Force-on-Force

Initiating a planned approach
by LtCol Robert Lamont, USMC(Ret)

>LtCol Lamont retired from the Marine Corps in 1999. He served as the lead Marine Corps Analyst for the Joint Air Defense Technology Demonstration Program while assigned to the Studies and Analysis Division of Marine Corps Combat Development Command. His operational experience includes time as a Company Commander and S-3A (Assistant Operations) with 3d Tank Battalion, and G-3 (Operations) Exercise Officer, Thailand and Australia, III MEF.

In the 1980s, the Army set aside the necessary resources and time to create effective force-on-force training with the use of a dedicated opposing force (OPFOR). Today, in 2019, the Marine Corps still has not fully leveraged this approach to training. Despite the current multi-threat environment and the Corps' unique littoral nature, the Marine Corps must properly incorporate this approach and place it in the correct context in order to enhance the training experience and tactical proficiency of units and their leaders. To optimize the use and value of force-on-force training, the Corps must employ a dedicated OPFOR; a competent and objective operator-controller; data-driven, facts-based after-action reports (AARs); and committed funding.

My first exposure to force-on-force training was as a Marine tank officer attending the Armor Officer Basic course at Fort Knox, KY. At that time, the system in use was the Army's Real Train System. This approach used a controller placed on the turret floor of each tank with a through-gun tube telescope aligned with the gunner's sight. Numbered panels were placed on each tank, and, as the gunner sighted in for an engagement, the controller would announce over a non-tactical control net the number of the target killed and who fired the fatal shot. At the end of each engagement, the controller would read the killer-victim (K-V) scorecard of who shot whom and offer any conclusions based on his observations of the battle.

On the positive side, the behavior of the training platoon took on a new intensity when Real Train was introduced. Tank movement avoided the skyline as vehicles used concealment and folds in the ground to mask their approach in the attack. Defensively, the use of alternate positions took on new meaning as tank crews worked from one position to the next to avoid being pin-pointed and engaged. The competitive nature of each event escalated as the possibility of being "killed" was added to the scenario.

This was also my first exposure to some of the negative aspects of the win-at-any-cost mentality that can creep into the force-on-force environment without proper oversight. Tank crews recorded the numbers on opposing platoon vehicles during the debrief to make it easier to call in kills during the next engagement. Some tank commanders had their on-vehicle controller key the control net during the battle to delay or prevent a kill from being sent to the central control station, giving them additional time to engage the opposition. Finally, because this was students fighting students, the expertise of tactical opposition was entry level at best. The introduction of new technology and the maturing of a dedicated OPFOR will help readdress many of these early shortfalls.

The fielding of the Multiple Integrated Laser Engagement System (MILES) marked a key milestone in the capability progression of force-on-force training. Casualties could now be scored in real-time without player or controller intervention. Concurrently, the activation of the National Training Center (NTC) at Fort Irwin, CA, brought together all the elements demanded for the optimum use of force-on-force capabilities to support tactical training.

The Army set aside the force structure needed to field a full-time OPFOR based on the European Soviet–style land threat. These soldiers wore Soviet uniforms and rank insignia, trained using Soviet tactics and order of battle, and crewed vehicles visually modified to resemble BMPs and T-72s. Constant campaigning across the high desert allowed these soldiers to become top-notch operators proficient in the use of MILES, comfortable on the terrain, and talented in the stylized battle drills of the Soviet system. Given the professional nature of this unit, it is likely they were more proficient than the draftees who composed the Guards Army of their real-world counterparts sitting aside the Fulda Gap. In the 1980s, fighting the OPFOR at NTC to a draw became a badge of operational excellence within the Army; few won.

In addition to the dedicated OPFOR, the Army invested in the development of an observer-controller team committed to the development of documented ground truth for each engagement. This data-driven approach became the foundation on which a solid AAR process was built. A team of uniformed and civilian personnel collected positional information, radio voice transitions, and tactical orders to fully augment the traditional K-V scorecard. No longer was a debrief based on the opinion of the controller, but rather, the AAR process led the participants through a series of inquiries utilizing indirect questioning

to discover what happened, the root cause of the outcome, and possible techniques the unit could employ in the next battle to improve performance. This upper end of effort focused on the battalion-level staff.

Returning to Fort Knox as an Armor Officer Basic instructor, I was able to use force-on-force training in well over a hundred engagements to drive home the tactical lessons of the course. The Armor School had a limited maneuver space of approximately ten by fifteen kilometers to train its platoon leaders on the mission essential tasks (METs) detailed in the program of instruction. The wooded terrain further limited both maneuver space and fields of fire. This was not ideal tank country, but

There is a cost associated with a unit's effective use of the force-on-force engagement system. (Photo by Sgt Jesus Sepulveda Torres.)

these shortfalls forced the students to adapt textbook solutions to the conditions of the real world.

Once a student platoon demonstrated the basics of tactical vehicle movement, formations, and actions on contact, force-on-force training dominated the rest of this ten-day event. Student platoons fought each other in various combinations, including one platoon against another and two against one. Missions included deliberate attack, the defense of a battle position, and movement to contact. Uncertainty was

introduced because the students never knew the size or disposition of the force they were up against. The movement to contact events placed the most stress into the exercise because the threat size was unknown and predicting the location of contract was impossible for both students and instructors.

Finally, the school was supported by a dedicated OPFOR built to follow the standards found at the NTC. This company-plus formation was led by a determined armor officer proficient in threat tactics. It added a level of operational excellence to the training not available with only student-on-student engagements. This prepared the Army officers for their eventual trials at the NTC.

At this level, the instructor staff made effective use of the K-V scorecard and AAR methodology without the extensive infrastructure of the NTC. Part of this resulted from the fact that tank-on-tank duels play to the strength of the MILES system to replicate direct fire line-of-sight engagements. Additionally, instructors were schooled by former NTC observer-controllers on the techniques of indirect questioning and running an AAR. This provided the students with the best possible feedback during their field training.

This does not mean that all the gamesmanship and shortfalls of earlier assessment systems were eliminated. Given that laser beams do not penetrate foliage, wooded avenues of approach dominated the tactical options used by the students. The considerable difference between cover and concealment were lost because of this technology shortfall, and it fell to the instructor to reinforce this point and prevent negative learning. The dominance of direct fire in this simulated conflict environment lessened the importance of using combined arms to place the enemy on the horns of a dilemma between mutually supporting direct and indirect fires.

What is often lost in the discussion of force-on-force engagement systems is that they all have a cost associated to the using unit for their effective employment. During the 1980s, as the NTC became the arbitrator of tactical excellence, the ability to use MILES gear gained in importance within the Army. The Master Gunner's Course spent hours of instruction on how to use the system and troubleshoot failures. Any unit that plans to include force-on-force within its training strategy must include sufficient time to learn how to fully operate and maintain the casualty assessment system. For the Army, the latter aspect was often detailed to civilian contractor support because gaining an effective level of expertise was well beyond the time available for most units.

Additionally, accountability procedures for any engagement system require balance between normal wear on the equipment and abuse. If checking out Instrumented-Tactical Engagement Simulation System (I-TESS) or MILES gear places one's career at risk because of the damage or loss of these items, then you should expect force-on-force gear to sit idle in a training warehouse for most of its life. Training budgets must allow for the progressive repair and replacement of the gear to keep it operational for the using unit. When sets become incomplete, non-functional, or too fragile to endure the typical operational employment of their host, they have no value as a training aid.

There is one question the Marine Corps must address before it can con-

stitute a credible OPFOR: What threat are we going to replicate? The Army, in the 1980s, had a clear and predictable opponent sitting across the intra-German border that it could shadow every day. If you were to ask a Marine who they thought was the largest threat, the answers would most likely range from international terrorism to the North Korean Army. Given the current level of deployment tempo, it seems unlikely the Marine Corps will be able to "fence" a unit to mimic a potential adversary akin to the NTC. Entering into a memorandum of understanding with the Army to leverage off its standing OPFOR provides one approach to fielding a credible sparring partner.

Within the MAGTF structure, where can force-on-force be best utilized? The lower tactical levels of employment offer the best arenas for this type of training. While wireless and modular solutions for gear worn by personnel and vehicle-mounted systems—coupled with the geo-pairing of GPS data for non-line-of-sight systems—holds the promise of adding supporting arms into the casualty assessment world, the realistic replication of indict fire systems remains problematic. The difficulties of incorporating obscuration and suppression will always limit the realism of indirect fire in the force-on-force arena. These limitations become especially poignant for the MAGTF structure, which places much of its firepower potential within the air support of the ACE.

However, the advanced tools associated with the use of the AAR process to establish ground truth holds promise for all levels of MAGTF training, including multi-Service exercises. Establishing ground truth begins by tracking the exercise force on common timeline and monitoring speed and position. The correlation of this data supports the analysis of all combatants within a common timeline, speed, and position framework. This has the potential to show exercise participants how the combat power of their weapons systems overlays with the operational intent they were attempting to execute.

At the NTC, this approach is a collaborative process between uniformed observer-controllers resident with operational units on the desert floor and analysts tracking the battle from a centralized control station. When a controller saw an event of interest for the AAR, he had his counterpart in the control center "time stamp" the data in order to highlight instructional points in the debrief. This data could include tapes of radio traffic, the initiation of direct fire, or the start of movement and the intended destination. These elements begin to form the backdrop against which ground truth is assessed relative to the commander's intent. Linking these elements rests largely on the ability of those running the AAR to ask indirect questions, forcing the exercise participants to form their own conclusions on the progress, or lack thereof, of the battle.

The influence of the coupling of a rigorous operational environment and talented OPFOR with an advanced AAR process was validated during the post-conflict analysis of the First Gulf War. Author James Dunnigan noted that this competitive environment generated lessons learned that read more like AARs from historical battles than critiques of training events. He went on to observe that this proving ground served to weed out those officers and NCOs who were unable to function under simulated combat conditions. Historically, this weeding out of weak soldiers occurred in the opening rounds of a conflict at a much higher cost.[1] This assessment was confirmed by the combatants themselves as they noted that the fighting in the sands of Iraq was not as hard as their experience at the NTC.[2]

Given the unique nature of littoral warfare, how can the Marine Corps leverage these techniques to better incorporate force-on-force training into its current exercise regime? Many of the key elements for such a capability are already in place. The Naval Surface Warfare Center at Corona, CA, grew up processing telemetry data from the space program in the 1960s. It has developed a keen ability to move electronic data and currently provides exercise reconstruction support for the Navy operating in the southern California area. It sits centrally located between Camp Pendleton, the Marine Corps Air-Ground Combat Center at Twentynine Palms, and the Yuma Air Station and Chocolate Mountain Bombing Range. The potential of digitally linking these training areas to provide the depth and distance demanded by large-scale operations inherent in the range and reach of modern weapons commands our interest. It is only a small step from such a complex to a regionally joint training capability by folding in the data collection capabilities currently resident at Fort Erwin and Nellis Air Force Base.

The use of video teleconferencing capabilities to pull together all exercise participants remains another area worth exploring. The growth of telework and remote site operation gave rise to a generation more comfortable with the idea of distributed connectivity to exchange information and insight. We no longer need all exercise participants to crowd into a tent at 2330 for a controller debrief on the day's events and lessons learned. Digital capture, coupled with video replay of live events, allows learning to occur at times and places more distant than previous reconstruction techniques.

Adding the Marine Corps exercise force into the current Navy exercise and evaluation structure serves to expand the scope of the exercise evaluation to a full littoral environment. This will improve the linkage between the two Services and provide a better understanding of the strengths and weaknesses each side brings to the table. The fleet exercises of the 1930s provide solid evidence of the value of such an approach to training and operational experimentation.

Finally, force-on-force training is optimized when it is integrated into a MET-based master training plan. It is incumbent on the commander and his staff to ask, "Where will the introduction of uncertainty inherent in this training best develop my unit in the execution of their tactical tasks?" This question has to be balanced against the strengths and weaknesses of the casualty assessment system under consideration and the terrain over which the exercise will be conducted. Without a planned approach, force-on-force training can

quickly degenerate into nothing more than laser tag in the woods, with negative lessons imparted to the unit.

I do not want to leave the reader with the impression that only expensive, fully instrumented venues can support force-on-force training. If your METs have a requirement for your reconnaissance unit to develop combat intelligence, then adding live players into the equation can enhance learning. Assigning a company to prepare a battle position and provide for its local security is one method to secure the OPFOR against which the reconnaissance unit must target its tactical intelligence collection. As the company sets in its defense, controllers establish the ground truth with GPS laydowns of the firing plan and unit locations. The reconnaissance unit will have to penetrate their outposts, patrols, and listening posts to collect and transmit combat information back to a central collection point.

The observer-controller will then compare the accuracy of what the reconnaissance unit reported with the ground truth GPS dispositions of the defending unit. Any differences will be investigated during the AAR process, when the units discuss their opposing missions, how they attempted to execute their higher headquarters' intent, and what they saw during event execution. The outcome could serve to investigate the influence of tactical intelligence accuracy with its impact on the fire support plan, closer initial position locations of the enemy force equating to better opening destruction at the start of preparatory fires, and how the intelligence collection system links to the indirect fire system to generate combat power. AAR discussions could further extrapolate on how the timeliness of the reporting process improves the tempo at which a unit can operate, reducing the time available for the defenders to prepare their defensive positions.

In this small example, the value of the AAR and the demands of a tactically competent observer-controller begin to surface. This type of exercise is within the tools and capability of current Marine Corps units. It takes planning, imagination, and tactical expertise to fully leverage this approach, but the

rewards are real. The Marine Corps is currently rich in the level of combat experience earned throughout the force. As natural career attrition takes hold over time, this experience will fade. Force-on-force provides one means to enhance the training experience—to make it a test of wills against opposing units—which remains the bedrock of much of maneuver doctrine.

Three components are instrumental to the successful use of this technology to support realistic force-on-force training. First, an OPFOR that is trained in the use of the assessment tools and as operationally effective as its opponent sets the baseline. It must function with free play and not be scripted beyond its mission and means to accomplish its tactical tasks. It must operate within a hostile intent and use all means within the rules of engagement to achieve its mission. Finally, the OPFOR must function within a culture that seeks to win, without employing "gamesmanship" to do so.

The second, and in many ways the most important, link in the force-on-force continuum is the use of a data driven AAR to guide the exercise force through the journey of discovery learning. This requires an objective, well-schooled operator who is able to use indirect questioning to fully develop the lessons learned from each engagement. Moving away from opinion- to fact-based observations serves to build knowledge that can extend across the totality of the Operating Force. This approach serves the dual purpose of improving unit and leader performance for the participants and feeding the Marine Corps the lessons learned system with operational data unachievable from any other source.

Observer-controllers do not randomly appear from the Operating Force. They need to be trained and schooled in the tools that enable them to guide peers and seniors through an often painful learning process. Those who demonstrate the operational competency, field craft, and communications skills demanded in making the force-on-force arena a credible field of conflict should be rewarded at all levels of selection and assignment.

Finally, the third pillar of a force-on-force capability is a commitment in funding and administrative overhead to support the acquisition and sustainment of the assessment capability needed for this unique form of training. This is problematic because it is difficult to directly trace the cost of this training approach to return in combat readiness. Fielding an I-TESS casualty assessment system without the means to replace and sustain its operational utility is a formula for failure. Life-cycle costs must be addressed up front if this approach is to reach full maturity. Removing administrative penalties from using these tools in force-on-force training is a first step in obtaining commander support for this capability to introduce uncertainty into the exercise scenario.

In summary, force-on-force training and the associated tools of casualty assessment, AAR, and exercise reconstruction have the potential to enhance training and combat readiness from the smallest direct fire centric unit through the MAGTF. Folding these capabilities into a coherent approach demands staffing at all levels and a clear vision on how it will support the realization of operational competence on required MET tasks. This approach requires commitment in funding, personnel, and facilities to fully leverage its potential. The rewards are combat proven. The potential to further link Marine Corps and Navy operational expertise together in the littoral is boundless. Many stakeholders, including the Operating Forces, the Marine Corps Warfighting Lab, and the acquisition community could all leverage from the output of well-crafted force-on-force training and assessment capacity. Finding the vision to tie these diverse components together remains a key task ahead.

Notes

1. James F. Dunnigan and Austin Bay, *From Shield to Storm*, (New York, NY: William Morrow and Company, Inc., 1992).

2. Thomas E. Ricks, *The Generals*, (New York, NY: The Penguin Press, 2012).