

Dense Urban Environments: The Crucible of Multi-Domain Operations

多領域作戰在城鎮區之考驗

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前言

Multi-domain operations (MDO) and dense urban operations are two significant topics in contemporary Army research. While researchers have looked at these topics in isolation, very little research has been done to demonstrate the challenges and benefits of adopting an MDO mindset in a dense urban environment. The dense urban environment provides many of the challenges identified in MDO research in a compact and rapidly changing space. Given the importance of cities in contemporary states, it is important to look at how MDO thinking and research on dense urban areas can mutually inform and provide insights. Dense urban areas and MDO intersect in three key areas: (1) the concepts of layers and convergence, (2) the definition of victory, and (3) the growth of the battlefield. Further, analysis of these intersections can illuminate the character of conflict in large dense urban regions.

多領域作戰與城鎮戰是當代美國陸軍研究的兩個重要主題，惟研究者都分別看待這兩個議題，也很少有研究文獻指出在城鎮環境中運用多領域作戰思維之利弊得失。城鎮環境之特徵為人口稠密與地貌持續變化，這對於多領域作戰研究構成諸多挑戰。鑒於城鎮在當代國家中的重要性，檢視多領域作戰思維如何運用於城鎮環境也同等重要，本文希冀藉此提出可供參考之見解。城鎮區與多領域作戰在三個部分有所交集：（一）分層與聚合構想；（二）對勝利的界定；（三）戰場的成長變化。此外，分析這些交集可以找出這些大部分城鎮區發生衝突的特徵。

MDO in the Contemporary Operating Environment

多領域作戰在當代作戰環境

MDO represents the next evolution of joint operations thinking and is significant in that it views the battlespace as extending beyond traditional conceptions to include discussions of cultural, political, and economic factors present in the region. The U.S. Army Training and Doctrine Command (TRADOC) emphasizes that MDO is a “layered standoff,” in that the operations must consider multiple spatial, political, economic, social, military, and cultural layers, amongst many others.¹ This fundamentally changes the way we view areas of operations (AO) and areas of responsibility. Gen. Robert Brown emphasizes the importance of the economic and demographic complexities of the Indo-Asia Pacific area of responsibility in his analysis of MDO.² TRADOC sums this up by emphasizing that multi-domain formations must be able to “access and employ capabilities across all domains.”³ The modern battlefield not only extends beyond the military domain into the human domain, but it also will shift scales from global to local and most layers in between. Also, these scales and domains are never fixed but are constantly changing as conditions evolve.

多領域作戰代表的是聯合作戰思維的下一代演進，重要性在於其跳脫傳統構想的戰場空間觀點，並涵蓋區域內文化、政治及經濟要素之討論。美陸軍訓練暨準則司令部（下稱訓準部）強調多領域作戰是「分層對峙」，所以作戰行動必須考慮眾多空間、政治、經濟、社會、軍事及文化等各層面因素。¹這種想法澈底改變以往作戰區與責任區的認知觀點。誠如羅伯特·布朗上將在論及多領域作戰分析作為時，強調印太責任區的經濟重要性與人口組成的複雜度。²訓準部在多領域作戰手冊中也強調多領域作戰編隊必須有能力進入敵區並部署各種跨領域能力。³現代戰場已從軍事領域擴及至人文領域，衝突將從全球規模轉變成區域規模，同時各種層面因素將位居其間。此外，這些規模與領域並非一陳不變，而是隨著情勢不斷變化演進。

TRADOC identifies this continuous evolution of scales and domains as

¹ U.S. Army Training and Doctrine Command (TRADOC) Pamphlet (TP) 525-3-1, *The U.S. Army in Multi-Domain Operations 2028* (Fort Eustis, VA: TRADOC, 6 December 2018), viii–x.

² Robert B. Brown, “The Indo-Asia Pacific and the Multi-Domain Battle Concept,” *Military Review* 97, no. 5 (2017): 15, accessed 20 October 2020, https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/BROWN_PRINT_The_Indo_Asia_Pacific.pdf.

³ TP 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, iii.

convergence, where “multi-domain formations possess the capacity, endurance and capability to access and employ capabilities across all domains to pose multiple and compounding dilemmas on the adversary.”⁴ Daniel Kull emphasizes nonlinearity as the standard of warfare.⁵ In other words, operations are constantly changing, sometimes in an unpredictable manner. Lt. Gen. Gary Volesky and Maj. Gen. Roger Noble expand on the evolution, convergence, and nonlinearity of domains and scale through their observation that “cyber and human domains are not limited by space or time.”⁶ One concept that remains constant is the need to seize the initiative; in this case, working in the domain(s) and/or scale(s) that best sets the conditions for success.

訓準部認為戰事規模與各領域的持續進展將形成聚合現象，因此多領域作戰編隊需擁有可以進入敵方的各式能量、能力及持續力，同時運用跨領域的各種能力，俾利向敵製造多重複雜難題。⁴誠如丹尼爾·庫爾所言，戰爭標準是非線性發展。⁵換言之，作戰方式是不斷改變，有時候是難以預測。格里·沃斯基中將與羅格·諾貝爾少將兩人透過自身觀察對這些規模與領域的演進、聚合及非線性發展進行說明，其中網路領域與人文領域是不受空間與時間限制。⁶由於奪取主動權這個概念是持續不變的，因此在這些規模與領域的經營將是致勝的基石。

While the United States seeks to seize the domain and scale initiative in modern operations, foreign adversaries are quite adept at challenging its efforts. Based on recent U.S. superiority in combat operations, near-peer states seek to compete at a level below armed conflict, or as TRADOC terms it, “win without fighting.”⁷ Jeffrey Reilly identifies an example of this “win without fighting” concept in his discussion of Chinese authors who advocate going beyond traditional boundaries of warfare to achieve national political objectives by suggesting the use of financial attacks or a virus to bring down the electric network.⁸ George Fust emphasizes that these layered standoffs in

⁴ Ibid.

⁵ Daniel J. Kull, “The Myopic Muddle of the Army’s Operations Doctrine,” *Military Review* (Online Exclusive, 2017), 3, accessed 8 September 2020, <https://www.armyupress.army.mil/Journals/Military-Review/Online-Exclusive/2017-Online-Exclusive-Articles/Myopic-Muddle-of-Army-Ops-Doctrine/>.

⁶ Gary Volesky and Roger Noble, “Theater Land Operations: Relevant Observations and Lessons from the Combined Joint Land Force Experience in Iraq,” *Military Review* 97, no. 5 (2017): 22, accessed 20 October 2020, https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/VOLESKY_Theater_Land_Operations.pdf.

political, economic, and military realms seek to separate the United States from allies.⁹ Gen. Stephen Townsend, in his review of the National Defense Strategy, highlights the importance of winning the competition before and after conflict.¹⁰ All of these examples emphasize the importance of adopting an expanded view of conflict, one that includes various domains and scales which are constantly evolving as a result of actions on all sides of a conflict or operation.

美國希冀在現代作戰行動中奪取各戰事與各領域的主動權，惟外來敵人十分擅長挑戰美國的作為。鑒於美國在戰鬥行動的優勢地位，實力匹敵者往往以低程度武裝衝突方式與美國競爭，這種方式就是訓準部指出的「不戰而屈人之兵」。⁷傑佛瑞·雷利舉例說明「不戰而屈人之兵」的概念，這部分是在他對於中共學者的討論，這些人提倡要跳脫傳統戰爭的框架，才能達成國家政治目標，建議作法是運用財政攻勢或是在電子網路植入病毒。⁸喬治·福斯特強調這些在政治、經濟及軍事範疇的層層攻勢，意在分化美國及其盟邦。⁹史蒂芬·湯森德上將在他對《國防戰略》報告的評論中強調，在衝突前與衝突後贏得競爭優勢至關重要。¹⁰上述觀點凸顯採取對衝突更寬廣視野之重要性，因為在戰事規模與各領域持續演進下，各方的衝突或作戰行動將出現不同面向。

Dense urban areas represent one of the most complex operational environments due to the coalescence of various domains and scales. Here, the contest to control scale and domain plays out in a relatively small region, with a very dense and complex population. It is in dense urban areas where the challenges of MDO reach their zenith and where complexity is fluid and rapid, both in a spatial and temporal sense.

城鎮區是最複雜的作戰環境之一，原因在於其為不同戰事規模與各領域的匯集處，不僅人口稠密且組成複雜，而且控制權之爭限縮在相對較小的區域。城鎮區對於執行多領域作戰構成嚴峻挑戰，因為複雜情勢的時空因素詭譎多變。

⁷ TP 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, vii.

⁸ Jeffrey M. Reilly, *Multidomain Operations: A Subtle but Significant Transition in Military Thought* (Maxwell Air Force Base, AL: Air Force Research Institute, 2016), 66.

⁹ George Fust, "Multi-Domain Operations, Bad for Civil-Military Relations?," *RealClearDefense*, 8 August 2019, accessed 8 September 2020, https://www.realcleardefense.com/articles/2019/08/08/multi-domain_operations_bad_for_civil-military_relations_114650.html.

¹⁰ Stephen Townsend, "Accelerating Multi-Domain Operations: Evolution of an Idea," *Military Review* (Online Exclusive, 2018), 3, accessed 8 September 2020, <https://www.armyupress.army.mil/Journals/Military-Review/Online-Exclusive/2018-OLE/Aug/Accelerating-MD/>.

The Wicked Complex Environment of Dense Urban Areas

城鎮區錯綜複雜的環境

Today, the majority of the world's population live in cities. Most of the key elements of societies including economic, social, political, and cultural structures are more focused on urban areas than in any other period of history. Therefore, as we study places, it is essential to understand the key cities of the region.

當前大部分的世界人口都居住於城市。社會的大部分關鍵因素，如經濟、社會、政治及文化等架構往往集中於城鎮區，這種情況比以往更為常見。因此，在研究某處時的重點在於理解該地區內的關鍵城市。

What makes dense urban spaces complex? The size, density, and social elements of a city create a complex and changing environment. Cities are continuously changing and are influenced by human activities as humans strive to understand and influence activities within them. The city is a dense and diverse settlement with a dynamic population. While certain characteristics exist in many cities, the way these characteristics influence specific cities is unique. Dense urban areas are also highly interconnected internally and to the rest of the world. All this complexity creates a challenging set of problems for an urban analyst to consider. First, what are the critical factors that influence the evolution of cities? Once these factors are identified and defined, how do analysts measure and model those factors? Finally, how do the factors interact to create a series of systems that influence how a city functions?

至於是何種原因讓城鎮區的空間如此複雜？答案是一個城市的大小、稠密度及社會因素造就了一個複雜且不斷變化的環境。城市之所以不斷持續變化是因為受人文活動影響，而這些活動是在人的理解與影響下進行。城市是一個稠密且多元的定居地，人口呈現動態變化。各個城市有其特色，這些特色也造就出各個城市的獨一無二，至於世界各地城鎮區的內部也是高度相互連結。上述種種情況構成一系列挑戰性的問題，也是從事城鎮分析者所必須思索的。首先，影響城市演進的關鍵因素為何？接著，一旦這些原因被找出並界定後，分析者如何衡量與推演那些因素？最後，這些因素在互動之下所造就一系列體系將如何影響一個城市運作？

To identify the important factors to consider when operating in a dense urban area, a conceptual model is needed to organize analysis. Richard

Wolfel, Amy Richmond, and Peter Grazaitis adopted Leonard Binder's model of political development to conceptualize functions in a city.¹¹ Binder identifies five categories of political development, and Joseph LaPalombara and William Fierman later added allocation.¹² While many other networks are also important to dense urban regions analysts, the focus here is on the sociocultural systems due to their complexity. The six categories all provide insight into TRADOC's conception of MDO and how the thinking surrounding MDO helps explain operations in dense urban terrains.

當吾人在城鎮區遂行任務時，須將一些重要因素納入考量，於是一個概念性模式在從事分析時不可或缺。理查·沃菲爾、艾咪·里奇蒙以及彼得·格瑞宰提斯等人採用政治學者李奧納德·賓德的政治發展模式，使一個城市的運作功能得以概念化。¹¹賓德界定出政治發展的五項分類，其後的約瑟夫·拉帕隆巴拉、威廉·費爾曼等人又再加上「配置」之分類。¹²雖然許多其他網絡因素對從事城鎮的分析者也同樣重要，但本文著重於社會文化體系的複雜面向。以下所列六項分類之見解可為訓準部的多領域作戰構想所用，而且在多領域作戰的發想有助於在城鎮區的戰場經營。

1. Production. Production refers to the manufacturing of commodities. In cities, labor can be divided into two categories, formal and informal. However, the informal and formal sectors of cities are often so intertwined that it is impossible to separate them. The formal sector of the economy is regulated, mostly through laws and taxes, by the government. Traditionally, informal activities are the dominant forms of employment in slum settlements and are governed by informal leadership structures.

一、生產。生產意指產製各項產品。在城市中，勞工可以區分正式與非正式兩類；然而，城市內各部門由於彼此交織在一起，若要將之區別正式與非正式是困難的。正式的經濟部門依規範行事，常見的法律與納稅事務是由政府機關負責。一般而言，貧民區的顯著特徵為充斥著非正式活動，而非正式領導架構為其治理方式。

2. Allocation. Allocation is the process of distributing goods and services

¹¹ Richard L. Wolfel, Amy Richmond, and Peter Grazaitis, "Seeing the Forest through the Trees: Sociocultural Factors of Dense Urban Spaces," *Urban Science* 1, no. 4 (2017), <https://doi.org/10.3390/urbansci1040040>.

¹² Joseph La Palombara, "Distribution: A Crisis of Resource Management," in *Crises and Sequences in Political Development*, ed. Leonard Binder and Joseph La Palombara (Princeton, NJ: Princeton University Press, 2016), 233; William Fierman, *Language Planning and National Development: The Uzbek Experience* (Berlin: Mouton de Gruyter, 1991), 6.

through society. In urban areas, there are many allocated goods including land, food, water, and medicine, among others. Allocation has an important influence on the legitimacy of a government as insurgencies and antigovernment movements often grow in regions where people struggle getting basic needs from the government and rely on other sources for the provision of those basic needs. Often, insurgent organizations use their ability to provide goods as a method of gaining loyalty and legitimacy within a dense urban region.

二、**配置**。配置是在社會上分配物品與服務的過程。在城鎮區配置物品的例子是土地、食物、水及藥品等。配置是一個政府合法性的重要影響因素，區域內叛亂份子及反政府活動之發起，通常是因為人民無法透過正常管道從政府身上獲得日常生活必需品，因此訴諸這種抗爭方式。常見的情況是，叛亂組織在城鎮區會盡其所能提供人民物品，藉此獲得他們的效忠並使自身行為合法性。

3. Identity. In dense urban areas, groups who share an identity based on ethnic, linguistic, religious, or other shared beliefs or attributes tend to live in organized communities in certain neighborhoods of the city.

三、**認同**。在城鎮區內，各個團體的認同是基於種族、語言、宗教，至於另一些團體是的認同則是基於共同信念或歸屬，這些人往往生活在城市特定郊區內的有組織社區。

4. Legitimacy. If a population believes that the government is legitimate, it is likely to follow the laws of society. At the most basic level, legitimacy is forged when a government provides for the basic needs of its population. When those needs are not provided for, then the population will look for other leaders.

四、**合法性**。只要政府合法性能獲得人民信任，則規範社會的法律自然也會被遵守。以最基本層面而言，合法性之建立來自於政府提供人民基本必需品。一旦無法滿足這些基本需求，則人民會轉而尋求其他領導者。

5. Political participation. Political participation can run the full spectrum from traditional methods that include voting to violent actions against the government. In many cities, the most common methods for participating in politics can be significantly limited. As a result, people seek to find alternative methods of political participation.

五、**政治參與**。政治參與的範圍可以從傳統投票方式，乃至發動暴力行動

對抗政府。在許多城市案例中，最常見參與政治的方法若受到大幅限制，則人民往往會尋求政治參與的替代方法。

6. Political penetration. Political penetration refers to how much effective control the government exercises. This is also seen in the ability of the government to implement programs in a specific area. Examples of this include formal law enforcement activities within a region, monuments promoting the national identity of the leadership, and urban redevelopment programs that often include slum clearance. In informal urban areas, political penetration is often minimal if the slum does not gain the attention of the government. However, as development increases in many cities, slums are often the target of destruction in the name of development. This represents the most extreme method of political penetration in a slum environment. In typical slum communities, the informal leadership has the most control.

六、政治滲透。政治滲透是指政府如何遂行有效控制。吾人可以從政府是否有能力在特定領域執行計畫來觀察，相關案例如在某區域的正式執法活動、傳承忠於領袖的國家認同，以及貧民區淨空的都市更新計畫。至於在非正規規模的城鎮區，政治滲透率多寡取決於貧民區是否獲得政府之關注。然而，許多城市的日益發展，貧民區往往在發展的名義下淪為犧牲者，這種情況可說是最極端的政治滲透方式。在傳統的貧民區，非正式領袖最有號召力。

These six elements function differently depending on the characteristics of a specific city. All elements of the framework are not exclusive but influence each other. They are multispatial and multidisciplinary. The goal is not to be reductionist but to highlight how these elements inform analysis of a city.

這六項元素各有其作用，端視特定城市的特徵而定，各個因素之間並非各自獨立而是相互影響，同時涉及各種不同空間及多門學科領域。提出六項元素之目的不是為了要做出簡化論點，反而是要凸顯這些元素如何形成對一個城市之分析內涵。

MDO in Dense Urban Environments: The Connections

多領域作戰與城鎮環境之連結

As urban centers become more important, it is essential that doctrine is reviewed to ensure that people are prepared for operations in large cities. In concert with the rise in the importance of cities, the importance of MDO cannot be understated. With the importance of both dense urban areas as future

operating environments and MDO as a cornerstone doctrine, it is important to review linkages between the future operating environment and evolving doctrine. There are three key intersections between dense urban areas and MDO that help provide some insight on what operations would look like in large dense urban regions.

隨著城鎮區中心重要性與日俱增，當務之急是審視準則內容是否足以讓官兵做好準備在大量城市環境中執行作戰任務，於此同時，多領域作戰在城鎮區的重要性為人所忽略。鑒於城鎮區將成為未來作戰環境以及多領域作戰將成為準則的核心思想，檢視未來作戰環境與持續發展準則之間的鏈結至關重要。以下列出城鎮區與多領域作戰之間的三項關鍵交集，希冀描繪出在城鎮區內眾多作戰行動將遭遇的場景。

Intersection 1: Layers and convergence. First, TRADOC refers to MDO as a layered standoff. It would be difficult to find an environment with more layers than a city.¹³ Dense urban areas include multiple levels, from subterranean through the surface to above ground, and both in buildings and in aerial technology (drones, planes, etc.). Beyond the physical layers of the city, there are also significant amounts of human geography layers that exist in the city. From economic to political to cultural, cities are a complex combination of frameworks that influence the functioning of the city.

交集一：分層與聚合構想。首先，訓準部界定多領域作戰是「分層對峙」，城市的多層面環境是其他地方無法比擬的。¹³城鎮區涵蓋從地下、地面及地面以上多層空間，各式建築物林立以及如飛機、無人機等飛行器穿梭其中。城市除了實體層面之外，還有重要的人文地理層面位居其間，範圍從經濟、政治乃至文化，因此其為一個複雜的結合體架構，各種層面影響著本身的運作。

Identity is one of the key themes that begins to shed light on the complexities of the layers of the city. One example of how identity influences a dense urban region is the creation and perpetuation of migrant communities and transnational identities. Victoria Lawson describes transnationalism as “the extent to which migrants maintain plural identities and experience complex relations of incorporation and resistance to projects of globalized modernization, urban progress, national belonging.”¹⁴ This concept of transnationalism is critical as migrants navigate new influences on their sense

¹³ TP 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, iii.

of identity and reexamine their sense of belonging, exclusion, and affiliation.¹⁵ The process of transnationalism shows the complexity an individual faces as various networks are all intertwined to influence a person's experience in a city.

要剖析城市的複雜層面，最佳起始點就是從認同這個重要議題開始。認同如何影響城鎮區的案例之一，就是移民社區的創造、延續以及跨國認同。維多利亞·勞森將「跨國主義」描述為「移民者維持著多元認同的程度、歷經複雜融合關係的程度，以及對全球化的現代化、城鎮發展和國家歸屬的抗拒程度。」¹⁴這種跨國主義概念之所以重要，是因為移民者開始施展新的影響力在其認同感，同時也重新檢視歸屬感、排外性及從屬關係。¹⁵跨國主義的過程顯示個人面臨各種不同網絡的複雜度，它們彼此糾結在一起並影響一個人在城市的歷程。

TRADOC also emphasizes that multi-domain formations must be able to “access and employ capabilities across all domains.”¹⁶ Traditionally, the Army has looked to multiple physical domains (e.g., subterranean, surface, and sky). However, in the modern dense urban environment, this extends to multiple layers of human geography operating in a city. This extension brings a renewed emphasis on intelligence, civil affairs, host-nation counterparts, regional experts, reach-back capabilities, and a commander who is not necessarily an expert on the specific AO but has a well-developed sense of general knowledge to ask the right questions of the right experts.

訓準部也強調多領域作戰編隊必須有能力進入敵區並運用各種領域的能力。¹⁶傳統上，美陸軍只看到如地下、地面及天空等這些層面的領域；然而，在現代的城鎮區環境，城市中的各層面領域要擴及至人文地理。鑒於此種延伸性，必須重新強調情報、民事、地主國對口單位、區域專家，以及從後方即時取得經分析有用資訊之能力等事項，儘管指揮官並不盡然是特定作戰區的專家，但適時培養通才知識，才能找到對的人問對的問題。

In addition to the various layers of an MDO, TRADOC stresses the convergence of these layers in a given area. TRADOC sees convergence as the “rapid and continuous integration of all domains across time space and capabilities.”¹⁷ Scale is never a given in any modern operation. Actors will

¹⁴ Victoria A. Lawson, “Arguments within Geographies of Movement: The Theoretical Potential of Migrants’ Stories,” *Progress in Human Geography* 24, no. 2 (2000): 173, <https://doi.org/10.1191%2F030913200672491184>; Wolfel, Richmond, and Grazaitis, “Seeing the Forest through the Trees,” 5.

¹⁵ Wolfel, Richmond, and Grazaitis, “Seeing the Forest through the Trees.”

¹⁶ TP 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, iii.

attempt to shape the operational environment to function at the level where they have the greatest influence. This is especially relevant in a city where multiple scales and geographies converge on a block-by-block basis. Hostile forces might use subterranean environments to shape the battlefield due to a perceived advantage there. This is countered by efforts to force hostile forces above ground into a decisive conflict on terms beneficial to friendly forces. This negotiation of space is one of the key competitions that will take place in any urban operation.

多領域作戰本身具有多層面的特性，訓準部也強調在特定地區這種多層面聚合的情況。訓準部說明聚合是「迅速並持續整合各領域所涵蓋的時空及能力。」¹⁷在任何現代的作戰中，無法預期戰爭的規模大小。行為者將試圖創造有利自身的作戰環境，並在其間發揮最大影響力。與一個城市密切相關的是，在街道林立的市區中，將出現多種戰事規模與地貌。由於敵軍認為地下環境具有優勢，可能將之用來形塑戰場態勢。至於反制方法就是迫使敵軍在地面上展開決定性衝突，以利我方爾後之行動。任何的城鎮戰中，空間爭奪將是關鍵的競爭領域。

In addition to the physical convergence of scales, there is also the convergence of human geographic frameworks that influence development within a region. Whether a government is viewed as legitimate, and therefore has the ability to have its message penetrate a local region, it is strongly influenced by its ability to allocate basic services within a region or if the local population believes it shares an identity with the government. In a large city, where populations are extremely diverse and provision of basic services is a complex operation, governments struggle to remain legitimate, often for reasons that are not transparent. The reasons are often hidden by the complexities of converging scales and geographies.

城鎮區除了各種戰事規模的實質聚合外，同時也有人文地理架構的聚合影響著該區域之發展。只要一國政府的合法性為人民所接受，政府就有能力在當地區域發揮言論影響力，但這種能力取決於其是否能在當地區域提供基本服務，或是當地人民是否對其有認同感。在大型城市中，由於人口組成多元與基本服務提供是一個複雜的運作過程，即便政府致力於維持合法性，但往往基於一些原因而無法達到透明公開。相較於複雜的戰事規模聚合與地貌，這些原因往往不為人所重視。

¹⁷ Ibid.

Intersection 2: What does victory look like? The changing nature of modern military operations has increased the difficulties in defining objectives and, as a result, defining success or victory. Near-peer states compete below armed conflict, what TRADOC refers to as winning “without fighting” or blurring the distinctions between below conflict and conflict.¹⁸ An example of winning without fighting is identified by Reilly in his review of Chinese authors who advocate going beyond traditional boundaries of warfare to achieve national political objectives to include financial attacks or a virus to bring down an electric network.¹⁹ Anthony Clas echoes these conclusions in his review of soft power and noopolitics, which is a political science concept referring to knowledge politics using media as a vehicle for knowledge dissemination.²⁰ He emphasizes soft power and noopolitics as tools to control the attitudes, opinions, and moral values of the general population. On the strategic level, Kull sees competition at the below conflict level as a method to control population or dominate terrain without a protracted, attritional campaign.²¹ Fust sees layered standoffs in the political, economic, and military realms as a key method to separate the United States from its allies.²²

交集二：何謂勝利？由於現代軍事作戰不斷改變的特徵，除了增加定義目標之難度外，也連帶影響對成功或勝利之定義。實力相近的國家從事低於武裝衝突門檻的競爭，這種情況如訓準部所說的「不戰而屈人之兵」，或是說讓衝突與未達衝突之間的分界模糊化。¹⁸雷利列舉他審視中共學者的例子來說明「不戰而屈人之兵」渠等提倡要跳脫傳統戰爭的框架，才能達成國家政治目標，作法是運用財政攻勢或是在電子網路植入病毒。¹⁹安東尼·克勞斯在其文章中審視軟實力與政治傳播時呼應這種觀點，至於政治傳播是一種政治學概念，意指運用媒體作為政治知識之傳播媒介。²⁰他強調軟實力與政治傳播為控制一般群眾態度、觀點及道德觀的工具。就戰略層面而言，庫爾認為未達衝突程度的競爭可以作為控制群眾的方法，或是作為佔領領土而不用面臨長期性、消耗性戰役的方法。²¹福斯特指出在政治、經濟及軍事範疇的層層攻勢，為分化美國及其盟邦的重要方法。²²

¹⁸ Ibid., vii.

¹⁹ Reilly, *Multidomain Operations*, 66.

²⁰ Anthony M. Clas, “Commanding in Multi-Domain Formations,” *Military Review* 98, no. 2 (2018): 92, accessed 20 October 2020, <https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/Clas-Commanding-Multi-Domain.pdf>.

²¹ Kull, “The Myopic Muddle of the Army’s Operations Doctrine,” 2.

²² Fust, “Multi-Domain Operations.”

In recent years, the United States has seen leaders declare success in an operation, only to see that perceived (or misinterpreted) success devolve into instability. This is the result of an AO that is no longer solely comprised of combatants but is now more of a spectrum of combatants to noncombatants, to varying levels in between, whose definition of success and security may differ from traditional military definitions. This mismatch of definitions is magnified in a dense urban environment, where people of differing identities, levels of participation, and goals live and act in close proximity, often overlapping. Understanding the vast differences in objectives between groups is a prudent point of departure for discussions of goals and achievement.

近幾年，美國所見的是領導者宣稱作戰成功，但這種認知上的成功(或是錯誤解讀)是立足未穩。這是因為現在的作戰區不再只有作戰人員，有愈來愈多非作戰人員位居其中各層級，這些人對於成功與安全的定義可能有別於傳統上的軍事定義。這種不相稱定義的情況逐漸在城鎮環境中擴大，而且城鎮區的人有不同認同、參與程度、生活目標，以及在彼此的活動往來頻繁。唯有理解這種團體成員目標的巨大分歧，才能以審慎態度對所望目標進行討論。

TRADOC raises an important question: “How does the joint force compete to enable the defeat of an adversary’s operations to destabilize a region, deter the escalation of violence, and should violence escalate, enable a rapid transition to armed conflict?”²³ Unpacking this question introduces some very complex problems that must be addressed in modern operations. In order to defeat an “adversary’s operations to destabilize a region,” one must understand how an adversary will seek to destabilize a region. This is often done with the human geography of a region.

訓準部提出一個重要問題：聯合部隊如何在競爭中擊敗敵破壞區域穩定的行動、嚇阻暴力升溫，以及如何因應一旦暴力升溫並迅速轉變為武裝衝突？²³欲解決這個問題，必須先處理在現代作戰行動中一些極為複雜的事務。為了要擊敗敵破壞區域穩定的行動，吾人必須知道敵將如何破壞區域穩定，這是在人文地理的區域往往要做的事。

Legitimacy is a key point of competition within a dense urban region. The lack of formal government involvement in slum communities creates a power vacuum that insurgent movements view as an opportunity to gain influence.

²³ TP 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, v.

As Conrad C. Crane emphasizes, “Based on their own definitions of legitimacy, the people of the contested region will decide the victor.”²⁴ This victor may or may not be the group that physically occupies the territory at the moment.

合法性是在城鎮區進行競爭的關鍵點。若缺少政府正式涉入貧民區事務將產生權力真空，叛亂活動將得以趁機而入。誠如康拉德·克萊恩所強調，「基於人們自身對合法性的定義，他們將在競爭區域內選出勝利者。」²⁴這個勝利者也許是、也許不是在當時實質佔領領土的團體。

In an environment of insurgency, the struggle is to be recognized as legitimate. Frank Ledwidge echoes this statement in his conclusion, “Complex insurgencies are powered by injustice” and “legitimacy is the main objective ... without the host nation achieving legitimacy, COIN cannot succeed.”²⁵ When a government does not provide basic needs for a place, typically, a group outside of the government will fill the void and provide those basic needs to gain legitimacy and potentially remove the power of the standing government.

在叛亂的環境中，吾人所要認知的是合法性之爭奪。法蘭克·萊德維奇在其研究中的結論呼應這種論述，「複雜的叛亂活動之力量來源是不公不義，因此主要目標是合法性……地主國必須擁有合法性，才能在反叛亂行動上獲致成功。」²⁵當一國政府無法對一地提供基本需求時，一般而言，政府外的某團體將填補這個空缺並提供那些基本需求，進而獲取合法性並潛在移除既有政府的權力。

Stuart Eizenstat, John Porter, and Jeremy Weinstein emphasize the importance of legitimacy in a discussion on development. To them, the “legitimacy gap” refers to the government’s need to “protect the basic rights and freedoms of its people, enforce the rule of law, and allow broad-based participation in the political process.”²⁶ This is paired with two other gaps identified by Eizenstat, Porter, and Weinstein: the “security gap,” where states act to provide safety and security to their citizens; and the “capacity gap,” where a country allocates basic services.²⁷ When governments do not address these gaps, their legitimacy declines.

²⁴ Conrad C. Crane, “Minting COIN, Principles and Imperatives for Combating Insurgency,” *Air Space Power Journal* 21, no. 4 (2007): 57, accessed 20 October 2020, https://www.airuniversity.af.edu/Portals/10/ASPJ/journals/Volume-21_Issue-1-4/2007_Vol21_No4.pdf.

²⁵ Frank Ledwidge, “Justice and Counter-Insurgency in Afghanistan: A Missing Link,” *The RUSI Journal* 154, no. 1 (2009): 6, <https://doi.org/10.1080/03071840902818530>.

斯圖亞特·艾森斯塔特、約翰·波特、傑里米·溫斯坦等人在討論關於發展時強調合法性的重要性。就渠等觀點而言，填補「合法性缺口」意指政府需要保障其人民的基本權利與自由、執行法律規範，以及允許人民廣泛參與與政治程序。²⁶上述三位學者還提出其他兩個缺口：一是「安全缺口」，國家需提供其人民安全與保障；二是「能力缺口」，國家需要分配基本服務。²⁷當政府無法填補這些缺口時，其合法性就會下降。

In a city, slum communities are often source regions for alternative sources of governance because basic needs and security of the local residents are often not met by the government; as a result, a legitimacy gap appears. In these gaps, insurgents often operate to foster volatility. In slum communities where populations are quite large and can approach one million, political legitimacy is an essential component of stability and ultimately, victory. Traditional concepts of victory, or achievement of the objectives of the operation, are clouded in cities. The physical occupation of space, which is challenging at best and more than likely impossible, may not even be the most important objective in an operation. This requires a multi-domain approach to thinking and defining objectives. While physical occupation might be important, the provision of basic needs, or a certain need, might be more important and will create a sense of legitimacy within the region. Understanding the nature of the region will help generate a greater level of success.

在城市中，貧民社區往往是另一種治理方式的地區，因為政府通常無法滿足該區居民的基本需求與安全；鑑此，就會產生合法性的缺口。在這些缺口之下，叛亂份子往往極為活躍。在貧民區的人口數往往十分龐大，有時可以達到一百萬人，所以政治合法性是維持穩定的基本要素，甚至是最終成敗關鍵。吾人往往無法理解在城市中勝利的傳統構想或是達成作戰目標之意涵。實質空間的佔領正備受挑戰且愈來愈不可能達成，甚至可能不會是作戰行動中最重要目標，因此吾人需要以多領域途徑去思考並界定目標。雖然實質佔領仍有其重要性，但提供基本需求或特定需求可能更為重要，如此一來還能在區域內創造合法性來源。唯有理解區域的本質為何，才能有助於創造更大的成功。

Intersection 3: The growth of the battlefield. One of the primary changes in modern military operations is the growth of the battlefield and the

²⁶ Stuart E. Eizenstat, John E. Porter, and Jeremy M. Weinstein, "Rebuilding Weak States," *Foreign Affairs* 84 (January-February 2005): 136, accessed 8 September 2020, <https://www.foreignaffairs.com/articles/2005-01-01/rebuilding-weak-states>.

²⁷ Ibid.

AO. No longer can the AO be delineated as a discrete line on a map. Modern technology has enabled connections to extend beyond a single region. Kull emphasizes that nonlinearity is now the standard of warfare.²⁸ The adversary will endeavor to strike a support area using a variety of means including, but not limited to, cyberattacks, information campaigns, terrorist actions, and traditional kinetic actions. Gen. David Perkins echoes this conclusion in his observation that hackers are looking to target dependents in the homeland.²⁹ Volesky and Noble succinctly explain the increased range of threats in their conclusion that cyber and human domains are not limited by space or time.³⁰

交集三：戰場的成長變化。現代軍事作戰主要變化之一，是戰場與作戰區的成長變化。作戰區將不再能以離散線在地圖上標示。現代科技所促成的連結性已超出單一區域範圍，誠如庫爾所言，戰爭標準是非線性發展。²⁸敵人將使用各式各樣手段打擊支援區，除了傳統動能軍事行動外，還有如網路攻擊、資訊戰役、恐怖攻擊行動等。前訓練部司令大衛·帕金斯上將在其觀察駭客尋找美國本土的獨立目標時呼應上述看法。²⁹沃斯基與諾貝爾兩位將軍認為網路與人文領域不受時間與空間所限制，正是造成威脅逐漸擴大的主要原因。³⁰

This increase in the size of the AO has substantial impacts on mission planning. The effect of linkages, facilitated by globalization, advances in communication technology, including social media and traditional media access, represents a shift of geographical scale that challenges the conventional concept of a distinctive operational environment (OE) that can be isolated for analysis at a local scale. Modern regions exist in multiple scales from local actions to global decisions that impact local citizens. In terms of modern military operations, actions at the smallest scale, even down to the scale of the individual soldier, have potential strategic impacts at the theater or even global level. These interactions across scales must part of any analysis of a dense urban region.

作戰區範圍之擴大已實質影響任務規劃。由於全球化以及如社群媒體與傳統媒體管道等傳播科技的進步，形成一股鏈結，這意味著地緣規模之轉變，將挑戰以往既定作戰環境的傳統構想：在區域規模下單獨做分析。現代區域存在

²⁸ Kull, "The Myopic Muddle of the Army's Operations Doctrine," 3.

²⁹ David G. Perkins, "Multi-Domain Battle: Driving Change to Win in the Future," *Military Review* 97, n o. 4 (2017): 11, accessed 20 October 2020, https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/MilitaryReview_20170831_PERKINS_Multi-domain_Battle.pdf.

³⁰ Volesky and Noble, "Theater Land Operations," 22.

多種規模，範圍從當地行動到全球性決策，這些都影響著當地居民。就現代軍事行動而言，即使是小規模的行動，甚至於小到單兵個人規模的程度，都有可能對對戰區產生戰略影響，甚至於引起全球規模的效應。在各個規模之間的互動情形必須納入城鎮區分析之考量。

In addition, the conventional notion of the AO and the OE is also challenged by the connectivity of the modern urban center. Cities are interconnected globally by many different mediums, including economics, culture, modern communication technology, and social media. While some Army doctrine does address cross-border threats, the influence of information is vastly different than military or paramilitary forces crossing a border and influencing an AO.³¹ Recent examples including the Arab Spring and the Occupy movements demonstrate that the ability to control information in the modern age is limited at best. Also, actors create virtual communities and shared ideologies using social media and modern communication/information dissemination techniques in an effort to gain influence in a region.³² These examples also show that as governments tried to restrict access to social media in an effort to slow the influence of social movements, those efforts to restrict access had the opposite effect and acted as a unifying force to bring together various disparate social movements under a common goal and created, or increased, a legitimacy gap.³³

此外，現代城鎮中心的連結性正挑戰著作戰區與作戰環境的傳統想法。各個城市的全球性連結透過許多不同的媒介，如經濟、文化、現代通訊科技及社群媒體。一些美陸軍的準則並無法有效處理跨界的威脅，資訊影響力截然不同於軍事或準軍事部隊跨越邊境後對作戰區產生的影響。³¹近期案例如阿拉伯之春和佔領運動，都顯示在當前的時代中，要完全控制資訊是難以達成。再者，當事人會創立網路虛擬社團，並運用社群媒體與現代通訊/資訊傳播方式來分享其理念，進而在區域建立影響力。³²這些案例也顯示政府為了減緩社會運動影響力而企圖限制使用社群媒體的種種作為，反倒會帶來負面效應，這使得一股凝聚力在共同目標下，將各種不同的社會運動聚集在一起，導致政府合法性消失殆

³¹ Army Techniques Publication 2-01.3, Intelligence Preparation of the Battlefield (Washington, DC: U.S. Government Publishing Office, 2019), 7-8.

³² Richard L. Wolfel et al., "It's in There: Rethinking (?) Intelligence Preparation of the Battlefield in Megacities/Dense Urban Areas," Small Wars Journal, accessed 19 October 2020, <http://smallwarsjournal.com/jrnl/art/it%E2%80%99s-in-there-rethinking-intelligence-preparation-of-the-battlefield-in-megacitiesdense-urb>.

盡。³³

International social movements demonstrate how political participation can impact actions in a dense urban environment, often from a great distance. In cities, where conventional methods of political participation are limited, people often look for alternative methods of participation. Participating in social movements is often one of the most common alternative methods of participation. While movements focus on local issues, the movements often have strong local motives that link to international issues and tend to be especially influential.

國際社會運動顯示政治參與影響城鎮環境的各種活動。在城市中，傳統的政治參與方法是有限制的，人們往往尋求其他參與的方法，其中最常見的替代方法就是參與社會運動。雖然這些運動聚焦於當地事務，但其較強烈的當地動機往往能進一步形成全球性議題，其影響力不容小覷。

Contemporary social movements developed through the rise of globalization and the embracing of new communication and social media technologies. Manuel Castells observes that the modern age of social movements is less about at regime change and more about exploring the “construction of meaning in people’s minds.”³⁴ New social movement theory emphasizes that modern movements are about smaller groups coming together to establish larger networks based on shared ideologies that are typically centered on a larger societal issue. Castells identifies the Arab Spring and the Occupy movements as two examples of contemporary social movements that brought together disparate groups around a societal issue.³⁵ Modern social movements are quite adept at the use of social media as a medium to organize. Castells refers to these as “networked social movements.”³⁶ While the internet provides a virtual location for meeting and planning, the movements are still required to occupy physical space in order to be noticed by other groups and the state.³⁷ The spaces occupied by social movements are essential to the success of the movement as the places are “charged with symbolic power of invading sites of state power or financial institutions.”³⁸ These “occupied” spaces also create a space for debate and

³³ Manuel Castells, *Networks of Outrage and Hope: Social Movements in the Internet Age* (New York: John Wiley & Sons, 2015), 62.

involvement in the political process.³⁹ It is in these occupied locations that social movements shift from ideology to action.

當代社會運動之發展搭著全球化崛起浪潮，同時運用新的通訊技術與社群媒體。曼威·柯司特提出自身觀察，現代的社會運動主要訴求不在政權轉移，而是更著重於探討「建構人想法的意義」。³⁴新社會運動理論強調，現代運動是關於各個較小團體基於共同理念聚在一起而形成的大型網路，通常是著重於較大的社會議題。柯司特認為阿拉伯之春與佔領運動是當代社會運動的兩個實例，讓不同團體為一個社會議題共同努力。³⁵現代社會運動善於使用社群媒體作為籌織的媒介，因此柯司特將之稱為「網狀化的社會運動」。³⁶網路提供一個虛擬場所供開會與規劃使用，這些運動為了引起其他團體與國家之注意，仍需要佔領實質空間。³⁷社會運動的空間佔領是該場運動成功與否的要素，因為這些地方是權力的象徵，代表入侵國家權力之地或財務機關。³⁸這些被佔領空間也創造一個發聲與參與政治程序的空間。³⁹正因為有這些被佔領空間，社會運動才能從理念轉為行動。

One important lesson we must learn from the Arab Spring and the Occupy movements is that traditional conceptions of boundaries no longer exclusively define political participation. These movements extend far beyond traditional definitions of the battlefield, the AO, or the OE. Therefore, as we plan for operations in dense urban areas, it is essential that we consider the impact of actions on wider communities beyond the traditional boundaries we have seen in the past. The actions in one area could embolden actors in a completely different region.

我們必須從阿拉伯之春與佔領運動事件中學習一個重要教訓，意即傳統邊界的構想已無法完全定義政治的參與。這些運動之延伸已遠超過傳統的戰場、作戰區及作戰環境之定義。因此，我們在城鎮區所規劃的作戰，重要的是要思考作戰行動對廣大社區之影響，已不同於以往所認定的傳統邊界。在一個區域所發起的行動，甚至能激勵另一個不同區域的行為者。

Conclusion

結論

The sheer influence of dense urban areas in terms of demography,

³⁴ Ibid.

³⁵ Ibid., xiv.

³⁶ Ibid., 2.

³⁷ Ibid.

³⁸ Ibid.

³⁹ Ibid., 11.

culture, economics, and politics requires the Army to prepare to operate in cities. The wicked complexity of urban regions requires any operation to be multidomain. The basic tenets of MDO add insight into operations in a dense urban region. When the key notions of MDO are mapped against a framework for dense urban analysis, the intersections that result provide critical insights that commanders must address when operating in a dense urban environment.

城鎮區的重要影響因素是人口、文化、經濟及政治，這些是美陸軍在城市進行作戰時需事先經營。為因應城鎮區的惡劣複雜環境，多領域的作戰行動不可或缺。本文呼籲要在多領域作戰基本信念的基礎上予以擴充，使之能運用於城鎮戰的作戰行動。只要多領域作戰的概念形成可供城鎮區分析的參考架構，同時在兩者交互激盪下，將形成指揮官在面對城鎮環境時所需的寶貴意見。

First, cities are multiscale. This includes both physical and human geographies. Operations will occur at subterranean, surface, and above surface layers. In addition, operations will be influenced by the economics (production and allocation), politics (penetration, participation, and legitimacy), and cultural (identity) geographies that exist within a tightly packed, dense urban region.

首先，城市是多重規模的，包含實體建築與人文地理。作戰行動發生於地下、地上及地面上各個層面。此外，作戰行動還受到經濟（生產與分配）、政治（滲透、參與及合法性）、文化（認同）地緣因素影響，這些因素在城鎮區內彼此交織連結。

Second, the definition of success is another challenge in modern operations, especially in cities. No longer is victory defined as defeating an adversary force on the battlefield. Modern conflict occurs at various levels, and often adversaries will seek to contest the competition at the level that serves them best. Often this becomes a competition of legitimacy in which various actors seek to influence the local population. This is commonly seen as an insurgency/counterinsurgency operation within a dense urban area. The view of legitimacy has an impact on both the ability of a government to push its message to the local population (political penetration) and the local population's participation in local politics.

其次，在現代作戰行動中，定義成功是另一項挑戰。勝利不再被定義成在

戰場上擊敗敵軍。現代的衝突發生在不同層面，而且敵人往往在對其最有利的層面從事競爭。最常見的情況是演變成合法性之爭，不同行為者會設法對當地人民施展影響力，尤其在城鎮區的叛亂/反叛亂行動中最常發生。合法性的影響力在於政府是否有能力使其訊息為當地人民所接受(政治滲透力)，以及當地人民對當地政治的參與程度。

Finally, the size of the AO has substantially increased in the modern era. The rise of modern communications, especially social media, is especially significant as information flows between an urban center and regions that are not close to the city. Also, attempts to seize control of modern technologies (e.g., cell networks and the internet) often have the opposite effect as intended. Rather than bringing an oppositional force under control, it often emboldens the force and extends its influence and creates sympathetic support in formerly neutral or allied forces as its daily patterns are disrupted by the loss of connectivity. This was especially visible during the Arab Spring protests in Egypt.

最後，作戰區規模在當前世代已有實質性擴大。如社群媒體等現代通訊技術的興起，尤其使城鎮中心及其周邊郊區的資訊大幅流通。此外，任何企圖控制現代科技(如群組網絡與網際網路)的各項作為，往往適得其反。雖然在控制下可以破壞日常的連結模式，但反而會帶來一股反抗力量，更增添這股力量的影響力，進而獲取先前是中立或盟友的同情支持。在埃及發生的阿拉伯之春抗議行動就是一個明顯案例。

The future of warfare is both multi-domain and urban. Rather than viewing these areas in isolation, urban operations need to be viewed as inherently multi-domain. The conclusions from MDO research offer important insights for planning operations in dense urban regions.

多領域與城鎮是未來戰爭的特色，我們不應將城鎮區排除在多領域作戰規劃範圍之外，城鎮戰應該被視為是多領域作戰之一部分。本文在結論對多領域作戰研究之各項見解，期能作為城鎮區作戰規劃之參考。

譯後語

本文指出多領域作戰之運用研究不能獨漏城鎮區，城鎮區內各種非軍事因素之戰場經營是致勝關鍵。現代化戰爭型態已不再是某單一領域的經營，城鎮區錯綜複雜的環境就是明顯例子。美軍當前在城鎮區的火力打擊型態是針對重要的政軍設施、指揮中心進行精準打擊，甚至對重要人物進行斬首攻擊。然而，在攻擊過後，重要的是須重建當地秩序，否則逕自撤軍將產生權力真空，城鎮

區內的叛亂活動勢必死灰復燃，美軍以往曾犯下這種錯誤。

我國在城鎮區的思維屬於守勢作戰，由於佔有地利優勢，可以利用狹窄彎曲的街道對敵部隊發動奇襲，另巷弄、窗戶、屋頂、地鐵入口，以及下水道和地下道出入口等，也都可以提供許多攻擊的時機。為了精進城鎮戰訓練，作戰部隊應結合現地進行演練，不能僅依賴城鎮戰訓練場，畢竟這些訓場多半不具電力設施，以及無模擬效果與功能性設施，僅是空洞的水泥建築，缺乏生氣與人氣。仿真訓練，部隊才能熟悉地形地勢，才能發揮真正戰力。在城鎮戰中，砲兵火力運用除了對火線部隊進行直接支援外，另一種另類思維是運用自走砲對敵戰車實施攻擊，美軍就曾以 M109A6 自走砲車演練直瞄射擊方式，成為另類的反戰車砲，砲兵在城鎮戰的火力思維，有時也應發想不按牌理出牌部分。

敵對我國城鎮區發動攻勢之前，一定會先期進行戰場經營，本文所提出城鎮運作功能的六項要素：生產、配置、認同、合法性、政治參與、政治滲透，以及多領域作戰與城鎮區之三項交集，可以作為我國鞏固城鎮區的發想，因為敵人會伺機對此進行滲透破壞，在現代戰爭型態中，手段多變，已成為一種常態，我們要秉持「料敵從寬、禦敵從嚴」的建軍備戰態度，因此作戰思維不能侷限軍事領域，須有跨領域的視野與知識，方能克敵致勝。

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