

Nuwa's Downfall

Maj. Scott Roett, U.S. Army

Rick Mooney sat on the frozen rock watching the sunset over the Himalayan mountain range. Rick tried to light his cigarette one last time to get the last bit of nicotine in, but the elevation of sixteen thousand feet required him to modify his zippo to release more fuel to hold a flame. The lighter worked but burned through butane fuel at a much faster rate. That was a recurring theme in the Aksai Chin region of the border between India and China; everything took more effort than usual.

As Rick sat on the ridge looking over toward the Chinese People's Liberation Army's fortified defenses, his ears keyed in on two familiar sounds: the hum of a friendly drone swarm and the shrieking howl of yet another friendly hypersonic missile barrage. He had gotten pretty good at discerning the swarm's general size and the number of HMs. He should, because enough barrages failed miserably, throwing themselves at the PLA's antiaccess/area denial defenses with little effect. This attack was no different.

Rick wondered how many times the Coalition would needlessly throw assets at the Chinese perimeter, hoping for a different outcome. At least the front had settled enough that it was no longer young soldiers slamming into the PLA defenses needlessly. Rick watched as three HM streaks broke cloud cover and began to wobble as the PLA's energy-directed weapons placed over two thousand degrees Fahrenheit of heat on the warhead; it exploded harmlessly just below the clouds. The friendly drone swarm, affectionately known as a hive, began dropping out of the sky. The PLA's tactical electronic warfare teams conducted their usual battle drill to break the drone's links to their master control station and eliminate the hive's remaining drones with 14.5 mm airburst ZPU-10 rounds. It suddenly fell silent, but would not stay quiet for long as the PLA HM's counterbattery would occur within thirty seconds. As the incoming HMs came screaming in across the horizon, Coalition THAAD began making short work of the four-missile barrage.

Rick wondered what had brought him to this very moment. It seemed like a lifetime ago when his battalion received orders to deploy from the enhanced forward presence mission in Vietnam to this remote border area at the top of the world. Rick always prided himself on staying tuned in to world news and anticipating where the next conflict may occur. His time at the U.S. Army School of Advanced Military Studies had provided him the tools to anticipate the future and identify alternate futures. Still, Rick could not prepare for the war he was involved in at the top of the world. The Sino-Indian War quickly turned into a micro world war at the highest elevations on earth.

(Photo courtesy of Wikimedia Commons)

The line of actual control was always a contested region between India and China; however, until 2030, small skirmishes mostly involved fistfights, sporadic small arms, or the occasional artillery round lobbed back and forth. It was not as hotly contested until a Chinese precious metal company discovered the Aksai Chin gold reserve while exploring the area for minerals. The gold vein discovered by the Chinese engineer was only the tip of a much larger reserve on the Indian-controlled side of the border. The ACGR was the world's largest gold reserve globally, and engineers estimated the reserve to contain twice as much gold as retained at Fort Knox. The Chinese Communist Party saw this as an opportunity to depose the United States from its role as the world's hegemon. If the CCP could secure the reserve and excavate the contents, the Chinese Yuan would replace the dollar as a global currency, providing untold influence and power for China. It would also cripple the U.S. gold-backed dollar, relegating the United States to a low-level regional power. For the CCP, the risk was worth the reward.

On 23 August 2030, PLA long-range artillery, drone swarms, and hypersonic missiles crashed into the Indian defensive line. PLA dismounted infantry and light armor followed the initial barrage. Despite the initial assault, the Indian line held, primarily due to its advantageous positions on the ridgeline's high ground and the force's acclimation to high-altitude warfare.

Thankfully, neither side chose to escalate to nuclear war. Indian President Balwinder Singh withheld nuclear weapons employment at the United Nations' urging. This pressure, coupled with the rapid deployment of the United States, United Kingdom, and Australian task force aptly named the Coalition, halted initial PLA advances. China could not employ nuclear weapons for fear of damaging the ACGR and the precarious political situation Chinese President Xi Jinping would find himself in if nuclear fallout swept east across mainland China. For these reasons, the war was violent but nonnuclear.

Rick reflected on his battalion's initial success during the war. While the fighting was hard and unlike anything he had experienced, the Coalition was repulsing PLA attacks. All that changed six months later when the first Wolf Warriors appeared at the Battle of Galwan Valley. The initial engagement was standard PLA systems warfare with the Coalition tactical

satellite and line-of-sight communications jammed, signaling an assault. Despite this standard tactic, Rick realized it was no ordinary attack. His Integrated Visual Augmentation System goggles data used for call-for-fire targeting marked his position as the target for a hypersonic missile strike. He appeared to be one of the few battalion staff officers to catch the deadly cyberattack. As he looked east to his adjacent battalion, friendly MLRS decimated the entire battalion as the PLA cyber teams manipulated the Fire Support Officer's targeting data, which resulted in the fratricide.

The Wolf Warriors began to penetrate the gap caused by the friendly MLRS strike. This was the first time anyone had observed the genetically modified warriors in combat. The People's Army Performance Department experimented with CRISPR technology a decade or so before. The [PLA's] bioengineering modifications created more robust, faster, and more cognitively enhanced super-soldiers suited for the harsh environment. The Wolf Warriors' vulnerability was their limited operational reach. The massive cognitive load and muscle exhaustion due to the high output meant that the Warriors' skills only lasted two hours. After two hours, they rapidly devolved into a comatose state. The Warriors entered a "power save" mode as not to kill the host. Understanding the limitation, the PLA established mobile "recharging stations" behind the Warriors that allowed for reapplication of the gene therapy and quickly returned them to the fight.

The Warriors seized an initial foothold on the gap in the Coalition's perimeter and then began to maintain the initiative, fanning out in all directions. They assaulted the elevated defenses with lightning speed. It was not just their tremendous speed and strength to maneuver under kit at such

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high elevations, but also they thought faster. Their knowledge of acting quicker than the Coalition soldier's OODA loop was far superior to what John Boyd ever imagined possible. This cognitive skill allowed them to anticipate the stryker counterattack from the division reserve and crater the road at the exact location that pinned the entire column down to destroy it in detail. For two bloody hours, the Coalition reeled and fell back in a full retreat. The Warriors ultimately surrounded and destroyed those soldiers that did not withdraw. That day, the United States added Galwan Valley to its grim list of initial battlefield failures such as Kasserine Pass and Task Force Smith.

"Lt. Col. Mooney? Sir, the team is assembled and ready for the back brief," stated the battalion S-3, Maj. Bruce, from a few feet down the hill. Rick broke from his trance, looking over the valley; it had been nearly a month since the Battle of Galwan Valley. He was now in charge of his heavily attrited battalion after a drone swarm targeted his battalion commander's TACSAT radio and launched an antipersonnel rocket, killing him instantly. Rick was now in charge, and his battalion's mission had strategic implications. He nodded to Maj. Bruce, took his last puff from the cigarette, and made his way down the hill to the battalion's final combined arms rehearsal before crossing the line of departure.

The Brief

Lt. Col. Mooney opened the flap to the air tent, revealing the bright halogen lights. The leaders assembled before him included his company command teams,

battalion staff, and coalition attachments tasked to support this critical mission. The task force's U.K. tactical cyber/space detachment was a twenty-soldier platoon that provided the ground force commander options for localized cyber employment to shut down the PLA network and provide a secure pipeline to control strategic cyber and space assets. Rick's Indian Army underground sapper company was among the world's premier subterranean warfare experts, second only to the Israel Defense Forces. Their subterranean industrial drills were best suited to conduct a covert penetration underground. The Australian contingent consisted of a drone platoon capable of employing any number of configurations to support reconnaissance, rapid logistic support, direct fire, and indirect fire support.

Rick worried about the task force's proficiency. While the U.S. Army's most recent doctrine on mosaic warfare focused on lethal, flexible, and interchangeable formations based on the operation, he commanded a task force developed hastily following Galwan Valley by the Coalition's top doctrine writers and warfighting function proponents. The new concept, called Flowing River Operations (FRO), was the solution to the PLA's Wolf Warriors.

FRO, while thrown together in extremis, was operationally sound. FRO developed because of a Sun Tzu quote: "Water shapes its course according to the nature of the ground over which it flows." The concept focused on avoiding the PLA's Wolf Warriors and instead targeting the support area's charging stations. The idea heavily relied on maneuver warfare to eliminate the



(Map courtesy of Wikimedia Commons)

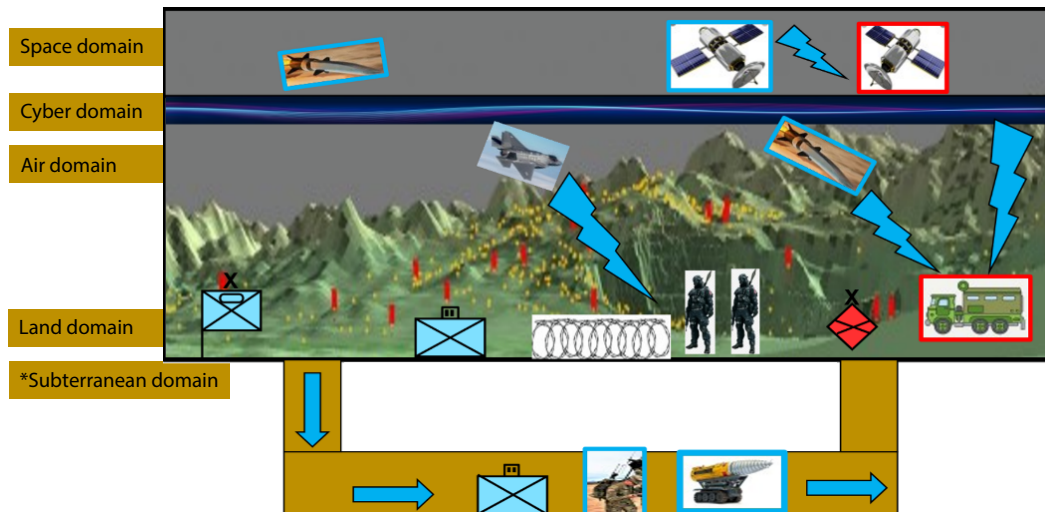
PLA's ability to fight. The cornerstone of the concept was to achieve penetration below the surface through underground tunnels to avoid contact with the Wolf Warriors. It also required the same operational intelligence required by maneuver warfare to identify the PLA charging stations and the Wolf Warriors' forward disposition. If the Coalition had the intelligence of the PLA support and consolidation areas, using the subterranean environment as the maneuver space helped avoid the Wolf Warriors and emerge at the charging stations. Attrition theory, or killing more of the enemy, was not valid because the casualty ratio was not in the Coalition's favor; with ten Coalition soldiers killed to every one Wolf Warrior.

"Alright, everyone knows how important this mission is. If we do not destroy the Galwan Valley charging stations, the PLA will maintain its current perimeter and can begin excavation operations in the ACGR." Everyone looked on ominously with an understanding of the burden they carried. "We were fundamentally surprised a month ago; it is time to return the favor. Maj. Bruce, let us start."

Maj. Bruce began the CAR. "Ladies and gentlemen, conditions are set to execute Operation Nuwa's Downfall. We will be initiating the operation using the FRO concept, which allows subterranean maneuver to provide a 'waterfall effect' on the objective. Our objectives are the charging stations. The use of effects in multiple domains creates 'rapids' to limit an adversary's operational options. S-2 with the latest intelligence."

The battalion S-2, Capt. Parks, stood up and provided his assessment. His assessment was based on the latest corps intelligence using cyber, drone reconnaissance, aerial biotech scanning, and space assets to determine Warrior and charging station dispositions. This intelligence was more than the Coalition previously had due to the emphasis on FRO requiring additional operational intelligence across the domains.

"Team, the latest intelligence places a platoon of warriors established in a defensive perimeter around the western valley ridgeline. PLA A2/AD established on the eastern ridge consists of energy directed weapons and ZPU 10s. The PLA established the charging stations and



(Image courtesy of author)

"Water shapes its course according to the nature of the ground over which it flows." —Sun Tzu

Tenets of FRO

1. **Flow:** Leverage subterranean maneuver to avoid enemy strengths.
2. **Join:** Leverage multinational partner capabilities to develop lethal task force.
3. **Rapids:** Disrupt enemy decision cycle with multi-domain approach, including subterranean domain.
4. **Waterfall:** Flow out of the subterranean environment to overwhelm critical sustainment nodes.

Figure Flowing River Operational Concept

energy-directed weapons in the PLA's support area for maximum protection. Division satellite assets identified the heavy excavation equipment with a fifteen mile per hour route of march to the Galwan Valley. It should arrive within twelve hours. Lt. Col. Mooney, any comments?"

Rick looked up from the latest satellite images on his encrypted digital tablet. The tablet was as good as a paperweight since any signal emission would result in a hasty barrage of HM on the CAR. "How is the soil content? And are conditions still set for a twenty mile per hour route of march below surface, Lt. Vikesh?"

The subterranean warfare company commander, Lt. Vikesh, responded, "Sir, soil content will limit us to twenty miles per hour at max, with three drill bit changes along the route. From initial dig to penetration by the charging stations, I estimate two hours. The movement corridor will facilitate one company with one-thousand-meter intervals in between to prevent a mass casualty event if the tunnel collapses."

Rick nodded and directed his attention at the cyber/space detachment platoon leader, 1st Lt. Winston. "Lieutenant Winston, confirm your directed effects on the Wolf Warrior HUDs to disrupt their situational awareness and link with their command-and-control node."

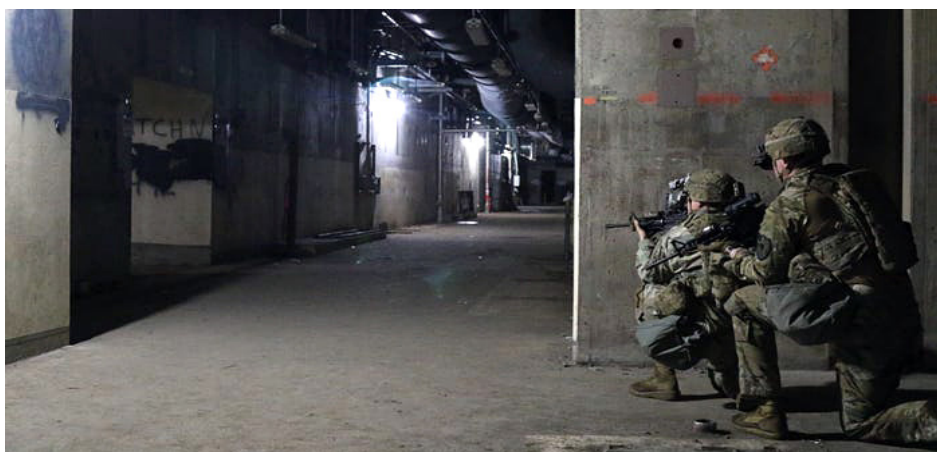
Lt. Winston stood up. "Sir, conditions set. Tactical cyber elements will maintain effects on the HUDs until drill penetration is complete. One embedded tactical cyber team will travel with the penetration team to establish defensive cyber for friendly communications and offensive cyber against the PLA Division TOC and Wolf Warrior leadership."

Rick shifted his attention to Lt. Baskins, the Australian drone platoon leader. "Baskins, what's the OR rate for your drones?"

Baskins responded confidently, "Sir, currently thirty-three drones available with five tasked to sustainment operations trailing the penetration element with additional small arms ammunition and explosives. I tasked ten drones

with target identification of warriors for kinetic strikes following A2/AD bubble dissolution. I tasked a remaining eighteen with fixing the Wolf Warriors during the last five hundred meters of the subterranean breach."

Capt. Underwood, the battalion's Alpha Company commander, was next to receive Lt. Col. Mooney's attention. "Axe 6, talk actions on the objective," Rick said in a deep but comforting voice.



Troops prepare to attack through subterranean tunnel toward objective. (Photo courtesy of Defense Visual Information Distribution Service)

Underwood stood up. "Roger, sir. Axe Company is bringing 105 soldiers to the fight with tactical cyber and subterranean attachments. Once we have breached the subterranean perimeter, we will stand by for the 'cherry/ice' call on whether to break the surface. Pending approval, we will breach the surface. I tasked 1st Platoon to destroy charging stations, 2nd Platoon to block the Wolf Warrior quick reaction force response, and 3rd Platoon to block PLA support area security from intervening on the objective."

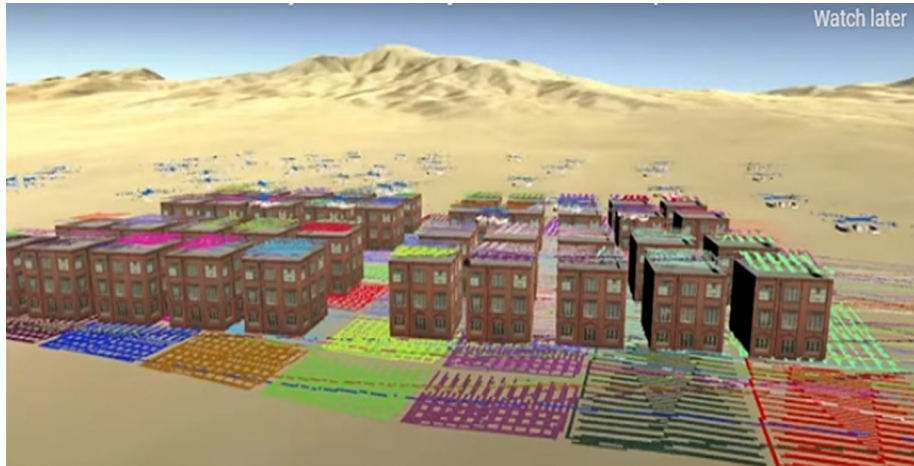
Rick nodded with approval but did not say a word. He looked over the sand table one last time and said, "Alright, let's go through one more time."

The Second Battle of Galwan Valley

Rick looked at the monitors in his mobile CP and gave the command to Captain Underwood. "Ice, I say again, Ice!" The concept was working. The Wolf Warriors' capabilities started degrading due to the cyber/space platoons' effects on the Warriors' HUDs. This successful effect placed a large volume of fire on the cyber platoon, but it was mostly ineffective due to

a lack of accurate targeting data. Lt. Baskin's drone platoon seemed to draw the PLA's primary response. They began taking the brunt of PLA fires with ten drones destroyed and PLA counterfire on the control stations, causing multiple casualties to the operators.

sequel based on the operation's tempo. With the A2/AD bubble nearly destroyed, Rick directed the remaining attack drones to interdict the convoy. Lt. Baskins stated that his drones were nearly out of ammunition and fuel.



Drones attack to neutralize PLA logistics hubs. (Screen capture courtesy of Defense Advanced Research Projects Agency)

The thirty-second call came from Capt. Underwood across the radio. Lt. Col. Mooney directed the battalion's assets to create the "rapids" effects to get inside the PLA's OODA loop. Shortly after, the breach call came from Lt. Vikesh, indicating they reached the surface. "Waterfall, waterfall!" yelled Rick in excitement on the radio as he began directing assets.

The battalion TOC monitors captured explosions via satellite and drone reconnaissance feeds as 1st Platoon spread out across the objective, planting its C6 explosives on the charging stations and energy-directed weapons. Lt. Winston reported a break in the A2/AD bubble. Like a rehearsed symphony of destruction, Lt. Baskins' remaining drones identified the Wolf Warriors displacing from their positions to support the charging station defense, but a ring of fire erupted, engulfing their withdrawal. Coalition hypersonic fuel bombs began coating the valley in flames. It was not a precision weapon but was a useful area denial weapon.

Capt. Underwood called back to the TOC, stating 1st Platoon had destroyed the charging stations and only a few ZPU-10s remained. He also stated he could observe the lead element of the excavation equipment slowly winding up the ridge. While the destruction of the excavation trucks was not explicit in Rick's plan, it was a potential

Thinking quickly and realizing his operational reach, Lt. Col. Mooney directed the drones to the forward arming and refueling point on the objective. Following consolidation, the drones could support defensive security measures around Axe Company. He then called the division's headquarters to shape the deep fight with close air support. With the A2/AD bubble dissolved, the division's high payoff target list was available for an immediate strike. Within thirty seconds, six F-35s streaked

across the valley, striking the convoy. The expensive excavation equipment burst into flames and tumbled down the ridge.

Capt. Underwood's 2nd Platoon was starting to report contact with the displaced Wolf Warriors. The calls began to increase in intensity. Rick directed all fires to interdict the Warriors from overrunning Axe Company. Lt. Winston stated his detachment with Capt. Underwood was no longer emitting offensive space and cyber effects, indicating they were wounded or killed. Rick frantically mouthed the countdown as the timer on the wall ticked away. "4, 3, 2, 1 ..." Silence fell over the TOC. After ten seconds of silence, which seemed like an eternity, Underwood's voice came across the radio. "Tomahawk 6, this is Axe 6. The Wolf Warriors culminated, and they are comatose." Rick smiled and directed consolidation on the objective. He also directed B Company and C Company to maneuver through 1st Lt. Vikesh's tunnel to support Axe Company on the objective.

Rick took a deep breath and scratched some notes for his update to his brigade and division commanders. They would want to know the immediate feedback on the FRO concept and if it was suitable for the other units as a model across the operational area. As Rick

wrote out his notes, he knew the war was not over, far from it, but this was the start of turning the tide. The Wolf Warriors were no longer invincible. They had vulnerabilities in their system, and the FRO provided a blueprint for success. As he looked over his tablet with the operational graphics for “Operation Nuwa’s

Downfall,” he remembered the story of Nuwa and how the Chinese deity corrected the world’s imperfections to create a perfect world. As he looked across his TOC at his diverse task force from all different countries and backgrounds, he could not help but smile and think that he had witnessed Nuwa’s prophecy in action. ■

Glossary

A2/AD—antiaccess/area denial

ACGR—Aksai Chin gold reserve

CAR—combined arms rehearsal

CAS—close air support

CCP —Chinese Communist Party

CP—command post

CRISPR—clustered regularly interspaced short palindromic repeats

FRO —Flowing River Operations

HM —hypersonic missile

MLRS—multiple launch rocket system

OODA—observe, orient, decide, act

OR—operational readiness

PLA —People’s Liberation Army

S-2—intelligence officer

S-3—operations officer

TACSAT—tactical satellite

THAAD—terminal high altitude area defense

TOC—tactical operations center

ZPU—zenitnaya pulemotnaya ustanovka

[anti-aircraft machine gun]