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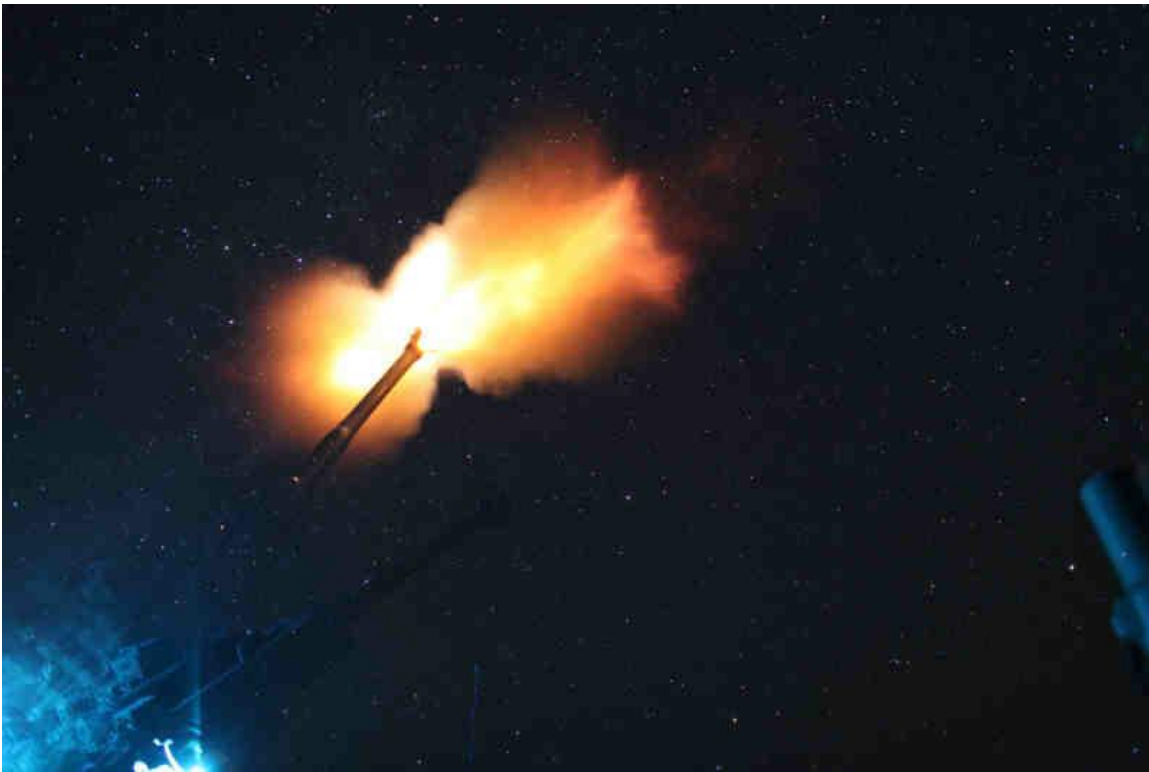
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## Spitting Cobra

by Michael Yon

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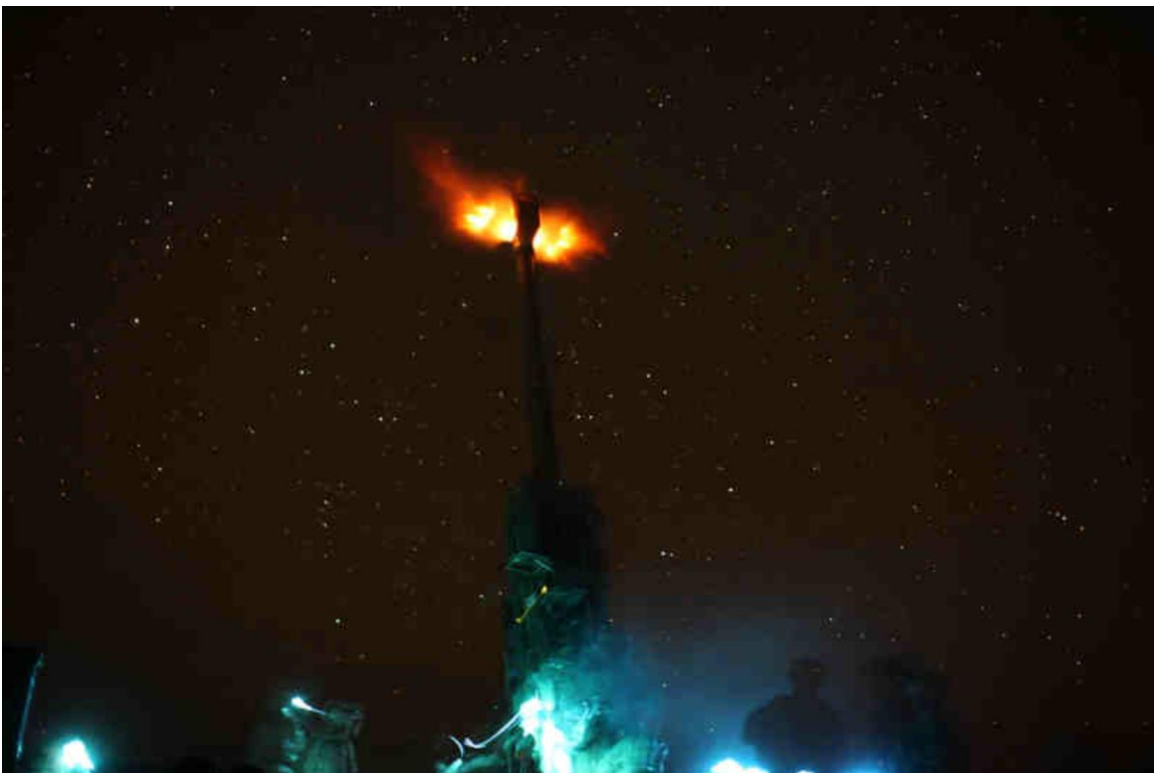


**Cobra Battery at FOB Frontenac**  
*Arghandab, Afghanistan*

Artillery is called “The King of Battle.” When it comes to the delivery of force, probably nothing outside of nuclear weapons can outmatch the sustained delivery of extreme brutality. Cannons also can deliver small atomic weapons.



Aircraft and missiles have range and other profound advantages, yet on a tactical battlefield these guns are like a force of nature.



They can fire in any weather that man dares to stand in.



American artillery can destroy a parked car with the first shot from twenty miles away. No sniper has ever lived who can shoot so well.



The red glow is caused by an approaching humvee whose lights were dimmed by red filters, yet the sensitive camera collected light over time.



Calculations for shots are extremely complex and include dozens of factors, such as windspeed, barometric pressure, humidity, altitude of the gun and the target, temperature, and the earth's rotation, and the specific lot number of the ammunition. Every gun is different and so the calculations for one gun would lose accuracy in another. The guns are brutal and rugged, but also high-tech, precision machines that took centuries of science, engineering and experience to reach the current state.





The guns have reached such a high level of evolution that despite the extreme complexity, within minutes of receiving a “fire mission,” a good crew will reliably deliver accurate shots with help from the computer.



Sometimes missions are pre-planned, while at other times crews must wait close to the guns for hours, even days, without a break. There was some base in Iraq—I went there with CSM Jeff Mellinger but have forgotten where it was—and the base was taking rocket or mortar fire on a frequent basis from a certain area. And so the cannoneers slept just next to the guns, and finally the enemy fired and was killed because the guns were pointed at the exact predicted firing point. The cannoneers just loaded and counter-fired and finished them. Probably few people on base realized that the “cannon cockers” had conducted an ambush-by-howitzer. (Maybe the crew who was there will recall this and set the facts straight.)



Cobra battery, 1-17<sup>th</sup> Infantry, fires illumination.



Sometimes the crews fire “H & I” or “terrain denial” missions. Harassment and Interdiction missions are fired at terrain known to be used only by the enemy at certain times, and so anytime the enemy feels like rolling the dice, they can move into that terrain. Such missions also provide influence for “shaping” the battlefield. If the commander is trying to flush the enemy into a blunder—maybe an ambush—or maybe to cut them off from an escape route, he can have the guns pound into a gorge, say, that is used as an enemy route. Or maybe he just tries to persuade the enemy to take a route where we have sniper teams waiting. The battery can be used in many ways that do not include direct attacks on enemy formations.





Bringing ammunition to Afghanistan is far more expensive than most places—all is brought in by air. Pakistani and Russian officials understandably don't want our explosives traveling through their territory; nor do we. I once flew from Kuwait to Bagram in a C-17 that was filled with 155mm projectiles and a couple of passengers.



The cannons can be towed or picked up by helicopters and moved many miles within an hour, and so it's possible to stage a long-range attack with the guns by suddenly moving them. The guns can wait quietly for months or years without need of refueling or runaways. The crews are small, and the ammunition is hardy and can be stored for a lifetime.



Some muzzle flashes are not bright because the target is near, requiring little propellant.



The Dragon roars: This was an HE mission and the target was far away requiring a larger charge. Sometimes they are even brighter.



The guns are dangerous, so the crew must be well trained, and they must frequently drill. Recently, a soldier got hit in the helmet by a recoiling 155mm cannon. He escaped with no injury but was lucky not to be killed.



Shots can be directed through many methods. Aircraft such as A-10s or Predators can spot targets, as can soldiers on the ground. A satellite could just as easily spot targets. There is no “best way;” each situation is different. However, it’s tempting to say the “best way” to call in the guns is to have highly trained troops on the ground who can get eyes on the target. These troops train specifically for calling such strikes. Their jobs require great preparation, including much classroom time, physical ruggedness, and coolness in the face of getting killed. But that’s a different story.





Every shot is accounted for. Some months back, I was staying in downtown Kandahar and photographed illumination floating down over Arghandab. When I got to 5/2 SBCT, the date/time stamp on the photos was used to ask the FSO (Fire Support Officer) what the missions were about. He looked it up on the computer a few minutes later. The fire mission had not come from 5/2 (but plenty of other missions spilled onto the screen). There is no such thing as a mysterious fire mission from U.S. forces—there are always records that are stored in various places.



Before firing, HQ checks that no aircraft are in the flight path. Otherwise, sooner or later we'd likely shoot down one of our own aircraft or, worse, a commercial airliner filled with passengers. These shots can fly higher than the summit of Mt. Everest. (really), and could easily traverse through the cabin of a commercial flight.



There are many sorts of cannons, ammunitions and fuzes.

White Phosphorus “WP” ammunition is used for screening, and there is “HE” or “high explosives,” and many other sorts. Mostly in Afghanistan our people use illumination and HE.

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The enemy uses unexploded projectiles as IEDs. In Iraq, projectiles mostly came from ammo dumps that our government failed to secure after the invasion, thus costing untold numbers of Iraqi and US lives. Sometimes the enemy would bury the projectiles in the roads, or cast them into concrete just like road curbs. They would fill trunks of cars with artillery rounds—some ammo was from South Africa—and those made powerful car bombs. Unexploded artillery rounds that “kicked out” could be found at the scene of some car bombs.

American projectiles are relatively very reliable and normally explode when they impact targets, but earlier in 2009 while in the Philippines, Philippine commanders told me that many of the IEDs killing their soldiers come from old ammunition that didn’t explode on impact. The enemy returns the bad ammo in the form of IEDs.



On dark nights, illumination rounds, both visible and invisible to the naked eye, can be seen pretty much every night. Visible “illum” is very bright and casts eerie shadows over the battlefield. The IR illum is fired often when our guys are about to do something serious. Our guys want the enemy to be in the dark but we want to see through the NVGs (night vision gear). To the naked eye, IR illum appears like a dim candle slowly floating in the sky. Through NVGs it’s like broad daylight (the NVG equivalent of broad daylight, anyway). IR illum is often fired on nights when natural illumination is low, such as when the moon is hiding around the edge of the Earth, or behind clouds. Helicopter pilots like IR illum during “red illum” periods (when too dark to fly without special gear) because it helps them see the ground and thus they can avoid crashing the helicopter.



Headlamps of the Cobra Battery soldiers emanate an eerie glow. At other times they might use red lights that are more difficult for the enemy to see, but we are pretty safe on FOB Frontenac, so the greater danger is making a mistake around the gun, such as dropping a hundred-pound HE projectile on your foot. The round will not explode—but you can scratch one foot off the inventory sheet, which takes a soldier out of action.

There's lots of ways to get hurt here even while the enemy is sleeping. The gunners talked about a time up in Alaska, or maybe it was Washington State, when someone fired a cannon during the winter. They said the cannon broke from the ice and slid away and hit a truck.





The cannon's computer can run on battery or generator, or the soldiers can compute by hand using charts and other aides, just short of an abacus. You'd have to be a gifted mathematician with a great physics background to hit within a half mile of the target without the firing aides.

Here, Cobra battery dug a circular firing pit with shovels (this ground is not quite as hard as Stone Mountain, but it's getting there), so they can swing the cannon around 360 degrees. The gunners are very fast, and using the computer could switch from one fire mission to another within about a couple minutes.



Computations before firing.



There are many sorts of fuzes. The most commonly used in Afghanistan will airburst, explode on impact, or slightly after impact. Airbursts typically are used for Taliban in areas such as uncovered trenches. While delay fuses might be used for enemy who are in bunkers or positions with overhead cover, such as inside an earthen Afghan compound. Fire missions often include a mix of fuzes.



Sometimes the crew needs about a minute between shots. The dragon breath from the muzzle during these shots was not so bright; the target area was only maybe a few miles away, and so the charge was small. As one illum descends and is about to burn out, another is fired behind it.



The artillery shots are not like a normal rifle bullet wherein the projectile is crimped to brass that contains gunpowder. Instead, the 155mm projectile is selected and the fuze is set. On the ultra-accurate (and expensive) GPS-guided “Excaliber” projectile, the coordinates are set in the fuze using a handheld electronic gadget that is placed over the fuze like a little snowcone, which wirelessly transmits the data to the guidance system. There is no exaggeration saying that an Excaliber round could destroy a parked car twenty miles away on the first shot. The accuracy is incredible, given all the unpredictable winds and other factors the round will encounter during its flight through the sky – which literally could be shot on from a crystal clear mountain, taking the round far higher than the summit of Mt. Everest where it could pass through winds going different directions and at very high speeds, snow, and then down through a hailstorm and finally through rain. Imagine the quick temperature changes from a hot-shot in the desert up to airliner altitude. The tracking and guidance computer must be able to handle all that – and fast -- after being shot from a cannon.





The projectile with set-fuze is rammed up into the breach, and behind that the soldiers stuff the propellant. The breach is locked and a primer emplaced, and finally a cord is pulled and there is no turning back.

Some countries, like the United States, have “counter battery radars.” The US has Q36 and Q37 radars, for instance, and they can spot birds or incoming mortar or artillery fire. Rockets and low trajectory mortars often fly below the radar. Our bases have radars to alert for various attacks, but the alerts are often farcical. Sometimes the attack is over before the alarm sounds, and over in Iraq there were so many false alarms that people stopped paying attention. Especially when the ground was muddy.



Counterbattery radar, though, is actually very useful and can be used to pinpoint the POO (Point of Origin) of enemy shots before the first round even detonates. In some situations, our people would immediately counterfire, unless of course the enemy launches from next to a school or a built up area. KAF (Kandahar Airfield) gets hit now and then, with some casualties, but the attacks are uncommon compared to what the Brits got in Basra. You'd get hit more times in a week with Brits than in an entire year with U.S. forces.



We've also got a system called C-RAM (Counter Rocket and Mortar), which can acquire incoming rounds and shoot a stream of bullets so dense that it looks like a laser. Sometimes on KAF they wake me up, but apparently they are shooting at the moon or calibrating the guns. They sure are loud.



When Cobra battery fired at high angles, they had to fire and then lower the gun to reload, and since the camera was set on these shots with 30-second exposures to catch the stars, the gun can be seen firing, then lowered for reloading.



Though the Taliban had an Air Force at one time, they don't have counterbattery radar. If they did we would kill it quickly. But if we were fighting a more capable enemy, we'd have to protect our guns, such as by firing and moving very quickly. Imagine being in an artillery duel. As a commander, you don't want to lose your guns and leave your infantry at the mercy of enemy guns, and so a good enemy commander will probably shoot at where you shot from, and everywhere he thinks you might have gone in that amount of time. This causes Taliban some headaches because sometimes they fire at us and run, but our guys are already launching shots at where we thought they might go. It's got to take nerve to shoot at an American base. You'll probably get away with it for a while.



And that's about it. Next time our soldiers need a fire mission, Cobra Battery is one of many who are ready to deliver the goods. Rest assured, when our people get into a serious firefight, or hit by an IED, the Medevac crews know about it within about a minute, and they are watching the narrative scroll on their screens while they toss coffee cups in the trash. When a casualty report scrolls, they don't even wait for orders—they just run to helicopters and crank them up and the rotors start whirling. Meanwhile, the A-10s and other available warbirds already have turned that direction. If the fight is unfolding in Cobra Battery's sector, the crew will be standing by this gun.



*Michael Yon is a former Green Beret who has been reporting from Iraq and Afghanistan since December 2004. No other reporter has spent as much time with combat troops in these two wars. Michael's dispatches from the frontlines have earned him the reputation as the premier independent combat journalist of his generation. His work is published at [Michael Yon Online](#) and has been featured on Good Morning America, The Wall Street Journal, The New York Times, CNN, ABC, FOX, as well as hundreds of other major media outlets all around the world.*

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