SDSR AND THE PATH TO TRANSFORMATION

The government has to address the long-standing and fundamental need to match resources to the roles it asks Britain's armed services to fulfil, writes Robert Dover

Prime Minister David Cameron addressing British soldiers at Camp Bastion in Helmand Province during a visit to Afghanistan. Maintaining combat-ready, full-spectrum capabilities is not going to be possible on the current defence budget

The Strategic Defence and Security Review (SDSR) may come to be seen as a genuinely transformative moment in British defence history. Far from the piecemeal salami-slicing of *Options for Change* (1991), *Frontline First* (1994) or even the Strategic Defence Review (1998), the 2010 SDSR does five radical things.

First, it has irreversibly connected security and defence as a single concern. Second, it has entrenched a principle of supporting fewer equipment platforms, and that in the future the UK will seek greater cooperation and collaboration with French and American defence industries. Third, it has further reduced the financial platform that defence sits upon (from 2.2 per cent of GDP down to two per cent). Fourth, it looks set to introduce many more market-based measures into the defence community. Finally, it has placed the effective control of the important decisions in defence into the hands of the Cabinet Office.

It has been far too easy for media and academic commentators to pour scorn on the SDSR as somehow constituting a betrayal of the defence community, and the ordinary reader of national newspapers must, by now, be suffering reader fatigue from the weight of this sustained criticism. A lot of this criticism is unfair: after all, those writing the Review were merely working within the framework allowed to them by the Treasury, Cabinet Office and the political leadership.

As a result, the framers of the SDSR argue that they created the best review possible in the circumstances. But also the criticisms put forward by the commentariat have not seen fit to produce reasoned alternatives to the original SDSR nor to try and assess what might be made of the settlement delivered in 2010.

The closed nature of the SDSR left the three Services to argue their respective cases through selective public moments, such as talks at Chatham House, IISS and RUSI, and via the less seemly route of leaks to the media. This lack of Service input into the Review and the magnitude of the October 2010 announcement seem to have struck all three Services dumb.

It can be argued strongly that there has been a general failure within the military to appreciate the magnitude and permanency of the reforms being made, a failure to appreciate the potential reduction in the UK's wider world role, and a failure to provide a unified vision of an alternative to the SDSR proposals. This essay will try to focus on where the challenges to implementing the SDSR now lie and how the Army might best engage positively with the existing settlement.

THE CHALLENGES

The cuts to manpower and equipment lines that were announced in the SDSR have been pored over by expert commentators and pundits alike, and there is little need to go over them again. What has not been commented on yet is what these cuts represent. It can be argued that these are indicative of the sort of linear scaling that has been allowed to become prevalent in British defence thinking. The shift in balance from scientific, technical and military staff to generalist civil servants in Main Building in the mid 1990s allowed the conflation of the concepts of capacity with capability. This is highly significant in defence terms because this encourages the application of linear scaling to reductions in defence.

In essence, the logic of linear scaling is that, if one scraps an equipment line, or changes its numbers (capacity), then the military effect (capability) of such a reduction is proportionate with the numerical change. But, in fact, this is not the case - capacity is merely one element of military capability. The UK's military *capability* has degraded more rapidly than the linear loss of *capacity* suggests, and the MoD should urgently consider alternative ways of measuring their possible capabilities.

Furthermore, this reduction of military capabilities has been compounded by the decision in 2010 to abolish the Deputy Chief of Defence Staff (Commitments) (DCDS(C)) post, which addressed what scenarios are on the horizon, and what capabilities will be required to meet them. The DCDS(C) was the MoD's main consumer of government intelligence, and it would be worth considering that the restoration of this post is in the light of the connection of security and defence, and also in enabling the MoD to plan and prepare for shocks in the international system, such as we have seen in the Middle East recently.

So, the effects of linear scaling and the loss of DCDS(C) amount to a challenge to the strategic function of the MoD and the armed forces. But these cuts are

only problematic in the light of a failure to understand Britain's changed role in the world, changes that were flagged by the government in opposition and by the SDSR announcements.

The charge that Libya-like operations did not feature in the SDSR are entirely to be expected, and it is the military action against Libya that has opened the floodgates for critics of the SDSR, and made it possible for them to declare the Review in need of revision. The tensions that Libya causes for the SDSR settlement can be expected to be resolved when British involvement in that theatre ends, or if substantial British involvement in Afghanistan ends prior to the 2015 window.

But assuming that we remain involved in both Libya and Afghanistan for the short to medium term (as per current government policy), then attention must fall on what amounts to Britain's strategic interests and how best these should be pursued in the light of the future nature of conflict. The MoD's February 2010 document *The Changing Character of Warfare* is illuminating: it points towards more conflict based on greed and grievance, and small-scale threats emerging simultaneously in different geographical areas.

To this end, 'smaller and more nimble' makes a great deal of sense, not only in equipment terms, but also in personnel terms. The work being done on the future employment of service personnel needs to focus on achieving even higher levels of expertise and training, and suitable pay and benefits packages, but also a high level of transferability from the civilian sector into the armed forces, to bridge the budgetary gaps that are likely to appear as we go forward. Maintaining combat-ready, full-spectrum capabilities is not going to be possible from now on, and thus understanding our strategic interests and how conflicts will be fought have gone from being desirable competencies to essential ones.

SHAPING THE FUTURE

Defence is being increasingly reframed in terms of its security function. The intellectual connection between *security* and *defence* began in the MoD's Strategy Unit in mid 2009. The coalition government has extended the principle to the extent that, if reforms are taken to their logical conclusion, one could envisage a much-reduced department of state function within the Ministry of Defence. The shift referred to above, in the MoD as in other Ministries, towards a predominance of generalist civil servants has also left the strategic direction of the MoD in the hands of a very select number of officials and politicians who, for a variety of reasons, are no longer exposed to the wide range of views they would previously have experienced and even sought out.

Without a strategic capability at the heart of the MoD, the department becomes subject to the wishes of the Cabinet Office, to effectively become an adjunct of National Security Council. This is not to argue that this is a good or a bad thing; it is merely to point out that its implications are significant and need to be recognised as such. A through-government approach to security

Axed by the SDSR from procurement for the Army: the Boxer German-Dutch multi-role armoured fighting vehicle. Cuts degrade the <u>capability</u> of the Armed Forces much more rapidly than linear loss of <u>capacity</u> would suggest

(incorporating defence) might be a much-needed development to reorient the country towards making the most of the assets it has in these regards. Within this, the armed forces may become one important element within an overarching, coherent security structure. This development also has implications for the ways in which effective democratic control might be exercised in future.

For the MoD's future, the most important challenge is to ensure that it is not trying to execute a five per cent policy with a two per cent budget. As a department, the MoD is still structured as it was for a five per cent GDP defence policy and defence stance. The stricture to maintain 'full spectrum capabilities' with a budget of two per cent GDP can only be fulfilled if the Armed Services and the Ministry embrace fundamental change.

ESTABLISHING A STRATEGIC APPROACH

Furthermore, for this change to be well targeted, a strategic approach is essential. The Public Administration Select Committee was absolutely correct when it posed its question in the summer of 2010 about who in the UK establishes our strategic stance, for, without strategy, sensible decisions about the fundamental reshaping of the armed forces are hard to imagine. A question about which new ways of fulfilling the missions can be devised so that the Forces can do their job with a two per cent GDP budget would be a more sensible starting point than an approach which is to continually seek a linear reduction in capacity.

Finally, the MoD also faces transformative change from the work of the Defence Reform Unit (DRU), headed by Lord Levene, which is due to finally report in July 2011. Its plans to transform the MoD into an organisation which is 'commercially nimble', will have significant implications for the defence community. If delivered well, the DRU's reforms may produce the sort of institutional wisdom that will at least allow the same to be done with less, or a bit less to be done with a lot less, which is the realistic direction of travel for British defence.

In conclusion, the SDSR was the best review that was possible given the time and economic constraints within which it operated. A lot of the criticisms levelled at the SDSR have failed to recognise the political and economic pressures placed upon the MoD in conducting this review and, more unhelpfully, have failed to examine how the best can be made of the SDSR settlement.

In the long term, defence is likely to become understood as a subset of a wider security community. Given the economic circumstances of the country as reflected in the Review, the increasing instability in the world and the government's determination that the UK should continue to play an active international role, and given the likely nature of future conflict, then to ensure that the future of the armed forces remains strong, greatest emphasis should be placed on developing personnel, on ensuring that future threats are identified well in advance and are well understood, and on creating a culture of recognising and exploiting opportunities in the national interest. ■

Prime Minister David Cameron and Defence Secretary Liam Fox are briefed by senior officers on current UK military activity in Afghanistan and elsewhere around the world at the Permanent, Joint Headquarters in Northwood, near London, before presenting the conclusions of the SDSR to parliament

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ESSAY

DEMOCRATIC CONTROL

Alixe Buckerfield de la Roche appraises how effective government bodies have been at assessing defence issues and what difference a greater say from the Armed Forces would make

It is an axiom that the chief responsibility of a nation's government is to ensure the security and defence of its people. The integrity of its borders and critical infrastructure must be defended, its people protected, the security of its trade ensured, and the risks and threats that could jeopardise any of those elements recognised, analysed and precluded. In the fluid political landscape that characterises modern global security, the challenges presented by the changing character of conflict, by rogue and failed states or non-state actors increases the instabilities and spectrum of threats confronting those tasked with providing UK defence and security.

Over recent years, there has been an increasing reduction of democratic control of defence at precisely the point where there is an urgent and vital need for its strategic increase. We stand at the Rubicon. The pace of adaptation of our governmental institutions responsible for defence has not kept pace with the rapidity of changes in the nature of conflict and emerging security challenges.

Taken together with the absence of robust strategic thinking identified by the former CDS and a lessening of experience in defence and security issues in the upper echelons of government, it has meant that the Strategic Defence and Security Review (SDSR) has been

10,000 inhabitants of Colchester turn out to welcome home 2nd Battalion, The Parachute Regiment. The Armed Forces' relationship with society depends on popular confidence in mechanisms for democratic control

driven by short-term fiscal necessity. This may seem a separate arena; it is not. Central to any discussion about strategy and strategic direction – about the UK's ability to adapt SDSR plans to changing circumstances and the modern context of continual transformation – is the national capability to ensure a well-informed debate about defence. This requires both well-informed individuals and effective mechanisms for oversight of and commentating on defence issues.

PROLIFERATION OF COMMITTEES

If we examine the principal institutions and machinery across government as they are today, the blurred boundaries of democratic control and jurisdiction become clear. Over the past decade, committee structures across departments tasked with defence and security increased hugely, effectively creating a committee spaghetti that, instead of clarifying direction and purpose, often rendered accountability and strategic direction more confused and complex. In the post-election period of 2010, the government created the National Security Council (NSC), and in so doing the UK made a fundamental change to the way it deals with defence and security.

But, one year later, the National Security Council is still no more than a Cabinet committee, lacking the power to implement; it is a limited and far less-effective organ than it needs to be. It is not yet the robust structure that the UK truly requires. If the National Security Council is to function robustly as a War Cabinet then critical decisions and activities cannot occur elsewhere, to be reviewed and considered subsequently by the NSC.

Democratic control suggests that authority for critical decisions relating to UK defence and security should emanate directly from the NSC. So perhaps it is timely to pose a trenchant question: as a newly created structure within UK defence and security machinery, is it strategic to make a National Security Council a bureaucratised structure, subsumed in the Cabinet Office as one of multiple committees? Ought it not to be, itself, the locus and initiator of key decision-making? How, too, are we to ensure that the NSC is accountable to Parliament – the ultimate point of reference in any democracy? What should be the structures for democratic control and oversight? Does a Parliamentary Select Committee have adequate authority?

> “How will the implementation and success of the NSS and SDSR be measured?”

WHAT SHOULD BE THE STRUCTURES FOR DEMOCRATIC CONTROL AND OVERSIGHT?

Implicit in the parliamentary process is a recognition that elected representatives have a duty to oversee, scrutinise and assess legislation in order to ensure that the Executive is accountable to Parliament. The UK Parliament and its Select Committees have a specific role in this process of scrutiny. In 2001, *The Challenge for Parliament: Making Government Accountable* (Hansard Society Commission on Parliamentary Scrutiny) recognised the changing role of Parliament and emerging new forms of accountability, but reaffirmed in its conclusions the fact that the 'control' function of Parliament is paramount – exactly what Bagehot had argued in *The English Constitution* (1867): Parliament's task is to scrutinise policies, holding the executive to account, ensuring effective, efficient government on behalf of the electorate. Central to the machinery of government, Parliament provides the essential, legitimising link between government and the governed. Summed up, it is government through, not by, Parliament.

Today, many across Parliament, Whitehall, the MoD's three Services, and the commentariat contend that democratic control is not working adequately with respect to defence, and that the role of Parliament needs to increase. Given the profound changes under way, these commentators consider that it is no longer appropriate to leave democratic control as the responsibility of a small number of civil servants, no matter how admirable. The structures of democratic control require a clear line of accountability, and a deliberate and considered balance of collaborative input between the civil service, the military and political leadership.

If we subscribe to the truth that Parliament is the guardian of our democratic liberties, then the way to re-establish appropriate democratic control is to ensure that accountability of 'government to the governed' is

Democratic control in action: the House of Commons Defence Committee takes evidence from former CDS Air Chief Marshal Sir Jock Stirrup (now Lord Stirrup) in its 2011 inquiry into the SDSR

robust. If a National Security Council, a Prime Minister and a government's Executive are to be scrutinised, then a key component to ensuring proper democratic control must rest in the Joint Committee on the National Security Strategy (NSS). It needs to be a principal vehicle by which democratic control can be exercised, and be seen to be exercised. That is its role.

Across Parliament, below the Joint Committee of the National Security Strategy are other Parliamentary committees with differing remits and jurisdictions; an important one is the Defence Select Committee. Its remit is to monitor and hold to account the Ministry of Defence and its associated public bodies, including the Armed Forces, on behalf of the House of Commons and the people who elect it. It holds Inquiries on a range of subjects relating to defence and makes recommendations to government. As an organ of democratic control, the Defence Select Committee can investigate prevailing concerns – for example, disquiet about the Westminster-Whitehall imbalance in defence decision-making.

Quite simply, the current balance is not right. For historical reasons, it is still disproportionately weighted towards civil servants determining policy and strategic direction, which today require a more effective input from other key players. Historically, the tension between the MoD's role as a department of state and a military headquarters is finely balanced. The fact that the Defence Select Committee has launched an Inquiry into the outcomes of the SDSR within the wider context of the National Security Strategy indicates the need to address a number of factors, including democratic control of a complex process that undergirds fundamental elements of defence planning and provision for the future. It reflects concern about the strategic robustness of the Armed Forces' ability to adapt to change, a need to ensure that the SDSR and NSS relate to one another as strategic and coherent documents and, the contingent point – what added value has the establishment of the NSC brought to strategic defence and security policy?

How, too, will the implementation and success of the NSS and SDSR be measured? How effectively will the roles of the MoD (plus the Defence Reform Unit), other government departments, the National Security Council, the Armed Forces and other agencies in the development and implementation of the NSS and SDSR interact? In addition, how will areas across departments which deal, for example, with the UK's increasing role in conflict prevention, interact? In short, the Defence Committee will investigate whether the government's defining of 21st-century conflict, its risks and threats in the NSS, are matched by the SDSR's stated intention to "set out the ways and means to deliver the ends set out in the NSS".

> "The dramatic changes of recent years mean that processes of scrutiny and oversight now need updating"

All this may appear to be an abstruse debate about 'process' and how the SDSR will be worked out. But democratic control and transparency in structures which ensure accountability are critical to delivering effective UK defence and security. We need to pay them keen attention. The dramatic changes of recent years mean that, as is only to be expected, these processes of scrutiny and oversight now need updating. Because of these changes, until we clarify how all the constituent parts of the defence machinery fit together, and until we establish a clear, transparent democratic control structure that meets the complex demands of changing conflict and current obligations, there will continue to be inadequate effective democratic control across the UK arrangements for defence and security. ■

SDSR AND THE DEFENCE ESTATE

Delivering radical reform

The recently formed Defence Infrastructure Organisation, one of the first detailed recommendations to emerge from the Defence Reform Unit, faces many challenges in rationalising the MoD's land and property portfolio, writes Rhian Williams

New accommodation at Swinton Barracks, Perham Down. Accommodation is the largest single issue of concern for Service families. Moving to a smaller number of very large garrisons makes military and economic sense, but it has significant social effects that must be managed

Formed on 1 April 2011, the Defence Infrastructure Organisation (DIO) brought together the former Defence Estates (DE) organisation with other property and infrastructure functions being carried out across the MoD to form a single organisation. The DIO manages the MoD's land and property portfolio, ensuring strategic management of the military estate as a whole, optimising investment and supporting military capability to best effect. The organisation provides a comprehensive infrastructure service, managing the majority of the MoD's technical infrastructure, living accommodation, training and volunteer estate, with responsibility for all the MoD's expenditure on infrastructure management and delivery activities.

In addition to establishing itself as a fit-for-purpose organisation, the DIO has some very challenging targets to meet, which include achieving significant running-cost reductions, improving estate utilisation and driving further estate rationalisation and commercialisation opportunities across the military estate.

AT HOME AND ABROAD

The vast swathe of military land and property, which occupies around one per cent of the UK's landmass, makes the MoD one of the country's largest landowners. The DIO's services also span the overseas estate. This includes Germany, Cyprus, the Falkland Islands,

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> “The DIO must reduce its headcount significantly, and has been required to ‘pause’ some of its long-term programmes”

Gibraltar and remote overseas stations, including operational theatres such as Afghanistan.

Although this represents a huge undertaking, the DIO's chief executive, Andrew Manley, is not daunted by the challenge. “The creation of the DIO marked a major step towards ensuring that we have an affordable and sustainable military estate that gives our Armed Forces the best possible facilities in which to live, work and train,” he explains. “The DIO has brought a radical new approach to how the MoD manages infrastructure and estates services, but change will not happen overnight. We expect our journey towards full operating capability to take several years.”

In partnership with its industry partners, the services delivered by the DIO include ‘hard’ (physical maintenance of buildings) and ‘soft’ (provision of support services, such as cleaning and catering) facilities management to support the maintenance of existing infrastructure, as well as services to enable the development of new infrastructure where needed. The organisation manages a series of estate contracts spanning a number of different contractual models, including prime contracts, private finance initiatives (PFIs) and other local contracting arrangements. Manley has made clear that industry will have a key role to play in the DIO of the future, identifying “more sophisticated” contracting as one of his five priorities for transforming the organisation.

“Our transformation programme is addressing five key aspects: our operational model; our relationship and ways of working with the users of the infrastructure; our relationship with industry; resolving the portfolio of assets we manage; and, lastly, building our people and their capabilities for the future,” he says. “It is expected that industry will play a larger role in all aspects of what the DIO does, and be more directly involved in the management of Defence infrastructure than previously.”

The DIO's Next Generation Estate Contracts programme, which covers the management of the physical aspects of the estate, is already well advanced, identifying and establishing the right mix of estate contracts to serve Defence's future infrastructure needs. A separate programme of work will also see the MoD's ‘soft’ facilities-management contracts rationalised.

From 2013, the current suite of Regional Prime contracts, which provide management, maintenance

The military's stewardship of its training areas has made them a haven for wildlife and has preserved their natural beauty for future generations. The Army now has to consider what further facilities they can share with local and public authorities, and what elements of the Defence Estate can safely be put to commercial use

The MoD's Main Building in Whitehall, part of the Ministry's extensive property portfolio

and development of the UK Defence estate, will expire. These will be replaced by four Regional Prime contracts (Scotland and Northern Ireland; north of England, Wales, the Midlands and East Anglia; south-west England; south-east England) that will deliver routine maintenance services.

A number of regional Core Works Frameworks will be established to deliver construction projects, with the possibility of additional Functional Frameworks for Single Living Accommodation (SLA) and airfield pavements. In addition, a single, UK-wide National Housing Prime Contract, delivering housing maintenance services across the UK, will be put in place. A National Training Estate Prime contract will deliver a range of technical support, 'hard' facilities management, 'soft' facilities management and training-range booking services.

The future value of MoD estate contracts is estimated to be between £500 million and £600 million per annum (exclusive of major estate projects), subject to future financial planning rounds.

The DIO has taken its fair share of the burden that rebalancing Defence priorities has brought. It must reduce its headcount significantly as part of its ongoing transformation, and has been required to 'pause' some of its long-term programmes, including those to upgrade Service accommodation.However, as some programmes are being put on hold, others have been accelerated to the top of the DIO's priority list; these include the huge portfolio of infrastructure required to deliver the government's rebasing plans announced in July.

As the Senior Responsible Owner for basing, Manley has the unenviable task of making sure that the various unit and personnel moves that have been identified in the basing study result in smooth transitions. "The DIO will have a major part to play in leading the delivery of the MoD's future basing plans," he explains. "We will be responsible for ensuring that fit-for-purpose infrastructure is in place to support both military operations and Service personnel and their families.

"This rebasing work, along with our internal transformation programme, brings a double-edged challenge. However, I am confident we can rise to it, delivering both the infrastructure that the Services require today and an organisation that is fully equipped to deliver the infrastructure support they will need in the future." ■

EDITOR'S NOTE

In the final analysis, the defence estate should exist to assist in the delivery of operational effectiveness.

Any review of the defence estate, including through the work of the Defence Reform Unit, should start with this as its first and foremost question if the MoD is to deliver coherent and affordable infrastructure solutions to meet Defence needs, now and in the future.

As always, the Army needs to be alert to this and to see that its voice on the Defence Infrastructure Board is heard, in order to ensure that all parties concerned in the reform consider the ultimate outcome to have been a success.

HOW WILL THE ARMY OPERATE IN A CHANGING WORLD?

Rather than trying to predict the future and making plans accordingly, Brig Andrew Sharpe suggests that developing the ability to adapt to any scenario is the way forward

A technician from 3 Army Air Corps (AAC) adjusts a 30mm Cannon on an Apache helicopter. Achieving adaptability will require versatile equipment

How will the Army operate in the future? The simple answer is that we don't know. This is not a trite or throw-away line. It is very important to be honest with ourselves from the outset – we don't know and that we can never know. There is no such thing as "the foreseeable future". Remember, "Events, dear boy, events". So, first and foremost, beware of those who speak with great certainty of events yet to happen, beware of those who are very clear about what we will and won't need and of where we will or won't choose to fight. In short, approach any attempt to be clear about the future with great caution. Those are the caveats that provide the context for this brief attempt to glimpse into the crystal ball.

The existence of these caveats does not mean, however, that we should not attempt to look ahead and prepare in as well-informed a way as we can. Nor, at the other extreme, does it mean that we should be able to prepare and equip ourselves for every possible eventuality (especially in times where financial constraints preclude the holding of a large, varied and ever-ready army). But it does mean that we should try hard to understand what

A Corporal from the Royal Engineers at the controls of a Trojan AVRE (Armoured Vehicle Royal Engineers) on Operation HAMKARI in Afghanistan. The need for adaptability has serious implications for the future Army's organisation, manning and equipment

the enduring requirements of the army are likely to be (what Clausewitz described as the constant nature of war) in order to provide us with a foundation; and what the likely future context is going to be (what he called the changing character of warfare) to help to guide our evolution and force development. Any look into the future is helped as much by an understanding of what will not change as by an insight into what may.

EVERY BATTLE IS WON BEFORE IT'S EVER FOUGHT

An army that is out-thought is almost always outfought: and for a small army this is particularly true. Fighting power is made up of three components: physical, moral and conceptual. Under the circumstances in which the Army, and wider Defence, now finds itself, it is more important than ever that extra effort is placed on the conceptual component. As the physical shrinks and the moral is assailed, so the conceptual must grow in counterbalance, both to make better use of our ever-more scarce resources and to ensure that the irreducible framework of the Thinking Army is able to reconstitute itself and its skills rapidly in times of need. Guderian wrote the first drafts of *Achtung Panzer!*, providing a full insight and understanding of armour-centric manoeuvre warfare, in the early to mid- 1930s: a long time before he had plied his trade with a meaningful number of panzers! The core of his officer corps, however, had thought in such sufficient depth about the matter that they were able to build, train and lead an exceptionally effective fighting force, at scale, in very short order once the resources became available to them. They would have been unable to grow at such a rate and to such an effect without the ready-germinated seed-corn. This is a fundamental and constant requirement for any army that seeks to move from specific-focus campaigning towards wider contingency. In short, the Army of the future is going to have to think much harder about itself and its possible uses than it has become accustomed to over the past 50 years or so, and this is particularly true after a period where 'Op Entirety' has held the entirety of our focus.

An army cannot just, however, be effective in theory – it also has to be effective in practice. It must be able to fight: fighting is its core purpose. To be effective in this role (or even to shape the environment for others, to secure influence, to shape perceptions, or to be credible as a deterrent or a tool for coercion) an army must man, equip, train and fight in a way that joins together and multiplies all of the tools that are available. This has always been, and will always be, the case. When armies have failed to weave a variety of capabilities together, even the finest of fighting forces have suffered fatal consequences: as the French found at Agincourt and the Romans at Charrae. This essential approach demands the integration, synchronisation and coordination of all types of military capability, in such a way as to maximise their strengths and minimise their vulnerabilities.
The ability to conduct what is called combined arms manoeuvre is, and always has been, at the heart of an army's ability to fight effectively. This term indicates that action is being undertaken by several 'arms' (infantry, armour, aviation, artillery, engineers, etc) in concert, at

the same time and in the same battlespace to achieve a given goal. This is at the heart of the use of land fighting power. Modern armies must operate with not only all of the traditional tools, but also with an ever-increasing range of capabilities (like cyber); and in close concert with the other services, especially – and almost always – with air forces. This will not change.

The British Army will also continue to embrace a philosophy of the Manoeuvrist Approach – an approach that is not all about moving, but rather it is about 'out-manoeuvring' in every sense. It is perhaps better captured (as Liddell Hart did) as 'an indirect approach': one that looks for asymmetry, for the unexpected, the unsettling, the confusing; one that seeks to seize and keep the initiative. It is and will continue to be an approach, both physically and mentally, that Sun Tzu observed as being like the behaviour of water: "For just as flowing water avoids the heights and hastens to the lowlands, so an army avoids strengths and strikes at weaknesses." Manoeuvre in the future will need to be not just in three dimensions (including air), or even in four dimensions (including the electronic and cyber domains). It will have to put even more weight than ever before on a fifth dimension: the minds of those who oppose us and among whom we will operate. If phenomena like Al-Qaeda are based on a franchise of ideas, then they will have to be fought as much with our own ideas and narratives as with our more substantive capabilities. To make the most of the full breadth of this five-dimensional fight, the Army will not only need to fight with its enduring core capabilities, like armour, infantry and artillery, but it will also need to be comfortable with fighting by using ideas and risk; and it will need to identify and exploit its asymmetric advantages – such as intelligence-gathering networks and capabilities, and airpower and air manoeuvre – to ensure that it understands and exploits all of those areas where it retains an advantage.

FORECASTING FUTURE UNDERTAKINGS

The MoD's view of the context of the future fight is captured in the *Future Character of Conflict* (FCOC) study. FCOC makes it clear that it is most likely that the UK will continue to have significant global interests and will wish to remain a leading actor on the global stage. While Defence will remain the nation's ultimate insurance policy, it is also likely, therefore, to be required to play a range of roles abroad in the pursuit of the nation's interests. Furthermore, the forces of the Crown are most likely to act in concert with others in a variety of alliances and partnerships – some military, some civil; some familiar, some unfamiliar. These partnerships may provide reinforcing strength to our capabilities and legitimacy to our actions, but equally may constrain our choices and our discretion over how and when to act. Globalisation will interconnect friends, enemies and neutrals at an unprecedented speed, magnifying, in particular, the influence that our actions will have on people's minds. Finite resources will constrain not only force sizes, but also our ability to retain a technological edge in a world where research and development is expensive, but fast off-the-shelf purchase of the most advanced capabilities is available to an increasing market. The FCOC provides an alliterative description of that future world of conflict: contested, congested, cluttered, connected and constrained. In short, it will be a world dominated by hybrids (unlikely or incongruous elements joined together for mutual advantage), and if those who oppose us take this shape, then we will have to build hybrids of our own to outmanoeuvre them.

A return to contingency will mean a return to uncertainty: the world in which land forces may be required to fight or operate may be urban (on an ever-increasing scale and absorbing an ever-increasing percentage of the world's population) or open country-side, mountain or plain, littoral or inland, jungle or desert, hot or cold. This uncertainty means that the Army will not be able to rehearse for success: to train and equip for a specific and clear immediate task. It will need to prepare in a way which will enable it to prepare for them all. This will require resources of many different kinds, and time is likely to be the most precious of those resources. But important too will be simulation, wargaming, and imagination in a world where the physical component of fighting power will be tightly constrained. Above all – and the NSS, SDSR and accompanying studies make this clear – the Army will need to be adaptable and agile. Flexibility, a Principle of War, will take on new weight, and flexibility requires strength and resilience, coordination, good reflexes, speed of analysis, communication, adaptable action and endurance. With this foundation of mindset and approach, the Army will need to structure for uncertainty. If the Army adopts a range of specific-role expert formations, it will mean either larger numbers or capability gaps. If the Army relies on multi-role formations, it may see the fading of specific skills. One way or another, the future Army will need to be comfortable with the notion of organising for task as the need arises.

> "When armies have failed to weave a variety of capabilities together, even the finest of fighting forces have suffered fatal consequences"

In summary, therefore, we cannot be certain about how or where the Army will be required to fight in the future. Because of this, the Army will need to be able to adapt, mentally and physically, to the problems that it will face. The Army will need capabilities, minds and structures that promote the essential flexibility. There will be enduring requirements like combined arms manoeuvre and an indirect approach. There will be evolving requirements: the FCOC world will demand that those enduring capabilities and philosophies be augmented by thinking soldiers who understand context, influence, technology and complexity, and who are skilled at managing and taking risk. The Army will need to bind together these enduring and evolving capabilities, along with the other services and assets from other parts of government, to capitalise on the asymmetric advantages available. All of that capability is most likely to be used in partnerships that will both enable and constrain. It is for these reasons that retaining and enhancing the Army's intellectual capability is the most important task before us. ■

HOW THE ARMY WILL FIGHT IN THE FUTURE

Combining forces effectively is vital in overcoming adversaries, and the Army must continue to develop its people, structures and equipment to this end

An Army Air Corps Apache helicopter, with a Sea King in the background, deploys during joint operations

An army must be able to fight; it is its core purpose and foundation. Fighting, or the deterrent effect of having the capability to do so, underpins nearly all military operations including peace keeping. An army that cannot fight and win offers government only limited political choice and is unable to protect the security and interests of the nation. In today's complex operating environment an army must also be capable of conducting a wide range of activities as well as fighting. These other essential capabilities are addressed elsewhere in this volume.

Over recent years, the Army has increasingly specialised for the ongoing operation in Afghanistan. While many of these bespoke capabilities have enduring utility, we must guard against defining the character of land forces beyond Afghanistan exclusively by these capabilities. In other settings our opponents are likely to possess a wider, tougher array of capability such as armour, artillery, helicopters and UAVs – as well as IEDs and small arms. Understanding what capabilities are required to defeat future adversaries is critical to defence transformation. If we get this wrong, the outcome will be capability gaps in the armed forces and vulnerabilities in UK defence and security that will take years to redress.

This article explains what the Army needs to remain a world-class fighting force in the future, post-Afghanistan era. It highlights the need to move on from a period of underinvestment and focus on specific ways of operating to rebuild an agile and balanced army able to defeat an unpredictable and adaptable enemy. This requires designing relevant structures; procuring and upgrading the necessary equipment; undertaking the training needed to rebuild wider war-fighting skills; and investing in the Army's most important capability – its people.

HOW AN ARMY FIGHTS

The ability to conduct what all armies call "combined arms manoeuvre" is at the heart of an army's ability to fight. Manoeuvre is the employment of forces on the battlefield in combination with fire from a mix of land and air platforms to prevail against an enemy and defeat it. While doing so, those forces must also protect themselves. The term "combined-arms" indicates that action is being undertaken by several arms (infantry, armour, aviation, artillery, engineers, air, etc) in a coordinated manner to achieve a common mission.

It is wrong to confine the term "combined-arms manoeuvre" to an exclusively Cold War vision of massed tanks and armoured fighting vehicles operating together in high-intensity combat against similarly equipped opponents. This is a fundamental misunderstanding of the term. Armies have been conducting combined arms manoeuvre for millennia – the coordinated use of chariots, archers, infantry, and cavalry by Hannibal, Alexander or the Roman legions was no different conceptually from the use of tanks, armoured personnel carriers, combat engineering assets, artillery, and close air support in Iraq in 2003.

The centrality of combined arms manoeuvre can be seen in nearly every operation undertaken in the past 20 years. The US Marine Corps secured Fallujah in December 2004 by using combined arms manoeuvre successfully. The Israeli Defence Force suffered heavily at the hands of the Hezbollah in Lebanon in 2006 because the force had disinvested in the ability to conduct the action properly. In Bosnia in 1995, British forces found themselves using a wide range of combined arms in actions that ultimately brought the antagonists to the negotiating table. The consequences of a lack of capability and resolve had been played out tragically in Srebrenica earlier the same year. In 1999 in Kosovo, it was the deployment of a highly credible force – one demonstrably capable of combined arms manoeuvre – that outmatched the Serbian forces.

The question for the Army and defence now is: what is the next evolution in combined arms manoeuvre, when combat in Afghanistan concludes and other challenges appear?

LOOKING TO THE FUTURE

Lessons from recent conflicts and studies of emerging trends indicate that future adversaries will naturally continue to exploit the principle of asymmetry when they fight us – avoiding our strengths and exploiting

Armed forces on exercise in the Jordanian desert. The ability to deploy anywhere at short notice provides the UK Government with a most valuable tool of policy

our weaknesses. They will draw on the entire spectrum of ways and means to attack us: from the use of conventional weapons and tactics (which are widely accessible), to irregular tactics, to terrorism and disruptive criminality. High-tech weaponry is no longer the preserve of states: non-state actors whom we may be compelled to fight will also have access to them, as the "state sponsored" Hezbollah in Lebanon and the Shia militias in southern Iraq illustrate. Urbanisation will continue apace; population-focused conflict will therefore be drawn into cities, where combatants can blend into the civilian population. Critically, our adversaries have adapted and will again adapt to take advantage of any capability weaknesses we may exhibit.

When fighting resourceful adversaries in complex physical and human terrain, the ability to conduct appropriate and effective combined arms manoeuvre, drawing on a range of capabilities, will be decisive.

We must be able to understand the operational environment, notably the human dimension, to determine how to influence our adversaries and the civilian population and also to underpin how we protect ourselves against increasingly lethal opposition. We must be able to move and fight above, through and below urban areas and similarly complex terrain, protected against lethal threats such as high-tech anti-vehicle missiles and IEDs, in order to first find our adversary and then strike with precision.

A force incapable of such manoeuvres will be vulnerable to an adaptable enemy that can move and strike with even an unsophisticated combination of firepower, mobility and protection. A limited armoured capability in the hands of an opponent can be highly dangerous to fixed, light forces and to vulnerable civilian populations – as we have seen in the Arab Spring of 2011.

A FUTURE FIGHTING ARMY – COMPONENT PARTS

To ensure success in future conflicts, the Army must be structured, equipped, trained and have enough soldiers to deliver success against unpredictable and adaptable adversaries. This requires balance and agility. A process of transformation to achieve this must begin now: re-equipping and retraining an army takes time and the Army is now bent out of shape due to the particular demands of Afghanistan.

Structure The future structure of the Army must deliver combat forces that are effective flexible, agile and able to reorganise and respond rapidly. Current thinking is that this will best be achieved by brigades containing a range of capabilities, including their own integral support and logistic assets. On this basis, the Army has designed the Multi-role Brigade, or MRB. With reconnaissance forces, some heavy armour, a range of infantry, engineer, artillery and logistic assets and other specialist capabilities, it is the future embodiment of the combined arms approach. Integrated with joint enablers, including surveillance, information systems, air and maritime assets, it will be configurable for the full range of military activities.
Equipment Combat forces will require a range of equipment relevant for contemporary operations and capable against evolving threats. Reduced investment over the past decade, the lack of a campaign equipment plan for Afghanistan and the consequent cost of UOR equipment have unbalanced the Army's equipment plan. Much of our armoured fleet needs modernisation. Key equipment, such as the Warrior Armoured Fighting Vehicle, needs upgrading to prevail against ever-increasing high-tech threats. We must continue to equip other elements of the force to fight in the modern era, including a CBRN3 defence capability, IED search and bomb-disposal capabilities. Some of what has been procured for Afghanistan has enduring utility and should be incorporated into the core programme, particularly protected mobility, surveillance assets, and information management and exploitation.
Training The capability to fight cannot be created on the day it is required. Combined arms manoeuvre is complex and requires a mix of live and simulated practice. At present, the need to focus training on operations in Afghanistan, coupled with budgetary pressures, has reduced other training activity to such a low level that there is a clear requirement to invest in the Army's capability to conduct combined arms manoeuvre. This must be addressed now, as defence contingency capability is rebuilt, before knowledge and skills are lost and global conditions present us with new challenges.
People Underpinning all of the Army's capability are people. No amount of good equipment, reorganisation of structures and thorough training can mitigate against poor quality, or under-motivated people. Fighting is a human business and high morale is indispensable to success. We must attend closely to the essential needs of our people as we transform, ensuring that we sustain their professional effectiveness and their personal will to keep volunteering. We need a combination of quality and quantity to succeed, found from a new balance of regular, reserve, civilian and industrial capacity.

INVESTING IN THE RIGHT CHOICE

To provide the government with genuine choice, the Army must remain first and foremost a fighting army, with the ability to conduct combined arms manoeuvre at its core. This requires appropriate structures, investment in the land equipment programme, funded training and the right quality of individuals. Such an army will deliver credible deterrence and success when deterrence fails. It is an essential part of the national insurance policy in a difficult, unpredictable and rapidly changing world. ■

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SUPPORTING CURRENT AND FUTURE OPERATIONS

Being able to supply the Armed Forces with equipment and manpower at a moment's notice isn't a goal – it is a basic essential

In the equipment and support arena, what we ultimately seek is sufficient, timely, capable, cost-effective, fit and safe equipment in the hands of the User. Inevitably, articles on the subject tend to migrate towards discussions on what the next new piece of kit will be. But this short article will focus on the support aspects. It is in this area that we must exploit the opportunities if we are to mitigate the significant resource challenges we face now and for the foreseeable future.

In looking at support, we should first understand what we mean by it – namely all those activities that maintain military capability at planned availability, readiness and sustainability profiles though life and end-to-end. We must also acknowledge that the Land Forces' vision for support will conform to some degree to the wider Defence view. See box (right) for a summary of that wider Defence Vision.

By Service Provision we mean "the agile and responsive supply of specific services, which might include any materiel, personnel and equipment, required to enable the delivery of a capability for training, standing commitments and operations, within agreed timescales". This builds on the current trend towards Contracting for Availability and Contracting for Capability, which is the default solution emerging from Defence Estates and Defence Equipment and Support because of one calculation – more than 60 per cent of all platform support solutions will be of this nature by 2017.

The Total Support Force is embedded within the, perhaps better-known, Whole Force Concept. It has emerged from experience in Afghanistan, which has demonstrated that Contractor Support to Operations can be much more commonplace than we have been used to. The big idea here is that we should plan and structure for this, rather than fall into it in an ad hoc way, and thereby avoid having to pay for a capability to exist in the force structure, as well as to be provided by contractors.

The role of civilian contractors in providing support to operations is likely to grow in the future. It will be important to establish what tasks are and are not appropriate for civilianising

THE NEED FOR INTEGRATED SUPPORT

This idea is not about a simple deletion of military manpower and insertion of contractors. It is about an Integrated Support Community that has thought through who does what, for whom, and when. Considered in one light, we are entertaining this because it is assumed that paying the whole life cost of a soldier is more expensive than a contracted solution. Viewed more favourably, we would say this is about effectiveness rather than economy, about concentrating regular military manpower

on the things it does best – the things the military alone can do – and using industry to do what it does best.

The Total Support Force needs to be enabled by New Employment Mechanisms, which allow people to move between different levels of commitment over the course of their working lives. This would enable us to not hold expensive regular manpower all the time (a precautionary measure in case we might need it), but equally avoiding the situation in which support is not there when we call for it.

The theme of these two concepts – Total Support Force and New Employment Mechanisms – is that regular soldiers, reservists, crown servants and contractors are viewed as a whole, the best resource being applied to achieve output-desired outcome. Individuals move as necessary between the hitherto stove-piped employment pillars to give maximum efficiencies. This is not a binary view of the support world, which seeks to answer the question: "Should a contractor do this or should a soldier do it?" Rather it is a more sophisticated – and hence more difficult to realise – model which recognises that the business of support to military operations is a dynamic challenge. Variables – such as threat level, the degree of integration with manoeuvring force elements, readiness, vocational skills levels versus military requirements, and the needs of the home and deployed space – must all be considered and cannot be taken as static entities.

The Total Support Force will be a good deal cheaper and more effective if it is connected to a Basing Strategy that allows non-regular manpower providing support in the Base, to deploy forward into operational theatres. This is happening today to a limited degree, but could happen much more if we apply the logic to how we provide services from end-to-end, rather than, as currently tends to happen in practice, maintaining a hard and fast boundary between home and away.

But none of this will work without better alignment and visibility end-to-end, and clear accountability. We need to be better able to understand the consequences of our actions, to decide on priorities, to make trades across the Lines of Development, and to express our requirements more clearly, especially for the DE&S and industry. The trick in all of this, as with any big change, will be to bring about the necessary change without risking the achievement of the mission. There are numerous examples of how to achieve this, but it is worth illuminating a couple of the more mature initiatives.

DEFENCE SUPPORT – A VISION

- A mindset of Service Provision;
- A Total Support Force where industry and reserves are intergrated into regular structures against readiness assumptions and agile force generation requirements;
- Employment Mechanisms that enable a more fluid and flexible mix of military, contractor and civilian staff, on demand and through career;
- Large Integrated Defence Bases, with the ability to transport support from the UK Home Base directly to the operational area;
- Clearly defined Personal Accountability, with fewer, leaner interfaces, both internally and externally.

The Land Environment Fleets Concept seeks to modernise fleet management for the Army by concentrating effort where it is most needed and, thereby, delivering a better service at reduced costs. This initiative is already providing Basic Unit Fleets for low level training in units, individual training fleets for initial training and Training Area fleets in places like the British Army Training Unit Suffield in Canada.

The change from previous arrangements is that, concurrent with driving down the Basic Unit Fleet numbers, we have also introduced a new active fleet category, called the Reinforcing Fleet. This is under Divisional control and is flexed within the Division to wherever it is most needed. Crucially, this fleet is provided for us under a Contracting For Availability arrangement, by the Defence Support Group, rather than managed and repaired by the Army. In future, there is no fundamental reason why it could not be provided for us by industry.

THE PROBLEMS OF STANDARDISATION

The Global Equipment Manager (GEM) is the second of our land support initiatives. The GEM is a virtual team made up from both Land Forces and the DE&S, blurring the boundaries between these two organisations. It is responsible for the end-to-end management of the land vehicle fleet, and has started by gripping the UOR Protected Patrol Vehicle Fleet. There is of course more to managing equipment that getting it to the right place at the right time. It needs to be available to the user through a combination of reliability, maintainability and logistic sustainability. This is an area in which we have forgotten as much in the last 10 years as we may have learnt. It is certainly an area in which we need to do considerably better. In short, we need support solutions that are fit for the 21st century. We may refer to this as Support Solutions Discipline, in order to get across the understanding that we have to overturn what some would describe as the ill-discipline of the last 10 years.

The official publication *Defence Standard Six Zero Zero* tells us all we might ever want to know about standardisation and what makes a capability supportable: reliability growth and testing; ease of maintenance assessments and level of repair analysis; ranging and scaling of ES materiel methodology; modelling of repair loops to ensure that sufficient line replaceable units are procured; the benefits of common base platforms; the benefits of open architectures; requirements for spares codification and provision of technical publications; the scaling of special tools and test equipment.

Yet visit Operation HERRICK and you will find REME tradesmen using tools they have bought via the internet to effect repairs; enter a NATO stock number into the stores system and you are presented with 16 different parts, with no way of knowing which one you need; you require one diagnostic computer for a MAN SV truck, a different one for a Jackal vehicle, and yet another for a Mastiff. And so it goes on. To an extent, it was ever thus. But we are seeing the problem on an industrial scale now, rather than exceptions to the rule. We need to address this lack of standardisation now if we are to achieve the levels of availability we need without immense effort.

There are other areas one might focus on, but the main point is that by continuing to be innovative and understanding more clearly what we need from support, and what industry can and cannot do for us, we can do more without more, or at least the same with less. ■

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ESSAY

EDUCATION, TRAINING AND DOCTRINE

Essential foundations of success

Maj Gen Mungo Melvin OBE highlights the necessity of improving our capacity to learn if we are to develop adaptable Forces

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Without the right education, training and doctrine no army can effectively generate or apply fighting power, or any other kind of power it may nowadays be called upon to apply. It's not just about possessing the iron will and dogged determination to succeed. Learning the 'why', 'how to' and 'on what basis' is fundamentally important to achieving success. Shortcuts taken in any of these three pillars of capability will manifest themselves in failure: in battle, or more commonly in the conduct of a campaign or war. Much blood, treasure and reputation may be lost in consequence. Although no amount of tactical virtuosity on the battlefield will redeem major errors in either policy or strategy at home, likewise no military strategy will prevail unless it is based on operational success. Hence sustained investment in education, training and doctrine at all levels is crucial to the mental and physical health of an army, or to any other disciplined force.

The Army has long prided itself on its professionalism. It was not ever thus. The hard knocks of setback and defeat in the early stages of the Second World War provided a salutary reminder of the consequences of failing to prepare for modern warfare. As General Sir David Fraser remarked in his analysis of the British

Developing a strong team spirit is an essential aspect of Army education and training. This is at odds with the tenets of the "Performance Management" processes currently prevalent throughout Whitehall, which reward individual, rather than collective, performance

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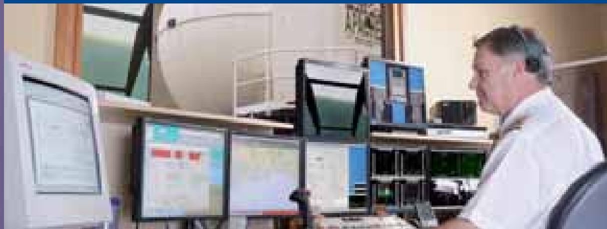

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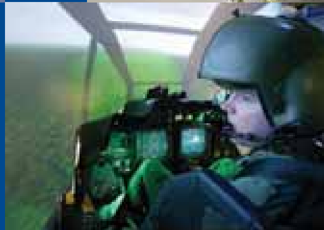

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Officer cadets from the Royal Military Academy Sandhurst take part in The Sandhurst Cup at the United States Military Academy at Westpoint, USA. The more unpredictable future conflict becomes, the more we need to educate the Army and not just train it

Army's performance during that war, "As the war went on, the Army changed its character and became expert. Its officers and non-commissioned officers became, in the main, adept at their jobs. Staff became skilful, their work smooth-running. Organisation, from being bumbling and amateur, became rational and effective. None of this, however, would have sufficed for victory unless the soldiers themselves had become masters of their art."[1]

> "Today's army needs to remain at the top of its game, keeping at the forefront of innovation, ready to adapt to new challenges"

The same author also acknowledged that "the mistakes of the enemy provided time for the Army to make good its mistakes, repair and restart the machine", and noted that prior to the Second World War, the Army had 'been neglected as to equipment, training, tactical doctrine and the provision of a cadre of sufficient officers, and non-commissioned officers for expansion'.[2] Looking ahead into the second decade of the 21st century, however, there may not be sufficient time in any future, perhaps unpredicted, conflict to make good early errors, to address shortcomings, or to identify and grow new talent. For this reason, today's army needs to remain at the top of its game, keeping at the forefront of innovation, ready to adapt swiftly to new challenges whenever and wherever they may occur, and be structured and prepared so that it can expand into capabilities and to the necessary capacity to cope with the new challenges. Preaching such agility comes easily; changing our structure or patterns of procedures and investment to give it real substance and meaning does not.

PARALLEL APPROACH

Such an approach places a high premium on education (learning how to think, appreciating the context, and how to address problems we have not experienced before); training (learning what to do in the circumstances) and doctrine (that which provides a framework of understanding and action, guiding education, training and operations). Our military doctrine today gives sound guidance on the complementary nature of education and training, worthy of stressing here.

Education, which is about personal professional development, runs in parallel with training, which improves individual and collective practical performance. Training without education is unlikely to be sophisticated enough to deal with the complexity of conflict and operations. Education without training will not prepare people to apply the theory.[3]

Although it may be hard to believe, at the height of the Cold War a cavalry regiment in the British Army of the Rhine drummed out an 'educated officer' (one with a degree in modern history) for having the temerity to read a book in a public room of the unit's officers' mess. 'Talking shop' was regarded as bad manners, and therefore not an acceptable practice of gentlemen. Although its uncomfortable truth hurts, there is another side to this caricature of anti-intellectualism.

> “Education, training and doctrine are of no value whatsoever unless they provide the basis of sound, purposeful, creative action”

The majority of units across all arms were deeply professional and trained hard: the establishment of the Higher Command and Staff Course (HCSC) in 1988 at the Army Staff College, Camberley, brought much-needed rigour to the education of senior military officers in preparation for operational-level command. Northern Ireland provided a tough testing ground for all ranks for nearly 30 years. This trend has continued. The pressures of operations over the last two decades from the First Gulf War via the Balkans, Sierra Leone to Afghanistan and back to Iraq have enforced a thoroughly professional approach – one that has been reflected in the intensity of pre-tour training at the tactical level for the current war, if not for some putative conflict of the future.

Yet, even today, there remain concerns. The reluctance of some officers to study doctrine is a sufficiently disturbing phenomenon for the Chief of the General Staff (CGS) to have highlighted it in his foreword to *Army Doctrine Publication (ADP) Operations (2010)*. As CGS stresses, there is "no place in today's Army for the gifted amateur".[4] What differentiates the professional from the amateur is not only the thorough education and training that he or she has received, but as much an openness and readiness to apply it intelligently in the circumstances pertaining. It can never be stressed enough that education, training and doctrine are of no value whatsoever unless they provide the basis of sound, purposeful, creative action. In this sense, the Army's firm base is not just a matter of physical infrastructure from which to deploy on operations. It includes the conceptual and moral groundwork for the exercise and employment of armed force.

Military history has an important place in our education and training; it is not an optional extra. To take one example, there is simply no excuse for a field officer in Helmand province not knowing about the battle of Maiwand[5], when operating in its vicinity 130 years later. Afghan tribal memories have proved to be longer than ours on many occasions. History may not provide us with

There is no excuse for an officer in Helmand province today not knowing about the Battle of Maiwand, 130 years ago. Afghan tribal memories are longer than ours

easy answers as to the future, but at least it will help us to understand the strategic context and to frame the right questions accordingly.

A general understanding of past wars and their enduring features may also provide some useful pointers to present ones, whatever their type. Those who had studied the desert war in North Africa in 1940-43 were far better able to understand how to fight during the Gulf War in 1991 than those snatched from bases in Germany without a clue as to what the British Army had experienced before the Cold War. Likewise, if treated with due care, many lessons in counter-insurgency are transferable from one conflict to the next.

So what differentiates education from training, and what can we learn profitably from such distinction? Above all, education is about promoting an ability to think, to imagine, to create and thus to understand how to rise to, and meet, new challenges. It engenders not only a capacity for innovation and improvisation, but also the ability and authority to switch styles of thought and leadership as required. In the military sphere, an enlightened approach to education (and much depends on personal professional development) promotes the habit of creative, operational and strategic thinking that is required by senior commanders and their supporting staffs. For any high-level direction and guidance to bear fruit, however, subordinate commanders and staff must be able to translate it at the tactical level, based on their training and experience.

AN ESSENTIAL REQUIREMENT

The need for training should be self-evident. As our doctrine reminds us, it is "an essential part of the Army's fighting power; its importance has a rare equivalence in civilian organisations".[6] When training is cut to make financial savings, the negative consequences in reduced performance on the battlefield are rarely seen immediately. Those who make such decisions are rarely held accountable. It takes a very long, sustained, investment to build the professional competence of an army that permeates all its structure and tightens the sinews of its command. An army's reputation, on the other hand, can be lost swiftly in one idle moment of incompetence or insufficiency.

Conventional wisdom demands that training be divided into two basic types: individual and collective. There is another, quite different approach that transgresses both. It divides training functionally into two, noting their complementary nature: first, that which concerns decision-making; and secondly, that which deals with the necessary drills to execute and reach decisions in battle at whatever level[7]. The use of the word 'decision' here is significant on twin counts. It means making: (1) the right choices, in order to reach (2) favourable, winning, outcomes. For far too many soldiers, however, 'decision in battle' is merely about picking the best patrol route or axis of attack. Higher level formation tactics provide the ways to achieve operational objectives.

Training for decision-making, meanwhile, is not solely an individual sport; solid command and staff teamwork is required to hone the estimate process. Practice and technique count. In one rare (possibly unique) exercise scenario at the end of the Cold War, four British divisional commanders and their headquarter staff were given very similar tactical problems to solve under intense time pressure. From a corps warning order, followed up by further detail, the required output was a full set of divisional orders in the hands of subordinate brigade commanders, suitably warned. The fastest divisional team achieved this result four times quicker than the slowest. Unsurprisingly, it was this particular headquarters that was sent to the First Gulf War under the Army's best commander-trainer since Montgomery, General Sir Rupert Smith. Training for decision-making itself requires drills, standardised operating procedures that combine efficiency in process and effectiveness in outcome. Drills demand both discipline and flexibility in implementation.

Units need drills in order to deploy into battle and then to fight in them. It requires the orchestration of all arms into combined arms teams, including air and aviation support. Competence comes through progressive practice, which is not the same as trial and error. The British Army may never have to mount an opposed obstacle crossing at formation level in the next decade, for example, but who would be foolish enough to say "never again"?

We need many more staff officers who can do the necessary tactical arithmetic of march orders, securing a city block, open flank or dominating height, or estimating logistic requirements, while fewer officers are required to come to grips with the higher, integrated calculus of strategy. So there is a balance to be achieved between training and education, and between the tactical and strategic for both. In broad terms, the Army must focus on tactical training and doctrine, while joint education and training organisations should concern themselves with the operational and strategic levels. At the very top, however, the Army only deserves those blessed with strategic ability, acumen and vision.

In any final analysis, however, both education and training count, as does the supporting doctrine, if an army is to retain its professional, collective competence and be able to succeed. There is nothing new in this observation, but it bears renewed emphasis when we seek a path through a time of austerity. Muddling through is not a sound option. Better to have a smaller, well-trained and exercised force than to have a larger, less effective, hollow shell, as long as that force is structured and prepared so that it can be expanded when the need arises.

The British Army remains heavily committed to operations in Afghanistan, but there will come a time when that campaign will end. For now, training must focus rightly on that theatre of operations, but plans must be cast for the education and training of the Army of the future, five to 10 years and more ahead. There is no room for any complacency about the challenges involved. ■

1. *David Fraser,* And We Shall Shock Them: The British Army In The Second World War *(London: Hodder and Stoughton, 1983), p396.*
2. *Ibid, p397.*
3. *Army Doctrine Publication (ADP) Operations (2010), Paragraph 0216, pp 2-9.*
4. *In his foreword to ADP Operations, p iii.*
5. *Their victory at Maiwand on 27 July 1880 during the Second Afghan War still arouses intense pride amongst many Afghans.*
6. *Ibid, Sub-Paragraph 0245c, pp2-33.*
7. *The rationale for and benefit of this approach was first highlighted by General Sir Rupert Smith when he served as Deputy Commandant of the Army Staff College, Camberley, in 1989-90. The value of 'battle drill' was recognised by the British Army much earlier during the Second World War. Its limitations are discussed in detail by Timothy Harrison Place, Military Training in the British Army, 1940–1944 (London: Frank Cass, 2000).*

ESSAY

AN ALTERNATIVE ORGANISATIONAL MODEL FOR THE ARMY

To counter the shift in challenges and threats faced by the UK, we need a fresh model that prioritises people, innovation and integration, writes Lt Gen (Ret'd) Sir Graeme Lamb

A Territorial Army soldier under training. The UK's balance of reserves to regular is lower than that of our principal allies and could usefully be increased

Why would one need or even consider an alternative model of Army organisation? The British Army in its current guise has served the UK exceptionally well these past 50 years. It provided, along with its Allies in NATO, a significant part of the shield that successfully checked Soviet adventurism by deterring the forces of the Warsaw Pact. The 'Cold War' paradigm that achieved this success, and on which or Army is still modelled, concentrated on providing the means for *mass strike* as the counter-balance to the arrayed forces of the Soviet Union. Attacking forces would be channelled by ground units in well defended terrain providing the *block*, the *fix* from which to manoeuvre the mass strike capability. This double act was supported by a *find* function that, although relatively small and technologically limited, was adequate for the task. In sum, this well drilled force was fit for the purpose of its time. But that time has now passed. Today the challenges and threats that the UK faces are no less deadly nor any less problematic. But they are different.

The challenges that now face this nation are more complex and difficult to measure. Our rivals and competitors engage us with a wide range of tools, not all of which are recognised as the weapons they are. Some of our enemies are hidden among us, or they operate behind us and in spite of us. The manner in which they fight is equally different: strength against weakness, an asymmetric approach frequently subnational in character, albeit enabled by transnational support.

Our previous preoccupation, on which were set the military organisation and operating concepts we still work to, was on the principal threat being nation-against-nation wars. These still remain a possibility, but they are an increasingly distant one. Today's emerging rivalries, challenges and threats demand a reversal of priorities from the old paradigm, where *fix* and *strike* were paramount, to a new paradigm where *find* is the most critical element. The *fix* function is no longer tied to *terrain* but must embrace a 'whole of Government' approach involving diplomacy, economics, legal issues, information, intelligence, and all manner of political activity. *Mass strike* has become *precise strike* because of the increasingly transparent global village in which we operate in full view, thanks to the media environment.

Even if this shift in threat were true to only a small degree, then it would demand a significant change to our basic 50-year-old structure, concept and operations. As it is, we are experiencing a fundamental change in the conflict environment which demands a correspondingly radical change in the way we organise, train and equip in order to meet this new challenge.

When we add to these challenges the circumstances of increasing financial pressure, unpopular large-scale enduring overseas interventions, a technological revolution and inter-connected global communication, coupled with an increasing global misery index among the poorest populations saddled with demographic explosions, economic disasters and incompetent governments, the issue becomes even more stark and urgent. We must reorganise our forces to ensure they are fit for a new 21st-century purpose. The case for this should be self-evident. What is not self-evident is: what should the new model be?

Whatever model we choose must include both hardware (equipment) and software (manpower). As things stand at the moment in our Armed Forces, people are supposedly our acknowledged priority. However, on inspection the reality is different. The Ministry of Defence (MoD) today is specifically organised to turn new large-scale investments into hardware – our equipment programme – while using people as a regulator to create financial headroom for the overall equipment programme. By reducing people's activity levels, the MoD seeks to provide the solution to balancing the Department's books. Increasingly poor procurement decisions, as a result of lost competencies, inadequate research and development (R&D) and a reduction in scale to below critical mass, inevitably result in equipment programme over-runs. Added to an insatiable single-service drive for more kit that is 'better and better', these ensure that the ever-smaller defence budget is in a constant status of overspend in which people, activity or delay are the only ways to meet Treasury-imposed spending restrictions.

"Our competitors engage us with a wide range of tools, not all of which are recognised as the weapons they are"

The impact of this reality is twofold. Firstly, it fails to invest in – and therefore retain – our people; and secondly, having expended vast sums of taxpayers' money on selecting, training and giving them experience, it then dismisses them with limited, or virtually no, recall. As a financial model, even if put only under a business management spotlight, this makes little sense. As an operational model, it makes none. Giving priority to equipment rather than people, coupled with a culture of planning beyond our means, sets the MoD on a continuous course for financial shortfall. Part of that failed process is our current organisational model.

If the challenges and threats that we now face are increasingly individualistic and asymmetric in nature, then a model that predominantly relies on a single mass body of regular, professional soldiers, fitted to fight like with like, is probably flawed. As the distant possibility of state-on-state war is displaced by the more likely event of smaller-scale, overseas, rapid intervention and the increasing likelihood of having to react to and cope with a homeland disaster, be

Young recruits who have excelled in their initial training course. The Army needs to make more strenuous efforts to retain the people in whom it has invested

that natural or man-made, the demand will be for an army more balanced between regular and reserves. The distant thought of a citizen army has not, I sense, passed forever from our shores but has returned.

Reserves make up around 20 per cent of our army. This is in direct contrast with our Australian, Canadian and US counterparts, whose figures range from the mid-40s to more than 50 per cent, respectively. Our current position is not only 'out of step' with our principal allies, but it is out of step with the situation in the UK during the colonial period, when the nature of conflicts in which we engaged bore some resemblance to those of today, rather than to the mass wars of the 20th century. Our current organisational model urgently needs to be reviewed and corrected. Voluntary service sits well with our society. The ability to gather from the richness of talent in our society makes great sense. To continue with our current outdated model of organisation, dismissing so completely the lessons of other nations and of our own past, is nonsense.

> **"Adaptation of commercial technology should increasingly be the adopted course"**

The new model should draw manpower from both the regular and a reserve pool, while allowing for maximum flexibility between the two. In extending service time into the reserve component, the model needs to create a cradle-to-grave human resource management solution, a new 'personnel concept' that harnesses throughout their working life the individual and collective talents of the people we have carefully recruited, selected,

trained and educated – that is, invested in. People who are prepared to commit themselves to public service, and then commit themselves again to the rigours of soldiering, are rare. The skills they then learn on operations are priceless, and we should be strenuous in attempting to retain them. Furthermore, my prevailing sense is that not only can they continue to be of service but that they actually wish to be so.

In short, we have a ready, willing, trained, committed and cheap source of manpower. To ignore, or worse discard, this pool of talent bears no serious analysis. But this is the culture that prevails in our present organisational model. In cost terms, regular service manpower, not surprisingly, is expensive. The reserves cost much less. Run over five years, the cost differential is around one-third or, put simply, three for the price of one. This reality of the cost of investment and retention makes a nonsense of the idea of using people as the financial regulator, as our current MoD model does. It further demonstrates that the regular-reserves balance in today's army is no longer affordable .

Recognising that our equipment requirement, as set against the emerging threats, has also changed will allow for reprioritisation, a more responsive programme and savings. Expensive platforms, benchmarked by advanced technology, deliver a crucial advantage only when set system against system. This military equation, of high individual item price and performance on the one hand but the need for significant mass on the other, has suited the richest nations. It is a contest that others have been unable to match. This model of relative military advantages – such as intercontinental ballistic missiles, fast jets, surface ships or main battle tanks – was the basis for the so-called arms race. Previously, the cyclical change for novel and new capabilities was measured in half-centuries. That change has accelerated. Mid-life updates are no longer measured in 25-year cycles but in decades and shorter. The financial implications are that for much of our military equipment today, off-the-shelf solutions are attractive and adaptation of commercial technology should increasingly be the adopted course.

It is in the adaptation and innovative use of technologies that advantage can be leveraged. The story of radar is a good example. Between the two Great Wars of the 20th century, the novel technology of radar was embraced by the RAF, at the time the leading innovative Service of the British Armed Forces. Radar equipment gave a glimpse of the possibilities, but it was the integration of the idea into existing operating systems that provided the vital advantage. The Germans enjoyed the same science and produced better equipment, but failed to integrate their radar systems into their own information-gathering networks, and never matched the British capability. We see today, alas, innovation and integration most frequently by our enemies, who draw from the readily available 'this year's model' technology and adapt it to the campaign. The effects they achieve are deadly and difficult to counter. The significant advantage we enjoyed because of our science, technology and equipment when going 'head to head' with the Soviet Army is no longer evident. To rely on this to secure our success in current and future campaigns could be fatal.

The only solution is to change our reliance on long lead-time, expensive platforms and invest rather in people and in the kind of technological programmes that can match, and then outpace the current threats. Furthermore, I believe our approach to much of our equipment can safely be based on 'acquire, use and dispose of'.

By changing our regular-reserve force balance, reprioritising from equipment to people, accepting the practical implications of the cost of specially built equipment and of the speed of technological change, we will be able to reorganise our armed forces to be fit for the 21st century at a price our society is prepared to pay. Attempting to do better with what we have inherited will simply fail. The current organisation model and concept of operations fails to meet the emerging threats, to make full use of the nation's human capital, and to retain or continue to use those in whom we have invested considerable time and money. In short, it is too costly and no longer fit for purpose. Our priorities today should be: people first; innovation and integration second; maximum training, experimental and educational activity third; and last, large-scale equipment programmes. ■

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COMPLEX WEAPONS

Guidance systems and their role against elusive targets are becoming ever-more sophisticated in a world where conflicts are increasingly fought among civilian populations

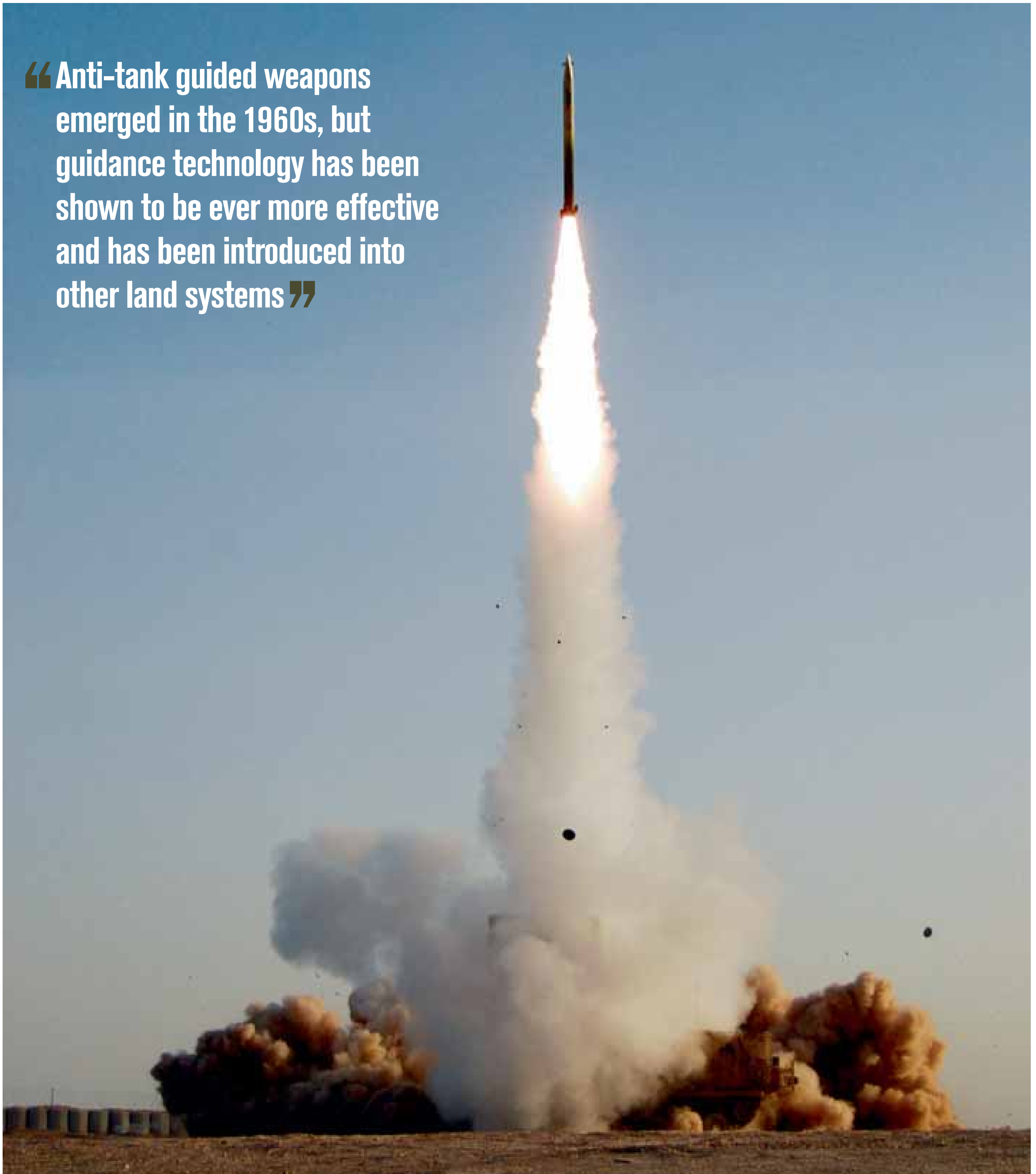
Fire Shadow Loitering Munition: part of the IFPA project and under development as part of a team of complex weapons. In current operations, there is a marked trend to replace classic unguided artillery with super-accurate complex weapons

The term "complex weapons" covers munitions with a guidance element that allows them to engage a target more precisely. They are key to the concept of precision attack. Initially, their development was limited to the air and sea environments, where their high cost could be justified by the high value of the targets they were engaging.

Anti-tank guided weapons emerged in the 1960s, but guidance technology has been shown to be ever more effective and has been introduced into other land systems, most notably the artillery through the Indirect Fire Precision Attack (IFPA) project. At the same time, the ability of land forces to access precision attack weapons launched from air platforms in close support of troops on the ground has also been developed rapidly in response to operational demands.

Precision attack is achieved using two broad technologies: first, terminal guidance, where the final homing is determined either by a "person in the loop" directly controlling the flight of the munition, or the ability of the munition to home on a signature specific to the target (such as heat); and second, map coordinates, with the autonomous ability within the munition to arrive at a precise map reference using GPS and/or inertial measurement. Some weapons use a mix of both. Precision is also required in terms of effect (to match the target) and in time (to coincide with the position of a relocatable or mobile target). Moving, fleeting targets provide the most demanding challenge for engagement, and generally require a "person in the loop" solution.

The benefits of precision attack are immediately obvious. Accuracy becomes independent of range, and therefore greater coverage can be achieved by smaller numbers of launch platforms. Warhead effects can be reduced to match the target better, and consequently can be utilised in close proximity to friendly forces and with less risk of collateral damage. The quantities of munitions required to achieve a



"Anti-tank guided weapons emerged in the 1960s, but guidance technology has been shown to be ever more effective and has been introduced into other land systems"

The Guided Multiple Launch Rocket System provides the accuracy needed to destroy targets and avoid 'collateral damage'

task can be vastly reduced, producing real logistic savings. All these benefits are particularly pertinent in current operations and in the cluttered, congested and constrained environment predicted as the future character of conflict.

However, these capabilities come at a cost beyond simply that of the munition, and this needs to be accommodated. Precision demands more complex command-and-control and battlespace management. It generally operates over much longer ranges, and the munitions no longer fly wholly predictable ballistic flight paths. The coordination of activity, the skills required of individuals, and the degree of training involved should not be underestimated. Precision also demands high-quality geographic products and mapping. In some environments (such as urban, jungle and heavily wooded areas) precision attack technology may not yet be entirely effective.

Complex weapons are an important element of the UK government's defence industrial strategy, designed to maintain a sustainable domestic development and manufacturing capability dealing at the leading edge of technology, and providing the affordable equipment at the right levels of preparedness for the Armed Forces. ■

ONE WEAPON
MULTIPLE CAPABILITIES

Lt Johnsson kneels down behind the ramshackle wall and scans along the ridge for the enemy position. It's only seconds since they came under attack, the RPG rocket narrowly missing the truck carrying supplies to their forward operating base in the mountains. The lieutenant spots the insurgents as they fire another round from the rubble walls of the old farmer's building uphill. He measures the distance with his laser rangefinder: 870m. The insurgents adhere faithfully to their new tactics, staying outside the range of the ISAF forces' assault rifles and machine guns. Wilson! The ruined farmhouse, HE airburst, three rounds, distance 870m! The lieutenant calls out the target to his support section, equipped with Carl Gustaf M3, 84mm multi-purpose support weapons...

The Carl Gustaf 84 mm recoilless rifle, affectionately remembered by generations of British infantrymen, has evolved from a dedicated anti-tank weapon to a light and flexible multi-purpose weapon. The latest generation Carl-Gustaf M3 is an absolute 'must-have' piece of equipment for any army. With the new family of 84mm ammunition, the multi-purpose infantry system is capable of rapid response to any ground threat out to ranges beyond 1,200m. This Saab Dynamics support weapon can defeat armoured vehicles and enemies hiding behind fortifications; it can destroy bunkers and concrete walls, send out a smokescreen and can even turn night into day. Carl-Gustaf M3 has always performed admirably well, even when used in the most fragmented and complex environments.

In addition, more than 50 years of development of both weapon and ammunition have turned the infantry weapon into a highly flexible, portable and easy-to-use system. With the reloadable M3 weapon and the versatile ammunition family, the commander can rely on having an effective infantry support at hand, regardless of the combat situation, while still keeping the system weight and the associated burden for the unit to a minimum.

For these reasons, the combat-proven Carl-Gustaf M3 has become the support weapon of choice for infantry units and special forces, and has been sold to over 40 countries worldwide – including the coalition partners US, Denmark, Canada and, most recently, Australia.

"These new weapons provide an increased direct fire support capability and will be employed by the infantry, Special Forces and RAAF airfield defence guards. Soldiers will appreciate the weight savings afforded by the Carl Gustaf M3," said Greg Combet, Minister of Defence Personnel and Materiel for the Australian Defence Forces.

Carl-Gustaf M3 is operated by a two-man crew; the gunner fires the recoilless rifle and the assistant gunner carries ammunition and loads the weapon. The versatile 84mm ammunition can be divided into the following four areas: anti-armour, anti-structure, soft targets and support.

To keep its position as the state-of-the-art infantry system, the Carl-Gustaf M3 is subject to continuous development. Further weight reduction and a new sight solution with integrated laser range-finder and ballistic computers are among the planned improvements to meet the evolving requirements and to take the system to its next level.

...As the echoes from the last HE 441Cs die out, the lieutenant orders: "Smokescreen, 750m, six rounds."
Specialist Wilson and his assistant gunner quickly put three rounds of SMOKE close to the enemy position, effectively blinding any remaining enemy. The unit mounts their transport vehicles and the convoy continues...

The 84mm Carl-Gustaf M3 provides infantry soldiers with a rapid-response system that can engage enemy units over 1,000m away. Whether the target is heavy armour, AFVs or entrenched troops, the weapon has the ability to defeat them all, minimizing troop dependency on artillery and air support. With a greater range than most existing weaponry, and a wide variety of ammunition effects, the Carl-Gustaf M3 allows troops to rapidly negotiate targets during the day or night, regardless of environmental conditions.

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