King's Research Portal

Document Version
Publisher's PDF, also known as Version of record

Link to publication record in King's Research Portal

Sources of military change: Emulation, politics, and concept development in UK defence

David Morgan-Owen📍, **Aimée Fox**
and Alex Gould

Abstract

Judging by its doctrinal publications, the UK Defence establishment stands poised to begin a process of unprecedented change. The language of 'multi-domain' thinking is prominent within this discourse and is identified as being a key vehicle via which UK Defence will deliver upon its programme of reform. This article seeks to offer an initial evaluation of these claims and to assess them in light of the burgeoning literatures on Western defence 'transformation' and military innovation that have emerged since the early 2000s. We argue that 'multi-domain' thinking reflects a form of 'cosmetic' emulation by the British Defence establishment and that its appearance within UK doctrine has been driven more by internal politics than by a clearly thought-through adoption of a new form of military practice.

The history of warfare is littered with examples of militaries adopting or imitating one another's technologies, theories, and practices. As Carl von Clausewitz (2006: 125) mused,

> If in warfare, a certain means turns out to be highly effective, it will be used again; it will be copied by others and become fashionable; and so, backed by experience, it passes into general use and is included in theory.

Scholarship on military affairs has sought to understand the exchange, movement, or replication of military concepts, techniques, and technologies in several ways. International Relations scholars have approached this issue from the perspective of power in the international system, arguing that weaker polities are likely to mimic or imitate the military practices and innovations of more powerful states (Waltz, 2010). As Barry Posen (1993: 81) summarised, 'in any competitive system, successful practices will be imitated'. As Emily Goldman and Leslie Eliason (2003: 8) have argued, however, empirical studies of diffusion reveal 'far more variation in adoption and emulation across states and cultures

School of Security Studies, King's College London, London, UK

Corresponding author:
David Morgan-Owen, King's College London, London WC2R 2LS, UK.
Email: david.morgan-owen@kcl.ac.uk

than conventional international relations theory assumes'. Reflecting this diversity of empirical evidence, 'cultural' and 'linguistic' turns in military innovation studies now examine the ways in which politics, culture, and resource constraints shape different trajectories of emulation and change in different national contexts (Adamsky, 2010; Farrell and Terriff, 2002: 6–20; Goldman, 2006) and the role of discourse in legitimating and shaping the movement of concepts, doctrines, and technologies (Kraft, 2019; Lawson, 2011). Yet the scholarship on questions of emulation and diffusion remains less than the sum of its parts. First, as work in this area has proliferated, it has generated such a plethora of terms to describe dynamics of transnational spread: copying, diffusion, isomorphism, mimicry, imitation, adoption, and emulation (Demchak, 1995; Pretorius, 2008), that a degree of 'collective ambiguity' surrounding diffusion and its related terms now pertains (Laksmana, 2019: 41). Second, and most importantly, existing accounts view the movement of military concepts and technologies as an axiomatic reality, and then focus on factors that militate against their full adoption in different contexts – whether culture, politics, or resources.

In this article, we invert this dominant analytical paradigm. We accept the very visible manner in which US and Western military techniques and ideas diffuse and are adopted by different nations, but are sceptical as to the extent that this represents the genuine movement of a tangible or stable form of transferrable goods. Rather, we see traditional narratives of 'emulation' as obscuring the political processes and forms of contestation that govern the evolution of military practice in reality; overall, we seek to advance understandings of 'emulation' by collapsing it together with such processes and forms of contestation into a single analytical frame.

To do this, we use the example of the 'adoption' of 'multi domain' language and operational concepts in the UK armed forces. Emerging in debates in the United States, 'multi-domain' concepts have proliferated across the North Atlantic Treaty Organization (NATO) and other Western militaries since the late-2010s (Black et al., 2022). The United Kingdom's implementation of these concepts – as encapsulated in Joint Concept Note (JCN) 1/20 *Multi-Domain Integration* (MDI) – will, it is claimed, 'change the way we operate and war fight, and the way we develop capability' (Ministry of Defence, 2020: 3). By evaluating these claims, we observe a form of 'cosmetic' emulation by the British Defence establishment, in which shifts in military practice are primarily driven by alliance politics and domestic reform agendas, and do not reflect a clearly thought-through adoption of a new form of military practice.

The article will proceed as follows. In section 1, it will explore existing literature on military innovation and emulation and highlight the construction of concepts as a distinctive stage in processes of innovation. In section 2, the article will outline the case selection; the final three sections will discuss conceptual evolution in the context of the bureaucratic politics of UK defence, the genesis of 'multi-domain' in the United States, and the political processes that have governed UK 'emulation' therein. Overall, by presenting military emulation as an analytical vehicle through which to appreciate other sources of military change, we offer a new account of the basis of military change in the 21st century.

Military innovation, emulation, and diffusion

The movement of military ideas, technologies, and practice between different national and geographic contexts has been a central feature of military innovation studies since the

1980s. This phenomenon has been explored in a wide-ranging and diverse body of inter-pretations relating to the movement of military concepts, practices, and technologies with a particular focus on system- and unit-level analyses that seek to explain the reasons why emulation occurs (Farrell, 2005; Resende-Santos, 2007) and its consequences for international politics (Horowitz, 2010). Accounts focused specifically upon ideas of emulation and diffusion have explored the adoption of numerous military technologies and practices by armed forces in Europe, Asia, and the Middle East since the end of the Cold War (Coticchia and Moro, 2016; Dyson, 2020; Goldman and Mahnken, 2004; Shamir, 2018; Wiesner, 2013).

In broad terms, analyses of military emulation emphasise the international drivers of military innovation and change. Although the first-wave of 'realist' interpretations of military innovation argued that threats in the international system were the key driver of military behaviour (Posen, 1993), accounts of emulation have added social and cultural layers to their analysis. This allows them to address issues such as the influence of 'great powers' upon global military practices, the imperative to remain 'relevant' to alliance partners as a driver of change, and the impact of the increasingly transnational nature of military professionalism and practice upon the convergence of praxis of Western armed forces (Farrell et al., 2013; King, 2011). The 'cultural turn' in military innovation studies, led by scholars such as Theo Farrell, has proven particularly influential to studies of emulation in the last two decades. This body of work foregrounds the social nature of military emulation, which is understood to refer to 'an organization importing and adopting a foreign military model or way of war, in whole or in part' (Farrell, 2022: 724–725). Farrell in particular has developed a typology of factors – cultural affinity, resource constraints, and tactical performance – which govern the depth and pace of these processes. This methodological premise – that coherent forms of military practice are emulated across national boundaries, in ways that reflect local, cultural, and other norms – has exerted considerable influence over accounts of military change in European armed forces in the 21st century: a period in which British, French, and German armed forces have attempted to modernise alongside the US military's ambitious, technologically driven 'transformation' agenda (Dyson, 2020; Farrell et al., 2013; Schmitt, 2017). Yet, as Lawrence Freedman (1998: 56) summarised with regards to the 'revolution in military affairs': 'the US is in a league by itself in leading the way in information technology and military innovation'. On this point, some have highlighted that European military powers have engaged only in 'modest and selective' emulation of US practices and concepts: Olivier Schmitt (2017: 581) has termed this trend 'selective emulation', whereby the importing of 'doctrinal and material solutions is filtered through a number of idiosyncratic national experiences'.

As others have observed, existing accounts of military innovation and emulation lack terminological precision, and demonstrate a tendency to proliferate rather than to substantively engage with one another and challenge existing assumptions (Griffin, 2017; Laksmana, 2019). As noted above, scholars have frequently noted the barriers to 'faithful' adoption of techniques and ideas across national lines, yet relatively few have taken the implications of this insight about the 'social construction' of military knowledge to their logical conclusions. In some respects, these challenge foundational assumptions about military emulation itself. Studies of military emulation seek to explain a phenomenon – the movement of ideas, techniques, and policies – that can readily be explained by 'normal' policy studies (James and Lodge, 2003). As Mark Evans has argued, 'policy transfer . . . is therefore best concerned with the study of discernible and remarkable features of

contemporary policy change not otherwise explained. The daily diffusion of knowledge, international or otherwise . . . is not remarkable either in terms of process or fact' (Evans, 2006: 487). If international factors are a distinct and determinative driver of military change, then their specific impact needs to be distinguished from other influences on military and defence policy.

Focusing more specifically upon military concepts, we highlight three key challenges to existing emulation frameworks. First, defining military concepts along 'national' lines reflects a degree of national consensus that seldom exists and under-rates the extent to which transnational exchanges of ideas and practice inform the generation of new forms of military practice. Due to extensive processes of functional integration, co-operative agreements and personnel exchanges, Western militaries approximate to what Richard Rose (1991: 16) describes as an 'epistemic community' within which knowledge and concepts are shared. This does not preclude significant disagreements about specific policies; however, those policy choices are rooted in political judgements. Distinguishing between shared concepts and common policies is thus highly significant. Second, even if a host nation desired to import a foreign form of military concept or practice wholesale, the framing of 'emulation' risks reflecting a 'pro-innovation' bias (Rogers, 2003: 106) in assuming that such an outcome would be feasible, given the complexity of military technique, and its mutable and contextual nature. Finally, and most fundamentally, 'emulation' underestimates the significance of politics to military change by adopting a highly constrained view of how 'politics' operates in a military context. Existing accounts of emulation do not dismiss domestic politics as an influence upon armed forces; however, they view it as limited and tend to understand it in highly specific terms – particularly direct civilian intervention in the realm of military affairs (Farrell, 2008: 805). They therefore underplay the influence of bureaucratic and inter-service rivalry (Griffin, 2017: 214), and the powerful influence of domestic political and economic pressures upon the armed forces (Kier, 1997). They also risk obscuring the highly political nature of armed forces themselves, and the processes of contestation and negotiation that occur within military forces.

We argue that while the transnational movement of ideas, technologies, and techniques is a reality of military affairs, framing international drivers of military change as exerting a dominant role over domestic and internal political forces risks confusing symptom and cause. Militaries undoubtedly do engage in forms of emulation; however, we should be inherently cautious about viewing the drivers of these processes as international, or in ascribing credence to the notion that highly complex and contingent forms of military practice can meaningfully migrate to different contexts without being re-made or re-conceptualised in the process. The constitutive effects of local factors, defined by politics and culture, and shaped by language, are powerful and ubiquitous. Rather than seeing 'emulation' as an empirical reality to which culture, resource, and tactical affinity place barriers, we argue that all military practice is inherently socially constructed and imbued with politics – and that those local and domestic concerns exercise a decisive factor over how armed forces function and change.

Case study selection: The adoption of 'multi-domain' language in the United Kingdom

To make this case, the remainder of this article will present a case study of the ways in which UK Defence has responded to the development of 'multi-domain'[1] operational

concepts within the US military. UK Defence has consistently been an object of interest for scholars of military diffusion, primarily in the context of aforementioned 'transatlantic process[es] of military emulation'(Farrell, 2008: 781), in which the United Kingdom has engaged to 'stay, or become, interoperable with US' (Wiesner, 2013: 133). This scholarship has deferred to a narrative of emulation that views domestic factors and contestation as having a constraining, rather than constitutive, effect on military change. Farrell, for example, writes that the spread of Effects-Based Operations (EBO) across the Atlantic was inhibited by the concept's incompatibility with aspects of British military culture – specifically the central tenets of mission command and the manoeuvrist approach. This, he argues, resulted in the term's modification into the more abstract Effects-Based Approach to Operations (EBAO) philosophy, which itself was situated within the broader cross-government framework of 'the Comprehensive Approach' (Farrell, 2008: 793). Overall, he claims that in this process, Britain took 'American ideas and adapted them to suit British circumstances and sensibilities' (Farrell, 2008: 805). In the case of Network Centric Warfare (NCW), similarly, the British military's emphasis upon human-centric approaches to operations and the path dependencies created by existing Defence IT projects saw NCW modified into 'Network-Enabled Capability' (NEC), a distinct and less-ambitious idea (Wiesner, 2013: 70).

While other literature has laid bare the complexity of bureaucratic politics in UK defence – emphasising the influence of austerity and intra-party squabbles on military change (Bury and Catignani, 2019; Cornish and Dorman, 2011), and showing that these drivers meaningfully impact the Ministry of Defence's horizon scanning activities and doctrine production (Uttley et al., 2019: 807–10) – such insights have remained analytically separated from thought on (transatlantic) military emulation. In this context, the spread of 'multi-domain' ideas from the United States to other Western militaries offers an ideal opportunity to re-examine the factors which govern the 'movement' and 'adoption' of a prominent new military concept, which key individuals within the armed forces cite as heralding 'transformational' change. Superficially, 'multi-domain' thinking appears to possess many of the features of a military innovation produced in the United States that is being emulated by other Western armed forces to varying degrees (Black et al., 2022). Following much the same trajectory as NCW and EBO, 'multi-domain' ideas define high-technology approaches to future conflict predicated upon unprecedented levels of integration and information dominance across all 'domains' of war. They are justified on the basis of renewed great power threats, and the technological and doctrinal advances made by potential adversaries. If, as existing accounts argue, the 'partial adoption' of NCW and EBO defined the British armed forces innovation agenda in the 1990s and 2000s, then seemingly 'multi-domain' ideas will do so in the 2020s. The relevant UK doctrine publication – JCN 1/20 *Multi-Domain Integration* – is unambiguous on this score, noting that 'multi-domain' approaches will 'change the way we operate and war fight, and the way we develop capability' (Ministry of Defence, 2020: 3). To interrogate these claims, we trace the spread of ideas about 'multi-domain' practice both within the United States and the United Kingdom, and place them within the context of the other factors influencing the evolution of military practice during the same period. This does not imply that the form of 'emulation' we describe is new; our goal is not only to problematize the separation of emulation dynamics from the broader politics of military innovation, but also to highlight the multiplicity of their potential entanglements.

Furthermore, our case builds on increasing interest in the role of concepts in military innovation. Several scholars now frame the construction and adoption of concepts as practices that precede fully formed 'military innovations' (innovations in this context being understood in terms of empirically proven forms of military practice), directing attention to the development and institution of ideas that may guide substantive innovations before they emerge into functioning military paradigms. While traditionally scholars have been hesitant to assign undue influence to doctrinal change or military discourse, citing the dangers of viewing such material as evidence of meaningful changes to performance or effectiveness (Rosen, 1994), both Horowitz and Benjamin Jensen have argued that 'invention' and 'incubation' are integral and understudied steps within the innovation process (Horowitz and Pindyck, 2022; Jensen, 2016: 142–154). Jensen (2016: 34–35) in particular posits that concepts (which represent the precursor to formal 'doctrine' within military parlance)—represent an 'ideational framework' and define a subsequent 'discursive script'—making them an important part of a conceptual innovation sequence, often shaping force development (Branch, 2021).

As an initial line of enquiry, we examine the contested nature of 'concepts' within UK Defence and the competing attitudes regarding their function and role within the UK armed forces and UK civil–military relations. This allows us to establish the relative significance of 'concepts' as a driver of military change, and to test whether rhetorical adherence to particular military buzzwords and vernacular in fact serves as a tool via which other agendas are legitimated and enacted within UK Defence. This draws on the ideas of Adam Joyce (2012), who has argued that 'concepts' often serve as a proxy for 'micropolitical' contestation within armed forces themselves and become part of the means by which wider programmes of reform are legitimated and enacted. Likewise, we draw on scholarship that has highlighted the role of military expertise or specialist knowledge as factors within civil–military relations, whereby ideas of expertise link to claims for greater resources, autonomy, or decision-making power (Barkawi and Brighton, 2011; Harig and Ruffa, 2022; Kier, 1997).

Following this, we examine the extent to which 'multi-domain' thinking conforms to existing theories of emulation and their application in the US–UK context. Work focused upon tactical and operational adaptation has tended to highlight the rooted nature of military knowledge; that the inherent 'stickiness' and contextual nature of knowledge may inhibit the extent to which such concepts can be meaningfully transmitted and adopted (Szulanski, 2000). As Chad Serena (2011: 252) has argued, knowledge can 'resist translation into circumstances foreign to its genesis', often proving highly localised and temporal. Building on these perspectives, we highlight the highly contested nature of 'multi-domain' thinking in both the United States and the United Kingdom, and the practical impossibility of such concepts 'moving' between such radically different contexts. This approach permits us to examine how and why the United Kingdom has been eager to play rhetorical adherence to the 'multi-domain' revolution from the perspective of domestic and alliance politics, and the political demands upon the armed forces themselves. In making our argument, we draw on a variety of sources. These include relevant doctrine and associated pronouncements by defence leaders, reports by defence or defence-adjacent institutions, and testimony given by officers and civil servants on defence policy in public settings; in particular, in parliamentary select committee meetings. The sensitivity of the subject matter precludes on-the-record interviews with defence leaders but the breadth of source material available nonetheless allows us to triangulate all our arguments in detail.

Operating concepts in UK military thought

The British armed forces are often viewed as possessing a sceptical attitude towards centralised doctrine. While claims about the anti-intellectual basis of this tendency towards pragmatism are often over-stated, it is important to note that centralised control of doctrinal and conceptual development has become more prominent since the Bagnall reforms and associated adoption of the 'operational level' as an organising concept by the British Army in the 1980s (Holden Reid and Mackenzie, 1989). From the outset, concepts have been firmly enmeshed in the need to position the military as relevant to politicians, to stake a claim to an area of military expertise and to enforce reforms and changes within the armed forces themselves (Strachan, 2010).

Since the 2000s, the role of 'operational concepts' within the shifting architecture of UK doctrine writing has been closely associated with the institutionalisation of 'jointery' as a central tenet of British military thinking. This process has been hailed as having 'embedded a culture of innovation and intellectual debate' and 'entailed a new quality of conceptual innovation . . . connected to the emergence of military doctrine in the modern sense' (Mäder, 2004: 285–286). A key vehicle for advancing this agenda was the Joint Doctrine and Concepts Centre (JDCC), established as a result of the 1998 Strategic Defence Review. Its remit was to produce doctrine (aimed at the present and near future) and concepts, 'defined as the prospective analysis of the external environment, concerned with looking 10 to 30 years into the future'. The results of this process, as Markus Mäder (2004: 288) has described, 'would be a joint vision about future conflict and the potential force capabilities required'. The ambition of this joint doctrine process has been to promote integration within Defence and to lead and justify that process by conceptual debate – possibly even to position Britain as a source of new conceptual thinking internationally.

Following the 1998 Strategic Defence Review, JDCC produced its initial *Joint Vision* document in June 2001. This document, which remained classified (House of Commons Defence Committee, 2003a), included the 'first embryonic description of what has now matured into a detailed head-mark for the manner in which the UK armed forces should aim to operate in the 2020 timescale' (Joint Doctrine and Concepts Centre, n.d.). This was followed in April 2007 by the *Higher Level Operational Concept* (*HLOC*), which set out 'an effects based framework for operations, and a description of capability'. Unsurprisingly, with its reference to an effects-based framework, the *HLOC* was 'harmonised with US joint concepts' and underpinned by 'the assumption that we will operate alongside US Forces for large-scale warfighting operations' (Joint Doctrine and Concepts Centre, n.d.: 1–1). The aim was to inform the single Services' 'own high level operational concepts', while also guiding a series of subsequent 'environmental operational concepts' and 'Joint Interim Concepts', which were developed as a result of the 2005 Defence Strategic Guidance and the *HLOC* (Development, Concepts and Doctrine Centre (DCDC), 2007: 1–2). To add further complexity, these concepts were nested within a proliferating number of philosophical approaches, including 'the Effects-Based Approach (EBA), Joint Action, and a Comprehensive Approach (CA)' (DCDC, 2007: 1–2), and JDP-01 *Joint Operations*, which set out 'the principles that underpin the planning and conduct of campaigns and operations' (JDCC, 2004: 3).

These developments reflected an agenda focused upon reform and innovation. Yet, rhetoric and reality were not aligned. In *The Utility of Force*, General Sir Rupert Smith (2006: 298) warned that 'operational concepts and organizations tend to be adjusted to

take advantage of the technology rather than to fight in a different way'. Major General Paul Newton (2016: 313), who served as the Director of the DCDC – the successor of the JDCC from 2008 – was far more direct in his criticism, arguing that

> concepts should help manage a new risk or seize opportunity . . . They should be evidence based-narratives about the choices Defence could make, laying out an argument for adopting new ideas or (though they are not generally used in this way) abandoning others.

In this context, 'operating concepts' represented an effort to adopt a more intellectually rigorous, evidence-based approach to force development, one that contrasted with what reformers – like Newton – perceived as current practice. Yet, as Newton remarked, 'that some major new projects exist without an endorsed or tested concept says much about the MOD's decision-making culture. The third leg on the stool of Fighting Power—the conceptual component—is very thin, which suits some interest groups well' (Newton, 2016: 312–313). He elaborated this claim in a co-written and oft-quoted RUSI article in 2010, entitled 'Reclaiming the Art of British Strategic Thinking', which called for the crafting of a 'new strategic "grammar"'. Writing alongside his successor at DCDC and the then Head of Land Research at DCDC, he mounted a stinging critique on the standards and practices of UK strategic thinking, citing 'intellectual and institutional' issues, and observing that a 'focus on the *execution* of warfare has led us to neglect the true *purpose* of a war' (Newton et al., 2010: 45–47).

These critiques reflected the diversion of British military thought away from future conflict towards the immediate problems of counterinsurgency and stabilisation doctrine in the context of the wars in Iraq and Afghanistan. These imperatives also interfered with the structural shift towards a greater centralisation of joint doctrine. As Newton (2016: 313) recalled in 2013, the *HLOC* 'has sunk without trace'. His successor went further still, noting that 'concepts are all revolutions and no torque' (quoted in Newton, 2016: 313). It took until after the United Kingdom's withdrawal from Iraq and Afghanistan and the Strategic Defence and Security Review (SDSR) of 2015 to re-focus work in this area. Appearing before the Defence Select Committee in November 2016, Paul Wyatt, the Head of Defence Strategy and Priorities, referenced DCDC's renewed focus in this area, observing that DCDC 'are developing future operating concepts for all three of the environments and working very closely with the joint environment and Joint Forces Command' (House of Commons Defence Committee, 2016).

One of the results of this re-focusing was to revive the future-focused agenda of the mid-2000s and the *HLOC*. Published in 2017, JCN 1/17 *Future Force Concept* set out to combine 'the separate environmental operating concepts into a single publication'. The document described itself as the first effort to combine the individual environmental concepts into a 'single concept' which would 'guide coherent force development in strategic headquarters and in all commands', and thereby support investment in decision-making and force development out to 2035 (DCDC, 2017a: 9). It espoused the traditional tenets of jointery, arguing in favour of being 'more integrated as a force and more adaptable to changing circumstances'. The importance of operating across 'multiple domains' in a 'full spectrum approach' underpinned by the 'information environment' presaged many of the themes that have since defined debate within Defence (DCDC, 2017a: 10).

If JCN 1/17 signalled a return to an 'enhanced' vision of joint action (DCDC, 2017a: 3), the revival of centralised, high-level doctrine in the 'operating concept' genre

signalled a renewed effort to foster more significant reform and innovation within Defence. Published the following year, JCN 2/18 *Information Advantage* claimed to identify 'the requirement for a fundamental shift in the way Defence executes its business and prosecutes warfare – a transformational opportunity that must be at the heart of how Defence operates' (DCDC, 2018: 2). It argued in favour of pursuing the implications that JCN 1/17 had identified in terms of the impact of information upon future war, and warned that the United Kingdom was being 'outmanoeuvred in the information environment' (DCDC, 2018: 3). Air Marshal Ed Stringer, who served as Director General of Joint Force Development (located in Joint Forces Command (JFC) which then became Strategic Command or 'Strat Com') between 2018 and 2021, described his assessment of the state of UK conceptual development in this period in terms that bear considerable similarity to those used by Paul Newton to describe the period between 2008 and 2010. Appearing before the House of Lords International Relations and Defence Committee in June 2022, Stringer remarked:

> What I believe was missing from defence was continually re-evaluating the theory of winning to keep you ahead of the opposition. . .We set out to take the previously unrealised idea of joint force development and integrate those units I had under command, many of which are very impressive, such as the Development, Concepts and Doctrine Centre. . .and pull the combined output of the thinking power of the services into really thinking through what a theory of winning looked like. (House of Lords International Relations and Defence Committee (IRDC), 2022a: Q91)

This process resulted in the production of the 2021 *Integrated Operating Concept* (*IOpC*), 'and a thing called the future force concept, which is being held within the MoD'.[2] Appearing at the same enquiry, Admiral Tony Radakin, the current Chief of the Defence Staff (CDS), struck similar tones, echoing the importance of Strategic Command as a focus for integration (House of Lords IRDC, 2022b).

Yet despite his focus on enacting structural changes to the ways in which Defence operated, and his desire to adopt a more intellectually and conceptually informed approach to force development, Stringer confessed to feeling frustrated, noting that 'the change from Joint Forces Command to Strategic Command' meant that 'something got lost in there' and that, as a result, 'we have wasted a couple of years' (House of Lords IRDC, 2022a: Q86). In his view, single-service interests continue to frustrate the maximalist ambitions of the jointery agenda, in part due to the 2011–14 Defence Reforms' – commonly known as the Levene Reforms – devolution of budgetary control to the individual chiefs. Stringer's solution to this dilemma involved further structural progress towards a joint vision, centred upon more robust conceptual development. In practical terms, this consisted of creating a military strategic headquarters to provide an integrated force under the control of CDS, increasing career incentives for jointery, forming a 'virtual joint staff', and increasing the power of the defence board (House of Lords IRDC, 2022a: Q88). Some earlier proposals in this area had proven unsuccessful in 2018 ((House of Lords IRDC, 2022a: Q89) with the result that in Stringer's (2022: 22) view, the United Kingdom possesses a joint force 'created by the accidents of several, independent sub-forces developed by the three services'.

The halting development of 'operating concepts' within UK Defence highlights the multiple agendas and structural change processes coterminous with the advent of 'multi-domain' language. The existence of JCN 1/20 *Multi-Domain Integration* is, itself, the

product of an approach to doctrine production intended to embed a culture of conceptual innovation at the heart of UK Defence, and thereby to smooth the development of a fully integrated joint force. From the outset, 'concepts' have been inherently linked to change projects driven by a combination of other factors. These efforts might be understood within the frame of 'micropolitics' as outlined by Adam Joyce. Here, Joyce (2012: 182) highlights the role of a discursive 'paradigm' as constituting an institution's conception of its 'core missions and capabilities', and, in his case study of the US Army in the 1970s and 1980s, argues that efforts to shift these discourses (what he terms 'defection from the paradigm') ultimately heralded the end of the Active Defence concept (Joyce, 2012: 188). Where Joyce focuses on the 'unofficial' discourses of mid-level institutional agents (in particular, writings in journals and magazines), the discursive shift that MDI represents has been effected by agents at the top of UK Defence, as a way of ushering in collaboration and jointness, and integration among the services.

Nonetheless, the path dependencies created by single-service procurement and the MoD's long-term planning cycle have remained notable barriers to this top-down desire for integration and have frustrated DCDC's future-focused work, which has continued to play less of a role in defining a conceptually coherent way ahead than idealised logic would dictate (Uttley et al., 2019: 809). As we will explore more in the section 'Multi-Domain: A Case Study of Emulation?', MDI is thus the latest episode in an ongoing process of change within UK Defence which has seen reformers intent on pursuing projects of centralisation that challenge the vested interests of the single services and position 'concepts' as a rhetorical justification for their aspirations. The very category of 'the concept' is thus far removed from claims to objective military expertise predicated upon the sober analysis of external threats, and inherently bound up in bureaucratic politics. In the next section, we examine how a similar picture pertains in the United States – which the emulation paradigm would position as the source of the 'military innovation' that multi-domain thinking may foster, and which UK Doctrine references as its conceptual lodestar (Ministry of Defence, 2020: 5).

Multi-domain and the US military

As noted above, accounts that treat 'multi-domain operations' (MDO) as a coherent form of military practice locate its origins in the United States, from which it has migrated into NATO, European, and UK military discourse. Motivated in part by the problem posed by Russian and Chinese Anti-Access/Aerial Denial, from the early 2010s US doctrine writers began to explore ideas of 'Cross-Domain Synergy' and the 'greater degree of integration across domains' (Joint Operational Access Concept (JOAC), 2012). These dynamics were further energised by the growing focus on competition with China, which prompted an institutional shift within the US Army and Air Force to replace the capstone AirLand Battle doctrine that had defined US air-land thinking since the 1980s. 'Multi-Domain' became the tagline for this shift. It was used explicitly in US Army and Marine Corps conceptual development in 2016 (Black et al., 2022: 9), was formalised in the Army's 'Multi-Domain Battle' concept in 2017, and evolved into an air-land view of 'Multi-Domain Operations' in 2018. The concept was further established in the 2022 edition of the US Army's FM 3-0 *Operations*, which confirmed multi-domain operations as 'the Army's operational concept'. As Colonel Richard Creed, head of the Combined Arms Doctrine Directorate and a key figure in the US Army's conceptual development in the area explained: 'it [FM 3-0] makes multi-domain operations no longer *a* future

concept but *the* operational concept'. Rather than an aspirational vision for 2028, multi-domain operations has, he continued, 'got to be executed by the force that we have now' (Freedberg, 2022).

Some observers have argued that 'multi-domain' as conceived by the US armed forces has little coherence or value as an anchor for doctrinal development. A comprehensive critique of the US Army's Training and Doctrine Command's (TRADOC) pamphlet *The U.S. Army in Multi-Domain Operations 2028* was provided by Huba Wass de Czege, a retired US Army brigadier who was involved in the development of AirLand Battle. He argued that the 'foundational logic' of the multi-domain operations concept – focused upon the penetration of complex defensive systems and subsequent exploitation – was 'flawed', and betrayed a lack of clear thinking about the nature of the problem or its potential solution. He also attacked the concept's 'vague language' as confusing 'the already thin logic of the concept' (Wass de Czege, 2020: xx). These critiques reflected wider concerns about the focus of US doctrinal development, summarised by Antulio Echevarria as remaining fixated upon an over-defined vision of battle, rather than as a flexible and comprehensive vision of war (Echevarria, 2022). While General James McConville, the US Army Chief of Staff, described the new doctrine in terms of 'bold transformation', various organs of US PME and conceptual development have sought to understand this change in terms of previous periods of military re-organisation and within the framework of combined arms and joint operations (Department of the Army, 2021). Case studies of the US Army in the First World War and of the Pacific Theatre in the Second World War in semi-official sources suggest that MDO's conceptual ambition is less transformational than some of the associated rhetoric (Balboni et al., 2020). This ambiguity is also present within FM 3-0, which depicts MDO as offering 'revolutionary impacts' (Department of the Army, 2022: ix), yet simultaneously situates it within the tradition of combined arms warfare, arguing that '[a]ll operations are multidomain operations. Army forces employ organic capabilities in multiple domains' (Department of the Army, 2022: 1–2, 1–3).

The incoherence of 'multi-domain' concepts in part reflects the political agendas that underpin their evolution and function. As Nina Kollars (2021) has highlighted, significant variance exists in the ways that different elements of the US military are pursuing conceptual development in this area. Thus, while the entire concept of 'multi-domain operations' is predicated upon improving synergy, it is entwined with the reality of service politics and inter-service rivalry. FM 3-0, for instance, has been described as 'a capstone doctrinal shift to account for the Pacific pivot' (Edwards, 2022) and, as a result, has an 'unprecedented' chapter dedicated to the Army's role in maritime operations (Jennings, 2022). It must thus be read alongside claims by the Secretary of the US Army that the Army was 'the backbone of joint operations in the Indo-Pacific', and by General Charles Flynn (2022), the commander of US Army Pacific, who asserted that 'the US Army provides foundational capabilities that enable the joint force to fight and win wars. Many of these capabilities . . . are only found in the Army'. As such, the document, and the military concepts it outlines, cannot be separated from political and inter-service pressures upon the US Army to demonstrate its relevance in a primarily maritime theatre.

The variance in approach between the US services and the inherently contested and politically charged nature of the claims associated with doctrinal depictions of 'multi-domain' operations underlines that no stable and proven model for MDO exists. Emulating it is thus impossible from a European perspective, even if such an approach

was desirable. Further barriers exist in terms of the costs involved with the more ambitious visions for US MDO, and disagreements over how the United States and Europe perceive the nature of the problems MDO purports to solve. As scholars at RUSI have noted, 'the US and its allies do not have a consistent way of describing the multi-domain environment', highlighting the extent of the challenges to advancing synergy in this context (Watling and Roper, 2019: v). The next section traces the use of 'multi-domain' language in the United Kingdom in depth, offering an alternative to 'emulation' as a framework for assessing its adoption.

Multi-domain: A case study of emulation?

Due to the influence of US thinking, the language of 'multi-domain' has spread rapidly across other Western militaries. 'Multi-domain integration' formed the theme of the Royal Australian Air Force's annual conference in 2016, and is animating its future planning out to 2035. In this context, 'multi-domain integration' was framed in the context of the Australian Defence Force's existing 'jointery' agenda (Burns, 2017: 90). 'Multi-domain operations' have also proliferated across NATO, with its Allied Command Transformation aiming to develop an Alliance initial concept in this area in 2022 (NATO ACT, n.d.). In the British context, the language of 'multi domain operations' was first adopted verbatim in JCN 2/17 *Future of Command and Control*, which envisaged 'a multi-domain, full spectrum approach' to 'operations of the future' (DCDC, 2017b: 16). The RAF quickly adopted similar phrasing, and in 2018 reformed No. 11 Group to focus on multi-domain *operations* (Royal Air Force, 2018). Soon thereafter, the United Kingdom's CDS, General Sir Nick Carter, outlined his ambition to move 'beyond jointery' and towards 'integration' in a speech in December 2019 (Black et al., 2022: 2). A dedicated note, JCN 1/20 *Multi-Domain Integration*, was then published by DCDC in November 2020, and the term 'MDI' was adopted in the *Integrated Operating Concept* (*IOpC*), published in August 2021. In the UK context, MDI is viewed as 'the major transformation taking place across Defence' (Ministry of Defence, 2022). Such change is required in order to fulfil the *IOpC*'s vision to deliver 'the most significant change in UK military thought in several generations' (Ministry of Defence, 2021: 5).

Although the language of 'multi-domain' has spread rapidly, it is far from clear whether the term conveys significant common meaning internationally. Speaking before the UK Defence Select Committee in May 2022, Lieutenant General Sir James Everard, the British former Deputy Supreme Allied Commander Europe (DSACEUR), noted that 'wherever you go in the alliance [NATO], you see people talking about multidomain operations or multidomain integration', yet '[t]here is no common understanding in the alliance as to what this is' (House of Commons Defence Committee, 2022: Q171). He continued to comment on the NATO warfighting capstone doctrine, and its relation to multi-domain operations, noting that 'if I got the 30 chiefs here to write an essay on what [MDO] means, I promise you that you would get 30 different answers, because we are all learning' (House of Commons Defence Committee, 2022: Q173).

Much like the United States, the multi-domain debate in the United Kingdom has seen significant diversity of thought and action across different services and commands. When DCDC and the RAF adopted the language of 'multi-domain operations' in 2017–2018, the term was applied in a generic sense to refer to the nature of future operations (Royal Air Force, 2018). Subsequent publications, such as the Command Paper *Defence in a Competitive Age*, published in March 2021, used the term retrospectively to refer to how

the United Kingdom had approached recent operations, describing the campaign against Daesh as 'the decisive multi-domain air campaign over Iraq and Syria' (Secretary of State for Defence, 2021: 29). The deployment of HMS *Queen Elizabeth* to the Indo-Pacific on Operation FORTIS has also been described as evidence that the United Kingdom is already 'achieving' MDI 'on operations today' (UK Strategic Command, 2021b: 11).

Yet JCN 1/20 was focused upon offering a *philosophy* for force design, rather than dealing with the specific operational problems envisaged in TRADOC's MDO publications, or ongoing UK military activity. JCN 1/20 clearly stressed that 'UK MDI is not a copy of the US Army concept' (Ministry of Defence, 2020: 7). In this respect, the UK MDI concept drew heavily upon earlier JCNs, particularly JCN 2/18 *Information Advantage* which argued that the United Kingdom 'must harness this. . .digital horsepower or be left behind' and that 'to regain the initiative and achieve information advantage we must rapidly up our digital game, fundamentally shift the way we think, act, invest, and move with pace through the incremental development of new capabilities' (DCDC, 2018: iii). It had also introduced the idea of 'multi-domain denial' and argued for using information 'at the heart of a multi-domain approach integrated within a national and partnered endeavour' (DCDC, 2018: 20–22). It is with this information-focus that the United Kingdom debate over MDI is thus somewhat distinct from the United States and is in some ways more analogous to the US military's Joint All-Domain Command and Control (JADC2) programme in the emphasis it places upon joint integration via digital networks. Carter referenced this point before his departure as CDS, describing the United Kingdom's multi-domain integration agenda in terms of an IT and communications technology revolution, referencing 'a cloud, or a digital backbone' to create 'extraordinarily good, fused situation awareness' and criticising existing practices as 'not particularly effective' and '3, gusting 4' out of 10 (House of Commons Defence Committee, 2021: Q57, Q62). He then went on to claim that, despite this negative assessment,

> we are probably better off in many ways than the Americans, because they tend to do everything through their services and tend to be, in many ways – they would admit this – more stove pipe than we are. Being smaller. . .we are completely obliged to make it work across the five domains. (House of Commons Defence Committee, 2021: Q62)

Indeed, the JADC2 concept's high-profile failures in war games conducted in October 2020 underlined the extent of these challenges (Dougherty, 2021). In some ways, Carter's rationale here bears striking similarities to Air Marshal Jock Stirrup's optimistic perspective on the United Kingdom's adoption of NEC in 2003, reasoning that the United States.

> . . . look[s] on us with undisguised envy because we are able to put in place the crucial elements of doctrine and process and tie that together with technical capability in a much more coherent fashion than they can. You have staff in the Pentagon working on this, you have got all three Services involved and if you count the US Marines you have four Services involved. They have a very large organisation. They are structured in a completely different way . . . it is much easier for us. (House of Commons Defence Committee, 2003b: Q654)

Both Carter and Stirrup were at pains to stress the United Kingdom's difference and independence – that it was not slavishly imitating the United States. Their justifications also speak to the challenges of scale and scope associated with the emulation of US thinking and ideas. As Eitan Shamir (2018: 697–698) has argued, American military ideas need

to be considered carefully due to the 'overwhelming differences' between the United States and other militaries. The adoption and adaptation of foreign concepts thus needs to reflect both the functional imperative and organisational characteristics of the military organisation (Wiesner, 2013: 140).

Despite Carter's positive rhetoric around integration, the reality remains rather more fraught. MDI discourses continue to reflect a highly centralised agenda closely associated with UK Strategic Command, and, in the language of Joyce's (2012) micropolitics, have been resisted by some of the single services who have diverged and defected from the institutional paradigm. The former Chief of the General Staff, General Sir Mark Carleton-Smith, memorably noted in 2019 that the pace of US Army modernisation meant that the United Kingdom and other NATO partners would find it increasingly difficult to integrate with the MDO concept. He warned of the US military 'accelerating into the future at a pace and a rate that we will never be able to sustain and keep up with', a threat that he perceived to rival the danger from adversaries such as Russia and China (Watling and Roper, 2019: 13). Perhaps reflecting a desire to sustain interoperability with US land forces, the British Army has been hesitant to adopt the language of 'fundamental transformation' associated with MDI and adhered to MDO in its own doctrine. Army conceptual development has itself sought to become more agile and experimental, yet its new Army Operating Concept – developed between 2018 and 2020 – which seeks to shape the future land force out to 2035 explicitly positioned itself in reference to the US Army I Corps' experimental work on MDO and focused upon 'land manoeuvre, air manoeuvre and information manoeuvre' (Tickell, 2019: 5–6). Other services were to be given 'an opportunity to buy-in' during the experimentation process, rather than being integrated from the outset (Tickell, 2019: 6).

Doubling down on these patterns of thought, the British Army's new ADP *Land Operations* chose the language of 'multi domain *operations*', seemingly distancing itself from DCDC and Strategic Command's 'multi domain integration' agenda (Land Warfare Development Centre, 2022: 2–2, note 4). In this context, the British Army argues that 'the term "multidomain" simply means activities conducted in more than one operational domain, orchestrated in synchronised combination to have an effect greater than the sum of the parts' (Land Warfare Development Centre, 2022: 2–1). This situates MDO squarely in the tradition of combined arms warfare; indeed, the doctrine explicitly states that 'there is nothing new about this multidomain approach to operations. It simply represents an evolution of combined arms joint warfare. . .Consequently, all land operations are multidomain operations'—a phrase copied almost verbatim from the US Army's FM 3-0 (Land Warfare Development Centre, 2022: 2–2). The Royal Navy's contribution to MDI also stresses continuity, arguing that 'the Maritime Force is intellectually multi-domain already' and that it is 'designed for integration'. That service's contribution to MDI is thus expressed in terms of pre-existing programmes and force structures (Royal Navy, 2022: 36). As such, there appears to be a considerable degree of confusion regarding the distinction between multi-domain *operations* and *integration*, the 'revolutionary' features of either term and a degree of tension between the services and Strategic Command over the course of future force design. That the single services have developed their own understandings and application of 'multi-domain' speaks to the difficulties of legitimating this concept, as well as the challenges of building consensus between the services. As Benjamin Jensen (2016: 145) has argued, developing new theories of victory requires the development of 'infection pathways' and advocacy networks, moving away from a top–down approach to change: 'the more of the institution the networks can connect to, the more likely they are to increase the perceived legitimacy of the advocated idea'.

The challenges of legitimacy and lack of a common understanding is manifestly problematic for a concept explicitly predicated upon further integration, not least because the command and control arrangements necessary to deliver upon aspects of the MDI vision would need to achieve significant levels of interoperability and demand large-scale co-operative investment. Frictions over procurement have already been reported (Joshi, 2022). As such, the MDI concept could be seen as a descendent of other efforts by UK doctrine writers to link Defence more closely with cross-government approaches to security – notably Integrated Action and the Comprehensive Approach – expressed in the new language of multi-domain thinking but which has little purchase on the activities of the individual services themselves. Stringer reflected on this theme at the Foreign Affairs Select Committee on 15 November 2022. Speaking in the context of Defence's relationship with technology industries, he lamented that 'we tend to stick bumper stickers to do with things like "information advantage" and "multi-domain integration" on all of the plans that we are going to have. . .and we think that will do' (House of Commons Foreign Affairs Committee, 2022: Q12).

Yet such a perspective would under-rate the significance of 'multi-domain' ideas within the politics of the British Defence establishment, particularly with regards to the growing institutional power of Strategic Command *vis-à-vis* the individual services. Strategic Command's predecessor, JFC (established in 2012), was itself a significant structural change within Defence, and one that sought to improve the co-ordination of joint capabilities (Barry, 2020). Since succeeding it in December 2019, Strategic Command has extended this remit to become 'Defence's integrator' for the transition to a 'beyond joint' future (UK Strategic Command, 2021b: 7). This process began under Carter, and has continued under his successor as CDS, Admiral Tony Radakin. 'Integration' is no longer bound by the realm of 'concepts' and is now being pursued through a series of campaigns, change programmes, and delivery strategies. To draw on Wiesner's (2013: 55) categorisations, the concept is being utilised at the same time as it is being implemented. These various programmes and campaigns have included the Information Advantage Change Campaign (IACC) (WarnerMcCall, 2021), the MDI Change Programme (MDI CP) (UK Strategic Command, 2021a), and the Defence Academy's Strategy for 2020-25 (UK Strategic Command, 2022). A 2-year contract worth £3 million was awarded to support the IACC in October 2020, and further tenders have been released since (BidStats, 2022). Taken together, these activities have been self-described as a 'transformation agenda' (UK Strategic Command, 2022: 3). This has now entered into formal UK Doctrine, with MDI entering into the November 2022 edition of JDP 0-01 as a 'force development philosophy' (DCDC, 2022: 17).

Advocates of the changes associated with Strategic Command and MDI are clear that 'integration' necessitates meaningful change in the relationship between Strategic Command and the single services. Stringer has been particularly prominent in this regard, arguing that 'the structures at the moment make the process of achieving the integrated, modernised, transformed and digitised joint force that is possible very difficult' (House of Lords International Relations and Defence Committee, 2022a: Q88). He elaborated on this theme to the Foreign Affairs Select Committee, highlighting the inefficiency of British military spending and repeating his call that

> at the top of the MOD, there has to be the headquarters that is responsible and fighting and winning the next war, not just a Department of state that referees the bun fight between the three services buying the stuff they want' (House of Commons Foreign Affairs Committee, 2022: Q13).

Radakin has tacitly acknowledged this same tension, arguing that while integration was a pan-Defence priority involving the services, competition between the priorities of Strategic Command and the single services might occur in a more fiscally strained environment (House of Lords IRDC, 2022b).

If, as studies of military innovation discourse argue, linguistic shifts represent the first phase of the process of creating the consensus necessary for an innovation to gain acceptance and support, then MDI can be seen as part of a structural process of change related to the formation of Strategic Command and the 'integration' agenda it embodies. In this sense, JCN 1/20 itself contains little, if anything, that can itself be described as 'innovation' or 'innovative'. Nor is it a 'concept' in the sense envisaged by the reformists who pushed forward the 'jointery' agenda and formed the JDCC in the late-1990s and early 2000s. Much as NEC represented a continuation of previous modernisation attempts – proving neither revolutionary, nor particularly disruptive – MDI is not too dissimilar; it is a justification for the 'beyond-joint' integration agenda that has risen to prominence within Defence since 2018–19. Those changes in and of themselves may prove to be innovatory in structural or doctrinal terms. However, the notion of Defence being 'concept led' in its journey towards integration remains problematic and hard to substantiate. As reformers such as Newton argued in the mid-2000s, the conceptual component remains undervalued, and too often justifies defence policy rather than shaping it. Greater experimentation and simulation occurs at the single service-level, where the services maintain a greater emphasis upon concepts rooted towards operational requirements. This enables them to keep touch with the conduct of war, rather than the inherently subjective and contested world of policy. Taking the period from the early 2000s onwards as a whole, it is thus ironic to observe that the structures that have been credited with embedding a culture of conceptual innovation in Defence have thus come to justify choices driven by imperatives largely divorced from the realm of conceptual thought.

Conclusion

We have set out to offer an alternative framework for conceptualising aspects of the movement of military ideas commonly referred to as 'military emulation'. Acknowledging that this is a sophisticated and complex body of scholarship that deals with multiple forms of military practice, we have focused upon the movement of 'concepts' between armed forces. Such 'concepts' are now seen as a crucial precursor to military innovation and as having exerted a dominant influence over UK and European military 'transformation' since the late-1990s.

In this context, we challenge a core assumption of 'emulation' models that external influences predominate as a source of military change. We assess 'concepts' to be contextual, inherently rooted in particular cultural, political, and civil–military circumstances, and often subject to intense contestation. Their 'transmission', in the sense of a substantive core meaning transitioning between different contexts unaltered, is thus illusory. Accepting the importance and value of examining military 'concepts', we argue that their employment must be assessed in the context of the change projects, reforms, and political contestation in which they are utilised for rhetorical effect. In broader terms, the implication of this contribution is to suggest that military innovation studies risks paying insufficient attention to the political nature of military organisations and the political implications of military knowledge claims within society as a whole.

The arrival of 'multi-domain' concepts in the lexicon of UK doctrinal development offers a valuable window into these dynamics. Centralised, 'joint' conceptual development has been identified by a succession of observers as an important vehicle for change within Defence since the late-1990s. Yet such 'jointness' was primarily internalised in the conduct of operations, rather than in the structures of Defence as a whole (Strachan, 2009: 22). The major departure in this sense has been JFC and its successor, Strategic Command. From the outset, it has been clear that JFC was unlikely to sit easily alongside the existing three services (Dunn et al., 2011: 18). MDI can convincingly be read from this perspective: both as a centralising vision of the sort of approach to future war that a more dominant Strategic Command may render thinkable, and as an intellectual justification for the structural solidification of Strategic Command that has been determined by other factors such as defence budget pressures. The former reflects a more conceptually driven understanding of change in military organisations, forming the 'ideational framework' and setting the 'discursive script', before enacting change. In this sense, MDI may thus be the latest in a series of micropolitical shifts towards greater centralisation and conceptual leadership within Defence, delivering further impetus towards these aims in the wake of the Levene Reforms. It might also be seen as an incremental step along the path towards jointery that began over two decades ago. The latter reading is more prosaic. It lends credence to the idea that path dependencies and existing hierarchies shape the military's conceptual development, rather than being guided by it.

It is notable that advocates of more radical change, predicated upon 'theories of winning' or the 'conceptual component', have been consistently frustrated by what they perceive to be the superficial acceptance of transformation programmes within UK Defence. The extent to which this reflects inherent truths about the nature of the UK Defence establishment, or the limits to 'conceptually driven' models of military innovation is subjective. It is notable, however, that such approaches tend to reflect 'top down' models of innovation whereby the language of 'transformation' and the concepts associated with it are settled upon by a select few, and then promulgated. This may reflect a particular reality; namely that the single services' institutional interests are so strong that meaningful change can only come from the centre and be mandated by senior military or political leaders. It may also reflect a narrowness of outlook about the factors involved in driving enduring, paradigmatic change. As Joyce (2012) argued in the case of AirLand Battle, the proactive engagement of mid-ranking officers who champion shifts in doctrinal thinking proved vital to driving through the changes in US Army thinking that permitted AirLand Battle's adoption and implementation. The UK approach to concept development may lack the structures, processes, and inclinations to generate such significant 'concept-driven' change. Isolated from both MoD's Main Building in Whitehall and the single services, DCDC appears ill-situated to act as a hub for widespread engagement and consensus building about future conflict. Having centralised responsibility for doctrine and concepts in a joint organisation (that now sits within Strategic Command), the single services have found themselves hampered in their own conceptual development and lessons learned processes, placing barriers between tactical and operational experience and doctrinal and conceptual development (Foley et al., 2011: 261). Moreover, the services have also proven willing to exert their political muscle to influence the course of doctrinal development when they perceive it to affect their future interests in terms of force structure or resource allocation (Cornish and Dorman, 2010: 401–402). Thus, much as the United Kingdom likes to position itself as a military 'thought leader', it is also important

to acknowledge the limits of its institutional capacity for military thinking and doctrinal development (Lovegrove, 2021).

We argue that 'multi-domain' thinking can perhaps best be seen in terms of a negotiation of legitimacy between the United States and its alliance partners in the context of a renewed focus upon high-intensity warfighting and strategic competition. The impulse to emulate US practice is acutely felt in the United Kingdom, which retains a strong attachment to the idea of 'relevance' to the United States, and being seen as 'in the top few teams of the premiership' as the Defence Secretary, Ben Wallace, claimed in November 2022 (House of Commons Defence Committee, 2022: Q234). The negotiation of 'concepts' within the context of a broader, transnational community of military thought and practice and the political agendas to which they are attached is thus manifestly an important subject for scholars of military innovation to study.

ORCID iD

David Morgan-Owen https://orcid.org/0000-0002-0551-2836

Notes

1. While a consensus meaning of the concept of 'multi-domain' warfare is elusive, as will be discussed later in this article, articulations have often focused on 'continuous' struggle – where conflict is both 'political' and blurs distinctions of war/peace and domestic/foreign – involving all domains of war simultaneously (including cyberspace and outer space). See (Morgan-Owen and Gould, 2022: 566).
2. Stringer was referring to the guidance surrounding 'Integrated Force 2030', which is mentioned in the Defence Command Paper but is a separate document not released for public access. See Curtis (2021).

References

Adamsky D (2010) The Culture of Military Innovation: The Impact of Cultural Factors on the Revolution in Military Affairs in Russia, the US, and Israel. Stanford CA: Stanford University Press.

Balboni M, Bonin JA, Mundell R, et al. (2020) *Mission Command of Multi-domain Operations*. Carlisle, PA: US Army War College Press.

Barkawi T and Brighton S (2011) Powers of war – Fighting, knowledge, and critique: Powers of war. *International Political Sociology* 5(2): 126–143.

Barry B (2020) New UK strategic command faces early challenges, IISS. Available at: https://www.iiss.org/blogs/military-balance/2020/06/uk-strategic-command-challenges-covid-19 (accessed 14 December 2022).

BidStats (2022) Specialist support to deliver decision advantage pilot for the multi-domain integration change programme (culture, behaviours and. . . [PIN]). Available at: https://bidstats.uk/tenders/2022/W45/786497743 (accessed 14 December 2022).

Black J, Lynch A, Gustafson K, et al. (2022) Multi-domain integration in defence: Conceptual approaches and lessons from Russia, China, Iran and North Korea. Report, RAND Corporation, Santa Monica, CA.

Branch J (2021) What's in a name? Metaphors and cybersecurity. *International Organization* 75(1): 39–70.

Burns D (ed.) (2017) Multi-domain integration: Enabling future joint success. In: *Proceedings of the 2016 RAAF air power conference*, Canberra, ACT, Australia, 15–16 March.

Bury P and Catignani S (2019) Future reserves 2020, the British Army and the politics of military innovation during the Cameron era. *International Affairs* 95(3): 681–701.

Cornish P and Dorman AM (2010) Breaking the mould: the United Kingdom strategic defence review 2010. *International Affairs* 86(2): 395–410.

Cornish P and Dorman AM (2011) Dr Fox and the Philosopher's Stone: The alchemy of national defence in the age of austerity. *International Affairs* 87(2): 335–353.

Coticchia F and Moro FN (2016) Learning from others? Emulation and change in the Italian Armed Forces since 2001. *Armed Forces & Society* 42(4): 696–718.

Curtis A (2021) Integrated force 2023: The new force structure. In: *The Integrated Review in Context: Defence and Security in Focus*. Available at: https://www.kcl.ac.uk/warstudies/assets/ir-in-context-defence-and-security-in-focus.pdf (accessed 10 January 2023).

Demchak CC (1995) Coping, copying, and concentrating: Organizational learning and modernization in militaries (case studies of Israel, Germany, and Britain). *Journal of Public Administration Research and Theory* 5: 345–376.

Department of the Army (2021) *Army Multi-domain Transformation: Ready to Win in Competition and Conflict*. Arlington, VA: Department of the Army.

Department of the Army (2022) *FM 3-0 Operations*. Arlington, VA: Department of the Army.

Development, Concepts and Doctrine Centre (DCDC) (2007) *The Future Maritime Operational Concept*. Shrivenham: DCDC.

Development, Concepts and Doctrine Centre (DCDC) (2017a) *Joint Concept Note 1/17: Future Force Concept*. Shrivenham: DCDC.

Development, Concepts and Doctrine Centre (DCDC) (2017b) *Joint Concept Note 2/17: Future Force Concept*. Shrivenham: DCDC.

Development, Concepts and Doctrine Centre (DCDC) (2018) *Joint Concept Note 2/18: Information Advantage*. Shrivenham: DCDC.

Development, Concepts and Doctrine Centre (DCDC) (2022) *Joint Doctrine Publication 0-01*, 6th edn. Shrivenham: DCDC.

Dougherty C (2021) Confronting Chaos: A new concept for information advantage, war on the rocks. Available at: https://warontherocks.com/2021/09/confronting-chaos-a-new-concept-for-information-advantage/ (accessed 14 December 2022).

Dunn M, Enggington B, Pye N, et al. (2011) From defence reform to defence transformation: Carrying forward the Levene report. *The RUSI Journal* 156(5): 14–19.

Dyson T (2020) Unpacking military emulation: Absorptive capacity and German counterinsurgency doctrine during ISAF. *European Security* 29(1): 33–54.

Echevarria AJII (2022) The persistence of America's way of battle. *Military Strategy Magazine*, 8: 12–18. Available at: https://www.militarystrategymagazine.com/article/the-persistence-of-americas-way-of-battle/ (accessed 14 December 2022).

Edwards J (2022) Richard Creed: Army eyes June release of multidomain operations doctrine. Available at: https://executivegov.com/2022/03/richard-creed-army-eyes-june-release-of-multidomain-operations-doctrine/ (accessed 5 January 2023).

Evans M (2006) At the interface between theory and practice: Policy transfer and lesson-drawing. *Public Administration* 84(2): 479–489.

Farrell T (2005) World culture and military power. *Security Studies* 14(3): 448–488.

Farrell T (2008) The Dynamics of British Military Transformation. *International Affairs (Royal Institute of International Affairs* 84(4): 777–807.

Farrell T (2022) Military adaptation and organisational convergence in war: Insurgents and international forces in Afghanistan. *Journal of Strategic Studies* 45(5): 718–742.

Farrell T and Terriff T (2002) Sources of military change. In: Farrell T and Terriff T (eds) *The Sources of Military Change: Culture, Politics, Technology*. Boulder, CO: Lynne Rienner Publishers (Making Sense of Global Security), pp. 3–20.

Farrell T, Rynning S and Terriff T (2013) *Transforming Military Power since the Cold War: Britain, France, and the United States, 1991–2012*. New York: Cambridge University Press.

Flynn C (2022) Land power vital to Indo-Pacific, AUSA. Available at: https://www.ausa.org/articles/land-power-vital-indo-pacific (accessed 5 January 2023).

Foley RT, Griffin S and Mccartney H (2011) 'Transformation in contact': Learning the lessons of modern war. *International Affairs* 87(2): 253–270.

Freedberg SJ Jr (2022) How we fight: Army issues all-new handbook for multi-domain war. *Breaking Defense*, 10 October. Available at: https://breakingdefense.sites.breakingmedia.com/2022/10/how-we-fight-army-issues-all-new-handbook-for-multi-domain-war/ (accessed 5 January 2023).

Freedman L (1998) Britain and the revolution in military affairs. *Defense Analysis* 14(1): 55–66.

Goldman EO (2006) Cultural foundations of military diffusion. *Review of International Studies* 32(1): 69–91.

Goldman EO and Eliason LC (2003) Introduction: Theoretical and comparative perspectives on innovation and diffusion. In: Goldman EO and Eliason LC (eds) *The Diffusion of Military Technology and Ideas*. Stanford, CA: Stanford University Press, pp.1–30.

Goldman EO and Mahnken TG (eds) (2004) *The Information Revolution in Military Affairs in Asia*, 1st edn. New York: Palgrave Macmillan.

Griffin S (2017) Military innovation studies: Multidisciplinary or lacking discipline? *Journal of Strategic Studies* 40(1–2): 196–224.

Harig C and Ruffa C (2022) 'Knocking on the barracks' door: How role conceptions shape the military's reactions to political demands. *European Journal of International Security* 7(1): 84–103.

Holden Reid B and Mackenzie JJG (1989) *British Army and the Operational Art of War*. London: Tri-Service Press.

Horowitz M (2010) *The Diffusion of Military Power: Causes and Consequences for International Politics*. Princeton, NJ: Princeton University Press.

Horowitz MC and Pindyck S (2022) What is a military innovation and why it matters. *Journal of Strategic Studies* 46: 85–114.

House of Commons Defence Committee (2003a) *A new chapter to the strategic defence review*. Sixth report of session 2002–2003, vol. I. London: House of Commons Defence Committee.

House of Commons Defence Committee (2003b) House of Commons Defence: Minutes of evidence – Examination of witnesses (questions 640–659). Available at: https://publications.parliament.uk/pa/cm200203/cmselect/cmdfence/93/3030503.htm (accessed 14 December 2022).

House of Commons Defence Committee (2016) Oral evidence: SDSR 2015 and the army. Available at: http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/defence-committee/sdsr-2015-and-the-army/oral/42535.html (accessed 13 December 2022).

House of Commons Defence Committee (2021) *Oral Evidence: Work of the Chief of Defence Staff, HC 842*. London: House of Commons Defence Committee.

House of Commons Defence Committee (2022) *Oral Evidence: US, UK and NATO, HC 184*. London: House of Commons Defence Committee.

House of Commons Foreign Affairs Committee (2022) *Oral Evidence: Update to the UK's Integrated Review of Security, Defence, Development and Foreign Policy, HC 882*. London: House of Commons Foreign Affairs Committee.

House of Lords International Relations and Defence Committee (2022a) *Uncorrected Oral Evidence: Defence Concepts and Capabilities: From Aspiration to Reality*. London: House of Lords International Relations and Defence Committee, pp.Q85–92.

House of Lords International Relations and Defence Committee (2022b) *Uncorrected Oral Evidence: Defence Concepts and Capabilities: From Aspiration to Reality*. London: House of Lords International Relations and Defence Committee, pp. Q75–Q84.

James O and Lodge M (2003) The limitations of 'policy transfer' and 'lesson drawing' for public policy research. *Political Studies Review* 1(2): 179–193.

Jennings N (2022) An army at sea: Why the new FM 3-0's emphasis on maritime operations is so important. Modern War Institute. Available at: https://mwi.usma.edu/an-army-at-sea-why-the-new-fm-3-0s-emphasis-on-maritime-operations-is-so-important/ (accessed 5 January 2023).

Jensen BM (2016) *Forging the Sword: Doctrinal Change in the U.S. Army*. Stanford, CA: Stanford Security Studies, an Imprint of Stanford University Press.

Joint Doctrine and Concepts Centre (JDCC) (2004) *Joint Operations: Joint Doctrine Publication 01*. Shrivenham: JDCC.

Joint Doctrine and Concepts Centre (n.d.) *The UK Joint Higher Level Operating Concept*. Shrivenham: JDCC.

Joint Operational Access Concept (JOAC) (2012) *Version 1.0.US Department of Defense*. Shrivenham: JOAC.

Joshi S (2022) Strategic command wants to bind Britain's armed forces. *The Economist*, 13 November. Available at: https://www.economist.com/britain/2022/11/13/strategic-command-wants-to-bind-britains-armed-forces (accessed 14 December 2022).

Joyce A (2012) The micropolitics of 'the army you have': Explaining the development of U.S. military doctrine after Vietnam. *Studies in American Political Development* 26(2): 180–204.

Kier E (1997) *Princeton Studies in International History and Politics: Imagining War: French and British Military Doctrine between the Wars*. Princeton, NJ: Princeton University Press.

King A (2011) *The Transformation of Europe's Armed Forces: From the Rhine to Afghanistan*. Cambridge; New York: Cambridge University Press.

Kollars N (2021) War at information speed multi-domain warfighting visions. In: Rynning S, Schmitt O and Theussen A (eds) *War Time: Temporality and the Decline of Western Military Power*. Washington, DC: Brookings Institution Press, pp.230–252.

Kraft I (2019) Military discourse patterns and the case of effects-based operations. *Journal of Military and Strategic Studies* 19. Available at: https://jmss.org/article/view/58290 (accessed 13 December 2022).

Laksmana E (2019) Imitation game: Military institutions and Westernization in Indonesia and Japan. Available at: https://surface.syr.edu/etd/1126 (accessed 10 January 2023).

Land Warfare Development Centre (2022) *ADP Land Operations*. London: British Army.

Lawson S (2011) Articulation, antagonism, and intercalation in Western military imaginaries. *Security Dialogue* 42(1): 39–56.

Lovegrove S (2021) Sir Stephen Lovegrove speech at the Council on Geostrategy. *GOV.UK*. Available at: https://www.gov.uk/government/speeches/sir-stephen-lovegrove-speech-at-the-council-on-geostrategy (accessed 26 January 2023).

Mäder M (2004) *In Pursuit of Conceptual Excellence: The Evolution of British Military-Strategic Doctrine in the Post-Cold War Era, 1989–2002* (Studies in Contemporary History and Security Policy). Bern: Lang (Studien zu Zeitgeschichte und Sicherheitspolitik).

Ministry of Defence (2020) *Joint Concept Note 1/20: Multi-Domain Integration*. London: Ministry of Defence.

Ministry of Defence (2021) *Integrated Operating Concept*. London: Ministry of Defence.

Ministry of Defence (2022) Multi-domain integration, GOV.UK. Available at: https://www.gov.uk/guidance/multi-domain-integration (accessed 14 December 2022).

Morgan-Owen D and Gould A (2022) The politics of future war: Civil-military relations and military doctrine in Britain. *European Journal of International Security* 7(4): 551–571.

NATO ACT (n.d.) Multi-domains operations conference: What we are learning: NATO's ACT. Available at: https://www.act.nato.int/articles/multi-domains-operations-lessons-learned (accessed 14 December 2022).

Newton P (2016) Adapt or fail: The challenge for the armed forces after Blair's wars. In: Bailey J and Iron R (eds) *British Generals in Blair's Wars*. London: Routledge, pp. 297–326.

Newton P, Colley P and Sharpe A (2010) Reclaiming the art of British strategic thinking. *The RUSI Journal* 155(1): 44–50.

Posen BR (1993) Nationalism, the mass army, and military power. *International Security* 18(2): 80–124.

Pretorius J (2008) The security imaginary: Explaining military isomorphism. *Security Dialogue* 39(1): 99–120.

Resende-Santos J (2007) *Neorealism, States, and the Modern Mass Army*. New York: Cambridge University Press.

Rogers EM (2003) *Diffusion of Innovations*, 5th edn. New York: Free Press.

Rose R (1991) What is lesson-drawing? *Journal of Public Policy* 11(1): 3–30.

Rosen SP (1994) *Winning the Next War: Innovation and the Modern Military* (Cornell Studies in Security Affairs). Ithaca, NY; London: Cornell University Press.

Royal Air Force (2018) Historic 11 group reforms for multi-domain challenges. Royal Air Force. Available at: https://www.raf.mod.uk/ (accessed 14 December 2022).

Royal Navy (2022) *Maritime Operating Concept*. Portsmouth: Royal Navy.

Schmitt O (2017) French military adaptation in the Afghan War: Looking inward or outward? *Journal of Strategic Studies* 40(4): 577–599.

Secretary of State for Defence (2021) *Defence in a Competitive Age*. London: Secretary of State for Defence.

Serena CC (2011) *A Revolution in Military Adaptation: The US Army in the Iraq War*. Washington, DC: Georgetown University Press.

Shamir E (2018) Israel's post-heroic wars: Exploring the influence of American military concepts on Israel's adaptation of post-heroic warfare. *Israel Affairs* 24(4): 686–706.

Smith R (2006) *The Utility of Force: The Art of War in the Modern World*. London: Penguin Press.

Strachan H (2009) One war, joint warfare. *The RUSI Journal* 154(4): 20–24.

Strachan H (2010) Operational art and Britain, 1909–2009. In: Olsen JA and van Creveld M (eds) *The Evolution of Operational Art*. Oxford: Oxford University Press, pp.96–97.

Stringer E (2022) Affording the integrated review. *Policy Exchange*. Available at: https://policyexchange.org.uk/publication/affording-the-integrated-review/ (accessed 10 January 2023).

Szulanski G (2000) The process of knowledge transfer: A diachronic analysis of stickiness. *Organizational Behavior and Human Decision Processes* 82(1): 9–27.

Tickell C (2019) Keeping the competitive advantage. *British Army Review* 175. Available at: https://www.
    army.mod.uk/umbraco/Surface/Download/Get/11614 (accessed 10 January 2023).

UK Strategic Command (2021a) Multi-domain integration industry day 24 June 2021. GOV.UK. Available at:
    https://www.gov.uk/government/news/multi-domain-integration-industry-day-24-june-2021 (accessed
    14 December 2022).

UK Strategic Command (2021b) *The Strategic Command Strategy*. London: Ministry of Defence.

UK Strategic Command (2022) *Defence Academy Strategy 2020–25*. London: Ministry of UK Strategic
    Command.

Uttley M, Wilkinson B and van Rij A (2019) A power for the future? Global Britain and the future character of
    conflict. *International Affairs* 95(4): 801–816.

von Clausewitz C (2006) *On War (Oxford World's Classics)*. New York: Oxford University Press.

Waltz KN (2010) *Theory of International Politics*. Long Grove, IL: Waveland Press.

WarnerMcCall (2021) Helping deliver a coherent approach to IA and MDI strategies. Available at: https://
    www.warnermccall.co.uk/helping_deliver_a_coherent_approach_to_ia_and_mdi_strategies (accessed 14
    December 2022).

Wass de Czege H (2020) *Commentary on 'The US Army in Multi-Domain Operations 2028'*. Carlisle, PA: US
    Army War College Press.

Watling J and Roper D (2019) *European Allies in US Multi-Domain Operations*. London: Royal United
    Services Institute.

Wiesner I (2013) *Importing the American Way of War? Network-centric Warfare in the UK and Germany*, 1st
    edn (Militär und Sozialwissenschaften, v. 48). Baden-Baden: Nomos Verlagsgesellschaft.