

Force Capabilities and Innovation

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1. Immediate Problems in Military Innovation

1.1. Planning

When we consider the challenges to the military of innovation, there are two or three immediate problems that we are confronted with. The first problem is that the military has the virtue of planning. The military is good at planning. All militaries tend to be good at planning for their future contingencies and operations. And most militaries also can plan to improvise. They are good at planning for improvisation, for allowing for things to go wrong in an operational environment and put it right. They are good at maintaining their core capabilities: their ability to be disciplined, to be dedicated, to be courageous, and to be organized in the way they go about their business. And many militaries can innovate under pressure. In wartime or in combat, militaries have to be innovative, and they tend to be able to do that. Of course, if militaries are not involved in large scale combat operations, their motives to innovate are diminished. And so, the first major problem is that the military virtues that we are so grateful for are not always evident in peacetime and in modern conditions.

1.2. Military innovators

The second problem that we majorly confront is that it is in the nature of the military that people who are heretical, people who think really differently, may not get to the top of the tree. If we think about some of the military innovators in history, most of them have been outside the conventional system. They have been heretical throughout their careers, but some have survived. One good example, in the British case, is Basil Liddell-Hart, who developed much thinking in the 1930s about armored warfare. In the RUSI in London we have a famous

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library. In that library Sir Winston Churchill spent quite a lot of time in the 1930s. And Sir Basil Liddell-Hart, looking at the future of armored warfare, developed in effect the concept of the *Blitzkrieg*, which was so useful to German Military thinking in the later 1930s. But the British took very little notice of what he was doing, because he was a heretic. He was not an officer who was in the mainstream of military thinking. The German general von Manstein in 1940 said that the British had the best military doctrine in the world. It's a good job none of them read it. And that is absolutely true, that there was a node of military doctrine which was produced by officers that by and large they didn't like very much.

If we think about some of the architects' thinking on counterinsurgency (COIN), again the British general, Sir Frank Kitson is one of the architects of a lot of the British COIN thinking. He was outside the mainstream. General Patton in the United States was outside mainstream thinking. Even modern General Jack Keane, who was very influential in American military thinking in the 1990s, was outside the mainstream. These people came through, most of them, but we have to ask also how many good leaders did not come through, how many good heretical original thinkers fell by the wayside, because the military structure did not recognize the importance of original thinking.

1.3. Hybrid nature of warfare

The third issue we confront is the nature and character of warfare in a modern environment. It is often said that the nature of warfare does not change. It is the same now as it was when Sun-Tzu was writing. The nature of warfare is still a competition of *will power* between two groups of people. It is about human will power, not ultimately what battle or warfare is about. But the character of warfare, the way in which that nature is expressed, changes all the time.

And the character of warfare in a modern era is often described as *hybrid*. It is a mixture of several different things. It is hybrid in its mixture between conventional operations and asymmetric operations. It is hybrid in its mixture between the needs to fight conventional battles and to conduct COIN campaigns. Very often, forces have to do both at the same time. It is hybrid in a relationship between what happens in a combat area of operations and what is happening politically in another society or in one's own domestic society. Not least, it is hybrid, in the relationship between the battle of armies, if you like, and the battle

of narratives, the battle of arguments about who is in the right and who has the moral authority. Warfare is extremely hybrid at the moment.

2. Human Processes for Military Innovation

When we think about those problems, we have to recognize that innovation is not merely modernization. For the last ten or twenty years, when we have spoken about innovation, very often, we have been actually talking about modern technologies and how to integrate modern technology into our force structures. We have spoken a lot about command, control, communication, computing, intelligence, surveillance, ISTAR virtues and so on. If it is the case that the nature of warfare is about human willpower and the character of warfare is about human processes, it means that innovation is about human processes. In the following discussion the headlines of seven particular human processes would be offered as vital for genuine innovation in all of the military structures we might consider.

2.1. Education and training of officers

The first of these seven headlines processes is that education and training of the officer corps, the officer cohort, or the officer class, if we describe it; the education and training of officers is absolutely vital, and must not be neglected or even diminished. Officers have always to maintain core skills: the skills of leadership. The technical skills are learned as artillery officers, weapons officers well they may be.

But it is important in a modern innovative military to expand their conceptual comfort zone. The danger is that officers can maintain their core skills when they feel comfortable in a situation. But they often have to operate outside their comfort zone. So, one of the most important attributes of military training education is to help officers to expand their comfort zones. And very often that means enforcing the effective no-blame culture in the military. Generally, modern military is very good in avoiding too much of a blame culture. There is a difference between making a mistake in pursuit of common objectives and committing active negligence. Negligence is blameworthy, but making a mistake and honest mistakes should not be blameworthy. And militaries in these days are under some pressure. The blame culture does impinge on modern militaries and

it should not. And it is important in aligning officers to expand their conception of their comfort zones to understand that they will not be blamed for mistakes men make in pursuit of their objectives honestly, and embraced.

2.2. Strategic action

The second process which I think is important in innovative militaries is that decision makers have to act strategically. It is very easy to speak strategically. It is very easy to think strategically. But it is extremely difficult to act strategically. And a strategic action implies movement of resources, either economic resources or human resources, or time resources. But to move resources from one thing to another and to commit resources to something is more strategically important.

And in our own western militaries, we are very bad at acting strategically as opposed to saying we are thinking strategically. In Britain, we have a constant cry across our government that we must do more with less. And so strategies are produced, which say we will have to be more attentive to this, we will need to do more of that, and we will need to pay greater attention to something else. And I think it to meet all things so foolish. It is as if we are saying when we are to adopt the document the next week, that we agree to be 50% more clever, 30% more attentive, and 90% more understanding of each other. It is ridiculous. That is not strategy. That is aspiration. Strategy is about moving resources where we think they are most needed. Of course, how do we move resources? We move resources by deciding that security problems are special problems. Security problems should not be like any other problems in the government.

By definition, a security problem results from the problems of an aggressive neighbor, all the problems of global international crime, and all the problems of even environmental degradation reaching a critical level. If a problem is such that it can stop our societies' functioning normally, then it is a security problem. And by definition, a security problem should require extraordinary resources. It should require extraordinary attention. So, speaking about strategy is not the same as acting strategically. That means we have to be much clearer about which issues we generally regard as security issues and decide to devote the resources chosen.

2.3. Relationship between the military, industry and government

The third process which is important to innovation is that government, military

and industry relations have got to be reconceived in the modern era. I am not speaking here about the so-called “military-industry complex” that President Eisenhower warned against in 1961. I am not speaking about that partly because all the elements of all he spoke about have changed so much in essence. Government has changed because when we apply a resource to a security problem, the whole of the government is involved. In the modern era, it is everyone’s problem within the government to address the security issue.

The military has changed because most modern militaries find they have no alternative but to act in a more joint way. They have to become more joint, and they have to build their operations in a way that can work with civilian agencies. So they are both joint and combined in that sense. And defense industries are completely different now from the way they were even fifteen years ago because of the trend toward globalization in the defense industries. So we are not talking about some former cozy arrangement between the military and ministry of defense and one or two defense companies. It has broadened much more than that.

We are talking about a situation in military procurement where Civil Technology leads the race in technical innovation. And the skill of military procurement is increasingly in the adaptation and sympathizing of civilian technologies. There are very few genuinely military technologies any more. Rocketry is one, explosives is one, and stealth technology is another. But there are very few technologies which are purely military. Almost everything else the military needs is essentially civilian: propulsion, aerospace, communications or computing. These are essentially civilian technologies, and civil innovation is generally speaking ahead of most military innovation. And so, the requirement of a modern relationship between the military, industry, and government comes out of a shared vision both within and between some key sectors of different countries.

That is a pretty big challenge. But I suspect it could in the long term be a very constructive challenge for the western liberal democracies. It does not mean an end to competition, but rather greater competition between companies towards the shared vision of what the use of legitimized force should involve. It should be an interesting challenge.

2.4. Institutionalizing lessons

The fourth process, intrinsic to innovative militaries, is the ability to institutionalize the lessons that have been learned. We talk all the time about lessons learned, and in truth most militaries identify many lessons. But identifying lessons is not the same as learning them. Generally speaking, the people who have most learned the lessons of campaigns have then retired, and so lessons go on been learned and relearned. What is important is not to try to identify some corpus of major lessons which senior officers then say are the lessons of that campaign and that we must apply them. They might be wrong in the lessons that they identify. What is more important is to decide which lessons we need to learn and then create a dialogue at all levels across the military about their adaptation. We need to get away from the idea that we will do some studies to identify lessons, and senior commanders will agree with them, and then we will put that through a training process or doctrine centers. That just means by and large we learn the lessons of the last operation.

More important is to use the lesson learning process to institutionalize it in the education of the officer class, and to conduct an ongoing dialogue at all levels about adaptation. A few years ago, I spoke with a Russian analyst about Afghanistan when Britain was getting further involved in Afghanistan in 2005 and 2006. He said to me “the American and British are making all the same mistakes we made in Afghanistan. You learned it in your room. So we are learning a little bit from you.” Lessons always are difficult to absorb, but they must be absorbed in a way that creates a dialogue that reinforces some of the other processes mentioned above.

2.5. Cyber domain of warfare

The fifth process that we need to be concerned with is the integration of cyber-platforms for both defense and offense in military modes. We often talk about Network Centric Warfare (NCW) and the adaptation of the concept of NCW after 2001. That has become far more important in the ten years since. All modern militaries have to both defend and use the cyber domain for their planning and operations. We have spoken about the US’s pivot to Asia, rebalancing the US forces towards Asia and the US’s concept of AirSea Battle (ASB). What is clear from the US ASB concept is that it is built on the expectation and confidence that the US will be able to unite all six domains of warfare.

These include the subsurface domain, the maritime surface domain, the air, land, space, and cyber domains. The US has a credible ambition and is quite close to the realization of uniting all those six domains in a way that can create an integrated battle picture for integrated force operations.

They will be the only country in the world that that will be able to do this for quite some time. And this has major implications for other allies of the US. It has major implications for the British because the British in particular have always said to the US, “if we are to go on an operation with you in the Middle East, in the Balkans, or in Afghanistan, give us a piece of the front, and leave it to us, give us an area of operations, and we will do everything else, because we have a smaller version of everything you have got. And we will be able to be alone in that area of operations and you don’t need to worry about it.” But in the ASB concept, that idea of partnership will no longer be feasible, because in order to be alone in an area of operations, any ally will have to take from the US whatever the US is prepared to offer in that integrated picture that they create.

In that respect, I think that Britain’s military relationship with the US is becoming more similar to other countries’ military relationships with the US. I think the specialness that we thought we had as a military partner may now have to be thought through in a different way. Whether that is true or not, the cyber domain is the one inescapable domain that all of us have to play in. And it is a part of human processes, and human processes make up an effective military innovation. We may choose to concentrate on maritime, on air, or on subsurface, but any modern military that is looking to be innovative cannot avoid making a major investment in the cyber domain of warfare in order to defend and use the cyber domain for its own planning and operations.

2.6. Spectrum of use of armed forces

The sixth element of human process is intrinsic innovation. It is important to embrace the spectrum from contingency to operations: the spectrum from maintaining forces for any purpose through to using forces for a particular purpose. Of course, some politicians in the world are too willing to resort to the military instrument and other politicians are somewhat reluctant to use military instruments. In some ways, this is natural because during the Cold War we tended to assume that the use of the military was a last resort. Politicians turned to the military when diplomacy had failed. But in the modern era, in the

contemporary era, we have to accept that the military has many usages from major combat operations through to peacekeeping/peace support, humanitarian operations, constabulary operations, demonstrations of political resolve, and a very specific form of diplomacy. This constitutes the spectrum of use.

It would not be militarism to use armed forces in order to promote legitimate and lawful political purposes. And so, it is important for an innovative military to understand that there is a spectrum and that it may be necessary to create a system that can concentrate, surge, or even mobilize in that order. Any military system ought to be able to concentrate, which is to say, to give more attention to something while continuing to watch the normal processes. Every system ought to have the ability to focus for a few years on a particular problem, whilst other processes run quite happily. Everyone should be able to concentrate to direct its attention. The next stage is that the military system ought to be able to surge. If we need to, we ought to be able to put more resources, more real resources into a particular problem. So, if concentration is not enough, it may be important to surge. And if necessary, at the extreme level, a military should be able to mobilize, actually to create the regeneration and reconstitution of forces in extreme cases. And it is not too much to ask of an innovative military that it create processes that concentrate, surge, or mobilize through regeneration or reconstruction, if the needs arise.

2.7. Accountability

And finally, an innovative military must be able to account to the public for its activities, its planning, and its expectations. An innovative military needs to relate to our own public in a rather important way. Of course, we all have a constitutional system for military accountability through our Parliaments, through our committees, through our cabinet systems. That is fine and that is understood. But in an innovative military, a military that is trying different things and speaking a different language, involvement may need to be proactive in accounting for itself before its own public. Modern armed forces are not a separate class from the rest of society. If they are, they are almost certainly not modern innovative forces. Modern armed forces and innovative armed forces have a degree of integration with key elements of their own societies. And ideally, our military forces and armed forces should be part of a shared vision of what society regards as the security problem. As touched upon previously,

security problems are something that should require extraordinary attention. And armed forces should be part of a shared social vision of which issues, if any, should be regarded as security problems.

Conclusion

So, in conclusion, fashions come and fashions go. Of course I do. And one of the fashionable words at the moment is 'smart': smart defense, smart procurement, and smart weapons. The US talks about smart weapons, NATO talks all the time about smart defense, and in Britain we talk constantly about smart procurement. Usually, what the word "smart" means is that we cannot think in the new way of doing anything, so will integrate all the previous ways and hope that somehow a combination then will work. We will try a little bit of everything we have tried in the past, and call it "smart." Sometimes it may work. It is not necessarily the worst thing to do, but in the world of fashionable concepts, I will predict to you that smart commanders are somewhere ahead of smart weapons or smart procurement. If the nature of warfare remains the same and the nature of warfare is about human will power, then smart people are the essence both of victory and of innovation. And so, smart people will always be the not so secret but war winning weapon that modern and innovative militaries will be able to deploy.