

Heterogeneous *adj* [ML *heterogeneus*, fr. Gk *heterogenes*, fr. *Heter-* + *genos* kind – more at KIN] (1630): consisting of dissimilar or diverse ingredients or constituents: MIXED

—*Miriam-Webster's Collegiate Dictionary*, 10th ed.

There is perhaps no single word that better describes a modern city than the one above. The topography is layers-on-layers of manmade and once natural terrain. Folds in the ground and pre-urban waterways appear and disappear among structures of virtually every conceivable sort, some beneath the ground, most on it, many towering into the skies above. The functions served by these structures are as varied as their forms, their materials and mode of construction, and their appearance. The majority of these roles demand the attention and care of the urban area's human occupants. Other tasks are partially or fully automated, requiring only the occasional, if any, intrusion by man. The city's inhabitants are themselves no less diverse than are its physical attributes. Some are residents; many depart nightly; the presence of others is more transient yet, based on the demands of travel, leisure, or responsibility. Regardless of the time or day or season, the density of human occupants far exceeds the norm found in other locations. Were the variations and density of the humans not enough, the metropolis is likewise the habitat for myriad other animals, some domesticated, a few indigenous, and many capable of transmitting disease given the opportunity.

This heterogeneity is common to all cities; they are alike in being so internally dissimilar. The variation is but one defining feature of urban areas; the speed with which that heterogeneity changes is another. Urban areas are constantly undergoing metamorphosis. Further, the rate of transformation tends to increase in times of stress. The composition of a municipality's population can be dramatically altered by the influx or egress of refugees, by deliberate displacement, or by disease or conflict-related disasters. Alteration of the physical space can undergo similar mutation in very limited periods. Mountains and hills change over eons, fields and forests over decades; cities can transform in days. This pace of urban change joins heterogeneity and high population density to make today's cities the most difficult of military operational areas. Nations considering the commitment of men, women, and resources into one or more urban areas must understand that preparedness demands flexibility. The capability to adapt to the unexpected may be more important than any other measure of readiness.

The challenges confronting a military readying for such contingencies are themselves characterized by extreme diversity. Forces must be prepared to meld the objectives of the tactical, operational, and strategic levels of war, and to do so both internationally and domestically during combat missions and support or stability taskings that may or may not include fighting. Such forces could conceivably find themselves offering basic life-giving aid, subduing riotous crowds, clashing with enemy warriors, and attempting to contain the effects of a biological, chemical, or nuclear event within a single urban conglomeration at a given instant in time. The undertaking for any one of the U.S. armed forces would very likely be both abetted and complicated by the simultaneous necessity to work with other of the nation's services, the militaries of coalition members, and a considerable number of governmental and private agencies.

On April 13–14, 1999, RAND, the Marine Corps Warfighting Lab, and the J8 Urban Working Group joined forces to host a conference dedicated to taking a further step toward resolving these many issues. The goal was to educate and provide a forum for debate. A similar

event had attracted nearly seventy attendees the year before.¹ It is indicative of the still-increasing interest in the urban operations field that the 1999 affair drew some two hundred individuals. A review of the events in the fourteen months between the two conferences similarly reflects the enhanced level of concern. In April 1998, the Marine Corps released its MCWP 3-35.3, *Military Operations on Urbanized Terrain*, replacing a 1980 document.² By October 1998 the Joint Doctrine Working Party had approved initiation of the U.S. armed forces' first joint urban operations publication (JP 3-06). By year's end the *Handbook for Joint Urban Operations* was being created to assist U.S. forces should urban contingencies arise prior to completion and approval of JP 3-06.

The pace at which exercises, experiments, and conferences were held also saw an increase. The series of tests, demonstrations, and experiments that comprised the Marine Corps' Urban Warrior culminated in February 1999 with an event in the Oakland–San Francisco Bay area that included Navy and Coast Guard participation in addition to that of the ground force. The Air Force, sponsoring the writing of the *Handbook for Joint Urban Operations*, held a conference in March 1999 as an initial step in charting its course toward greater urban operations preparedness in coming years. The Special Operations Command had similarly conducted its Urban Operations War Game the month before. The 1999 Army After Next Spring War Game spanned the conference and had a significant urban focus. Unlike in previous years, the high technology test force was committed to city fighting during the ultimate week of analyzing possible solutions to the challenges of the 21st century. The Army and Marines moved toward completion of their MOU Advanced Concepts Technology Demonstrations (ACTD) and a joint exercise to put new concepts to the test in a field environment at Fort Polk's Shugart-Gordon urban training facility. Myriad additional projects, conferences, and training events featured increased emphasis on military operations in urban areas. After decades of neglect, the U.S. armed services had

¹See Russell W. Glenn et al., *Denying the Widow-maker: Summary of Proceedings, RAND-DBBL Conference on Military Operations on Urbanized Terrain*. Santa Monica, CA: RAND, CF-143-A, 1998, for coverage of the 1998 conference.

²In January 1998, a month before the first conference, the U.S. Army decided to rewrite its primary urban operations field manual, FM 90-10, also entitled *Military Operations on Urbanized Terrain*.

begun to reacquaint themselves with what had become seemingly inevitable urban contingencies.³

By the time of the April 1999 conference, few were unaware of increasing worldwide urbanization. It seemed that every article or report on military operations in urban areas cited the dramatic facts: a predominantly urban world in the opening years of the 21st century, a more rapid rate of urbanization in developing vice developed nations, and the increasing influence of cities as economic, social, cultural, transportation, and political hubs. Only those unwilling to see failed to recognize that this concentration of influence, the proximity of airfields and ports to urban areas, and the United States' reliance on military force projection would inevitably compel America's military men and women to partake of urban combat. Panama City, Mogadishu, Port-au-Prince, Brcko, Monrovia, and Freetown were but a sampling of the world's metropolises that had seen U.S. forces in their streets during the decade before. Equally as obvious were shortfalls in the nation's training facilities and technological preparedness as the armed forces prepared to face the challenges of urban contingencies more demanding than these. Considerable differences notwithstanding, the nation had lessons to learn from the Russians' humiliation in Grozny in addition to its own experience in 1993 Mogadishu; the United States could not afford to be complacent.

Less immediately daunting, perhaps, but no less important, were the expanding threats to domestic towns, suburbs, and cities. Active and reserve armed forces had to be ever-ready to assist in times of natural (e.g., earthquake, tornado, hurricane, flood) or manmade (riots, WMD, terrorist bombing) disasters. Exercises linking domestic and Department of Defense agencies with the objective of building understanding and consensus were rare. Operations during the 1992 Los Angeles riots and New Madrid fault earthquake exercises at the Army's School of Advanced Military Studies demonstrated that much coordination was necessary. Some lessons were fundamental: military units that considered the boundaries of police and fire districts when assigning areas of responsibility found their coordination tasks

³For a listing of further armed forces initiatives in this regard, see Russell W. Glenn. "Fox Trot: Seeking Preparedness for Military Urban Operations." *Armed Forces Journal International*, May 1999, pp. 46-49.

much simplified compared to those that looked at topography alone. Others were highly complex: issues regarding who should head domestic coalitions of military, police, fire, legal, city/county/state/federal political, and community organizations were often resolved only because of exceptional selflessness and dedication to task accomplishment. It is naïve to rely on such sacrifices during future contingencies.

The objectives of the RAND-MCWL-J8 UWG conference were to educate and stimulate debate. If it accomplishes the additional feat of having spurred cooperation and greater attention to the topic, it has fortuitously benefited the nation's soldiers, sailors, marines, airmen, and other citizens all the more.