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## Urban Combat: Confronting the Specter

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As the US Armed Forces restructure and decrease, their missions are changing from those of the Cold War's forward-deployed force to more complex missions of a post-Cold War expeditionary force. For the US Army and Marine Corps, these new missions will likely involve urban combat, what one contemporary author has called "combat in hell."<sup>1</sup> Although urban combat has been a constant throughout history, its frequency and scale are likely to increase as emerging threats such as urban guerrillas, terrorists and underdog armies seek cover in the cities.

From early history on, urban combat has required masses of dismounted infantrymen, a significant amount of time, combined arms and astonishing quantities of ammunition. The assaulting force runs the risk of its own attrition by combat, insufficient supplies and epidemic diseases. Assaults on cities have resulted in heavy military and civilian casualties and shattered cities. Modern urban combat has often destroyed operations tempo, drained logistics stockpiles and ruined the reputations of promising commanders.

Urban combat of the future will prove no easier, presenting the commander with additional strategic and operational challenges—few of which "silver bullet" technology can resolve. Soldiers tend to think about combat in cities as just a matter of different terrain and tactics, but the US Army's term "Military Operations on Urbanized Terrain" (MOUT) understates the unique difficulties. However central terrain may be to the solution of tactical problems—a city's complex set of systems and high population densities poses the most daunting problems in urban combat. Historically, the city presents a very special type of problem for strategic and operational commanders and their staffs. As Michael Walzer observed, civilian populations frustrate the "war convention"—those rules that guide military conduct. The war convention is the moral underpinning of war and forms the basis for combat's rules of engagement (ROE). Walzer discusses the problem of military utility and proportionality against the backdrop of human rights for noncombatants.<sup>2</sup> By definition, the war convention imposes limits, even as it recognizes the power of necessity. Modern urban combat can assume many forms, including

siege, guerilla warfare and terrorism. In the latter two cases, the political content of the acts may involve its own code of action. Soldiers dealing with these threats find themselves drawn into the limbo between the war convention's organized violence and the limits imposed in performing a police function in a civil society.

"In its modern manifestation, terror is the totalitarian form of war and politics. It shatters the war convention and the political code. It breaks across moral limits beyond which no further limitation seems possible, for within the categories of civilian and citizen, there isn't any smaller group for which immunity might be claimed."<sup>3</sup>

Focus on urban *terrain* cannot illuminate this core issue of disintegrating military and political codes. Yet, it presents the greatest challenge because urban warfare constantly changes military and political dynamics. Cities are social organisms—the centers of gravity for military and political struggles. A core challenge for modern soldiers will be the very changing nature of the city, especially the global scale of urbanization, increasing complexity of urban life and growing international interdependence.

### **Welcome to Megapolis**

For the bulk of man's history, cities represented the wealth and power of their states and empires and constituted logical objectives in warfare. Cities formed on rivers, roads and seaports to facilitate commerce and control the countryside. Often cities grew around forts and castles on militarily advantageous terrain. From early history, states fortified and garrisoned their cities to preserve their wealth, administrative control and power. Although the bulk of the population was rural, the urban centers were the heart of political, economic, cultural, military, educational and religious activity within the country. Wars began and ended with attacks or lengthy sieges against cities. The scientific construction of city fortifications emerged as a dominant branch of military science. Its corollary, the conduct of successful sieges, also emerged as a rigorous area of scientific theory and practice. But, as sociologist Max Weber pointed out in his study of the evolution of the city, different civilizations developed very different cities.<sup>4</sup> Weber makes the point that in the Occidental city, ancient and medieval, the military qualities among the citizens of the city and its self-defense were indispensable parts of urban life.

This emphasis on cities changed with the Thirty Years War. With the rise of the nation-states, standing armies and the gun powder revolution, cities ceased to have military integrity, such as the ability protect themselves from penetration and becoming battlegrounds. By the 18th century, the opposing army, not the opposing cities, became the immediate objective, and field commanders aspired to bring the enemy army to the one decisive battle that would end the war. Forcing that battle might be accomplished by maneuvering to threaten a capital or an economically important city.

Possession of intact, undamaged cities remained the ultimate political goal, and so, during war cities were often declared open and battles were fought outside the walls to avoid the economic and social chaos of prolonged sieges and vicious urban combat. Military commanders, more interested in maneuver than in attrition warfare, avoided fighting in cities when possible. Whenever cities were contested, the civilians were usually evacuated or encouraged to leave,

allowing urban combat in largely "empty" cities. The burning of Moscow by its defenders and Atlanta by its attackers marked a shift in this policy, a hint of Tolstoy's ferocious "people's war" and Sherman's deliberate "hell." Siege warfare in a modern industrial city, rife with class antagonisms, risked incubating social unrest and revolution as when the German siege of Paris in 1870 produced the Paris Commune in 1871.

The Industrial Revolution turned cities into the forges of national armies and potential battlegrounds. In the 20th century, cities endured aerial bombing and ground combat. At the beginning of World War II, there were a few efforts to avoid urban destruction. The French declared Paris an "open city" to save it from destruction in June 1940. General Douglas MacArthur did the same for Manila during his withdrawal to the Bataan Peninsula in 1942. But these actions were the exception. Warsaw, for example, became an urban battleground three times: in September 1939 as *Wehrmacht's* lightning campaign culminated; April 1943 during the Jewish Ghetto uprising and the Nazis' retaliatory "final solution"; and in August-September 1944 during the Armija Krajowa's general insurrection. By January 1945, when the Red Army finally took the city, 85 percent of Warsaw's buildings had been razed and its population was gone—either killed or carried off into captivity.

In most cases, operational prudence prevailed throughout World War II, and ground commanders avoided urban combat when possible. Circumstances often dictated otherwise. Strategic decisions by Adolf Hitler and Josef Stalin turned Stalingrad and Berlin into their own hells on the Volga and the Spree. Postwar strategic decisions about nuclear weapons have also threatened urban devastation. Still, ground forces have developed their combat doctrines avoiding cities whenever possible and fighting only in empty cities when forced into urban combat. But reality interfere with doctrine.

The world has changed vastly since World War II. Rural population has dramatically decreased and urban population has sky-rocketed. Describing the city's role in the 21st century, Jacqueline Beaujeu-Garnier wrote, "The great metropolis is the symbol of our epoch."<sup>5</sup> The most rapid urbanization is in Asia and Africa. The UN projects that by 2025, 60 percent of the world's population (5 billion people) will live in urban areas.<sup>6</sup> Urban sprawl blocks many operational lines, preventing military bypass, as illustrated in Korea's western corridor, the German Ruhr, the Shanghai-Beijing approach, the Ganges valley and the Boston-Washington approach. Many cities are now too big to evacuate and there is no place for displaced residents to go, as is apparent in Singapore, Hong Kong, Calcutta, Tokyo, Seoul, Lagos, Mexico City and Los Angeles.

Even during World War II, urban combat occurred in cities with dense populations still in place such as Manila, Warsaw, Budapest and Berlin. Nor were horrendous civilian casualties necessarily the result of direct assault. By Hitler's orders, von Leeb's Army Group North never mounted a prepared assault on Leningrad but imposed a 900-day siege that cost well over 400,000 civilian casualties.<sup>7</sup> Since World War II, the presence of large numbers of indigenous civilians seems a constant feature of urban combat as evident in Seoul, Hue, Beirut, Kabul, Panama City, Mogadishu and Grozny.



**Tanks and infantry of the 1st Cavalry Division advance through right field after fighting their way into Manila's Rizal Stadium, February, 1945.**

Urban combat is increasingly likely, since high-precision weapons threaten operational and tactical maneuver in open terrain. Commanders who lack sufficient high-precision weapons will find cities appealing terrain for maneuver, provided they know the city better than their opponent does and can mobilize the city's resources and population to their purposes. This turns contemporary maneuver warfare on its head. Maneuver by forces may now be possible only in the cities as long as high-precision systems dominate the open countryside. Maneuver by fire may be the *only* maneuver possible in the countryside. The presence of noncombatants and the nature the city itself may render precision fire problematic. Precision strikes can target specific industries, facilities, military infrastructure and sectors as part of an overall plan of maneuver by fire, but they cannot occupy and hold a city.<sup>8</sup> The high-precision attacks on Baghdad during the Gulf War and more recently against the Sudanese capital and Baghdad, as well as Belgrade, again inflicted limited punishment but did not impose the will of the attacker on the targeted regime.

The US Armed Forces' change in posture from forward deployment to expeditionary force increases the probability of urban combat in our future. The first two things an expeditionary force needs are an airfield and a port, facilities usually found in or adjacent to a city. If these facilities are located in an allied country, there should be no problem. If they are located in a non-allied country and the locals welcome US forces, that feeling may change and fighting break out, as illustrated in Mogadishu. If the locals are not initially happy with the arrival of US forces, the first battle may well be urban.

### **Spectrum of Urban Combat**

Urban combat can be waged at varying degrees of intensity and commitment. Urban combat can include the actions of an outside force intervening to rescue its citizens from a hazardous urban setting, such as the US Marine Corps noncombatant evacuations at Tirana, Kinshasa, Monrovia and Freetown. Urban combat may include the actions of a peace enforcement force when local police have lost control and criminals or rival factions have seized control, as evident during the Los Angeles riots, Mogadishu, Beirut and Rio de Janeiro.<sup>9</sup> Urban combat may be the result of armed insurrections like Budapest in 1956 and Monrovia, Herat in 1979, and it certainly includes the actions in a city under martial law where urban guerrillas oppose the armed force and engage in terrorist acts similar to Kabul, Dublin, Kandahar and Jerusalem.<sup>10</sup> City fighting between two distinct armed forces is the most obvious form of urban combat, as demonstrated in Seoul, Hue,

Panama City, Grozny and Sarajevo.<sup>11</sup> And strategic nuclear destruction of cities remains a possible, if irrational, form of urban combat.

Activity at the lower end of the urban combat spectrum is more probable than at the upper end. Thus, planners should consider how to fight criminal gangs, armed insurgents and urban guerrillas.



**A Somali gunman takes flight during Operation *Restore Hope*, 1993.**

### **Operational Considerations of Urban Combat**

Every city is unique. Some are robust and resilient, while others are fragile and unable to cope with daily demands, let alone military actions. Some cities, particularly in the developing world, can barely provide basic water, sewage, power, transport, garbage collection and public health services to their citizens. Military actions in some cities, such as Hong Kong, New York, Frankfurt, Seoul and Singapore, would endanger the very economic stability of the nation—and the planet. Military actions in other cities may have only local consequences. Still, military actions will have greater political, economic, sociological and commercial consequences in cities than in the countryside. Consequently, the operational commander will probably be constrained by various political dictates, limitations and ROE. Political decisions made far from the scene may change the mission or insert other forces with different missions into the city—with perilous results.<sup>12</sup>

Operational commanders must weigh many considerations before attempting to seize a city. Traditional urban operations begin by surrounding the city, a daunting operation itself. Shanghai and surrounding environs contain over 125 million people and 2,383 square miles, and its police force approaches the size of the US Marine Corps.

If the operational commander faces a city that he can physically encircle, the next question is how to reduce it. The traditional approach is to conduct a systematic sweep of the city, block by block, clearing out opposing forces. Usually the city is subdivided into small, controllable areas to reduce in turn. This manpower-intensive method, which has changed little from World War II, consumes a great deal of time and logistics support.



**Russian forces conduct a combat river crossing in Grozny, Chechnya.**

One recent approach suggests that the commander can use urban penetration tactics to move on multiple axes to seize an important objective and then isolate and protect it from the enemy.<sup>13</sup> This was the initial approach by Russian forces in the battle for Grozny. They moved on multiple axes to seize the presidential palace, railroad station and radio/television center. They moved unopposed until they were deep in the city, where they attacked and destroyed. The Chechen opposition learned not to provide any permanent strong points that would provide a focus for Russian air, artillery and maneuver forces.<sup>14</sup> Rather, the Chechens employed temporary strong points and a great deal of internal mobility to deploy and redeploy strong points throughout the city. The Russians learned that they had to secure lines of communication to the captured deep objective or the occupying force would quickly be cut off.

Another recent tactic is that of urban thrust, an assault on a narrow axis that frequently changes to confuse the enemy.<sup>15</sup> The Russian forces' second advance into Grozny was a variant of urban thrust, but difficulties in coordinating supporting fires and actions of adjacent units prevented changing the direction of the thrust. It was hard enough getting everything pointed in and maintaining the same direction. Changes in direction only invited confusion and fratricide.

Yet another recent tactic is urban swarm, in which small units patrolling assigned areas are on call to respond to actions in neighboring sectors.<sup>16</sup> This is a tactic appropriate to a low-intensity battle not on the scale of Grozny.

Another approach to seizing a city is the classic siege—surrounding it and cutting off food, water, power and sanitation services while suppressing information sources. Civilians wanting to leave might be channeled into a "controlled environment." But such a decision is in the hands of both attacker and defender, who may each have reasons for keeping some or all civilians in the city. Attackers hit decisive points within the city from the air but avoid sustained close combat. The siege would be maintained, the proponents argue, until the remaining civilians have had enough and force their army to capitulate.<sup>17</sup> This approach mirrors Giulio Douhet's failed theory of strategic bombing in the 1930s and the Gulf War's premise that a defeated Iraq would rapidly overthrow Saddam Hussein. While civilians may lose heart and demand surrender, history has shown that civilians more often have as much determination as their military and prefer to have their own countrymen in charge instead of a foreign force. Paradoxically, starvation and disease can often strengthen their resolve. Civilians may even join the military in conducting the battle rather than surrender, as they did at Leningrad and Warsaw.<sup>18</sup> The Soviets managed to evacuate the children during the siege of Leningrad, further hardening the resolve of remaining civilians.

The Russians finally took Grozny using the World War II approach—they flattened the city with artillery and aviation strikes, slowly pushing their way through the rubble. The destruction of a nation's own city suggests an utter disconnect between the political objective—ending armed conflict and reconciliation—and the military means, a war of annihilation.

The operational commander must prepare to deal immediately with the civilian population. If the water system breaks down or becomes polluted, an epidemic will follow. If the commander surrounds the city, the populace will quickly run out of food. The news media will quickly photograph hungry or diseased children. The commander does not have the luxury of claiming that military necessity precludes consideration of civilians' survival. He must prepare to restore

or provide food, water, health care, public health services and public safety. Therefore, a greater than usual number of engineer, civil affairs, hospital and military police units must deploy with the initial-entry forces. In fact, the bulk of logistics support may go to supporting the civilian population rather than the armed force. Urban combat traditionally consumes supplies at a much higher rate than maneuver warfare, and the additional burden of supporting the civilian populace may seriously strain the logistics system.

Yet an army's support system may not sustain a city. Without a well-developed road network, a city may depend on rail, barge or ship transport to sustain its populace in peacetime. Should this transport be disrupted, an attempt to substitute military truck convoys could overload the existing road network, overtax the combat support to the military formation and fail to provide for the civilian population. The operational commander may need to deploy rail-restoration and port-rehabilitation units to ensure logistic support.

"Destroying the city to save it" with artillery and aerial bombardment will often not be an option. Fire support will most likely be constrained for political, economic, public relations or humanitarian reasons. Attacks against cultural objects, such as museums, ancient structures, monuments, temples and cathedrals, will often be proscribed, regardless of enemy activity. This loss of indirect-fire support places the infantryman further in harm's way. Helicopter gunships will prove the most responsive and effective aerial support for urban combat and are effective against snipers and enemy forces in upper floors. However, enemy short-range air defenses will probably constrain their use forward of friendly positions and restrict their role to popping up behind captured high-rises to engage targets. Losing helicopters behind enemy lines in a city requires attempting recovery of downed crews under the most difficult circumstances.

The best sources of intelligence in urban combat are the local police force, city engineers, utility workers, hospital workers and shopkeepers—provided they are friendly. If not, enemy human intelligence advantages will place attacking forces at great risk. Urban masking and access to communications traffic limit technical intelligence. Current maps in scale 1:12,500 are the most useful but frequently the hardest to find. City maps are usually out of date and the Universal Transverse Mercator (UTM) system is almost useless in a city. Thus nonstandard location systems predominate, such as "the informant will meet you at the corner of *Kaiserdam* and *Einsiedlerhof*" or "there is an ammunition cache at 1512 *Cinco de Mayo* street." The precise location of underground metros and tunnels and conduits for electricity, gas, fiber-optic cable, steam, sewage and emergency drainage become essential items of information, and these passages may become key terrain.

Guarding the expeditionary force's health is a challenge. Endemic disease and epidemics resulting from the collapse of civic services can infect and decimate any force. The Russian force in Chechnya suffered from cholera, viral hepatitis, shigellosis and enterocolitis. During the cold-weather months, up to 15 percent of the Russian force was incapacitated by viral hepatitis.<sup>19</sup> Psychiatric casualties are much higher in urban combat; necessitating an accelerated schedule of unit rotation for rest and recuperation as well as integrating replacements and conducting training.

Force reconstitution will be a constant concern for the operational commander. Urban combat requires large numbers of soldiers, and battle casualties are typically higher. Units will have to rotate regularly and in fairly short intervals, with divisions taking responsibility for integrating replacements, retraining units and handling unit rotations. This probably means that a division will have no more than two brigades in the fight at any time during sustained urban combat.

Communications within a city will prove a constant problem. If the local telephone system and cellular phone system are intact, they must be safeguarded since they are the most reliable communications available. Unfortunately, they are also unsecure. Battle command is threatened since tall buildings, power lines, electric train and trolley lines and industrial power lines interfere with FM radio transmissions. There are only a few FM frequencies, most in the lower bands, that work in cities; thus both sides will be trying to use the same part of the electromagnetic spectrum. Communications units will need to install redundant nets, directional antennas and retransmission units. Wire communication will be the primary mode in urban combat.<sup>20</sup>

Once a city is captured, it normally must be occupied and defended so that, if the defending force meets a setback, it may retreat into the city to defend its port and airfields. The type of defense will depend on the nature of the enemy and the characteristics of the city. The enemy may be irregular guerrillas like those in Belfast, Kabul, Kandahar, Herat, Beirut and Jerusalem; standing armed forces like in Seoul and Hue; or a combination of the two, as in Saigon and Grozny.

### **Tactical Considerations of Urban Combat**

Technology will have only a marginal impact on the operational resolution of urban combat, but it can produce tactical advantages. Some older technology is more applicable in urban combat than newer technology. For example, the .223 bullet common to most modern infantry weapons will not penetrate many walls—unlike the venerable .30-06 or .308 cartridges that chew through brick, wood and adobe. Tanks will have limited utility in the city, particularly among high-rises, where the elevation of the main gun and co-axial machinegun are insufficient. Self-propelled howitzers will provide better direct-fire support to the infantry. The Russians found the venerable ZSU 23-4 armored, antiaircraft quadruple machinegun an excellent weapon against basements and upper floors in Grozny.<sup>21</sup> During the fighting in Herat, the Soviets found that the BM-21 multiple rocket launcher was an effective direct-fire weapon against guerrilla strong points during urban combat.<sup>22</sup> Artillery is very useful in providing smoke screens—every fourth or fifth Russian artillery round fired in Grozny was smoke or white phosphorus. The Russians noted benefits of white phosphorus smoke—it is toxic, readily penetrates protective mask filters and is not banned by any treaty.<sup>23</sup> The Russians found that wheeled armored personnel carriers (BTRs) were often better suited for urban combat than tracked armored personnel carriers (BMPs).

Protecting armored vehicles will be a primary concern for the small-unit leader. In combat in Grozny, the Chechen lower-level combat group consisted of 15 to 20 soldiers subdivided into three- or four-man fighting cells consisting of an antitank gunner armed with a rocket-propelled grenade launcher (RPG), a machinegunner, a sniper and perhaps an ammunition bearer/assistant gunner. Deploying as antiarmor hunter-killer teams, the sniper and machinegunner would pin down supporting infantry while the RPG gunner engaged an armored vehicle. Cells deployed at

ground level, in upper stories and in basements. Normally five or six hunter-killer teams simultaneously attacked a single armored vehicle. Kill shots were generally aimed at the top, rear and sides of vehicles, and Chechens dropped bottles of jellied gasoline on top of vehicles. The Chechen hunter-killer teams tried to trap vehicle columns in narrow city streets by destroying the first and last vehicles, trapping the column and allowing its gradual destruction. The Russians countered this technique by moving dismounted infantry in front of the armored vehicles, including ZSU 23-4 anti-aircraft guns in the column, mounting reactive armor on vehicles and outfitting them with wire mesh cages that provided a 25-30 centimeter stand-off to defeat RPG shaped charges.<sup>24</sup> This arrangement's effectiveness against the new RPG tandem round is a matter of conjecture.

Russian doctrine called for a 6:1 advantage in personnel for urban combat. In Grozny, some 60,000 Russians battled 12,000 Chechens. The Russian 5:1 advantage was not enough. Initially, the Russians did not mass sufficient combat power forward, and the tactical correlation of forces favored the Chechens. The Russians learned that every building they captured had to be garrisoned or else the Chechens would retake it and use it to cut off the Russian advance. The requirement to garrison everything seized meant that a battalion ran out of combat power after advancing only a few blocks.<sup>25</sup>

Urban combat expends huge amounts of ammunition, particularly fragmentation grenades, smoke grenades, tear gas grenades, demolition charges, disposable one-shot antitank grenade launchers, artillery smoke rounds and artillery white phosphorus rounds. This severely stresses the logistics system. Further, the Russian experience in Grozny showed that a good supply of ropes with grappling hooks, lightweight ladders, pyrotechnics and tank-mounted and dismounted searchlights were very valuable in urban combat.<sup>26</sup> Getting the supplies forward to the engaged forces proved a problem for the Russian forces in Grozny, since unarmored trucks were too vulnerable to Chechen fire, and scarce BTRs had to be substituted. This caused supply bottlenecks in the Russian "push" supply system, since BTRs had to withdraw from combat for hauling supplies. There was a clear need for a wheeled, armored supply vehicle.

Urban combat is small-unit combat conducted primarily by companies, platoons and squads. Dismounted infantry contingents, the primary combatants, require combined arms augmentation and reinforcement. Armored vehicles provide direct-fire support, engineers supply crossing and demolition support, and mortar and artillery pieces provide smoke and fire support. Anti-aircraft machineguns, smoke generator personnel and flame thrower operators offer essential support.

Tactics, of course, vary with the type of enemy and city, intensity of combat and unit mission. Urban terrain and ROE strip away many combat multipliers of a modern army. Aggressive patrolling, ambushes and raids will probably be key in any urban combat. Skilled marksmen and snipers will prove devastatingly effective in the urban tactical fight.<sup>27</sup>

Modernized city centers can hinder attackers. Many cities have rebuilt their key centers using control architecture. This modernized architecture, while appearing to improve access to the area, is actually designed to allow a small security element to control or deny access to the area. Television monitors can detect the presence of any unwanted elements, microphones can monitor conversations, escalators and elevators can be shut off remotely and electronic barriers can be

activated on access ramps. Defenders seal intruders into holding areas that appear to be normal entries into modern buildings. Many city centers are self-contained, with their own water and electrical supplies. Although primarily designed to withstand criminals and rioting, modern buildings with control architecture can prove effective deterrents.

Fratricide will be a constant concern, particularly along unit boundaries. In Grozny, the Russians learned that troops need to wear something distinctive and easily changeable, particularly during assaults.<sup>28</sup> Marking panels or other readily identifiable markers can identify captured rooms and buildings to friendly forces. Unit sectors must be readily identifiable and avoid turns that could lead to one force's moving in front of another friendly force.

"Don't go there" remains the best advice for urban combat. However, urban sprawl, the high-tech battlefield and the expeditionary role for US Armed Forces make this axiom problematic. On the modern battlefield, an enemy aware of US advantages in maneuver by fire may well choose to go there, precisely because the city negates technological advantages and imposes constraints.

Urban combat is a daunting challenge to prepare for logically and methodically. CINCs should identify those cities in their areas of responsibility that could become urban battlefields and direct their staffs to prepare detailed studies for those contingencies. Divisions and brigades need to tailor urban combat training to their projected areas of operation. Developments and refinements in force structure, equipment design, logistics procedures and deployment sustainment should support the divisions' and brigades' missions. Reserve Component training readiness to support these projected urban deployments should also reflect the realities of this difficult form of warfare. Training should be specific to the urban environment.

Planners should determine the type of cities in which US forces may become involved. Preparations should include giving attention to each city's complex social system reflecting social, ethnic, religious diversity and contradictions. Civil affairs and psychological operations training will assume paramount importance. Russian authors stress that one of the key battles lost by the Russian Army was the information battle. It was lost in both Grozny and Moscow. An urban combat training center, similar to the combat training centers, should be developed to teach urban tactics, techniques and procedures. Such a training center would need to incorporate training models that include social, cultural, ethnic and political dynamics as well as urban terrain features—modern stone, steel and concrete cities with intensive subterranean features; sprawling cities that combine modern buildings and jerry-built slums; ancient adobe cities with crowded bazaars and tangled road networks; lightly built tropical cities that spill out onto the waterways; and crowded coastal cities which stretch for miles and push up the sides of coastal mountains.

MOUT training facilities should reflect these models, but they are inherently expensive, high-maintenance and too small. Thirty buildings do not constitute a city. Simulations can play a valuable role in training operational commanders and staffs for modern urban combat and for the tactical training of small units in this demanding environment. In urban warfare computerized war games, a world-class opposing force should contest Blue Forces for the loyalty and support of the indigenous population. Computerized training systems, such as JANUS and WARRIOR, should incorporate city models that allow interaction at ground level, at various building heights

and in subterranean passages. Computerized training models that currently generate all locations using the UTM system should incorporate nonstandard location systems.

The US military must prepare now to avoid a Grozny later. Yet even with the best preparations, future urban combat will remain "combat in hell." Unfortunately, it also will remain unavoidable.

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## NOTES

1. Russell W. Glenn, *Combat in Hell: A Consideration of Constrained Urban Warfare* (Santa Monica, CA: Rand, 1996), 1.

2. Michael Walzer, *Just and Unjust Wars: A Moral Argument with Historical Illustrations*, Second Edition (New York: Basic Books, 1992), 127-137.

3. *Ibid.*, 203.

4. Max Weber, *The City* translated and edited by Don Martindale and Gertrud Neuwirth (New York: The Free Press, 1958), 65-90.

5. Jacqueline Beaujeu-Garnier, "Conclusion" in Jacqueline Beaujeu-Garnier and Bernard Dezert, ed., *La Grande Ville: enjeu du XXIe Siecle* (Paris: Presse Universitaires de France, 1991), 619.

6. Paul K. Van Riper, "A Concept for Future Military Operations on Urbanized Terrain," *Marine Corps Gazette*, (October 1997), insert A-1.

7. After Warsaw (1939) but before Stalingrad (1942), Hitler was very reluctant to commit his troops to prepared assaults on cities.

8. Interview with BG Huba Wass de Czege, US Army, Retired, concept adviser and participant in the Army After Next, July 1996-May 1999.

9. For a discussion of the Los Angeles and Rio de Janeiro operations, see William W. Mendel, "Combat in Cities: The Los Angeles Riots and Operation Rio," *Low Intensity Conflict & Law Enforcement* (Summer 1997), 184-204.

10. For a discussion of Afghan urban guerrillas, see Ali A. Jalali and Lester W. Grau, *The Other Side of the Mountain: Mujahideen Tactics in the Soviet-Afghan War* (Quantico: USMC Study DM-980701, 1998), Chapter 14.

11. For a discussion of the battle for Grozny, see Timothy L. Thomas, "The Caucasus Conflict and Russian Security: The Russian Armed Forces Confront Chechnya. Military-Political Aspects and Military Activities, 11-31 December 1994," *The Journal of Slavic Military Studies* (June 1995), Volume 8, 233-256 and 257-290; and "The Caucasus Conflict and Russian Security: The

Russian Armed Forces Confront Chechnya. The Battle for Grozny, 1-26 January 1995," *The Journal of Slavic Military Studies* (March 1997), 50-108.

12. A prime example is the US mission in Mogadishu, Somalia, which began feeding a starving populace and then switched to taking an active side in a civil war. A US Army ranger battalion was sent into the United Nations area with a purely combat mission. In an unprecedented development, after President Clinton's emissary (former President Carter) had met with Aideed, the US State Department was engaged in diplomatic overtures with Aideed at the same time that the rangers were sent to capture him. A complicated coalition and US chain of command further contributed to the ensuing debacle.

13. Randolph A. Gangle, "The Foundation for Urban Warrior," *Marine Corps Gazette* (July 1998), 52.

14. The Chechens made an exception of the presidential palace and held this as a permanent strong point for its symbolic value.

15. Gangle, 53.

16. Ibid.

17. Robert H. Scales Jr., "The Indirect Approach: How US Military Forces Can Avoid the Pitfalls of Future Urban Warfare," *Armed Forces Journal International* (October 1998), 74.

18. Blockades do not always achieve their intended purpose. The ongoing blockades and embargos of Cuba, Libya, Iran and Iraq have not resulted in dramatic policy shifts by the leaders of these states. The people have learned to adjust to economic hardship. They can also learn to adjust to the demands of war.

19. Lester W. Grau and William A. Jorgensen, "Viral Hepatitis and the Russian War in Chechnya," *U.S. Army Medical Department Journal* (May/June 1997), 4.

20. For a look at Russian communications work-arounds during the battle for Grozny, see Lester W. Grau, "Urban Warfare Communications: A Contemporary Russian View," *Red Thrust Star* (July 1996), 5-10.

21. Lester W. Grau, "Russian Urban Tactics: Lessons from the Battle for Grozny," *Strategic Forum* (July 1995), 3.

22. Lester W. Grau, *The Bear Went Over the Mountain: Soviet Combat Tactics in Afghanistan* (London: Frank Cass Publishers, 1998), 50-51.

23. Grau, "Russian Urban Tactics," 4.

24. Lester W. Grau, "Russian-manufactured Armored Vehicle Vulnerability in Urban Combat: The Chechnya Experience," *Red Thrust Star* (January 1997), 16.

25.Grau, "Russian Urban Tactics," 3.

26.Ibid, 3-4.

27.T. R. Milton Jr., "Urban Operations: Future War," *Military Review* (February 1994), 44-45.

28.Grau, "Russian Urban Tactics," 3.

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**Photos: US Army and Soldier of Fortune**

Urban terrain confronts commanders with a combination of difficulties rarely found in other environments. Cities vary immensely depending on their history, the cultures of their inhabitants, their economic development, the local climate, available building materials, and many other factors. This variety exists not only among different cities but also within any particular urban area. The urban environment, like all environments, is neutral and affects all sides equally. (1) Symmetrical threats are generally "linear" in nature and include those enemy forces that specifically confront the battalion's combat power and capabilities. Examples of symmetrical threats include conventional enemy forces conducting offensive or defensive operations against friendly forces. Welcome to Urban Combat Overhaul (or UCO for short). This is my attempt to make combat in Fallout 3 more engaging, more tactical, more exciting, and even more challenging. Here's how: -enemy camps are now strongholds. -Rooftop combat! You never really have a tactical advantage in vanilla Fo3, but with UCO, you do! You can rain death from rooftops as your squad moves in on the streets below.