chowdhury asked.

Lin Bao peered into his bag of M&M's, as if he had a specific idea of which color he'd like to sample next but couldn't quite find it. Speaking into the bag, he said, “You have something of ours, a small ship, very small—the *Wén Rui*. We'd like it back.” Then he picked out a blue M&M, made a face, as if this wasn't the color he'd been searching for, and somewhat disappointedly placed it into his mouth.

“We shouldn't be talking about that out here,” said Chowdhury.

“Would you care to invite me inside?” asked the admiral, nodding toward the West Wing, knowing the impossibility of that request. He then added, “Otherwise, I think out in the open is the only way we can talk.”

Chowdhury was freezing. He tucked his hands underneath his arms.

“Believe me,” added Lin Bao, “it is in your best interest to give us back the *Wén Rui*.”

Although Chowdhury worked for the first American president in modern history who was unaffiliated with a political party, the administration's position with regards to freedom of navigation and the South China Sea had remained consistent with the several Republican and Democratic administrations that had preceded it. Chowdhury repeated those well-established policy positions to an increasingly impatient Lin Bao.

“You don't have time for this,” he said to Chowdhury, still picking through his diminishing bag of M&M's.

“Is that a threat?”

“Not at all,” said Lin Bao, shaking his head sadly, feigning disappointment that Chowdhury would make such a suggestion. “I meant that your mother has been texting you, hasn't she? Don't you need to reply? Check your phone. You'll see she wants to take your daughter Ashni outside to enjoy the snow but can't find the girl's coat.”

Chowdhury removed his phone from his pants pocket.

He glanced at the text messages.

They were as Lin Bao had represented them.

“We have ships of our own coming to intercept the *John Paul Jones*, the *Carl Levin*, and the *Chung-Hoon*,” continued Lin Bao, speaking the name of each destroyer to prove that he knew it, just as he knew the details of every text message that was sent to Chowdhury's phone. “Escalation on your part would be a mistake.”

“What will you give us for the *Wén Rui*?”

“We'll return your F-35.”

“F-35?” said Chowdhury. “You don't have an F-35.”

“Maybe you should go back to your Situation Room and check,” said Lin Bao mildly. He poured the last M&M from his packet into his palm. It was yellow. “We have M&M's in China too. But they taste better here. It's something about the candy shell. In China, we just can't get the formula quite right.” Then he put the chocolate in his mouth, briefly shutting his eyes to savor it. When he opened them, he was again staring at Chowdhury. “You need to give us back the *Wén Rui*.”

“I don't *need* to do anything,” said Chowdhury.

Lin Bao nodded disappointedly. “Very well,” he said. “I understand.” He crumpled up the candy wrapper and then pitched it on the sidewalk.

“Pick that up, please, Admiral,” said Chowdhury.

Lin Bao glanced down at the piece of litter. “Or else what?”

As Chowdhury struggled to formulate a response, the admiral turned on his heels and stepped across the street, weaving his way through the late-morning traffic.

16:12 MARCH 12, 2034 (GMT+8)
SOUTH CHINA SEA

The pair of high-speed fighter-interceptors came out of nowhere, their sonic booms rattling the deck of the *John Paul Jones*, taking the crew completely unawares. Commodore Hunt ducked instinctively at the sound. She was still aboard the *Wén Rui*, picking over the technical suite they'd uncovered the hour before. The trawler's captain returned a toothy grin, as if he'd been expecting the low-flying jets all along. “Let's get the crew of the *Wén Rui* secured down in the brig,” Hunt told the master-at-arms supervising the search. She ran up to the bridge and found Morris struggling to manage the situation.

“What've you got?” asked Hunt.

Morris, who was peering into an Aegis terminal, now tracked not only the two interceptors but also the signatures of at least six separate ships of unknown origin that had appeared at the exact same moment as the interceptors. It was as if an entire fleet, in a single coordinated maneuver, had chosen to unmask itself. The nearest of these vessels, which moved nimbly in the Aegis display, suggested the profile of a frigate or destroyer. They were eight nautical miles distant, right at the edge of visible range. Hunt raised a set of binoculars, searching the horizon. Then the first frigate's gray hull ominously appeared.

“There,” she said, pointing off their bow.

Calls soon came in from the *Levin* and the *Hoon* confirming visuals on two, then three, and finally a fourth and fifth ship. All People's Liberation Army naval vessels, and they ranged in size from a frigate up to a carrier, the hulking *Zheng He*, which was as formidable as anything in the US Navy's Seventh Fleet. The Chinese ships formed in a circle around Hunt's command, which itself had encircled the *Wén Rui*, so that the two flotillas were arrayed in two concentric rings, rotating in opposite directions.

A radioman positioned in a corner of the bridge wearing a headset began to emphatically gesture for Hunt. “What is it?” she asked the sailor, who handed her the headset. Over the analog hum of static, she could hear a faint voice: “US Naval Commander, this is Rear Admiral Ma Qiang, commander of the *Zheng He* Carrier Battle Group. We demand you release the civilian vessel you have captured. Depart our territorial waters immediately.” There was a pause, then the message repeated. Hunt wondered how many times this request had been spoken into the ether, and how many times it would be allowed to go unanswered before the attendant battle group—which seemed to be drawing ever closer—took action.

“Can you get a secure VoIP connection with Seventh Fleet Headquarters?” Hunt asked the radioman, who nodded and then began reconfiguring red and blue wires into the back of an old-fashioned laptop normally used on the quiet midwatches for video games; it was primitive and so perhaps a more secure way to connect.

“What do they want?” asked Morris, who was staring vacantly at the ring of six ships that surrounded them.

“They want that fishing trawler back,” said Hunt. “Or, rather, whatever technology is on it, and they want us out of these waters.”

“What's our move?”

“I don't know yet,” answered Hunt, who glanced over at the radioman, who was toggling the VoIP switch, checking it for a dial tone. While she waited, her leg began to ache from the activity of climbing around the ship. She reached in her pocket, rubbed the ache, and felt the letter from the medical board. “You got me Seventh Fleet yet?” she asked.

“Not yet, ma'am.”

Hunt glanced impatiently at her watch. “Christ, then call the *Levin* or the *Hoon*. See if they can raise them.”

The radioman glanced back at her, wide-eyed, as if searching within himself for the courage to say something he couldn't quite bear to say.

“What is it?” asked Hunt.

“I've got nothing.”

“What do you mean, you've got nothing?” Hunt glanced at Morris, who appeared equally unnerved.

“All of our communications are down,” said the radioman. “I can't raise the *Levin* or the *Hoon*. I've got nobody.”

Hunt unclipped the handheld radio she had fastened to her belt, the one she'd been using to communicate with the bridge when she'd been belowdecks on the *Wén Rui*. She keyed and unkeyed the handset. “Can you get up on any channel?” Hunt asked, betraying for the first time the slightest tinge of desperation in her voice.

“Only this one,” said the radioman, who raised the earphones he'd been listening to, which relayed a message on a loop:

“US Naval Commander, this is Rear Admiral Ma Qiang, commander of the *Zheng He* Carrier Battle Group. We demand you release the civilian vessel you have captured. Depart our territorial waters immediately …”

14:22 MARCH 12, 2034 (GMT+4:30)
STRAIT OF HORMUZ

All the screens in the cockpit were out. The avionics. The weapons. The navigation. All of it—dark. Wedge's communications had gone silent a few minutes before, which left him feeling a remarkable sense of calm. No one from the *Bush* was calling. It was just him, up here, with an impossible problem. The plane was still flying itself. Or, rather, it was being flown by unseen forces who were smoothly and carefully maneuvering the jet. His descent had stalled. By his estimation, he was cruising at around five thousand feet. His speed was steady, five hundred, maybe five hundred and fifty knots. And he was circling.

He pulled from his flight bag the tablet on which he'd downloaded all the regional charts. He also checked the compass on his watch, the Breitling chronometer that had belonged to his father. Referencing the compass and the tablet together, it didn't take him long to calculate exactly where he was, which was directly above Bandar Abbas, the site of the massive Iranian military installation that guarded the entrance to the Arabian Gulf. Or the Persian Gulf, as they call it, thought Wedge. He watched the parched land below slowly rotate as he flew racetracks in the airspace.

There was, of course, the off chance that this override of his aircraft was due to some freak malfunction in the F-35. But those odds were long and running longer with each minute that passed. What was far more probable, as Wedge saw it, was that his mission had been compromised, the controls of his plane hacked, and he himself turned into a passenger on this flight that he increasingly believed would end with him on the ground in Iranian territory.

Time was short; he would be out of fuel within the hour. He had one choice.

It likely meant he wouldn't be smoking a celebratory Marlboro on the fantail of the *Bush* anytime soon. So he reached between his legs, to the black-and-yellow striped handle, which was primed to the rocket in his ejection seat. This is *it*, he nearly said aloud, as he thought of his father, grandfather, and great-grandfather, all in the single instant it took him to pull the handle.

But nothing happened.

His ejector seat had been disabled too.

The engine on the F-35 let out a slight, decelerating groan. His plane began to cast off altitude, corkscrewing its descent into Bandar Abbas. One last time, Wedge stamped on the rudder pedals, pushed and then pulled the throttle, and tugged on the stick. He then reached under his flight vest, to where he carried his pistol. He grabbed it by its barrel, so that in his grip he wielded it like a hammer. And as his aircraft entered its glide path toward the runway, Wedge began to tear apart the inside of his cockpit, doing his best to destroy the sensitive items it contained, beginning with the small black box situated behind his head. This entire time, it hadn't stopped its humming.

08:32 MARCH 12, 2034 (GMT-4)
WASHINGTON, D.C.

Air Force One, with the president on board, was slicing across the Atlantic on its way back from the G7 summit, its last round of meetings having been curtailed due to the burgeoning crisis. Touchdown at Andrews was scheduled for 16:37 local time, more than an hour after Chowdhury had sworn to his mother that he'd be home to facilitate his daughter's pickup with his ex-wife. Taking a reprieve from one crisis, he stepped outside the Situation Room and turned on his cell phone to deal with another.

“Sandeep, I refuse to stand in the same room as that woman,” answered his mother as soon as Chowdhury had explained. He pleaded for her help. When she asked for the details of what was holding him up he couldn't say, recalling Lin Bao's familiarity with his texts. His mother continued to

protest. In the end, however, Chowdhury insisted on remaining at work, adding, lamely, that it was “a matter of national security.”

He hung up the phone and returned to the Situation Room. Hendrickson and his two aides sat on one side of the conference table, staring blankly at the opposite wall. Lin Bao had called, delivering news that had yet to filter from the *George H. W. Bush*, through Fifth Fleet Headquarters in Bahrain, up to Central Command, and then to the White House: The Iranian Revolutionary Guards had taken control of an F-35 transiting their airspace, hacking into its onboard computer to bring it down.

“Where's the plane now?” Chowdhury barked at Hendrickson.

“In Bandar Abbas,” he said vacantly.

“And the pilot?”

“Sitting on the tarmac brandishing a pistol.”

“Is he safe?”

“He's brandishing a pistol,” said Hendrickson. But then he gave Chowdhury's question greater thought. The pilot was safe, insomuch as to kill him would be a further and significant provocation, one it seemed the Iranians and their Chinese collaborators weren't ready to make, at least not yet. What Lin Bao wanted was simple: a swap. The *John Paul Jones* had stumbled upon something of value to the Chinese—the *Wén Rui*, or more specifically the technology installed on it—and they wanted that technology back. They would be willing to arrange a swap through their Iranian allies, the F-35 for the *Wén Rui*.

Before Chowdhury could reach any conclusions, Lin Bao was again on the line. “Have you considered our offer?” Chowdhury thought of his own larger questions. Ever since the mid-2020s, when Iran had signed on to the Chinese “Belt and Road” global development initiative to prevent financial collapse after the coronavirus pandemic, they had helped project Chinese economic and military interests; but what was the scope of this seemingly new Sino-Iranian alliance? And who else was a party to it? Chowdhury

didn't have the authority to trade an F-35 for what would seem to be a Chinese spy ship. The president herself would decide whether such a swap was in the offing. Chowdhury explained the limitations of his own authority to Lin Bao and added that his superiors would soon return. Lin Bao seemed unimpressed.

“While you're holding the *Wén Rui* we are forced to interpret any stalling as an act of aggression, for we can only assume you are stalling so as to exploit the technology you've seized illegally. If the *Wén Rui* isn't turned over to us within the hour, we and our allies will have no other choice but to take action.”

Then the line went silent.

What that action was, and who those allies were, Lin Bao didn't say. Nothing could be done within an hour. The president had already indicated that she wouldn't be moved by ultimatums. She had summoned the Chinese ambassador to meet that evening and not before, which according to Lin Bao would be too late. While they assessed their options, Hendrickson explained gravely to Chowdhury that the only naval force they had within an hour's range of any other Chinese ships was the *Michelle Obama*, an attack submarine that had been trailing a Chinese merchant marine convoy up and around the Arctic deltas that had once been the polar ice caps. The *Obama* was tracking two Russian submarines, which had closed to within ten miles off the stern of the merchant convoy. While Chowdhury considered this development, puzzling over the appearance of the Russians, he was reminded of a story about Lincoln.

“It was during the darkest days of the Civil War,” Chowdhury began, ostensibly speaking to Hendrickson, but really speaking to himself. “The Union had sustained a series of defeats against the Confederates. A visitor from Kentucky was leaving the White House and asked Lincoln what cheering news he could take home. By way of reply, Lincoln told him a story about a chess expert who had never met his match until he tried his luck against a machine called the ‘automaton chess player’ and was beaten three times running. Astonished, the defeated expert stood from his chair and walked slowly around and around this amazing new piece of technology, examining it minutely as he went, trying to understand how it

worked. At last he stopped and leveled an accusing finger in its direction. ‘There's a man in there!’ he cried. Then Lincoln told his visitor to take heart. No matter how bad things looked, there was always a man in the machine.”

The phone rang again. It was Lin Bao.

15:17 MARCH 12, 2034 (GMT+4:30)
STRAIT OF HORMUZ

Wedge was furious. He couldn't help but feel betrayed as he sat on the taxiway at Bandar Abbas. Of course, he hadn't chosen this taxiway, or where to land, or even to open his canopy and shut off his engine. His plane had betrayed him so completely that the overriding emotion he felt was shame. On his descent he had managed to destroy the black box behind his head by using his pistol as a hammer. He had also destroyed the encrypted communications on board, as well as the most sensitive avionics, which controlled his suite of weapons. Like a crazed, captive animal, he'd been banging away at the inside of his cockpit ever since losing control.

He continued his work once he landed.

As soon as his cockpit was open, he'd stood up in it and fired his pistol into the controls. The gesture filled him with a surprising upsurge of emotion, as though he were a cavalryman putting a bullet through the brain of a once-faithful mount. The few dozen Revolutionary Guards dispersed around the airfield struggled to understand the commotion. For the first several minutes, they chose to keep their distance, not out of fear of him, but out of fear that he might force a misstep into what, up to this point, had been their well-orchestrated plan. However, the more Wedge destroyed—tearing at loose wiring, stamping with the heel of his boot, and brandishing his pistol in the direction of the guardsmen when he felt them approaching too closely—the more he forced their hand. If he completely destroyed the sensitive items in his F-35, the aircraft would be of no use as a bargaining chip.

The on-scene commander, a brigadier general, understood what Wedge was doing, having spent his entire adult life facing off, either directly or indirectly, with the Americans. The brigadier slowly tightened the cordon

around Wedge's aircraft. Wedge, who could feel the Iranians closing in, continued to flash his pistol at them. But he could tell that each time he pulled it out, the guardsmen on the cordon became increasingly unconvinced that he'd actually use it. And he wouldn't have used it, even if it'd had any ammunition left, which it didn't. Wedge had already plugged the last round into the avionics.

The brigadier, who was missing the pinkie and ring finger of his right hand, was now waving at Wedge, standing in the seat of his jeep, as the other jeeps and armored vehicles on the cordon grew closer. The brigadier's English was as mangled as his three-fingered hand, but Wedge could make out what he was saying, which was something to the effect of, “Surrender and no harm will come to you.”

Wedge didn't plan on surrendering, not without a fight. Though he couldn't say what that fight would be. All Wedge had was the empty pistol.

The brigadier was now close enough to issue his demands for surrender without needing to shout them at Wedge, who replied by standing in the cockpit and chucking his pistol at the brigadier.

It was an admirable toss, the pistol tumbling end-over-end like a hatchet.

The brigadier, who to his credit didn't flinch when the pistol sailed right above his head, gave the order. His men stormed the F-35, dismounting their vehicles in a swarm to clamber up its wings, and then over its fuselage, where they found Wedge, crammed in his cockpit, his feet on the rudder pedals, one hand on the throttle, the other on the stick. Absently, he was scanning the far horizon, as if for enemy fighters. A Marlboro dangled from his lips. When the half dozen members of the Revolutionary Guard leveled the muzzles of their rifles around his head, he pitched his cigarette out of the cockpit.

16:36 MARCH 12, 2034 (GMT+8)
SOUTH CHINA SEA

The flotilla's communications had been down for the past twenty minutes, an eternity.

Between the *John Paul Jones*, the *Carl Levin*, and the *Chung-Hoon*, Hunt had been able to communicate only through signal flags, her sailors flapping away in the upper reaches of the ship as frantically as if they were trying to take flight for land. Surprisingly, this primitive means of signaling proved effective, allowing the three ships to coordinate their movements in plain sight of the *Zheng He* Carrier Battle Group that encircled them. The only message that came over any of the ship's radios was the demand to surrender the *Wén Rui*. It continued to play on a maddening loop while Hunt and one of her chief petty officers troubleshot the communications suite on the *John Paul Jones*, hoping to receive any sliver of a message from Seventh Fleet, something that might bring clarity to their situation, which had so quickly deteriorated.

That message wouldn't come, and Hunt knew it.

What she also knew was that whatever was happening to her was happening within a broader context, a context that she didn't understand. She'd been placed into a game in which her opponent could see the entire board and she could see but a fraction of it. The crew on all three of her ships were at general quarters. The master-at-arms had yet to offload the suite of computers from the *Wén Rui*, though that task would be completed within the hour. Hunt had to assume that her opponent, who was watching her, understood that, and so whatever was going to happen would happen before that hour was up.

Another twenty minutes passed.

Morris, who had been belowdecks checking on the *Wén Rui*, scrambled back to the bridge. “They're almost done with the transfer,” she told Hunt, catching her breath. “Maybe five more minutes,” she announced optimistically. “Then we can cut the *Wén Rui* loose and maneuver out of here.”

Hunt nodded, but she felt certain that events would take a different course.

She didn't know what would happen, but whatever it was, she had only her eyes to rely on in order to see the move that would be played against her. The ocean remained calm, flat as a plane of glass, just as it had been all that

morning. Hunt and Morris stood alongside one another on the bridge, scanning the horizon.

Because of the stillness of the water, they saw their adversary's next move when it came only seconds later. A single darting wake below the surface, jetting up a froth as it made its steady approach, closing the distance in seconds: a torpedo.

Six hundred yards.

Five hundred.

Three hundred and fifty.

It sliced through the torpid water.

Morris shouted the instinctual commands across the bridge, sounding the alarm for impact, the sirens echoing throughout the ship. Hunt, on the other hand, stood very still in these ultimate seconds. She felt strangely relieved. Her adversary had made his move. Her move would come next. But was the torpedo aimed at the *Wén Rui*, or at her ship? Who was the aggressor? No one would ever be able to agree. Wars were justified over such disagreements. And although few could predict what this first shot would bring, Hunt could. She could see the years ahead as clearly as the torpedo, which was now less than one hundred yards from the starboard side of the *John Paul Jones*.

Who was to blame for what had transpired on this day wouldn't be decided anytime soon. The war needed to come first. Then the victor would apportion the blame. This is how it was and would always be. This is what she was thinking when the torpedo hit.

17:13 MARCH 12, 2034 (GMT-4)
WASHINGTON, D.C.

Chowdhury leaned forward out of his seat, his elbows planted on the conference table, his neck angled toward the speakerphone in its center. Hendrickson sat opposite him at a computer, his hands hovering over the

keyboard, ready to transcribe notes. The two had received orders from the National Command Authority, which was now handling the situation from Air Force One. Before the Chinese ambassador's visit to the White House that evening, the national security advisor had laid out an aggressive negotiating framework for Chowdhury to telegraph to Lin Bao, which he now did.

“Before we agree to transfer the *Wén Rui* to your naval forces,” Chowdhury began, glancing up at Hendrickson, “our F-35 at Bandar Abbas must be returned. Because we are not the ones who instigated this crisis, it is imperative that you act first. Immediately after we receive our F-35, you will have the *Wén Rui*. There is no reason for further escalation.”

The line remained silent.

Chowdhury shot Hendrickson another glance.

Hendrickson reached over, muted the speaker, and whispered to Chowdhury, “Do you think he knows?” Chowdhury shook his head with a less-than-confident no. What Hendrickson was referring to was the call they'd received moments ago. For the past forty minutes, Seventh Fleet Headquarters in Yokosuka had lost all communications with the *John Paul Jones* and its sister ships.

“Hello?” said Chowdhury into the speaker.

“Yes, I am here,” came the otherworldly echo of Lin Bao's voice on the line. He sounded impatient, as though he were being forced to continue a conversation he'd tired of long ago. “Let me repeat your position, to assure that I understand it: For decades, your navy has sailed through our territorial waters, it has flown through our allies' airspace, and today it has seized one of our vessels; but you maintain that you are the aggrieved party, and we are the ones who must appease you?”

The room became so quiet that for the first time Chowdhury noticed the slight buzzing of the halogen light bulbs overhead. Hendrickson had finished transcribing Lin Bao's comments. His fingers hovered above the keyboard, ready to strike the next letter.

“That is the position of this administration,” answered Chowdhury, needing to swallow once to get the words out. “However, if you have a counterproposal, we would, of course, take it into consideration.”

More silence.

Then Lin Bao's exasperated voice: “We do have a counterproposal.”

“Good,” interjected Chowdhury, but Lin Bao ignored him, continuing on.

“If you check, you'll see that it's been sent to your computer—”

Then the power went out.

It was only a moment, a flash of darkness. The lights immediately came back on. And when they did, Lin Bao wasn't on the line anymore. There was only an empty dial tone. Chowdhury began messing with the phone, struggling to get the White House operator on the line, while Hendrickson attempted to log back on to his computer. “What's the matter?” asked Chowdhury.

“My login and password don't work.”

Chowdhury pushed Hendrickson aside. His didn't work either.

Adapted from 2034: A Novel of the Next World War by Elliot Ackerman and Admiral James Stavridis to be published March 09, 2021, by Penguin Press, an imprint of Penguin Publishing Group, a division of Penguin Random House LLC.

Illustrations by Sam Whitney; Getty Images

Let us know what you think about this article. Submit a letter to the editor at mail@wired.com.

Clive Thompson

Ideas
01.17.2021 07:00 AM

Climate Change Needs an Operation Warp Speed

If the Covid vaccine push has proved anything, it's that big government works.


Collage of images of the US Capitol Building and various green energy technologies
Photo-Illustration: Sam Whitney; Getty Images

In the dismal early days of the pandemic, a vaccine seemed depressingly far off. Historically, the average time to develop a new vaccine was 10 years—far too long for our current emergency. But then something happened to shift things into overdrive: serious government action.

The White House and Congress created Operation Warp Speed and started plowing some $18 billion into it. The feds authorized huge, multibillion-dollar preorders for vaccines, and with such a large guaranteed market, pharmaceuticals moved into high gear. The government also threw its logistical know-how at the hellish challenge of distributing the vaccines. Scientifically, of course, we were prepared and lucky. Genetic sequencing was advanced and speedy, and scientists cooperated globally. But it was the critical push from governments (the US and others) that propelled the fastest vaccine mobilization in history.

It's also an object lesson for our troubled time: When you're facing a world-threatening crisis, there's no substitute for government leadership.

This is worth reflecting on, because we're *surrounded* by existential threats. Principally, climate change. The scale of the problem is massive.

So is the answer: Operation Warp Speed for climate.

The US government should throw its muscle behind ramping up a mammoth, rapid rollout of all forms of renewable energy. That includes the ones we already know how to build—like solar and wind—but also experimental emerging sources like geothermal and small nuclear, and cutting-edge forms of energy storage or transmission. It's not as if the feds have done *nothing* on renewables; tax credits for solar are partly why adoption is up and the price is down. But compared to the terrifying scale of the problem, the spending has been chump change. For the past 40 years, the US has spent 37 percent more on R&D for fossil fuels than for renewables.

A Climate Warp Speed campaign should invert that ratio. Hell, 10X it! More crucially, the government should become a bulk buyer of renewable energy. The feds' vaccine purchase is what jolted pharmaceutical companies to move so bloody fast with Covid-19. "They're not just going to make a bunch of vaccine that's going to sit on a shelf and nobody's going to buy," notes Angela Rasmussen, a virologist at the Georgetown Center for Global Health Science and Security. The virus created the demand; the feds created the market.

With renewable energy, the US government could pledge to buy as much clean energy as firms can make. One thing that slows cutting-edge deployments is that selling energy—closing contracts with many different states, cities, or businesses—is often a glacial, convoluted affair, notes Tim Latimer, CEO of Fervo Energy, a developer of geothermal energy. By being a single, huge buyer of first resort, the feds could strip away complexity.

"If the government just said, 'Look, we'll buy the first batch'—all of a sudden the scientists get to do what they do best, which is focus on the science and build it with certainty," Latimer says. "That would just catalyze all kinds of new activities."

The US can offer more than just cash, though. We have logistics. A climate Warp Speed could use the organizational oomph of our government and military to bring clean energy to every federal building nationwide. They could cut through red tape too. (They did this during Operation Warp Speed for vaccine-component firms.) If anything, the Trump administration erred in not going big *enough* to ramp up vaccine supply. Emergencies gotta emergency.

Carbon sequestration needs the Warp Speed treatment too. Startups and labs have dreamed up prototypical hardware for scrubbing carbon from the atmosphere. But it's a gnarly engineering challenge that needs early support. In the long run, there may well be a robust market for extracted carbon, transformed into fuel or as construction materials. But in the short run it's just an expensive pile o' extracted carbon. So the feds should buy it.

My libertarian friends, I can hear you protesting: Wait, won't government spending *distort* these markets? Can't free enterprise bootstrap truly world-changing new tech all on its own? Nope. It rarely has. The free market regarded nearly every foundational digital tech—in its early years—as a costly boondoggle and had little interest. Transistors, integrated circuits? Back in the '50s and '60s, the first batches were often janky messes. It took the Department of Defense pouring dough into startup firms like Fairchild Semiconductor to bring costs down and reliability up, so that 20 years later Woz could craft the Apple I. You're welcome. (Oh, and if you like deep learning? Thank Canadian taxpayers.)

"It's always been the symbiosis of public and private," as Margaret O'Mara, historian and author of *The Code*, a history of Silicon Valley, tells me.

The new Biden administration plans to retire the Warp Speed name, but hopefully not the approach. When you're finally jabbed with the new vaccine, savor our public victory. Then call your congresscritter to demand a Warp Speed for climate. The planet needs the same shot in the arm.

Rachel Monroe

Backchannel
01.15.2021 07:00 AM

I Am Not a Soldier, but I Have Been Trained to Kill

A sprawling tactical industry is teaching American civilians how to fight like Special Ops forces. By preparing for violence at home, are they calling it into being?

An automobile defense exercise at Gunsite Academy in Yavapai County, Arizona.Photograph: Jesse Rieser

Gear Team

Gear
01.13.2021 07:00 AM

The Best of CES 2021

These are the products, prototypes, and ideas that did the best job of signaling the future at this year’s consumer tech showcase.

Photograph: Subject/Object Manifest; Acer; TCL; Panasonic

After sitting through hours of live demos, virtual booth tours, and livestreamed press conferences at this first-ever virtual CES, we're ready to declare these 12 products to be the best things we saw at this most odd and unique version of the yearly consumer tech showcase.

Even though we could only view these things on our laptop screens, and not up close inside a brightly lit Las Vegas expo hall, it was still clear to us that each entry on this list pointed to the ways in which its product category will evolve in the near future. So as CES 2021 winds down, here's our list of the products, components, prototypes, and ideas that will shape the next few generations of consumer tech.

Nicholas Thompson

Backchannel
01.12.2021 03:27 PM

The Unsettling Truth About the ‘Mostly Harmless’ Hiker

His emaciated body was discovered in a tent, just a few miles from a major Florida highway. His identity—and troubled past—were discovered by the internet.


collage of images of a man scraps of paper and a map
Illustration: Sam Whitney; Getty Images

Sometimes the most alluring stories we tell are the ones with the details left out. Objects and faces can be prettier in the half light. We see a faint shape and we add the lines and shadows we want. We hear one part of a story and add another part that we hope might be true.

I first learned of the man called Mostly Harmless this past August. A WIRED reader sent a note to my tip line: The body of a hiker had been found in a tent in Florida in the summer of 2018, but scores of amateur detectives, and a few professional ones too, couldn’t figure out who he was. Everyone knew that he had started walking south on the Appalachian Trail from New York a year and a half before. He met hundreds of people on the trail, and seemed to charm them all. He told people he was from Baton Rouge, Louisiana, and that he worked in tech in New York. They all knew his trail name, but no one could figure out his real one.

I had just spent three days hiking on and off the Appalachian Trail with my 12-year-old son, and I was pulled in. We live in an age of constant machine surveillance and tracking. Yet somehow Mostly Harmless had escaped the digital dragnet. He had traveled without a phone or an ID. He carried cash

and couldn't be tracked by credit card receipts. His fingerprints weren't in any database and his image didn't turn up any results when run through facial recognition software. The authorities in Collier County, Florida, where his body was found, were stumped, but they were certain he had died of natural causes. He must have been smart. He appeared to have been kind. He was handsome in a general, familiar kind of way. It was easy to map a gentle story onto his past.

His life was a mystery packed inside a tragedy. A man had died alone in a yellow tent, and his family didn't know. "He's got to be missed. Someone must miss this guy," said Natasha Teasley, a woman in North Carolina who organized a Facebook group with several thousand people dedicated to discovering his identity. Members of the group lit candles for him. They talked about "bringing him home." They scoured every missing-persons database. Everyone had a story they wanted to be true: He was trying to escape modern society. He was trying to escape a medical diagnosis. He was trying to escape someone who wanted to hurt him. This was a way to use the internet to do something good.

I published an article about Mostly Harmless the day before the presidential election. More than one and a half million people read the story and looked at photos that other hikers had posted. People sent me theories about who he could have been or what he might have been doing. He had a long scar on his abdomen and readers diagnosed potential illnesses. He had perfect teeth, which suggested good dental care as a child. Others dug into *Da Vinci Code*–level clues. He had signed in at hostels as "Ben Bilemy," which, with some creative effort, could be read in reverse as "Why me, lib?" And sometimes they just let their imaginations fly. "I think he could be a space alien," one reader wrote to me. "A kind of astral Tocqueville taking a long, long trip to get a sense of the people and the planet, and when he was done, he wasted away and went back to Alpha Centauri. Think about it."

And, of course, people thought they knew who he was. A few hours after the story went live, I got my first ID via DM. "Hi, this is a crazy note to be sending but I believe I know who the hiker was." My correspondent had gone to high school with someone who looked like the hiker and whose

name was something like Bilemy. A few phone calls later and it was clear the lead was a red herring. Her former classmate was alive and well.

The tips kept coming in. One Louisiana woman sent me a photograph of her brother, who bore an uncanny resemblance to the missing man, and told me she suspected Mostly Harmless was the illegitimate son of her drug-dealing uncle. A man was convinced the hiker had played in a hardcore punk rock band in New Orleans. But by far the most enticing tip came from a man in Virginia who persuaded me, briefly, that he had known the hiker and that his name was Daryl McKenzie. My correspondent told a moving story of befriending the man in a Newport News bowling alley and hearing that Daryl had terminal cancer and planned to hike to his death. Daryl had supposedly said, "I came into this world without a name and I'm going to go out of this world without one."

I began searching for details to validate the tale. I told my editor, who got obsessed too, and she found a Facebook page for a Daryl McKenzie that hadn't been active since 2017, the year Mostly Harmless started his trek. McKenzie had just four Facebook friends and his only posts were photos of the wilderness. It had to be him. I contacted one of the friends and explained that a hiker had disappeared and that his name might have been Daryl McKenzie. I'd written about his story and posted it online. She burst into tears. "Oh, no, Daryl," she said as her voice quavered.

I felt awful. I'd wanted to help identify the missing hiker. But I hadn't focused on all the pain that could bring. I told her that I was sorry to have broken such terrible news so suddenly. She should take her time and call me back whenever, if she even wanted to. Two minutes later my phone rang. "That's not Daryl," she said. The photos in my story didn't look at all like her friend, who was indeed a hiker but who was alive and well in Los Angeles. He had never been bowling in Newport News.

Meanwhile, the dedicated Facebook hunters kept going. And they were ingenious. On the trail, Mostly Harmless had carried a notebook full of ideas for *Screeps,* an online strategy game for programmers. And so a group focused on digital forensics went through the accounts of every possible user who had been on *Screeps* up until April 2017, the date Mostly Harmless had given other hikers for when he'd begun his journey. They had

a bead on a user named Vaejor. Meanwhile, a woman named Sahar Bigdeli had arranged for one of the country's leading isotope analysts to study the hiker's teeth in hopes that clues could be discovered about where he had lived. A genomics company, Othram, had taken his DNA and started to do cutting-edge genetic analysis to identify him. Collier County had sent them a bone fragment; they had extracted the hiker's DNA and then begun searching for genetic similarities among people in a database called GEDmatch to build a tree of potential relatives. They learned that the hiker had Cajun roots; that his family had come from Assumption Parish, Louisiana; and that there were family members with the name Rodriguez. The founder of the company, David Mittelman, went on Facebook to talk about the case. I bought Facebook ads on my personal page to promote my story in the region of Louisiana where I thought his relatives likely lived.

In the middle of December, photographs of Mostly Harmless found their way to a group of friends in Baton Rouge, one of whom called the Collier County Sheriff's Office. This friend, who asked to be referred to by her middle name, Marie, told the detective that she knew who the hiker was. The sheriff's office had received hundreds of bad tips. But this one seemed real. Marie recognized the face and she knew all about the scar. The handwriting was familiar, and the coding style too.

At 5:30 the next morning, my phone rang. It was the same person who had first sent the tip in August. We have a name, he said: Vance John Rodriguez. He texted two new photographs that looked just like Mostly Harmless. The nose was the same. The ears. The eyes with dark circles around them. I was elated to some degree. The mystery appeared to be solved. But then I thought back to my phone call to the friend of Daryl McKenzie. Someone was going to have to tell his family now. Someone would have to tell all the people who missed him.

I started reaching out, first to Marie, then to other old friends and girlfriends. I and others worked to confirm his identity, with the first press story about Rodriguez appearing in late December in Adventure Journal. The puzzle was formally solved today, when Othram confirmed that the DNA of the hiker matched that of Rodriguez's mother.

We'd all been telling ourselves stories about his life. But the man whose journey had ended in the yellow tent wasn't who anyone thought or hoped. If he had been trying to escape something, it was himself.

Vance John Rodriguez, a k a Vaejor, was born in February 1976 near Baton Rouge. He had a twin sister and an older brother. He told friends over the years that his father had deeply hurt him, but no one I spoke with seems to be clear exactly how. When he was about 15, according to friends, Rodriguez headed off into a field with a gun, intending to kill himself. He fired into his stomach. But then, as he lay bleeding to death, he decided to live. He raised his hand weakly and a passing truck saw him and pulled over. The surgeries that followed were the cause of the scar that had so intrigued the Facebook group. Later, he would tell friends that he wanted to be buried in that field.

At 17, with the consent of his parents, Rodriguez was emancipated by a Lafayette, Louisiana, court. Marie, who lived with him as a friend for several years in his twenties, says he was angry that his parents had institutionalized him after the near suicide. "He would not talk about his parents except to say ' fuck them,'" Marie recalls. I wrote to his parents and sister in early January, two weeks after they heard the news. His sister wrote back, "My family has no comment."

After graduating from high school, Rodriguez enrolled at the University of Southwestern Louisiana, now the University of Louisiana at Lafayette. In the school's computer lab, he came to know a man named Randall Godso. They became off-and-on roommates for the next five years. Occasionally they would go out and party; one friend of Rodriguez's wrote that she remembers him coming to her dorm and playing "Nothing Else Matters" by Metallica on the piano. "I could be quiet around him," she wrote, "and it never felt awkward."

Godso and Rodriguez were both computer nerds, with Rodriguez taking it to the extreme. Godso remembers his roommate playing games for 18 hours a day and shutting everything else out. "He would go through huge bouts of depression. He'd go for a year without smiling or being nice to people," Godso recalls. Rodriguez, according to his roommate, had cut off all contact with his family. "He was depressed and moody his whole life," Godso

recalls. “But I needed a roommate and we got along OK.” Godso adds that he doesn’t remember Rodriguez ever showing any interest in spending time in the wild. “Outside was between the car and the building.”

According to Godso, Rodriguez didn’t graduate. But people with computer skills usually don’t have a hard time finding a job. Eventually, he started work at an ecommerce company based in Baton Rouge called Shoppers Choice, where he was recognized by many as the most talented engineer on the team. The company’s codebase is still filled with notations of “VR,” for code that Rodriguez wrote. Marie, who works in IT, told me, “He was a crazy good coder. Except he would always code everything the hardest way possible, kind of like you hired Rembrandt to paint your bathroom. You know it is going to be lit, but over the top.”

He wasn’t particularly collaborative, but he would sit down, put on his headphones—listening to Temple of the Dog and Rage Against the Machine—and solve problems. As the problems got more complex, he got more comfortable. He was quiet but not, to his coworkers, perversely so. “If you’re asking me if he is the guy who shows up at the party in a clown suit blasting things out of a cannon, that’s not him,” says a former colleague named Corey Tisdale. “But he would go to holiday parties and not look miserable.”

He ate once a day, often pizza from Walmart or lasagna from Pasta Kitchen. He wore black jeans, a black shirt, and a black trench coat. He had long, dark hair almost down to his waist. One day he cut it all off and gave it to Locks of Love. He attended Dragon Con. He appeared to suffer from some mental health issues, but, according to Marie, he refused conventional medicine. “He self-medicated with drinking and chocolate,” she says. He would go on what Marie and other friends called “outages,” where he lay immobile for days, refusing food and all human contact. But eventually he would snap out of it. “He wore his sadness like an extra layer of skin,” Marie recalls. But, she adds, “I truly dug his imperfectly perfect solitary singular self.”

During this time in Baton Rouge Rodriguez started a relationship that would last for five years. But it ended quite badly. When it was over, the woman he had dated wrote on her Facebook page, “Apartment 950 a month

/ bills 300 a month / Standing up to the monster that beat you up emotionally and physically for 5 years? Priceless." After Rodriguez was identified as the hiker, the woman's mother commented on Facebook, "This man was so abusive to my daughter, he changed her."

His colleagues from that time, learning of his story now, seemed saddened. But not entirely surprised. "He was always very introverted, kept to himself. His jokes were usually obscure," says a colleague named Keith Parent. "None of this is surprising, except for the fact that, in the end, he died."

"I looked for Vance in mid-2017 to hire him to build an app for a client of mine," says another coworker from Shoppers Choice named David Blazier. "And I would have paid him literally anything he asked. I never found him."

In 2013, Rodriguez moved to New York City. He'd met a woman, whom I'll call K, in an online chat room. K, who asked for anonymity because of the public obsession about the hiker, was then finishing college in upstate New York. They traveled back and forth to visit each other. As their relationship evolved, they decided to both move to New York City and live together. She was going into fashion and had to be there. He had spent his life in Louisiana and welcomed the change. He'd never seen snow before. At first, he was romantic and sweet. But soon he started to clam up and shut her out. "If something upset him, he would stop talking to me completely. Which can be lonely when you share a 500-square-foot apartment," she says.

Rodriguez kept working remotely for Shoppers Choice for about a year, then quit and lived off his savings. He and K went out maybe once a month, she recalls. She would ask him if he wanted to travel, and he would respond that he didn't need to go anywhere because he could easily look at pictures online. The city was filled with constant motion, but that seemed to render him catatonic. "I think it made him even more lonely to be in a place with so many people and no one to connect to," K recalls.

Gradually, the dreary relationship got worse. K recalls, "He did open up to me about previous women that he knew and how he treated them. They

should have been red flags." She stayed with him, despite her foreboding. "At one point he locked me out of our apartment after I got out of the shower without clothing because we started arguing about something I can't even remember. That wasn't the only time he locked me out."

On a Saturday night in September 2016, K was injured when a terrorist set off a bomb on West 23rd Street in Manhattan. "I had pretty bad PTSD to which he hated caring for me, even kept a dated log of every time I needed help, to the point where he left me outside in the dark—knowing that at that time I couldn't be outside alone or be in the dark without panicking," she recalls, before adding, "and this is only the light stuff."

Around this time, according to K, Rodriguez also made a threat that was both terrifying because of his skills and ironic because of the anonymity he was about to seek: He threatened to dox K if she ever left him. She still moved out that winter. He reached out to Godso, who remembers worrying that Rodriguez would commit suicide. In January 2017, Rodriguez wrote, in a Slack channel for *Screeps* users, "I'm mostly harmless (for now)." In mid-April, he posted his last message in the *Screeps* Slack and headed into the woods. He seems to have left in a hurry. When his landlord opened the door to the apartment, eight months later, he found unopened food along with Rodriguez's passport, wallet, and credit cards.

Rodriguez spent the next 15 months hiking south and shedding all remnants of the man he'd been. According to friends who saw the photographs of him on the trail, he looked healthier than ever. He was smiling. Everyone liked him. Had he become a different person? I asked K this question. "He was personable when you first met him, but after spending more time with him in an intimate way his personality completely changed. The people on the trail didn't spend years with him to see how he handled ups and downs. Maybe he was good at code-switching and hiding the person he was behind doors with me or others," she said. "I think it just hurts that he was capable of being this person with complete strangers, but when it came to us he couldn't even be a decent human being to treat me or my body with any dignity."

As he traveled down the Appalachian Trail, Vance Rodriguez was unencumbered by obligations and flush with cash from his time in tech.

And there wasn't anyone looking for him. His family wasn't in touch. His ex-girlfriend was afraid of him. And his friends in Louisiana just thought he was in "a long-ass outage," as Marie puts it. "Vance cut all ties and left," she says. "Everyone assumed he would show back up."

When I wrote about the mysterious hiker in November, I ended the story with two questions: "Why did Mostly Harmless walk into the woods? And why, when things started to go wrong, didn't he walk out?"

Rodriguez's friends have a theory about the second question. The timeline of his last few months is unclear, but he appears to have been stuck and starving, maybe at the same campground where he was found on July 23, 2018. By the time two hikers stumbled upon his tent, his body weighed just 83 pounds. He had money, though, and he was just a few miles from a major highway. Maybe his inexperience caught up to him and he was outmatched by the bugs, the snakes, and the humidity. It's more likely, his friends suggest, that he had one last, major outage. "I know that when he had to deal with anything, he would just lay down and sleep," K told me. "I feel like that's what happened. He would ignore problems and 'sleep until it was gone.'"

The other question is harder: Why did he go into the woods to begin with? There is a simple, if reductive, answer that might apply to anyone whose mind is going sideways. We go outside because it helps take us inside ourselves. We stand in the trees, breathe in the scent of cedar, and we can think and feel. Our phones don't ring and our screens don't beckon us. We stand in the vastness of nature, remember how small we are, and everything slows down.

As I tried to make sense of Rodriguez, I thought about a man I know named Jesse Cody who I had raced against in high school cross country. Like Rodriguez, Cody had struggled in his twenties and thirties. He had treated women poorly. He had come to dislike himself. He had contemplated suicide. Then, in an epiphany, he had decided to hike the Appalachian Trail, despite never having pitched a tent before. And there, in the woods, he figured out how to tame his demons. He now runs an organization to help people struggling with depression by taking them into nature. And he hasn't stopped hiking since.

Maybe Rodriguez's story is similar to Cody's. He was alone in a vast, unfamiliar city. He'd destroyed his relationships. He left his apartment in anger. And then, as he traversed the mountains, walking through sugar maple and oak, hickory and poplar, stepping over roots and rocks, he tamed his demons too. The many people who met him didn't sense the dark, brooding, sometimes dangerous person who left Brooklyn. Maybe he did become someone different. Maybe that's what he'd been seeking.

But then again, maybe these are all just stories I'm telling myself about Vance Rodriguez because I still don't actually know what happened. I want to think that he became someone else out in the woods, and I want him to have felt the things I feel when I hike on that trail. I want him to have smelled the cedar trees the way I smell the cedar trees. I want him to have a redemptive story, like Jesse Cody's, because I like happy endings and because it better justifies all the time I spent researching bowling alleys in Newport News. I'm sketching in details in the half light.

The thing about mysteries is that they are most exciting when you're still trying to solve them, when you can write in your own theories, fantasies, or fears. And this reality has struck the many people who hunted for Mostly Harmless before he was known to be Vance Rodriguez. They had been lighting candles in an effort to bring someone back to his family—only to learn that he had completely cut himself off from them. What do you do when the answer to the mystery isn't what you thought or hoped? "I'll give you a reason not to like me," Rodriguez had written on Slack, describing a kind of move in *Screeps*, two months before he went into the woods.

After the case was solved, and after some of the dark things about Rodriguez had come to light, I corresponded with Sahar Bigdeli, the woman who'd tried to get his teeth analyzed. "I became immediately engaged in the case and started to get a feeling that Mostly Harmless was a kind person, probably otherwise lonely as everyone else assumed. After all, he did leave everything, abandon everyone, and go off into the woods. It's courageous and reminds me a bit of myself as I made some brash decisions in life too," she wrote. I asked her if she was disappointed that Rodriguez had such a dark side. No, she said. "I don't think I was committed to Vance as a human. I detached myself as a person to Vance, in that I didn't want to get too

attached to a dead stranger. But I was committed to solving the case with others because it would be a great way to prove that people can do great things together."

Maybe that's the prettiest bow you can put on the box that contains this strange story. The mystery of Mostly Harmless captivated and inspired thousands of people. It inspired a group that has committed itself to trying to solve other cold cases. It brought some new attention to a cutting-edge type of genealogical analysis. It reminded everyone that it is still possible to disappear.

Yet it's hard not to look at this story with anything but sadness. The boy who raised his hand to get help from a passing truck—and whose body still bore the scar of that Louisiana field—had grown into the man who didn't seek help as he died in a Florida swamp. A man was able to disappear in no small part because no one was looking for him. A man was harmed and maybe harmful. And then he went into the woods and became Mostly Harmless.

Meghan O'Gieblyn

Ideas
01.07.2021 12:26 PM

Do I Have a Moral Obligation to Be On TikTok?

I'm only 30, and already feeling like I owe it to society to keep up.

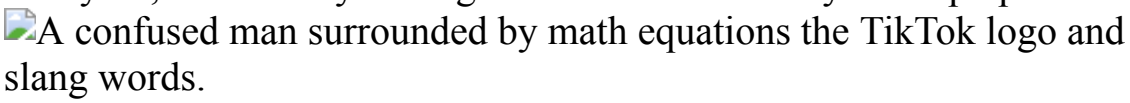


Illustration: Elena Lacey; Getty Images

SUPPORT REQUEST **:**

I'm only 30, but already I feel myself disengaging from youth trends. What's a TikTok? Who's Pokimane? Sometimes, though, I suspect I'm letting society down. Shouldn't I stay current, the better to relate to—and thus support—the inheritors of the earth? Besides, I get annoyed whenever my parents call me for troubleshooting. I should be part of the solution, right?

Dear [426] ,

That the young are destined to inherit the earth would seem to be an incontrovertible fact, true of every age. But believing in the next generation requires, first of all, a belief in the future, which comes easier in some historical eras than others.

Christ, of course, blessed the meek instead. He wasn't much interested in the next generation, convinced as he was that the world was going to end with his own. (His early followers were so certain they occupied the final hours of a decadent civilization that they dissuaded one another from procreating.) Today, with the prospect of an inheritable earth again

uncertain, the willingness to believe that kids will one day muster the sustained engagement and long-term thinking required to solve, say, the climate crisis feels like an article of faith—a prayer dispatched into the darkening void.

Most young people today are, as far as I can tell, delightful human beings, and the culture they've produced is very much worthy of our attention. I mean this, though it's also the sort of thing one is obliged to say after reaching a certain age, for fear of banishment to the isle of the out of touch. In fact, at the risk of sounding cynical, I find it difficult to believe that your own motives are as purely altruistic as you believe them to be. While it may be true that we all have an instinctive, evolutionary investment in seeing the next generation flourish (regardless of whether it includes any children of our own), I imagine that your more immediate concern is for your long-term viability in an economy that regards cultural capital and technological fluency as assets to one's personal brand. If you happen to be in a line of work that depends on garnering and sustaining an online following, keeping up with the culture is a matter of professional subsistence, a prerequisite to fulfilling one's most basic economic needs.

I'm sorry to tell you that this quest is hopeless. For one thing, most social platforms are designed to keep users in their demographic lanes. You can download TikTok to satisfy your own delusions that you are not yet beyond the pale, but unless you have the superhuman willpower to resist lingering on the opening chords of that Top 40 song you loved in high school, or a quiz that promises to determine whether you are a true child of the '90s, the algorithms will swiftly corral you into a ghetto of other millennials.

Many people your age are fooled into thinking they can understand youth culture because so much of it has been recycled from their own adolescence. The prevalence of nostalgia—the fact that each new batch of kids appears more ardently devoted to reviving trends that were popularized by the one before them—would seem to provide a link between generations, some semblance of common ground. But this is rarely the case, in practice. Nothing is so alienating as witnessing the naïve celebration of the music, clothing, and television that you yourself mindlessly consumed

as a young person, wrenched free of its original historical context and appropriated with ambiguous degrees of irony.

I'm not saying that it's impossible to keep up, just that it requires more time and effort than most of us have at our disposal. When you're young, of course, it isn't work at all—you breathe in the culture as mindlessly as the air—but maintaining active engagement as an adult is a full-time job, and the knowledge you do obtain is always tenuous and second-hand. You enter their world as an anthropologist. There are exceptions to this rule—the Dionne Warwicks and TikTok grannies who have managed to thrive among a much younger milieu—though their popularity rests on somewhat bumbling personas that play out-of-touchness for laughs (and are, one suspects, orchestrated by much younger PR teams).

I don't mean to depress you, only to slightly reframe the question. If perpetual relevance is a chimeric virtue, as futile as the quest for eternal life, the question then becomes: What will make your life more enriching and meaningful? On one hand, it might seem that acquiring more knowledge—staying up to date on music, slang, whatever—will lead to more meaning, at least in its most literal sense. To grow old, after all, is to watch the world become ever more crowded with empty signifiers. It is to become like one of those natural language processing models that understands syntax but not semantics, that can use words convincingly in a sentence while remaining ignorant of the real-world concepts they represent. It feels, in other words, as though you're becoming less human.

But knowledge is not the only source of meaning. In fact, at a moment when information is ubiquitous, cheap, and appended with expiration dates, what most of us long for, whether we realize it or not, is continuity—the sense that our lives are part of an ongoing narrative that began before we were born and will continue after we die. For centuries, the fear of growing old was assuaged by the knowledge that the wisdom, skills, and life experience one had acquired would be passed down to the next generation, a phenomenon the historian Christopher Lasch once called "a vicarious immortality in posterity." When major technological innovations arrived every few hundred years rather than every decade it was reasonable to assume that your children and grandchildren would live a life much like

your own. It was this sense of permanence that made it possible to construct medieval cathedrals over the course of several centuries, with artisanal techniques bequeathed like family heirlooms.

This relationship to the future has become all but impossible in our accelerated digital age. What of our lives today will remain in 10 years, or 20, or into the next century? It's hard to think of anything that might be preserved from the cultural scrapyard. When the only guarantee is that the future will be radically unlike the past, it's difficult to believe that the generations have anything to offer one another. How do you prepare someone for a future whose only certainty is that it will be unprecedented? What can you hope to learn from someone whose experience is already obsolete? To grow old in the 21st century is to become superfluous, which might explain why the notion of aging gracefully has become such an alien concept. (As one Gen Zer recently complained of millennials in *Vice*: "It all feels like they're trying to prolong their youth.") Meanwhile, the young become, for the old, not beneficiaries of wisdom and knowledge but aides in navigating the bewildering world of perpetual disruption—in other words, tech support.

Someone of your age, of course, still has a foot in both worlds: still young enough to count yourself as part of the rising culture, yet mature enough to perceive that you are not exempt from the pull of gradual irrelevance. One difficulty of this phase of life is feeling as though you don't have a clear role; another is the constant anxiety over when you will finally tip into fustiness yourself (that this moment always seems about five years off reeks of self-delusion). But to take a brighter outlook, you also inhabit a unique vantage with a clear-eyed view of both the past and the future, and if there's one thing we could all benefit from right now, it's a sense of perspective. Rather than merely serving as IT for your older friends and relatives, you might ask them about their lives, if only to remind them—and yourself—that there remain aspects of human nature that are not subject to the tireless engine of planned obsolescence.

As for those younger than you, I suspect that your life would come to seem more meaningful if you focused less on keeping up with transient fads and considered instead whether you have acquired any kind of lasting

knowledge that might be useful to the next generation. It is often assumed that the young have no interest in the past—or that they regard it merely as a source of fashions and artifacts that can be endlessly pillaged. But nostalgia typically reflects a fear that history is moving too fast, an anxiety that the past will be lost and forgotten. If it's true that the pace of modern life is accelerating, it would make sense that the longing for continuity would be felt most acutely by the young.

Is this true? I don't know. You should find a young person and ask them. Perhaps it's better to abandon the pretense of knowledge and assume a posture of curiosity. We don't always need to "relate" to one another. Sometimes it's enough just to talk.

Yours faithfully,

Cloud

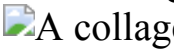
Be advised that CLOUD SUPPORT is experiencing higher than normal wait times and appreciates your patience.

Steven Levy

Backchannel
01.05.2021 07:00 AM

A 25-Year-Old Bet Comes Due: Has Tech Destroyed Society?

In 1995, a WIRED cofounder challenged a Luddite-loving doomsayer to a prescient wager on tech and civilization's fate. Now their judge weighs in.


A collage with ripped up checks.
ILLUSTRATION: WIRED STAFF; GETTY IMAGES

On March 6, 1995, WIRED's executive editor and resident techno-optimist Kevin Kelly went to the Greenwich Village apartment of the author Kirkpatrick Sale. Kelly had asked Sale for an interview. But he planned an ambush.

Kelly had just read an early copy of Sale's upcoming book, called *Rebels Against the Future*. It told the story of the 19th-century Luddites, a movement of workers opposed to the machinery of the Industrial Revolution. Before their rebellion was squashed and their leaders hanged, they literally destroyed some of the mechanized looms that they believed reduced them to cogs in a dehumanizing engine of mass production.

Sale adored the Luddites. In early 1995, Amazon was less than a year old, Apple was in the doldrums, Microsoft had yet to launch Windows 95, and almost no one had a mobile phone. But Sale, who for years had been churning out books complaining about modernity and urging a return to a subsistence economy, felt that computer technology would make life worse for humans. Sale had even channeled the Luddites at a January event in New York City where he attacked an IBM PC with a 10-pound

sledgehammer. It took him two blows to vanquish the object, after which he took a bow and sat down, deeply satisfied.

Kelly hated Sale's book. His reaction went beyond mere disagreement; Sale's thesis insulted his sense of the world. So he showed up at Sale's door not just in search of a verbal brawl but with a plan to expose what he saw as the wrongheadedness of Sale's ideas. Kelly set up his tape recorder on a table while Sale sat behind his desk.

The visit was all business, Sale recalls. "No eats, no coffee, no particular camaraderie," he says. Sale had prepped for the interview by reading a few issues of WIRED—he'd never heard of it before Kelly contacted him—and he expected a tough interview. He later described it as downright "hostile, no pretense of objective journalism." (Kelly later called it adversarial, "because he was an adversary, and he probably viewed me the same way.") They argued about the Amish, whether printing presses denuded forests, and the impact of technology on work. Sale believed it stole decent labor from people. Kelly replied that technology helped us make new things we couldn't make any other way. "I regard that as trivial," Sale said.

Sale believed society was on the verge of collapse. That wasn't entirely bad, he argued. He hoped the few surviving humans would band together in small, tribal-style clusters. They wouldn't be just off the grid. There would be no grid. Which was dandy, as far as Sale was concerned.

"History is full of civilizations that have collapsed, followed by people who have had other ways of living," Sale said. "*My* optimism is based on the certainty that civilization will collapse."

That was the opening Kelly had been waiting for. In the final pages of his Luddite book, Sale had predicted society would collapse "within not more than a few decades." Kelly, who saw technology as an enriching force, believed the opposite—that society would flourish. Baiting his trap, Kelly asked just when Sale thought this might happen.

Sale was a bit taken aback—he'd never put a date on it. Finally, he blurted out 2020. It seemed like a good round number.

Kelly then asked how, in a quarter century, one might determine whether Sale was right.

Sale extemporaneously cited three factors: an economic disaster that would render the dollar worthless, causing a depression worse than the one in 1930; a rebellion of the poor against the monied; and a significant number of environmental catastrophes.

“Would you be willing to bet on your view?” Kelly asked.

“Sure,” Sale said.

Then Kelly sprung his trap. He had come to Sale’s apartment with a $1,000 check drawn on his joint account with his wife. Now he handed it to his startled interview subject. “I bet you $1,000 that in the year 2020, we’re not even close to the kind of disaster you describe,” he said.

Sale barely had $1,000 in his bank account. But he figured that if he lost, a thousand bucks would be worth much less in 2020 anyway. He agreed. Kelly suggested they both send their checks for safekeeping to William Patrick, the editor who had handled both Sale’s Luddite book and Kelly’s recent tome on robots and artificial life; Sale agreed.

“Oh, boy,” Kelly said after Sale wrote out the check. “This is easy money.”

Twenty-five years later, the once distant deadline is here. We are locked down. Income equality hasn’t been this bad since just before the Great Depression. California and Australia were on fire this year. We’re about to find out how easy that money is. As the time to settle approached, both men agreed that Patrick, the holder of the checks, should determine the winner on December 31. Much more than a thousand bucks was at stake: The bet was a showdown between two fiercely opposed views on the nature of progress. In a time of climate crisis, a pandemic, and predatory capitalism, is optimism about humanity’s future still justified? Kelly and Sale each represent an extreme side of the divide. For the men involved, the bet’s outcome would be a personal validation—or repudiation—of their lifelong quests.

Sale's provocative book, *Rebels Against the Future*, is just one title in a shelf-full of works urging a return to a preindustrial life. His fervor for the simple life took root early. John Kirkpatrick Sale grew up in a close-knit suburb of Ithaca, New York, one of three sons of William M. Sale Jr., who taught literature at Cornell. Sale père was a legend in the field; his students included Kurt Vonnegut and Harold Bloom. Kirkpatrick Sale felt that his tiny community was idyllic. When a plan was proposed to merge his local school into the Ithaca district, young Sale spoke out against it. "Something in my genes flatly resisted the idea of leaving a human-scale school for the vagaries of education down in the city of Ithaca," he later wrote. (Ithaca at the time had all of 30,000 inhabitants.)

Kirkpatrick attended Cornell, the family institution. He studied history, but with an eye toward journalism. Even then he was a rebel. In the late 1950s, there was no war to protest against, but there was a policy called *in loco parentis,* which put school administrators in charge of moral probity. Sale, who was the former editor of the student newspaper, was enraged by a proposal to ban unchaperoned coeds from off-campus parties. He helped incite close to 1,500 people to demonstrate. In the hubbub, the dean of men got hit by an egg, and protesters hurled rocks and smoke bombs at the beleaguered university president. Sale was suspended, as was his roommate, novelist-to-be Richard Fariña.

Even back then, Sale distrusted computers. With another classmate, he cowrote a sci-fi musical about escaping a dystopian America ruled by IBM; it features an evil computer. If this sounds at all Pynchonesque, it's probably because Sale's cowriter was Thomas Pynchon. Nonetheless, a line in it foreshadows Sale's later work. "All we want is someplace where every time we turn around we don't see that idiot damn machine staring at us," one character gripes. This is *1958*.

After college, Sale worked for a leftish publication and spent time in Africa. Returning to the US as the counterculture was gaining steam, he became fascinated with the pivotal antiwar group Students for a Democratic Society, and he wrote the definitive book on the organization. He later said that the immersion "radicalized me in a way beyond where I'd been."

During the ’70s, he began formulating a philosophy that took cues from the budding environmental movement. “I was at the dining table one morning thinking about the human scale in architecture, and how modern architecture had completely lost it,” he says. It got him thinking more broadly about the shortfalls of city planning, and then of how nations are organized. He realized he had always been, as he puts it now, an “anarchocommunalist.” With thoughts of the convivial village of his childhood in mind, Sale began advocating for decentralized, self-sufficient systems—with life organized at “human scale,” which became the title of a book-length manifesto. One of his treasures was a collection of books that once belonged to E. F. Schumacher, the author of *Small Is Beautiful*.

Sale’s work intertwines two threads: bitter condemnation of so-called progressive civilization and idyllic blueprints for a stripped-down life. For the 500th anniversary of Columbus’ landing, he wrote a book bemoaning the ruination of North America. The title said it all: *The Conquest of Paradise*. In another book, *After Eden*, he postulated that everything began going downhill when humans started hunting large game, kicking off a relentless trend of destroying the natural world. He often finds himself defending Paleolithic societies; his outrage at the term “cavemen” surpasses even the indignation of the hirsute figure in the Geico commercial.

While none of Sale’s own tomes became runaway best sellers, he says that some of them made back their considerable advances. “They were talked about even when disagreed with,” he says. For many years, he was a fixture on the lecture circuit, and he estimates he visited at least 250 college campuses.

And then came the *Rebels* book. His take on the Luddite story provided a novel counterpoint to the media’s swooning over the nascent internet, and Sale had a pop culture moment. (I wrote about the book myself in *Newsweek*.) In its pages, Sale aired out the civilization collapse theory that he’d been developing for years. “If the edifice of industrial civilization does not eventually crumble as a result of a determined resistance within its very walls, it seems certain to crumble of its own accumulated excesses and instabilities within not more than a few decades, perhaps sooner,” he wrote.

Sale's Cassandra-like warning got less attention than the stunt he used to promote it. "I had TV people from all over the world come to me, often with their own used computers so I'd have something to hit," he says. He readily complied. But that was not his usual MO. "Kirk was always somewhat aloof, in a grand sort of way," his former editor Bill Patrick says. "Just a bit aristocratic—academic, the stodgy English professor as opposed to the wild and crazy drama teacher."

Despite all the smashed machinery, the Luddite book was also not a best seller, according to Patrick. But one copy, circulated in advance of its June publication, ended up on the San Francisco desk of WIRED's executive editor, Kevin Kelly.

At the time, WIRED was two years old. Kelly had been a key player in its origin, urging founders Louis Rossetto and Jane Metcalfe to move to San Francisco to launch it. Under Kelly's leadership, it became a flagship not only of the new wave of tech and internet but of a techno-optimistic way of thinking: Hackers and entrepreneurs would solve our problems.

Kelly had come to the post through a nontraditional path. Growing up in a New Jersey bedroom community, Kelly seldom traveled. But in his freshman, and only, year at the University of Rhode Island, he read books that convinced him he'd find a better education on the road. He was also inspired by the do-it-yourself ethos of the *Whole Earth Catalog*, the legendary 1960s book of tools for hippie agrarianism. He decided to tour Asia, indulging his passion for photography by capturing images of the most remote spots he could find.

The journey, lasting for the better part of a decade, transformed him. "I was in very remote parts of Asia, parts of which were literally medieval societies in every respect, from the dress, architecture, beliefs, behavior," he says. "I saw completely vehicle-less cities—people throwing garbage in the streets, no toilets. That's not even to mention the hinterland villages, which were without even metal." When he returned to the US in 1979, he had a deep appreciation for the technology that made life easier.

Kelly got a job in a biology lab at the University of Georgia and, on the side, began writing about his views and his travels. He became a computer

enthusiast when he discovered that his Apple IIe could connect him with fascinating communities. He stumbled on the Electronic Information Exchange System, an early online conferencing system, and through it he got to know Stewart Brand, founder of the *Whole Earth Catalog*. Impressed with Kelly's writing, Brand offered him a job editing the in-house magazine, *Co-Evolution Quarterly*, which was still devoted to the tools-for-living ethos of the original catalog. Later, Kelly merged the tree-hugging magazine with another Brand publication covering software and called it the *Whole Earth Review*. "All the organic farmers were completely outraged that we were now having reviews of software in their magazine," Kelly says. He would tell them, *You don't understand, this is the next big thing*. Just like plows and gro-lights and fertilizer, software was a tool. They all belonged on a continuum of technology that lifts our existence out of the difficult conditions he saw farmers coping with in his travels. "I got to experience the world without technology," he says. "So when people were talking about kind of getting rid of technology, I was like, no, no, no, you have no idea."

And that's why Kelly found the ending chapters of *Rebels Against the Future* so offensive. Kelly had no problem with critiques of technology. He had once edited an issue of the *Whole Earth Review* headlined "Computers As Poison," and even WIRED deviated on occasion from its '90s-era optimism to call out the tech world's flaws and foibles. But Sale's rhapsodic embrace of what he called "human scale" attacked *progress*. In his travels, Kelly also had seen how modern industry and tech could improve lives. Sometimes he liked to return to the remote villages he had visited in his youth. He saw a factory pop up where a rice paddy had been, and the villagers who had been barefoot on his first visit were now wearing sandals. As industry grew in the cities, people eagerly abandoned their human-scale existence for something different.

"They're leaving villages that have organic food and beautiful scenery, and beautiful architecture and very strong families," Kelly says. "Why do they do that? Because they have *choices*. They don't have to be what their father or mother was, which was basically a farmer or housewife. They could maybe be a mathematician, maybe they could be a ballerina." (Government policy may have made migration less of a choice.)

As he stewed over Sale's message, a thought bubbled up. When Kelly gets a fresh idea, his impulse is to say, "Let's do it!" He had read about the history of bets in science—one in particular was Julian Simon's 1980 challenge to biologist Paul Erlich's claim of impending resource scarcity—and liked the idea of intellectual opponents taking a public stand. "I didn't know what we were going to bet about," Kelly says. "I wanted him to be accountable for that romantic nonsense that he was spouting."

Sale didn't see things that way. "I knew the whole thing was a setup," he says. Despite feeling conned, Sale never considered just tossing Kelly out. "We were professionals," he says.

For more than two decades, the two bettors didn't speak. But as the deadline drew near, Kelly set out to contact Sale. "He kind of fell off the map," Kelly says. When Kelly eventually reached him by email, Sale was surprised to hear from his old adversary.

Sale had not forgotten the bet. He'd mentioned it in various interviews, as if recounting an amusing anecdote. But until it came due, he hadn't reflected much on it. "It had nothing to do with my journey," he says. When someone told him there was a website of Long Bets where people could make their own side bets on his wager with Kelly, Sale shrugged it off, befuddled.

Over the past 25 years, Sale had continued to write about decentralization and simplicity. But he had a harder time getting published. He had been unable to sell the major houses on a jeremiad against tourism, another attack on computers, or his takedown of the Emancipation Proclamation, which he self-published in 2012, arguing that Lincoln did Black people no favor by freeing them without a means to gain equality. He also became enamored of the breakup of the US as a way to achieve his small-town-bordering-on-tribal way of life.

In the mid-2000s, Sale cofounded the Middlebury Institute to promote the idea of secession. If states peeled off from the union, the theory went, Sale's decentralized vision might get a little closer to reality. He was disappointed that the movement did not gain steam when George W. Bush was reelected. His romance with decentralization even led him to a blinkered view of the Confederacy, which he lauded for its commitment to concentrating power

locally. (Sale told *The New York Times* he would personally prefer to live in the independent state of Hudsonia, a territory that would include New York City and the Hudson River Valley.)

Sale remained convinced that civilization was doomed. Years earlier he had advised his two daughters not to have children; they ignored him. Now he had an adult granddaughter to whom he'd one day likely offer the same advice. "She'll probably ignore me too," he told an interviewer this year.

So Kelly should not have been surprised at what Sale had to say in March 2019, on their first contact in decades. *Collapse is coming*, he said. Then Sale shared the news that he was writing a book about the bet.

The book is called *The Collapse of 2020*—and yes, the neo-Luddite's latest work is available on Kindle. In fact, Sale has made compromises with technology. He recently moved back to Ithaca with his wife to be near family. He does have a computer, as well as a printer, a land line, a stove, two televisions, and four radios. He draws the line at microwaves and smartphones. Despite believing that social media has "a visible deleterious effect," he has a public Facebook page.

In May 2020, Sale and Kelly settled on the terms of the decision. Their editor, Bill Patrick, would name the winner. Kelly proposed that Patrick wait until the last day of the year to issue his verdict, giving civilization every possible chance to self-destruct. Kelly wrote up a four-page essay to press his case. Sale suggested that Patrick read his book. But Patrick had free rein in making the determination.

When Sale and Kelly made the bet, they had assumed that by 2020 the winner would be obvious. Maybe all it would take was a look around: Is civilization still here, or not? It clearly is still kicking around. But the pandemic, its economic consequences, and the worsening climate crisis have made things interesting. What would Patrick say?

Bill Patrick lives outside of Boston, editing, ghostwriting, and book-doctoring on a freelance basis. He's long since left his old job at the textbook publisher where he'd gotten to know Kelly and Sale. But when Kelly asked him if he still had the checks from the 25-year-old bet, he knew

just where to look. He pulled open a file cabinet in his home office, flipped to a manila folder, and there were the two checks, preserved in a ziplock bag.

Patrick has his own views on technology. “I’m from the ’60s,” he says. “When computers came along, I did not view them as the next wave of liberation.” He appreciates the beauty of engineering but disdains what he feels is the arrogance of technology people. “And now the evils are very apparent,” he says. He is not on Facebook and uses a simple cell phone, not a smartphone.

In assessing the bet, he took a judicial stance, viewing his role more as a critical reader of the two men’s arguments than as an assessor of the world. “I am not an oracle,” he says. “I’m just me.” He decided to stick to the terms Sale had suggested on the fly on March 6, 1995. Even if it wasn’t quite fair to Sale. Patrick had a lot of sympathy for his point of view, but he felt that Sale’s extremism hurt his cause. “I wish Kirk had taken more time to become a better informed critic,” he says, adding that his broad dismissal of technology left him out of touch with reality. More relevant to the bet, though, was the way Sale had rashly agreed to terms that made victory contingent on worst-case scenarios. “Kirk was naive to accept on the spot,” he says.

Sale says that, even in retrospect, he couldn’t have come up with a better answer. “I said ‘collapse’ at dinner parties, but no one ever asked me to be specific,” he says. Moreover, Sales’ *Collapse of 2020* book, which came out last January, includes an untimely concession. The very fact that his book exists, he wrote, is the equivalent of tossing his cards face down on the table: If society had in fact collapsed, there would be no books, self-published or not. “So let me just admit that I was wrong,” he wrote. “But … not by much. And not totally.” Yet shortly after the book appeared, global events seemed to tilt in Sale’s favor. The pandemic’s effect on physical and economic health, Donald Trump’s destabilization of democracy, and ever more extreme weather nudged civilization closer to the precipice. Could it be that while we haven’t retreated to caves and hovels, Sale’s predictions have landed in the ballpark of reality?

That's what Patrick had to determine. In early December he began writing up his decision. Despite his wariness toward tech, he had no intention of jumping on the current techlash bandwagon. Instead, the bet was constructed on three clear conditions, and Patrick would consider each one separately, as if judging a boxing match round by round.

Economic Collapse. Sale predicted flatly that the dollar and other accepted currencies would be worthless in 2020. Patrick points to the Dow at 30,000 and the success of new currencies such as Bitcoin. "Not much contest here," Patrick writes. Round goes to Kelly.

Global Environmental Disaster. Kelly tried to argue that despite worsening climate change, people are still living their lives pretty much as usual. "If this is a disaster, that is not evident to Earth's 7 billion inhabitants," Kelly wrote in his four-page argument. But Patrick isn't convinced. "With fires, floods, and rising seas displacing populations; bugs and diseases heading north; ice caps melting and polar bears with no place to go; as well as the worst hurricane season and the warmest year on record, it's hard to dispute that we are at least 'close to' global environmental disaster," Patrick wrote in his final decision. This one is Sale's.

The War Between Rich and Poor. Sale's book cites devastating statistics on income inequality and the frayed social fabric. If he had written his book after the pandemic, the picture would be even worse. But are the classes at war? Patrick notes that in the decades since Kelly and Sale made the bet, breathtaking economic development has reshaped China and India, among other countries. On the other hand, he points to undeniable social unrest, even in the United States, with Trumpites taking to the streets with semiautomatic weapons, and massive protests against police abuses. He calls this round a toss-up, with an edge to Sale.

Round by round, the outcome would seem to make it a draw. But when making the final call, Patrick stuck to the language of the original bet. In that fateful Greenwich Village encounter, Sale called for a *convergence* of three disasters. "Kirk must hit the trifecta to win, meaning that all three horses of his apocalypse must come through," Patrick wrote. "Only one of his predictions was a winner; one came in neck and neck; and one was way back in the pack."

So on December 31, Patrick declared Kelly the winner in an email to the bettors. “But it’s a squeaker and not much cause for celebration,” he concluded.

It’s also not terribly satisfying. Because Kelly’s upbeat views seem to have crossed the finish line as Sale’s apocalyptic horsemen were closing fast, 2020 offered no clear verdict as to civilization’s fate—or where we will be in the next 25 years.

That’s due both to the extraordinariness of 2020 and to the bettors’ own limitations. They staked out extreme positions in a world that’s always likely to regress to the mean. Sale failed to account for how human ingenuity would keep us from getting tossed into forests and caves. Kelly didn’t factor in tech companies’ reckless use of power or their shortcomings in solving (or sometimes stoking) tough societal problems.

They’re also as entrenched as ever. Despite this miserable year, Kelly is boosting his optimism to a higher gear. With tech’s help, he believes, the world’s woes will be resolved. “In 25 years, poverty will be rare, and middle-class lifestyle the norm,” he wrote in his submission to Patrick. “War between nations will also be rare. A bulk of our energy will be renewables, slowing down climate warming. Life spans continue to lengthen.” He’s working on a book he calls *Protopia*.

Sale believes more than ever that society is basically crumbling—the process is just not far enough along to drive us from apartment blocks to huts. The collapse, he says, is “not like a building imploding and falling down, but like a slow avalanche that destroys and kills everything in its path, until it finally buries the whole village forever.”

Kelly wrote to Sale on New Year’s Day, instructing him to direct the $1,000 to Heifer International, a nonprofit that gives away breeding pairs of animals. Sale puzzled him by replying, “I didn’t lose the bet.” Kelly assumed he hadn’t seen Patrick’s decision, and he had the editor resend it.

But Sale *had* read it—and rejected it.

“I cannot accept that I lost,” he wrote to Patrick. “The clear trajectory of disasters shows that the world is much closer to my prediction. So clearly it cannot be said that Kevin won.”

Like the raging denialist in the White House, the cantankerous anarchocommunalist has quit the game after the final score left him short. Sale says he is seeking some sort of appellate relief, if only by public opinion, when in fact the rules included no such reconsideration. Kelly is infuriated. “This was a gentleman’s bet, and he can only be classified as a cad,” he says. Kelly warns Sale that history will recall him as a man who doesn’t honor his word. But Sale doesn’t believe that there will *be* a history. For Kirkpatrick Sale, collapse is now, and all bets are off.

Updated 1/5/2021 5:22 pm ET: *This story has been updated to correct the middle initial of William M. Sale Jr.*

Whitson Gordon

Gear
12.19.2020 08:00 AM

The Right Way to Hook Your Laptop Up to a TV

You have to do more than just plug and go. Let us help you pick the best cable for your device, and adjust your laptop and your TV settings for the best picture.

Photograph: Prashant Chauhan/Getty Images

Sometimes you want something on a big screen that your streaming box just can't handle. Maybe you're trying to watch video from an obscure service, or maybe you want to play PC games on that glorious 65-inch panel. Or maybe you just want to Zoom with your family without everyone huddling around a laptop. If you're having trouble figuring out what you need to connect your computer to your TV, we'll help you make it easy.

Gilad Edelman

Business
12.18.2020 10:49 AM

Google’s Antitrust Cases: A Guide for the Perplexed

The company is facing multiple lawsuits from the Department of Justice and three dozen states. Here’s what you need to know.


Google's G logo hanging in a window

Since October, three separate lawsuits have been filed against Google over alleged antitrust violations. The company denies the charges.Photograph: Sylvain ROBIN/Alamy

Do good things come in threes? Not if you’re Google. Heading into the holidays, the company finds itself facing a trio of antitrust cases brought by an overlapping network of state and federal enforcers. That’s a lot to keep track of. Let’s try to sort through some of the biggest questions.

Why are there all these separate cases against Google, instead of just one?

The simplest answer is that Google has a dominant position in multiple markets. This opens it up to different lines of attack that don’t all fit in the same lawsuit. Two of the cases focus on Google’s monopoly in search and search advertising; the third focuses on its control over what you might call *non-search* advertising.

OK, so what are the cases?

The US Department of Justice filed the first case in October, joined initially by eleven Republican state attorneys general. This is the narrowest of the

three lawsuits. It claims that Google has used anti-competitive tactics to protect its monopoly over general search and prevent rival search engines from getting a foothold. Most notably, the complaint describes the lengths Google has gone to to make sure it's the default search engine on browsers and smartphones—like paying Apple as much as $12 billion each year to make Google the default on Safari and iPhones. With its control over the search market secure, the suit says, Google can rake in more search advertising revenue, which in turn allows it to keep the payouts flowing. The DOJ argues that this amounts to an illegal scheme to maintain Google's monopoly over search.

What does Google say about that?

In response to the DOJ's suit, Google says that there's nothing wrong with the arrangements it has struck, because it's easy for users to change the default if they want. As the company's chief counsel put it in a blog post, "people don't use Google because they have to, they use it because they choose to."

But why would Google spend billions of dollars each year to be the default if everyone would freely choose to use it anyway?

Great question!

OK, you said there were two cases about Google search. What's the other one?

The second case about Google search, and the third to be filed overall, comes from a coalition of more than 30 states, led by the attorneys general of Colorado and Nebraska. It essentially makes the same argument as the DOJ lawsuit, plus a few more accusations. (In fact, the states have requested that their suit be combined with the DOJ's.) The most important new piece is the allegation that Google has used its monopoly over *general* search—the activity commonly known as Googling—to discriminate against companies in what's known as the *vertical* search business, like Yelp or Kayak. The idea is that Google wants people to begin all their searches on Google, rather than going straight to a vertical search site or app. The states argue that Google has accordingly made changes over the

years to how search results appear in order to keep more traffic flowing to Google's own properties rather than vertical search. That puts those vertical companies in a tight spot, since if users don't easily find them through Google, they may not find them at all. This is illegal, the states claim, because the goal and effect is to entrench Google's share of the search market, rather than to steer users to the best results.

What does Google say to that?

Google's public response so far is simple: The changes it has made are simply about making Google search more useful and relevant to users. If that's true, there's nothing problematic about what the company has done. The case may ultimately turn on whether the antitrust enforcers can prove that Google had other goals in mind besides customer satisfaction.

So how about the third case?

Just one day before the Colorado/Nebraska coalition filed its case, a smaller group of states, led by Texas, filed their own suit. This one is focused on Google's control over digital advertising, apart from its core search-advertising business. According to several studies, Google controls upwards of 90 percent of multiple parts of the digital advertising supply chain. Whenever you open a website (or an app) and see an ad, chances are the advertiser used Google to buy the ad placement; the publisher used Google to make the ad space available; and the two parties made the deal in an automated auction on Google's advertising exchange. This setup, where one company represents both the buyer and seller while running the marketplace itself, creates obvious conflicts of interest. According to the states' complaint, Google exploits its control over the advertising pipeline to impose unfair conditions on advertisers and publishers, discriminate against rival ad tech firms, and rake in a bigger cut of online ad spending than it would earn if there were more middlemen competing for the business.

The Texas lawsuit also includes a surprising allegation: that Google struck an unlawful deal to get Facebook to ease up on competing with its ad business in exchange for preferential treatment in Google-run ad auctions. If that's true, it would be a straightforward case of conspiring to restrain

trade in violation of Section 1 of the Sherman Act, which outlaws such deals between companies. (Facebook isn't named as a defendant in the suit, but it could also face legal problems stemming from the deal.)

Sounds bad. What's Google's response?

On the broader claim about Google's advertising monopoly, the company insists that the sector remains robustly competitive. On the Facebook allegation, it says that there was nothing special or shady about the deal between the two companies, and that Facebook is merely one of dozens of companies that participate in Google's Open Bidding program. So who's telling the truth: Google or Texas? We might not know for a while. Almost all of the evidence presented in the complaint was redacted, meaning we outside observers have no idea how strong, or weak, the evidence of an illegal conspiracy really is.

Is Google just getting punished for being too big?

No. The key distinction to keep in mind is between being competitive and being anti-competitive. Being competitive means trying to be the best—offering the highest quality, most affordable prices, and so on—to attract the most business. Being *anti*-competitive means using your power in a market to exclude potential rivals so that you *don't* have to try as hard to be the best. The common thread in all three lawsuits is the accusation that Google has engaged in anti-competitive conduct designed to entrench its monopoly position, instead of purely trying to win on the merits.

So, why exactly did different groups of states sign onto the different suits?

It may have something to do with politics. The DOJ's decision to file its case in October was controversial; some people, including lawyers in the department, thought US attorney general William Barr (who just announced his resignation; eventful week!) was rushing the case, perhaps to score political points before the election. That might explain why only Republican states signed onto the complaint at first. (Three Democratic attorneys general have since asked to join.) Similarly, Texas attorney general Ken Paxton is not exactly the kind of guy Democratic officials are

dying to get in bed with. He has been dogged by allegations of illegal and unethical behavior, and has even been indicted for securities fraud. Most recently, he led a bad-faith effort by Republican states to overturn the results of the presidential election, fueling speculation in Texas that he might be angling for a presidential pardon.

What comes next?

If the past is any guide, the cases could take years to be resolved. But, whatever happens, Google is about to have to spend a lot of time and attention fending off three (or perhaps two) major lawsuits—just as Microsoft did more than two decades ago, distracting its management enough to create room for internet upstarts like Google to blossom. A replay of that dynamic could dramatically reshape the tech industry, no matter who ultimately wins in court.

Arielle Pardes

Business
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The Future of Social Media Is All Talk

From Clubhouse to Discord to Twitter, 2020 was all about giving people a voice online. Literally.


podcast mic setup
Illustration: Tracy J. Lee; Getty Images

Earlier this year, just as quarantine boredom began to set in, Alex Marshall got an invitation to test a new app. Marshall, an investor at First Round Capital, hadn't seen any of her friends or colleagues in months. But when she downloaded the app, called Clubhouse, she could hear many of their voices, as if they'd suddenly showed up at her house to hang out.

Marshall was one of Clubhouse's first 100 users, and she quickly got hooked on the app, which works like an audio chatroom. She joined rooms with friends and strangers and, on one occasion, the rapper E-40. Sometimes, she and her partner, who is also a VC, would be sitting on opposite sides of their apartment only to discover each other in the same Clubhouse room. "It felt like a cocktail party where you could walk up to a group and eventually jump into the conversation," she says. For a while, "it was my favorite place on my phone."

Clubhouse's timing couldn't have been better. Audio-social apps have launched before, but never in a time of mass social isolation and screen fatigue. Clubhouse's rising star, even in closed beta, pointed to something special about the medium. There was no scrolling on a screen, so you could participate while driving or washing the dishes. The rooms were open and

transient, so you could wander in on a whim, rather than needing to call a specific person, like on FaceTime or Zoom (and hope they pick up). You could sit back and listen, or you could jump in and wax poetic. And because you could hear everyone's voices, the interactions with complete strangers could feel oddly intimate—like listening to a podcast where you could talk back.

Clubhouse isn't the only app trying to win your ears. Discord, which launched in 2015 and has 100 million users, decided this year to pivot from an audio platform for gamers to an audio platform for *everyone*. Twitter is developing its own version of sound-based social, called Audio Spaces. Other audio-first upstarts have also appeared, many of them with names that sound like alternative file formats: Wavve, Riffr, Spoon.

So begins the war of the voices, to see which platform—if any—can rise to mainstream status and shape the future of social networking. Social media has a way of disrupting established media. In the early 2000s, online tools atomized news publishing, as newspapers and magazines ceded ground to professional websites and amateur blogs and, in 2006, a new "microblogging" service called Twitter, where anyone could share their thoughts with the world, 140 characters at a time. Audio is tracing a similar trajectory. For years, AM and FM radio stations were broadcasting's primary gatekeepers. Then podcasts appeared, and everyone from former NPR hosts to Joe Rogan started to make and distribute their own shows. Now, the emergence of audio social networks makes it even easier for anyone to broadcast their conversations to the wider world.

While the pandemic perfectly teed up an audience for these new social networks, some analysts believe the plot was already set in motion. Podcast listenership has steadily risen in the last decade; a third of Americans have listened to one in the past month, according to the Pew Research Center. Streaming music platforms, like Spotify and Apple Music, have also grown, with increasingly personalized options for finding new music.

It's easier to integrate all of this content listening into daily life, thanks to the popularization of smart speakers, headphones, earbuds, and other audio hardware. "We have headphones for different occasions, speakers for different rooms throughout the house. Consumers have really geared up on

the audio products," says Ben Arnold, an industry analyst at market research firm NPD. In 2020, the sale of Bluetooth headphones, speakers, and soundbars totaled $7.5 billion—a 20 percent increase from 2019—according to NPD's research. The emergence of digital assistants on so many of these devices has trained consumers to look at headphones or speakers as two-way devices. People listen to their speakers, but they also talk back—and the widespread adoption of Bluetooth headsets has made it less weird to walk around doing that.

Naturally, then, audio-based social media has found a home in this ecosystem. Older audio platforms like Discord gained an early foothold among gamers, who needed a way to strategize—or trash-talk—with other players while keeping both hands on their controller. Now, Discord is working to overcome the misconception that it is *only* for gamers with a big rebrand (new tagline: "Your place to talk"). Clubhouse is similarly going for mainstream appeal. Its rooms are a mix of music industry chatter, speed pitches with investors, strangers vibing, amateur astrology readings. The model is somewhere in between leaving an iMessage voice memo and hosting your own podcast.

For these audio-social apps to grow, they'll have to create spaces where those broadcasts are worth listening to. Discord has found some success by nurturing its non-gamer communities. Stan Vishnevskiy, Discord's cofounder and CTO, says all kinds of people used the service, "from small intimate groups of friends looking to share a meal over video to book clubs to Boy Scout meetings, and even large scale events like VidCon." Other apps, like Clubhouse, may do better to cultivate influencers. "That's what this space needs: the equivalent of the TikTok creators, who can take the content in a new direction," says Arnold. Creative voices could also make these platforms stand out even after the pandemic, when people can spend time in the same room with their friends again.

People also need to feel safe on these apps, which means nascent platforms will need to figure out how to moderate user-generated content. Will Partin, a researcher at Data and Society's Disinformation Action Lab, says audio social networks will face the same big questions as text- or image-based ones: chiefly, how and when to censor what people say. But audio, as a

format, may pose new challenges. “Platforms usually rely on a combination of machine learning, user reports, and contracted moderation teams to distribute the enormous task of moderating a social network with millions of users,” says Partin. “The basic structure for audio content doesn't change, but it does present different technical challenges,” like creating a large training database on audio snippets. “That isn't an insurmountable challenge, but it is an extra step.”

Clubhouse, which is still in its closed beta, has already faced issues with harassment. (The company did not respond to interview requests.) And Twitter hasn’t shared how it plans to enforce its rules on Audio Spaces, but it already struggles with problems like abuse and disinformation on its main service. “One of the big challenges of open social networks like Twitter is that what's OK in one community is seen as wrong in another one,” says Partin. “It's hard to make a policy that's going to make both groups happy.” He added that Discord, which gives its closed communities the tools to police themselves, has had more success with moderation at scale. “This doesn't, of course, mean that issues of harassment go away,” says Partin, “but it strikes me as a much more honest, practical way of approaching the complexity of social life.” Vishnevskiy, Discord's CTO, added that the company is constantly monitoring the service for violations to the community guidelines.

Audio-social networks also need to figure out how to make them inclusive in other ways. When Twitter introduced “audio tweets,” a precursor to its Audio Spaces, accessibility advocates pointed out that there were no captions, rendering it inaccessible to people who are deaf or hard of hearing. (Twitter later added transcriptions of audio tweets.) Discord has introduced some accessibility features, including text-to-speech and a better screen-reader integration, but only after users have complained.

However these audio-social networks manage their growing communities, they’ll need to keep them engaged once pandemic restrictions lift and Americans aren’t as reliant on virtual socialization. The audio format may be the next frontier, but there’s still a long way to go before it reaches mass adoption. Marshall, the VC, still spends most of her time in her apartment, but she hasn’t spent as much time on Clubhouse lately. The app is still

growing, and its users seem to be molding the identity of the platform day by day. But Marshall, like so many early adopters, is already looking for the next thing.

WIRED Readers

Culture
12.01.2020 12:32 PM

Six-Word Sci-Fi: Stories Written By You

Here's this month's prompt, how to submit, and an illustrated archive of past favorites.

Illustration: Elena Lacey
THIS MONTH'S PROMPT

In six words, write a story about a tech-centric religion.

Submit stories on Twitter, Facebook, or Instagram, or email us at mail@wired.com. We'll choose one to illustrate.

Disclaimer: All #WiredSixWord submissions become the property of WIRED. Submissions will not be acknowledged or returned. Submissions and any other materials, including your name or social media handle, may be published, illustrated, edited, or otherwise used in any medium. Submissions must be original and not violate the rights of any other person or entity.

FEBRUARY 2020

A Story About a WFH Office Scandal

THEY WERE IN THE SAME ROOM.

—@abhignak, via Instagram

Honorable Mentions:

He was never a real person? —Ian Schoen, via Facebook

Wife realized my job is easy. —@jchavizzle, via Twitter

Dress code updated after yesterday's "incident."
@mistermistermistertibbs, via Instagram

He certainly shouldn't have stood up. —Małgorzata Kuś, via Facebook

"Joe's the father." "You're not muted." —Austin Craver, via email

Worker's comp? It is her dog! @thefitzroymclean, via Instagram

It looks real, but it's not. —Jonathan Goode, via Facebook

The window behind her reflected images. —@chmslady, via Twitter

As everyone's computer froze, she laughed. —@mcgroup53, via Twitter

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JANUARY 2020

A Story About a Future American President
