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IDEAS & ISSUES (FUTURE CONFLICT)

Ambrosia

Chapter 4

by Maj Victor Ruble

ike something out of a horror movie about robots, "the Box" slowly emerged from the surf zone of Qeshm Island. 1stLt Rosado was ready to throw a paycheck on the table that they had lost the hulking beast when he and the rest of Company A's leadership saw it hastily propel itself into the waters of the Persian Gulf, overly eager to engage whatever adversary awaited them on the island. But as he watched the monolithic infantry fire support robot lumber through the surf like a rectangular, metallic "Creature from the Black Lagoon," he had to tip his cap to the combat developers-it was indeed amphibious. Propelling itself with a 750 horsepower electric engine on two heavy tracks, it was as odd looking as it was effective. Aidan had read up on the characteristics and capabilities of the Box, and had even seen video of earlier models used in the retaking of Chimera by a joint NATO-Ukrainian task force, but he had never personally seen it used. Autonomous infantry fire support robots were organic to every BLT in that went out with the MEUs. but that didn't mean that they actually ever got to use them. With defense spending cuts continuing to hamstring the force, there was no training ammo for the Box, and with its vast array of weaponry, the use of actual kinetic rounds was out of the question-even in Darwin or Twentynine Palms-so their employment was always simulated. During any readiness or certification exercise, all a commander had to do was say, "I'm sending in the Box" and the Coyotes would then evaluate the soundness of its employment and give a battle damage assessment, or BDA. The Coyotes started dubbing it the "Box Card," and the joke became that anytime a commander would be put in a dilemma, they would just throw

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down the Box card and, because of its capability, the Coyotes would have to concede and just say, "All enemies destroyed. Continue your movement." It was the Marine Corps' version of a "get out of jail free" card.

But as a young second lieutenant the redundantly synonymous "young" and "second lieutenant" being used as the vernacular to emphasize that he was practically fresh out of IOC [Infantry Officer Course] when he deployed— Capt Prophet made the Chimera Liberation deployment, so he knew full well what was about to be brought to bear. He made sure everyone knew it "Stand by for the good stuff, gents," he blurted over the Company tactical net (TAC) as the Box rumbled onto the beach.

With outstretched arms, Aidan expanded the holographic projection of his UAV feed hovering in front of him. He wasn't a huge fan of Capt Prophet's bravado and attempts at being a "salt dog," but in this case, even he was getting caught up in Prophet's moto. As the massive, right-angled monster slowly traversed the unforgiving sand of center beach without even a heron fleeing the area, Aidan thought that maybe this was going to be another let down. But as the Box gained solid traction and began to make real progress toward the beach assembly area, it happened. Multiple rounds from an unknown location impacted on the front of the robot. The capabilities of the Box, or any of the Marine Corps' autonomous inventories for that matter, were relatively uncharted.



"The Box" grew out of experimental weaponized robotic vehicles that were tested in 2016. (Photo by LCpl Julien Rodarte.)

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This had as much to do with Marines' innate aversion to trusting a robot's non-sentient artificial intelligence as it did to the lack of their use, especially considering the horrible record autonomous "soldiers" had in abiding by ROEs [rules of engagement]—they just have the darnedest time differentiating between combatants and noncombatants in HA/DR ops [humanitarian assistance/disaster relief operations]. More times than not, once they hit the battlefield you could assume that the campaign would extend at least a year at the minimum. To that, with all of the crisis response operations that the MEUs have had to respond to over the past decade, with the exception of the Box, no commander has been willing to fully integrate the "Devil Bots" into their landing teams. And even then, the Box is so kinetically focused, even when it leaves the ship it rarely gets off of its sled.

With all of the ambiguity surrounding its capabilities, it wasn't a huge anomaly that the metallic monolith was able to absorb the first volley. With an exterior armor protection maximum of 30mm API (armored piercing incendiary), it could basically take on any tactical vehicle up to an infantry fighting vehicle. But just because it could take it, didn't mean that it had to like it. Twisting the upper portion of its frame that houses its extensive optics and fire control systems to face the source of the direct fire attack, it made a bee line toward the incoming fire. The volume of fire increased as a steady stream of fire continued to attempt to chip away at the robot's heavy armor. After covering only a few dozen meters, it suddenly came to a halt, still absorbing a barrage of enemy fire, which now seemed to be peppering it on all sides. After a brief pause, four large steel beams shot out from the corners of the track housing and embedded deep in the soft sand of the beach. These support beams helped stabilize the Bot when delivering its payload, but was usually reserved only the most intense fire missions. Apparently, the Bot had had enough.

Large hatches unfolded from the top, exposing its massive array of weaponry. Two 120mm mortar tubes poked up from two of the front compartments and a small rocket pod—which occupied the majority of the Box's storage area—arose from inside, lifted up from within on a platform supported by an extendable arm. Dubbed the 'mini-MLRS,' [mobile launcher rocket system] this missile pod fires smaller, shorter range rockets than the standard mobile launcher rocket system. Although the entirety of its payload may not clear an entire grid square like its bigger brother, the platform and arm mounting system allows for it go "direct lay," or be used as a direct fire weapon.

Aidan watched as rockets spewed from the pod like silly snakes from a gag store beer nuts can. Approximately one click away, the ground erupted in smoke, sand, and fire. Through the smoke and debris, Aidan could see the chassis of what he only assumed was some sort of technical or thin-skinned combat vehicle, fly though the air. The mortar tubes chimed in, sending indirect fire into the fray. Aidan shifted his UAV camera view just in time to see explosions blanket the terrain. The 120s in the Box were designed to support semiautomatic fire, basically allowing as high a rate of fire as the tubes could support. Prophet made sure that the Weapons Platoon Commander had them well calibrated, causing Aidan to chuckle a bit at the comical amount of destruction these two tubes were raining on the enemy positions. Aidan saw a humanoid figure run from the chaos. He thought that AST [Advance Science Technologies] may have had its own human contracted security on the position until he saw the silhouette become engulfed by the Box's onslaught and the legless torso continue to pull itself quite a ways away from the impact area, until finally succumbing to its damage.

Between the autonomous gun boats and now autonomous robotic soldiers, Aidan figured that AST had a significant presence on the island.

"When we gonna get in there sir?" He blurted over the company TAC.

"Wait for it, Hollywood," Capt Prophet responded calmly. With the microwave shield still preventing their entry, Prophet knew that the Bot wasn't done. Opening its last remaining compartment, the Bot ceased fire on its barrage. After a brief pause, what looked like a small Tomahawk missile launched from the caverns of the automaton. Due to its high trajectory, Aidan lost sight of the projectile, but after a few moments of dramatic silence, from his port vision block he saw a huge cloud of fire and smoke emerge from the horizon. As immediate as his recognition of the blast, was the cessation of his APS alarm.

"We're in!" Capt Prophet boomed enthusiastically, elated that the Box's final volley took out whatever the enemy was using to project its area denial field. "Battle speed, Battle speed, Battle speed!" he called out with pride.

Battle speed has been used as the brevity code for amphibious assault units since before Aidan's dad was refusing to grow up. It is used to signify that the assault force was making its landing into the teeth of the enemy's shoreline defense. Hatches are closed, weapons are made ready, and buttholes are sufficiently puckered. As ominous as this may seem to the layperson, it is a call that makes Marines' heart race and adrenaline spike. If you could bottle it, you would eliminate the need for most performance enhancing drugs overnight.

As if rehearsed, each of Lt Pak's ACVs peeled away from their gator circles and formed a perfect line paralleling center beach.

"Stay on line, folks," Pak-man transmitted over his platoon net. "We don't have time to dance around out here."

In what seemed like forever, all 21 ACVs finally hit center beach in perfect unison. Due to Aidan's anticipation of the ensuing conflict, it seemed like it took the company a long time to finally make its landing, although in actuality, the landing lasted only a few minutes. The hull of the HSW-S is designed to act like a surfboard—staying afloat through the surf zone-eventually "sliding" along the surface of the beach. In some cases, depending on the composition of the beach, it will allow itself to be completely mired into the sand in order to negate the necessity for a high water speed craft to go into a displacement mode prior to landing on

the beach. To put it simply, it surfs the waves and then slides along the smooth surface of a beach in order to keep a 75,000 pound armored vehicle from hitting the sand at 25 knots.

The ACV-3, like its predecessors, is fully amphibious but only travels at a top water speed of 8 to 10 knots, and in this environment where very second counts—unlike landing on a permissive shore—no one is willing to "slow roll" onto the beach.

As soon as the HWS-Ss hit the high water mark, sensors measuring velocity and surface viscosity knew that they had made ground, and immediately triggered the release of the platform mooring cleats, propelling the armored company onto the beach of Qeshm Island.

"Rally on the Box," Mack commanded.

The ACVs' drivers immediately assumed control of the maneuver and moved effortlessly through the diverse terrain of the island's topography. Since the ACVs inception, the vehicle was always designed to accommodate the bulk of a Marine armored personnel carrier's mission profile-land. It was only through advancements in water propulsion and the introduction of the HWS-Ss that they eventually replaced the AAV. In no matter of time, all of Capt Prophet's company had linked up with the Box and had formed a complete 360-degree defensive perimeter around it. Seemingly still not fully ready to fall back into a support role, the Box's hatches remained open and its optical cupola continued to traverse, searching for more potential targets.

"Hollywood, you've got point," the company commander instructed as he punched a flurry of key strokes into the holographic keypad projected over his lap. As if he were shadow boxing, he performed a quick right jab on the Box's command screen, immediately sending it into support by fire mode. Indirect fire weapons retracted into its body and hatches slammed shut. Optics mechanisms engaged, replacing fire direction controls with line-of-sight capabilities. Additional hatches opened, revealing a "snub nose" 80mm cannon and what looked like a .50 caliber mini-gun.

Aidan received the notification via the company's intranet chat capability—a highly evolved version of mIRC-chat used back during Operation IRAQI FREEDOM—that the Box had re-calibrated to its new mission parameters and was ready to "oscar mike" [be on the move].

"Alright SSgt, let's roll. We'll take second in the order of movement," Aidan said to his vehicle commander over the intercom. Aidan's platoon, emdesalination plant, but it was also the very location they had picked during their IPB [intelligence preparation of the battlefield] and wargame.

"Hold here SSgt. I've got something." SSgt Washington ordered her section to take covered and concealed positions. Not an easy task with 14-foot vehicles that weighed nearly 40 tons, but her Marines made it look effortless. Maintaining constant observation of the newly discovered built up area,

Since the ACVs inception, the vehicle was always designed to accommodate the bulk of a Marine armored personnel carrier's mission profile—land.

barked on four ACVs, peeled away from the circular defensive formation with the Box in tow. After a brief pause, the rest of Capt Prophet's company followed

OK. Let's see what's in store for us next, Aidan thought to himself. Grabbing control of his Little Bird, which had managed to remain as the company's primary ISR [intelligence, surveillance, and reconnaissance] node, he maneuvered it forward of their movement, intentionally pushing the remote range limits of the quad copter. On its display he took note of the flashing battery icon, signifying that its remaining flight time was limited.

Well, let's hope there's not a whole lot of 'em left then, he thought to himself again as he gunned the joystick forward, speeding the UAV well past their position. His internal monologue was running rampant with anticipation of an impending engagement.

With no signs of any activity—AST or otherwise—coming through on the video feed, Company A's vanguard continued to press its rate-of-march. After watching images of the island's agrarian environment speed by his display screen, he found what he was looking for. A massive compound located on the northern portion of the island, on the Iranian side of the inlet that separated Qeshm from mainland Iran. Not only was the spot the ideal area to set up a

Aidan could see that their arrival, and overwhelming defeat of AST's forward positions, had certainly "shaken the ant farm." Personnel were running to-andfro, attempting to assume positions in order to repel what they knew was an imminent attack. Based on some of their random, disorderly movements, Lt Rosado knew that these positions would be manned by those of the human variety, not the autonomous. As he continued to conduct his reconnaissance of the objective, watching AST contracted security personnel assume their final defensive posture, he took note of what looked like indirect weapons systems being prepared for a fire mission and multiple anti-tank guided missiles being emplaced and loaded along the compound's fortifications.

Well, after the Box's little display, I guess they're getting ready for anything he commented to himself.

"So what's the deal, sir? Are we just gonna sit here and watch our tally wackers get smaller?" A thick Irish accent intruded over the platoon net.

"Stand by, Guns. Still trying to get a feel for what's out there." Aidan responded to his platoon sergeant, Gunny Burchill. GySgt Kieran Burchill, or "Burch" as he was called, was as Irish as Jameson Whiskey. The second of five children, he had dual Irish and American citzenship, being that his parents—Irish Americans—had immigrated back to

Ireland after the American Great Recession in 2009. A former member of the Irish Army before coming to the U.S. to join the Marines, he was as outspoken as he was proficient. Aidan always suspected that he had gotten in significant trouble in Ireland and fled rather than having willingly come over because of his "love for the Corps." Although after many attempts to pump liquid truth serum down his gullet to get the real story, Gunny's sensibilities—and tolerance level—yielded nothing but expensive tabs and rough mornings.

"So you want me to let the boys just continue to get their beauty sleep while you figure things out then?"

Maybe a little too outspoken.

Dropping his head back and rolling his eyes in exasperation, Aidan loved his platoon sergeant, but had to admit the guy could really be a pain when he wanted to be. Not wanting to have to simultaneously conduct ISR and placate his ornery platoon sergeant, he came up with a plan. Plus, Burch was right. There was no need to rely so heavily on the Little Bird when he had over 30 highly trained infantry Marines just standing by.

"Good call. Get Jackson's team on the ground and let's see what they come up."

"Roger sir. I'll send Ahmadi and his

guys."

So, Burch already had a plan, Aidan chuckled. But as per SOP, rather than just coming out and saying it, he insisted on the hard way. And once again, it was the best COA [course of action]. Cpl Ahmadi was first generation Persian American, so it made sense to have him lead the recon.

What could only marginally be described as a frago through the thick accent and heavy expletives, Aidan heard something along the lines of "Ayatollah, get your ... out there and be the eyes for the Lieutenant. Work comms with him direct." Without missing a beat, four Marines shot out of one of the ACV troop hatches and then disappeared into the surrounding terrain.

"Hollywood, this is Ayatollah. Radio check, over."

"Got you lima charlie, Ayatollah. You set?"

"Roger. Sending visual now."

Moments later, Aidan's holographic imagery split into two screens, one from the Little Bird and the second from Ahmadi's team. With most of the commotion inside the compound having subsided, the overhead video from the UAV had run stagnant. But Ahmadi's team was sending some good stuff. Aidan could see that there was a tank trench surrounding the compound, with only a single entry and exit point via the compounds ECP, or entry control point. Ahmadi's surveillance also verified Aidan's suspicion that the personnel manning the compound were indeed human PSCs, or private security contractors. There were always indicators when the "mercs" were in play, but nothing stood out more than the "combat casual" attire that they all were sporting-essentially coyote colored body armor draped over a tshirt that fit two sizes too small and

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khaki cargo pants. A dozen or so along the compound's wall continued to improve their positions, to which Aidan deduced that these guys were probably a conglomeration of various countries' special operations forces. And the compound wall itself was significant. Not only was it next-generation heavy HESCO reinforced with HASCO paneling, but it had mounted and elevated sangars, essentially heavily reinforced sentry posts and towers, from which any assortment of direct fire weapons could be employed. These specific installations were indiscriminate from the overhead imagery, as all of it just looked like part of the reinforced barrier, so once again Burch had his finger on the pulse.

"Good stuff, Ayatollah. Maintain position." Aidan praised as he began to plot each of the enemy positions on his holographic tactical overlay. The battlefield commander system, or BCS, was the current battlefield awareness software, attributing its genesis from the blue force tracker system of the early 2000s. What Aidan was doing was nothing new-even early versions of the BCS had the ability for the individual user to plot waypoints and significant positions on a digital overlay. This latest version however, Version 3, allowed the entire network to be synched up with other users via an Intranet provided by each of the ACVs' organic servers, providing everyone on the network access to the originator's overlays which-theoretically-were saved on a "cloud." But its reliability was suspect at best. Since the Little Birds were still the most reliable battlefield awareness tools, most units just used them and their targeting software as the primary resource. But the small UAVs only maintained data as long as they were functional, and Aidan always believed in redundancy.

So as he repetitively pressed on both screens attempting to mirror both systems, the left side of his screen went completely blank. What' going on?! He thought in a near panic. I had at least 20 minutes left of flight time! In a frenzy, he attempted to regain control of the UAV, only to be fed sporadic images of his Little Bird rapidly crashing into the heart of the compound. Through the cacophony of jumbled images, one that he was able to decipher was that of one of the mercs harnessing a focused laser emitter.

Knowing full well what that meant, Aidan communicated his transmission over the company tactical net so everyone could hear it....

"Folks, they know we're here ..."

