Opposing Forces TTP

MIX-16, August 2016

by the Staff, MCWL

MIX-16 threat forces, known as DRACO, represented an armed group of separatists who were supported by a neighboring third country that provided a well-trained special forces team serving as a military advisor as well as a high-technology equipment suite that was driven by an analysis of U.S. forces vulnerabilities. The advisor team provided linkages to long-range precision fires, intelligence, logistics, rapid procurement support, information warfare support (electronic support, electronic attack, and perception influence), and C^2 (command and control) capabilities. The advisor team also provided advanced tactical training and conventional weapons, ordnance, and equipment as required.

It was not unusual to see firearms or armed groups. *(Photo provided by author.)*

Operating Environment

The experimental area of operations consisted of an urban training facility at MCAGCC (Marine Corps Air-Ground Combat Center), Twentynine Palms, CA. This urban facility was notionally one section of a larger urban center which contained an ethnically and economically disparate civil society. The civilian backdrop was developed in painstaking detail with over 225 role players immersed in the civil infrastructure. A working economy became functional, complete with rent, legal markets, black markets, crime, and gambling. Food and water prices fluctuated based on events and social power structures. Leaders emerged, both legitimate and illicit. Firearms and other weapons were numerous, and it was a common sight to see disaffected youth controlling micro-zones in armed groups. Gangs were formed on ethnic and economic rivalry, and a dull ringing of competition became the norm, replete with occasional spikes in violence, negotiation, and compromise. UN and NGO supplies flowed into the city with positive humanitarian results but often had disruptive effects on the social power structures of the society. A police force nominally existed, but it was largely tied to the ethnic majority.

Amongst this backdrop, DRACO forces moved in. DRACO quickly eliminated malign government actors, co-opted and even bolstered the police force, infiltrated the markets to control key resources, and replaced government functionaries with citizens aligned to their separatist cause. Stability increased as the DRACO forces exercised their version of the rule of law. DRACO began advertising to the world through an aggressive social and global media outreach program outlining their legitimate claims to governance. For the purposes of the experiment, DRACO was not allowed to commence a recruiting effort at this point, but they continued to influence the everyday activities of the local population. Eventually, DRACO downed a host-nation armed government helicopter, and the subsequent DRACO media blitz prompted U.S. military intervention. This support led to an ELT deployment to the city to defeat DRACO and restore host-nation governance.

> ***"Never fight angry; always fight hungry."***
>
> ***—DRACO slogan***

Threat Force Experimental Role

The role of the threat force was a

The threat force was required to create an enemy force to challenge the ELT. *(Photo provided by author.)*

supporting effort to the experiment objectives. The threat force mission was to create and employ a hybrid, near-peer, adversary-supported enemy force to challenge the ELT's actions *in order to achieve experiment objectives.*

Of note, the key objective of employing a threat force is not to determine a winner or loser but rather to provide the most realistic environment possible to stress our experiment hypotheses. The threat force remained agnostic to victory or defeat but remained passionately committed to accurately reflecting future threat capabilities, adaptation, and the human dimension that can only be achieved in live-force, free-play experiments. "Tough Love" became the bumper sticker to the threat force mission.

DRACO Mission

The DRACO forces' mission was to defeat host-nation forces (and their supporting allies) in DRACO-controlled territory in order to establish legitimate civil institutions and international recognition of autonomous governance. DRACO was in direct competition with adjacent separatist forces in the region in order to gain resources and recognition from the supporting third nation. This required DRACO to secure early victories that were easily promulgated through social and global media, presenting a narrative of competence, cohesion, and legitimacy.

Question: "Tomorrow, you are faced with competing in both a boxing match and a game of Trivial Pursuit. Your two opponents are Mike Tyson and Alex Trebek. How do you prepare tonight?"

Answer: "Set the conditions to box against Alex Trebek and play Trivial Pursuit with Mr. Tyson."

Approach to Training and Education

Training and educating a threat force seeking asymmetric advantages requires some undoing of our Marine Corps-instilled paradigms and assumptions. The challenge was to replicate differing cultural views and values into our force in order to accurately reflect how our un-American adversaries might approach a contest with U.S. capabilities and culture. Ironically, *MCDP 1, Warfighting*, became the principal reference manual and a useful guide to hybrid warfare, even considering the desire to represent differing cultures. Training was conducted in five phases:

Phase I: Foundational Reading. Marines assigned to the threat force were given several articles and intelligence reports outlining behaviors, organizations, activities, and weapons of modern/future near-peer and hybrid threats. This served to "prime the pump" for the other phases of training. Marines of all ranks and experience levels were encouraged to scour the Internet or unclassified open sources for relevant information, adding to our rough body of knowledge on past and even future anticipated adversary threats. If the OPFOR (opposing forces) had more time, this phase of training would have been extended.

Phase II: Detailed Narrative. Threat forces built a detailed narrative about themselves, their history, and their culture. They built a self-identity and a series of micro-identities through immersion in a fictional narrative. They assumed roles, challenged those roles for realism, and developed a power structure and value system. They developed a rigorous "murder-board" process to peer-challenge their roles, motivations, andexpected actions. They were asked questions, such as, "List, in order, five things that you would kill for, five things you would fight for, and five things you would die for." These questions were answered in character, with discourse about shared values creating common identity among the threat force. This assumption of a new, albeit fictional, character is possibly the most important aspect of building fidelity in threat-force formation—it drives activities such as *when* to fight and *how* to fight. Next, threat forces were introduced to the concepts of Etic and Emic approaches to anthropological analysis. Simply put, this is where four categories were outlined that asked the questions:

"What do I think of myself?"

"What do I think of my opponent?"

"What do my opponents think of themselves?"

"What do my opponents think of me?"

This was done during a series of brainstorming sessions with an unstructured NCO-led discussion. Detailed research commenced (open source, unclassified) to determine the accuracy of how our opponents were perceived and how they perceived themselves, with a keen eye on determining targetable vulnerabilities. DRACO strove to identify "blind spots" in the opponents and assumptions to be challenged. Once DRACO had a collection of points under each category, Phase III began.

Phase III: Vulnerabilities. This NCO-led phase was a center of gravity/critical vulnerability analysis. Once the NCOs were introduced to the concept, they were easily able to take their new cultural identity and lead the threat force through a detailed identification of U.S. forces and MAGTF vulnerabilities. DRACO brainstormed ways and means to attack these vulnerabilities while protecting their own forces. DRACO NCOs and junior Marines determined the following vulnerabilities:

a. Capture of a U.S. servicemember (combined with media effects): Usually leads to a change in U.S. strategic, operational, and tactical disposition or objectives.

b. Downing of a U.S. aircraft: Often leads to a change in U.S. operational and tactical disposition or objectives.

c. Basing requirements: U.S. forces require FOBS/COPS/headquarters sites, command posts, logistics support areas, and C^2 nodes that are fixed and easily located/targeted.

d. C^2 complexity: U.S. forces rely on a complex web of C^2 systems across all warfighting functions, which can be targeted, spoofed, interrupted, confused, or denied. DRACO expected that initiative would suffer during any initial shock to the U.S. C^2 system and the U.S. would have to adjust to uncertainty as the norm after a convention of perceived certainty. DRACO forces also considered a MAD (mutually assured denial) approach, where, if nobody could use the RF spectrum, DRACO would suffer less than U.S. forces, highlighting DRACO's pursuit of high-power, broad-spectrum jamming.

e. Centralized IW (information warfare) capabilities: Because of the centralized nature of IW activities, U.S. forces cannot maintain pace with DRACO decentralized social media, cyber, and conventional media capabilities. "A denial on the global stage is always weaker than the accusation."

> ***Because we can never eliminate uncertainty, we must learn to fight effectively despite it … fostering initiative among subordinates."***
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> **—MCDP 1**

Phase IV: Organizing the unit for battle. DRACO forces organized so as to apply an inherent DRACO strength against a perceived MAGTF weakness. It was a difficult challenge as it was discovered that a fluid organization, combined with merging and shifting capabilities and hierarchy changes, was required to protect their critical vulnerabilities and allow initiative-based self-formation rapidly as opportunities to attack a vulnerability presented itself. The basic elements of DRACO organization are listed below. It is important to understand that this structure remained fluid and loosely hierarchical:

a. Command Group: Centered on a "patriot commander" and a deputy. This group included senior messengers who served as on-the-spot group commanders who had the understanding to pass unifying intent across the battlespace. "Eyes right, eyes center, and eyes left." The command group sought out ways to create combined arms dilemmas utilizing all aspects of DRACO power. This concept tied tactical actions into a series of events that had strategic implications.

b. Advisor Section: Comprised of a highly trained, uniformed special forces team from the supporting third nation. The advisor section provided linkages to high-end technologies, long-range precision fires, logistics, and media support and advised all elements of DRACO forces in direct action, precision strike, and intelligence operations.

c. Perception Group: Served as the main effort. In a combined-arms fashion, the perception group engaged with social media, conventional media, and local engagements to affect target audiences and to promote legitimacy and influence civil will. The perception group designed DRACO deception efforts and conducted select threat/intimidation operations. The perception group was responsible for cohesive DRACO semiotics and branding effects across the IW spectrum as a continuing action.

d. Direct Action Group: Conducted conventional offensive operations against adversary force weaknesses. The group designed kidnapping operations, anti-air ambushes, sniper/grenade ambushes, and complex attacks on high-payoff targets.

e. Intelligence Group: Provided early warning, targeting data, and assessments and answered the commander's requests for information about enemy forces and the civil population. The intelligence group conducted advance-force actions (guides, caches, position marking, electronic cueing, and assembly security). This group was the recruiting arm of DRACO. It created, maintained, and exploited social media aliases to infiltrate U.S. forces' social media space.

f. Civil Control Group: Infiltrated and controlled critical aspects of civil society, to include the economy, resources, information flow, and all civil services. This group incorporated the perception group's objectives into activities and informed intelligence group requests for information. The civil control group conducted population control operations and contracts capabilities and engaged with all ethnic groupings within the AO. The civil control group also provided a force designed to flood U.S. collection capabilities with false information and "noise" on networks suspected of be-

ing compromised by U.S. collection capabilities.

g. Technology Reconnaissance Group: Based on future operations, scanned open markets for technologies and techniques to increase DRACO asymmetric tactical capabilities. This group experimented with emerging concepts, refined them, and transitioned experts with the equipment/concept to one or more of the other groups to ensure quick adaptation. The group promulgated best practices throughout the force and with adjacent separatist forces. This group developed and managed funding streams (GoFundMe, criminal taxation, etc.)

h. Co-opted criminal elements (notional during MIX-16): DRACO incentivized cooperative behavior of regional criminal organizations. From motorcycle organizations disrupting traffic and coercing populations to illicit gambling organizations providing intelligence and prostitution networks enabling targeting, co-opted criminal elements ensured DRACO could keep their fingerprints off of certain effects that easily combined with other operations in a combined arms fashion.

> ***"It is precisely this natural disorder which creates the conditions ripe for the exploitation by an opportunistic will."***
>
> **—MCDP 1**

Phase V: Tactical and weapons training. Based on DRACO's understanding of U.S. vulnerabilities, tactical tasks were prioritized based on what was expected to be used, the force was equipped for those tasks, and then rehearsals were conducted to improve each tactic. DRACO strove to string together several tactical actions that combined to create strategic dilemmas for the adversary. DRACO developed a Chinese menu of tactics and techniques for each element arriving at the MIX to ensure all groups were familiar with their specific roles. Each role had a secondary and tertiary actor and was built to be executed in EMCON conditions. Some of the critical tasks rehearsed were:

a. Combined arms anti-air ambush: Based on research and studies, DRACO determined that low cost, easily available MANPADS could be effective against modern aircraft when combined with other effects, such as cueing, jamming, deception, and early warning. The helicopters, or "piñatas," as DRACO named them, were assessed to be the most vulnerable. DRACO'S young Marines serving in the adversary force were able to determine that the "fat helicopter that flies in second place" on YouTube videos would most likely carry valuable personnel or equipment and would be most easily targeted. Clearly referring to the UH-1Y in a mixed RW (rotary-wing) attack section, the Marines sensed that it was a vulnerable and high-payoff target. Their open source studies of threat weapons and aircraft countermeasures drove the tactics of volley firing three MANPADS at a single target within a designated range. This analysis determined firing geometries, survivability timelines, trigger mechanisms, and deception objectives. Success of this tactic counted on clear, achievable, and limited goals outlined in a simple, flexible plan with redundant capabilities.

b. Capture of U.S. personnel: This was determined to be a DRACO critical capability and combined every element of the force in a combined-arms fashion. The tactic itself drove the equipment we procured off the shelf and did not require advanced technologies. Stun guns, low cost RF jammers, spectrum analyzers, and high-power directional strobes are examples of equipment employed in the operations to capture U.S. Marines. With a very limited budget solicited through social media, DRACO forces had to be very particular of the equipment purchased and quickly learned that DRACO concepts/tactics provided the best discipline for their purchases. If it did not increase the desired capability focused on a U.S. vulnerability, it was ignored.

c. Mechanical or grenade ambush: DRACO did not want to fight U.S. infantry symmetrically. Ambushes were initially restricted to grenades/explosives. Targeting was deliberate and specific, only striking perceived critical capabilities or vulnerabilities. Because of the requirement of DRACO to support and co-opt the civil population, victim-operated charges were not permitted by the DRACO commander. Civilians had to be protected before any explosive ambushes occurred, which made the readily available fragmentation grenade a more important weapon than the rifle, and IEDs were seen as a liability, not an asset. The nature of fragmentation weapons also meant that DRACO forces could not stay and fight, which was what the commander desired in order to avoid symmetry with U.S. forces.

d. Precision direct fires: Precision direct fires were painstakingly planned against specific targets and timed for maximum media effect. No direct fire attacks were to take place without media elements in place or civilians in the "witness zone," and they were ideally filmed from above with SUAS (small unmanned aerial systems) for rapid release into social media space.

e. UAS attack: Whether in pairs or in swarms, DRACO employed off-the-shelf UAS technologies to provide a precision indirect fire capability, deception capability, and a fixing capability. These were combined with other tactics and against specific targets. They incorporated deception, reconnaissance, and EW (electronic warfare) effects.

f. Precision indirect fires: DRACO forces utilized multiple means of achieving precision targeting that could be relayed to third country long-range fires systems. From SUAS and remote activated cameras to handheld GPSs, DRACO maintained consistent, accurate understanding of MAGTF positions. Despite repeated requests, the third nation never approved the use of cross-border long-

range fires against fixed U.S. high-value targets.

> ***"Efforts to fully centralize military operations and to exert complete control by a single decisionmaker [sic] are inconsistent with the intrinsically complex and distributed nature of war."***
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> **—MCDP 1**

Selected Technologies

Technologies were selected by the following merits: relevance to DRACO tactics, accessibility, ease of use, ability to combine with other technologies, and cost effectiveness. The DRACO T/E (table of equipment) was rapidly changing even in the construct of this experiment, and the ability to acquire, integrate, and distribute new equipment (alongside the tactic) was a critical element to compel adaptation within the force, so much so that there was a group dedicated just to that mission. A few of the more important technologies we acquired and employed were:

a. Secure, encrypted, off-the-shelf discrete waveform communications in a mesh network.
b. Expeditionary wireless Internet capability.
c. Small and medium UAS (day/night capable).
d. Broad spectrum and mission-specific jammers (fixed and mobile).
e. Apps, apps, and more apps (encryption, data sharing, photo editing, targeting etc.).
f. Information operations suite (cameras, computer, large data storage).
g. Spectrum analyzers, scanners, and "sniffers."
h. C^2 on the move—civilian vehicle outfitted with all C^2 of DRACO, to include FMV (full motion video) feeds.
i. Remotely operated cameras (wireless).
j. Stun weapons (effects simulated).
k. Spotlights, directional strobe lights, IR markers/dazzlers.
l. Remote-controlled ground vehicles.
m. Android tablets loaded with C^2 apps (ATAK—PLI/targeting, TRAK—voice, WINTAK—FMV, MANET—U.S. forces' UAS feeds).
n. Remote ground sensors.
o. High power optics.
p. Remote accessed loudspeakers.

> ***"War is thus a process of continual mutual adaptation."***
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> **—MCDP 1**

Creating a Learning Organization—Growing Antennae Instead of Horns

DRACO forces identified early that, due to poor financing, a lack of formal training, and small size, they must learn and adapt quicker than their enemies, both materially and cognitively. To achieve this adaptability, DRACO dedicated a group to technological innovation and developed a disciplined after-action learning forum. This forum directed that all participants meet in person or virtually (via realtime communications applications) to discuss failures, successes, and lessons, along with recommendations for future operations. All forums would be recorded so HHQ (higher headquarters) and adjacent forces could learn lessons through proxy and add to the collective understanding. This facet of DRACO forces was designed to ensure that despite combat power disadvantages, DRACO's ability to learn quicker and adapt faster with an 80 percent solution was an obvious force multiplier against a force that has access to the 100 percent solution tomorrow.

> ***"No degree of technological development or scientific calculation will diminish the human dimension in war."***
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> **—MCDP 1**

Things We Learned About Fighting the MAGTF

Threat forces during MIX-16 provided a unique vantage point to view MAGTF capabilities and limitations. Similar to asking the enemy to write your fitness report, DRACO was able to observe the MIX-16 ELT in an intimate and cohesive manner and provide direct and positive assessments from the en-

The DRACO forces adapted quickly to their enemy. *(Photo provided by author.)*

emy perspective. This was only possible through the discipline and audacity to insist upon live-force, free-play experiments, as difficult as they may be to execute. Below are some observed trends:

a. Marine infantry formations are formidable when in the attack. Marine infantry speed, once committed to action, is remarkable, and their firepower is daunting. DRACO forces avoided direct fire confrontations with Marine squads for these very reasons. If every Marine had been armed with an M-27-like weapon combined with a "squad common" short-range communications system, the asymmetries of the Marine squad would have been even more pronounced. DRACO forces would have been unable to gain localized fire and movement advantages against such a unit.

b. SUAS employment at the lowest levels tended to fix DRACO in place and slow down its decision tempo. Unaware that the density of SUAS was causing information management issues with the ELT, DRACO assumed that if there was a SUAS in the air, it was all seeing. This is an important psychological aspect to SUAS that should be considered. SUAS can steal initiative from an enemy by their mere presence. Adding an armed SUAS would significantly increase this asymmetry applied by Marine units, as the threat of lethal force is often more intimidating than the actual use of that force.

c. U.S. aircraft provided an unmatched asymmetric advantage over DRACO forces, but once the initial fear of these aircraft faded and threat forces learned aircraft limitations, they became vulnerable to rudimentary weapons and provided easy access to high-payoff targets. Additionally, aviation-delivered fires, which are generally high yield, may have unintended effects; "bombs make noises that last forever on the Internet."

d. MAGTF forces seemed encumbered by information and often paralyzed by a quest for even more information. Threat forces detected hesitation and internal focus. The ELT appeared unaware of their immediate surroundings while they diligently worked radios, tablets, and screens to feed an insatiable HHQ, no matter what echelon they were serving at. While busy passing details up the chain, Marines at the point were not provided critical information known by higher and adjacent units. Surprisingly, *when threat forces successfully jammed MAGTF tactical communications, they noted an increase in tempo and decision making from those forces being jammed as their heads "raised up" into their environment and intuitive leadership became the norm.* DRACO forces decided that the complex, delicate, and manpower-draining U.S. C^2 system was more of a liability to the MAGTF than to DRACO, and threat forces were better served by overloading, spoofing, and hiding within U.S. C^2 systems than working to deny it. Deliberate efforts to "overload all of the soda straws" of MAGTF C^2 systems appeared to retard human analysis and decision making in the MAGTF.

e. MAGTF forces are predictable in their basing requirements because of their heavy reliance on logistics. Water, food, mobility, C^2, and force protection capabilities can be foraged in many urban environments, lightening MAGTF footprints and directly increasing operational and tactical mobility. During MIX-16, it did not appear the ELT could operate without easily targeted fixed positions due to the nature of the complex C^2 infrastructure and vast amounts of equipment, all of which needed to be maintained, accounted for, and guarded.

Enemy forces should be able to write the MAGTF's fit rep. *(Photo provided by author.)*

> ***"Friction may be self-induced, caused by such factors as lack of a clearly defined goal, lack of coordination, unclear or complicated plans, complex task organizations or command relationships, or complicated technologies."***
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> **—MCDP 1**

Recommendations for Future Experiments

MIX-16 served as the first in a series of live-force experiments to be conducted as part of SEA DRAGON 2025. The following are recommendations for future threat-force development in support of live-force experimentation:

a. Threat forces should become a central part of live-force experiments, not an afterthought. Threat forces should

ANNEX A: GLOSSARY OF ACRONYMS

AO	Area of operations
C^2	Command and control
COTS	Commercial off-the-shelf
ELT	Expeditionary landing team
EMCON	Emission control
IW	Information warfare
MAD	Mutually assured denial
MANPADS	Man-portable air defense systems
MCWL	Marine Corps Warfighting Laboratory
MIX	MAGTF Integration Exercise
NGO	Non-governmental organization
OODA	Orient, observe, decide, analyze
RW	Rotary-wing
SUAS	Small unmanned aircraft systems
T/E	Table of equipment
TTP	Tactics, techniques, and procedures
UAS	Unmanned aircraft systems
UN	United Nations

be conceived based on the common understanding of the operating environment that the experiment force is designed to operate in. Threat forces should begin their problem framing, organization, and character at the same time the experiment forces do. Friendly and threat forces should plan for an experiment on a similar timeline, in parallel efforts to the experiment objectives, but should remain separated until the experiment goes live.

b. Accurate, free-thinking, and adaptive threat forces are not free. Resources should be dedicated to the effort early as a component of any experiment. To avoid the paradigm of "third platoon, become the near-peer adversary force and die in place while fighting like Americans," leadership, resources, and time must be dedicated to the threat force. Unconventional, or "un-American," thought should be encouraged and rewarded, and all parties should be encouraged to seek asymmetric advantages across the whole spectrum of conflict.

c. Threat forces should contribute to experiment findings in parallel and independently. Threat forces should be able to "write the MAGTF's fitness report" based on agnostic impressions of critical capabilities and critical vulnerabilities.

Comments from MCWL/FD Analysis Staff Embedded in the ELT/ Exercise Control

a. Enemy center of gravity analysis was much different than the MAGTF conventional analysis.

b. OODA loop and tempo exceeded that of the ELT. DRACO had simpler C^2 and thus simpler problems.

c. DRACO keyed their activities off of the MAGTF activities. DRACO preferred spoiling attacks prior to the ELT execution of their plan and relied on early warning to conduct these attacks hastily. DRACO could observe MAGTF preparations and conduct a spoiling attack before the MAGTF executed its plan.

d. DRACO's decentralized execution while operating under a well-known unifying commander's intent generated increased tempo that could not be replicated with technology.

e. DRACO employed distributed operations out of necessity. A small team of DRACO created effects that stymied or occupied large elements of the ELT, which changed the math of combat power ratios.

f. Surprise, planned routes, reconnaissance, and cooperation of locals generated tempo.

g. ELT decentralization and initiative provided the best chance to defeat DRACO.

h. A desire for a "world-class threat force" opens up undiscovered vulnerabilities that can be addressed now.

i. DRACO was able to see how tactical opportunities can have strategic effects and planned IW effects accordingly.

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