部隊防護的思維
Thoughts on Force Protection

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One of the prime objectives of an adversary is to inflict damage on the joint force. With thinking enemies, vulnerability is an inescapable characteristic of conflict, and every joint force will have vulnerabilities. Contemporary threats transcend space far easier than in the past, and operational protection is not confined to lethal threats to formations located in hostile environments overseas. With modern technology, even individual Service-members can be targeted directly or indirectly through families or communities and by both lethal and nonlethal means. For example, in August 2015 the Islamic State of Iraq and the Levant published the names, photographs, and addresses of 100 U.S. military personnel and encouraged sympathetic individuals to attack them.[1]

1 Tom Wilson, "ISIS Releases Hit List of 100 American Military Personnel," New York Post, March 22, 2015.

敵人的首要目標之一，就是對我聯合部隊造成損害。面對會思考的敵人，衝突中不可避免會有其易損性；每一聯合部隊都有其弱點。當代的威脅，比起過去更不受空間的侷限，而作戰防護也不只限部署在海外敵對環境中，處於致命威脅之下的部隊。在現代科技加持之下，即使只是各軍種的單兵，也可能經其家人、社群，直接或間接被致命或非致命的手段鎖定為目標。例如，2015年8月，伊斯蘭國就把100名美軍的姓名、照片和住址都公布出來，並鼓動支持者加以攻擊。[1]

Joint doctrine conceives protection in two contexts.[2] The first context is as a function focused on preserving the joint force's fighting potential.[3] The second is as a mission to protect civilians.[4] Joint Publication (JP) 1-0, Doctrine for the Armed Forces of the United States, states that military operations are most effective when integrated and synchronized in time, space, and purpose.[5] This article adapts that insight and analyzes the function and mission contexts of protection through the lenses of purpose, space, force, and time.

聯合準則將所謂防護的概念，區分為兩部分。[2]第一部分是其功能，著重於保存聯合部隊的戰鬥潛力。[3]第二部分為其任務，在於保護平民。[4]《美國武裝部隊準則》載明，若能在時間、空間和目標各方面能夠整合與同步，軍事作戰之效益最高。[5]本文將從目的、空間、兵力和時間之視角，深入分析防護的功能與任務。

What Is Protection？
何謂防護？

2 I thank an anonymous reviewer for this insight. Any mistakes interpreting or applying the insight are my own.

3 JP 3-07.3, Peace Operations (Washington, DC: The Joint Staff, August 1, 2012); JP 3-07, Stability Operations (Washington, DC:The Joint Staff, September 29, 2011); JP 3-22, Foreign Internal Defense (Washington, DC: The Joint Staff, July 12, 2010); JP 3-24, Counterinsurgency (Washington, DC: The Joint Staff, November 22, 2013); JP 3-28, Defense Support of Civil Authorities (Washington, DC: The Joint Staff, February 19, 2013); JP 3-29, Foreign Humanitarian Assistance (Washington, DC: The Joint Staff, January 3, 2014); JP 3-68, Noncombatant Evacuation Operations (Washington, DC: The Joint Staff, January 22, 2007).

4 JP 1, Doctrine for the Armed Forces of the United States (Washington, DC: The Joint Staff, March 25, 2013), I-20; JP 3-0, I-1.

5 JP 3-0 also defines protection in a space and shipping context, but including them here would not contribute to the overall thesis of the article.

JP 3-0, Joint Operations, defines protection as the "preservation of the effectiveness and survivability of mission-related military and nonmilitary personnel, equipment, facilities, information, and infrastructure deployed or located within or outside the boundaries of a given operational area."[6] This definition addresses the protection function in terms of purpose, location in space, and objects to be protected. Protecting denotes shielding from injury, destruction, or detrimental effect, while protection is the act of protecting or sheltering from danger or harm.

《聯合作戰》將防護定義為「在部署或位於既定作戰區域內外之任務相關的軍事或非軍事人員、裝備、設施、資訊以及基礎設備之保存其有效性與存活力」。[6]這個定義明確指涉防護的功能必須擴及目標、空間位置與作戰目的。防護意旨防範損傷、破壞或不利之作用，防護乃保護或防範以遠離危險或傷害。

Protection does not accomplish political or military objectives in its own right. It is defensive in nature, but not passive. It differs from defending, but the concepts are related and not mutually exclusive. In a military context, defensive operations are more often associated with the maneuver function and more fully engage the fires function. In traditional warfare, protection tends to occur at a greater distance from the source of the threat than defense.

防護其本身並不能達成政治或軍事的目標；它本質上是防禦性的，卻不被動。與防禦不同，但其概念相輔相成。從軍事角度著眼，守勢作戰經常伴隨著機動的功能，以及常以全面的火力職能為之。從傳統作戰的角度來看，「防護」發生的縱深或距離，會比「防衛」來得廣遠。

Purpose
目的

Protection's military application is broad. At a fundamental level, militaries exist to protect the state. For this article, however, the vast remit of protection is narrowed to two purposes. The first is protecting the joint force itself.[7] To be useful, the joint force must survive as an

6 In the abstract, the joint force could be synonymous with the entire national military establishment. It is more likely a subset of all military forces organized in a joint task force.

effective fighting force. In other words, the joint force is the essential object of protection. This is implied in the functional focus on preserving the joint force's fighting potential.[8]

防護在軍事上的運用非常廣泛。軍事之所以存在，就在於保衛國家。然而，以本文來說，防護的認知必須要限縮到兩個目的。第一是保護聯合部隊本身。[7]聯合部隊要能存活為一支有效戰力的部隊方能用之於打仗。換句話說，聯合部隊就是重要的保護標的。這也就意味著，保護的功能性焦點，是在維護聯合部隊的戰鬥潛力。[8]

The other purpose is to protect non-force elements, that is, anything that is not part of the joint force. Non-force element is an author-invented term aggregating mission-related nonmilitary personnel, equipment, facilities, information, and infrastructure for brevity.[9] These non-force elements are contingent objects of protection. When protective capabilities are scarce, non-force elements must be prioritized based on their value to the campaign or achieving strategic outcomes. The joint force is the primary military means to provide protection for both non-force elements and itself. The reverse is generally not true.

另一個目的是要保護非部隊單位，也就是不屬於聯合部隊的其他單位。「非部隊單位」是作者發明的詞語，簡單說來就是與任務有關之非軍事人員、裝備、設施、資訊和基礎設備。[9]這些非軍事單位是必須加以防護的附屬目標。當防護力量有所不足時，則必須根據其對戰役或達成戰略結果的價值，以衡量其防護之優先順序。聯合部隊是為非部隊單位及其本身提供防護的主要軍事手段；但是聯合部隊的主要任務卻不僅於此。

JP 3-0 does not explain the phrasing "conserving the joint force's fighting potential" as opposed to just "conserving the joint force."[10] Conjecturally, this wording could refer to preservation of fighting potential as the outcome of successfully protecting the joint force.[11]

7 JP 3-0, III-29; Protection Joint Functional Concept: Version 1.0 (Washington, DC: Department of Defense, June 3, 2004), 7.

8 It also allows for the possibility that personnel, equipment, facilities, information, and infrastructure may not be an exhaustive list.

9 See Universal Joint Task List, available at <www.dtic.mil/doctrine/training/ujtl_tasks. pdf>.

10 Protection Joint Functional Concept.

11 JP 3-0, III-30.

More likely, however, it references the need to prioritize protection capabilities so violence can be "applied at the decisive time and place."[12] The difference between the joint force itself and its fighting potential is nuanced. Contextually, some parts of the joint force's fighting potential will matter more. While no commander wants to suffer loss of any kind, the key is to be able to absorb the enemy's blows while continuing to prosecute the campaign. A vital object of protection is the friendly operational center of gravity or its constituent critical requirements. Assuming that some part of the joint force is the center of gravity, sufficient damage to it would, by definition, severely impede or entirely derail the achieving of campaign objectives.[13]

《聯合作戰》並非有意將「保存聯合部隊的戰鬥潛能」與「保存聯合部隊」兩者拿來相互對照。[10]根據推測，前者可視為如果聯合部隊獲得保護，其潛在戰鬥力應該就能完整。[11]然而更貼切地來說，如果能將保護能力的優先次序加以提升，打擊武力就可以「運用到具決定性的時間和地點」。[12]聯合部隊本身和其戰鬥潛能間之差異微乎其微。聯合部隊的某些戰鬥潛能事關重大。沒有指揮官會想承受任何形式的損失，關鍵是在歷經敵人的攻擊之後，還能持續從事作戰。防護的對象是友軍主要作戰中心，或其重要組成。假設聯合部隊的部分組成就是作戰重心，就定義言，如果遭受攻擊，必然會嚴重阻礙或全面危及戰役作戰目標的達成。[13]

JP 3-0 is instructive, stating that "as the JFC's [joint force commander's] mission requires, the protection function also extends beyond force protection to encompass protection of U.S. noncombatants; the forces, systems, and civil infrastructure of friendly nations; and inter-organizational partners."[14] Note that broadening beyond the force is for mission requirements and necessarily includes non-force elements. Protecting non-force elements may be the object of the mission or simply a necessary factor for successfully completing another mission. JP 3-16, Multinational Operations, does not include the American noncombatant caveat and allows for broader protection of any noncombatant.[15]

該準則說：「聯合部隊指揮官的任務要求，其防護範圍除了本身部隊之外，應該延

12 JP 5-0, Joint Operation Planning (Washington, DC: The Joint Staff, August 11, 2011), III-22-23.

13 JP 3-0, III-29.

14 JP 3-16, Multinational Operations (Washington, DC: The Joint Staff, July 16, 2013), III-11.

伸包含美國的非戰鬥人員，友邦的部隊、系統及民間基礎設施，以及跨組織機構之成員」。[14]其中特別提到將防護網擴張到非部隊單位，也是其任務要求。保護非部隊單位可以是任務目標，或是成功完成其他任務的必要因素之一。JP3-16《多國作戰》，則不包含對美國非戰鬥人員的警告，也不允許將防護範圍擴張到任何非戰鬥人員。[15]

The defense of non-force elements should not degrade or divert the capabilities needed to sufficiently protect the joint force. Sufficient protection is not necessarily maximum protection. The commander must balance acceptable risk to the force and risk to the mission. The second consideration is not between the joint force and non-force elements, but among the non-force elements themselves. Their value is determined through analysis of the operational environment. In short, the greater the contribution to campaign success or strategic outcomes, the more valuable the element is.

足以保護聯合部隊的能力，不可因轉而防護非部隊單位而降低。足夠的防護不必然是滴水不漏的防衛。指揮官必須在部隊可接受風險和任務風險之間，取得平衡。其次要考量不是在聯合部隊和非部隊單位之間取得平衡，而是在非部隊單位之間取得平衡。其價值取決於作戰環境之分析。簡而言之，對任務或戰略目標達成貢獻越大的單位，防衛的價值就越高。

Conversely, accomplishing the mission inherently involves risking at least part of the force. For example, during stability operations, interaction with people may encourage them to have confidence in their security and the legitimacy and competence of their own government primarily and an intervening power secondarily. Restricting the joint force to self-protecting operating bases is unlikely to accomplish this.

反過來說，以部隊而言，完成任務勢必要冒風險。舉例而言，在維穩行動期間，與人民之間的互動可以讓他們首先對其本身安全、政府的合法性與能力都具備信心，其次也對外來介入力量有信心。如果將聯合部隊限制在只能保護自己的框架中，就不能達成

15 Walter E. Kretchik, Robert F. Baumann, and John T. Fishel, Invasion, Intervention, "Intervasion": A Concise History of the U.S. Army in Operation Uphold Democracy (Fort Leavenworth, KS: U.S. Army Command and General Staff College Press, 1998).

這個目標。

An example from the 1994 in Haiti illustrates this point. Major General David C. Meade, USA, commander of Joint Task Force 190 (JTF 190) and the 10th Mountain Division, took a conservative approach, keeping Soldiers in protective equipment and confining them to operating bases. Brigadier General Richard W. Potter, Jr., USA, commander of Special Operations Forces/Task Force Raleigh (TF Raleigh) placed his forces in soft caps and engaged with the local population.[16] In the short term, TF Raleigh was less protected. In the long term, however, it may have gained better situational awareness and developed intelligence sources, leaving its members better protected. In contrast, JTF 190 may have been ignorant of developing threats or ceded enemies an opportunity to recruit in uncontested civil areas. Alternatively, Major General Meade, fresh from his experience in Somalia, may have considered a moderately successful enemy attack a risk to the entire operation.

以1994年海地的維護民主行動為例，來解釋這個觀點。190聯合特遣隊兼第10山地師指揮官米德少將，他採取保守策略，將官兵留在防護設施之中，並限制他們不得隨意進出作戰基地。特種作戰部隊／洛利特遣隊指揮官波特二世准將，則是讓部隊穿著輕裝，和當地民眾打成一片。[16]短期來說，洛利特遣隊很容易受到攻擊，然而就長期而言，它更能瞭解狀況，找出更多情報來源，反而有利於保護其成員。反之，190聯合特遣隊對威脅之發展比較遲鈍，或讓敵人有機會在立場中立的民間地區擴充勢力。這或許是米德少將剛從索馬利亞調過來；那裡的經驗告訴他，敵人一次成功的小規模攻擊，就會對整體作戰行動造成風險。

In short, factors that influence the wisdom of extending protection beyond the joint force could include:

- Utility of the protected entity. Forces of friendly nations, at-risk populations, and inter-organizational partners could provide critical requirements or capabilities to the joint force.
- Phase of the campaign. If the dominate phase concluded successfully and if stability

16 Jim O'Sullivan and Tom Madigan, "Mullen: Qaddafi Could Still Stay in Power," National Journal, March 20, 2011.

is contested, then joint force survival is at less risk and may justify extending the protection function.

• Purpose of the campaign. Campaign objectives may dictate extension. For example, during Operation Odyssey Dawn in Libya in March 2011, the objective was to protect civilians.[17]

• Political significance of the non-force elements. If the enemy targets noncombatants to achieve a political, or conceivably economic, effect, and if the risk to the joint force is small enough, it may require a diversion of resources. Alternatively, nonorganic military or interagency capabilities could be tasked.

簡單來說，之所以會將防護的思維擴及聯合部隊之外，其因素包括如下：

• 有利於整體保護。友邦之部隊、有被攻擊風險的群眾百姓，以及跨組織機構之成員可為聯合部隊提供關鍵需求或能力。

• 戰役各階段的考量。如果主宰戰場階段已然完成，但情勢仍不甚穩定，且聯合部隊遇襲風險較小，則可採擴大防護之措施。

• 戰役的目標考量。戰役目標要求擴大防護。例如，2011年3月利比亞的「奧德賽黎明作戰」，目標就是保護平民。[17]

• 具備政治重要性的非部隊單位。如果敵人將非戰鬥人員，當成達到其政治、或其他想得到的經濟效益的目標，而且對其主力部隊造成的風險不致太大，敵人可能就會採取行動。我方在權衡利弊之後，可能也會派出非建制單位或各部間共同行動能力，作為因應。

Protection's Space
防護的空間

A common reason for protection failures is an attack on an unanticipated location or domain. It is all too easy for cracks to appear due to poor spatial analysis or faulty assignment of responsibilities. The totality of the protection problem requires disaggregating space to reveal intricate relationships among environments, areas, and domains.

防護失敗的原因，常常是因為對非預期地區或領域的目標進行攻擊。軍事行動很容

17 JP 3-0.

易因為缺乏空間分析或錯誤的責任分配而全盤搞砸。要將防護做到滴水不漏，需要將相關環境、區域和領域，及其相互之間的關係細節都弄得一清二楚。

JP 3-0 conceives of military operations as inhabiting a world consisting of environments, areas, domains, dimensions, and systems. Doctrine employs operational environment (OE) to describe the "composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander."[18] Operational area (OA) is an overarching and rather elastic term used to describe several different military spatial delineations of physical areas.[19] To conceive of protection across space, I considered environments to include at least some element of physical area. (Unpersuaded readers may substitute area of interest for operational environment for the remainder of the article.)

《聯合作戰》將軍事作戰設想成一個包含了環境、區域、範圍、空間與體系的世界。準則將作戰環境(OE)描繪成「各種情況、形勢和影響的複合體，與兵力運用和指揮官決策息息相關」。[18]作戰區域(OA)則是個包羅萬象又彈性十足的用語，用來描繪具備數種不同軍事空間意涵的實體區域。[19]在構想防護空間時，所謂的環境，我認為至少應該包含幾個實體區域因素(讀者也可將此視為所謂作戰環境)。

Conceptually, the joint force operational environment could be synonymous with the global environment. Indeed, the information environment and cyberspace domain are specifically described that way in JP 3-0.[20] The joint force is likely to focus on an OE that is a subset of the global environment. Joint operational areas (JOAs), or the spaces in which joint forces conduct operations, could likewise be synonymous with the operational environment. However, they are more likely to be lesser included physical spaces within it. Areas of operation are subdivisions of JOAs assigned to land and maritime components.[21] Figure 1 is a conceptual depiction of the physical volume of spatial areas.

18 Ibid., IV-1.

19 Ibid., IV-2.

20 Ibid., IV-13.

21 Milan Vego, Joint Operational Warfare: Theory and Practice (Newport, RI: U.S. Naval War College Press, 2009), III-65-72. Vego presents an excellent discussion of whether the information environment is an additional element of the time, space, and purpose construct.

從概念上來說，聯合部隊作戰環境，可以說就等於全球環境。確實，資訊環境和網路空間領域等詞，在《聯合作戰》之中，也是以這種概念特別加以描述。[20]聯合部隊可能會將作戰環境，聚焦成為全球環境下的部分組成。聯合作戰區域(JOAs)，或者說是聯合部隊執行作戰的空間，同樣也可視為作戰環境的同義詞。然而，這些詞語所代表的實體空間，丈量起來可能沒那麼廣闊。作戰區域是從聯合作戰區域下細分出來的，基本上分配給地面及海上單位運用。[21]實體空間區域的概念性描述如圖1。

圖1　實體的空間區域

Planning protection requires further division of environments and areas into domains, the venues for fighting. JP 3-0 divides space into physical air, land, maritime, and space domains and the information environment.[22] The information environment requires further elaboration. It contains its own cyberspace domain and physical, information, and cognitive dimensions.[23] Figure 2 is a modified version of an operational environment graphic found in JP 2-01.3, Joint Intelligence Preparation of the Operational Environment.[24]

防護規劃則需要進一步的將環境和區域，以控制領域的概念區分出來，就是作為戰鬥的發生地來看待。《聯合作戰》將空間分成實體太空、地面、海上、空間領域和資訊環境[22]。資訊環境需要進一步闡述。資訊環境包含了網路空間領域和實體、資訊，以及認知面向。[23]《作戰環境的聯合情報準備》描繪作戰環境的修正版圖表如圖2。[24]

If one accepts that the OE is a subset of the global environment, then the information

22　JP 2-01.3, Joint Intelligence Preparation of the Operational Environment (Washington, DC: The Joint Staff, June 16, 2009), II-27.

23　JP 2-01.3, Joint Intelligence Preparation of the Operational Environment (Washington, DC: The Joint Staff, May 21, 2014), I-3.

24　JP 3-0.

environment transcends the operational environment and is not contained by the OE, as may be inferred from figure 2. If one further overlays the joint force's requirement for protection across space, the depiction resembles figure 3.

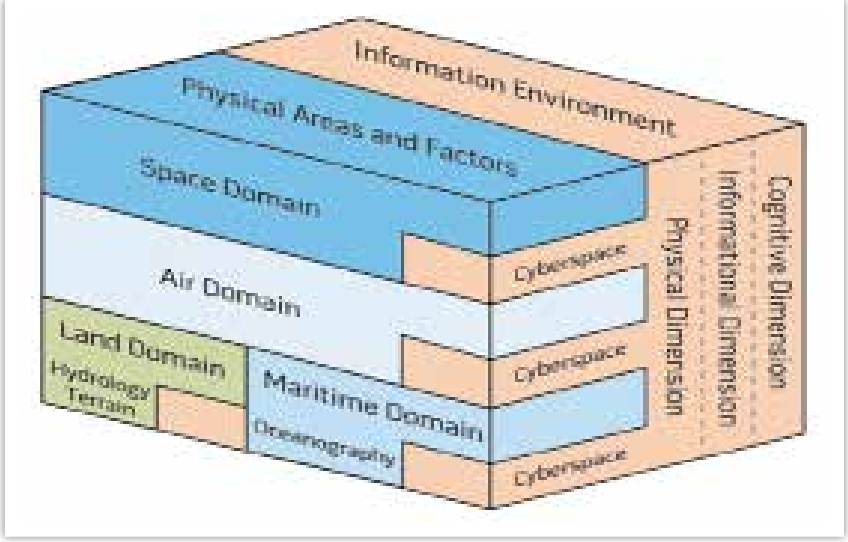

圖2　作戰的環境

如果可以接受作戰環境是全球環境的組成部分，則如圖2所顯示，資訊環境超越作戰環境，而且不包含在作戰環境之中。如果要進一步將聯合部隊的防護需求擴展到能兼顧各空間，請參閱圖3。

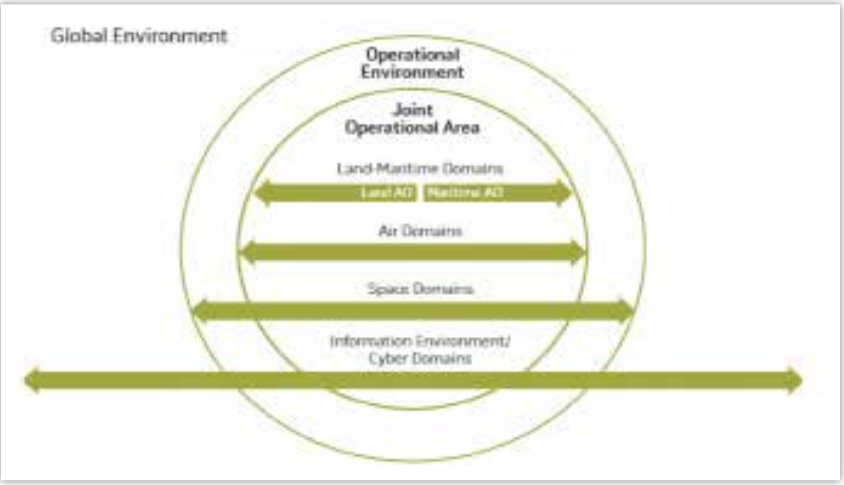

圖3　防護需求超越各空間

Protection's Force
防護的部隊

Forces execute protection. These forces may include the joint force, residual military forces, or certain civilian governmental, commercial, or private entities. The technologies of the information age have compressed space and time intervals between battlefields and political outcomes. In particular, the joint force may be vulnerable in the information environment and the cyber and space domains well beyond the JOA. As technology compresses space, the joint force becomes increasingly dependent on protection capabilities provided through coordination and cooperation rather than organic assets. Here, the question concerns the joint force and its generalized application of protection capabilities.

防護需要由部隊來執行。這些部隊包含聯合部隊、殘餘軍隊、某些民間政府、商業

或私人單位管轄實體。資訊時代的科技，可以將戰事和政治結果之間的時間或空間都大幅度壓縮。尤其，資訊環境中的聯合部隊會較為脆弱，且聯合部隊必須掌控的網路空間，遠超過聯合作戰區域，科技既然壓縮空間，聯合部隊就會越發依賴由各單位協調合作產生出來的防衛力量，而非僅依賴建制資源。問題牽涉到聯合部隊及其防護能力的廣泛運用。

Capabilities. Protection can be implemented in four primary ways: active defense, passive defense, emergency management and response, and fratricide prevention.[25] JP 3-0 operationalized these in terms of tasks and key considerations- essentially expanded descriptions of the tasks. Each of these ways or tasks implies a need for a corresponding capability to accomplish it. (Doctrine does not align tasks and key considerations with any particular way.) Discounting the inevitable overlap, I reworded protection tasks and aligned them with the four ways.[26] Two key considerations that were not obviously restated tasks were included. The personnel recovery task did not align with any of the specified ways:

能力。防護有4個主要運用方式：主動防禦、被動防禦、緊急處置與反應，以及誤擊預防。[25]《聯合作戰》之所以有此規劃，是基於任務分派與關鍵性考量 ── 特別是針對任務分派。每一種防護運用方式或任務，都顯示必須具備相對能力，才能確保完成(準則並未將任務分派和關鍵性考量，與防護主要運用方式放在一起衡量)。姑且不論難以避免的重疊部分，筆者以下將針對防護任務和4個主要運用方式之間的關係重新加以闡述[26]。兩項與任務分派關係不甚明顯的關鍵性考量也包括進去；但是有關人力復員工作部分，在此就不詳加敘述。

- Active Defense: air, space, and missile defense; protecting U.S. civilians (frequently framed as noncombatant evacuation); securing forces, bases, joint security areas, and lines of communication; and defensive countermeasures (counter-deception, counterpropaganda, and counter- improvised explosive device).
- Passive Defense: physical security; chemical, biological, radiological, and nuclear

25 Ibid., III-30.

26 Ibid., III-34.

(CBRN) defense; operations security, computer network defense, information assurance, defensive electronic attack; antiterrorism; force health protection (key consideration);[27] and critical infrastructure protection (key consideration).[28]

- Emergency Management and Response: CBRN consequence management.
- Fratricide Prevention.

・主動防禦：空域、空間與飛彈防禦；保護美國平民(大部分狀況下是撤離非戰鬥人員)；部隊、基地、聯合安全區域，以及通訊線路之安全維護；防禦性反制措施(反欺騙、反宣傳、反土製炸彈)。

・被動防禦：實體安全維護；化生放核(CBRN)防禦；作戰安全、電腦網路防護、資訊安全確保、防禦性電子攻擊；反制恐怖主義；部隊健康防護(關鍵考量)[27]；以及重要基礎設施防護(關鍵考量)[28]。

・緊急處置與反應：化生放核之善後處置。

・誤擊預防。

A close examination of the ways, tasks, and key considerations disclosed five important points. First, JP 3-0 suggests that, at least at the operational level, the scope of the operation is only marginally related to the range of necessary tasks.[29] This implies that a full range of protection capabilities should be both considered and available for any contingency.

對運用方式、任務分派，以及關鍵考量的密切審視，可得出以下5個要論。第一，《聯合作戰》指出，至少在作戰層次，作戰範圍與必要任務的範圍之間關連不大。[29]這意味著要預防意外事故發生，必須具備全方位的防護能力。

Second, domains are not necessarily bounded. Some protection capabilities are executed in more than one domain, while others are executed in a single domain but provide protection in several. Both joint force and national protection capabilities and responsibilities may cross the JOA boundary. Lastly, as conditioned by proximity, protection need not secure force and non-

27 Ibid.

28 Ibid., III-30.

29 The 1993 version of JP 3-0 uses the term joint operations area. It is unclear if the term was used in 1990-1991.

force elements in isolation.

第二，所謂領域並沒有絕對的界限。某些防護能力在不只一個領域中發揮效果，但其他防護能力雖然只在單一領域中有用，卻對其他幾個領域都提供了防護。聯合部隊和國家防護能力責任區，都可能跨越聯合作戰區域的界限。最後，因為鄰近地區狀況的影響，防護功能不會單獨在部隊或非部隊單位產生功效。

The following example illustrates protection's spatial variability. Area missile defense protects targets in land, maritime, air, and possibly space and cyber domains. As headquarters, ports, air bases, and transportation hubs are often near urban areas, missile defense can protect both the joint force and non-force elements, albeit at varying levels of efficiency. If the protection priority is high enough, the commander may divert capabilities from other missions. Military forces of higher echelons may also perform the mission. During the Southwest Asia campaign of 1990-1991, of which Operations Desert Shield and Desert Storm were a part, U.S. Patriot missile batteries were sent to defend Israeli non-force elements, and air missions were re-tasked to perform Scud suppression even though Israel was neither a party to the conflict nor located in the JOA.[30]

以下案例說明防護在空間方面的多變性。地區飛彈防禦可以在陸地、海上、空中以及可能之空間與網路領域之目標進行保護。指揮部、港口、空軍基地和運輸中心通常位於城鎮地區，儘管防護效能的層級會有所不同，飛彈防禦措施還是能同時對聯合部隊和非部隊單位實施防護。如果優先次序夠高，指揮官可能就從其他任務中抽調兵力加以防護。更高階層的部隊甚至會協助防護任務。在1990～1991年包括「沙漠之盾」與「沙漠風暴」在內的「西南亞作戰」中，以色列並非軍事衝突的當事人，所在位置也不在聯合作戰區域內，但是作為任務部隊的一份子，美軍的愛國者飛彈營還是被派去防禦以色列的非部隊單位，主要用來壓制飛毛腿飛彈的攻勢。[30]

Third, task descriptions are oriented toward the operational level of war. Only one, critical infrastructure protection, is clearly described at both an operational and a strategic level.[31] A

30 JP 3-0, III-34.

31 Universal Joint Task List.

review of the January 2015 Universal Joint Task List reveals that a form of the protection tasks is maintained across all levels of war.[32]

第三，任務分派以總體戰爭中的作戰層次為目的。只有一項關鍵基礎設施防護，是在作戰層次與戰略層次被明確敘述[31]。2015年1月「通用聯合任務清單」上的一篇評論提到，在戰爭的各個層次中都必須維持某種形式的防護任務。[32]

Fourth, JP 3-0 views emergency management and response narrowly in terms of accompanying damage from accidents, health threats, and natural disasters.[33] Emergency management and response should be expanded to include reaction to intentional hostile action. For example, I categorized CBRN consequence management, which is likely the result of deliberate hostility, under emergency management and response. Additionally, recovery actions in the aftermath of a conventional attack could easily be included in a redefined emergency management plan. This does not imply a lack of capability to perform emergency management and response but could achieve the same effect by creating a seam in conceiving and planning protection.

第四，《聯合作戰》將緊急處置與反應較狹義地設定在與意外事件、健康威脅和天然災害相伴的損害。[33]緊急處置與反應的適用範圍，應該將有意的敵對行為也包含進去。例如化生放核的善後處理；這種狀況既然是敵方刻意造成，將它納入緊急處置與反應也相當合理。此外，遭受傳統攻擊之後的復原行動，也可很容易納入緊急處置計畫的修正計畫中。這不表示緊急處置與反應的能力有所不足，而是在構想和計畫防護作為時，就先將可能產生的缺口防堵起來。

Finally, JP 3-0 is oriented toward external threats. Protection, however, also has a vital internal aspect. While fratricide prevention is internally focused, it is directed solely against unintentional harm. Contemporary technology and, arguably, political culture increase internal vulnerability to intentional or even ambient subversion. Stated differently, "we" could be a

32 JP 3-0, III-29.

33 Army Doctrine Reference Publication 3-37, Protection (Washington, DC: Headquarters Department of the Army, August 2012), 1-3.

credible enemy requiring a corresponding protection task and capability. JP 3-10, Joint Security Operations in Theater, marks considerable progress toward addressing insider threats. While it specifically addresses such threats, it is not overarching protection doctrine. The Army supplements joint protection tasks with two additional internally focused ones: employing safety techniques and conducting law and order operations.[34]

最後，《聯合作戰》是以應付外部威脅為規劃方向的。然而，講到防護，就不得不思考來自內部的觀點。誤擊預防著重在內部因素，單純在避免非故意性的傷害。不可諱言，現代科技和政治文化等，都是造成內心脆弱或是無法從周邊獲得援助的因素。「自己本身」可能才是最可靠也最具備防護能力的。《戰區聯合安全作戰》裡面，針對如何處理這種來自內部的威脅，已經有了比以往進步很多的見解。雖然很明顯是針對內在威脅，但這並不是一本包羅萬象的防護準則。陸軍對這項聯合防護任務，有兩項補充建議：熟知確保安全的技巧，還有照規定執行。[34]

Counteracting internal threats requires corresponding capabilities. Some could be capabilities in the traditional sense such as technical means to detect espionage. The key to internal force assurance, however, may lie buried within the information environment's informational and cognitive dimensions. Protection in these dimensions could have elements of technical capabilities, but it is more likely to require human solutions.

消弭這種來自內部的威脅，需要相對應的能力；有些來自傳統感官，像是察覺出間諜活動的技術性方法。然而，要確保具備這種內部覺知能力，關鍵在於資訊環境中的訊息與認知向度。這種牽涉思維的防護有技術性的因素，但更需要人為解決方式。

Vulnerabilities. Borrowing from Frederick II of Prussia, "he who defends everything defends nothing." The joint force has considerably more valuable military and non-force assets to protect than just the friendly center of gravity. Protection prioritization across domains and the information environment will be key.

脆弱性。普魯士的菲特烈二世說過：「想防著所有東西的人，終究甚麼也防不住」。聯合部隊有太多有價值的軍事或非軍事資產需要保護，絕不只是友軍的中樞。防護優

34 JP 3-68, III-20.

先順序的排定，一定要超越領域和資訊環境的界限。

In the context of the air and missile defense task, JP 3-01, Countering Air and Missile Threats, directs the assembling of a critical asset list (CAL) based on three criteria: the potential target's mission criticality, its vulnerability (a determination based on susceptibility to and recoverability from attack), and the credibility of the threat.[35] A defended asset list (DAL) is then derived by the prioritized assignment of available air and missile defense capabilities.[36] JP 3-31, Command and Control for Joint Land Operations, suggests a similar method be used for the cyberspace domain.[37] The method is sensible as far as it goes. It simply needs to be applied across all domains. In other words, all domain and environment vulnerabilities require a centralized CAL and DAL process.

在空域和飛彈防禦任務這部分，《反制空襲與飛彈威脅》中指出，所謂重要資產清單(CAL)的評判標準有以下3種：潛在目標的任務(關鍵性)、其脆弱性(容易受到攻擊影響的程度，和遭受攻擊後恢復的程度)，以及威脅存在的確實性(可信度)。[35]至於防衛資產清單(DAL)，則是由防空與飛彈防禦能力的任務優先順序所衍生出來的[36]。《聯合地面作戰的指揮與管制》，對網路空間的防衛提出了類似的實用方法。[37]這方法在所有領域都適用。換句話說，所有領域或環境中的脆弱程度，都需要經過兩者的篩選程序。

Protection's Time
防護時機

Protection never rests. Or at least it should never rest. But duration is only one aspect of time, and labeling protection timeless does not end the discussion. Given vulnerabilities and capability scarcity, operational protection requires analysis of time's simultaneity and timing aspects. These aspects are influenced by level of war and by the phasing of operational campaigns. Although this article largely examines only operational war, the protection function

35 Ibid., III-21.

36 JP 3-0, III-36.

37 JP 3-31, Command and Control for Joint Land Operations (Washington, DC: The Joint Staff, February 24, 2014), II-21.

spans all levels. Analyzing time requires a brief diversion into strategic and tactical protection.

防護不能有一絲的鬆懈。但是，持續的期間只是時間概念的一個面向，硬要說防護不受時間的影響，並不能就結束這段討論。因為脆弱性和能力稀缺的原因，作戰防護需要對所謂同時性和時序觀點進行分析。這些觀點會受到戰爭層次和作戰進行階段的影響。本文雖然主要討論戰爭的作戰層次，但是防護功能在每一個層次都很重要。在進行時間的分析時，有必要暫時跳到戰略和戰術層次的防護。

Strategic Protection. The need for strategic protection is continuous. Milan Vego posits that state's ability to exercise[38] "control over the minds and actions of other" people or states.[39] Sources of power, then, are intrinsically valuable entities whose protection is in the national interest. Their vulnerability is elevated or demoted by current global tensions, military campaigns, or enemy capabilities. Even if negligible in a particular campaign, sources of power are always at risk from potential enemies. Protection from strategic surprise is generally the result of long-term planning and is implemented at the national level. In a broader sense, strategic protection is a necessary component of strategic deterrence.

戰略防護。戰略防護的需求是持續性的。米蘭·威格認為戰略防護是戰力的來源。[38]國家力量要考慮到「控制其他人或其他國家的思想和行為」。[39]戰力的來源，從本質上來說，就是有價值的實體，其防護成敗關係到國家利益。這些有價值實體的脆弱程度，隨著全球局勢、軍事行動，和敵人的能力等因素會有所提升或降低。即使不特別專注在某次戰役，戰力來源也總是籠罩在潛在敵人的威脅之下。要做好戰略層次的防護，有賴長期規劃和國家階層的執行。廣義來說，戰略防護是戰略威懾的必須要素。

For example, the loss or sustained disruption of major urban centers, critical economic institutions or infrastructure, governance institutions, strategic military capabilities, or vital communications infrastructure would seriously affect the national psyche or quality of life and, conceivably, national survival. Sources of power would generally be outside the OE, except for

38 Adopted from Vego, VIII-95.

39 Hans Morgenthau, Politics Among Nations: The Struggle for Power and Peace, 4th ed. (Caledonia: McGraw-Hill, 1967), 26.

homeland or U.S. Northern Command (USNORTHCOM) area of responsibility operations,[40] and the joint force would not be responsible for their protection. For example, USNORTHCOM orchestrates ballistic missile defense of the homeland. With current technology and likely threats, protection simultaneity and timing coordination is muted for strategic protection.

舉例來說，如果主要城鎮中心、關鍵經濟機構或設施、政府機關、戰略軍事單位，或重要通信設施被掠奪或遭到破壞，可能嚴重影響到民心士氣或生活品質，甚至威脅到國家生存。戰力來源通常位在作戰環境之外，除非在美國北方指揮部的作戰責任區內，[40]不然聯合部隊並不負責防護。但如果由美國北方指揮部負責協調彈道飛彈防禦，以現今科技和可能威脅來看，同步且適時的協調對戰略防護來說，並不是什麼難事。

Tactical Protection. Tactical protection is local and largely of a self-help nature. According to Vego, it is unit and platform focused.[41] Tactical protection is an inherent command responsibility for all organizations. Even though acceptable risk may vary considerably, tactical protection should occur regardless of location in space. Tactical protection is not bounded by time, and its planning horizons are near term. Risk is higher during times of conflict but is never nonexistent. For example, attacks in the information environment and cyber domain are daily occurrences, although some international actors may be holding their most damaging capabilities in abeyance. Tactical protection is intrinsic, but units do not have equal capability to provide it across domains. Some protection capabilities must be aggregated at higher levels. For example, most units would be incapable of providing their own air or space defense.

戰術防護。戰術防護牽涉到的區域沒那麼大，大多要靠本身來完成。根據威格的書上所說，主要聚焦於單位或平台。[41]對所有單位而言，戰術防護都是其指揮部層級應該負起的責任。不論其他風險如何變化，單位所在位置的空間都必須執行戰術防護。戰術防護並沒有時間上的限制，視野較屬近程。風險在衝突階段會比較高，但無論任何時候都存在風險。舉例來說，雖然潛在的國際駭客可能會暫時關閉他們的網站，但是對資訊

40 Doctrine defines homeland as the United States, its territories, and the surrounding waters and airspace (JP 3-16, I-2). This includes Guam. For this article, references to the homeland exclude Guam but include Puerto Rico and the Virgin Islands. Hawaii is part of the homeland but is in the U.S. Pacific Command area of operation (except for missile defense).

環境和網路空間來說，攻擊天天都在發生。戰術防護是本身職責，但多數單位沒有足夠能力防護到每一個角落；某些防護能力會集中到較高層單位，例如，大部分小部隊對本身空域，就不具備防空能力。

Operational Protection. For operational protection, simultaneity and timing are essential aspects of time. Dale C. Eikmeier points out the offensive features of simultaneity: "multiple actions at the same time and appropriately synchronized pressure on multiple points . . . of an enemy's systems and/or CoG [center of gravity]."[42] Protection's simultaneity is the flip side of the coin; it is the prioritization and synchronization of capabilities to defend friendly critical vulnerabilities and decisive points across vulnerable domains and the information environment. In other words, skilled enemies are likely to plan multi-domain attacks against the joint force.

作戰防護。對作戰防護來說，在時間方面必須做到同時與適時。艾克米爾上校指出同時發動攻擊的特性：「在同一時間採取數個行動，並採取合適作為，同步對敵人數個點系統或其重心施壓」。[42]防護的同步性就像硬幣的兩面，在易受攻擊的區域和資訊環境中，防衛友軍的關鍵設施與決定性要點，得靠優先順序的排定與能力的同步性。換句話說，訓練有素的敵軍，很可能會規劃在多重領域攻擊聯合部隊。

Eikmeier also notes, "Timing refers to when to apply specific capabilities."[43] Protection priorities and requirements are dynamic. As campaigns unfold and the global environment impinges on the operational environment, planners must anticipate and react to change. Enemy capabilities will strengthen or weaken, and the enemy will adapt. The main effort and relative importance of friendly forces will likewise change. Variations will not affect all domains equally. Effective protection requires constant attention and adjustment over time.

艾克米爾上校進一步指出：「所謂掌握戰機，意指在何時使出殺手鐧」。[43]防護的優先順序與要求是會變動的，當戰事揭開序幕，規劃者對全球環境引起的戰局變化必須

41 Vego, VIII-96-97.

42 Dale C. Eikmeier, "From Operational Art to Operational Plans: A Joint Planning Primer," Fort Leavenworth, KS, 2012, 44; JP 3-0.

43 Eikmeier, 45.

加以預測並妥為因應。敵人的戰力會變強或減弱，他們也在肆應變化。我軍主力和友軍部隊的相關配合，一樣也需要有所變化作為因應；這些變化對各領域的影響不會相同。有效的防護需要持續的關注與調整。

Phasing is an operational tool used to synchronize and sequence timing during campaigns.[44] Vego observes that there is no operational level of war without active operations[45] and that JTFs are only temporary organizations, not permanent. This aligns Phase 0, shaping activities, with combatant commands at the strategic level of war. Even so, operational protection in some form begins in Phase 0. Generally, the onset of military operations is not a total surprise. Tensions build openly in the information environment, leading to anticipatory behavior by both friendly and enemy forces. The operational impact of a moderately successful Phase 0 attack escalates for specialized high-demand, low-density assets and as the size of extant military forces, particularly potential joint force headquarters, shrinks.

區分各階段是作戰期間，用於同步及時間排序的重要方法。[44]威格觀察到，所有作戰層次的戰爭，都需要主動作為[45]，聯合特遣部隊(JTFs)只是暫時性的組織。這時屬於第0階段，指揮官在戰略層次要做的就是將行動具體化。即使如此，部分作戰防護工作從這階段就已經開始。通常，軍事作戰也是從這個階段展開。緊張氣氛首先在資訊環境中上演，接下來是友軍和敵軍部隊可預期的行為。在第0階段發起攻勢，靠著作戰衝擊獲得初步成功之後，目標設定會逐步升級到針對專業性高的稀有設施；同時對現有軍事部隊的關注，尤其像是聯合部隊指揮部這類的目標，就逐漸降低。

Protection timing can be roughly illustrated using the protection doctrine's dominant narrative, in which the joint force deploys to a host nation that is threatened by or suffering depredations from a common enemy:

- In Phase 0, potential commanders are focused on protecting forces from terrorist actions and cyber threats. Commanders are not routinely charged with protection of non-force elements. While a preemptive attack by a conventional force cannot be ruled out, commanders

44 JP 3-0, III-36.

45 Vego, VIII-95.

and protection planners must remain alert to the possibility.

• In Phase 1, the joint force performs a wider array of protection tasks than in Phase 0. Air base and sea port protection may be prioritized, as well as the protection of headquarters and troop concentrations, both in the OE and at home stations.

• In Phases 2 and 3, most or all protection tasks are performed. Personnel recovery and fratricide prevention are examples of expansion from Phase 1 tasks. Risk to the joint force is less justifiable compared to risk to some or many valuable non-force elements. Attacks are likely in all domains and through the information environment.

• In Phase 4, non-force elements may assume a higher protection priority even at the cost of increased risk to joint forces operating in the land domain. If counterinsurgency operations are performed and if protecting the population matters,[46] additional risk must be assumed as forces engage with civilians or train indigenous security forces. There will be less threat to the air, maritime, and space domains.

• In Phase 5, capabilities and vulnerabilities will decrease in most domains. The range of relevant tasks will narrow as forces redeploy. As in Phase 0, terrorist attacks may be a top concern.

防護時機在準則上面對於如何加以運用的闡述頗為粗略，主要是指導聯合部隊如何協助當地國避免敵人的威脅或破壞。

• 在第0階段，指揮官把重點擺在避開恐怖行動和網路威脅。指揮官並不會完全承擔非部隊單位的防護任務。但是如果敵方傳統部隊的先制攻擊無法避免，指揮官和防護規劃人員就必須對可能後果先行示警。

• 第1階段，聯合部隊會執行比第0階段規模更大的防護任務。不管是在作戰環境或實際部署地區，空軍基地、海港、指揮部和部隊集中地區的防衛，會納入優先順序。

• 在第2和第3階段，大部分甚至是所有防護任務都會執行。人員恢復和誤殺預防都會納入，這是在第1階段沒有的。這階段許多易遭攻擊的非部隊單位，所承受風險比聯合部隊還要高。敵人的攻擊可能針對所有領域和角落，甚至包括資訊環境。

• 在第4階段，隨著聯合部隊執行各項地面行動而風險增加，非部隊單位可獲更高

46 Field Manual 3-24/Marine Corps Warfighting Publication 3-33.5, Insurgencies and Countering Insurgencies (Washington, DC: Headquarters Department of the Army, May 13, 2014).

的防護優先權。如果因為執行反叛亂行動而需要保護民眾[46]，部隊會因為平民的介入與訓練當地維安部隊，承受各種不同風險。在這階段空中、海面和地面部隊所面對的威脅反而比較小。

・第5階段中，多數區域的部署戰力和脆弱性都會降低。隨著部隊重新配置，相關防護任務的範圍也會縮小。如同第0階段一樣，恐怖攻擊會變成最需要關注的威脅。

Protection is a vital function that transcends space and time. Modern technology is increasing the reach of threats, allowing them to cross more domains in much less time. The defense community needs to think deeply about the concept of protection. A purpose, space, force, and time framework is a useful supplement to the function and mission contexts of protection doctrine. Operational protection requires comprehensive planning across operational areas, domains, and phases. It does not occur in isolation. Coordination with appropriate headquarters beyond the OE and tactical forces within the OE is necessary. JFQ

防護是一種超越空間、時間的重要功能。現代科技使得戰場上的威脅範圍越來越大，所需時間卻越來越短。防衛一方必須深思防護的概念。目標、空間、武力和時間架構，都是防護功能的重要因素，和防護準則的任務內容。作戰防護需要跨越作戰地區、領域和各不同階段的全面規劃，因為防護執行不能不考慮其他因素。與作戰環境外的其他指揮部，以及作戰環境內的戰術部隊取得適切協調，是完成作戰防護的必要條件。

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