The limited capacity of management to rescue UK defence policy: a review and a word of caution

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The three dimensions of defence

In terms of press coverage and political debate, the story of British defence since the end of the Cold War has been marked by three themes: policy (direction and review), management (shortcomings and initiatives), and military operations, although academic studies and courses tend to neglect the management domain.[1] In principle, these three elements should be closely linked, with policy defining the evolving state of the world and constraining the direction of the country's military response, management delivering the leadership, organization and coordination to build the forces to enable the policy to be implemented, and military operations being undertaken in line with the policy guidance and management preparations made. In practice, however, there have been significant disjunctions between the operations mounted and the policy and management. Military operations launched since 1990 have all been something of a surprise, most of them requiring significant extra funding to be obtained through Urgent Operational Requirements (UORs) to enhance and modify British capabilities before the operations could begin. The concept of Force Elements at Readiness (FE@R), the key output of the mainstream defence budget, came to be recognized in the MoD as of only limited utility unless consideration of the specific attributes of a particular adversary, the physical environment of the envisaged operation and the contribution of allies were also included in the equation.

Also, in some cases a policy decision associated with specific changes in military posture was significantly undermined or even contradicted by events. This was apparent during the Cold War, not least when in 1981 the Nott Review brought in significant naval cuts, only for the 1982 rescue of the Falklands Islands to rely fundamentally on a naval task force. The assumption of the 1998 Strategic Defence Review (SDR) that the UK would not need to deploy its forces east of the Gulf

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[1] This is a slightly different framework from that of Paul Cornish and Andrew M. Dorman, who refer to defence as being a 'four cornered debate involving policy and ideas, military ability and strength, financial resources and defence industrial capacity'. See 'National defence in the age of austerity', *International Affairs* 85: 4, July 2009, p. 740. However, it must be emphasized that their article goes on to address management, advocating a value-added approach to defence involving both people and equipment.

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had to be modified when the attacks on New York and Washington in 2001 led to UK operations in Afghanistan.[2] More recently, the Strategic Defence and Security Review (SDSR) of 2010 downgraded the UK's surveillance capabilities and ambitions by cancelling the MRA4 Nimrod and announcing the early retirement of the Astor/Sentinel system, and retired Britain's Harrier force and associated aircraft carrier. Then, led by the Prime Minister, the government opted to protect the rebels against Qadhafi's forces in Libya, a type of operation in which the out-of-favour assets would have been of real military value. The planned early retirement of HMS *Cumberland* was postponed to allow the ship to take part in the operation. Finally, it is striking that the government planned to shrink the army significantly just as the Olympic authorities decided they would need around 10,000 soldiers to help with security at the 2012 London Games. So an initial point is that the interface of management (capability preparation) with operations can be problematic, as can the relationship between policy and operations. In essence, most problems in the articulation of policy, management and operations stem from the still limited capacity of governments to predict the future.

This article examines in particular the relationship between management and policy, with the focus in respect of the latter on aims and ambitions. Management is concerned with the organizational arrangements, processes and behaviours that deliver policy, and is a considerable element within national power. As Joan Magretta, a former strategy editor of the *Harvard Business Review*, wrote: 'When we take stock of the productivity gains that drive our prosperity, technology gets all the credit. In fact, management is doing a lot of the heavy lifting.'[3]

The core of the argument here is that the Labour administrations after 1998 placed extensive and eventually unrealistic reliance on anticipated management improvements in order to make their chosen defence policies affordable within the limits of the funding they were prepared to allocate to defence.[4] The successor coalition government, despite the cuts in force structure that it has brought in, is in danger of going down the same route. By analysing the intrinsic nature of the preparation and use of defence capabilities, and by reference to several areas of management thought (on principal–agent relations, 'wicked problems' and complexity theory), this article offers a reminder that management, like politics, should be seen as the art of the possible.

Labour's defence policies

The basis for Labour's defence policies was the Strategic Defence Review of 1998, which was subsequently modified and somewhat increased in ambition after 2003/2004. Suffice it to say at this stage that it confirmed that the UK would

[2] Ministry of Defence, *The Strategic Defence Review: a new chapter* (London: The Stationery Office, July 2002), introduction by the Secretary of State, p. 5.

[3] Joan Magretta, *What management is* (New York: Free Press), 2002, p. 1.

[4] Excessive reliance on anticipated efficiency improvements has been a major factor in the limited success of past defence reviews and the root of the 'policy failure' stressed by Paul Cornish and Andrew Dorman in 'The UK Strategic Defence Review 2010', *International Affairs* 86: 2, March 2010, pp. 398–9.

continue to operate a continuous at-sea, submarine-based nuclear deterrent and underlined that its conventional forces would be concerned with force projection. This meant increased investment in elements such as sea and air transport, global communications and logistics, and aircraft carriers. The size and quality of UK forces was to be such that they could be comparable in capability to those of the US, able to operate alongside the Americans from day one of a major combat operation. This was all to be affordable because the defence sector was to be rendered much less wasteful. In short, the role of defence management improvements was not just to make better use of public money, but to enable the government to avoid the distasteful decision to accept a significantly reduced UK military role in the world.

Defence management under Labour

Once Michael Heseltine had emphasized the concept of management in the Ministry of Defence in the early 1980s, all administrations looked for ways to improve the operation of the ministry and the armed forces it directs. The years of Conservative rule were particularly associated with an emphasis on competitive tendering for equipment supply, especially when Peter Levene was Chief of Defence Procurement, and with the Defence Costs Study of 1994 which created many more joint organizations. When George Robertson was appointed Secretary of State for Defence in the Blair government, he arrived with a particular commitment to improve procurement performance (hence the Smart Procurement initiative), but in practice a rather broad management agenda evolved under Robertson and his Labour successors.

Labour shared with the Conservatives a belief that the private sector, especially if subjected to competitive pressures, was generally more efficient than the public sector regarding the manufacture of goods and the delivery of services. Hence a thrust of much Labour management change was to pass more responsibilities for the delivery of defence capability inputs (such as training and equipment repair) to the private sector.

Labour embraced vigorously the concept of the Private Finance Initiative (PFI), begun under the preceding Conservative government, in which the private sector rather than government invested in a capital asset in order to deliver a long-term service to government. There was heavy use of defence PFIs under Labour, mainly for the construction and operation of infrastructure elements within the UK. However, PFIs were also used for the provision of some training services and even to meet some needs that were fairly directly linked to the front line: in the case of transporters for heavy vehicles, communications satellites, large aircraft that could be used as tankers and other transport tasks, and roll-on roll-off (RORO) ferries, the MoD turned to the private sector to generate the necessary investments rather than buying equipment for itself.

Unless there were important third-party uses for the capital elements, so that they could be rented out to other users when the MoD did not need them, and in

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the absence of general scepticism about the efficiency of the public sector, there was little reason to think that a PFI would be cheaper than a public sector solution. The cost of capital was, after all, higher for companies than it was for government. PFIs, however, had a significant advantage in that they did not require the government itself to find the money for the initial investment (which should have helped to control the national debt), and they also meant that the MoD could have more confidence in the cost forecast for a specific service. By 2010/11, the MoD's expenditure on PFIs had reached around £6 billion a year, with interest payments amounting to about a third of that sum.[5]

As a tool, under Labour PFIs went from high fashion to outdated, not only because of their costs and the tying up of expenditure which they involved, but also, and mainly, because of the Treasury's application of a set of accounting principles known as Resource Accounting & Budgeting (RAB). This involved the introduction into government, in somewhat modified form, of accounting practices that had been developed for the private sector in general and the public limited company in particular. RAB was intended to provide a more accurate sense of costs; but arguably, the difficulties and expense of introducing it into the MoD have far outweighed any benefits and have also made the defence sector less transparent and thus less accountable to parliament and the public, though expansion on this point would require a separate article.[6] Of particular importance in the PFI area was that, in the case of low-risk PFIs where the government was deemed to hold a de facto lease, the accounting rules were changed to meet international accounting standards so that capital assets involved had to be moved on to the MoD's balance sheet rather than being accounted for as company assets. As MoD assets, their capital value was ascribed to the nation, and the commitments involved became elements in the national debt. The impact of the application of the international accounting standards was significant: in 2002 the MoD had 33 PFIs off balance sheet and eight on balance sheet.[7] By 2010, the great majority of the MoD's PFI and Public–Private Partnership contracts (around 50) were being counted as MoD assets and the MoD's annual report had apparently ceased to record PFI-related assets that were on companies' balance sheets.[8]

A second manifestation of a greater role for the private sector came in the area of equipment support. Reflecting the Conservative government's faith in the

[5] Ministry of Defence, *Annual Report and Accounts 2010–11* (London: TSO, 2011), pp. 116–17, 152, http://www.mod.uk/NR/rdonlyres/E0440EEF-1A7E-4335-B6CD-1CC394FA0AAD/0/mod_ara1011.pdf, accessed 19 Feb. 2012.

[6] The average citizen may well be bemused at the contrast between the figure of £33 billion for the defence budget on the MoD's website and the complaint of the Defence Committee that the MoD had 'underspent' its '£55 billion budget' in 2010/2011 by nearly £8 billion. See 'Defence spending', http://mod.uk/DefenceInternet/AboutDefence/Organisation/KeyFactsAboutDefence/DefenceSpending.htm, accessed 20 February 2012; and House of Commons Defence Committee, *Ministry of Defence Annual Report and Accounts 2010–2011* (London: TSO, 18 Jan. 2012), p. 13, http://www.publications.parliament.uk/pa/cm201012/cmselect/cmdfence/1635/1635.pdf, accessed 20 Feb. 2012 . Since there are few in parliament or the media able or willing to engage with RAB language, which includes the ideas of 'near cash', 'net cash' and 'resources', arguably one impact of RAB has been to make defence less transparent and less accountable to parliament and the public.

[7] Ministry of Defence, *Annual Report and Accounts 2002–3* (London: TSO, 2003), pp. 126–7.

[8] Ministry of Defence, *Annual Report and Accounts 2010–11* (London: TSO, 2011), pp. 116, 150–1.

relative efficacy of the private sector, the British state had gradually given up direct responsibility for the development and production of new equipment with the privatization of British Aerospace and British Shipbuilders and then of Royal Ordnance, the government arsenal, in the late 1980s. Contracts with these private bodies were also issued for the supply of parts for in-service equipment, normally making companies responsible for the supplies within specified time limits so that equipment might not be out of action for too long.

A major disadvantage of this system was that it virtually gave companies an incentive to produce essentially unreliable equipment, since the more parts they could sell, the more profit they could make. Under Labour, therefore, the MoD began to look to companies to do more maintenance and repair work, with the contractual obligation to have equipment available in specified numbers and percentages. This approach, called 'contracting for availability', gave companies an incentive to make reliable equipment which would cost them less to keep available for military use. There were often technical and commercial reasons why such contracts should be long term, covering a decade or more: the intention was that companies should be encouraged to re-engineer unreliable elements in systems to secure better performance. Such re-engineering efforts represented a potentially significant corporate investment which would take time to recoup if prices were to be kept down.

At the time that Labour came to power, the MoD also contained some significant industrial capabilities whose staff were civil servants. The naval dockyards had a workforce that overhauled and modified ships, the Army Base Repair Organization (ABRO) could do the same for armoured vehicles, and the RAF had the Defence Aviation Repair Agency (DARA). Under Labour there were doubts about the efficiency of these bodies, and the dockyards were moved into the private sector. The government also reduced DARA in size and merged it with ABRO to form the Defence Support Group, which is now scheduled for privatization by the coalition government. Generally under Labour there was an inclination to move defence delivery tasks from civil servants to the private sector, the most controversial instance of this process being the creation of QinetiQ from the Defence Evaluation and Research Agency. Viewed from a statistical perspective and perhaps surprisingly, immediately after the end of the Cold War the Tory governments cut troops more than MoD civil servants, whereas between 1997 and 2010 there was a clear trend for civil servants to be cut much more than troops (see Table 1).[9]

Also encouraging the greater involvement of industry in the support function was the recognition of the value of access to a national defence industrial sector in enabling the UK to enjoy effective national control over its military operations. The position of the defence industry as an element in national defence capability was recognized tentatively in the Defence Industrial Policy issued in 2001 and

[9] See Ministry of Defence, Defence Analytical Services and Advice, *Defence Statistics 2011*, accessible from http://www.dasa.mod.uk/, accessed 20 Feb. 2012; http://www.dasa.mod.uk/modintranet/natstats/ukds/ 2004/c2/sec1tab21.html, accessed 19 Feb. 2012.

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Table 1: Defence employment, 1990–2010

	1990 '000	*1997 '000*	*% reduction 1990–97*	*2010 '000*	*% change 1997–2010*
Total military	314.0	216.1	31	198.1	5.9
Total Civil Service	172.5	133.3	22	85.8	35.6

more explicitly in the Defence Industrial Strategy White Paper of 2005. In simple terms, when new development and production work was scarce, giving support and major overhaul work to firms was a means of enabling them to stay in business and to maintain some key whole system skills.

Increased private sector involvement was also introduced in personnel support. At home, the private sector was given more responsibility for housing provision, facilities management, catering and so on. More controversially, without large numbers of conscripts the MoD struggled to look after the significant number of troops deployed on sustained operations without extensive private sector support in theatre. More and more contractors were used on deployed operations by the UK, as well by the US and other states involved in Iraq and then Afghanistan. A relatively small number of these were associated with helping MoD personnel to support equipment. Most were involved in feeding, watering, accommodating, entertaining and providing other help for UK forces. Recognizing the long-term need for private sector help if the UK was to be able to deploy forces over a period of time, the MoD signed a ConLog (Contractor Logistics) contract with KBR under which the company became the main planning link between the military and the private sector on support for deployed operations.[10]

In these areas of PFIs, equipment support and contractor support on operations, the MoD rarely felt comfortable for long about its relationship with industry. At some points it wanted to see competitive pressures at work to drive down cost and incentivize corporate performance, implying an adversarial relationship with the private sector; at other times it wanted more of a 'partnered' relationship, in which the MoD and a specific firm would work together in what the government judged to be the national interest. The latter was normally the case once equipment entered service. It was hard for the MoD to avoid long-term dependence on a specific contractor, usually the original manufacturer, for the supply of spares and technical support, which obviously placed the company in a strong position. Also, with regard to both the original specification of equipment and its support requirements, the MoD, faced with a constantly changing set of external challenges, struggled to hold its requirements stable. Companies were invariably in a strong position with regard to the frequently needed contract amendments, and over such matters the MoD preferred to emphasize the desired cooperative, partnering aspects of the relationship.

[10] Contractors supporting military operations and private security companies in general have been widely studied: see e.g. Henrik Heidenkamp, *Sustaining the UK's defence effort: dynamics in the market for contractor support to operations*, Whitehall Report (London: Royal United Services Institute, forthcoming).

Deciding what defence work should be done by the private sector in order to reduce cost and improve efficiency was one challenge. Another was to review the processes of decision-making to involve fewer people and increase speed. In this area, the MoD aimed for rapid advance in the period after 1998 before gradually retreating. Especially with the Smart Procurement Initiative, the intention was to delegate to empowered Integrated Project Team Leaders (IPTLs), who would be given maximum freedom to attain their objectives. In practice, however, problems arose with how the interfaces between related projects were to be addressed, with different projects having differing and partially incompatible support arrangements, not least with regard to money. Because the MoD found itself each year with more commitments than it could afford, it had to go through large-scale and people-intensive processes of pairwise comparisons of large numbers of projects ('Options') to decide which should take priority. By 2010 the IPTLs had become simply Team Leaders, and the pyramid management structure above them had grown to include civilian or military staff of both two- and three-star rank. The MoD's formidable processes of project scrutiny (designed to ensure proper preparation and justification in technical, financial and operational terms) survived Smart Procurement and Acquisition, and the 'assurance' work increased to check that in-service support arrangements were satisfactory and fitting within a designated 'Support Solutions Envelope'. The irony, of course, was that despite all the supposedly thorough preparatory risk-reduction activity, MoD projects still frequently took longer and cost more than expected, so real risks were clearly being neglected or overlooked.

Dealing better with equipment entailed a great deal of effort to bring about change under the headings of Smart Procurement, Smart Acquisition and Through Life Capability Management (TLCM), the last of these following the publication of the McKane Report in 2006.[11] Prominent under the Smart Procurement heading was the effort to write requirements initially on the basis of user needs, which might leave open more than one type of solution and the introduction of Integrated Project Teams. Smart Acquisition and TLCM both represented efforts to manage equipment on a whole-life basis from an early stage. This meant taking proper account of support needs and costs and dealing with the eight ingredients of capability (training, equipment, people, infrastructure, doctrine, organization, information and logistics) in a coordinated manner. Central to the effort to give proper attention to a project's long-term needs was the merger in 2007 of the Defence Procurement Agency and the Defence Logistics Organization to form Defence Equipment and Support, a Bristol-based organization which spent almost half the MoD's budget. The combining of these bodies, with their different cultures and geographical locations, was supported by a multi-dimensional change programme called PACE (Performance, Agility, Confidence and Efficiency) devised by the first Chief of Defence Materiel, General Sir Kevin O'Donoghue.

[11] Ministry of Defence, *Enabling acquisition change*, 2006, http://www.mod.uk/NR/rdonlyres/10D1F054-A940-4EC6-AA21-D295FFEB6E8A/0/mod_brochure_hr.pdf, accessed 20 Feb. 2012.

Also worthy of inclusion in this brief survey of efforts to improve defence management is the emphasis on performance management. Here the preferred tool in the MoD became the Balanced Scorecard;[12] however, this lost favour as the delivery of defence operations in Iraq and then Afghanistan grew more prominent. In the latter years of the Labour government, there were also efforts, which have been continued by the coalition, to bring in layers of Programme and Portfolio management above Projects. Finally, during the period after 1998 formal Risk Management became mandatory within government, including defence.[13]

In brief, under Labour the MoD kept under constant review the basic management questions of what should be done and who should do it, but the impact of all these management reforms was not entirely positive. In 2009, as part of his inquiry into the Nimrod crash of 2006 in which 14 RAF personnel were killed, the lawyer Charles Haddon-Cave observed that parts of the MoD, not least those in the acquisition function, had experienced massive and damaging pressures for change: 'The MoD suffered a period of deep organizational trauma between 1998 and 2006 due to the imposition of unending cuts and change … Financial pressures (in the shape of "cuts", "savings", "efficiencies", "strategic targets", "reduction in output costs", "leaning"[14] etc.) drove a cascade of multifarious organizational changes (called variously "change", "initiatives", "change initiatives", "transformation", "re-energising" etc.).'[15]

Labour's changes undoubtedly improved many aspects of defence management and certainly attracted interest from other governments around the world. However, they failed to keep plans for overall defence spending within any funding level likely to be achieved once the financial and economic crisis struck the economy after 2008. The coalition government has repeatedly made reference to the '£38 billion black hole', being the gap between planned expenditure and expected income over a decade. Not all this shortfall could be attributed to Labour, since MoD veterans know that there had been an established 'bow wave' in the MoD's Long-Term Costings when Labour came to power in 1998;[16] but things certainly got worse, not least in the latter years of the Labour government

[12] The Balanced Scorecard is a performance management tool which users can tailor to fit their own needs, but which at its heart directs organizations to take account of four things: whether they are generating the needed outputs and pleasing customers; whether their processes are efficient; their financial management; and whether they are developing their people effectively. The core text is R. S. Kaplan and D. P. Norton, *The Balanced Scorecard: translating strategy into action* (Boston, Mass.: Harvard Business School Press, 1996).

[13] A good starting point is HM Treasury, *The Orange Book: management of risk—principles and concepts*, 2004, http://www.hm-treasury.gov.uk/orange_book.htm, http://www.hm-treasury.gov.uk/d/orange_book.pdf, accessed 19 Feb. 2012.

[14] 'Lean thinking' in management emanated from Japanese management practices and is focused on the elimination of waste in all its forms, including processes that add no value: see for instance J. P.Womack, D. T. Jones and D. Roos, *The machine that changed the world* (New York: Maxwell Macmillan, 1990).

[15] Charles Haddon-Cave QC, *An independent review into the broader issues surrounding the loss of the Nimrod MR2 Aircraft XV 230 in Afghanistan in 2006* (London: TSO, Oct. 2009), ch. 13, p. 355, http://www.official-documents.gov.uk/document/hc0809/hc10/1025/1025.pdf, accessed 19 Feb. 2012.

[16] The Long-Term Costings (LTC) were the ten-year forecast of how expenditure would develop over the next decade. They were abandoned once Labour came to office, with the ten-year focus being placed on planned equipment spending only. Pan-defence spending was planned only for the next four years. However, Labour was steadily drawn back into doing ten-year forecasts of all spending without formally bringing back the LTC system.

when there was a particular reluctance to cancel projects near to an election and when the wider economic situation made it clear that any anticipated extra money for Trident replacement would not be forthcoming.[17]

Labour's handover to the coalition included at least two unanswered questions regarding defence management. The first, already discussed, concerned which tasks should be done by the military, which by civil servants and which by the private sector. Labour had outsourced much without clarifying the nature of any boundary. While Labour had bought into the core competence principle, under which organizations should concentrate efforts where they need to and where they can excel, and then outsource other tasks to external providers, given the blanket belief in the inherent extra efficiency of the private sector, it was not apparent just what the core competencies of state bodies might be—an important consideration in the defence and wider security sector.

In the UK defence sector, the pragmatic solution adopted was that the government should and would lead on the making of decisions as to the goods and services needed (the monthly publication of the Defence Equipment and Support Organization was entitled *Desider*) and that combat operations would be the preserve of the state's armed forces. There was, however, no formal doctrinal position as to why fighting forces, serving queen and country, could be better motivated within the public sector while support organizations needed the sorts of drivers to be found only in the private sector. In practice, the boundary as to what should be done in the private sector and what should be done within government as far as defence was concerned was somewhat blurred and shifting. The broad tendency was for more to be placed in the private sector, but there were areas where the reverse took place: for instance, after the MoD's research and technology body, the Defence Evaluation and Research Agency, was split into a private company (QinetiQ) and a governmental body (Defence Science and Technology Laboratories), the volume of work and the number of employees in the latter body grew significantly.

The second question bequeathed was whether defence should be conceptualized and delivered mainly from an overall capability standpoint, or whether much should be left to the single services with their different traditions and preferences.[18]

Historically the Ministry of Defence had struggled to coordinate and control the activities of three separate services, each of which had had its own minister until the early 1980s. Then, particularly after 1990 and the 'Front-Line First' Defence Costs Study (DCS) of 1994, there was a real effort to place more of defence on a joint basis, either to achieve economies of scale and the rationalization of resources or to produce armed forces that could work better together. As instances in the former category, one school of military music replaced the single-service schools under the DCS, and the creation of the Defence Logistics

[17] Ministry of Defence, *The future of the UK's nuclear deterrent*, Dec. 2006, http://www.mod.uk/ Defence Internet/AboutDefence/CorporatePublications/PolicyStrategyandPlanning/TheFutureOfTheUnitedKingdomsNuclearDeterrentDefenceWhitePaper2006cm6994.htm, accessed 20 Feb. 2012.

[18] For the place of inter-service rivalry in defence, and the rivalry between immediate operational needs and possible future capabilities, see Cornish and Dorman, 'National defence in the age of austerity', pp. 737–9.

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Organization in 1998 permitted the UK to put in place one set of storage and transport facilities rather than maintaining three (and thus to have fewer depots and more fully loaded trucks on the road). Prominent in the second category was the establishment of a single joint staff training course for mid-ranking officers, the Advanced Command and Staff Course, again from the DCS. For its part, Labour's Strategic Defence Review brought in the Permanent Joint Headquarters at Northwood to plan and direct future operations.

An important aspect of the McKinsey reports associated with the Strategic Defence Review was the introduction of capability-based acquisition. Until 1998, the centre of the MoD had a 'Systems' section leading the generation of new requirements, but the principal component elements of this organization were concerned with separate land, sea and air systems. Although there was even then a two-star military officer focused on surveillance and communication systems across defence, the arrangement was essentially one oriented to specifying and prioritizing what the single services wanted. The reforms introduced on the recommendation of McKinsey threatened to change this situation with the creation of an Equipment Capability Customer (ECC) organization (later changed to Capability Sponsor) charged with thinking primarily in terms of what UK armed forces needed to be able to do, that is, what capabilities were needed. The organization of the ECC was based on capability areas (such as Above Water Capability and Expeditionary Logistic and Support Capability). Each capability area had oversight of assets and functions belonging to more than one service. The idea was that, in an age of rapidly changing technology, the MoD should not miss opportunities to do things in new and better ways, and that suspected military conservatism, with the concomitant preference for replacing an ageing piece of kit with something newer, better but essentially similar,[19] could be moderated.

The establishment of the ECC was contested from the start. The first head, Vice Admiral Sir Jeremy Blackham, argued that his organization should have a role in respect of other elements of capability besides equipment, such as training and manpower, which were close to single-service interests. This was rejected, and the ECC's remit was restricted to equipment alone for almost a decade. Then, after some problems bringing novel equipment into service, including the Bowman communications system and the Apache helicopter, the UK adopted a formal list of the elements that made up 'capability' and needed to be delivered in a timely manner before equipment could be used effectively. These (noted above: training, equipment, people, infrastructure, doctrine, organization, information and logistics) were called Defence Lines of Development (DLoDs). Capability Sponsor staff became formally involved at both ends of the acquisition process, chairing and serving as *primus inter pares* in the Capability Planning Boards and Groups that specified requirements, and chairing the Programme Boards which oversaw the planning delivery of all the DLoDs as equipment came into service.

[19] Military conservatism is not a solely British phenomenon. Two notable works are Mary Kaldor, *Baroque technologies* (London: Deutsch, 1982), and T. Pierce, *Warfare and disruptive technologies* (London: Cass, 2004).

However, while this indicated a trend towards the management of defence on a more joint capability basis, other developments signalled a move in the opposite direction. In the initial years of the Labour government, each service was organized with two Top Level Budget (TLB) holders, a Front Line Command (which was essentially responsible for the preparation of force elements at specified rates of readiness) and a personnel head responsible for recruitment, retention, individual training and military career management. At this stage, with equipment requirements and delivery being organized on a joint basis, there was a clear logic for the creation of a defence personnel organization. Any possibility of this, however, was headed off when the navy announced, in a money-saving move, that it would merge its front-line command and personnel TLBs and establish a single headquarters at Portsmouth. The RAF and eventually the army realized the logic of this move and made the same choice. The next development involved the strengthening of the then London-based single-service chiefs who were not responsible at that stage for specific outputs or a budget. In the latter years of the Labour government, they regained formal responsibilities and were made the TLB holders for their services. This left the service chiefs able to argue that they had responsibility for the training, people and organizational aspects of the DLoDS, and for the operational integration of all DLoDs.

As resource pressures on the government and on defence built up from 2008, with the prospect of cuts looming, the single-service orientation of top levels of the individual services became apparent since they argued, often in public, for the prioritization of their particular branch.[20] The Labour government had become aware that the service chiefs rarely thought on a defence basis and were essentially delegates representing their service, and removed them from the Defence Board when equipment matters were under discussion.

Thus the Labour government struggled for clarity as to how far defence should be run either on the basis of competition among three services or on a more joint and capability-centred approach. By 2010, opposing trends could be seen at work.

Overall it may be concluded that Labour did not generate a consistent set of management answers and was guilty of a reluctance to make cuts; but it should be underlined that everything in the defence programme was justifiable within the policy guidance of the Strategic Defence Review and its follow-up documents. There is no accusation that Labour went beyond the bounds of its defence policy in terms of its equipment and other spending commitments, although it did find itself undertaking military operations in excess of Defence Planning Assumptions. Thus a key question for the Strategic Defence and Security Review concerns the extent to which it provided both direction and increased UK defence commitments.

[20] See e.g. 'COIN bias must not distort UK procurement, warns air chief', *Jane's Defence Weekly,* 24 Feb. 2010; 'Army chiefs question need for Trident nuclear deterrent', *Guardian*, 23 Feb. 2010; 'First Sea Lord to warn against navy spending cuts', *Daily Telegraph*, 19 Jan. 2010; 'Carriers versus tanks: Royal Navy joins battle for resources', *Guardian* online, 2 Feb. 2010; 'The heads of Britain's Army and Royal Navy have this week been engaged in a vigorous public argument on the future of the UK's armed forces', *Financial Times*, 21 Jan. 2010.

UK aims and ambitions: the SDSR and the SDR

Intriguingly, the 2010 SDSR did not change things too much on the policy front. When the SDR and the SDSR are placed by side, and when the debates in parliament and the media before and after their publication are taken into account, it would seem to be the case that successive British governments, regardless of the political parties concerned, do not have much trouble settling on what kind of international military actor they think the UK should be.[21] The reader is invited to estimate the dates of the following statements by leading figures in the government and from official policy statements. The answers are at the bottom of the page and, unlike the solutions to puzzles in *The Times*, are printed the right way up.

Our country has always had global responsibilities and global ambitions. We have a proud history of standing up for the values we believe in and we should have no less ambition for our country in the decades to come.[22]

The British people are, by instinct, an internationalist people. We believe that as well as defending our rights, we should discharge our responsibilities in the world. We do not want to stand idly by and watch humanitarian disasters or the aggression of dictators to go unchecked. We want to give a lead, we want to be a force for good.[23]

In Britain we have never shirked – and under this government never will shirk – the international responsibilities conferred on us by our economic and military strength … In Britain we have always been restless and outward looking in disposition as a people, ready to pay a price to confront threats to international security or to help others less fortunate … There will be no reduction in Britain's global role under this government … Britain will remain a first rate military power and a robust ally of the US and in NATO well into the future … We have a clear long-term vision of Britain as an active global power and the closest ally of the United States.[24]

We see no diminution in the value of our activities which our forces undertake in support of British interests and standing overseas.[25]

Our national interest requires our full and active engagement in world affairs … Britain has punched above its weight in the world. And we should have no less ambition for our country in the decades to come.[26]

We will maintain robust intelligence capabilities across the full spectrum of national security activities.[27]

[21] For an argument from within the Conservative Party for the UK to reject any demotion from a global role, see B. Jenkin and G. Grant, *The tipping point: British national strategy and the UK's future world role* (London: Henry Jackson Society, 2011).

[22] Foreword by the Prime Minister and the Deputy Prime Minister to *Securing Britain in an age of uncertainty: the Strategic Defence and Security Review*, Cm 7948 (London: TSO, Oct. 2010).

[23] Secretary of State for Defence George Robertson, foreword to *The Strategic Defence Review* (London: TSO, July 1998), para. 19.

[24] Foreign Secretary William Hague, 'International security in a networked world', speech at Georgetown University, Washington DC, 17 Nov. 2010.

[25] Ministry of Defence, *The Strategic Defence Review* (London: TSO, July 1998), p. 15.

[26] Prime Minister to the House of Commons, introducing the SDSR, Hansard, Col 787, 19 Oct. 2010, http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm101019/debtext/101019-0001.htm, accessed 21 Feb. 2012.

[27] Foreword by the Prime Minister and the Deputy Prime Minister to *Securing Britain in an age of uncertainty*.

We will be one of the very few countries able to deploy a self-sustaining, properly equipped brigade-sized force anywhere around the world and sustain it indefinitely.[28]

The Government's overall goal is to eliminate terrorism as a force for change in international affairs.[29]

A partnership approach requires us to … broadly retain a full spectrum of capabilities … That ability to partner in even the most challenging circumstances is one of the UK's key attributes and sources of influence.[30]

We will maintain our ability to act alone where we cannot expect others to help.[31]

[We will] generate future military capabilities that will be high quality, in training and equipment, with the logistics, communications and other enablers necessary for the tasks we undertake; rigorously prioritised …; balanced, with a broad spectrum of integrated and sophisticated capabilities across the maritime, land and air environments; efficient …; well-supported … ; flexible and adaptable to respond to the unexpected threats and rapid changes in adversarial behaviour; expeditionary, able to deploy at distance from the UK …; and connected, able to operate with other parts of government, international partners, civilian agencies, and local security forces, authorities and citizens in many parts of the world.[32]

[We emphasize] the importance of the transformation of our forces to concentrate on the characteristics of speed, precision, agility, deployability, reach and sustainability.[33]

We will maintain our network of permanent joint operating bases … These bases … will be central to our ability to deploy military force around the world.[34]

We are a powerful and leading voice inside the UN, NATO, EU, the Commonwealth, the G8 and the G20. We are part of a complex, interdependent global economy that brings the unavoidable importation of strategic risk. An island nation like Britain, with so many interests in so many parts of the world – 92% of trade moving by sea, around 10% of our citizens living abroad – is inevitably going to be affected by global instability.[35]

In sum, the SDSR carried out by the Conservative–Liberal Democrat coalition certainly reduced the scope of UK policy and military ambitions, but these ambitions remained substantial. The UK was to continue as a nuclear power with a continuous at-sea deterrent and as a country able to project important sea, air and land forces. To put these intentions in perspective, these are capabilities which, as a package, are not yet available to India, China or Brazil.

To its credit, the Conservative element of the coalition has recognized that more money will be needed after 2015 to fund the SDSR's needs and has at least implicitly accepted that there will be important gaps in UK readiness levels in the near future. A coherent set of defence forces and capabilities might not be

[28] Foreword by the Prime Minister and the Deputy Prime Minister to *Securing Britain in an age of uncertainty*.
[29] Ministry of Defence, *The Strategic Defence Review: a new chapter*, public discussion paper, n.d.
[30] *Securing Britain in an age of uncertainty*, part 2, p. 16.
[31] *Securing Britain in an age of uncertainty*, part 2, p. 17.
[32] *Securing Britain in an age of uncertainty*, part 2, pp. 17–18.
[33] Ministry of Defence, *Delivering security in a changing world: future capabilities* (London: TSO, July 2004), p. 2.
[34] *Securing Britain in an age of uncertainty*, part 2, p. 128.
[35] Liam Fox, writing in the *Daily Telegraph*, 26 Feb. 2011.

attainable until 2020.[36] However, the government has held to the stance that the defence ministry is in many ways unreasonably inefficient, is in some areas 'not fit for purpose' and can be improved significantly by management changes.[37]

The nature and role of management reform from 2011

Single-service or capability-centred defence management

The coalition that took office in June 2010 recognized that it would not be ready to produce its agenda for organizational and management change in defence by the time the SDSR needed to be ready, that is, October 2010, when the Comprehensive Spending Review would be published. It therefore asked Lord Levene, along with a group of external senior management people (only one of whom had a defence background), to produce a report on how the ministry should be developed. The Levene Report emerged in the autumn of 2011.[38] The ministry accepted its 56 recommendations and located them within a wider programme of 'Defence Transformation'. By February 2012, the Defence Transformation agenda at the MoD included 47 change initiatives and an intention to cut the civilian workforce by more than a third.[39]

However, the coalition administration, in endorsing the Levene Report, has not clarified the issue of whether defence should be run on a capability or a single-service basis. On the one hand, the single services were given the lead and financial responsibility for many equipment issues, but a capability function of uncertain influence was to remain in Main Building. Service chiefs were moved off the Defence Board and away from Main Building to their commands; and yet they were each to keep a two-star officer as a representative in Whitehall. A Joint Force Command (JFC) was to be set up from the beginning of April 2012 as a virtual fourth branch of the armed forces to ensure the appropriate management of 'enablers' such as communications and information, but the careers of those serving in the JFC were still to be managed by the single services. In essence, the Levene Report established a situation in which single-service strength appeared to have been increased, but in which the joint or defence-wide perspective could well emerge as stronger over time: 'We recommend therefore that the Department should, as part of the implementation of the JFC, systematically review joint or potentially joint capabilities and functions across the Services, Defence

[36] The SDSR's focus is on Future Force 2020, 'an outline force structure that we will plan to deliver for the 2020s' (*Securing Britain in an age of uncertainty*, pp. 19–20).

[37] Michael Savil observes that 'in 1998 it was assumed that the resources required could be generated solely through efficiency savings', notes the expectation under the National Security Strategy and the SDSR that much of the intelligence area will deliver with the same or fewer resources, and judges that the SDSR 'stumbles' when it tries to explain the sources of the 'non-front line savings of at least £4.3 billion over the Spending Review period': see his 'UK security strategy: clarity or compromise?', *Defence Studies* 11: 3, pp. 374, 379, 380.

[38] Ministry of Defence, *Defence Reform: an independent report into the structure and management of the Ministry of Defence* (Levene Report), June 2011, http://www.mod.uk/DefenceInternet/DefenceNews/DefencePolicyAndBusiness/DefenceSecretaryUnveilsBlueprintForDefenceReform.htm, accessed 20 Feb. 2012.

[39] Report by the Comptroller and Auditor General, *Ministry of Defence: managing change in the defence workforce* (London: TSO, 9 Feb. 2012), http://www.nao.org.uk/publications/press_notice_home/1012/10121791.aspx, accessed 24 Feb. 2012.

Equipment and Support (DE&S) and the Central TLB, to determine which should be rationalised, the merit of further joint organisations, and which should transfer to the JFC and which should transfer to a Lead Service.'[40] Significantly, as well as 'commanding and generating' joint capabilities, the JFC was to 'set the framework for joint enablers that sit in the single services':[41] these must be presumed to include even such significant elements as the RAF Transport Command and the Royal Fleet Auxiliary.

In short, at the end of 2011, the new administration appeared on balance to be placing defence more on a single-service basis;[42] but, given the recognition of the limitations of single-service behaviour, and the likely maintenance in Main Building of a capability area which would keep responsibility for some major and probably international programmes, that trend could be reversed. It is potentially significant that the MoD showed no sign of moving away from the language of 'capability', with all that implies for a cross-defence approach, and there needs to be a reminder that important capabilities such as to deploy and sustain, to protect and even to strike distant targets with precision cannot be managed on a single-service basis.

The relative roles of government and private sector organizations

The second issue inherited from Labour—what should be done within government and what should be outsourced—could not be separated from the coalition's resolution to cut by about a third the number of MoD civil servants. Such a cut in staff numbers implied that some tasks and processes would be abandoned while others would be kept but outsourced. In some cases, for instance the intention to privatize the Defence Support Group, it was clear which route would be taken, but more generally there was little specific guidance from the top as to how the increased responsibility and accountability supported by the Levene Report was to be put in place. The MoD has long had extensive processes for reaching a decision, involving staffing documents at many levels and significant scrutiny and assurance activities when proposals emerge. The result is that officials can use adherence to the correct process as a justification for a decision. To date the Defence Transformation initiative has not offered guidance as to how processes should be simplified and how the culture of the organization is to be changed. However, there is reason to conclude that, as a result of civil servant cuts and loss of expertise, the MoD will rely more on outside guidance to reach its decisions. Contractors will increasingly be involved not just in implementing MoD choices but in the decision-making process as well. In early 2011 the National Audit Office published a report finding that the MoD had committed itself to cutting numbers of civil servants without fully appreciating the possible consequences.[43]

[40] Ministry of Defence, *Defence reform*, p. 45.
[41] Ministry of Defence, *Defence reform*, p. 44.
[42] Michael Savil has asserted that the outcome of the SDSR leaves the services open to the accusation that 'they have sought to concentrate on the core capabilities they wish to retain, rather than those they are required to in order to maintain a coherent force': 'UK security strategy', p. 376.
[43] Comptroller and Auditor General, *Ministry of Defence: managing change in the defence workforce*.

Overall, in the period since the Haddon-Cave Report, rather than enjoying a period of stability, the MoD has experienced further continuous upheaval, in areas including budget, force structure and equipment cuts, as well as the forced resignation of its Secretary of State, Dr Liam Fox, in October 2011. No diminution of cuts and reorganization seemed likely in the following five years;[44] this surely has implications for the morale and motivation of many staff.

Perspectives from management thought

As Labour found, and as the coalition may be about to find, relying on management improvements to make a policy affordable is a dangerous approach because efficiency across defence is an elusive goal, given the intricacy and range of the tasks involved. This can be demonstrated using the conceptual frameworks developed under Labour, accepted in similar forms in other developed states.

Defence forces need to be able to carry out a wide range of activities. The Defence Capabilities Framework published in the second edition of British Defence Doctrine spelled out seven core defence capabilities, namely the capacities to prepare, project, inform, command, operate, sustain and protect.[45] All more specific capabilities can be seen as located within one of these generic categories. Using the framework developed in the first decade of the millennium, each generic capability needs the effective and timely delivery of eight different ingredients of capability, the DLoDs set out above. The activities, goods and services needed to provide these elements come from a changing blend of full- and part-time armed forces, themselves organized into three largely separate bodies (with apologies for omitting the Royal Marines as a fourth group), civilian public servants and the private sector. Focusing briefly on equipment and the major platforms which often dominate public debate, some are rather specialized (e.g. the A400M and RORO ferries which address the 'project' and 'sustain' capabilities) whereas others have a broader remit: the carriers and their aircraft will provide elements of all capabilities with the exception of 'sustain'. Those responsible for the specification and delivery of requirements have to search for the optimum balance of different capabilities to be provided in any given platform.

Defence is also expected to be efficient both in peacetime, when there are few or no operations (and when the focus is on training and capability generation involving rather predictable supply needs), and in military operations (where the usage rate on equipment might be four times that of peacetime and the demands on people are transformed). Arguably some and perhaps significant spare capacity is unavoidable in peacetime if the capability for short-notice military operations is to be maintained: one basic continuing question concerns how much to spend

[44] See for instance Nick Hopkins, 'Bonfire of the generals as MoD cuts jobs', *Guardian*, 19 Dec. 2011

[45] Joint Concepts and Doctrine Centre, *British Defence Doctrine*, Ministry of Defence, Shrivenham, JDP0-01 2nd edition, pp. 4.2–4.3; see also Development, Concepts and Doctrine Centre, *British Defence Doctrine*, Ministry of Defence, Shrivenham, JDP 0-01, 3rd edition, pp. 4.4–4.5.

on war stocks of parts and ammunition for military operations that may never happen and how much to rely on the supply chain to provide what is needed at the appropriate time.

In terms of spending and personnel, over half the defence effort comes from the private sector, which operates under a mixture of contractual specifications and individual and group relationships linking firms with a range of stakeholders in the Ministry of Defence and with each other in the defence supply networks. Given the changing national and global context, defence is expected to be in a condition of constant change to prepare for the future while remaining ready to undertake short-notice operations. In the light of British experience since 1990, the precise nature of such operations is unlikely to be foreseen. The dynamism of defence needs makes the specification of contract terms and the optimum distribution of risk between contractor and the government a persistent problem.

At least three separate if related areas of management thought lead to the conclusion that what are traditionally conceived of as effectiveness and efficiency are likely to be elusive in defence.

The first is principal–agent theory, which points to the need to align the motivations and behaviours of owners, managers and employees and of the various elements in the internal and external supply chain. Defence involves a complicated mass of principal–agent relations, including the ties among uniformed bodies in the public sector, the links between uniformed and Civil Service-dominated bodies within the public sector, and the connections between the private sector and uniformed and civilian-dominated bodies within the public sector. Effectively incentivizing the individuals who make these relationships work,[46] when those individuals and organizations are driven by a range of factors ranging from a sense of national duty to the simple need to make a living to put bread on the family table, is a massive challenge.

The second is complexity management thinking. Arguably, defence in modern times requires efforts to manage 'complexity', with all that implies for the importance of risk, experimentation, delegation, a stress on judgement rather than rules and regulations, unintended outcomes, the need for flexibility and, ultimately, a readiness to accept failure.[47] As Nigel Edwards wrote about the National Health Service:

[46] For a useful discussion of principal–agent relations in business, see John Roberts, *The modern firm: organizational design for performance and growth* (Oxford: Oxford University Press, 2004); M. C. Jemsen and W. H. Meckling, 'Theory of the firm: managerial behaviour, agency costs and ownership structure', *Journal of Financial Economics* 3: 4, Oct. 1976, pp. 305–60.

[47] For introductory reading on the management of complexity, see Anthony Holmes, 'If only it were that easy', *Project*, Oct. 2010, pp. 8–9; David J. Snowden and Mary E. Boone, 'A leader's framework for decision-making', *Harvard Business Review*, Nov. 2007, pp. 69–76. For British-based thought in this area, see Elizabeth McMillan, *Complexity management and the dynamics of change* (London: Routledge, 2008); R. D. Stacey and D. Griffin, eds, *Complexity and the experience of managing in the public sector* (London: Routledge, 2006); D. Stacey, D. Griffin and P. Shaw, *Complexity and management* (London: Routledge, 2000). The prominent book by D. Tapscott and A. D. Williams, *Wikinomics* (London: Atlantic Books, 2007), stresses large-scale collaboration and the Web as the routes to massive innovation, but it also implicitly recognizes the need for unsuccessful as well as successful contributions and very loose organizational structures. See also J. Rosenhead, 'Complexity theory and management practice', http://human-nature.com/science-as-culture/rosenhead.html, accessed 19 Feb. 2012.

The NHS is not merely complicated, it is complex. That means the relationship between cause and effect is uncertain and there may not even be agreement on the fundamental objectives of the organization … In a complicated system it is possible to work out solutions and implement them. This is not possible in complex systems where policies and interventions have unpredictable and unintended consequences … Complex systems also have remarkable resilience in the face of efforts to change them.[48]

Similarly, two US academics wrote with particular reference to defence:

Complex programs are inherently dynamic, non-linear and risk-intensive. They require that many external elements, such as the politics of coordinating a large number of linked organizations, be internalized.[49]

A third area of relevant thought is that which refers to 'wicked problems'. A variant on the assertion that defence in the round must be seen as involving the management of complexity is its characterization as heavily populated by 'wicked' rather than 'tame' or even 'critical' problems. Digesting ideas into a few lines is inevitably risky, but 'tame' problems have unambiguous solutions and discoverable origins. With wicked problems, the nature of the problem is itself a matter of dispute, with the definition adopted strongly influencing the sort of information collected about the problem and the nature of the solutions seen as viable: 'The information needed to understand the problem depends on one's idea for solving it … the process[es] of formulating the problem and conceiving a solution … are identical.'[50] Moreover, the responses adopted to deal with wicked problems almost invariably themselves create new difficulties: as the pioneers of this idea wrote, 'wicked problems have no stopping rule'. Also, with wicked problems there must be a readiness to accept failure and even to recognize that failure is likely to be a key source of learning.[51]

There is some acceptance in defence thought about the relevance and application of thinking about wicked problems, both in the operational space and with regard to capability generation,[52] although the prevailing established inclination of officials and industry is still to assume that problems can be treated as tame, i.e. in a structured, linear manner.[53]

[48] In the foreword to Jake Chapman, *System failure* (London: Demos, 2002), http://www.demos.co.uk/publications/systemfailure2, accessed 19 Feb. 2012.

[49] Guy Ben Ari and Matthew Zlatnik, *Wrestling with complexity in defence programs*, Current Issues 16, 3 Nov. 2009 (Washington DC: Center for Strategic and International Studies, Defense-Industrial Initiatives Group).

[50] The article introducing the idea of wicked problems pointed to their having ten defining features in all: see H. W. J. Rittel, 'Dilemmas in a general theory of planning', *Policy Sciences* 4, 1973, pp. 155–69; also Keith Grint, 'Problems, problems, problems: the social construction of leadership', *Human Relations* 58: 2, 2005, pp. 1467–94.

[51] Informal Networks, 'Wicked problems and the role of leadership', pp. 4–5, http://www.informalnetworks.co.uk/Wicked_problems_and_the_role_of_leadership.pdf, accessed 19 Feb. 2012.

[52] See e.g. Jeremy Blackham, 'Dealing with "wicked problems"', *RUSI Journal* 152: 4, Aug. 2007, pp. 34–7; T. C. Greenwood and T. X. Hammes, 'War planning for wicked problems, where doctrine fails', *Armed Forces Journal*, no. 18, December 2009, http://www.armedforcesjournal.com/2009/12/4252237, accessed 21 Feb. 2012; R. Lucky, 'Wicked problems' , *IEEE Spectrum*, July 2009, http://spectrum.ieee.org/at-work/innovation/wicked-problems, accessed 19 Feb. 2012; C. Kopp, 'Defence materiel organization's probability of failure', 23 February 2011, http://www.ausairpower.net/APA-NOTAM-230211-1.html, accessed 19 Feb. 2012.

[53] Blackham, 'Dealing with "wicked problems"', p. 37.

While academics and even those in charge of commercial and other organizations can use the literature on wicked problems to guide their thinking and behaviour, that literature must be recognized as a difficult resource for politicians operating in a competitive democratic framework. They are under pressure to offer with confidence specific answers to apparently clear problems. In its handling of defence to date, the coalition has predictably sought to focus on a tame problem (the cutting back of the programme to make it affordable) while deferring to 2020 the solution of the wider challenges of producing a coherent defence. The MoD White Paper of February 2012, *National Security through Technology*, is a classic illustration of what can happen when governments attempt to address wicked problems without admitting their situation. The White Paper offers a simple solution for UK defence procurement—buying on the basis of competition from the global market—but also recognizes the many qualifications that surround this principle because of its risks and consequences.[54]

Finally, those reluctant to take on board the messages of management literature with regard to modern defence might nevertheless be willing to consider linking it to an expansion of Clausewitzian thought. Almost 200 years ago Clausewitz emphasized the place of 'friction' on the battlefield, where so many interacting developments were taking place that it was almost certain that something would go awry:

> Countless minor incidents – the kind you can never really foresee – combine to lower the general level of performance, so that one always falls short of the intended goal …
>
> A battalion is made up of individuals, the least important of them may chance to delay things or somehow make them go wrong …
>
> An understanding of friction is a large part of that much-admired sense of warfare which the good general is supposed to possess.[55]

The radical point here is that the sort of considerations to which Clausewitz referred are pertinent to the preparation of defence capability, that is, day-to-day defence management, as well as to military operations.

Conclusion

The acknowledged existence of friction on the battlefield does not prevent the preparation and successful execution of military campaigns. Clearly, recognition that complexity is inherent in modern defence management and that something akin to 'friction' is a near-inevitability in the preparation of military capability does not mean that improvements to defence management should be neglected. There could and should be some useful gains to be derived from the current Defence Transformation programme, not least if tasks and processes which add

[54] Ministry of Defence, *National security through technology: technology, equipment and support for UK defence and security* (London, Feb. 2012), http://www.mod.uk/DefenceInternet/AboutDefence/CorporatePublications/PolicyStrategyandPlanning/NationalSecurityThroughTechnologyCm8278.htm, accessed 21 Feb. 2012.

[55] Carl von Clausewitz, *On war*, trans. Michael Howard and Peter Paret, abridged by Beatrice Heuser (Oxford: Oxford University Press, 2007), pp. 65–7.

little value can be eliminated, along with some senior staff whose duties could be performed effectively by more junior people with smaller staffs. It would also be positive if time-consuming processes which have only a limited impact on risk reduction could be abandoned, and if greater weight could be given to the defence perspective as opposed to single-service interests and preferences.

However, these considerations do indicate clearly that overall defence policies and national ambitions should not be established on the assumption that major changes in organizational efficiency are certainly achievable. Policy guidelines that are envisaged as affordable through 'efficiency wedges' (in MoD-speak) have been and remain a recipe for financial overcommitment. A more prudent line would be to specify policies that are affordable even at current levels of inefficiency and 'waste'.

Consideration of the points made in this article could also lead to more meaningful, realistic and coherent scrutiny of the MoD by parliament, not least the Public Accounts Committee, and the media.

This is of obvious relevance for the SDSR due in 2015, preparation of which will surely begin in 2013. The cost drivers of UK defence, alongside the desire to be an independent nuclear power, to be a country capable of independent conventional military action on the international stage, to be the most valued ally of the United States, and to be a reluctant participant in any European 'pooling and sharing' schemes, must be recognized. If these ambitions are to be kept in place, they must be funded on a realistic basis. The MoD and the political leadership of the government might reasonably consider what could be achieved were defence expenditure to be maintained in real terms at its current level of about £40 billion a year, that is to say, without any reduction, despite the ending of UK operations in Afghanistan, the extra cost of which is currently about £4 billion a year.

The final point to be made here is that those professing expertise in defence and security studies need a decent grounding in management issues. It is not enough to address only various types of military operations, their relationship to policy, and defence budgets. Money is merely an input, and the effectiveness with which it is used is of considerable significance. The arguments here show that defence can never be as efficient as a Rolls-Royce Trent engine cruising at 45,000 feet, that there will always be waste in defence, and that those professing expertise in the desirability and feasibility of defence policy need a background in management in the defence context. There is no automatic link between the amount of money put into defence and the value of the capability generated.