

Defence Committee

Oral evidence: UK Response to Hybrid Threats, HC 1816

Tuesday 5 March 2019

Ordered by the House of Commons to be published on 5 March 2019.

[Watch the meeting](#)

Members present: Dr Julian Lewis (Chair); Leo Docherty; Martin Docherty-Hughes; Mr Mark Francois; Gavin Robinson; Ruth Smeeth; Phil Wilson.

Questions 1-57

Witnesses

I: Chris Donnelly, Institute for Statecraft, Dr Rob Johnson, University of Oxford, and Dr Andrew Mumford, University of Nottingham.

Written evidence from witnesses:

- [Dr Rob Johnson, University of Oxford](#)
- [Dr Andrew Mumford, University of Nottingham](#)

Examination of witnesses

Witnesses: Chris Donnelly, Dr Rob Johnson and Dr Andrew Mumford.

Q1 Chair: Good afternoon and welcome to the first oral evidence session in the Defence Committee's inquiry into the UK response to hybrid threats.

We have three distinguished experts today and I invite each of you to say a few words about yourself and your relationship with this subject, starting with you, Robert, if we may.

Dr Johnson: My name is Dr Robert Johnson. I am the director of the Changing Character of War Centre at the University of Oxford, Pembroke College. Our approach to this has been to examine the problem from a strategic perspective across Europe and the United States. We have specialists within our team who also look at different countries that engage in this kind of activity.

Q2 Chair: How long has this been under way—this project?

Dr Johnson: The CCW has existed as a project since 2004, and specifically we have been looking at this over the last five years in a more dedicated way.

Chris Donnelly: I am Chris Donnelly, Director of the Institute for Statecraft, and we have been looking particularly at the Russian concepts of hybrid warfare and the potential for response to them.

Chair: Thank you very much. Welcome back.

Dr Mumford: My name is Dr Andrew Mumford. I am an Associate Professor in Politics and International Relations at the University of Nottingham. I have acted as a consultant over the last couple of years to several NATO centres of excellence, which have been looking into hybrid threats as part of the alliance's response, and I have also done some consultancy work with the Development, Concepts and Doctrine Centre within the Ministry of Defence in the run-up to the last strategic defence and security review.

Q3 Ruth Smeeth: Starting with Dr Johnson, how would you define hybrid threats and hybrid warfare?

Dr Johnson: This is the \$64 million question, because a number of people would argue that if you took the word "hybrid" off the front, we would just be talking about contemporary approaches to armed conflict. But I think there is something very specific that we can address and that is the combined effects of different approaches to operations, and by "combined effects" I mean we have been particularly struck by the use of information to manipulate and to intimidate at the international level—the strategic level.

We have been struck by the willingness to use illegal methods, so deliberately breaching the law of armed conflict or international norms—



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you could say *jus cogens*, or compelling norms, in international affairs—including terror, assassination and flirtations with organised crime, for example. We have also seen forms where the word “hybrid” has been used to describe combined groups, for example the use of modern air power with local, irregular, unconventional forces.

So the indistinct nature of the term has been part of the reason why you are having this Committee, and why we are so troubled by it and why we have been searching to find the right kind of answer to it.

Q4 Ruth Smeeth: Have you got anything to add, gentlemen? You will have lots of opportunities to speak.

Dr Mumford: Rob is right, inasmuch as there is a lack of unified agreement as to the parameters of the concept in and of itself. It is clearly something that is of much interest to the scholarly community as well as the policy-making community. Within academia, we have been trying to generate discussion regarding what the threat actually is and what it looks like.

For my money, hybrid warfare at its very basic level would involve a mixture of regular and irregular war-fighting techniques that do not necessarily have to be kinetic. I think it is for the purpose of extending influence, interest, maybe even in some cases territory as well.

However, at the very basic level hybrid warfare would involve trying to think about ways that we can address multiple sources of threat and threats that are addressed by multiple methods. By that, I mean not only necessarily a combination of conventional and unconventional types of approach, but also methods that are plausibly deniable. We see synchronised use of multiple forms of conflict, be it cyber, be it terrorism, be it information operations. To that extent, hybrid warfare is a greater whole than the sum of its parts.

This Committee will have talked about cyber-warfare and other forms of conflict, but for me hybrid warfare is an amalgamation of multiple forms of conflict that take place at the same time, and we perhaps need to see the co-ordinated nature of a lot of the individual threats faced by the UK.

Chris Donnelly: First, I think that one of the problems is terminology, and we need new terms to discuss the kinds of issues surrounding hybrid warfare. If we only use old-fashioned 19th and 20th-century terms from the Second World War or the Cold War, we will have difficulty explaining this issue to policy makers, opinion formers, and the population. The second point is that hybrid warfare is a western term. The Russians have studied it as such, but a variety of terms are in use. The nearest Russian equivalent is non-linear warfare, “*nelineynaya voyna*”, which considers the whole spectrum of conflict and competition from one end, which is simply informational, to the other end, which is nuclear weapons. That totality of understanding is often quite rare in the West.

Thirdly, the actual terms, or the lack of them, cover a greater issue, because if we consider the issue in a certain way, what we see happening



nowadays, and what we call hybrid warfare, is actually a paradigm shift in the nature of conflict and competition. The conflict and competition that we now see played out in many places across the world is 21st-century warfare, compared with the confrontational bilateral model that characterised the 19th and 20th centuries. We need to see this as a rather more radical shift than is sometimes the case.

- Q5 **Ruth Smeeth:** There is my follow-up question. Looking at some of the examples touched on by Dr Johnson, some of that we would consider to be almost traditional warfare—it is non-conventional, but uses traditional methods such as assassinations and propaganda. Have we always had a form of hybrid warfare, and it is just that this is on a different level and scale, with a different organiser? Could you talk us through what is really shifting this? I think that is the crux of the issue. I would say that there are historical examples of this, but that this is a development and a step up. Could you touch on those historical examples—before I take away everyone else’s questions—and say why it is different now?

Dr Johnson: There is a wonderful study by Wick Murray and Pete Mansoor, called “Hybrid Warfare”. It is a very good volume, and one of its first examples is that hybrid war existed in the American War of Independence—or the American Revolution, as they like to call it—because it has all the characteristics you would expect. One thing that is striking about the historical use of hybrid warfare is that it appears to be have been used by a weaker party that was being confronted by a stronger one. The weaker party has done its net assessment, if you like, and it needs to weaken its adversary. If you take the example of the American Revolution, that is exactly what they had to do, because they were confronted by some pretty strong forces.

Hybrid warfare has also historically been used if the cost of confrontation in any conventional sense would be simply too great. We have mentioned the Cold War, and that is why it appeared in that form in that period. There is a fundamental difference—I agree with my learned colleagues about this—between historical versions and today. That is to do with the advent of the information age, and the connectivity and access that has been granted to those who do harm to our country and allies. But it is not just characterised by that connectivity and access; it also trades in risk. What characterised the Cold War version of this was that people were conscious that escalation would lead to an unacceptable level of risk. We are now up against countries that actively use risk as part of that calculus to achieve their strategic objectives, and that is new. They are prepared to go further and risk a lot more than I think we would have traditionally accepted.

- Q6 **Chair:** Can I just ask for a point of clarification? You started off by talking about weaker countries using these techniques against stronger ones. That is what we have traditionally understood as asymmetric warfare, isn’t it?

Dr Johnson: Yes.

- Q7 **Chair:** So are you basically saying that asymmetric warfare is part of the concept of hybrid warfare, but that the reverse is not true—that they are not coterminous? Isn't one point about hybrid warfare, which you seem to be hinting at, that although asymmetric warfare is often used by the weaker against the stronger, hybrid warfare is being used by very strong states indeed? Could you elaborate?

Dr Johnson: Let us clarify our terms, because that is vital. I am not a great fan of the term "asymmetric warfare". I prefer to use "strategic interaction", which is a better term. We have to discuss and be very clear about exactly what is asymmetrical; a large population could come up against a very small army, but the small army may win, for example.

Strategic interaction does not preclude the weaker party from using this technique, or indeed the stronger party. We are seeing—as we have seen in the past, to use your idea of history and the appearance of this in history—stronger powers using this technique, but they have perhaps not always needed to, because they have the resources at their disposal. Weaker parties traditionally have to seek out other ways of tackling their opponents.

- Q8 **Chair:** But it was always the case, was it not, that during the Cold War, Russia, for example—precisely because of what you said about the unacceptability of a nuclear exchange—used disinformation and propaganda to an enormous extent? That is another facet of hybrid warfare that is quite traditional, isn't it?

Dr Johnson: Yes, and again, to be absolutely clear about our terms, the reason why analysts and academics have real problems with the term "conventional war", for example, is that it is a very inadequate term. It suggests that people are sticking to rules of engagements, and that there are accepted norms in how those kind of operations are carried out.

The Second World War, which everyone would regard as a conventional war, is full of examples of asymmetrical tactics, hybrid tactics and illegal tactics. We need to take a very broad approach to the terms and definitions, and to accept that, in the process of strategic interaction, there will be episodes in which hybrid methods will be used. However, I stick by the point that what is characteristically new is the degree of risk that countries or agencies that seek to do us harm are prepared to take. That seems to be quite different from the past.

- Q9 **Martin Docherty-Hughes:** Do you believe that institutional memory is important in understanding hybrid warfare in the general sense?

Chris Donnelly: Yes, but it is not enough. On whether it is new, the answer is that it is not. However, on the other hand, it is new to us, and by us I mean our leaderships, our Government, and even a lot of our military today, to say nothing of the public.

It is very important to look back and to understand earlier models of hybrid warfare, asymmetric warfare or whatever else. That is an important



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educational aspect, but it is not sufficient because, particularly when you add—as Robert has been saying—the new forms of technology that give novelty to hybrid warfare today, looking backwards and rationalising what happened is rather the same as looking backwards at a horse race and at who won. You can easily rationalise why a horse won. However, trying to do that before the race starts and then predict the winner is a different situation. It is the same with hybrid warfare. Looking backwards at examples helps, but it does not allow you to predict what is coming.

- Q10 **Martin Docherty-Hughes:** I am glad that you said that. Do all three of you know of the Russian military studies archive at Shrivenham?

Chris Donnelly: Yes.

- Q11 **Martin Docherty-Hughes:** One of you nodded. Anybody else? There are those who believe that disinvestment in the Russian military studies archive goes some way to explain our utter disengagement from Russian military thought. While it is not enough just to look back at the past, it has a fundamental part in framing who our adversary is. Do you think maybe the MoD should up its game and maybe go and talk to the Russian military studies archive just to get some kind of—to regain or re-touch its institutional memory?

Dr Johnson: Yes.

Dr Mumford: Yes.

Chris Donnelly: I agree, particularly because a lot of Russian military practice today is based on its Soviet antecedents.

- Q12 **Ruth Smeeth:** It is easy for us to focus on state actors but obviously this is a warfare that could more easily be utilised by non-state actors. I wonder if you can give us the best examples—or not the best but worst—of who is using it well and as a tool, as opposed to a version of conventional warfare.

Dr Mumford: This is perhaps the one question that links what you were previously mentioning about what is, if not necessarily new but changing, in the nature of hybrid warfare. I echo what Rob was saying about the historical antecedents being important; but for me the key thing is not necessarily trying to attach a level of what is new to it, but trying to understand how it has changed. The rise of violent non-state actors utilising what we might call hybrid warfare is an important component of that.

If we take the situation in Syria today and we look at ISIS, we are looking at an organisation that has had its territory rolled up. The organisation is far from being defeated, and if we look at the way in which it could potentially take advantage of contested spaces in Libya, in Yemen, we can see the capacity for a violent non-state actor to re-emerge, and utilise other forms of guerrilla conflict in those countries against Governments. At the same time ISIS as an idea, as an organisation, is also capable of trying to promote domestic terrorist attacks. Here again, although there is some contention about the phrase, we could see the organisation try and



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encourage various types of activity that both look like guerrilla warfare and look like participation, as they did in the run-up to the creation of their self-proclaimed caliphate in 2014, utilising what we might call conventional tactics.

That is one of the key areas now where we can try and think about ways that groups like ISIS can tap into one of the key appeals of hybrid war, which is the fact that hybrid war is strategically creative. Hybrid war can try and take weaknesses and turn them into strengths, and take economic constraints or poor military capacity but still try and turn them into strengths utilising surprise or deniability. So the very core elements of its strategic appeal cross those state and non-state actor divides. That is something that the Committee should reflect very carefully on, because this is something, now, that—warfare is not a state-based activity exclusively. We have to factor in the capacity of violent non-state actors to participate in warfare as an activity that sometimes is not just in direct contrast to how states fight it, but sometimes is aping those methods. Hybrid warfare is not alone in that.

Dr Johnson: Can I just add to this framework of thinking with one example? I am conscious that we are on the record. The example would be RAF operations—over Syria, for example. There was great dedication and diligence about the precision of targeting to make sure that any risk to human life that was not the adversary was minimised; but very quickly, of course, Daesh realised that if you use human shields you can deter attacks.

That is obviously in complete contravention of the law of armed conflict. It is against international and humanitarian law; but it is precisely what they did, and then, of course, by setting up—goading, if you like—and presenting what appeared to be targets and having them hit. We would obviously find that perhaps there had been civilians in the vicinity that had not been seen—that the operators could not have known about, potentially. That would then be used as a propaganda tool to try to discredit western air operations. So it is just an example. It is just one small example, but it shows you how illegal methods can be used for a larger purpose. The United States has had real problems in Afghanistan with different groups, such as the Haqqani network, making use of human shields to try to prevent particular pursue policies in counter-terrorism.

Chris Donnelly: Can I comment on something that Rob has just said about the concept of deterrence? Deterrence is a weapon of hybrid warfare. I would say that that distinguishes hybrid warfare from other forms of warfare. You cannot deter it; you have to fight it. Deterrence is a weapon in its own right in that respect.

Ruth Smeeth: That is really interesting.

Q13 **Phil Wilson:** I will just follow on from one of Ruth's questions about historic examples of hybrid warfare. You mentioned the American War of Independence and I noted in the brief that there were good examples in the American Civil War, etc. Could you give us examples of how it would



manifest itself back in those days?

Dr Johnson: I will take an example from the American War of Independence, if you like. The United Kingdom armed forces relied not just on its regular Army and Royal Navy to do what it had to do, but on local militia. The idea of using local forces—operating by, with and through them to fulfil our national strategy—is still around today. The American revolutionaries—the patriots, as they would call them—put great store on manipulating information and to some extent intimidating Pennsylvania militia commanders or personnel, to dissuade them from supporting Britain through that conflict.

They also made great use of what we would call propaganda to persuade France to enter the war. Having a coalition partner can change the strategic direction of a conflict—as it did then. There is very little doubt that Britain could have sustained the conflict for some time, but once France was in the war it meant that Britain had to reprioritise strategically to the defence of the United Kingdom itself and the Caribbean islands. That meant reducing the garrison and fleets that could protect the so-called colonies. Therefore you can see how you can use hybridity not just at the tactical level to intimidate and deter, but to change the strategic calculus. I am sure that Andrew will say something about the American Civil War.

Dr Mumford: Yes, but for me one key difference between today and the historical examples we have heard, including the Cold War, is that these examples of hybrid conflict are utilised within an existing framework of conflict. We see acts of hybridity, as Rob has just mentioned, within the rubric of a pre-existing guerrilla warfare and attempt of colonial reassertion through conventional military means. The Cold War, for me, was predominantly a string of proxy wars linked together. The real front line of the Cold War was Asia and Africa, and not the iron curtain through Europe. To that extent, what has necessarily changed about the nature of hybrid war from the historical examples that we are talking about is that we are seeing hybrid warfare attain a strategic level of importance.

Previously, those small, yet interesting examples of hybridity were operational at best. But now we are seeing how hybrid war is strategically designed to circumvent situations that could lead to conventional conflict. Often, particularly with these Second World War examples, conventional conflict was already happening and hybrid techniques were simply a way of projecting force in alternative ways. This is one of the key things that has changed from the historical examples.

Q14 **Phil Wilson:** And that is why you would say that hybrid warfare is more of an issue now—so central to conflict—than it was 70 years ago in the Second World War.

Dr Mumford: I think so. I think we will see hybrid war take a position of near permanence on the strategic landscape, because the ambiguous use of force is now so central to the way in which conventional conflict can be avoided, yet strategic interests can still manifest or be extended. The one



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thing that hybrid warfare has been and will continue to be is, fundamentally, an act of political warfare.

Dr Johnson: Can I offer an alternative thesis that I have come across? This is the idea that the hybridity that you see presented by, for example, Russia is really only to contain us for the time being. It's so that Russian military modernisation can be completed and therefore they are in a stronger position; with a divided and weakened Europe and a divided and weakened Anglo-American relationship, for example, that modernised military is in a much better position to project its power in other ways—perhaps in a slightly more conventional fashion. I offer that alternative thesis, because I think the purpose of us being here is not to give you one answer that you probably know already, but to present to you a series of options.

Chris Donnelly: The first thing to say is that, in hybrid warfare, everything is a weapon. And that does change certain things. The point about strategy gives me a good opportunity to ask you to look at this picture, which you should all have a copy of. This can be debated, but if you accept the idea that the key to the waging of any war, including a hybrid one, is to adopt or adapt a model of strategic thinking that can make the best use of the weapons of that warfare, then hybrid warfare needs its own form of strategy—strategic thinking and strategy making. And there are various models of strategy.

Most people think of chess as a strategic game—a strategic model—but I thought you might be interested to understand that Putin does not play chess to hone his strategic thinking; he plays the Japanese/Chinese game of Go. It's different. This picture is a very simple example of a Go game to emphasise that. Unlike chess, Go doesn't have a lot of complicated rules; it has very simple rules, but the game becomes highly complex very quickly. What you have in this game is that the game has started at the bottom right-hand corner. All you have to do to win the game is surround two of your opponent's discs with your own. But as that begins to get complicated, one of the players has started another game in the top right-hand corner, and then another game in the top left-hand and in the bottom left-hand corner. Suddenly—you could play this on a larger board—you have an extremely complicated situation where you have lots of different little games going on.

The strategist, the player, has to be able to understand and keep track of all the different plays at the same time, so that they can manoeuvre, but manoeuvre both in space—geographically—and in function, in terms of weapon. You can go from using one weapon, an informational weapon, to another weapon, an energy weapon, to a third weapon, an economic weapon, or a fourth, a kinetic weapon. The key is mastering that kind of strategic thinking. Once you understand that, you can understand what we are seeing emanating from Russia, where you may be operating in Ukraine in one minute, in Syria in another and maybe doing something in the Arctic in the third and conducting an information warfare attack on the UK in the fourth. If you only look at those things in isolation—in stovepipes—



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you don't see the central strategic thinking behind the whole play, and that is the danger. If we, in terms of response, only look at, say, information warfare on its own or we have a team of people just looking at what is happening in Syria or in Ukraine and we don't link them up, we fail to see the strategy being practised, and if you are going to counter strategy, you need a strategic response, not a lot of separate tactical responses.

- Q15 **Phil Wilson:** Because lots of little battles and little scenarios seem to be going on all over the place, is the overarching strategy you are talking about more likely to spin out of control in some areas, in the sense that you might be wanting to do a, but end up doing x, or y happens when you don't expect it? Is this something that you can control, or does it get a mind of its own?

Chris Donnelly: That is a very good question. You can have strategic thinking and be implementing strategy and you can get it wrong—no doubt about it.

- Q16 **Phil Wilson:** We know about Russia, but which other countries would you say are involved in hybrid warfare and what do you think they are trying to achieve?

Dr Johnson: There are a number of countries you could choose, but let us start with China. There are well-documented cases of China making use of fishermen and so-called unarmed coastguards who are in ships that look exactly like small cutters. They interfere with the navigation of western shipping, particularly military shipping obviously, and will put themselves in the path of ships to create the risk of collision, to signal, of course, that China feels that it has claims to particular territorial spaces and unoccupied atolls that it is fortifying in the eastern South China sea. That is an example.

Chris put it very well. There are lots of examples where countries will recognise that all confrontation and constant competition is not a single blow, but a series of blows. It is the ability to flex and adapt while remaining true to your central strategic objectives and your national interests. Therefore, we should anticipate that there will be more of this to come. The sort of methods that we are going to see are not necessarily the ones that we have been seeing—though we will potentially see more of them—but we have to be prepared for a whole raft of new measures, some of which will be extremely unpleasant. We have already crossed the threshold where certain states, even those that are members of the United Nations Security Council, are behaving in a manner that is frankly illegal and certainly not in the spirit of the UN charter.

- Q17 **Phil Wilson:** Does the UK engage in hybrid warfare?

Dr Johnson: I think the United Kingdom has been extremely diligent in adhering to international law.

- Q18 **Phil Wilson:** But does it engage in hybrid warfare?

Dr Johnson: It engages in warfare.

Q19 **Phil Wilson:** Of a hybrid nature.

Dr Johnson: As I said at the beginning, if you are going to win a war, you have to be flexible. You have to adapt your strategy and keep it in line with the calculus of your national interests.

Q20 **Chair:** So that is a yes, then.

Dr Mumford: I do not think it has attained the level of strategic centrality that it has in those other states that Rob just mentioned. Yes, we do those individual components that might make up a collective hybrid war strategy—we do information warfare, we do cyber and all those different things—but until those separate strands are put together under a collective strategic objective, I do not think we can claim that Britain does hybrid warfare right now.

Q21 **Phil Wilson:** So you would say that it is more defensive than aggressive in nature.

Dr Mumford: I think we have to be particularly defensive right now. To come back to the second part of your original question—what do these states do and what do they want?—fundamentally, they want to disrupt the decision-making process in competitor states. That is why it is worthwhile reflecting on its political nature, the way in which it disrupts lines of communication, and the way in which, essentially, acts of hybrid war try to put a competitor state on the horns of a dilemma. Overreaction looks like you are the belligerent, but under-reaction leaves elements of your national critical infrastructure at risk.

Everything that is done in the name of hybrid warfare is done below a threshold of response—those Chinese examples that Rob mentioned are fantastic, because they typify exactly how and why. That is where hybrid warfare works at its best, by doing things up to a point at which you can claim that you are not the belligerent and you are obfuscating the lines of responsibility for the actions. You take the immediate belligerency out of the act, because those clear lines of command and control are not there—they are very murky. Those are the reasons why the Committee would have to think very carefully about whether, to come back to the point, it is something we want to do in an offensive capacity, or whether we need to concentrate on building our defensive capacity in regards to the hybrid threats facing the UK.

Chris Donnelly: Can I—

Q22 **Chair:** Before you answer, I have to interject at this point. Your institute has attracted some publicity for something called the Integrity Initiative. How would you classify that in the context of what we have been discussing? How would you classify the way in which attacks against your institute's programme have been orchestrated?

Chris Donnelly: It is clearly an informational attack. Our programme was to look at exposing and educating people about disinformation attacks on the UK, and we ourselves have been subjected to a hacking attack to try to disrupt that programme, which is itself a classic example of hybrid



warfare. It is very interesting for us to study the nature of that attack, because it tells us a lot about how such an attack can be orchestrated, who is behind it, and how that organisation is using people and institutions in the UK to its own ends.

Q23 **Chair:** And what have you discovered so far?

Chris Donnelly: A lot of interesting detail that I could go into later. On that point—if I could pick up a couple of the other issues here—I would say that from my study, by a Russian standard or a Chinese standard, the UK is not waging hybrid warfare, but we should be. When doing information warfare or cyber-warfare, we are still operating, if you like, in stovepipes. As Andrew was saying, we have not created the centralised, strategic mechanism to use all the tools or weapons of this new form of conflict coherently in an organised, systematic and integrated manner.

Q24 **Phil Wilson:** Just one other question, if I can. You were saying that some of these activities are breaking international law and what have you. What do we need to do to implement those laws? Do they just need enforcing, or do they need to be reformed and re-evaluated? Do we need another kind of legal structure?

Dr Johnson: There are clearly some areas that need amplification in international institutions like the UN, and there are others that probably need re-examination. One of the problems we have is that the United Nations convention on the law of the sea is not necessarily recognised by every nation of the world. Others apply it selectively: one only needs to look at the Caspian sea to find examples of how countries will either apply it or not apply it, depending on where they feel national resources lie, for example. The same is now happening in the South and East China seas.

The Foreign Office has done a super job of trying to get started a set of international protocols on how cyber should or should not be used, for example, and I suspect that the United Kingdom could do a great job of leading initiatives like that to indicate where we can clarify the law and where we have gaps that need to be sorted out. I will give you one example: clarification of the law of blockade, for example, would be extremely useful for the next decade.

Chris Donnelly: Rob has identified what I think is a very key point. What we have is a world that is now changing very rapidly in any way you want to measure it; in fact, it is changing at a pace that is tantamount to wartime rates of change, but we tend to approach dealing with it with peacetime mentalities. The problem with rapid change is that it outpaces the capacity of institutions, both national institutions and international ones, to adapt and stay fit for purpose. Law is one of those institutions that is becoming overtaken by that pace of change, and if the law is outdated—as it is in many cases—then either people try to enforce an obsolete law, which is bad, or they take the law into their own hands, which is also bad.

Chair: Martin, could you be fairly brief? Gavin has to go to the Chamber, and he is up next.



- Q25 Martin Docherty-Hughes:** Chris, you had me in agreement until you said that we need to do more hybrid warfare. Maybe we can caveat that, because what I am getting here is that if you are not a liberal, democratic state—if you are a failed democracy or a communist dictatorship—you have leverage with which to place yourself within the proactive hybrid warfare position, therefore fundamentally undermining the rule of law, with the Security Council not worth the table that it sits around. Where do we, as liberal democracies, place ourselves in the hybrid warfare arena if that is not founded in the rule of law?

Chris Donnelly: To be capable of waging hybrid warfare it is necessary to defend yourself against it and fight it, because I do not think you can deter it. If we as a liberal democratic state that is wedded to the rule of law break the rule of law, we have done the enemy's job for them. Not all hybrid warfare necessarily follows the same rules. It is clearly easier to wage any form of warfare if you have no rules, and if you are not trying to uphold a set of standards or values and are prepared to do anything, than if you consider yourself bound to defend a set of standards and values that you cannot defend by breaching them. Saying that we need the strategic understanding and mechanisms to integrate different tools or weapons of warfare is not to say that we should wage that warfare by ignoring the rule of law. I think that a practical problem now facing our country and Armed Forces is that of how we adapt our governance mechanisms across the board—not just for the military but for other things—to be able to use all forms of power in our defence, and to defend ourselves against what other people are doing. Hybrid warfare can ignore rules. It can ignore the rule of law and ethics, but it does not have to if we are waging it.

- Q26 Gavin Robinson:** Dr Mumford, when dealing with a question about whether we as a country engage in hybrid warfare, you said that we may engage in various elements of it, but that it is not co-ordinated and is therefore almost accidental, because of the lack of co-ordination between the various elements. Is that a fair summation of what you were saying?

Dr Mumford: It is not just about them all taking place at the same time; it is them all taking place at the same time against the same target.

- Q27 Gavin Robinson:** Mr Donnelly, you talked about stovepipes. Dr Johnson, you were much more reticent about engaging with this question, and I wanted to understand whether you accept what was offered to us as a plausible explanation, or whether you have another consideration that you have not yet shared about whether this country engages in hybrid warfare?

Dr Johnson: That is a very good question, as was the question asked by Martin a moment ago. The short answer is that the solution to this problem does not lie in fighting fire with fire. Ultimately, we are trying to deny an adversary who would do us harm the fulfilment of their strategic ends. We can work out how we might deny that—for example, sanctions might be perfectly legal if they are sanctioned through the United Nations. Alternatively, we might change our approach to compel that adversary to make a choice. In modern warfare, compelling an adversary or enemy to



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make a choice is what we are about. The old 19th-century paradigm is that the objective of war is to break your adversary, but that is extremely difficult, and—as we found in two world wars—extremely costly.

Compelling an enemy to make a different choice by the way we behave or act is the art of strategy, as Chris was pointing out. I entirely agree with the sentiment of the question. We do not want to get in a fight that draws us into the temptation to break the law, either internationally or nationally. We cannot go down that route—it is a non-starter. We can, however, use means at our disposal to improve our strategic position so that we either compel them to make a choice, or deny them the fulfilment of their objectives. One classic one would be the building of coalitions. We know that within the continent of Europe, not only are there large numbers of Armed Forces, which make up NATO, but there are a huge amount of assets such as media power, civil society, and moral pressure that can be built up. And that has a voice—that has an effect on international opinion. We saw with the decision by the United Kingdom to expel Russian diplomats how well-supported that was internationally. Even countries that have long-standing grievances with the UK through our history supported that move, and I think that's a perfectly hybrid method, if you like, but it's perfectly within the law and it actually had a tremendous effect diplomatically on the regime in question, which was the Russian Government.

- Q28 **Gavin Robinson:** So, if we are more introspective then and are not considering whether we are engaging in hybrid attacks, are we subject to ongoing and sustained hybrid attacks as a country? Are we able to quantify how many attacks the UK does face? And in that vein, is it appropriate just to respond as we go, or should we be much more defensive in our response to attacks we face?

Dr Johnson: I think that if you asked this panel, we can come up with a long list of things that we think the United Kingdom and our allies should be doing. A lot of things that we can be doing we're not yet doing.

I mean, there are individual Russian officers who believe that they are at war with the West in all but the fighting component. That's quite a serious issue; that's a serious charge to make.

Dr Mumford: More than one.

Dr Johnson: Yes, more than one—absolutely. And if I'm brutally honest, we have been sleepwalking our way through the 1991 moment. We're still living in that euphoria of the post-Cold War moment, and we now have to—I think the modern colloquial expression is "get real" about where we are.

There are lots of things we can do domestically in terms of protection of our critical national infrastructure. There are lots of things we can do in the cyber-electronic environment. We need to do more in the protection of our space assets. We need to enhance our space defence. There is a whole



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raft of things we should be doing with the Armed Forces themselves, which we've started but they're pretty embryonic.

So, to answer your question, if you would like I would be very happy to go away and write a paper for this Committee detailing more of what can be done, and I'd recommend that some of those things are probably under a classification.

- Q29 **Gavin Robinson:** That would be useful, Chair, as part of this inquiry. And do we do that in preparedness, or in response?

Dr Johnson: I think both.

- Q30 **Gavin Robinson:** The things that you're suggesting, do they naturally follow from attacks or potential attacks?

Dr Johnson: We need to be aware that we're under both constant competition but also, of course, there will be episodic crises that will come up, initiated—let's again take, for example, Russia—because of some issue, either with Russian domestic politics or because of some development in the Donbass or elsewhere. So we may have periodic threats against us, to which we will of course naturally have to respond, but prevention is a better form of cure, and we could do a lot more in terms of preparing ourselves for what's coming.

One of the things we do not have, for example—proportionately across the continent of Europe, within NATO, we have one of the smallest reserve capacities of any armed force. We have no equivalent of a national defence force, for example, which is civilian-based. We could create a national volunteer force on that basis. I am sure that communities would be only too glad to protect themselves from some of the threats we face of disinformation, for example, so we have a lot to do.

- Q31 **Gavin Robinson:** I do not want to preclude both other gentlemen from participating, but this will be my final question—please do come in. Could you give us a sense of what you consider the UK's vulnerabilities to be, whether actual or perceived? It does not need to be a total list; just a sense of what they may be. A parliamentary colleague of ours last year published a useful notebook on submerged cables, as one example touching on national infrastructure and connectivity across the Atlantic. Where do you see the vulnerabilities that enemies may exploit or have exploited?

Dr Johnson: I am going to be very careful in what I say—I think it was Napoleon who said, "Don't teach your enemy all your art of war"—but I will give you a couple of examples of the sort of thing I mean.

Take, for example, our financial market vulnerability. If one was to interfere with the prices of the energy market, for example, you could create quite a lot of cost for the United Kingdom, and I'm not sure that we are very well protected against that. Our ability to be resilient from the energy point of view is a lot less than it was 10 or 15 years ago, for example.



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Take the ionosphere. There is lots of Russian and Chinese experimentation at the moment with the ionosphere, to see if they can isolate areas of the Earth's atmosphere above us that could deny us communications, even for a brief period of time. That's quite a vulnerability, to which I don't think we currently have a response—at least I'm not aware of any response.

We need to be aware that political agitation groups are going to be much better funded over the next 10 to 20 years. I do not think we are terribly good at handling that, to be honest. On AI-enabled botnets, we are used to the idea of bots affecting public opinion through social media feeds, but what about AI-enabled ones? We have barely begun to consider the effects of those.

Take bioweapon technology. The bioweapon technology and threats that we are familiar with come from the Cold War, but what if you were able to clone a synthetic biological virus on to norovirus? It affects 685 million people annually and there are 200,000 deaths per annum around the globe from that virus. The Secretary of State has issued a statement about wanting to increase the facilities at Porton Down and our bio-warfare defence, but currently, while we are still trying to develop that, we are quite vulnerable.

Dr Mumford: Can I add to that extensive list the contract for the next 5G telecommunications? Unless you can be 100% certain that the company you give that contract to is not in any way an arm of a competitor state in international relations, you are essentially handing over the keys to an element of critical national infrastructure and you are therefore not able to control and secure a vital component of our daily life.

We might also want to think about the way in which natural resources and access to food are utilised as tools of hybrid warfare. We might want to think about how we strengthen the resilience and security of our provision of any imported natural resources and food stuffs.

Chris Donnelly: I completely agree with what has just been said, but actually, our biggest vulnerability is our lack of awareness of all this. As Rob said, we have been on a holiday from history for the last 30 years or so. We are so complacent. We do not understand that there has been a paradigm shift in the nature of conflicts. In a sense, we are in a rather Darwinian world. The 21st-century war will be a war of all against all. Everyone is a player in that conflict now. It is not just states but sub-state actors, big corporations and movements.

The essence of strategic thinking, which I would argue we are somewhat lacking in, is that it gets you to understand that your friends and your enemies are the same people. In this competition, a country can be a close ally but a serious competitor trying to gain advantage over some element of our industrial strength. We have to be able to see that to understand it and fight it. As I say, we cannot deter it. That is what the world is now like.



That ability to adapt, in Darwin's world, gave all those creatures the ability to survive when faced with rapid change—it was not the strongest and the biggest who survived, but those most capable of adapting. The forces we use to deal with this have to be adaptable. I reinforce 100% what Rob said about our armed forces and our lack of ability to mobilise more to create a large reserve and to increase them against a sudden threat that we cannot predict because we do not know where it will come from. That inability to mobilise our assets is another of our real vulnerabilities.

- Q32 Leo Docherty:** Gentlemen, you have painted a very stark picture of the threats. In terms of our response, the fusion doctrine has come out of the national security capability review. We have the Modernising Defence Programme, which I assume you have all read. To what extent do you think that is a good effort at making up lost ground, as it were? To what extent is that a good response to the threat?

Dr Johnson: Yes, it is a very good start. It is borne, of course, from our difficult experiences in Afghanistan and Iraq, where we knew we needed to get a cross-Government energy behind what we needed to do. It is definitely a good start. I am also conscious that last summer the Secretary of State announced the development of a strategic net assessment, so that we get some better sense of the balance we face. That was reinforced by the Chief of the Defence Staff in December last year. That is under way, and that has to be applauded. We have a National Security Council and a National Security Adviser, which we did not have before. Things are definitely moving in the right direction. It gives me some confidence that we are at least thinking in terms of how we integrate our effort.

I still think that what we probably need is a sense of the longer term. A lot of opinion seems to suggest that because you cannot be sure forecasting the future, there is no point really trying. We have a strong sense of our enduring national interests. We have a strong sense of where we want our country to be in 10 or 20 years and what we would like it to look like. It seems to me that as long as we are working towards those common national interests, that is right. They are expressed at the moment perhaps somewhat vaguely in the national security strategy, but that is a good thing, because it suggests that we are at least thinking in the right direction. There are, however, probably a number of things that we could think of that need to be addressed that currently do not exist.

Dr Mumford: The foundation stone of the fusion doctrine is important, given that we have references to security, the economic goals and influence. Having influence in there is a very important stepping stone to taking hybrid warfare seriously and to allowing the fusion doctrine to assist in that. Because hybrid warfare has a fundamental psychological component, influence operations will be something that the UK armed forces will have to significantly invest in. Strengthening the work of the 77th Brigade will be crucial to that. Effectively countering the use of hybrid warfare will have to look—we cannot rely on effectively concentrating superior forces in a particular region, and that is largely because hybrid warfare does not respect the traditional domestic and expeditionary force boundaries. Looking at the fusion doctrine and the language used in the



national security strategy, it is heartening that they try to see the contemporary security landscape as necessitating a whole-of-Government response. It is certainly moving the discussion in the right direction in how we see hybrid threats. Because they are conjoined, the response has to be conjoined as well. This is a decent but, as Rob implied, not wholly perfect basis. It is a good start.

Chris Donnelly: If you look at our allies within NATO and the EU, this puts the UK pretty much in the lead in terms of other allied countries' responses. It is when we compare it against countries that are less friendly to us that we see it does not yet go far enough. The area that probably needs to be improved most rapidly is the education of our political leaderships to understand on a much broader scale the enormity of the change that is now happening in the world. The second thing is the education of the governmental bodies across Whitehall, so that civil servants in all Government Departments appreciate this, and do not see it as something emanating only from the MoD or the security establishment in the UK, but actually as something that applies to everyone. People would have understood that in 1943, but they do not understand it now, because we have the mentality that we are at peace, the world is comfortable and we are invulnerable.

Q33 **Martin Docherty-Hughes:** Ewan Lawson, senior research fellow at RUSI, said that it was "limited to one line towards the end in the NSCR" and that it was supposed to embrace the challenge of Chilcot, which is something we do not seem to hear a lot about in Parliament these days, even though it is a profound challenge to how we deliver defence and security. Given that there was only one line, what is its role on the back of the Chilcot inquiry, and what is its impact on our approach to the future of hybrid warfare? How do you square the Chilcot inquiry and hybrid warfare?

Dr Johnson: I have had the privilege of speaking to a lot of people in the armed forces and educational establishments who are professionals in military education. It is really striking how often the Chilcot inquiry comes up and that the results of the Iraq inquiry are talked about quite a lot. I have just come this morning from the Royal College of Defence Studies, where there is a really strong commitment in the teaching of strategy—to a lot of our overseas guests, as well as our own—to just how you bring together a whole-of-Government response to some of the challenges we face.

A doctrine is a guidance, if you like. Clearly, it is up to Governments of the day to decide how they will tackle a particular emerging crisis and how that fulfils what they feel are the national objectives. The thing that goes with that is a willingness to do it. You can have an organisation and a doctrine, but you need to be willing to put it in to practice. In the National Archives in Kew you can find a number of borough, county and national war books, which are really striking. They show that we were prepared for a variety of eventualities, from chemical attacks to nuclear war and civil unrest.



I do not know if those war books are maintained—I doubt it. It seems to me that while we might have a national doctrine, to make it credible and to exhibit the will to see these things through we have to ensure that these things are properly disseminated. I think there is a willingness within the armed forces. It would be interesting to know whether we feel that, as a nation—within civil society, for example—we have the same degree of seriousness about implementing that whole-of-Government approach. It is all very well for one Department or Ministry to take that on, but we need to see that across all Ministries if we are going to make it a liveable experience.

- Q34 Mr Francois:** Gentlemen, you have talked about the fusion doctrine, the NSCR, and the national security strategy and the fact that you need different elements across your security and military establishment to fight the sort of threats that we now face—threats which the vast bulk of the general public are completely unaware of, other than when they see things such as Salisbury. Can we talk about defence specifically within that context? What is the role of UK defence in countering hybrid warfare?

Dr Johnson: There are a number of things that we can do. The first and obvious thing to say is that to have high-readiness forces—which can operate in any terrain, off any shore, over any skies, over any sea or under any sea—is pretty vital, because a deployment, of whatever strength, sends a very strong signal, and it begins to compel choices, which hopefully is the purpose behind these kinds of things. We have to have that.

One nameless civil servant—I forget who—told me that he was not sure, looking at the enhanced forward presence in the Baltic states, whether sufficient force had been sent. He said, “How do you know when you’ve sent enough?” I thought that was an interesting question, because for any deterrent or deployment to be credible, it has to be of sufficient scale. I know Chris feels as strongly as I do about this.

If you take 1938-39, we had the ability to raise 14 divisions of the British Army. Today, we have one deployable division, with some other brigades that we could potentially put together in the event of a national crisis. My question to the Committee would be this: do you think that is enough? If deployment is one of the means that defence has for this kind of compelling choice, if we have a brigade in the Baltic republics faced by at least two Russian divisions—both of which are armoured, with longer-range artillery than we have—is that sufficient for that?

Andrew quite rightly mentioned another defence asset, which is a counter-information warfare ability. We have counter-intelligence, for example, and I know there are efforts within the armed forces that are meant to bring those together as an information warfare package. However, at the moment, they are still pretty small. There is insufficient investment in them to make them effective, and we need to be quite clear about the scale of that from a defence point of view. That is just two, but I could list a few more if you were interested; they work from the larger-scale

formations that I think we need, and the ways in which we tackle irregular operations, because I don't think we have all we need yet.

- Q35 Mr Francois:** I will just say quickly that the Committee has looked in the past at issues like reserves and reconstitution, and we are woefully unprepared. In theory, we have one fighting division; we would reconstitute a second if required, but there is no plan for how to do it. It is just assumed that somehow, we would. Andrew, you were going to chip in on this, I think.

Dr Mumford: We have already mentioned 77th Brigade, and I think—

Mr Francois: I am going to come to that in a second.

Dr Mumford: Okay, then maybe just a quick word on our independent nuclear deterrent and the impact that the rise of strategic hybrid warfare is going to have on that. Nuclear weapons are not enough, because the threat posed by hybrid warfare is couched in very frustrating levels of calculated ambiguity. Trying to counteract militarised ambiguity is the strategic equivalent of catching fog, and the nuclear deterrent is the bluntest weapon we have. It is simply not suitable for trying to counter this, and as we have seen, being a nuclear power is absolutely no deterrent to competitor states that wish to lever the hybrid use of force against us. We need to think about ways in which we can try to invest in deterrence as an idea that does not rely on our traditional independent nuclear deterrent, because simply having the biggest possible weapon in our arsenal is not effective.

- Q36 Mr Francois:** That leads me perfectly on to my next question, which is this: do the Government understate the importance of conventional military capability in the mix of capabilities needed to counter hybrid threats?

Chris Donnelly: Yes.

Mr Francois: Do you want to amplify that slightly, Chris, or shall we just leave it at "yes"?

Chris Donnelly: I would argue that any decent strategy looks for asymmetry. If I were a Russian answering your question about the role of hard military power, I would say that I had developed an armed forces that was a shield, but in the sense of a Roman soldier's shield—an aggressive weapon. The stronger that shield and its strength through asymmetry, meaning its ability to not match our equipment but destroy it through cheaper, hard military means, the less I will need to use it and the more I can conduct my warfare against the enemy below the level of catastrophic kinetic war. The stronger the shield, the more I can use other weapons with impunity. To that extent, the whole military strength becomes the deterrent, not just the submarines carrying nuclear weapons.

It seems to me that where we are falling down on the job is that we have got the nuclear weapons but we are getting rid of the conventional



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deterrent ramp to lead up to them, to the deterrent weapons to protect them. It seems to me we are on a nuclear tripwire.

Dr Johnson: I would echo Chris's point, to a large extent, because I think the reason why hybrid warfare, if that is what it is, exists, is in part the existence of a nuclear deterrent. You are absolutely right, Chris, to say that we should not try to separate things entirely. Any adversarial power looks at the whole range of the UK's defence capabilities. It does not just look at one. I dare say that Russia would not take the risk of invading the Shetland Islands, for example, because Britain has a nuclear deterrent. It might be more minded to do so in Svalbard, because our Scandinavian allies do not possess this capability; but of course what they possess is the NATO alliance and the partnership we have with them.

It seems to me that if you look at these things holistically and do not separate them out, there are clearly some gaps and vulnerabilities right now. If you go back to 1949 we and the Americans thought that our nuclear deterrent might be sufficient—we would not need large-scale armed forces—but by the mid-1950s, after the Korean War, it was pretty clear we also needed conventional capability because of the willingness to go outside of this nuclear threshold. Today it would be hybridity and a space capability. If your guidance system for your modern weaponry depends on space it is pretty clear that space is going to be one of your target areas—and that would need protection.

Q37 **Mr Francois:** But isn't it part of MoD's problem that whenever it makes these arguments within Whitehall it is simply told, ad nauseam, "This is all just special pleading" and "You would say that, wouldn't you"?

Dr Johnson: Yes, that is true. I think one of the famous expressions was, in the summer of 1914, "There won't be a war in Europe, because the bankers wouldn't allow it." Well, we had one anyway. I think one of the things you have got to decide as a policy maker is "Am I prepared to take the risk that that could happen—that we could endure some crisis? Is there something we can do strategically now that would offset, and make less likely, such a threat in the future, or should we continue as we are in the hope that these things do not arise, because they wouldn't be that stupid, would they?"

Q38 **Mr Francois:** The Committee's declared public position since long before I joined it—it has been its position for years, certainly under this Chairman—has been to argue that defence spending should increase to 3% of GDP. I do not say this in any way disrespectfully, but in some sense you are preaching to the choir stalls, as the Americans would say.

On a specific point—and then I will hand back: 77th Brigade is a partial attempt to realign us to be able to compete in this space. How well do you think that has worked? Do you think we need other 77th Brigades, as it were, and how important do you rank such capabilities, bearing in mind that you are always competing for resources in whatever capability you fund?



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Dr Mumford: In the bigger fight, for a bigger portion of the pot, from my reading of UK armed forces readiness and awareness to insulate us from some of the bigger hybrid threats out there, I would strongly endorse the need for 77th Brigade to be given a bigger slice of the pie, precisely because if you step back and look at all the threats that we have been talking about—where they can come from, the effect that they can have on UK national security—for me there are three key things that the Committee needs to be asking itself. How aware are we of where hybrid threats can come from and our ability to respond appropriately to ambiguous use of force?

Secondly, what is the state of our capabilities? This comes back to your funding question, because we perhaps need to reassess the way in which we are engaged with both state and violent non-state actors. Are we funding the strands of our armed forces appropriately, given, as Chris was mentioning a while ago, a fundamental shift in the nature of warfare?

Thirdly, how engaged is the UK with our partners? Hybrid warfare is certainly not a threat exclusively faced by the United Kingdom. It is a threat that faces multiple allies of ours and is fundamentally threatening institutions that the United Kingdom is a member of. To that extent, I think that we need to be working closely with our NATO allies. One of the key things that is fundamental to this is ongoing UK membership of the NATO-EU countering hybrid threats centre of excellence in Helsinki, which is doing some fantastic work in trying to understand and, to a certain extent, quantify the threat.

Awareness, capabilities and engagement—if the Ministry of Defence was encouraged to reflect on those three elements in relation to hybrid war, it would and should see a shift in the way in which strands of the armed forces are funded.

Dr Johnson: May I make an appeal for more than just something like the 77th Brigade, though? The armed forces tend to take the view that if they were to engage in information operations, they are already in the campaigning setting. In other words, we have already crossed a particular line in which we have decided the armed forces have a particular part to play. There are roles here for other agencies, if that is the right phrase, in terms of how funding is allocated and who leads on what effort in this, which do not necessarily need to go quite as far as the armed forces themselves doing the heavy lifting.

The 77th Brigade is still in the relatively early stages of its development, yet we have organisations in this country that have a very long history and huge amounts of experience in being able to understand how others will try to do us harm. I think we should pay as much attention to what they are doing, and integrate the whole as a national effort.

I can give you an example of what I mean by that, because that is rather abstract. In both Sweden and Finland, they have a concept of total defence. In Finland, supermarket companies get together, chaired by the Government, to look at how the supply chains would be affected if they



had some sort of “denial of service” attack, say next week. They meet on a regular basis—I am not quite sure how often, but on a regular basis. In other words, it is not the armed forces that are doing the leadership there—it is a sort of Government organisation that do it. That goes for all sorts of things to do with disinformation, such as how you protect the media—the big media organisations get together and work out how they may be affected and how they can continue to broadcast, if there was jamming. There are commercial implications for them, so they are very interested in that. I would make an appeal for this being something Government-led, with a Ministry of Defence component and an armed forces component, but also with some consideration of how the private sector gets affected too, and they could be involved in the whole effort.

Mr Francois: We formed a National Security Council in 2010. It then produced a national security strategy, which famously concluded that there was no existential threat to the security of the United Kingdom. So, we put together these improved mechanisms, and that is what they concluded.

Chair: Following on from that, I can remember a speech by someone who later became Chief of the Defence Staff in the early noughties. He was saying that we may have to choose between fighting the war, meaning the counter-insurgency campaigns that we were currently engaged in, and preparing to fight a war, meaning the theoretical possibility of state-on-state conflict. The orthodoxy at the time was that it should all be about the war, possibly for the next 40 years in places such as Afghanistan, at the expense of the theoretical possibility of the re-emergence of state threats, which we are now busily considering today—rather less than 40 years down the line.

Q39 **Martin Docherty-Hughes:** Let me throw out three very quickfire questions and then we can maybe tear it apart a bit. What else should the Ministry of Defence be doing? What is the role of the Royal Navy and the RAF? What role does Joint Forces Command play?

Dr Johnson: Let’s talk in terms of priorities. Protection of the United Kingdom airspace, protection of our territorial waters and protection of the United Kingdom population are all within our national security strategy. Each of the components you have mentioned already play a proactive role in that. The RAF alone is protecting UK airspace by sending up aircraft regularly to deter Russian aircraft from entering our airspace illegally and, frankly, in a cavalier manner. It is not at all surprising to me that they lost an aircraft over the Turkish border, given the cavalier manner in which they treated the co-operation of air operations over Syria, for example. They only have themselves to blame for these things. I think our own people have acted in a very professional manner throughout the whole thing.

That would be priority No. 1. Then we have got our own Commonwealth partners and Crown territories to look after, which all require a proactive role of each of the branches of the armed forces. That requires a forward basing presence, through which you can project other forms of influence



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and reassurance. We have got a very active programme. The Royal Navy would be the first to say, as they certainly say to me, "We are extremely busy, even without a conflict," because they have got a huge rotation of tours and reassurance to conduct around the globe.

I know that Joint Forces Command are taking a very strong interest in the whole business of information operations and information warfare—or information advantage, as they describe it. I know they are ramping up the entire electronic component of that.

The short answer is, each of the forces—certainly the individuals I have spoken to—and Joint Forces Command are extremely alive to what needs to be done. I think they would all complain about certain things that you rightly pointed to earlier—where they feel there are shortcomings, or shortfalls in budget or effort. As Chris Donnelly said, there is sometimes a frustration that others in Government do not seem to be as aware of it or are not taking it as seriously as the armed forces. We have a communication problem with ourselves about that. Does that answer your question?

- Q40 **Martin Docherty-Hughes:** Let's delve into this a wee bit more. You talked about—for want of another word—assets. Say you have a re-emergent bastion theory from the Russian Federation, the vast majority of our large naval vessels are on the far south coast of England, and you have nothing in the north—by that, I mean Scotland. As I am sure you can imagine, as a Scottish constituency MP, that gives me grave concern. We have not only the assets off the North Sea oilfield, but the new oilfields off the north-west coast, the Minch and the north Atlantic. I keep saying, as the Chair knows, that "north Atlantic" is in the name NATO. How do we pay for all this? Where does the ability to pay for the capability that the UK requires fit, in terms of hybrid warfare? Where does the cost and capability fit? Nice saltire.

Chris Donnelly: I thought you might say that.

I have drawn a representation of what I mean on this bit of paper. Here is the problem. 1975 to today, more or less. One line, two lines. That line is UK Government spending on health, education and welfare, and that line is UK Government spending on everything else—everything. If you are going to increase defence spending, which is down here, you cannot do it unless you decrease something up there. The solution to this is beyond the Ministry of Defence on its own. It has to be a governmental solution. This is one of the things that makes us more vulnerable to the current form of hybrid warfare being waged against us. We have a population that has become used to this line's advancing as being normality. I have chosen those dates because 1975 is when my daughter was born. That is her life expectancy.

First, this is a big issue. Secondly, given that everything is a weapon and everyone is a player, and given that defence cost inflation, because it faces a competitor, is increasing at up to 8% per annum above the rate of inflation, if we cannot increase the amount of money we are giving to



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defence, because that is a political decision—our population will not stand for it, because they do not see that there is a threat—we will have to start thinking of completely different ways of spending the money.

It was interesting that the Defence Secretary in a speech a week or two ago made reference, for example, to the Royal Navy perhaps using converted merchant ships as being a cheaper way to get its job done. When you have a real hard killing war going on, that is exactly what the Royal Navy does, so why not do it in “peacetime”? Why not start to think about applying trusted, tried and experienced wartime mechanisms in peacetime and having a larger number of slightly less gold-plated ships?

- Q41 **Martin Docherty-Hughes:** I would not disagree in terms of gold-platedness. Some of our medium-sized European partners in NATO could teach us a thing or two about non-gold-plated naval ships.

Let us briefly delve into the affordability and capability a wee bit more. One of the few things that I usually sit in opposition to the rest of my Committee colleagues about is, of course, Trident, but let us try to frame it in terms of our adversaries’ perception of conflict in terms of hybrid warfare. The Chair knows that this is an interest close to my heart and that I campaigned for this investigation to happen.

For some, there is a premise that our adversaries do not want a nuclear conflict but a field of acquiescence from us. That would allow them to inform and direct our political discourse and, effectively, would turn our system of government into their system of government. That would allow them to have an open field in their economy, what they are selling, and how they think about a system of government. I am getting a lot of nodding heads here—up to a point.

If they do not want a nuclear wasteland, in terms of affordability and capability, what is the effective capability of defending a liberal democracy when you are all nodding to say that they do not want a nuclear conflict? They are going to use the back door through economics and social discourse.

Dr Johnson: On some of the measures that we have already, perhaps we—it is not quite right to say that we do not make enough of them, because we do. Certainly, we belong to the NATO alliance, and to take the North Sea gap that you were talking about, it is not protected only by Royal Navy and the Royal Air Force. It is part of a NATO alliance effort, so there are US navy submarines—

- Q42 **Martin Docherty-Hughes:** You will forgive me, Robert. Some parts of the United Kingdom are closer to the Arctic than they are to London, so there is an element—not the members of the Royal Navy or the Armed Forces themselves—of public policy that does not see our role in the North Atlantic.

Dr Johnson: That is a pity, if that is the case, because I would be the first person to advocate the strategic importance of the northern part of our country. It has a very important strategic role to play. The maritime gap,

if that is the right phrase for it in a conventional sense, is terribly important.

I am talking about the alliance combinations. We have a cyber-command where our cyber-command works incredibly closely with Nakasone's cyber command in the United States. That is right and proper. It allows us to reduce costs and yet have a much enhanced effect. That is the purpose, self-evidently, of alliance politics.

Other things are emerging, however, that we do not often talk about. Perhaps we should have a longer conversation about the role of new technologies that allow us to save money and have a greater effect. I am not sure whether the Committee is familiar with the Slocum glider, which is a self-directing loitering maritime surveillance submarine tool. It monitors sea temperature and environmental conditions in the ocean. They are easy to weaponise to conduct very thorough surveillance. They move about in the sea on their own. You could, with some straightforward AI, programme them in such a way that, if their signals were cut off for any reason through jamming, they could concentrate on an area and become a weapons system. They are incredibly cheap compared with a warship, so that is one option.

Another option would be to make greater use of non-lethal technologies. Again, I am not sure whether the Committee is familiar with the LRAD, which is sometimes nicknamed "brown noise". It is basically an acoustic device that transmits a beam that briefly incapacitates insurgent actors at sea, such as Somali pirates—it has protected a lot of ships at sea off the coast of Somalia. It has the unfortunate effect of making the victim defecate themselves, which is why it is nicknamed "brown noise". It is deeply unpleasant, extremely deterrent and non-lethal. It helps you to avoid the cost of sending a very large missile and risking escalation and, by the same token, fulfils an important role.

It seems to me that if you had a naval station that specialises in Slocum gliders, which are weaponised, operating off the north coast of Scotland, I think that would be a very good thing, and great for the Scottish economy.

Dr Mumford: The key thing to remember, as we have been mentioning, is that if traditional forms of deterrence are not applicable against that sort of hybrid warfare, then maybe there are some rather uncomfortable discussions that need to be had about how those traditional modes of deterrence are funded and continue to be funded, vis-à-vis other new emerging forms of deterrence or strands of the Armed Forces.

With regard to the threats that the northern coast of the UK faces, it has been mentioned before—it has been mentioned about natural resources. You think about the importance to the economy of the UK territorial fishing waters off the north coast of Scotland. These are things that, if we were to come up with a list of areas that are potentially vulnerable to hybrid attack, would be on that list.



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So there are absolutely certain regional concerns within the UK, which would have a heightened element of importance when discussing hybrid warfare, too. This is an issue of national security, but it is more acute in certain areas of certain regions of the UK, absolutely, for reasons that you have just mentioned.

- Q43 **Martin Docherty-Hughes:** Chris, do you want to say anything about the link between the existential threat and hybrid warfare, because a lot of this is about unaffordability, but the reality is that if they're undermining our state systems, we will end up looking like them?

Chris Donnelly: Yes. What you describe is expressed in Russian as "reflexive control", i.e. getting us to do something against our own interests. Again, these vulnerabilities are our lack of awareness of this. The whole thing is our lack of understanding that we—like it or not—are at war.

The technical ideas that you've just heard, which seem to me to be extremely good ones—the idea of using cheaper ships—won't happen unless we can raise the general understanding in the Government, the Armed Forces and the people that actually we are at war and facing an existential threat, but we don't see it. It may be a threat not to our physical existence as a nuclear weapon is, but it's a threat to the existence of the society based on liberal democratic values that we treasure. And truly people don't see it happening.

- Q44 **Mr Francois:** May I follow up on that, Chris? A number of you have used the word "threat" and a threat is a mixture of capability and intention, classically. But Whitehall is reluctant to talk about threats; it talks about "competition". But as soon as you start to talk about threats, in the way that you did in the 1980s and the Cold War, "threat" implies resource, because if you acknowledge a threat, then practically you must do something to counter it, if you've admitted that it exists.

We play this game so often in Parliament and in Whitehall that a lot of people go out of their way not to use the word "threat", because they don't want to commit the resource that it would imply.

Dr Johnson: We need to read some of our own history. I mean, if you take the 10-year rule of the Treasury, from 1919 through to 1929, that's exactly what went wrong—

- Q45 **Mr Francois:** With respect, I wrote an article a little while ago, after the 2010 national security strategy, that said this is a return to the 10-year rule of the 1920s. So, as I say, in a sense you're preaching to the choir stalls here.

However, given these sorts of practical constraints—I mean, you talk about putting in sensible measures for maintaining supplies to supermarkets in the event of some disruptive attack. Well, we argue about whether we need to do that or not in terms of Brexit, and whether it's Project Fear or not, but nobody ever seriously discusses that in terms of enemy action.



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I think quite a few on this Committee have quite a strong sense of history; it's partly why we serve on it. But I just ask you the kind of rhetorical question, almost: given all of these constraints, in terms of public spending and the way that our media works, how can you try to do more to get this message across, without sounding either hysterical, or as if it is special pleading because you have some mates in the Armed Forces whom you happen to admire? I throw that in your lap.

Dr Johnson: I totally agree. There is a degree of—I am not sure that complacency is the right word. It is more a willingness not to hear what you don't want to hear. There is probably some lovely technical Greek term for that—

Mr Francois: Yes, I think that sums it up quite well.

Dr Johnson: One question that you can pose to those in the Treasury, the Government and the public concerns how much they want to pay. Defence is often analogised to an insurance policy. I think that is somewhat false, but you can understand it. We are now being approached by an insurance salesman who is saying that the risk has gone up and we need to increase our premiums. People immediately think, "What is the minimum I can get away with?" That is perfectly understandable. The national security strategy talks about the prosperity agenda—you should protect your economy. William Pitt the Elder said that trade is your last entrenchment; protect it or perish. We know that is important, but by the same token we have—you are all well aware of this—a good track record in history of having got it wrong.

Equally, when we became alive to threats during the years of the cold war and were able to recognise the nature of that threat—not just the existential one of nuclear weaponry, but also the threat of subversion—we took measures to make ourselves aware of that and to educate the public that that was the case. The fundamental question for everyone, even at that point, was: how much do you want to pay? Clearly, some people did not want to consider the problem, and some wished that it would go away. That isn't helpful. We perhaps have a job to do in education—perhaps that is where those of us who are analysts must work a bit harder than we currently do, to get that message out there.

Q46 **Mr Francois:** Historically, we leave it until the last possible moment. We wake up late, and then by some supreme national effort we manage somehow to rescue the day. What is that line from "Henry V"?—"We are but warriors for the working day."

Dr Johnson: We tend to start all our major conflicts with a setback—I think the last couple have been an exception to the rule. Even the Afghanistan conflict began with a very major setback, not on soil here, but in the United States. We probably have to accept that there will be a series of setbacks before we fully win the confidence of the public, but we can do quite a lot in the meantime to ensure that we are not so far off the mark that we cannot rescue it, as Sir Michael Howard would say.



Mr Francois: We are very open to suggestions.

Chris Donnelly: I would like a bit more suggestion that we should move away from the idea of defence as an insurance, and towards the idea of defence as an investment, and that we should begin to show the return that investment in defence can make in maintaining our national interest and position. Secondly, we have a huge volume of valuable assets in the UK that could—and indeed would, were there to be a great national shock—be mobilised for war. Let us start that mobilisation process now. Let us record what they are, and let's make the tiny investment necessary to make us capable of mobilisation more easily. Let's get people thinking that way, and let's organise that in a vastly increased equivalent of 77th Brigade. We should be putting ten times more effort into the kinds of activity that will harness and harvest the national capabilities we already have. We have paid for them, so let's think of having extra use out of them.

Q47 **Chair:** We are now on the home straight, and I will try to draw together some of the themes that have come out so far. Right at the end I will give each of you a last chance to add any thoughts that you wish we had drawn from you but we forgot to press the buttons concerned. First, I think we have agreed that the hybrid warfare technique is used by a range of adversaries—not just stateless violent extremists, but even major state opponents—so would you agree, if I asked for a list of our main adversaries that use hybridity in their war-fighting or war-waging methodology, that in no particular order the three would be Russia, China and totalitarian Islamists or, as I prefer to call them, un-Islamic extremists? Have I missed from that list any major adversary using hybridity as a technique, or are those the three main ones?

Dr Johnson: You could potentially include Iran. What it does affects our partners and allies more than it affects the UK directly, but it's still happening.

Q48 **Chair:** Any other thoughts, Chris and Andrew?

Dr Mumford: Iran is a good suggestion to add to that list.

Chair: Mark, you were saying North Korea perhaps?

Mr Francois: I was thinking about WannaCry and stuff like that.

Q49 **Chair:** So, given that we are looking at China as on that very short list of anything from three major to perhaps five major adversaries, are we not absolutely out of our minds to be considering allowing the state-based Huawei telecommunications company anywhere near our telecommunications system? Is there any dissent on that at all?

Dr Johnson: I would think it extremely inadvisable.

Q50 **Chair:** Are we, in a way, subject to what I sometimes call the Nixon fallacy? That was to do with the tape recordings in the Oval Office that incriminated him. You were saying earlier that you thought that there was insufficient awareness among decision makers and the public about



the dangers and about the vulnerabilities that we have, but isn't there also a phenomenon analogous to what President Nixon did? I believe he was the person who actually initiated those tape recordings, and even though he knew that vulnerability was there, he still went on to incriminate himself. Isn't it the case that we know that this massive and increasing dependence on the world of cyber is building in vulnerabilities, but we don't seem to be able to help ourselves from going down that route? Have you any thoughts on that, or any possible remedies in mind?

Dr Johnson: There is going to be a battle of encryption and decryption over the next 20, 30, 40 or maybe 50 years, until such time as some new technology has emerged to replace the forms of communications technology we are used to at the moment, just as, by the way, the next generation of explosives technology will replace the explosive capacity of nuclear weapons—and that will be far more dangerous, because all the nuclear thresholds will have gone. We are going to have to get used to the fact that there are going to be significant vulnerabilities in all forms of connectivity, just as there were when the telegraph and then the telephone were invented. It was quite easy, initially, to connect yourself to these networks and to listen in on what was being recorded, until we developed more sophisticated forms of encoding. I think that is just part of what is going to happen, but there are some critical vulnerabilities that I would suggest we pay more attention to, particularly in space.

- Q51 **Chair:** When we talk about the use of hybrid techniques by ideologically driven states or movements, my mind goes back to the fear at the end of World War 2, when Nazi Germany was defeated. So strong and poisonous was the Nazi ideology that it was certainly thought, was it not, that it might go underground—there was talk about the Werewolf organisations, for example—and might persist? If that is right, would you agree that one thing that prevented that was the International Military Tribunal, which exposed to the whole world in pitiless detail the horrors of what that regime had done, and do you think that there would be anything of value from some form of analogous process when the territory of ISIL/Daesh is finally overrun, or do you think that it is too difficult due to the tensions and dissonance between the various enemies of Daesh, ranging from Russia and the Syrian Government to the United States and the west?

Dr Mumford: I would love to have seen what would have happened if the Nuremberg trials had occurred in the era of social media. There are new forms of information control. In previous iterations of warfare, to the victor the spoils. One of the key spoils of war was the ability to control the narrative of good versus bad: why the victory was hard-won and hard-fought, and why it was a necessary and just war. The era of social media has completely broken down those barriers, and it is no longer something that the UK can hope would be seen as a fundamental message that would be as self-evident as it was. We were able to control the message out of Nuremberg. In the era of social media, the ability to control a message in a counter-ISIL kind of way has dissipated massively. If there were to be a contemporary version of the Nuremberg trials, it would be spun massively in a way in which small elements or pockets of ISIS sympathisers could project their counter-narrative globally, and we would be able to see ways



in which the western war effort could be undermined. It could be spun against us, which could be quite dangerous.

- Q52 **Chair:** That is an interesting point. While you said that, I was thinking back on the way in which at one point Göring's testimony seemed to be getting the better of the American prosecutor. If reported directly, that would have been an example of what you are suggesting.

Chris, any thoughts on the propaganda value of exposing the black heart of what ISIL/Daesh have done? I am using propaganda as a neutral term.

Chris Donnelly: We are in such a new world—in terms of information and information warfare—that, in my view, we have not yet adequately mastered this to know truly what to do. To answer the question that you just put, we need to put a lot more intellectual effort into understanding how the mechanism of the spread of information influencing people works, how it is different—based on the age of the recipient subject, because a teenager's brain works differently and hears and responds to something differently from an adult's—and how it works on different sections of the population in our countries. Given their religious or cultural background, some people process information differently because they start from a set of beliefs and accepted wisdoms that is different from that of the mainstream population. We have not done nearly enough work on that to know the result of any counter-propaganda effort of ours. It is one of our biggest shortfalls.

- Q53 **Chair:** Moving on to what you said about the relative decline in defence expenditure as a proportion of GDP—as opposed to welfare, education and health, which is of course something that we charted in great depth in our “Shifting the goalposts?” report. To anyone who might not be familiar with it, it is still worth a read. Given the constraint on what politicians want to spend on defence, usually until it is almost too late, isn't there a danger that the fusion approach is actually putting at risk our conventional defence capabilities? We had a national capability and security review, with these new threats and new techniques to do with security services, intelligence services and counter-disinformation services lumped together with defence expenditure on the Army, the Royal Navy and the Royal Air Force. As there was a cap on the total expenditure, we nearly lost our amphibious capability entirely, because, if more was to be spent on dealing with the new threats, an equivalent sum of money was going to be taken away from dealing with the traditional, conventional threats.

You are all experts on the new threats. Do you feel qualified to say that, just because we have a lot of new threats that we are going to need to spend more money on countering, that does not mean that the old threats have gone away, and that the need for a range of capabilities by the Army, the Royal Navy and the Royal Air Force is not still firmly in existence? Could I have some comments on that?

Dr Johnson: What we need is integration and synchronisation of the Armed Forces with those other organisations, agencies and budgets—not the replacement. You are absolutely right to say that the Armed Forces



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still need to do some of those traditional things as well. That has been evident over the conflicts of the last 20 years or so. As things became more complex in, for example, the electronic environment—the information domain—they certainly did not stop being as kinetic, difficult, complex and dirty as they had always been. It is a fallacy that somehow you can spend on one and not the other. That would be wholly wrong.

They are complementary. People have talked a lot, including this Committee, about a “credible deterrent”. That deterrent is credible only if, in the end, it has the capability to deliver the effect that you desire. If you take away that capability, clearly it is not going to be as useful. I was relieved, no doubt as the Committee was, to hear that our amphibious capability was, in the end, preserved.

Q54 Chair: The only way it was preserved in the end was because the defence strands were taken away by the Defence Secretary, taken out of the national security capability review, and thus could not be raided financially for meeting the costs of hybrid and other new forms of warfare. We very nearly ended up with major further cuts in an already depleted conventional order of battle, as it were. Any last thoughts from each of you, starting perhaps with Andrew?

Dr Mumford: HM Government and the Ministry of Defence need to be on the front foot with hybrid war. There are so many issues that have risen and fallen as predominant national security threats over the last few decades, during which the Government have been predominantly responsive to events after they have occurred.

We are at a point now where we can take a cold, calculated look at the strategic landscape, and we can see that the landscape has changed and that there are issues that we are going to need to address in the future. It does not require a crystal ball; it requires, as we have already asserted, a fundamental understanding of our historical trajectory up to this point, and an awareness of the way in which threats have adapted.

I cannot believe that we have been sat here for nearly two hours and, if we are playing hybrid warfare bingo, no one has mentioned the words “grey zone”. The boundaries between war and peace are shifting. If we consider how in the last decade of the 20th century and the first decade of the 21st we have seen a 50% reduction in major inter or intra-state armed conflict, that does not mean that the world is becoming more peaceable, or that states are turning away from war; it means that they are turning to alternative forms of armed conflicts, interference and influence.

That is exactly where hybrid war fills the gap. To that extent, if the boundaries between war and peace are fundamentally shifting, it is going to mean that we in the UK have to think creatively about ways in which our Armed Forces, who we try to ensure are primed for conditions of war, are asked to do things in a time of peace as well in order to maintain the very liberties, the way of life and the political system that we hold true. That is the final word I would leave the Committee with.

Q55 **Chair:** Thank you. Chris, may I just put on the record how glad we are to see you back in action after some difficult times?

Chris Donnelly: Thank you very much. What Andrew has described, and I thoroughly concur with, is basically a paradigm shift—or, if you prefer, a revolution—in the nature of conflict. If you are in the middle of a revolution, as we are, the big problem is knowing what is going to change and what is not. Not everything changes in a revolution. What do you keep of the old, what do you give up, and what do you buy of the new? That is a problem that faces us, our Armed Forces and all the other forces for mobilising and utilising the forms of power we need to fight warfare in the 21st century, whatever we call it.

That calls for more national effort in strategic thinking and the development of national strategy. Without that, we will constantly be trying to solve all these problems with a crisis management app on our iPhones, when what we really need is strategic thinking. Strategy is not a plan; it is the capacity to adapt, to be opportunistic, to think different thoughts and to think the unpalatable. At the moment, we are so locked in our peacetime mentality that we find it very difficult to do that.

Dr Johnson: I am conscious of the time, so I will be very brief. We discussed the purpose of hybrid threats, or strategy or confrontation, which is to create strategic options and to weaken an enemy. We are being confronted by that pretty directly. It also occurs where confrontation, in a conventional sense, is too costly. We discussed some of the vulnerabilities, and I repeat my offer to the Committee: we would be very happy to explain some more of what those vulnerabilities are—not just the current ones but particularly the emerging ones, because we need to think a little bit long term.

I think we gave you a fairly strong and consistent message about preparing now for what is coming. We are running out of time. It is pretty clear when you look at the calculus of some of the Russian officers of their general staff that they either think they are in a conflict already or they are getting ready for something quite serious. We are pretty unprepared in some respects, so we certainly need to prepare now. There is a lot that we can be doing now.

We particularly need to create what the military like to call a J5 cell—a forward-planning project management team, if you like—to look out well beyond the immediate five-year horizon and the next two elections to the next 15 to 25 years, not to spot the emerging technologies but to look at the overall trends and take a view about some of the enduring national interests of not only our own country but our rivals. We also particularly need to make full use of our allies—the Commonwealth and our partners overseas. There is an enormous amount of good will towards the UK, and if we are seen to be leading on the right lines with this, adhering to international law and to our own values, which they share, that will be splendid.



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But ultimately, the solution is to deny the fulfilment of our rivals', or our enemies', strategic intent. We can deny them things much more cheaply than trying to fight them. What was it Churchill said? Jaw, jaw is always preferable to war, war. That is absolutely right, but we do need ultimately to compel our adversaries to make a choice, and we will not do that if we do not invest, we do not prepare and we are not credible.

Q56 **Chair:** May I ask you to clarify that? You have used that phrase several times. What sort of choice are you trying to force upon them?

Dr Johnson: In simple terms, if a country like Russia, for example, persists in the kinds of activities it is involved in—trying to murder people on the streets of Britain, for example, and of course, in one particular case, doing so—and if it thinks it can get away with bullying or intimidating this country, you have to put in place a series of diplomatic, military and economic measures and be prepared to stand up for certain measures internationally to compel them either to continue with that course and suffer accordingly or to realise that they have to cease and desist. We can encourage them into better behaviour rather than continuing to do what they do to us at the moment.

Q57 **Chair:** So we have to make it clear that they will not get away with it without paying a disproportionate price?

Dr Johnson: Yes.

Chair: Thank you all very much indeed for a most thoughtful and expert session. We are most grateful to you.