

Whitehall Report 2-22

The Utility of Land Power to the British State

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Royal United Services Institute
for Defence and Security Studies

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Executive Summary

FOLLOWING THE UK'S 2021 Integrated Review, a combination of changed strategic circumstances and anticipated technological transformation is driving a restructuring of the British Army. Although this will be informed by experimentation, it is vital that the emerging force provides policymakers with the tools that the UK's interests demand from the British Army. This Whitehall Report provides a framework for how the Army must structure itself to meet the demands of policy. It also provides the Army with a list of tests to measure the policy relevance of its capabilities and structures.

The report concludes that the UK military must perform three broad tasks: deterrence by denial of Russian aggression against NATO; deterrence by punishment to protect UK interests; and the projection of influence to build and strengthen strategic partnerships to secure the UK's prosperity. Operationally, these tasks correspond to three broad areas. First, there is the area of the Joint Expeditionary Force straddling NATO's eastern flank and the High North where deterring Russia is the primary concern. Second, there is an area of expeditionary operations to assist partners and deter threats to UK interests covering the Balkans and running through the Gulf to the East African Community. Here, threats against UK interests emanating from state competitors could require significant military responses, while partners in this area may seek substantial support in ensuring their security if they are to strengthen their relations with the UK. UK bases in Kenya, Oman and Cyprus provide key hubs for maintaining capability in theatre, though partnerships extend further. The third area might be described as those states where the UK has a strategic interest in strengthening its relationships – India, Malaysia, South Korea, Japan and Australia – but where defence engagement will be principally limited to technological and industrial cooperation, and exercising against common threat systems like layered standoff, rather than operational cooperation.

To be able to meet these disparate tasks, any proposed force structure or capability can be judged against a series of key tests. The key questions are:

- Is the force informed about its operating environment?
- Is the force able to project its combat and support arms in an expeditionary capacity?
- Is the force able to deploy into theatre within a policy relevant timeframe?
- Does the force overmatch adversary formations of the equivalent echelon in terms of its firepower?
- Is the force compatible with the partners and allies alongside whom it will need to fight?

The present force fails most of these tests. Where it passes, it does so with insufficient mass. The Army's Future Soldier programme – outlining the force's restructuring following the Integrated Review – promises to bring the force closer to what is required, so long as longer-term investments are delivered by the Land Industrial Strategy. However, a range of

cultural changes are also necessary to succeed. Furthermore, the force must make several bets as to where it invests in establishing critical mass within particular capabilities to ensure its relevance in upholding NATO's deterrence posture.

Introduction

THE UK'S INTEGRATED Review of Security, Defence, Development and Foreign Policy stated that 'the international order is more fragmented, characterised by intensifying competition between states over interests, norms and values. A defence of the status quo is no longer sufficient for the decade ahead'.¹ This implicitly requires a fundamental shift in the posture of UK defence, from being prepared to mobilise to re-establish the status quo ante in the event of war, to actively competing to prevent the erosion of the status quo before conflict. Concurrent with this change in posture, the British Army is anticipating the maturation of a range of technologies that will transform how it fights.² Although it has published an outline of its structure over the next decade in *Future Soldier*,³ debates over how the British Army's capabilities are to be organised, deployed, sustained and fought are likely to be ongoing as the force refines its concepts and converts them into capability and doctrine. It is vital that emerging capabilities can meet the new demands articulated in the Integrated Review.

The purpose of this Whitehall Report is to identify what UK interests demand from the British Army, based on the assumptions in the Integrated Review. Given ongoing experimentation with new capabilities, this report does not seek to prescribe exact capabilities or structures. There are multiple ways in which the tasks identified could be pursued. Instead, it provides the Army with a list of tests against which the policy relevance of capabilities and structures can be measured. In building this baseline, the report asks three questions around which its chapters are structured. These are:

- What do UK interests require the Armed Forces to offer policymakers?
- What are the unique or indispensable contributions of land forces to ensuring that the demands identified can be serviced?
- What characteristics must a land force have in its culture, capabilities and structure to make the necessary contribution available as a tool of policy?

In answering these questions, the report draws on strategic documents produced by the UK government and compares these with trend data relating to the future operating environment. A literature review, which considered both the history of UK strategy and the trajectory of allied and adversary strategies, was also conducted. This was combined with considerations of the characteristics of current and future joint operations.

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1. HM Government, *Global Britain in a Competitive Age: The Integrated Review of Security, Defence, Development and Foreign Policy*, CP 403 (London: The Stationery Office, 2021), p. 11.
 2. General Sir Mark Carleton-Smith, Speech at RUSI Land Warfare Conference, London, 2 June 2021, 10:00–30:00, <<https://www.youtube.com/watch?v=JhcGUoNo6Hk>>, accessed 27 December 2021.
 3. British Army, 'Future Soldier Guide', <https://www.army.mod.uk/media/14919/adr010310-futuresoldierguide_25nov.pdf>, accessed 27 December 2021.

Many related topics are omitted from this report, and it is important to briefly explain why. This report is less about UK foreign policy strategy than about translating the strategy into military tasks. As such, while there are a range of UK interests drawn on as examples to outline necessary types of military activity, there is not an exhaustive itemisation of these interests. This is partly because writing an itemised list of points of vulnerability to coercion, for example, would not be entirely helpful. More importantly, acknowledging a need to be able to deploy to multiple theatres simply requires that it is demonstrated that deploying to more than one theatre is necessary. Proving the requirement does not require a breakdown of all possible places a deployment might be required. Readers may also feel that the report only implicitly points to capability trade-offs. For example, a requirement to be expeditionary may seem prejudicial to heavy armour. However, if that heavy armour is forward deployed, this may not be the case. The important thing is the effect and availability of the tool, not how it got there. The report therefore does not presuppose the capability solution, but simply articulates the characteristics that must be met.

Finally, there is no discussion of budget. This is partly because some of the characteristics discussed demand changes to culture or career management that, while difficult, are not principally determined by funding. However, the foremost reason for putting aside questions of resource is that building an Army capable of offering the required policy options will take longer than the current funding cycle. This report is aimed at starting, rather than ending, a discussion between silos as to what the Army needs to deliver and how it goes about it. The conclusions reached should inform what is funded in the next cycle. This report does not seek to pre-empt that discussion, except to provide a basis for exploring resourcing in terms of policy-relevant units of action rather than in terms of isolated capabilities.

I. The Relevance of Military Force to the UK

THE SIZE, COMPOSITION, equipment and training of a state's military should reflect the tasks that a state's interests require it to perform. Russia, with a vast, porous land border, has long needed sufficient mass to concentrate forces across multiple fronts. France has simultaneously fielded large forces for the protection of the metropole, while maintaining a mixture of elite expeditionary and garrison forces across its geographically dispersed territories. The UK, lacking a land border with a hostile power, has historically maintained small, professional and expeditionary land forces, which expand during major conflict. The Cold War, and the requirement to defend Western Europe, saw the UK field large, permanent land formations,⁴ but the British Army of the Rhine can be understood as a deviation from the UK's traditional military posture.

To establish what the future characteristics of a UK land force should be, it is necessary to outline what the UK's interests will demand of it. This chapter therefore seeks to outline these interests as they relate to the application of military power. Since most military problems demand joint solutions, this chapter is not specifically concerned with identifying the relevance of land forces to the demands identified. These interests are grouped into three broad categories: deterrence; the protection of interests; and the projection of influence.

Deterring Threats

The outbreak of a great power war would be disastrous for the UK. Beyond the existential threat of a nuclear exchange, such a conflict would likely involve NATO (and therefore the UK), could readily see strikes against the UK homeland and disrupt trade, undermining the prosperity of the country. Preventing the outbreak of a major state-on-state war is a critical UK interest. The military contribution to preventing this threat is the maintenance of nuclear and conventional deterrence.⁵ Since the UK is not militarily competitive with hostile great powers, deterrence is

4. Louis Vieux-Bill, 'BAOR Order of Battle: July 1989', <<https://www.orbat85.nl/documents/BAOR-July-1989.pdf>>, accessed 19 October 2021.

5. Thomas C Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966); Herman Kahn, 'The Nature and Feasibility of War and Deterrence', RAND Corporation, 1960.

maintained through alliances – most importantly NATO.⁶ To that end, the UK's critical national interests include the deterrence of military hostility towards all NATO members.⁷

The effective application of deterrence must be premised on an accurate assessment of what is being deterred. Deterrence is a cognitive effect on adversary leaders. Militaries deliver this effect by being perceived by adversary leaders as being able and willing to deny a policy from being successfully pursued or deliver unacceptable punishment for its attainment.⁸ Since 2014, much of the discussion on 'warfighting' has suffered from being unrealistic, grounded on scenarios involving a sudden seizure of large parts of NATO territory, or the outbreak of a total war.⁹

There is a widespread presumption that if war breaks out, it will be akin to the First or Second World War – an existential conflict fought with all the means at a state's disposal.¹⁰ There are some problems with this framing. The most significant is that states have never, as a matter of policy, set out with the intention of total war. To illustrate, Germany's attempt to achieve a rapid and decisive victory against the French military in 1914 to enable the defence of the East was a dangerous bet that speed would allow an attritional total war to be avoided, bringing about a settlement of limited differences with Russia.¹¹ Even after this gambit led to a general European conflagration, Germany tried to avoid drawing the US into the conflict until it felt that its supply of Britain rendered escalation necessary.¹² The Second World War began as a series of disconnected conflicts between Russia and Japan, between Japan and Britain, and between Germany and its European opponents.¹³ These conflicts expanded and converged over time. Even Germany's initiation of conflict with Poland was rooted in Hitler's gamble that it would not lead to general war.¹⁴ Both the First and Second World Wars were embarked on by states in the hope of a limited conflict. The conclusion is that deterrence calculations are more directly

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6. NATO, 'Remarks by NATO Secretary General Jens Stoltenberg at the Trident Juncture 2018 Distinguished Visitor's Day', 30 October 2018, <https://www.nato.int/cps/en/natohq/opinions_159852.htm>, accessed 8 April 2020.
 7. This is clearly articulated in the Integrated Review. See HM Government, *Global Britain in a Competitive Age*, p. 71.
 8. Jack Watling, 'By Parity and Presence: Deterring Russia with Conventional Land Forces', *RUSI Occasional Papers* (July 2020), pp. 7–14.
 9. Ulrich Kühn, 'Preventing Escalation in the Baltics: A NATO Playbook', Carnegie Endowment for International Peace, March 2018.
 10. David A Shlapak and Michael W Johnson, *Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics* (Santa Monica, CA: RAND Corporation, 2016).
 11. Klaus Hildebrand, 'The Sword and the Scepter: The Powers and the European System Before 1914', in Hans Ehlert, Michael Epkenhans and Gerhard P Gross (eds), *The Schlieffen Plan: International Perspectives on the German Strategy for World War I*, translated by David T Zabecki (Lexington, KY: University Press of Kentucky, 2014).
 12. Barbara Tuchman, *The Zimmermann Telegram* (New York, NY: Penguin, 2016).
 13. Antony Beevor, *The Second World War* (London: Weidenfeld & Nicolson, 2012), pp. 1–11.
 14. Daryl G Press, *Calculating Credibility: How Leaders Assess Military Threats* (Ithaca, NY: Cornell University Press, 2007), p. 144.

impacted by the perception of whether a limited military action will succeed or fail, rather than an assessment of the overall balance of aggregate forces between states or coalitions. This is not to say that aggregate strength is irrelevant, only that it is of secondary importance in deterring hostilities.

The trend towards limited conflict, which is the context for deterrence calculations and the setting within which a state might employ force, is reinforced by nuclear weapons. Just as the First and Second World Wars escalated to total war, it is plausible that a limited great power war could escalate to nuclear conflict. In the Korean War and during the Sino-Soviet Split, nuclear use was seriously considered by the US and the Soviet Union, respectively.¹⁵ In any limited conflict, the likely use of air, anti-air and precision strike originating outside of the contested area and the disproportionate difficulties this creates for ground forces within the contested zone will generate strong incentives to widen the conflict. But there are also strong incentives to keep a conflict limited, and there is historic precedence for demonstrating that this is possible, even between great powers. The Korean War is an excellent example. Even though it was a high-intensity war involving personnel from multiple great powers, the temptation to expand the theatre of operations was resisted.¹⁶ Conflicts between India and Pakistan,¹⁷ and India and China,¹⁸ have demonstrated that armed campaigns that see changes in territorial control can occur between nuclear-armed powers without crossing nuclear thresholds. It remains the stated position of Russia and the US that a nuclear war ‘cannot be won and must never be fought’.¹⁹ Nevertheless, faith in nuclear weapons capping the escalation ladder has led some to argue that great power war is a thing of the past. Much of the UK’s defence discourse is premised on the view that fear of nuclear escalation will see competition remain below the threshold of armed conflict. At its most extreme, it is suggested that economic sanctions and other non-military means can sufficiently deter states from resorting to force. This is ahistorical and naïve.²⁰ In fact, as with Japan’s decision to go to war with the US in 1941, economic coercion can compel a state to use force rather than deter it from doing so.²¹ There is a considerable distance between a nuclear war and high-intensity limited conflict.

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15. Paul Thomas Chamberlin, *The Cold War’s Killing Fields: Rethinking the Long Peace* (New York, NY: Harper Collins, 2018), pp. 131–57, 230–53.
 16. Max Hastings, *The Korean War* (New York, NY: Simon & Schuster, 1987).
 17. Shaukat Qadir, ‘An Analysis of the Kargil Conflict 1999’, *RUSI Journal* (Vol. 147, No. 2, 2002), pp. 24–30.
 18. *The Economist*, ‘A Border Dispute Between India and China Is Getting More Serious’, 28 May 2020.
 19. White House, ‘U.S.-Russia Presidential Joint Statement on Strategic Stability’, 16 June 2021, <<https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/16/u-s-russia-presidential-joint-statement-on-strategic-stability/>>, accessed 27 December 2021.
 20. Robert A Pape, ‘Why Economic Sanctions Do Not Work’, *International Security* (Vol. 22, No. 2, 1997), pp. 90–136; Iikka Korhonen, ‘Economic Sanctions on Russia and Their Effects’, *CESifo Forum* (Vol. 20, No. 4, December 2019), pp. 19–22.
 21. Sadao Asada, *From Mahan to Pearl Harbor: The Imperial Japanese Navy and the United States*, reprint edition (Annapolis, MD: Naval Institute Press, 2013), pp. 261–86.

Today, the international security environment is characterised by a situation in which great power conflict presents potentially catastrophic – but far from unthinkable – risk. Moreover, if such a calamity should occur, it is likely to break out not as a general conflict but as limited military escalations. Since deterrence must therefore be considered in the context of these specific limited flashpoints, it is worth surveying where such conflicts could emerge that would impinge on UK interests, and where the UK's armed forces are obliged to contribute to deterrence. What is notable about such a survey is that unlike in the Cold War, where the flashpoints in a great power war were specific and narrow, they are now geographically and climactically dispersed. This changes a key enabler of deterrence from concentration at the point of decision to the readiness and mobility of forces.

The foremost deterrence challenge for the UK's armed forces emanates from Russia. As it is imperative to the UK's interests that Russia is not allowed to bilaterally coerce NATO members, there is a need to uphold the common defence arrangements of the NATO Treaty. One area of tension between Russia and NATO members that is likely to be exacerbated in the coming 20 years is control over Arctic territories.²² Large areas in the High North are disputed between the Arctic powers, including NATO members and Russia, which sees control of the region to be in its strategic interests.²³ It is difficult to concentrate forces in the region unless they are specialised for the role, minimising much of NATO's deterrent advantages.²⁴ Moreover, precisely because a territorial claim in the High North would be about the territory in question, it would be geographically limited in scope. This, therefore, constitutes a plausible scenario.

A more immediate area of friction lies in Belarus. One may, to be exceedingly crude, argue that Belarus can be divided into three political groupings (which each contain a range of motivations): those seeking democratisation with a minority wishing for alignment with the EU; those who wish to uphold Belarusian independence as a bridge between East and West and are fearful of regime change; and those seeking integration with the Russian Federation, ranging from economic to political union.²⁵ One can envisage a scenario in which pro-European or pro-Russian elements oust President Alexander Lukashenko, the foremost barrier to either of their preferred outcomes, or a similar scenario destabilising the Belarusian state. In either case, Belarus is

22. Jonathan Jordan, 'Russia's Coercive Diplomacy in the Arctic', Arctic Institute, 6 July 2021, <<https://www.thearcticinstitute.org/russia-coercive-diplomacy-arctic/>>, accessed 22 October 2021.

23. Kremlin.ru, 'Указ Президента Российской Федерации от 26.10.2020 № 645: "О Стратегии развития Арктической зоны Российской Федерации и обеспечения национальной безопасности на период до 2035 года"' ['Decree of the President of the Russian Federation of October 26, 2020, No. 645: "On the Strategy for the Development of the Arctic Zone of the Russian Federation and Ensuring National Security for the Period until 2035"'], 26 October 2020.

24. Indeed, the mutual vulnerability of forces in the High North and significant Russian military presence there make the balance of forces more favourable to Russian assertiveness. See Sidharth Kaushal et al., *The Balance of Power Between Russia and NATO in the Arctic and High North*, Whitehall Paper 100 (London: RUSI, forthcoming).

25. Rylor Astapenia, 'What Belarusians Think About Their Country's Crisis', Chatham House, 21 October 2020.

considered vital ground for Russia and the Kremlin would likely intervene to occupy and annex the territory. As in Crimea, it already has significant numbers of troops based in the country. However, such moves are rarely straightforward. This would likely result in a displacement of people westward, and a strong desire by the Baltic states, including Poland, to both support democratic elements inside Belarus and stop Russia advancing its territory to their borders. One can imagine that this could rapidly create sporadic instances of violence by covert forces or criminal elements, as well as calls by the NATO states in the region to be reinforced to deter further Russian movement westwards. Russia may also use violence to coerce the Baltic states over their support to Belarusian activists.²⁶

It is scenarios like this that have formed the basis for Russia's *Zapad* exercises, in which the assumption is that Poland and Lithuania move into a part of Belarusian territory.²⁷ This scenario is unlikely, but one can see how a humanitarian crisis along this border could draw forces into contact. Such a conflict could escalate. Deterrence would be critical to preventing this, and the window within which a deterrence posture could be reinforced would be short. There would be plenty of scope for what has come to be called 'sub-threshold activity', since NATO forces would be working to reassure and secure member states' territory. However, the source of instability would arise from those states' desire to stabilise a non-NATO member in which Russian forces had intervened. In such circumstances, one can readily picture NATO members having mixed views about how to approach and de-escalate the situation. The problem with such a scenario is that it is precisely this kind of division in the alliance that would risk Russia challenging Article 5.

The threat posed by Russia is often framed in terms of the risk that it will invade and occupy the Baltic states.²⁸ This scenario is useful in theoretical discussions of the balance of conventional forces because it would be such an unequivocal act of war that it would allow military analysis to focus directly on military concerns without reference to the many permutations that arise once an issue is politically contested. The prevalence of this scenario in public discourse among military theorists, including this author, should not be taken to suggest that such an eventuality is in fact likely. The prospect that Russia would wish to occupy three hostile countries of limited economic value at the risk of a full-scale military confrontation with NATO is improbable. However, in a situation where the destabilisation of the Belarusian border had already created a belt of disorder within which proxy actors could operate, it is clear how a limited incursion – even of a few hundred metres – could trigger Article Five and yet be politically complicated

26. Note that the Baltic states may extend such support independently of NATO's plans, as currently demonstrated in Ukraine, where NATO's attempts to extricate itself of commitments to Kyiv are occurring simultaneously with the Baltic states expanding military support and cooperation with Ukraine. See Madis Hindre and Toomas Pott, 'Eesti plaanib anda Ukrainale rakette ja suurtükke' ['Estonia Plans to Provide Missiles and Cannons to Ukraine'], *ERR*, 30 December 2021, <<https://www.err.ee/1608451673/eesti-plaanib-anda-ukrainale-rakette-ja-suurtukke#>>, accessed 21 January 2022.

27. Kalev Stoicescu, 'Decoding *Zapad*-2017', International Centre for Defence and Security, September 2017, p. 3.

28. Shlapak and Johnson, *Reinforcing Deterrence on NATO's Eastern Flank*.

enough to prevent a clear consensus to act militarily. Such an occupation may occur under the pretext that the destabilisation of Belarus had been caused by the Baltic states, and the security of the border could be described as necessary to prevent infiltration by provocateurs. Units occupying a few hundred metres to 'stabilise the border' – who could call for fires to defend themselves – would still require a force trying to retake the ground to deal with the layers of Russian artillery and air defences on the other side of the border. The response would therefore have to extend beyond the area being contested and involve strikes onto Belarusian territory. Faced with a highly escalatory hot conflict over a small amount of ground, or the prospect of a slower negotiated withdrawal, such a scenario could threaten alliance cohesion unless a critical mass of members were immediately prepared to act. This highlights a key requirement for deterrence: the timeframe within which the willing – and, given its interests, this should include the UK – can act to shift the adversary's calculus.

The reason for Russia wishing to bring Article 5 into question is that it would enable it to engage bilaterally throughout its near abroad, and severely constrain states that Russia sees as belligerent because they are protected from the consequences by a broader alliance. In most circumstances, where the alliance is resourced, has capabilities in theatre and appears politically stable, the risk would not be worth the potential reward. However, the risk of a 'bite-and-hold' strategy expands significantly if NATO forces were already tied down elsewhere. The most likely context in which this could occur is concurrent with a major escalation over Taiwan, or a comparable operation in the South China Sea. A limited war in the Pacific between the US and China is a real possibility.²⁹ However, the key UK interest threatened in such a contingency is that Russia would take advantage of the unavailability of US assets to test Europe's resolve. The foremost task for UK forces in this context would be to reinforce European deterrence, which is delivered by the forward deployment of close combat forces and the demonstrated availability of capabilities able to fight the standoff battle.

Another limited conflict that could draw in the UK is a breakdown in Balkan security. The region is not fully stabilised following the violence of the 1990s, leaving it vulnerable to a sudden humanitarian or political crisis.³⁰ Russia, meanwhile, retains strong links throughout the region and is likely to seek to strengthen or otherwise assert its influence over these states.³¹ This could see Russian forces react to a sudden deterioration, or even to a provoked crisis as attempted in Montenegro.³² Such scenarios could see NATO forces, including UK troops, in the path of Russian forces pursuing limited objectives. Deterioration could, for example, lead to the deployment of Russian 'peacekeepers'. This might include a regular and special forces element. The former

29. Sidharth Kaushal and Magdalena Markiewicz, 'Crossing the River by Feeling the Stones: The Trajectory of China's Maritime Transformation', *RUSI Occasional Papers* (October 2019).

30. Tim Marshall, *Shadowplay: Behind the Lines and Under Fire: The Inside Story of Europe's Last War* (London: Elliott & Thompson Limited, 2019).

31. *Interfax*, 'Joint Russian-Serbian Air Defense Exercise Slavic Shield 2021 Starts in Serbia', 14 October 2021, <<https://interfax.com/newsroom/top-stories/72892/>>, accessed 22 October 2021.

32. Andrew E Kramer and Joseph Orovic, 'Two Suspected Russian Agents Among 14 Convicted in Montenegro Coup Plot', *New York Times*, 9 May 2019.

would provide the artillery, electronic warfare and air defence layers to ensure that strikes against the latter required a high threshold of capability being employed overtly against Russian troops. At the same time, special forces, working with local partners, could seek to change the facts on the ground.³³ NATO and the EU would likely want such a situation to remain as geographically limited as possible, and there would be a strong human security case for trying to limit fighting from spreading throughout the region. Therefore, the period of hostilities might be quite short. Nevertheless, negotiations may freeze positions, making the facts established on the ground within that timeframe crucial. The question in such a scenario is not whether the aggregate of NATO forces could defeat Russian forces, but rather whether a sufficient force could be assembled in time to shape the reality before the conflict was frozen. Another critical question would be whether countries like the UK and France, and US forces in Europe, could support local NATO partners sufficiently that they were prepared to commit their troops in the confidence that the alliance was behind them. Again, for the UK, the relevance of its forces to such a scenario is their readiness, speed and the competitiveness of their tactical echelons.

While the scope of deterrence has expanded, it is worth emphasising that there are many conflicts where the UK does not have an obligation – or interest – in seeking to militarily shape escalation. Conflicts between India and Pakistan do not, for example, compel the UK to deploy military forces. Beyond niche capabilities, a conflict between China and the US, or an outbreak of fighting on the Korean peninsula, would primarily create a need to stabilise conventional deterrence in Europe, rather than a demand for UK forces to shift east. However, there is one likely conflict that has secondary implications for the UK and deserves specific scrutiny: Ukraine.

Further fighting in Ukraine is inevitable, and further Russian offensive operations are plausible. Russia is likely to increase its harassment of Ukraine whenever it wishes to apply pressure on Kyiv,³⁴ and has a strategic interest in demonstrating that it must accommodate Russian interests. Although Russia will want to achieve this aim without having to commit to offensive operations, it remains poised to do so and has the capacity to undertake such actions.³⁵ Shifting the line of control in the East would underscore to Kyiv that it could go further. While further Russian advances are plausible, the total annexation of Ukraine is far less likely. The fact that any Ukrainian territory is in dispute is sufficient to prevent its joining NATO, since current member states must fear that once admitted Ukraine might immediately trigger Article Five. More ambitious objectives relating to Ukrainian territory would be militarily costly, would see Russia take over a large, hostile population, and bring very little by way of critical resources or vital ground under the Kremlin's control. However, in the event of a limited Russian advance, while Western states

33. Russia's sudden expansion of activity in Libya is perhaps an informative demonstration of how such a situation can arise. See Ilya Barabanov and Nader Ibrahim, 'Wagner: Scale of Russian Mercenary Mission in Libya Exposed', *BBC News*, 11 August 2021.

34. Michael Kofman, 'Russia's Military Buildup Near Ukraine Is an Intimidation Tactic', *Moscow Times*, 3 April 2021; Michael Kofman, 'The Crimean Crisis and Russia's Military Posture in the Black Sea', *War on the Rocks*, 19 August 2016.

35. Kevin Liptak, 'US Intelligence Estimates Russian Troop Levels on Ukraine Border Could Reach 175,000', *CNN*, 4 December 2021.

provide weaponry to Ukraine, it is improbable that NATO would deploy in an expeditionary manner to fight alongside it.³⁶ Without a high proportion of NATO members behind operations in support of Ukraine, the UK cannot undertake such activity unilaterally. However, the provision of equipment – and the training in how to employ it – can increase the expected cost for Russian forces and therefore practically shift deterrence calculations. The risk to NATO would be that, upon discovering some of the more bellicose statements by NATO members on Ukraine to be hollow, this made the Kremlin feel emboldened as regards the alliance’s will to act elsewhere. The critical military deterrence task in the event of a further escalation in Ukraine is, therefore, to enable the Ukrainians to deter further aggression through the punishment they can inflict on Russian forces, and to demonstrate through presence a readiness and willingness to fight should Russian operations go beyond Ukraine. NATO’s own deterrence of Russian activity in Ukraine must be indirect through punishment – such as expanding its cooperation with Finland – since the alliance is unwilling to establish deterrence by denial.

The Protection of Interests

If nuclear and conventional deterrence manage to prevent great power war, this does not mean that there will be no military threats to UK interests. States that are deterred from war will still seek to coerce their adversaries through the application of force, whether directly or through proxies. This activity may be an inefficient and reversionary strategy, but that does not mean that it cannot be used to advance adversary interests at the expense of the UK.³⁷ The UK has recently been subjected to a range of such actions by hostile states. A good example of this threat was in 2019 when Iran began targeting UK-flagged vessels in the Strait of Hormuz.³⁸ Because the strikes triggered global fears that to be flagged as a UK vessel increased the risk to ships, there was a danger of shipping companies deflagging from the UK, which would have done significant economic damage.³⁹

This kind of threat can manifest in more subtle ways. The targeting of UK nationals or economic infrastructure associated with UK companies could make commercial entities question whether it is advisable to have UK involvement in projects, thus adversely affecting the UK’s service sector. The inability to respond to such coercion often has effects far beyond the local area as it encourages others to seek to constrain UK interests as concerns over retaliation evaporate. Such coercive actions may be highly discrete, concerning a narrowly defined portfolio of disagreement. Others can be more dramatic. For example, Iran’s strike on Saudi oil infrastructure at Abqaiq on 14 September 2019 imposed both economic damage and gained Iran

36. Bruno Waterfield and Larisa Brown, ‘Britain Unlikely to Send Troops to Help Ukraine, Says Ben Wallace’, *The Times*, 18 December 2021.

37. Sidharth Kaushal, ‘The Grey Zone is Defined by the Defender’, in Justin Bronk and Jack Watling (eds), *Necessary Heresies: Challenging the Narratives Distorting Contemporary UK Defence*, Whitehall Paper 99 (London: RUSI, 2021), pp. 24–33.

38. *BBC News*, ‘Iran Seizes British Tanker in Strait of Hormuz’, 20 July 2019; Andrew MacAskill and Jonathan Saul, ‘Britain Begins Escorting All UK Vessels Through Hormuz Strait’, *Reuters*, 25 July 2019.

39. *BBC News*, ‘Iran Tanker Seizure: What’s So Important About a Ship’s Flag?’, 25 July 2019.

significant leverage through the fear of what more it could do.⁴⁰ Other attacks could have much longer-term consequences. The UK, for example, is highly dependent on LNG imports from Qatar.⁴¹ Interdiction of UK-bound LNG tankers off the coast of Yemen could enable Iran (through the Houthis) to cause a massive spike in energy prices in the UK. The persistence of such a threat could have a long-term, chilling impact on the UK economy. Israel experienced this kind of threat acutely during periods of significant terrorism by Palestinian groups.⁴² There are many such pinch points that could allow adversaries to place their finger on the windpipe of the UK economy. It is also important to note that serious threats to UK interests emanate from both state and non-state actors across the globe. The threat is complicated by the interplay between these actors, which allows responsibility to be obfuscated through a veneer of implausible deniability, thus limiting the politically acceptable extent of retaliation.

The challenge of deterring the targeting of UK interests places very different demands on the British military than deterring the onset of war. As described in the previous section, war is deterred primarily by convincing an adversary that they cannot achieve their objectives; denying the course of action by demonstrating the capacity to undermine their theory of victory. By contrast, while deterring threats to UK interests may be carried out by denial in very limited temporal and geographic contexts, for the most part this must be achieved through deterrence by punishment. Incurring a retaliatory cost for targeting UK interests matters because it may discourage coercion targeting the UK or limit its extent. Even if an adversary has factored in the cost of the exchange, the imposition of a cost limits the number of times this card will be played. Although retaliation may not be through the military instrument in all – or even a majority of – circumstances, the military requires the capacity to offer appropriate options.

Protecting UK interests may appear to be a task principally for air and naval forces. The former can conduct deterrence by punishment by striking perpetrators and the latter can practice deterrence by denial through the escort of shipping. However, in practice, both approaches are most effective when coordinated with the appropriate application of land power. Escorting, after all, is difficult to maintain at scale over a dispersed geography and is often only partially successful.⁴³ Effective deterrence often requires collaboration between naval and land forces

40. Frank A Verrastro, 'Attack on Saudi Oil Infrastructure: We May Have Dodged a Bullet, at Least for Now...', Center for Strategic and International Studies (CSIS), 18 September 2019.

41. *Bloomberg*, 'UK LNG Imports From Qatar Set to Swell on New Supply Deal', 14 October 2020.

42. The economic impact of terrorism is not always damaging in the aggregate (see Nadav Morag, 'The Economic and Social Effects of Terrorism: Israel, 2000-2004', *Middle East Review of International Affairs* (Vol. 10, No. 3, 2006), pp. 120–41), but this partly reflects damage in the targeted sectors being made up for in sectors funding the response, while the impact on the targeted sector can be severe and long lasting (see Todd Sandler and Walter Ender, 'Economic Consequences of Terrorism in Developed and Developing Countries: An Overview', 2008, <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.129.1037&rep=rep1&type=pdf>>, accessed 27 December 2021).

43. Julian S Corbett, *Some Principles of Maritime Strategy* (London: Longmans, Green and Co., 1911).

to hold the bases of operation from which the threat emanates at risk.⁴⁴ Especially if strikes emanate from a proxy, the capacity to raid on the land is often vital to dissuading the adversary. While air power and amphibious units supporting special forces may be able to conduct the raid, understanding who to target requires intelligence, and access to this often requires a security wrap in country that land forces are best placed to provide.⁴⁵

Incursions into a territory must necessarily be of concern to the target state, even if the strike is against non-state groups operating from their soil. The unilateral violation of borders in pursuit of non-state actors that the target state is 'unwilling or unable' to detain has become commonplace during the War on Terror.⁴⁶ 'Over the horizon' strikes, however, have a long history of hitting the wrong targets or striking collateral targets that cause significant blowback. This is in addition to the anger of the government whose sovereignty has been bypassed. Pakistan, for example, reacted unfavourably to the raid that killed Osama bin Laden.⁴⁷ Whether it be wedding parties in Yemen,⁴⁸ groups of tribal elders in Yemen and Pakistan,⁴⁹ the commercial projects of US allies in Iraq,⁵⁰ or an innocent humanitarian worker and his family in Kabul,⁵¹ the capacity for

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44. Defeating rather than merely suppressing pirates, for instance, has always been achieved through the destruction of their bases on land. For some examples over time, see Manuel Tröster, 'Roman Hegemony and Non-State Violence: A Fresh Look at Pompey's Campaign Against the Pirates', *Greece and Rome* (Vol. 56, No. 1, 2009), pp. 14–33; Colin Woodard, *The Republic of Pirates: Being the True and Surprising Story of the Caribbean Pirates and the Man Who Brought Them Down* (Oxford: Pan Books, 2007); Martin Murphy, 'Somali Piracy: Not Just a Naval Problem', Center for Strategic and Budgetary Assessments, 16 April 2009, <<https://csbaonline.org/uploads/documents/2009.04.17-Somali-Piracy-Not-Just-a-Naval-Problem.pdf>>, accessed 22 October 2021.
45. Without that presence on the ground, raids often hit the wrong targets and are apt to go awry. See Namir Shabibi and Nasser al Sane, 'Nine Young Children Killed: The Full Details of Botched US Raid in Yemen', Bureau of Investigative Journalism, 9 February 2017, <<https://www.thebureauinvestigates.com/stories/2017-02-09/nine-young-children-killed-the-full-details-of-botched-us-raid-in-yemen>>, accessed 22 October 2021.
46. Gareth D Williams, 'Piercing the Shield of Sovereignty: An Assessment of the Legal Status of the "Unwilling or Unable" Test', *University of New South Wales Law Journal* (Vol. 36, No. 2, 2013), pp. 619–41.
47. Steve Coll, *Directorate S: The C.I.A. and America's Secret Wars in Afghanistan and Pakistan* (New York, NY: Penguin, 2019), pp. 546–50.
48. Human Rights Watch (HRW), 'A Wedding That Became a Funeral: US Drone Attack on Marriage Procession in Yemen', 19 February 2014, <<https://www.hrw.org/report/2014/02/19/wedding-became-funeral/us-drone-attack-marriage-procession-yemen>>, accessed 22 October 2021.
49. HRW, 'Between a Drone and Al-Qaeda: The Civilian Cost of US Targeted Killings in Yemen', 22 October 2013, <<https://www.hrw.org/report/2013/10/22/between-drone-and-al-qaeda/civilian-cost-us-targeted-killings-yemen>>, accessed 22 October 2021.
50. Alissa J Rubin and Eric Schmitt, 'U.S. Airstrikes Kill Iraqi Soldiers and Police, Iraqi Officials Say', *New York Times*, 13 March 2020.
51. Eric Schmitt, 'A Botched Drone Strike in Kabul Started with the Wrong Car', *New York Times*, 21 September 2021.

standoff intelligence to reliably find and fix the right targets has a poor track record. Having a better picture of the ground often requires an embassy and the capacity for staff to ‘get beyond the wire’ of their diplomatic compounds. This can be enhanced through training missions and defence engagement by land forces. In the best of cases, such relationships can enable the partner state to conduct the raid in collaboration with external parties, as has occurred in Kenya.⁵² Such raids can still cause collateral damage or have faulty intelligence, but such errors tend to be smaller in scale, while the complicity of the host government limits the political blowback or the interest of the target state to amplify the incident. Where land forces have helped to project influence, it often becomes easier to protect interests.

A second, distinct challenge is to constrain the capacity for great power competitors to establish a presence with which they can promote the harassment of interests. The Wagner Group, operating as a deniable pathfinder for Russian entry into theatre,⁵³ is a good example of such a threat.⁵⁴ Here, land forces can play an invaluable role in denying or raising the cost of theatre entry. In a state where there is already a land force presence, the negotiation for and use of basing – especially port and air facilities – can essentially deny hostile parties from using the infrastructure. In Mali, for example, a persistent presence at Bamako, Timbuktu and Gao airports would make the logistics of entry for Russian forces difficult. These locations cannot be occupied without the blessing of the Malian government. However, if the Malian government wishes for UK peacekeepers or other forces to support them, the justification for having a presence at these bases can be made a condition of support. Ensuring a medical and logistics chain makes this almost mandatory. Once present, the case can also be made that the continuation of support is dependent on Russian forces not using these same locations. Mali as a sovereign state has every right to choose its friends, but there is no reason why states offering Mali military support should be treated to a pick-and-mix approach to friendship. Some states may, of course, choose Russia over the UK and its allies when faced with a binary choice, but this is often not what they want. In Mali, outreach to Russia has been principally conducted with the aim of balancing dependence on France with an additional security actor that would be less inclined to attach political demands to their military support following recent coups.⁵⁵ Mali’s enthusiasm for Russian support may well diminish if obtaining it comes at the expense of support from

52. Namir Shabibi, ‘Revealed: The CIA and MI6’s Secret War in Kenya’, *Daily Maverick*, 28 August 2020, <<https://www.dailymaverick.co.za/article/2020-08-28-revealed-the-cia-and-mi6s-secret-war-in-kenya/>>, accessed 22 October 2021.

53. Nick Sturdee, ‘The Wagner Group Files’, *New Lines Magazine*, 27 September 2021, <<https://newlinesmag.com/reportage/the-wagner-group-files/>>, accessed 27 December 2021.

54. Ilya Barabanov and Nader Ibrahim, ‘Wagner: Scale of Russian Mercenary Mission in Libya Exposed’, *BBC News*, 11 August 2021.

55. Susanna D Wing, ‘Another Coup in Mali? Here’s What You Need to Know’, *Washington Post*, 28 May 2021. Such balancing of military partnerships has a long precedence in eras of competition, as with Japan. See Tsuyoshi Kawasaki, ‘The Rising Sun Was No Jackal: Japanese Grand Strategy, the Tripartite Pact and Alliance Formation Theory’, in Jeffrey W Taliaferro, Norrin M Ripsman and Steven E Lobell (eds), *The Challenge of Grand Strategy: The Great Powers and the Broken Balance Between the World Wars* (Cambridge: Cambridge University Press, 2012), pp. 228–30.

elsewhere. For France, the UK, the US and others, the longer-term question is whether Russia stepping into Mali would fix Russian resources in an embarrassing and unsuccessful quagmire,⁵⁶ or whether perceived Western failure would allow Russia to expand its influence to more economically and strategically significant parts of Africa.⁵⁷ This is the nature of competition, and to succeed the UK must concentrate on reinforcing success and distinguishing between those who want to have strategic partnerships and those who do not. Conversely, there are circumstances in key strategic enclaves like Djibouti, where cohabitation between competitors is unavoidable. Maintaining a presence is itself a constraint on the extent an adversary can exploit their presence. This must be determined based on a thorough assessment of the UK's need and capacity to project influence.

Projection of Influence

The competition for influence in key states is not just a means of deterring adversaries. Projecting influence around the world is critical to the UK's prosperity and security, and the armed forces have a role in building strong relationships with other states. The UK has for centuries been,⁵⁸ and is destined to remain,⁵⁹ dependent on international trade for both its economic prosperity and security.⁶⁰ It depends on the import of food, energy and commodities and the export of services, pharmaceuticals, and from the aerospace and defence industries. London acts as a guarantor in maritime insurance, shipping and a range of other areas critical to the stability of global supply chains. In short, the UK is dependent on the stability of global supply chains and the accessibility of markets for the flow of goods and services.

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56. James Dobbins et al., 'Overextending and Unbalancing Russia: Assessing the Impact of Cost-Imposing Options', Brief, RAND Corporation, 2019.
 57. Samuel Ramani, 'Russia Takes Its Syrian Model of Counterinsurgency to Africa', *RUSI Commentary*, 9 September 2020.
 58. Andrew Lambert, *Seapower States: Maritime Culture, Continental Empires, and the Conflict That Made the Modern World* (New Haven, CT: Yale University Press, 2018), pp. 266–310.
 59. D John Mangan and A McKinnon, 'Review of Trends in Manufacturing and Global Supply Chains, and Their Impact on UK Freight', Government Office for Science and Foresight, February 2019, <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/777687/fom_trends_manufacturing_global_supply_chains.pdf>, accessed 21 December 2021.
 60. Although UK government statistics usually give a figure close to 50% for UK food production (see Department for Environment, Food and Rural Affairs, 'Food Statistics in Your Pocket: Global and UK Supply', updated 30 November 2020, <<https://www.gov.uk/government/statistics/food-statistics-pocketbook/food-statistics-in-your-pocket-global-and-uk-supply>>, accessed 21 December 2021), this counts food produced in the UK reliant on ingredients sourced abroad as UK produce and is measured by value rather than importance in diet. Taking into account ingredient supply, reliance on international supply rises closer to 80%.

As the UK population continues to expand,⁶¹ and its needs continue to outstrip domestic food and energy production,⁶² dependence on the security of international supply chains is likely to increase. The significance of the service industry, and its growing dependence on international communications infrastructure,⁶³ also means that the global network of telecommunication and fibre-optic cabling is critical to the UK economy.⁶⁴ The disruption to supply chains caused by the global pandemic and the imperative to tackle climate change have led to some projections that local manufacture and a process of onshoring is likely.⁶⁵ However, even if this is the case, the complexity of modern systems and the consequent dependence on highly specialised components leads to complex supply architectures with numerous single points of supply, whether in terms of raw materials or specialist components.⁶⁶ There are also good reasons for believing that the efficiency gains of such systems will continue the prioritisation of efficiency over resilience.⁶⁷

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61. Although fertility is declining, migration and increasing life expectancy is leading to sustained, albeit slowing, population growth, which is anticipated for the next two decades. See Government Office for Science, 'Trend Deck 2021: Demographics', 28 June 2021, <<https://www.gov.uk/government/publications/trend-deck-2021-demographics/trend-deck-2021-demographics>>, accessed 21 December 2021.
 62. As regards energy, the coronavirus pandemic has suppressed demand for the last couple of years, but the UK is usually a significant importer. The level of dependency has been reduced by oil exports from the North Sea. The greening of economies, however, may see this export diminish, leading to an increasing reliance on imports. See Department for Business, Energy and Industrial Strategy and National Statistics, 'UK Energy in Brief: 2021', <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1032260/UK_Energy_in_Brief_2021.pdf>, accessed 21 December 2021.
 63. The importance of the Channel, the Bab-el-Mandeb and the Strait of Malacca bears particular consideration given Russian and Chinese interference with these cables. See TeleGeography, 'Submarine Cable Map', <<https://www.submarinecablemap.com/>>, accessed 21 December 2021.
 64. Bruce D Jones, *To Rule the Waves: How Control of the World's Oceans Shapes the Fate of the Superpowers* (New York, NY: Scribner, 2021).
 65. For a discussion of these arguments and an explanation of why they are less likely than predicted, see George William Kajjumba et al., 'Offshoring-Outsourcing and Onshoring Tradeoffs: The Impact of Coronavirus on Global Supply Chain', in Mário Franco (ed.), *Outsourcing and Offshoring* (London: IntechOpen, 2020).
 66. Of which microchips are a prime example. See Boris Dyatkin, 'While Transistors Slim Down, Microchip Manufacturing Challenges Expand', *MRS Bulletin* (Vol. 46, No. 16–18, 2021).
 67. UK Parliament, 'Ensuring Future Supply-Chain Resilience', <<https://publications.parliament.uk/pa/cm5801/cmselect/cmmintrade/286/28609.htm>>, accessed 22 December 2021.

There are two macro trends that directly impinge on the security of supply chains. First, the combination of rapid population growth,⁶⁸ urbanisation⁶⁹ and declining habitable areas due to global warming suggest that the production of critical resources will be increasingly concentrated by expanded demand and retraction in the number of available points of origin. If more people must be sustained with fewer people extracting raw materials, especially food, then this encourages concentration. The relationship between concentration and competition under these circumstances is unclear, meaning regulatory frameworks are unlikely to challenge this effect.⁷⁰ If anything, the need to exert greater control over strategic industries will see state policy increase concentration.⁷¹ Over the next two decades, this will concentrate risk as key resources flow from fewer points. It also means that states that control either the production or flow of critical resources will have a powerful coercive tool over others. At the same time, as climate change reduces the habitability of key geographies,⁷² and the concentrated production model reduces the resilience of populations that are unable to pay or otherwise secure access to these resources, it follows that many populations will be prepared to disrupt supply to assure local survival or secure leverage. This can manifest in coercive behaviour by states in a position to dictate terms – as recently demonstrated by Russia over the supply of gas to Europe⁷³ – or parasitic behaviour such as piracy among populations unable to secure their needs.

The second trend is an intensifying great power competition between the US, China, Russia and the EU.⁷⁴ Here, the coronavirus pandemic is instructive as to the behaviour of states in an environment of resource scarcity and contested supply chains. All these powers sought to

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68. UN Department of Economic and Social Affairs, 'World Population Prospects 2019: Volume I: Comprehensive Tables', 2019, <https://population.un.org/wpp/Publications/Files/WPP2019_Volume-I_Comprehensive-Tables.pdf>, accessed 27 December 2021.
69. UN Department of Economic and Social Affairs, 'The Speed of Urbanization Around the World', *Population Facts* (December 2018).
70. OECD, 'Executive Summary of the Hearing on Market Concentration', 7 June 2018, <[https://one.oecd.org/document/DAF/COMP/M\(2018\)1/ANN7/FINAL/en/pdf](https://one.oecd.org/document/DAF/COMP/M(2018)1/ANN7/FINAL/en/pdf)>, accessed 27 December 2021.
71. As articulated in HM Government, 'UK Defence and Security Industrial Strategy', March 2021, <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/971983/Defence_and_Security_Industrial_Strategy_-_FINAL.pdf>, pp. 48–49, accessed 27 December 2021. This trend is fuelled by security concerns in the US relating to China.
72. Intergovernmental Panel on Climate Change, 'Climate Change 2021: The Physical Science Basis', August 2021, <https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf>, accessed 26 October 2021.
73. Gabriel Collins, 'Russia's Use of the "Energy Weapon" in Europe', Issue Brief, Rice University's Baker Institute for Public Policy, 18 July 2017, <https://www.bakerinstitute.org/media/files/files/ac785a2b/BI-Brief-071817-CES_Russia1.pdf>, accessed 22 October 2021; Diane Francis, 'Vladimir Putin Accused of Weaponizing Russian Gas', Atlantic Council, 15 September 2021, <<https://www.atlanticcouncil.org/blogs/ukrainealert/vladimir-putin-accused-of-weaponizing-russian-gas/>>, accessed 22 October 2021.
74. The return to multipolar competition was predicted in John J Mearsheimer, *The Tragedy of Great Power Politics* (New York, NY: W W Norton & Co., 2014).

use vaccine exports as a tool of diplomacy. Russia struggled because it found that domestic demand was creating a supply deficit in delivering what it had promised abroad.⁷⁵ China faced difficulties because its vaccine was less effective, and so focused instead on discrediting the efficacy of others.⁷⁶ The EU did itself serious harm trying to coerce commercial organisations into breaching their agreements with other countries to make up for the shortcomings in its own vaccination procurements.⁷⁷ Meanwhile, the US had secure domestic manufacture and consequently could set clear expectations for what it would supply to others, upon which it largely delivered. This is instructive because it demonstrates how great power competition sees states seek opportunities in supply chain disruption to strengthen their economic ties to prospective allies, and how resource scarcity drives states to act in highly self-interested ways, irrespective of values. This is not new, but the intensity of such competition – even between ostensible allies⁷⁸ – is likely to increase.

A further factor is that great power competition is driving infrastructure decisions and economic structures to align with competing powers. For instance, the widespread use of sanctions by the US, and the expanding use of sanctions by the EU, is creating a choice for states as to whether they align with a Western economic architecture that makes them more vulnerable to such actions, or whether they build links with Russia and China to circumvent this economic coercion.⁷⁹ Both Russia and China often use economic infrastructure and investment as tools in balancing the merits of integrating with Western financial structures.⁸⁰ Belarus, for example, was paying \$4 per barrel for oil at one stage.⁸¹ Yet, once this infrastructure is set up, it creates dependencies comparable to the exposure to Western sanctions. States therefore face a cascade of strategic choices as to alignment.

75. Regina Garcia Cano, Daria Litvinova and Juan Pablo Arraez, 'Russia Struggles to Meet Global Orders for Sputnik V Vaccine', *AP News*, 15 October 2021.

76. Yaqiu Wang, 'China's Dangerous Game Around Covid-19 Vaccines', HRW, 4 March 2021, <<https://www.hrw.org/news/2021/03/04/chinas-dangerous-game-around-covid-19-vaccines>>, accessed 22 October 2021.

77. *BBC News*, 'Covid Vaccine: Why Did EU Take AstraZeneca to Court?', 18 June 2021.

78. Note Germany's divergence from its allies over energy dependency with Russia via Nord Stream 2. See Patrick Wintour, 'Nord Stream 2: How Putin's Pipeline Paralysed the West', *The Guardian*, 23 December 2021.

79. CNAS, 'America's Use of Coercive Economic Statecraft', December 2020, <<https://s3.us-east-1.amazonaws.com/files.cnas.org/documents/CNAS-Report-Coercive-Economic-Statecraft-Final.pdf?mtime=20201216164312&focal=none>>, accessed 22 October 2021.

80. Deborah Brautigam, *The Dragon's Gift: The Real Story of China in Africa* (Oxford: Oxford University Press, 2011).

81. *RBC*, 'V Belorussii reshili kupit' v Rossii 2 mln t nefiti po \$4 za barrel' ['Belarus Bought 2 Million Tons of Oil from Russia at \$4 per Barrel'], 2 April 2020, <<https://www.rbc.ru/economics/02/04/2020/5e859cf09a7947d1d99a4186>>, accessed 20 June 2020.

When disruption threatens supply chains, producers are liable to face the question of who to supply, or at the very least who to prioritise if resource cannot meet demand.⁸² For the UK, which is both highly dependent on international supply chains and is often too small a customer to simply outbid competitors, there is a clear need for factors beyond the purely economic to weigh on the minds of suppliers. It is therefore a case of building up bonds with partner states so that, in crisis, there are more unfavourable second-order consequences to deprioritising the UK. Defence partnerships have a long history of shaping such judgements.⁸³ The interdependence of trade and the flag is critical to ensuring resilience,⁸⁴ and it is therefore a priority for the UK government to ensure that military partnerships are developed and maintained with key countries.

Another factor is how states perceive collaboration with the UK in the context of great power competition. In October 2021, the Scientific Committee of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) met to determine the quotas to be assigned to fisheries within its area of responsibility. CCAMLR is a multinational body that provides a forum for evidence-based, sustainable economic activity in the southern oceans.⁸⁵ However, there was an unprecedented disruption to the workings of the organisation. When the committee came to debate the quota for Patagonian Toothfish in Division 48.3, Russia vetoed the acceptance of the scientific recommendation.⁸⁶ Division 48.3 comes under the control of the government of South Georgia, and therefore the UK. Although technically beyond CCAMLR's mandatory area of responsibility, the UK accepts CCAMLR's scientific advice as to the management of the fishery. However, without a quota, this would render all fishing in Division 48.3 illegal. While the cost to the UK is small, it is detrimental to a number of UK-based firms.⁸⁷ In this instance, Russia's actions were an example of coercive issue linkage over unrelated differences with the UK. In consequence, there is no technical solution to remove Russia's obstructionism through

82. India faced just this question as to whether to supply the UK or the EU with vaccines. See Anna Isaac and Jillian Deutsch, 'UK to Import Vaccine Doses from India Amid Global Jabs Race', *Politico*, 2 March 2021; Neha Arora, 'Exclusive: EU Seeks 10 Million AstraZeneca Vaccines from India to Meet Shortfall – Indian Source', *Reuters*, 1 April 2021.

83. Joseph M Grieco, *Cooperation Among Nations: Europe, America, and Non-Tariff Barriers to Trade* (Ithaca, NY: Cornell University Press, 1990).

84. Stephen G Brooks, G John Ikenberry and William C Wohlforth, 'Don't Come Home, America: The Case Against Retrenchment', *International Security* (Vol. 37, No. 3, Winter 2012/13), pp. 7–51; Carla Norrlof, *America's Global Advantage: US Hegemony and International Cooperation* (Cambridge: Cambridge University Press, 2010).

85. The following was the recommendation to the scientific committee as regards catch quotas in Division 48.3. See Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), 'Assessment of Patagonian Toothfish (*Dissostichus Eleginoides*) in Subarea 48.3', <<https://www.ccamlr.org/en/wg-fsa-2021/59>>, accessed 27 December 2021.

86. CCAMLR, 'Report of the Fortieth Meeting of the Scientific Committee (Virtual Meeting, 11 to 15 October 2021)', updated 7 December 2021, pp. 13–16, <<https://www.ccamlr.org/en/system/files/e-sc-40-prelim-v2.pdf>>, accessed 27 December 2021.

87. Author telephone interview with industry representatives, 15 December 2021.

CCAMLR. Indeed, Russia and China's approach to fishery conservation has drawn criticism from Argentina.⁸⁸ There is a risk that multinational partners see UK leadership in multilateral forums as a risk to the continuity of business. On the other hand, strong bilateral ties enhanced by shared security outlooks between the UK and other high contracting parties across CCAMLR provide the trust for the UK to craft a response without being criticised for dragging a multinational body into a bilateral dispute. Issues like this are less likely to be resolved by the UK's capacity to project power into the Antarctic – though a capacity to regulate Division 48.3 unilaterally may be relevant – but rather through the wider security, defence and trade ties with the community of states concerned.

The development of strategic partnerships between the UK and partner states cannot rest on the token delivery of 'military training'. Joint exercises, collaboration in experimentation, exchanges of officers, high-profile visits, and training can build and maintain the channels that ensure trust and access. However, a state's prioritisation of the UK will ultimately come down to either having strategic programmes that are developed jointly with the UK – such as AUKUS or Tempest – or from confidence that the UK will stand by them when it counts. Furthermore, demonstrating that the UK will stand by one partner when they are under stress can reassure others to whom the UK has made commitments. The question, therefore, is not whether the UK can send out training teams, but whether it is prepared to deploy a force at a relevant scale to support a partner against what it perceives as the greatest risk. For instance, would the UK deploy forces to reinforce the territorial integrity of partners in the Middle East threatened by Iranian-backed non-state actors, should Iran escalate its activity against certain adversaries? Here, it is important to note that the determination to help can often trump the largess on offer from a great power. Having medium powers who are prepared to help also mitigates against a small state falling down a great power's order of priorities. Oman, where the UK and Iran have unparalleled levels of access, offers an example of where the UK has done this successfully.⁸⁹ Influence arises from maintaining a presence, and from the commitment to work collaboratively to address partner needs. Clearly, in a geographically dispersed competition, there are more countries where the UK must project influence than it has forces to offer. It is therefore critical that small deployments enable follow-on forces or critical materiel contributions to a partner's defence to quickly access theatre, allowing larger formations to reach where they are needed within relevant timeframes. It also means concentrating on a limited number of critical partners and calibrating expectations to under-promise and over-deliver, rather than the other way around.

While the logic of the UK's reliance on international supply chains leads to a need to project influence widely, it must be emphasised that this is not a justification to seek influence – let alone compete for it – everywhere. When competing for influence is perceived as a mission, there is a

88. Rodolfo Werner, 'El bloqueo de Rusia y China a la creación de áreas marinas protegidas' ['The Blockade of Russia and China to the Creation of Marine Protected Areas'], *Clarín*, 19 November 2021, <https://www.clarin.com/opinion/bloqueo-rusia-china-creacion-areas-marinas-protegidas_0_0EYZewBsO.html>, accessed 27 December 2021.

89. John Akehurst, *We Won a War: The Campaign in Oman, 1965–1975* (Salisbury: Michael Russell, 1982).

profound risk of deployed forces expanding the UK's commitments locally because to them, at that point in time, the problems they face are the most important. This is often not the case, and since being seen to uphold commitments is important in sustaining and developing influence beyond the state where the commitment is made, avoiding it requires a clear understanding and prioritisation of where the UK must and can compete. By way of example, consider UK relations with India and Pakistan. The UK has long, historic connections with both countries and has seen its backchannels to both as important. Despite India's economic size, this was in part counterbalanced by the importance placed on Pakistan in opposing Communism.⁹⁰ However, since the fall of Communism, the relative importance of these states to the UK has shifted. In the case of Pakistan, there has been a distinct inability to translate access into influence. Pakistan exacerbated, rather than curtailed, the Taliban insurgency.⁹¹ Counterterrorism access was slow and restrictive, while Pakistan's willingness to effectively counter terrorist groups itself has been limited.⁹² These factors directly contributed to the US's decision to unilaterally target Osama bin Laden, which has consequently eroded trust.⁹³ However, perhaps more important in the years ahead is that Pakistan is economically dependent on and integrated with China. Thus, in any context where UK and Chinese interests are not aligned, it would invariably favour China.⁹⁴ From the point of view of competition, there is not an alignment of interests, and the UK would expend disproportionate effort trying to compete. While this does not mean that the UK should not have a relationship with Pakistan, it is fundamentally transactional. By contrast, India is economically much more significant and concerned by Chinese aggression. Moreover, while it holds historic links with Russia, it is not in a dependant relationship.⁹⁵ Furthermore, increasing Sino-Russian military cooperation may cool the depth of Indo-Russian ties.⁹⁶ There is, therefore, an opportunity where there are common interests to turn access into influence and a reasonable basis for competing with Russia. The UK should aim for a strategic partnership, rather than a merely transactional relationship.

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90. Anand Shankar Mishra, 'British Policy Towards India-Pakistan Relations in the Perspective of Military Alliances in Asia, 1953-1956', *Indian Journal of Political Science* (Vol. 39, No. 4, 1978), pp. 599–619.
91. Pre-2001 Pakistan was open in its support (see Ijaz Ahmad Khan, 'Understanding Pakistan's Pro-Taliban Afghan Policy', *Pakistan Horizon* (Vol. 60, No. 2, 2007), pp. 141–57). After 2001, Pakistan's support became covert (see Coll, *Directorate S*).
92. This is essentially because the Pakistani state supports a range of militant groups. See C Christine Fair, *In Their Own Words: Understanding Lashkar-e-Tayyaba* (London: Hurst, 2018).
93. Mark Bowden, *The Finish: The Killing of Osama Bin Laden* (New York, NY: Atlantic Monthly Press, 2012), Chapter 6.
94. Hoo Tiang Boon and Glenn K H Ong, 'Military Dominance in Pakistan and China–Pakistan Relations', *Australian Journal of International Affairs* (Vol. 75, No. 1, 2021), pp. 80–102.
95. Saheli Roy Choudhury, 'India and Russia Broaden Defense Ties Despite Potential Risk of U.S. Sanctions', *CNBC*, 7 December 2021.
96. Richard Weitz, 'Assessing Chinese-Russian Military Exercises: Past Progress and Future Trends', CSIS, July 2021, <https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/210709_Weitz_Chinese-Russian_Exercises.pdf?sVj9xEhVUrzel_Mbf5pOdJqAQwUvn2zq>, accessed 27 December 2021.

The armed forces can also contribute to maintaining the UK's relevance to great power allies such as the US. There are two ways in which this sort of influence can be gained. First, a great power's foreign policy can be validated by offering it support as part of a coalition. In this context, the contribution can be small and niche. If the contribution is militarily valuable or not is secondary to the political significance of turning an operation from a unilateral activity to a multilateral endeavour. The second way influence with a great power can be secured is to burden share by taking responsibility for a shared geography or threat and thereby freeing great powers' capacity to focus on their hardest tasks. An example of how this might manifest itself could, for instance, see a UK Carrier Strike Group in the Mediterranean or Gulf, thereby freeing US capacity to concentrate available carriers in the Pacific. This applies equally to the land domain. UK support to forces in Somalia, thereby fixing and degrading a terrorist threat to the UK from Al-Shabaab, can simultaneously build UK influence with Kenya and curb the need for a significant US commitment to the region. The challenge of such arrangements is that influence is diminished if it transpires that a state has taken ownership of a problem that is beyond its means to solve and must thereafter draw on the great power to extricate themselves.⁹⁷ The UK's withdrawal from Basra, for example, did sustained damage to its reputation as it suddenly required the US to divert resources where it had not planned to. Burden sharing means ownership of the outcomes, and states must be careful as to how many and what kind of commitments they make. Such commitments are most sustainable where a state has its own interests at stake. In this situation, sustaining the effort to protect those interests becomes more palatable, even in the face of setbacks.

97. For example, France's and the UK's initial enthusiasm and subsequent inability to handle the Libyan intervention deeply frustrated Barack Obama. Author interview with senior Obama-era defence official, Washington, DC, November 2021.

II. The Utility of Land Power

HAVING IDENTIFIED THREE broad tasks that fall to the UK's armed forces – projecting influence to build strategic partnerships, protecting interests by punishing attacks against them, and deterring adversaries through conventional and nuclear deterrence – this chapter considers what unique contribution land forces make to these lines of effort. It explores where land forces are uniquely relevant, where they offer the greatest advantage and where they are necessary to enable other services' efforts.

This chapter argues that there are three fundamental characteristics of land forces that distinguish them from the other domains: the persistence of the effects they deliver; the asymmetry they impose on the adversary; and the presence they maintain among populations. Each of these will be unpacked in turn.

Persistence

Land forces may be contrasted with military forces in other domains by the persistence of the effects they deliver. For both air and naval forces, maintaining a permanent or even sustained presence is highly resource intensive. The number of aircraft required to maintain a continuous combat air patrol over an area, or the number of ships necessary to impose a blockade, for example, is considerable. For land forces, by contrast, movement is resource intensive, while remaining static is not. This means that the deployment of land forces has a persistent effect on the area that they occupy, which places the onus on the adversary to change the status quo.

In Crimea, for example, the fact that Russian land forces occupy the peninsula means that irrespective of whether Russia's annexation is recognised, it will functionally continue unless another state mobilises to drive Russian forces out. Ironically, while it was Russia that conducted an illegal annexation of another sovereign state's territory, in practical terms it would be the power seeking to restore the status quo ante that would be escalating the conflict. No state is likely to do this. The dynamics in Nagorno-Karabakh are different because the region was internationally recognised to be Azeri territory. However, the fact that it has been recaptured by Azeri land forces means that Armenia would need to reignite a conflict to change Azeri control of the ground and would do so in the face of international acrimony (assuming that the Armenian military could mount an offensive, which they cannot). Even if garrisoned by a small force, the simple fact that to remove it would require the build-up of forces and offensive action by another power renders it likely that they will be perceived as acting aggressively. The UK government, for example, had to strenuously work to secure diplomatic backing for the retaking of the Falklands, perpetually seeing off attempts by third parties to freeze the conflict, in spite of the fact that this would have left Argentina in possession of UK territory.⁹⁸ The impact of

98. Max Hastings and Simon Jenkins, *The Battle for the Falklands* (London: Macmillan, 2012).

moving ground forces therefore persists until the adversary proactively changes the facts on the ground. This is the opposite of the imposition of a blockade or no-fly zone, where the political will to sustain the effect is borne by the power enforcing it.

The persistence of effect of deployed land forces is further enhanced by the fact that they are highly survivable compared with the other domains. Physically destroying land force elements is resource intensive, and even depleted land force units can deny or constrict an adversary in an environment. Land forces' capacity to absorb attrition – owing to the high number of platforms that the force comprises – means that they persist in the face of enemy action. This is not to say that land forces are not vulnerable to air and maritime forces. However, air and maritime forces tend to have the effect of immobilising land forces rather than destroying them.⁹⁹ Air dominance can severely restrict the concentration of materiel necessary for land forces to have mobility, and if land forces try and manoeuvre in the face of hostile air superiority, they will suffer a high level of attrition.¹⁰⁰ Meanwhile, sea power can prevent land forces from being projected into theatre,¹⁰¹ or defeat them by preventing the supply of food and ammunition.¹⁰² But clearing an area occupied by land forces requires troops on the ground. When static, land forces are often exceptionally difficult to detect and destroy. Consider, for example, the volume of munitions required to drive Islamic State forces from Iraqi territory.¹⁰³ What the Iraqis lost in four months took four years to fully recover despite total uncontested air dominance.

The persistence of effect achieved by land forces has two important implications for the UK. First, because air and naval forces can be readily redeployed, their presence offers a limited demonstration of commitment to a partner. The forward basing of land forces – assuming that the force is not just light infantry – demonstrates an intent to back the partner and strengthens deterrence because acting against the state would mean confronting the deployed force. In building strategic partnerships and in deterring adversaries, therefore, the forward deployment of key assets and the capacity to surge the number of troops in crisis can have a disproportionate effect.¹⁰⁴ There is also the cognitive shaping effect that these land forces could be used proactively

99. Consider, for instance, the limited effects of NATO's air campaign against Yugoslav forces. See Benjamin S Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (Santa Monica, CA: RAND Corporation, 2001).

100. Phil Haun and Colin Jackson, 'Breaker of Armies: Air Power in the Easter Offensive and the Myth of Linebacker I and II in the Vietnam War', *International Security* (Vol. 40, No. 3, 2016), pp. 139–78.

101. French naval victory, for example, enabled the US to win the Battle of Yorktown, while the English Channel has proved an effective barrier against both France and Germany.

102. As the US demonstrated in the Pacific War. See Supreme Commander of the Allied Powers, *Reports of General MacArthur: Suppl. MacArthur in Japan: The Occupation, Military Phase. V.2. Japanese Operations in the Southwest Pacific Area* (Washington, DC: US Government Printing Office, 1966), p. 100.

103. Becca Wasser et al., *The Air War Against the Islamic State: The Role of Airpower in Operation Inherent Resolve* (Santa Monica, CA: RAND Corporation, 2021).

104. Bryan Frederick et al., *Understanding the Deterrent Impact of U.S. Overseas Forces* (Santa Monica, CA: RAND Corporation, 2020).

rather than defensively. For example, land-based anti-air and anti-ship missiles are relatively discrete force packets that can be cheaply sustained in peacetime once deployed. They are not insurmountable obstacles to an adversary in war. However, as expensive assets, their forward deployment signals a significant commitment, and because they hold adversary systems under threat over the range that they cover, these systems must shape an adversary and impose planning constraints on their manoeuvres even in peacetime.

Second, land forces can exert a significant shaping effect outside of the area that they occupy through their perceived capacity to manoeuvre. Because movement is resource intensive, land forces must build up fuel, ammunition, logistics components and enablers to allow them to fight through contested ground. Whereas the capacity to fly combat missions or conduct maritime patrols is, broadly speaking, inherent in having credible naval or air forces – accepting that aircraft and ships may not always carry full combat loads of munitions – land forces can be deployed with, or without, the supplies necessary to move onto the offensive. The important distinction is that they can still be defensively credible without enablers for offensive manoeuvre. This provides graduated messaging and opportunities for deterrence whereby it is clear or ambiguous whether a force is intended to be defensive or not. Whichever posture is adopted, it will persistently shape the calculations of an adversary. For an example of the distinction, Russia's coercive build-up against Ukraine in early 2021 lacked the combat support and follow-on occupation forces that would indicate serious offensive intent. The move therefore messaged the capacity to ramp up the scale of forces and provided a measure for NATO's responsiveness, without seriously escalating tensions. By contrast, the continued build-up of Russian forces in late 2021, which included all necessary enablers for offensive operations, has sparked an imminent threat and has forced negotiations with NATO. This graduated force posturing shows how land forces can be surged and enabled to offer nuanced messaging. Again, however, once the effort to build up materiel has been undertaken, the effect persists until offensive manoeuvres are enacted. The materiel supporting it can remain in place, akin to stored potential energy. For example, the pre-positioning of large munition stockpiles in the Western Military District is as much a cause for NATO's concern as the numerical disparity in land forces at the points of friction between NATO and Russia.¹⁰⁵ For the UK, the lesson is that not all land force components are equal in their effects. The British Army must therefore be able to project enablers, stocks and combat units as discrete or combined components of the force.

Asymmetry

A second defining characteristic of fighting in the land domain is its stark asymmetry. Both air and naval forces operate comparatively few platforms, while the unforgiving environment through which they fight favours absolute outcomes. Although protracted fighting has characterised

105. Ben Connable et al., *Russia's Limit of Advance: Analysis of Russian Ground Force Deployment Capabilities and Limitations* (Santa Monica, CA: RAND Corporation, 2020); Konrad Muzyka, 'Russian Forces in the Western Military District', June 2021, <https://www.cna.org/CNA_files/PDF/Russian-Forces-in-the-Western-Military-District.pdf>, accessed 22 October 2021.

historical air campaigns,¹⁰⁶ the reduction in the number of aircraft employed has made combat in the air increasingly decisive. Whether we examine the Six Day War as an example of a sudden outbreak of hostilities,¹⁰⁷ or the Indo-Pakistan War of 1971 as an example of an air campaign that did not involve surprise,¹⁰⁸ air superiority was gained by Israel and India in short order. Similarly, to consider a limited conflict, the 1982 Falklands War could not be decided by the destruction of Argentinian air bases as air power theory would dictate, but was nevertheless decisively won in the days immediately preceding and during the Battle of San Carlos Water, leaving the British with air superiority.¹⁰⁹ Naval manoeuvres are, by contrast, slow and often indecisive insofar as the scarcity of platforms and absolute consequences of being struck by modern missiles leads task forces to avoid decisive engagement unless convinced of their superiority. Again, however, tactics are largely decided by the high stakes in each exchange of fire. When committed, the outcome tends to heavily skew one way or the other even if the absolute size of the forces involved is comparable. Consider, for instance, the withdrawal of the Argentinian Navy from the conflict upon the sinking of the *General Belgrano*. Ultimately, if one side has a narrow edge in its tactics, competence or capabilities, this can tip the scale towards favourable outcomes. Moreover, since damage often means the loss of the platform, that narrow edge can translate into a very lopsided victory.

By contrast, the land domain usually comprises several orders of magnitude more engagements, with forces in contact for a much longer duration. Furthermore, many of these engagements will not lead to absolute outcomes. It is as often as not that a tank is damaged, rather than destroyed.¹¹⁰ Infantry units tend to lose combat effectiveness without having been wiped out, and can recover it. More interactions with fewer absolute outcomes means that outcomes are less likely to swing in favour of one party or the other, unless one party is clearly superior in capability and mass at the point of action. This means that, to achieve victory, one side must have a significant advantage. This could constitute qualitative, quantitative or positional

106. Consider, for instance, the scale and sustained attrition of the air war over the Eastern Front. See E R Hooton, *War Over the Steppes: The Air Campaigns on the Eastern Front, 1941-45* (London: Bloomsbury, 2016).

107. Michael B Oren, *Six Days of War: June 1967 and the Making of the Modern Middle East* (New York, NY: Random House, 2002), pp. 170–210.

108. Jasjit Singh (ed.), *Role of Indian Air Force in 1971 War* (New Delhi: Centre for Air Power Studies, 2013).

109. John Shields, *Air Power in the Falklands Conflict* (Yorkshire: Pen & Sword, 2021), Chapter 4.

110. Compare German tank losses to those overrun after being damaged; or the proportion of Armenian tanks lost that were damaged and thereafter overrun and captured, compared to those destroyed outright. See Ben Wheatley, 'Surviving Prokhorovka: German Armoured Longevity on the Eastern Front in 1943–1944', *Journal of Intelligence History* (2020); Oryx, 'The Fight for Nagorno-Karabakh: Documenting Losses on the Sides of Armenia and Azerbaijan', 27 September 2020, <<https://www.oryxspioenkop.com/2020/09/the-fight-for-nagorno-karabakh.html>>, accessed 22 October 2021.

advantage at the point of contact. It does not mean that either party must outnumber the other in aggregate, but to conduct offensive action a force must achieve localised superiority.¹¹¹

When combined with the persistent effect achieved by comparatively small land forces physically occupying ground, the disproportionate resources needed to shift them imposes a significant asymmetry on the enemy's calculus. This advantages the force that moves first to seize and hold vital ground. The holding of vital ground requires the adversary to contend with the forces holding it and demands that they commit a disproportionate amount of resource into that effort, fixing them to a predictable mission. It also highlights the value of forces with organic mobility, as they can reposition themselves and thereby bring about localised superiority at the point of decision, even in encounters where the aggregate strengths of the forces concerned are comparable.

The pursuit of asymmetric advantage is critical to success in land operations but presents challenges for the efficiency of the force in peacetime. Asymmetries depend on the adversary being fought. Yet, if a force cannot predict who it will end up fighting or where the fight might take place, it risks pursuing asymmetric advantages that may be of limited relevance. Conversely, states with a clear sense of their adversary can often pursue offsets against their enemy's strengths. For example, Finland has very effective counters to Russian forces since it has one adversary to contend with in a specific and limited geographical area with distinct terrain. Moreover, Russia prioritises air defences to counter its adversaries' advantages in air power,¹¹² and artillery and EW to gain an asymmetric advantage against its opponents' ground forces.¹¹³ Gaining an asymmetric advantage within a particular area of land warfare is resource intensive. It not only demands technological innovation and extensive exercising with the relevant equipment, but also requires fielding in sufficient quantity to deliver a decisive effect. Thus, while an army must have the elements of a balanced force, it must be selective in where it seeks relative advantage.

The pursuit of asymmetric advantage is complicated by the impact of terrain on ground operations. For instance, a force operating in a wet area with many rivers would be well served by large numbers of tracked, amphibious vehicles. However, this limits protection because of the constraints on floatable volume for a given weight. Conversely, a force optimised for desert conditions would include units with significant operational reach, favouring wheeled

111. This underpins calculations like the 3:1 force ratio requirement. See John J Mearsheimer, 'Assessing the Conventional Balance: The 3:1 Rule and Its Critics', *International Security* (Vol. 13, No. 4, 1989), pp. 54–89.

112. Justin Bronk, 'Modern Russian and Chinese Integrated Air Defence Systems: The Nature of the Threat, Growth Trajectory and Western Options', *RUSI Occasional Papers* (January 2020).

113. Roger N McDermott, 'Russia's Evolving Electronic Warfare Capability: Unlocking Asymmetric Potential', International Centre for Defence and Security, 19 April 2018, <<https://icds.ee/en/russias-evolving-electronic-warfare-capability-unlocking-asymmetric-potential/>>, accessed 22 October 2021.

platforms.¹¹⁴ Yet, desert environments tend to see arterial routes converge on urban settlements, meaning fighting often leads to a requirement to conduct urban break-ins where heavy levels of protection and short turning circles are critical.¹¹⁵ In sum, beyond adversary tactics is the question of whether a land force is able to offer asymmetric advantage within the terrain that it anticipates contesting.

The asymmetries that determine outcomes in land warfare present opportunities as well as challenges. The most obvious is that because a small force can impose an asymmetric resource commitment to be dislodged, several small units can facilitate the deployment of reserves through their positions. Thus, a land force – if it has the mobility to reinforce its forward elements – can both adopt a dispersed and defensive posture and retain a concentrated reserve able to either reinforce its forward elements if the enemy commits against them, or else echelon through its forward elements to penetrate the enemy if the latter become fixed by the forward screen. This does not work if the enemy force is not committed, since this would simply lead to a meeting engagement. The result is that a land force can theoretically fix a larger enemy force through the deployment of small forward elements. This is especially important in a deterrence context. The reserve does not threaten offensive action, despite maintaining the resources to manoeuvre offensively, so long as the enemy remains uncommitted. However, if the enemy commits, the asymmetry of the land environment can enable a disproportionate adversary resource commitment to the breakthrough, thereby allowing the reserve a window of opportunity for offensive action. In this way, asymmetry can have a highly stabilising effect on deterrence frameworks.

Urban environments have a unique impact on asymmetry. In the first instance, the capture and control of urban areas – as centres of industry, government and population – is disproportionately significant in the progress of campaigns. As a consequence, urban centres are often key objectives and their infrastructure makes them vital ground. Yet, as terrain, urban areas are also levellers, counteracting attempts to build asymmetric advantage. This is because urban areas canalise forces so that there are severe limits on the number of personnel who can be brought into contact. Thus, while large forces may be in an urban area, the battle becomes one of many geographically concentrated engagements where it is difficult to bring superior numbers or a combination of arms to bear.¹¹⁶ The second aspect of urban terrain is that there is a huge asymmetry in the political impact of the employment of certain tactics. Firepower can accelerate movement through urban areas, but since large numbers of civilians will almost always be present within them, the risk of killing those civilians through the application of fire can often complicate the political context in which operations are being carried out.¹¹⁷ Because land operations directly interface with civilians, they differ from air and naval operations in the

114. Michael Shurkin, 'France's War in Mali: Lessons for an Expeditionary Army', RAND Corporation, 2014.

115. Alec Wahlman, *Storming the City: U.S. Military Performance in Urban Warfare from World War II to Vietnam* (Denton, TX: University of North Texas Press, 2015).

116. Nick Reynolds, 'The British Army and Mass in Urban Warfare', *RUSI Journal* (Vol. 166, No. 4, 2021), pp. 52–65.

117. Anthony King, *Urban Warfare in the Twenty-First Century* (London: Polity, 2021).

asymmetry of political effect that many types of operation have as a second-order consequence of how combat is conducted.

There are several implications of this asymmetry for UK land forces. As identified in Chapter I, the UK's interests do not allow narrow geographical specialisation or concentration of land forces. Tailoring the force to offer asymmetric advantage in a given terrain is therefore of limited viability. However, the UK's partners, whether in the Joint Expeditionary Force, NATO or further afield, do have specific terrains against which they can specialise. The UK can enhance its relations with these states by prepositioning systems that offer asymmetric advantages like air defence and fires assets. The UK can also reinforce deterrence and strengthen its relationships by demonstrating the capacity to surge the presence of mobile reserves, equipped with disproportionate counter-mobility and anti-tank systems, able to impose a heavy price on an axis of advance once the enemy commits its forces.

Presence

A third unique quality of land forces is that they maintain a human presence that interacts directly with the communities among whom they operate. This can be a major problem if the relationship with the population deteriorates.¹¹⁸ However, it also offers opportunities that cannot be pursued by air and maritime forces. Aircraft may deconflict their flight paths with civilian air traffic and naval vessels can conduct port visits and interact with civilian shipping. This does not place either service in direct contact with the cultural and political centres of gravity within a civilian population, nor does it build diverse social relationships between the military and the population that surrounds it. Land forces – because they are people centric and maintain a persistent presence among populations – do build these widespread bonds. In many campaigns, these bonds are critical to the success or failure of operations. This is, in many contexts, the most important unique feature of land forces.

Maintaining a human presence among communities is important for a range of reasons. First, it allows a unique level of understanding of the operating environment and how military action will shape it both directly and indirectly. Gaining situational awareness among a population – especially in competition or in low-intensity conflict – is not just a question of data and technical intelligence. Understanding the humans who are being affected and building relationships with them allows wider intelligence collection to be contextualised.¹¹⁹ It also provides avenues through which the human population being affected by military action can be shaped. For instance, an air strike on a hostile force within a town could lead to outrage against either the state that conducted the air strike or against the group in the town depending on the sentiment of the population, how the strike was communicated, and which key figures within the community

118. Armies should not aspire to be present everywhere. See Barry R Posen, *Restraint: A New Foundation for U.S. Grand Strategy* (Ithaca, NY: Cornell University Press, 2015).

119. Mike Stevens, 'Resistance and Information Warfare in Mosul and Raqqa: In Darkness, Light', *RUSI Journal* (Vol. 165, No. 5, 2020), pp. 10–21.

were consulted prior to or in the immediate aftermath of the strike.¹²⁰ Irrespective of the success or failure of the strike as an isolated military action, failure to properly exploit it and mitigate blowback across the civilian community could see air, sea or ground access denied or constrained afterwards. Land forces can build, map and use networks within these communities to ensure that military activity is exploited to advantage and to prevent the adversary from using the aftermath for their own ends.

In many contexts, it will not be land forces who hold the expertise or relationships necessary to conduct exploitation activity. These efforts may be led by foreign ministries, intelligence agencies or NGOs. However, in many competitive environments outside of direct warfighting, land forces are uniquely able to provide assurance to these other organisations that they can maintain a presence without being targeted. Presence provides security. The deterrent effect that land forces can have if they make clear that they are extending protection to key organisations is also important. Even if a land force does not maintain a sufficiently sized force to physically cordon all the activity taking place in country, the threat of retaliation and an expanded presence can deter action against partners. For example, Russia effectively deterred Hizbullah from conducting operations targeting Russian diplomats in Lebanon by severely punishing the kidnapping of Russian intelligence officers.¹²¹ Although the deterrence by punishment was delivered by Russian special forces, their access to Lebanon and understanding of the environment was enabled by their close working relationships with the Syrian military. That relationship was underpinned by a strategic partnership which involved conventional Russian forces providing equipment and training to the Syrian military. Thus, in insecure environments, land forces are a critical enabler to other actors. In Somalia, for instance, it is the international community's military posture and its capacity to retaliate that enables wider engagement with Somali society. In Afghanistan, military withdrawal precipitated a collapse in humanitarian and intelligence access.

It may also be the case that effective engagement with a civilian population or armed actors in an environment can bring about military partnerships and alliances whereby a land force can work closely with local partners and thereby reduce the mass they need to project into the operating environment. Britain has a long, if chequered, history of fighting in this way, from the Peninsular War to Oman, the Northern Alliance in Afghanistan or Iraqi forces fighting the Islamic State. Although formal mentoring is sometimes provided by navies and very rarely by air forces, the mobilisation of local forces is almost exclusively conducted by ground forces. By establishing a presence, and through the capacity to bring follow-on forces into theatre, land forces can create protection for partners so that they are prepared to take risks that they would be unable or unwilling to undertake alone. Because asymmetry is a distinct feature of land warfare, the mobilisation of less capable local forces can nevertheless impose a high resource cost on an adversary wishing to seize or traverse the ground they occupy. This can fix the enemy and enable a smaller land force to manoeuvre and bring a decisive force ratio to bear on enemy

120. Namir Shabibi and Jack Watling, 'Cash, Candy, and "Collateral Damage": An Anatomy of a CIA-MI6 Drone Assassination', *Vice*, 13 April 2016.

121. Ronen Bergman, *The Secret War with Iran: The 30-Year Clandestine Struggle Against the World's Most Dangerous Terrorist Power* (New York, NY: Simon & Schuster, 2008), pp. 99–100.

elements in detail. It can also undermine the mobility of an enemy force by promoting the obstruction or degradation of their logistics along ground lines of communication (GLOCs). The positive sentiment of civilians towards a land force can also greatly improve the ease of traversing terrain as civilian infrastructure is made available for maintenance and resupply. Conversely, negative sentiment can make key routes perilous and congested.

A final element of the human presence inherent in land operations is that land forces are uniquely placed to provide human security. This may be in the context of conflict but can also be relevant in humanitarian missions, such as in response to natural disasters. Air forces are often vital to such operations in ensuring the supply of critical materiel, while naval forces – given the destruction of infrastructure following many disasters – can provide emergency infrastructure to civilian communities. However, beyond the immediate stabilisation of an environment, the critical capabilities of logistics, engineering and law enforcement are best enabled by land forces. In a conflict environment, the protection of key population centres is often less important than the security of GLOCs where people and goods flow. In Mali, for instance, turning towns into fortresses without securing the links between communities damaged trade and thereby degraded local economies, encouraging banditry. The ability to secure GLOCs, by contrast, was vital for ensuring a reduction in violence. Security in this context was not always a function of physical protection of GLOCs. In Mali, the length of the GLOCs rendered maintaining a physical presence impractical, but negotiation, and the threat of targeting by ground forces, led to pragmatic deconfliction around Timbuktu between Tuareg militants and UN peacekeepers to enable civilian access to education.¹²² The provision of human security is also a task for which land forces are routinely employed on the homeland. In the UK, this has recently spanned deployments in support of the police to deter terrorism,¹²³ the protection of public events like the Olympics, the response to flooding, responses to logistical, planning and medical constraints caused by the coronavirus pandemic, and a range of other functions. This is clearly not what land forces are optimised to deliver, but the availability of rapidly deployable and trainable mass makes them a framework service for such tasks.

The importance of presence has clear implications for UK land forces. To maintain a presence in areas of interest or concern, the British Army must be able to deploy comparatively small groups of technical specialists to work with partner forces and add value to partner operations. The force must be able to offer force protection to intelligence and diplomatic personnel, either through the direct provision of security to facilities, or through a clear framework for deterrence by punishment against those who might target UK personnel. Although much of this activity will most likely be spearheaded by special forces, building the trust and relationships with partner governments to enable such activity requires a more strategic and persistent engagement with partners. It also requires a degree of risk tolerance to enable courageous diplomacy and the

122. Jack Watling and Paul Raymond, 'On Patrol with the Soldiers Battling Bandits, Islamist Militants, and Mistrust in Mali', *Vice*, 19 July 2015.

123. John Gearson and Philip A Berry, 'British Troops on British Streets: Defence's Counter-Terrorism Journey from 9/11 to Operation Temperer', *Studies in Conflict and Terrorism* (2021), DOI: 10.1080/1057610X.2021.1902604.

sharing of risk with partners by conventional forces. This likely means being able to deploy medical teams and other support functions at a smaller scale than is traditionally associated with field hospitals intended to support warfighting functions.

III. The Characteristics of a Relevant UK Land Force

SO FAR, THIS report has argued that the UK military must perform three broad categories of task: deterrence by denial of Russian aggression against NATO; deterrence by punishment to protect UK interests; and the projection of influence to build and strengthen strategic partnerships. Operationally, these tasks might be framed as relating to three broad theatres. First, there is the area of the Joint Expeditionary Force straddling NATO's eastern flank and the High North where deterring Russia is the primary concern. Second, there is an area of expeditionary operations to assist partners and deter threats to UK interests covering the Balkans and running through the Gulf to the East African Community. Here, threats against UK interests emanating from state competitors could require significant military responses, while partners in this area may seek substantial support in ensuring their security if they are to strengthen their relations with the UK. UK bases in Kenya, Oman and Cyprus provide key hubs for maintaining capability in theatre, though partnerships extend further. The third area might be described as those states where the UK has a strategic interest in strengthening its relationships (India, Malaysia, South Korea, Japan and Australia), but where defence engagement will be principally limited to technological and industrial cooperation, and exercising against common threat systems like layered standoff, rather than operational cooperation.

The British Army is currently going through a period of transformation, restructuring following the publication of the Defence Command Paper,¹²⁴ but also experimenting with new technologies and trying to bring several vehicles into service. Its structure, equipment and doctrine are all in a state of flux and further changes are likely over the next decade. Because of this, this chapter does not focus on a specific order of battle or capabilities to meet the challenges set out in previous chapters. Instead, it outlines a set of characteristics that the force must have if it is to be relevant to the challenges articulated. The intent is to provide a checklist for proposed capabilities, formations and programmes against which their utility can be judged. In short, a UK land force must be informed, expeditionary, fast, able to impose disproportionate costs on the enemy through the privileging of firepower, and compatible with allies. These characteristics apply equally to the Army's deterrence taskings to prevent the threat of war and to its responsibilities in protecting the UK's global interests and projecting its influence. Their implications are explored below.

Informed

The current obsession with data across the military often obscures the fact that a dataset only provides useful information if those interrogating it ask the right questions and can contextualise

124. Ministry of Defence (MoD), *Defence in a Competitive Age* (London: The Stationery Office, 2021).

the answers. Increasingly accurate data on how many Taliban members were killed each month, for example, does little to explain levels of Taliban influence across Afghanistan, just as the absolute categorisation of Afghans as Taliban or not misses the permeability of allegiances.

The British Army – through its defence sections, training teams and forces on operations – often has greater access to high-threat environments than other parts of government because of the force protection measures imposed on diplomats. These soldiers often have an invaluable access to ground truth, and if they are not qualified to assess the environment, they can enable those with the appropriate expertise to be deployed forward. Historically, the Ministry of Defence (MoD) has often imposed force protection measures on deployed forces that limit their ability to perform this function. The Army has also been poor at information management; understanding which of its soldiers hold relationships and ensuring that these are exploited beyond the period within which a soldier is in a given post. Furthermore, a culture that sees the most senior voice as the most correct voice tends to suppress ground truth from reaching senior decision-makers. This was most recently demonstrated in Afghanistan, where senior officers made absurdly optimistic assessments of the Afghan security forces¹²⁵ that were completely inconsistent with the evidence held by their own personnel on the ground.¹²⁶ Creating an informed force is not simply a question of analytics, but of changing training, permissions, procedures and culture.

The importance of an informed force lies in the fact that frontline commands are asked to provide military options. As the domain experts, the military must generate courses of action to be evaluated by the wider national security structure. Generating relevant courses of action must be informed by an appreciation in the Army as to where deployments will advance UK interests, where they will be counterproductive and what the second-order consequences of operations with partners might be. Other domain activity may provide a great deal of data. Land forces must provide or enable other departments to provide informed contextual judgement to make that data useful. This function should draw on, but not be wholly outsourced to, the intelligence agencies and Defence Intelligence. Intelligence agencies are first and foremost tasked with stealing privileged information held by hard targets. Defence Intelligence is tasked with the provision of military technical intelligence. The FCDO and others are responsible for political understanding. However, liaison with partner militaries, relationships and the contextual appreciation of the environment from a military standpoint are responsibilities of conventional defence engagement, enabled by the wrap provided by land forces.

For the UK to have an informed land force, it requires a cadre of personnel who are fluent in local languages, have spent time on the ground in country, and have permission to travel, engage and build relationships with partner forces. Defence engagement through embassies is important for this function, but not sufficient. While a suitably senior officer arriving in country can open doors, and provides a crucial interlocutor for senior partner officials, they also have a limited capacity to travel and are unlikely to be in post long enough to have a full understanding

125. Nick Carter, 'Don't Give Up on Afghans as They Resist the Taliban', *The Times*, 7 August 2021.

126. Nick Reynolds, 'The Americans May Leave Afghanistan, but the Forever War Will Grind On', *RUSI Commentary*, 16 April 2021.

of the environment. It is therefore desirable for the force to have those junior personnel judged to have the inclination to do a tour on loan service or otherwise working closely with partner forces. As their career progresses, they would be encouraged to maintain the connections they have built and periodically support short-term training teams or other bilateral defence activity in the country in question. These individuals would also form a pool who would be prioritised in selecting defence attaches. In crises, they could also provide vital connections and links with partner forces to inform planning and be deployed for liaison should the situation require. By putting them in country as junior personnel, they might also gain an appreciation for other ways to effectively operate and provide important feedback into UK training establishments to adopt the best practices of others.

This requires that the British Army has a career path that does not restrict the career progression of individuals who take up such assignments. In some respects, it is even more important that individuals who decide to develop geographic specialisms are tracked, and that this information is properly recorded and used throughout their careers. At present, there is a chronic tendency for personnel to develop expertise which is then unexploited because they have moved post and the force tends to task people by their current role rather than relevant background and experience.¹²⁷ This will need to change. The Army's capacity to manage the talent of its personnel and exploit the skills and access they have developed is critical to the force's ability to remain informed about a wide geography. The force must be able to recognise the skills within its own structure and acquire a flexible mindset that allows, for example, a J7 officer with experience in the country where operations are taking place to be pulled into J2 assessments. This is as crucial in global competition as it is in deterrence.

A further aspect of providing a relevant capability is the extent to which land forces are informed about wider government activity within a country. There is a systemic issue that military planning is often contingent or thematic. A task to compete with Russian or Chinese influence, for example, may be pursued globally. However, this can often come to the detriment of bilateral relations with the country where the competition is taking place, and if defence activity is not integrated with wider government policy, it will either not receive approval or will put other departmental activity at risk. By contrast, when defence planning leverages and can further the interests of other departments, it becomes possible to develop military options that are not in conflict with wider departmental interests. For instance, development project managers struggle to get permissions to access unstable areas. By exploiting permissions and capabilities, land forces can offer a wrap or enable access, improving the delivery of development. Conversely, this gives defence access to communities with whom they would otherwise have not had reason to engage, strengthening their contextual understanding of the operating environment. To do this, it is necessary for land forces to have sufficiently decentralised command and control. This will allow their personnel to exploit opportunities to benefit other departments when deployed without subordinating other departments' teams to wider defence planning and making them

127. Jack Watling, 'The Army's Officer Career Structure is Not Fit for Purpose', *RUSI Commentary*, 13 September 2021.

feel like they are being subjected to a takeover by the military. When not in control, the military must not try to impose its planning procedures on others.

A final element of providing government with an informed force is ensuring that defence has a robust understanding of its adversary. Again, deployed teams in friendly countries can act as bridgeheads through which specialists can access theatres to observe and collect intelligence on hostile actors. Collection on air defence systems, EW capabilities, command-and-control systems and other elements of an enemy that require deep technical knowledge is difficult if specialists cannot get into proximity of the systems. Deploying specialists without a wrap is unlikely to pass a risk assessment. By providing widely deployed liaison personnel who have strong relationships with local security forces, land forces can enable such specialists to exploit targets of opportunity like adversary exercises or demonstrations in neighbouring states. This opportunity for accurate data collection can equip defence with vital information against which it can develop contingencies if deterrence fails.

In sum, in assessing proposed changes to command-and-control structures, systems of promotion and career management, one key question should be whether the changes improve the ability of the force to understand and be informed about the operating environment.

Expeditionary

The second quality of a policy-relevant land force for the UK government is that it must be expeditionary. A distinction is often drawn between the demands of a conflict in Europe and the requirements for operations in Africa or the Middle East. The premise is that, in Europe, forces can be prepositioned to have a strong deterrent effect and armies ensuring security can therefore sacrifice mobility for protection. This is bolstered by a historical record that shows that heavy armour has a disproportionate deterrent effect where it is forward deployed.¹²⁸ Conversely, those operating in lower-threat environments can sacrifice protection for mobility. This distinction between the European theatre and 'out of area operations' was prominent in the Cold War.¹²⁹ For the UK, however, it is an increasingly false dichotomy.

In modern warfare, a credible formation is not primarily determined by the number of main battle tanks it has but by the wrap that enables and protects the force irrespective of the exact composition of the combat arms. Against long-range precision fires and modern ISR, an armoured force is little more survivable than a light one if it is not protected by counter-ISR, EW, air defences, fires, recce and mobility support elements. In many contexts, the lower signature of less protected platforms makes them more survivable in the indirect fire zone, though this comes at the expense of their survivability in the direct fire zone. This is not to say that light and heavy forces have equal offensive potential. Heavy forces clearly have more offensive combat power. Rather, it is to argue that what determines the UK's deployment of effective

128. Frederick et al., *Understanding the Deterrent Impact of U.S. Overseas Forces*.

129. Douglas Stuart and William Tow, *The Limits of Alliance: NATO Out-of-Area Problems since 1949* (Baltimore, MD: Johns Hopkins University Press, 1990).

units of military action is where it places its support arms. Seeing as the UK cannot afford sufficient combat support elements to maintain them in all theatres, the question becomes how readily these elements can be moved to where they are needed. For this reason, achieving timely deterrence in Europe or projecting forces further afield requires an expeditionary force, since both will need assets to be sent from the UK and sustained at reach. Therefore, whatever the balance of heavy and medium forces in the combat arms, UK land forces should be built around deployable units of action which are defined by the number of protective and enabling envelopes the UK can put into the field.

To demonstrate why the expeditionary nature of the force's support arms is critical to its effectiveness, suppose the British Army had a forward-deployed force in the Baltics, but Article Five was challenged in the High North. While the combat arms relevant to the High North would largely comprise smaller groupings of light infantry, the indirect fire, ISR, EW and air threat to that force would mainly emanate from the same systems as in the Baltic. To operate, it would be necessary to deploy the wrap to counter these threats. Conversely, suppose that the British Army was required to deploy to Yemen. Such a scenario could arise because of a request from Saudi Arabia following an expanded Houthi incursion, or because of the need to stabilise and provide humanitarian support to the Western Coast following an ecological disaster such as the one that would follow the disintegration of the FSO *Safer*.¹³⁰ Again, the viability of the deployment would depend on the capacity to project a wrap able to protect bases and logistics from UAVs, loitering munitions, ballistic missiles and dense minefield. The Houthis of 2014 fought in platoon-sized, family-based combat groups who were experienced in mountain warfare, but struggled to mount operations at scale and lacked sophisticated weaponry.¹³¹ Today, the Houthis have demonstrated the ability to conduct intelligence-led targeting to deliver long-range precision fires against time-sensitive targets.¹³² They have synchronised the use of tactical ballistic missiles with ground manoeuvre.¹³³ Moreover, they are employing a mixture of snipers with thermal scopes, assault groups, loitering munitions, anti-tank guided weapons and air defences as combined arms elements to defeat enemy forces that are fielding multiple main battle tanks. While the scale of these activities does not compare to a peer adversary, it highlights how the UK would need to be able to deploy a layered defence of its airhead to project into the theatre, or else risk being coerced into irrelevance. It is precisely this capacity to deploy layered defences, despite having a limited expeditionary capacity when compared with the size of its ground forces, that has been instrumental to Russian operations in Syria and elsewhere. If UK forces are to defend others to build influence or deter an enemy, they must first demonstrate that they can deploy and protect themselves.

130. Joseph Hincks, 'A Rusting Oil Tanker Off the Coast of Yemen Is an Environmental Catastrophe Waiting to Happen. Can Anyone Prevent It?', *TIME*, 14 May 2021.

131. Michael Knights, 'The Houthi War Machine: From Guerrilla War to State Capture', *CTC Sentinel* (Vol. 11, No. 8, 2018).

132. *BBC News*, 'Yemen Soldiers Killed in Houthi Drone Attack on Base', 10 January 2019.

133. Ian Williams and Shaan Shaikh, 'The Missile War in Yemen', CSIS, June 2020.

The requirement to be expeditionary imposes several implications on force design. The first is that, beyond that which is forward deployed, the force must be deployable by air or sea and thereafter be organically mobile across operationally relevant distances. The second is that an expeditionary force must operate in self-contained combined arms groupings with a limited requirement for higher headquarters to execute tactical actions. This does not mean that there is not a need for higher headquarters, but the UK needs to be able to deploy forces at varying scales depending on whether it is trying to support a partner force against a heavily armed non-state actor or confront a peer adversary. Either task requires the same combined arms elements to defeat the enemy, even if the scale of threat (and therefore mass) necessary to effectively operate is different. If brigade combat teams are used to leaving responsibility for orchestrating combined arms elements to higher echelons, they may find themselves poorly prepared for the increasing complexity of tactical operations. For example, in an environment saturated with UAS, which are variously capable of detecting, tracking, jamming or striking targets, the assumption that a battlegroup can leave air defence and therefore aerial deconfliction to the brigade is dangerous.

Finally, for understandable reasons, the emphasis of multi-domain integration is on communications. However, an expeditionary activity is by necessity joint. Operation *Pitting*, the evacuation of Kabul, could not have been achieved by the RAF without a deployable land component that could clear and secure the runway. Conversely, the land force could not get anyone out without strategic lift. In a comparable situation in Lebanon, for example, the Royal Navy would be equally important. Yet, today, capability decisions – and especially requirements – are managed by each frontline command separately. The consequences include the core of the strategic lift fleet, A400M, having a ramp that cannot support a complete Boxer,¹³⁴ which is set to be the core of the protected mobility fleet. Such a lack of integration has substantial operational implications. If the force is to be expeditionary, the number of lifts to deploy must be minimised and the volume of infrastructure necessary at the receiving end must be reduced. Vehicles and equipment need to be rolled off their deployment platform so that they can be quickly removed from the runway, enabling multiple aircraft to come into a small airfield in quick succession. An expeditionary force must be easy to deploy in a logical sequence, otherwise policymakers will face concurrent dilemmas about how to get the force into theatre that will increase risk and reduce appetite. The second risk emanating from a lack of multi-domain integration in force design is that it will slow down deployment, and speed is critical.

Fast

The Royal Air Force Regiment was established in 1942 to provide force protection to deployed airfields. As the deployable land force of the RAF with a high degree of familiarity with aircraft and the management of airfields, it holds a specialist function in protecting airheads. Nevertheless, on 13 August 2021, when UK forces initiated Operation *Pitting* to evacuate entitled persons

134. Bundeswehr, 'GTK Boxer – Aus der Idee wird Realität', 16 August 2020, <<https://www.bundeswehr.de/de/organisation/luftwaffe/aktuelles/gtk-boxer-aus-der-idee-wird-realitaet-1313636>>, accessed 22 October 2021.

from Kabul as Afghanistan fell to the Taliban, the RAF Regiment were conspicuous by their absence. Instead, the Army's 16 Air Assault Brigade were deployed. The reason for this was straightforward: speed mattered more than expertise.¹³⁵ Having skilled and adaptable people on the ground made success possible. Having expert personnel en route would have achieved nothing. The gap between success and failure could be measured in hours, not in the precise force protection posture adopted once deployed. This is not to slight the professionalism of the RAF Regiment. It is simply to highlight that, irrespective of their qualities, the RAF Regiment had not been held at sufficient readiness to be able to deploy at the speed of relevance. 16 Air Assault Brigade have been clear that their readiness is in no small part enabled by the cohabitation of the various brigade elements so that the officers all know one another well and can adapt rapidly on the fly.¹³⁶

Operation *Pitting* should not be seen as unique in the way in which speed trumped most other considerations. When Russia seized Crimea in 2014, it took just 10 days. When Azerbaijan opened a full-scale offensive against Armenian forces to retake Nagorno-Karabakh in 2020, the transition from border clashes to full-scale war took less than 72 hours. In 1982, the UK's retaking of the Falklands was crucially enabled by the fact that the Task Force could be assembled and put to sea within 72 hours. Had the military not been able to act this quickly, the political will could easily have faded. Once at sea, the fact that forces were deployed narrowed the political debate. It is consistently the case that the judgement to go to war revolves around crises with a limited window of opportunity in which deterrence can be messaged. Any major war requires more materiel than can be assembled in a matter of hours. There is a need for a second echelon. However, a politically relevant military must be able to project a credible force package at a relevant speed. Historically, the political decision to apply force or not has often demanded that options be presented and that the leaders have a tangible demonstration of their decision being in motion within 72 hours.

That units are held at staggered levels of readiness makes sense. It is highly resource intensive to hold units at very high readiness, and this constrains the ability to train or take holiday, which affects retention. For this reason, the Army holds high- and low-readiness forces. However, much of the lower-readiness force presupposes that government will plan effectively and thereby make decisions in time to bring relevant parts of the force up to readiness in the lead up to crises. There is no historical evidence to support this assumption. The UK government has a long history of transitioning from normal running to crisis, and while the need for preliminary preparation is often recognised in the system, approving the activity often suffers from being too low a priority. Thus, shortcomings for pandemic preparedness were flagged and ignored until a pandemic struck.¹³⁷ The fact that seizing the *Grace 1* would lead to a retaliation by Iran was

135. Lt Col David Middleton, Presentation to RUSI, 12 October 2021.

136. *Ibid.*

137. Robert Booth, 'Coronavirus Report Warned of Impact on UK Four Years Before Pandemic', *The Guardian*, 7 October 2021.

predicted, but a response was not actually formulated until the Iranian reaction happened.¹³⁸ Once in crisis, government is often highly coordinated. Outside of crisis, it is not. However, despite many officials preaching about how to make the system more effective,¹³⁹ this pattern persists. For UK land forces, it would therefore be better to work within the constraints of this system than build a structure which is premised on the improvement of the wider government machine. Land forces should practice surging readiness in response to emerging challenges without waiting for direction to deploy. If the requirement to deploy never materialises, such variations in readiness have considerable training value. If the decision to deploy comes, it ensures that key components of the force can get out the door within the speed of relevance. The Army must ensure that when policymakers ask for options, it has courses of action to offer. If funded as a component of training, it also ensures that UK land forces offer a greater deterrent effect, because they could shift posture quickly.¹⁴⁰

A further aspect of surging readiness is deploying to exercises at relatively short notice. At present, planning for exercises abroad takes years. However, in competition, the speed at which help can be brought to bear matters. When the Islamic State seized Mosul, Iran gained a great deal of leverage and good will in Baghdad because of the speed with which it responded in offering and delivering materiel aid and military advisers. Meanwhile, the UK's bureaucracy saw quibbling over the provision of an insignificant number of machine guns and subsequent shortages in the supply of ammunition.¹⁴¹ The ability to move fast and at scale buys credibility. In an example of the UK being more effective, the provision of over 2,000 anti-tank missiles to Ukraine, and the training package to employ them,¹⁴² was both conspicuously ahead of many NATO allies and offered a capability relevant to the threat in a volume that mattered.¹⁴³ By conducting training in theatre and at scale at comparatively short notice, land forces can project influence and deter adversaries.¹⁴⁴

138. Author discussions with Foreign and Commonwealth Office (FCO) and MoD personnel, London, July 2019.

139. Fusion Doctrine was the latest turn of the handle, yet is already fading from parlance. See HM Government, 'National Security Capability Review', March 2018, <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/705347/6.4391_CO_National-Security-Review_web.pdf>, pp. 8–11, accessed 27 December 2021.

140. Russia's regular snap readiness drills are a good example. See *Moscow Times*, 'Putin Orders Massive Snap Military Drills', 17 July 2020.

141. Anthony Loyd, 'Kurds Need Bullets for British Guns in Isis Battle', *The Times*, 11 April 2016.

142. Deborah Haynes, 'Russia-Ukraine Tensions: UK Sends 30 Elite Troops and 2,000 Anti-Tank Weapons to Ukraine Amid Fears of Russian Invasion', *Sky News*, 20 January 2022.

143. *Politics.co.uk*, "'God Save the Queen' Trending in Ukraine After Transfer of British Arms Deliveries', 22 January 2022.

144. As Britain successfully achieved in the 1961 Kuwait Crisis. See Nigel Ashton, 'Britain and the Kuwaiti Crisis, 1961', *Diplomacy and Statecraft* (Vol. 9, No. 1, 1998), pp. 163–81; Nigel John Ashton, 'A Microcosm of Decline: British Loss of Nerve and Military Intervention in Jordan and Kuwait, 1958 and 1961', *Historical Journal* (Vol. 40, No. 4, 1997), pp. 1069–83.

Privileging Firepower

In 1950, at the outbreak of the Korean War, the US deployed the very-high-readiness Task Force Smith to halt the North Korean advance. It failed. Besides being too small, it lacked anti-armour capabilities, meaning North Korean T-34s were able to push straight through its positions.¹⁴⁵ If UK land forces are to be expeditionary and reach theatre quickly, it follows that they will persistently struggle to have an advantage in mass against most adversaries. Where the UK lacks the means to deny or punish hostile activity, it risks being severely constrained in its freedom to operate. In Iraq, for example, attacks on supply convoys¹⁴⁶ and harassment of bases¹⁴⁷ has increased force protection and denied UK forces' access to the environment. Meanwhile, in warfighting, a force that lacks teeth risks being perceived as the weak link in an alliance and may be targeted disproportionately. Countering these challenges requires that UK forces seek to impose a disproportionate cost on confronting them. The general principle should be that committing an equivalent force against one of their units will cause the former to be mauled. If the UK deploys a brigade, its combat arms should have the firepower to overmatch an adversary brigade. The consequence of this approach is that tackling the unit becomes disproportionately resource intensive. In a coalition context – where the UK is providing a minority of the forces – privileging firepower at the tactical level also has the effect of making UK units net contributors to the force, rather than a planning constraint on allies because of an assumed dependence on allied fire support.

Imposing a dilemma disproportionate to the size of the force deployed can be achieved through offensive and defensive means. Defensive systems can compel the adversary to need to engage extensively in the direct fire zone against a formation. A force that has a robust set of electronic countermeasures, soft- and hard-kill active protection, and good situational awareness, and can be deployed with dense short- and medium-range air defences, is difficult to dislodge. Such a force can be whittled down, but this requires the adversary to commit a disproportionate volume of resources to remove it. In many respects, a force with layers of defence must be attacked from multiple vectors or domains simultaneously to lower the threshold for saturation. However, this exponentially increases the resources necessary to attrit it because it means that multiple lines of effort must be synchronised to attack the formation. This imposes a high threshold for taking on the force. Where forces without layered protection can be attrited through a drawn-out series of isolated attacks, a force with this kind of systemic protection can only be attrited once attackers saturate the defensive layers. Thus, each attack must be at a relevant scale. In many contexts, this scale becomes prohibitive either because it requires too much resource to be committed to a single effort or because doing so is such a clear escalation that it guarantees retaliation and for the attacker to be perceived to have escalated the conflict. A

145. T S Allen and Jackson Perry, 'Task Force Smith and the Problem with "Readiness"', Modern War Institute, 17 July 2020, <<https://mwi.usma.edu/task-force-smith-and-the-problem-with-readiness/>>, accessed 27 December 2021.

146. *Reuters*, 'Explosions Hit U.S. Coalition Supply Convoys in Iraq: Sources and Military Say', 10 August 2020.

147. Ahmed Rasheed and Suleiman Al-Khalidi, 'Series of Attacks Target U.S. Personnel in Iraq and Syria', *Reuters*, 8 July 2021.

good example of this dilemma, albeit under the most favourable circumstances for the defender, is the conflict between Hamas and Israel. For Hamas to inflict any damage, it must conduct so many strikes that it creates a clear justification for Israel to use significant levels of force in retaliation. Furthermore, the layered Israeli defences absorb a significant proportion of Hamas's resources for it to achieve anything approaching saturation.¹⁴⁸

Having forced an adversary into the close fight, a force's offensive firepower becomes of primary significance. For example, sending an armoured unit to attack an infantry force takes on a very different prospect if the defending light infantry are known to have a high concentration of modern ATGMs. The armoured force may have the mass to punch through the infantry, but if doing so guarantees a high cost in vehicles and personnel, the utility of attacking the force is significantly reduced. It becomes much more sensible to bypass the infantry or attack elsewhere. Where a high density of ATGMs, medium-calibre cannon and covering fires are concentrated, an enemy faces a difficult choice in committing troops against the unit. Not only must the attacker concentrate to overrun the defending formation, but in doing so it exposes itself to what it knows will be a substantial volume of fire. Even if the defending force cannot deliver a sustained high rate of fire, such a force ensures that any enemy victory will be pyrrhic in character. The cognitive effect of lethality is also a more powerful deterrent than simply making a force survivable. The BM-21 is an interesting example of a capability with this effect. Even though a battery of BM-21 is slow to reload, and its munitions are unguided, no adversary wants to be on the receiving end of its strike while trying to manoeuvre. The known effectiveness of the threat therefore shapes the enemy into highly suboptimal dispersed groups which ensure that advances will be slow and inefficient. The Russian TOS-1A has a similar impact. Its capacity to deliver lethality disproportionate to its size makes it a major planning consideration to either be avoided or made a high-priority target, absorbing ISR resources.

Conventional UK forces have doctrinally preferred precise rather than volume of fire and have taken the view that the manoeuvrist approach should compensate for material disadvantages.¹⁴⁹ Thus, the UK opted for the semi-automatic SLR rather than a select-fire FAL, and continued the privileging of precision over volume with the attempt to use the LSW rather than a section machine gun. The same methodology has been applied widely across the force, such as the disinclination to liberally distribute anti-tank weapons in case soldiers not ideally suited for engaging armour decide to go tank hunting.¹⁵⁰ While this has been a persistent bias in force design in the UK, it has generally been dropped in practice as units attempt to rapidly up-gun once in contact. Meanwhile, those elements of the British Army that assumed numerical

148. Seth J Frantzman, 'What Do We Know About the Number of Rockets Fired at Israel?', *Jerusalem Post*, 17 May 2021; Joseph Trevithick, 'Continuous Mass Rocket Attacks Pose New Challenges for Israel's Iron Dome System', *The Warzone*, 12 May 2021.

149. Land Warfare Development Centre, *Army Doctrine Publication AC 71940: Land Operations* (London: MoD, 2010), p. 5-1.

150. Even the Upgraded Warrior IFV (which has been cancelled) and AJAX lack an anti-tank guided weapon, which is a notable difference with almost all allied and adversary platforms in this class.

inferiority have long privileged volume of fire.¹⁵¹ Given that the persistent theoretical preference for limited firepower has almost always been progressively displaced during campaigns by the practical experience of operations,¹⁵² and that in the future the British Army is likely to lack a numerical advantage, it should privilege firepower.

Beyond increasing the organic firepower of its units, there is also disproportionate value in ensuring that deployed UK forces have recourse to overwatching fires. This means that units should be supported by adequate fires elements. In terrain that makes the logistical tail of large artillery units exceedingly burdensome, so the force should use loitering munitions and other emerging technologies to ensure that opening fire against it is to invite the convergence of precise and effective responses. Again, range and firepower have a deterrent effect. Even if an enemy force overmatches the UK unit in aggregate, the promise of a rapid response discourages individual initiative. Ideally, the effect achieved becomes comparable to the impact of anti-radiation missiles on surface-to-air missile operators, where even if the SAM is capable of engaging the aircraft above effectively, the promise that doing so will lead to a strike often causes radar to be kept off or switched on for periods that are too short to achieve optimal effects.¹⁵³

Compatible

To project influence, the UK must be able to deploy self-contained land force units of action that can operate independently. The consequence of having a force that can only operate as part of a coalition is to cede all influence to the enabling power, since it is they who decide whether support can be granted and it is their commitment that must therefore be sought. Without their commitment, the UK can only write bad cheques. The consequence of such a situation is that when the UK or other European powers attempt to negotiate with Russia, for example, the Russians ignore them unless the US is present.¹⁵⁴ Without an ability to operate independently at any scale, deterrence activity becomes meaningless, and the pursuit of influence even more so.

The ability to operate independently is also valuable to great power partners because it means that burdens can be shared. The UK's mantra that 'we always fight as part of an alliance' has become a fig leaf covering the hollowing out of what it can actually contribute to the alliances on which it depends. Framing contributions in terms of sovereign deployable capability is important, not only because it gives the UK government the ability to decide when and whether to operate, but also because it forces a more honest discussion on military capability. The capacity to deploy

151. Cedric Delves, *Across an Angry Sea: The SAS in the Falklands War* (London: Hurst, 2019), p. 299.

152. Nick Reynolds, 'Learning Tactical and Operational Combat Lessons for High-End Warfighting from Counterinsurgency', *RUSI Journal* (Vol. 164, No. 7, 2019), p. 52.

153. Mark Clodfelter, *The Limits of Airpower: The American Bombing of North Vietnam* (Lincoln, NE: University of Nebraska Press, 2006); Benjamin S Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (Santa Monica: RAND, 2001), pp. 102–15; author interview with RAF pilot flying combat missions over Iraq to enforce the no-fly zone, London, October 2021; Eliezer Cohen, *The Sky is Not the Limit: The Story of The Israeli Air Force* (Tel-Aviv: Sifriyat Maariv, 1990).

154. Author observations from multiple interactions between Russian officials and Western diplomats.

self-contained formations does not mean that the UK anticipates fighting alone; there are few circumstances where this would be necessary or desirable. Instead, it ensures that the UK can make its own commitments to partners and have its contribution measured, rather than simply offering an amorphous augmentation to another state's decision to act.

At the same time, if UK units are to operate alongside partners and allies in practice, it follows that UK land forces must be compatible with the forces that they work with. In the first instance, this means compatibility with NATO. Ensuring this requires that the UK work closely to keep the relevant standardisation agreements – especially as they relate to data and communications – up to date. There is also a need to work collaboratively in the development and procurement of capability to ensure that modernised rail links, shared lift, ammunition storage procedures and stockpile regulations, and the calibre of munitions, is as consistent as possible. As vehicles are made hybrid or begin to use more diverse fuels in response to climate change, it is also important that maintenance facilities across the alliance can support one another. The easiest way to do this is to pursue modularity for power packs and other components within future vehicles.

A further reason for prioritising component compatibility is that the UK is unlikely to be a sufficiently large customer to define equipment requirements on its own without facing an exorbitant procurement cost. Since exports will be critical to the affordability of future platforms, it follows that the latter must be able to accommodate the needs of partners and allies. Of course, countries will also compete to upgrade and thereby win market share for power packs and other components. If the UK is to ensure affordable components and a robust supply chain, there must be this competition in parts – and agreements regarding common interfaces for modular components – so that power packs and other elements can be procured and swapped out.

The issues of compatibility become more complex with partners outside of NATO. In most contexts, it is less efficient in these cases to work alongside partners in independent units. Instead, UK units will likely aim to work by, with and through partners. However, this presents challenges for command and control.¹⁵⁵ One method would be to use long-term liaison officers and trainers as embedded signallers with communications equipment, enabling them to act as a network permeating the partner force. Another possibility is the use of communications bridges to tie partner forces into UK networks, though this presents several security challenges. In either case, the UK will need a consistent methodology for achieving this effect. It is possible that the shift to IP-based communications in many operating areas, and the use of portal-based access, may present opportunities to simplify the bridging of partner communications and even commercial communications infrastructure into the UK's military networks.¹⁵⁶ However, where the military is providing the bearer network, such capabilities cannot be improvised and it must ensure that its forces can work with a range of non-standardised partner communications architectures.

155. Nick Reynolds, 'Performing Information Manoeuvre Through Persistent Engagement', *RUSI Occasional Papers* (June 2020), pp. 48–52.

156. Reynolds, 'Getting Tactical Communications for Land Forces Right'.

To be effective within an alliance similarly demands that capabilities are compatible with the command-and-control infrastructure of allies, and that there is mutual familiarity with the training, tactics and procedures of the capability. The US Marine Corps, for example, has found in large-scale free-play exercises that one of the most consistent causes of fratricide on the battlefield is air defence engaging aviation that is being dynamically tasked.¹⁵⁷ If the UK, by way of example, is to offer NATO a large and highly capable aviation capability, it is vital that there is a means to integrate UK planning with the wider alliance air defence picture. Similarly, if the UK were to invest heavily in novel and long-range fires, it is important that allied forces – who in many cases will be pre-positioned forward – know how to call for these effects and that the UK can indicate to allies the likely impact of using these systems so that they know how to exploit the impact on the enemy. Compatibility therefore demands that the UK invest disproportionately in land force capabilities that complement and cover gaps in the alliance's forces, but also that the UK invests in the training to build familiarity and trust in the relevant systems with its allies.

157. Author interview, USMC MAGTC MWX HICON, Twentynine Palms, October 2021.

Conclusion

THIS REPORT HAS examined what the UK's interests require of its armed forces, what land forces can best contribute to the required military options and what characteristics the force must possess to assure its policy relevance. In summary, it has argued that the military must deter Russia from escalating to warfighting against NATO, but that this requires deterrence to be maintained across a broad geographic area in response to the threat of limited conflict. Furthermore, the military must deter global threats to the UK's economic and security interests through the capacity to deliver prompt punishment. To achieve this, and to improve the security of key arteries of trade and sources of critical resources, the UK must seek to project influence among strategic partners. As scarcity of key strategic resources causes states to compete, securing the UK's influence increasingly depends on an alignment of trade and defence policy.

Land forces offer a critical capability to both reassure partners through the commitment they represent when deployed and deter adversaries through the asymmetry they impose if they can establish a position before the outbreak of conflict. They can also use their presence on the ground to build an understanding of the environment or protect others in doing so, and thereby act as an enabler to other services and departments of government.

In seeking to deliver against these policy requirements, the suitability of the British Army's force design can be judged by whether it meets the following criteria:

- Is the force informed about its operating environment?
- Is the force able to project its combat and support arms in an expeditionary capacity?
- Is the force able to deploy into theatre within a policy relevant timeframe?
- Does the force overmatch adversary formations of the equivalent echelon in terms of its firepower?
- Is the force compatible with the partners and allies alongside whom it will need to fight?

It is worth applying these questions briefly to the current force to understand where development is essential.

Informed

The Defence Engagement Strategy,¹⁵⁸ refined since 2017, has arguably made an appreciable improvement in the empowerment and management of defence attachés and the UK's coordination of defence engagement activity. The creation of the UK's Ranger Regiment and Security Force Assistance Brigade should provide a more structured means of offering

158. MoD and FCO, 'UK's International Defence Engagement Strategy', 2017.

longer-term support to key partners and developing a cadre of personnel with experience operating with partner forces. The alignment of Ranger battalions with line infantry units also creates administrative connections to surge follow-on forces if necessary.

At the same time, information management across the force and between deployments remains poor. Soldiers and officers with language skills are poorly leveraged because of both structural issues with reassigning personnel and the extent to which the force tracks and understands its own people's talents. There is still a strong cultural bias towards a set career path that discourages less senior personnel from pursuing defence engagement, while the force often fails to exploit the experiences these personnel have built up. Project CASTLE, the Army's line of effort to improve its talent management, is not just about improving the welfare, retention and career management of the Army, but has critical operational outputs in delivering a policy-relevant force.

The biggest barrier to having an informed force is cultural. There is a wider defence culture of risk intolerance that restricts forces from interacting sufficiently with the countries in which they are deployed. Here, the capacity for information technology to enable micro-control of activity from afar is especially toxic. Defence engagement should enable courageous diplomacy.

Expeditionary

One of the defensible reasons for low risk tolerance for small, deployed teams is the medical support available to them. The Army has one deployable level 3 field hospital. This is clearly insufficient in terms of units of action to support dispersed activities. It is also too large to support small deployments. The restructuring of the Army under Future Soldier sees medical capability held by the Field Army and distributed in more agile teams. The viability of having a higher level of surgical capacity in smaller medical posts – where complexity of injury rather than volume of casualties is the critical factor – is still to be seen. It is likely critical to making the Army sufficiently expeditionary.

In a wider sense, the Army's position as an expeditionary force is mixed. New systems such as Sky Sabre, offering a highly capable air defence capability, are both projectable and can conduct operational manoeuvre. The key is to procure this system in sufficient quantity to have a relevant number of systems at readiness. Apache is another system that has been projected rapidly, and the formation of 1 Aviation Brigade provides a framework for force generation for expeditionary operations, though it requires some expanded logistics components. Boxer is capable of operational manoeuvre but is very inefficient to airlift. Meanwhile, RORO availability is poor and the Army and Royal Navy have done too little to understand how they can support one another. Ajax will similarly need to be projected primarily by sea. Challenger 3 is not expeditionary, but conducting training in Germany and keeping much of the force forward deployed in the Baltics likely places the capability where it is most needed to deliver a deterrent effect.

At the same time, the UK's fires and engineering capabilities are worn out and largely unsuitable for expeditionary activities. Much of the engineering equipment is fatigued and optimised to

support large, heavy forces. It is also too limited in number to be deployed. Furthermore, there are critical parts of the protective layers necessary for expeditionary deployments that are lacking. Counter-UAS is one example. Although the Army has announced plans to expand the number of EW troops, it is not yet clear how many baselines this generates and whether this can maintain a sustainable deployment cycle.

Fast

Readiness has been reduced as an efficiency since 1997. The result is an Army that, prior to the Integrated Review, was likely able to get a heavy brigade mobilised after 60 days and something approaching a division beyond 120. In short, the Army could not offer any meaningful options at the speed of relevance. Forward-basing heavier equipment, increasing the suitability of the force for expeditionary deployments and strengthening joint planning with the other services should improve the speed at which the Army can generate options. However, there is also a need to expand the proportion of the force held at readiness. Given the intention to align each Ranger battalion with line infantry, rotating a part of each grouping at readiness would be one way to pursue this. More immediately, however, the Army could reinforce success by expanding the Global Response Force. At present, the forward element of that force comprises one company. Despite how capable its personnel are, this is too small to provide sovereign options or make a large enough contribution to buy influence in planning with partners and allies. There is also a need for the Army to conduct serious studies into the reaggregation of its forces and how quickly its fleets can be serviced for redeployment, especially if more assets are intended to be pushed further afield.

Privileging Firepower

This is probably the greatest deficiency in the UK's force design at present. At all echelons, the force is woefully deficient in firepower. In almost every combat element, the number of systems at a calibre or available in the volume fielded by an equivalent adversary formation is inferior. There are not enough barrels, nor enough munitions to make those that are available effective. Where UK units mount .50-calibre heavy machine guns, adversaries mount 30mm or 57mm cannon. The UK's artillery remains outnumbered, outranged and outmatched as regards lethality. Too few personnel are trained or equipped with ATGMs to effectively halt enemy armoured sub-units. Without these capabilities, the force will struggle to deliver a deterrent effect.

The Defence Command Paper did note investment in new ammunition natures, and funding is promised in the future to modernise the artillery.¹⁵⁹ The Army must see these lines of effort as critical to its future credibility. It must not make the perfect the enemy of the good,¹⁶⁰ but instead assure that these programmes deliver, and at scale.

159. MoD, 'Defence in a Competitive Age', p. 54.

160. Jeremy Quin, Ministerial Keynote, RUSI Land Warfare Conference 2021, 03:00–22:00, <<https://www.youtube.com/watch?v=QSIRHbFXofM>>, accessed 27 December 2021.

The culture in which the right system can be brought to bear against each target, inculcated during the War on Terror, is a recipe for being defeated in any high-intensity conflict. Troops must have the tools available to hurt what they are confronted with, and against a state adversary they cannot count on setting the conditions for what is sent against them. For this reason, the pursuit of multipurpose munitions is especially valuable. HVM and LMM are good examples. Although designed for engaging aircraft, the Royal Navy has demonstrated the potency of LMMs against small boats, and these munitions would likely prove sufficiently effective against ground targets short of main battle tanks.

Compatibility

After 30 years of extensive NATO operations, the compatibility of the UK's land forces with many allies is currently quite high. There are also a range of mechanisms, from NATO to the CJEF, JEF and other multinational exercises, to maintain familiarity with other countries' approaches. Compatibility with the rest of government is less developed. The military has a strong tendency in competition to do its initial planning and then consult with the rest of government when there is insufficient time to adjust assumptions. Other departments therefore feel pressured, while the military has left it too late to properly leverage wider expertise. The results are often poor. Instead, the military will need to bring in external expertise early while generating courses of action and be more comfortable deviating from its strict estimate process since other departments will not know when they can engage with this process. If the assumptions are right, military generalists can often provide the staffing horsepower to quickly create the detailed planning. Technical compatibility with allies is also potentially at serious risk as forces around NATO modernise. The pursuit of multi-domain integration in the UK, the scope and scale of multi-domain operations in the US, and the pursuit of autonomy alongside growing concerns about cyber security all pose serious challenges to the compatibility of systems.

The UK, in recognising that it is too small a customer to develop and be the sole purchaser of land systems, should seek to collaborate with strategic partners to develop its new capabilities. In doing so, it is likely that the UK will need to simplify or sacrifice some of its unique preferences to ensure that the product meets the requirements of partners and allies. The British Army is arguably moving in this direction through the Land Industrial Strategy, and the Complex Weapons Programme¹⁶¹ shows how such an approach can create highly effective capabilities. Such collaborations with a wider group of strategic partners could be an important contribution to the British Army's projection of influence and a means of ensuring the compatibility of the force's support requirements when deployed.

In summary, the Army is partially fulfilling the requirements to meet the demands of policy and – if it succeeds in implementing what is set out in Future Soldier and the Defence Command Paper – it will be closer to what is required than it is today. However, the force falls short in important areas. It lacks firepower, deployable mass and expeditionary support arms, and must

161. Think Defence, 'UK Complex Weapons – Reference', <<https://www.thinkdefence.co.uk/uk-complex-weapons/>>, accessed 27 December 2021.

confront cultural adjustments to deliver what the UK needs. While this requires a sustained effort from the Army, it also needs assurances from government about the capacity to plan programmes over the next decade and that the MoD functions more like a shepherd rather than a referee as regards the coherence of the joint force.

About the Author

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