HOUSE OF LORDS

International Relations and Defence Committee

Corrected oral evidence: Implications of the war in Ukraine for UK Defence

Wednesday 1 May 2024

10.30 am

Watch the meeting

Members present: Lord Ashton of Hyde (The Chair); Lord Bruce of Bennachie; Baroness Coussins; Baroness Crawley; Baroness Fraser of Craigmaddie; Lord Grocott; Lord Houghton of Richmond; Baroness Morris of Bolton; Lord Robertson of Port Ellen; Lord Soames of Fletching; Lord Wood of Anfield.

Evidence Session No. 6 Heard in Public Questions 57 – 71

Witnesses

I: Air Chief Marshal the Lord Peach KG GBE KCB DL, former Chief of the Defence Staff and Chair of the NATO Military Committee; Nick Childs, Senior Fellow for Naval Forces and Maritime Security, The International Institute for Strategic Studies (IISS).

Examination of witnesses

Air Chief Marshal the Lord Peach and Nick Childs.

Q57 **The Chair:** Good morning. Thank you very much for coming. We are very pleased to see you both. We were going to have three witnesses but there are only two now, so that is even better because you can talk for longer and we can take a bit more time.

Today, we are going to focus on lessons from Ukraine's air and maritime domains and the implications for UK Defence. This is the committee's sixth public evidence session in its inquiry into the implications of the war in Ukraine for UK Defence, and it will be streamed live on the Parliament website. A copy of the transcript will sent to you to make small corrections if necessary. I know you know the form. Can I remind members to let us know of any interests pertinent to the inquiry and to declare those? In doing that, I should say that my wife is a shareholder in BAE Systems.

Without further ado, before I ask the first question, could I ask you to introduce yourselves for the record? I will start with Lord Peach, because I want to talk first about the air domain. What do you think are the key lessons to be drawn for the UK from the deployment of air defences in Ukraine?

Air Chief Marshal the Lord Peach: I am a Crossbench Peer, former chair of the Military Committee of NATO and former Chief of the Defence Staff, and I served in the Royal Air Force for 49 and a half years.

There are two very significant lessons for the UK, and, indeed, for other air forces, including the whole of the Alliance. The first is to understand that it is never a good idea to fight without a favourable air situation or air superiority. I could use other terms, but those are well understood. Of course, Ukraine has demonstrated that, and we had the misfortune of experiencing similar problems in the Falkland Islands in 1982 and during the Second World War. There is nothing new in what I am saying, but the consequences of it are quite serious as modern technology is applied, as in the case of Russia's illegal war against Ukraine, so gaining and maintaining a favourable air situation is a big lesson.

The other big lesson—I am sure the committee will understand why I am hesitant to go into very great tactical detail—is on the critical importance of the electromagnetic environment, or electronic warfare if you would prefer a simpler term. That was another truth that was suppressed in the era of expeditionary operations; frankly, we were not contested in the electromagnetic spectrum, whereas the region of the battles around Ukraine is the densest, most complex and dangerous electronic operating environment we have ever seen. The consequences are really powerful for defence capability and future British, allied and North Atlantic Treaty Organization capability.

The third lesson for me personally is to offer a compliment to our Ukrainian friends—who are fighting for their survival—for the way they

have created innovative and effective command and control. Rather than enormous headquarters, they have created autonomous, empowered, small groups who can call in joint and other fires—again, I am trying really hard not to use complicated military language—who can then achieve a remarkable local effect. That is not to say that everything NATO does or anything the UK does is wrong, but this is a striking evolution. Again, to put it in a Second World War-type context, it is much more similar to the German approach during the Second World War, known as *Auftragstaktik*, where the local units are empowered to fight a local battle, which is a really significant development by the Ukrainians that we should learn from.

For me, the UK's enduring lesson is that it is a folly to fight without air superiority. It is a resounding call from the battlefields, whether they are maritime—noting Nick to my right as an expert—or the air, land or information domain.

I know this has been a long answer, but the last thing I want to say is it is not just the review into defence that needs to be integrated; the way we fight needs to be integrated. More than land, sea and air, and therefore joint, this now requires a full integration of intelligence information, space and cyber.

The Chair: Have our doctrine and resources in the UK kept up with the lessons you have outlined?

Air Chief Marshal the Lord Peach: Yes, and I have the highest regard for our Development, Concepts and Doctrine Centre. I still keep in touch with them, and they continue to do world-leading work, so I give a very positive answer on that. Of course, I would also caution that it was Rommel who famously said, "The British write some of the best doctrine in the world. It's fortunate their officers do not read it".

Q58 ***Nick Childs:*** I am the senior fellow for naval forces and maritime security and, since 2015, the senior naval specialist at the International Institute for Strategic Studies. Before that, I was a BBC journalist for more than 30 years, initially and mainly in the World Service, but also latterly in BBC News, covering defence, security and international relations issues for the bulk of that time.

On the initial question, as far as Ukraine is concerned, understandably one of the lessons is that initially the focus was on land and air, and perhaps the maritime was underappreciated. The very fact that I am before you now shows that that has significantly changed, but the maritime was a significant driver from the outset of the conflict in a number of ways, not least ambitions—particularly on the Russian side—to dominate the coastal areas, the region of the Black Sea, and to open the way for Russia on to the world's oceans as a result. That is and remains a significant element of Mr Putin's vision of Russia as a great power in its ability to project naval power.

The maritime has only increased in significance as the conflict has gone on and become a matter and a battle of attrition and war economies. The

unpredictability of conflict has been emphasised by how things have unfolded, and the risk of unpredictability turning from the expectation of a short war into a long war. There are important lessons for the UK, NATO, and globally on issues of sustainment and resilience, and sea lines of communication as a way of delivering that and being able to defend those, so that is a key area of readiness and resilience.

The Ukraine conflict has underscored the enduring importance of the battle for sea control and sea denial, and those are general lessons that have evolved. It is also true, and needs to be remembered, that the particular characteristics of war at sea between Russia and Ukraine are precisely that: very particular in lots of ways. The Black Sea is a closed sea.

Q59 **Lord Robertson of Port Ellen:** You are beginning to talk about the things I was going to raise. Quite clearly, in the naval domain, the Ukrainians have inflicted huge damage on the Russian Black Sea Fleet, so much so that they are now almost impotent and retreating far away from that. The fact that Turkey is bottling them up and refusing to allow access for reinforcement shows the innovation of the Ukrainians, given that the Russians were trying to bottle the Ukrainians up and stop the grain from getting out through sea landmines, apart from anything else.

As a committee, we are looking at the lessons for our domestic defence. What can we take from the fact that a country fighting basically a superpower is able to inflict so much damage? What does it say for our naval forces and their vulnerability in a situation where we might be up against an adversary with the same degree of ingenuity?

Nick Childs: Up to a point, the area of operations has a significant bearing on this in the sense that it is conducive to the kinds of operations, levers and tactics that the Ukrainians have been using. As Lord Peach said in his remarks, there is nothing new about a weaker opponent at sea trying asymmetric ways of overcoming a more powerful naval opponent; it has happened down the ages, but issues around the differences in technology are significant. The leveraging of the particular technologies that are involved and putting those together—uncrewed systems and integrated capabilities being part of those—are key to that.

For all navies, it highlights that operating close to land, trying to impose naval presence and power in the littoral space off coasts, is becoming more challenging. It has been coming down the track for some time, but the proliferation of not very exotic weapons—anti-ship missiles, uncrewed surface vessels, and drones at sea—has driven home the fact that the precision of these capabilities presents particular challenges for navies and nations that want to project power, particularly into the littoral space.

Again, there are differences and particular issues of the performance of the Russian Black Sea Fleet: the training involved—perhaps we can talk a bit later about the Royal Navy and Western navies; the doctrine and practices that have been looked at and that probably put them in a better

position, and the capabilities on hand, which are probably better. In a way, it is a puzzle that the Russian Black Sea Fleet has not been able to adapt to some of these challenges. Uncrewed surface vessels and countering those is not rocket science. Countering anti-ship missiles is rocket science, but there are counters to that, which Western navies and the Royal Navy present in their training and are much better equipped to respond to.

Opening the aperture, if you like, what we have seen the Ukrainians doing has opened a window to the potential for an enemy to be able to deliver some of these uncrewed capabilities in truly swarming masses. Looking forward in terms of capabilities, force development and procurement, that is an area where the Royal Navy and Western navies will be challenged in being able to deliver and counter those at such a scale as might be—

Lord Robertson of Port Ellen: Are you saying that the Royal Navy would not be as vulnerable as the Russian Black Sea Fleet?

Nick Childs: In terms of the Navy's basic training, the capabilities at its disposal, and, frankly, its demonstrated experience of operating, it would be able to carry out and operate in a different way to the Russian Black Sea Fleet. Ukraine has shone some spotlight on the shortcomings of the Russian Black Sea Fleet and the Russian Navy generally, but it has not quite opened the aperture on the rest of the Russian Navy's capabilities, for example. Again, we have to be cautious about the general coming out of what has happened and the way the Black Sea Fleet has performed.

Air Chief Marshal the Lord Peach: The second part of Lord Robertson's question is interesting. It is probably beyond the scope of this discussion, but it demonstrates the importance of sustainment of merchant marines and giving them sufficient confidence to operate in an area of maritime space—whether blue water or close to land—where there are mines and an attempt to deny them the ability to operate. There is a range of factors. We are not here today to talk about them, but they could include insurance, reinsurance and giving confidence through international support for grain initiatives and so on, going all the way up to the United Nations and other agencies, such as the International Maritime Organization just down the river here. There is a wider story, which demonstrates still UK global understanding and reach.

Q60 **Baroness Fraser of Craigmaddie:** I would like to understand a bit more about the implications for UK priorities and our capabilities in the air and at sea. Mr Childs, you just touched on the fact that the Ukrainians have shone a light on the capabilities for swarms of unmanned drones. What does that tell us about where we should be putting our priorities? Should it be on the very expensive bespoke things that take 20 or 30 years to turn up, or should we be adapting commercial assets for a wartime thing, and what emphasis should we give to interoperability?

Nick Childs: In reverse order, interoperability leading to interchangeability of capabilities will be a key to this, particularly across allies, because all navies are facing some of these challenges.

On the balance between trying to bring in innovative capabilities quickly while sustaining some of the key legacy but traditional capabilities and platforms, which are still important, will be an important challenge. It is a balance; it is not a case of having to change horses. These issues have been coming down the track for some time, not in the context of Ukraine, but experiences in and around the Gulf over many years have alerted navies to this.

The Royal Navy has been experimenting in and looking at greater use of uncrewed systems, both as offensive capabilities and as part of the answer to some of the challenges that are out there. Given that the future is arriving early in lots of ways, one could argue, the greatest urgency at the moment is in turning all the work that is being done in that space into delivering a scale of added operational capabilities. That will be key to protecting and maintaining the operational relevance of naval forces and their ability to continue to deploy and project power into the future, if that is what the UK wants to do.

My only reservation is that numbers of hulls, ships and platforms on which to operate these systems are also important. I would caution against a technological utopia because having a long-term shipbuilding strategy and being able to have sufficient numbers of hulls and platforms that can be the motherships for these systems going forward is important. I know the focus is on Ukraine, but the Red Sea, where Western navies are engaged now, is pointing up that that is also important.

Baroness Fraser of Craigmaddie: Absolutely. We need to send a boat there. What about the air, Lord Peach?

Air Chief Marshal the Lord Peach: It is not just about the air; it is also about almost a change of attitude of mind. Mass is something we have not talked about in previous integrated reviews as much as perhaps we should have done. The ability to generate mass quickly in a time of national threat and national emergencies is pretty clear as a result of what has happened in Ukraine. How you do that is changing.

I have not mentioned drones so far. There are many words to describe them, because they range from extremely large and complex to very small and relatively unsophisticated. We need to understand the ability to manufacture fast and deploy rapidly as a lesson and apply that to our own thinking. We need to innovate by design, experiment, and be prepared to fail fast, which the Ukrainians have also demonstrated; again, I pay tribute to the way they have done that.

Your wider question about interoperability is something that every chief of defence since the chief of defence was invented has known. In fact, the NATO Standardization Office is as old as NATO itself. Through the

appropriate bodies—not so much the North Atlantic Council on the political side, but delving into the Conference of National Armaments Directors, for example—they could be the powerful convening authority at 32 to say, "Now is the time to stop not being interoperable and to start being interoperable". It is more than just similar-looking equipment; it is being able to share everything from small weapons to large ones. It is a good question, and it is time to pose that question in any future integrated review.

Beyond that, we also need to see the speed of response in operating in a denied environment. Because of the way the Ukrainian air battles are evolving, the technique and the equipment that is used almost monthly have to adapt as the threat evolves. We knew that; we have always known that. Again, I refer back to our experience in the Falkland Islands in 1982. At the end of the war, virtually nothing we deployed was doing exactly what it was bought for before the war. We just have to accept that that is a British way of mind. We can apply ourselves to this. For the future capability reviews and future capabilities, the challenge is being able to manufacture quickly.

Q61 **Lord Soames of Fletching:** This question is for Lord Peach. You have already dealt with some of this, but just for a little more detail, in the context of the electromagnetic field, what capabilities does the UK currently have in the suppression and destruction of enemy air defences? Would these capabilities be sufficient in a war-fighting situation with Russia, if such a terrible thing were to happen? Should we be doing more to develop these capabilities?

Air Chief Marshal the Lord Peach: We have known that the Russians have continued to invest in electronic warfare. In our many years of expeditionary operations, we did not have to. Of course, as a committee and in this war, we are really talking about going back to many of the tools, techniques and some tactics—but with new capabilities—that we knew from the Cold War, which we have to do through the lens of the speed of response that is needed.

We have always known that electronic warfare was important, even if we were not doing it on that day. Fortunately, the pilot light was kept alive. It is a matter of record, so I can say that I commanded the Defence Electronic Warfare Centre, which was integrated with the Air Warfare Centre and is now the Air and Space Warfare Centre. We kept those basic skills and capabilities, and a lot of the answers to your questions are as much about skill and understanding as they are about then applying that to industry.

The UK has a respectable electronic warfare industry, for example, and the ability to make missiles and create both suppression and destruction of enemy air defences, which can take many forms; it does not just have to be missile-on-missile. Again, details of the equipment will remain sensitive in terms of classification, but I reassure you that we have the skills in all three services where we need them. The main question is

integrating. The next question, which is linked to the prior question, is making sure NATO is really seized of this electronic warfare moment.

The final question I would pose in any of these fora is learning the lessons from Ukrainians on manufacturing and adapting in the field. I keep going back to this. If you can adapt in the field, you can adapt and survive or tackle the threat. If you have to go way back across the globe to modify something over weeks and months, maybe you cannot. It is about being able to operate forward with civilians and contractors, as well as deployed forces, and understanding what works from the Ukrainians.

Q62 **Lord Robertson of Port Ellen:** I saw reports that the Russians are able to interfere with GPS-controlled missiles and redirect them to different targets. Are those reports true? Is that one of their skill sets?

Air Chief Marshal the Lord Peach: The Russians have not stopped investing in electronic warfare. Russian capabilities against navigation devices are well known, and any activity in the electromagnetic spectrum will not respect military or civilian equipment, such as aeroplanes and ships, so they can also be affected. That is true, so we need to be able to challenge that and make sure that we can continue to operate in an electronic environment.

My big point for the committee is that we need to challenge the assumption that we do not have to operate in a contested electronic warfare environment. That is not true; we have to be able to operate in a contested environment, which is what the Russians have created.

Nick Childs: To reinforce Lord Peach's point, the contestation absolutely includes the electromagnetic space. Much of the discussion about trying to retain superiority with technology has been the networking of systems and retaining and reminding ourselves of the skills of having to operate with the lights out, as it were, which include issues of mission command and so on. Perhaps trying to deliver a lights-out situation in which the UK and its allies can gain an advantage will be key, if that is one of the strategic advantages.

In terms of UK capability against a Russian threat generally in the maritime space, I come back to my point that we have seen only small elements of the Russian naval capability put to the test and found wanting. However, some key capabilities that will be required are still out there, and still very potent and potentially a real challenge, including the submarine capabilities and so on.

In terms of being able to operate in what will be a fast-moving environment, Ukraine has shown the need to be able to deliver and adapt on the hoof. Ukraine's uncrewed surface vessel capabilities, for example, only really broke surface in September 2022. Since then, not only have they delivered capability, but they have adapted both tactics and extended their range and capabilities, and this is a continuous and iterative process. The technologies may be at hand in the West, but it is

about being able to do the same in order to fill the gaps that exist now as far as Western forces are concerned.

Q63 **Baroness Coussins:** My question is also for Lord Peach, and it is about training for war-fighting readiness in the air. We have heard the view from some previous witnesses that European air forces, including the RAF, are simply not prioritising war-fighting training at a sufficient scale. Do you agree with that assessment? If so, what improvements could be made to the RAF's training? At a European level, has the accession of Sweden and Finland to NATO made any difference to the overall picture of war-fighting readiness in the air?

Air Chief Marshal the Lord Peach: To tackle the latter question first, the welcome inclusion of Sweden and Finland into NATO's operations adds significant capability, mass and high-quality training. That may not be what President Putin and Russia would have wanted, but that is what has happened. Both the Finnish Air Force and the Swedish Air Force are entirely ready and capable of inserting and flying with NATO now and have operated with NATO very successfully in other operations around the world, so that is a welcome addition.

I compliment both air forces on the fact that they have never really lost the art of dispersed operations and have practised everything from flying off motorways, without the Highways Agency stopping them, to all sorts of very innovative ways of moving weapons forward. In other words, I will go as far as to say that NATO can learn a lot from our new allies, Sweden and Finland.

The demise of high-quality training is slightly exaggerated. The UK continues to participate in the highest-quality training in the world, in conjunction with the United States and other allies. The Allied Air Command in Ramstein continues to conduct a high-quality series of exercises that do training and war-fighting readiness through integrated air operations.

Single-nation training is less effective, and the air environment cries out for multinational exercises, operations and training to give experience. This is something our forces do and will continue to do. Could we exercise more? We can always exercise more. The question really is whether we are exercising effectively.

If I had a theme of integration, it would be to make sure that we can take all opportunities to integrate not just air, land and sea, but information, cyber and space, so I commend the work that the UK is doing with its Space Command and NATO is doing with its space facilities at Ramstein to bring that dimension into the thinking and the training. It is a reasonable story as long as the individuals undertaking the training are willing to learn and have realistic challenges, risks and threats placed upon them. I was not making a joke about dispersed operations; if that is needed, it is necessary.

Going back to the very first question from the Chair, if a machine in the future is so complex that it can only operate off one perfect runway full of perfect support equipment, it may not be the answer to the challenges we face.

Q64 **Lord Grocott:** My question was about drones, and much of the material has already been covered, so I will turn it into a catch-all question for Nick Childs. In the maritime context, we have quite spectacular information in our notes about the proportion of the Russian Navy in the Black Sea that has been destroyed or disabled. Are we doing enough, are we financing enough, to keep pace with the development of drone technology, and related matters?

As far as air defences are concerned, are we now in a position to be confident that we can repel any attack of the scale that the Russians have failed to deal with in the Black Sea, if anything comparable was to happen to us?

Nick Childs: Absolutely. The use of drones, particularly naval uncrewed surface vessels, has been striking as far as the Ukrainians are concerned—not just the use of them, but the intelligent use of them, the actual targeting that has been going on. So you are right that, in terms of overall proportions, among other things, this attention-grabbing set of spectacular successes has probably helped morale and, not least of all, international support at a time when things have become stuck on land. All those things are important.–

As I mentioned earlier, in terms of response, Western navies are apprised of that. The Royal Navy has been looking at it for some time. Training is a key part, and just the way navies train to operate will make a difference. The capabilities of the Royal Navy and Western navies put them in a better position.

There will still be more issues around calculating the risk of operating closer to land, and that represents a challenge, particularly in a world in which these capabilities are proliferating. The real challenge, though, is scale. The Royal Navy could muster a series of capabilities to operate for example a single formation with confidence. However, for navies generally there is a resilience challenge, not just in the number of platforms but in magazine depths, in actual weapons to take on these systems, and in equipping naval platforms with a sufficient mass of counter-drone weapons, close in or otherwise, to be able to operate at a scale that may be, or will be, greater than we are seeing in Ukraine at the moment. That may be the challenge going forward. So there is an urgency in making a step change in that sense and in delivering at speed. The opportunities are there, but they will require investment.

There is also a requirement to look at doing things differently. Expending multiple missiles to deal with these drone threats will probably not be the answer. It is not necessarily the dollars and cents trade-offs that are being talked about; it is the issue of running down war stocks very quickly. So electronic warfare will again become a potentially offensive

capability, and it has been announced that after some delays, frankly, there is finally a new acceleration to the DragonFire programme for the use of directed energy into the future.

These are areas where all navies will need to look to invest more as part of a solution to enable effective maintenance and delivery. The core capabilities and the opportunity to develop them are there, but filling in the resilience in order to be able to sustain operations at a high intensity will be the key challenge for everyone.

Q65 **Baroness Crawley:** This is a question initially for Nick Childs, but perhaps Lord Peach could come in as well. It is about current and future UK maritime capabilities. You may well feel that you have covered a lot of this, but I am looking for a checklist now. In your view, is the Royal Navy in a position today where it can protect and maintain its fleet, and remain lethal in the event of a war-fighting scenario? In addition, what can we learn from our allies in NATO in this area of present protection?

Nick Childs: As I hinted at earlier, the Royal Navy has a significant portfolio of capabilities and has been demonstrating those in the Red Sea. The UK could assemble significant capabilities, particularly at a higher level of intensive warfare and operating essentially as significant formations. However, some gaps remain, not least in intelligence, surveillance and reconnaissance and airborne early warning—those sorts of areas. The interoperability Alliance element will be key in filling those gaps.

Perhaps the area of greatest urgency and concern is not so much the counterdefensive posture but that lethality question of turning to the offence, where it has been recognised that Royal Navy ships have been well-defended porcupines—I think that phrase has been used—for a long time. They can defend themselves, but what they cannot do so much is take the fight to the enemy in the way that will be required in the future.

There are capabilities being delivered fairly quickly to fill that gap, and there is an ambition to turn these strike deficiencies into greater capabilities, but there are two issues with that. One is the time it is taking to deliver. The second is that, for all the deficiencies of the Russian Black Sea Fleet, it has continued to be able to demonstrate the capability to strike on land and effect on land with long-range strike capabilities. Again, it is, I suppose, a maritime lesson out of Ukraine, and could have an impact as far as the UK is concerned.

Baroness Crawley: Are you saying that we do not have that capability to strike long-range?

Nick Childs: We have an insufficient capability. There are pockets of that capability—we have Tomahawk land attack cruise missiles from our submarines—but spreading that capability around the fleet to provide a more general lethality is a priority. It is being addressed but probably needs more attention, including the fact that what has been happening in Ukraine is changing everyone's assumptions about the scale of capability

required to deliver real effect. For all the missiles that the Russians have been raining down on Ukraine, they have been remarkably resilient, and that is being translated into other nations that are also trying to make very significant upgrades in their capabilities.

When the Tomahawk cruise missile capability was introduced into the UK Royal Navy submarine fleet, the original requirement was for a national war stock of 65. I do not know what the numbers are now, but obviously we have used some over the years, and we have probably rebuilt capabilities and may have raised the numbers somewhat, but I am not sure how many more we have than we had back then. The likes of Japan and Australia, however, are ordering these weapons in the hundreds. That is an urgent step change in requirement.

Air Chief Marshal the Lord Peach: We need to accept that we are in the missile age, so we need missiles. It is a simple statement, but it is true. We could also work more closely with other nations. We have a perfectly respectable grouping—called the Joint Expeditionary Force—of our northern friends in the Scandinavian countries, the Baltic States, and Iceland, and again, we could work together with them on a number of these question areas. In answer to your question, some of those navies have good capabilities already.

Working with those we have already declared friendship with through the Joint Expeditionary Force is a concept that Lord Houghton introduced as CDS. I would like to see that continue to develop. It started as a friendly exchange, and now it could be a more structured affair because the threat to all those nations has revealed itself. I have already paid a compliment to Sweden and Finland in the air force sense, but we have quite a lot we can learn from our Scandinavian friends and their industries. Perhaps in future reviews we should be looking to work with like-minded, friendly industry groups and groupings, rather than having to do everything individually.

On the other issue, I will hammer the point that Nick has made about scale and mass. It is not just about war stocks; it is also about the routine fact that once something has been manufactured, we do not need to close the line; we need to keep the line open. That, again, is the simpler way I would put it.

The Chair: Thank you. We move to Lord Houghton, who I should warn had a good training run yesterday so is in good form.

Q66 **Lord Houghton of Richmond:** No, far from it. I need to declare a couple of interests. One is that I am an adviser to Thales, and the other, in this context, is that I am the European chair of a company called Draken, which provides aggressor air training, combat air training, for the RAF and others.

I am learning on the job here. One of the protocols, I am told, is that committees can only make recommendations based on what our witnesses tell us, so we have to slightly lead you. You have touched a bit

on the JEF, and I want to take you back to what you were saying about interoperability and burden-sharing in NATO, potentially in the JEF, and nationally. At the same time, we have some conversation, slightly to the right, that we ought now to be talking about a sixth domain of warfare: that as well as land, air, maritime, cyber and space, the defence industrial base, the country, should be seen as a domain of warfare that has to manoeuvre, react and respond to the crises of the day.

However, as you are well aware, we have a defence industrial base in the United Kingdom that is optimised to spend most of the defence budget on the glacial replacement intergenerationally of big platforms, costing huge amounts of money. So this agility is not built into the system that we have. From your perspective—I will go primarily to Stuart and then to Nick—what can we recommend that can genuinely inject a gearchange into the nature of the relationship between government and the defence industry, and, in a NATO context in Europe, and potentially in a JEF context, that can genuinely bring about a change that breaks out of this somewhat stolid, process-driven defence industrial base? Patently, as we have borne witness to over the last few years in response to Ukraine, it is not sufficiently agile to be fought as a national entity and a part of our resilience and war-fighting capability.

Air Chief Marshal the Lord Peach: I would love to spend far too much time answering this question. It was the innovation of small and medium businesses—as they were then called—that won the Battle of Britain, and not Air Ministry specifications and the firms favoured by the Air Ministry. It was private designs and privately thought-through rapid weapon evaluation as a result of the start of the war in 1939 that led to significant changes. So there is something in your question that requires a really careful look at the way we procure and the way we support that procurement cycle. That procurement cycle was for an age that we are no longer in, and it has led to all the things that you eloquently describe.

There is a need as a national enterprise—I would embrace nuclear in that—to require medium and large companies to work with start-ups and small companies, and experiment and fail fast in order to bring innovation through quickly. Therefore, again we should have partnerships in defence service people and with reserves.

The time is also right to refresh our approach to reserves, and to embrace sponsored reserves from industry as part of the defence offer. That is not anything controversial, and we can always find a way through our own bureaucracies if we want to. Having a bureaucracy answer that it is too hard is the wrong answer. Surely the Ukraine war has shown us that the way we go about procurement and even the disposal of equipment that is half-age or sometimes younger could be challenged if we were the ones fighting for our survival. Where are our reserve fleets, and where is our ability to pull in industry and refresh older equipment or modify it?

Of course, there is also a role with our trusted partners in the Joint Expeditionary Force format or NATO format, and there is already a

convening authority in the Conference of National Armaments Directors. You cannot be an ally in NATO without having a national armaments director. If that council of 32 decides to do something, that is a very powerful indicator that this is a programme to get behind.

The Chair: How often do the 32 agree?

Air Chief Marshal the Lord Peach: They meet quarterly in Brussels to agree priorities set by the Alliance, and indeed they bring their own innovations, ideas and so on. I am always in favour of using something that exists today. Let us motorise it and modernise it.

The Chair: My point relates to the fact that there are 32 representatives, which sounds like a big number, so how often do they agree?

Air Chief Marshal the Lord Peach: It is every ally. There is just the question of getting the whole convening authority of the Alliance to move in a direction once the direction is agreed, so it is about having drivers within the group of 32. The UK could and should be one of those drivers to get on with the things that your report, and those of others, are setting out, and the time is now.

It is not necessarily revolutionary, but the model we had was for the times we were in. We now need a different model for procurement and relationships with industry, and that involves some bureaucratic choices about career management, zig-zagging in and out of industry and universities, and making it okay for universities to study defence-related issues. All that requires almost a national approach.

Lord Houghton of Richmond: That was very helpful.

Q67 **The Chair:** When you want agility and innovation, that is necessarily a risky thing for small businesses. Do we allow enough incentives for businesses to take risks in the defence field, because we get the impression that there are these very large companies, and the Ministry of Defence has limits on profitability and things like that.

Air Chief Marshal the Lord Peach: There are many ways of addressing these questions. One is to make sure that the regulators are under control and are not allowed to regulate us out of innovation. I am not challenging the regulators, but they need to be part of the solution. Again, I have had experience in NATO and in the UK for many years, and the answer is to integrate by design.

I keep coming back to this idea that the Ukrainians have shown us the way, which is to test, deploy and employ. As Nick has said several times, we know what works, but then we have a habit of researching it again and again. The Ukrainians have shown the way: if it works, it works.

Nick Childs: Could I just pick up a couple of those points in your question? In terms of a step change in the relationship and the fact that the industrial base is absolutely a front now, a huge number of the issues that everyone is facing, from the United States downwards, involve the

atrophying of the industrial base. The challenge at the moment is to try to recalibrate and reinvigorate all that. Part of it will absolutely have to be a reframing of the way government approaches this, looking at regulations and where those regulation barriers and impediments to fast turnaround can be broken down.

One of the challenges is that those who are most charged with delivering innovation are not necessarily the custodians of the regulations that they are having to work with. A lot of that is an inter-government thing. So that needs to happen.

There is also a general refrain from industry and the SME world, which will be the deliverers of much of this change, that Governments do not engage early enough. Knowing what is out there, how it would work and how it would answer a problem is part of that, but it will be a tough challenge, because there is a long-term trust issue that has to be overcome. There is a sense that multiple initiatives to try to reinvigorate procurements have foundered in large part because, apart from anything else, the resources implied in the strategy are never delivered in the end. Overcoming that reticence, that suspicion, will be key to having industry engage, deliver and invest to produce increased sustainment and the increased resilience of the industrial base itself.

An absolutely key part of that, and a key part of delivering cost-effective defence—spending wisely what you are given—is becoming an echo chamber refrain around the world: the need for continuous procurement to sustain the industrial base at the level required beyond what we have taken to be key, for the past couple of decades at least of peacetime. Just enough, just in time, does not fit the world we are living in at the moment.

Q68 **Lord Robertson of Port Ellen:** I should have said earlier that I have an interest as a senior counsellor in the Cohen Group in Washington.

In connection with procurement, can either of you explain why Russia can produce an artillery shell for about $600 and in the West we produce an artillery shell costing $6,000?

Air Chief Marshal the Lord Peach: They probably have not changed that shell for a very long time, so they have the ability to churn out the same thing. We tend to change a little. You can have 10 nations with 155 millimetre, but does that mean that each NATO shell can fire in each other's weapons? I suggest that it would be worth testing. There is partly a culture of modification that can drive the cost, but as to where those costs lie, it is not the first time I have heard this being quoted. There is a whole stack of reasons industry could give about why their supply chains are so expensive, such as short production runs because they are so uncertain, and all the other answers they would probably provide. However, the fact that Russia has sustained its volume of weapon production throughout and we did not is also interesting.

Getting back to weapon production volumes is, I suspect, the other part of the answer on cost: the lines just were not active and the engineers or the operators were not there.

Q69 **Lord Soames of Fletching:** During Afghanistan-Iraq, the urgent operational requirements system worked pretty well, but you made the point, quite rightly, that there is always a way through the bureaucracy if you are willing to take a sledgehammer to it and get through it. Why do we not apply more of the lessons of the UOR to everyday procurement and expect industry to do so as well?

Air Chief Marshal the Lord Peach: To be fair to Defence Equipment and Support, it does that. It is trying to do it right now and trying to change the culture within. Industry should be able to meet it half way, but of course those equipments were procured for a very particular threat. We are talking today about deeper-water, longer-range, missile-on-missile type capabilities.

In answer Lord Houghton's and Lord Robertson's questions, whatever happens here, whichever review follows, we need to look much more carefully at defence at the start of the review and explain to the people that defence is an enduring requirement and it is not just about expeditionary operations anymore. We need to think about air defence, we need to think about missile-on-missiles, we need to think about UAVs at scale, and so on. We need to look at the way we organise not just the single services, which we look at constantly, but the way we organise nationally with regulars and reserves and how we partner with industry. Rather than just using the word partner with a small P, we need to look at how we actually structure in and out of industry to be part of a common enterprise.

Q70 **Baroness Coussins:** Mr Childs, you referred to the fact that government needs to engage much earlier with SMEs. Lord Peach, you talked about career management and the need for people to zig-zag between business and the defence forces. That seems such an obvious move to make. What are the obstacles to it happening? Where is the resistance coming from to provide momentum to that career management that would actually benefit both sides?

Air Chief Marshal the Lord Peach: Resistance is perhaps the wrong word. It is about having the imagination to work around existing perceptions. Take the nuclear enterprises as an example. We need more schools teaching physics. We need more universities teaching nuclear science. We need more people joining the Armed Forces and, once they are experienced in the Armed Forces, going back to schools and universities, or into industry, to advise from there. The regulators, rather than being specialist breeds, need to draw from those that do as well as those that teach, and have a whole cycle that could be a lifetime career with more and more specialisation and reward in a cadre that is a national cadre rather than just for a defence purpose. It is a slightly bigger conversation.

Baroness Morris of Bolton: Does that happen in any other countries?

Air Chief Marshal the Lord Peach: Yes, several of our allies.

Nick Childs: There are two long-standing challenges, one of which is understanding that we are in a different world. People in the general population probably do not think about engaging in defence, even via an industrial career that would have a defence connection, but there is also a sense that everyone is facing a challenge now, everything is changing. The civilian and commercial sectors are facing challenges of recruitment and retention and the development of skilled workforces. So making the most of the changed global circumstances that people are becoming increasingly aware of is one thing

In terms of strategic communications for defence, part of it is about having a positive message about what defence can deliver, what purpose it can provide and what opportunities it can give over a zig-zag career, which everyone is beginning to accept will be part of the pattern going forward. Defence has a different and purposeful role to play. So changing the message for defence generally is key.

Going back to the question of the industrial base and your point about the cost of Howitzer shells, one of the challenges and concerns going forward is the sense that there is a technology answer to delivering in the future and filling the gaps that need to be filled—creating the mass that we need of the type that we will need. However, there is a terrible danger that we will not get the balance right between the level of capability you demand and what it will cost, and therefore the delivery in mass of innovative technologies. There is a great danger that these uncrewed systems will be iterated in terms of capability to the point where they are almost as expensive as the crewed systems, or maybe even more expensive. That capability and cost-management challenge has to be gripped, and I am not sure there is a real understanding of that yet, in defence and possibly not in industry either.

Q71 **Lord Bruce of Bennachie:** First, thank you very much for everything you have provided, which has given us a focus. You said that we have to deliver more mass and improve electronic warfare, interoperability, training, civil capacity in small businesses and co-operation with friends. Those are all big issues. So what is the number one recommendation that you would make, or want this committee to make, for each of your sectors that would make the difference, or have we missed something?

Before you answer that, looking at the implications of the Ukraine war on our defence capacity, what would the difference in our response be if we lost the war compared with winning it?

Air Chief Marshal the Lord Peach: We will do everything in our power and beyond to help Ukraine win, and that is the Alliance's priority, noting that we are about to go into the 75th anniversary summit of NATO. In a world where Ukraine is not successful, we would be at significant risk and threat, and we would not be alone.

In terms of how to pull this together, as you say in your capping question, it is about understanding that this is not just an expedition. This is the new way, so we need to respond to the world we are in and not keep thinking that it will somehow snap back to the way it was.

Baroness Crawley: Is that not how a lot of business is thinking: "We will have to just wait and see. It might snap back"?

Air Chief Marshal the Lord Peach: That is perhaps where we need a collective effort to understand the threats and challenges that we face and the linkages between them and to make the case in simple language to the people.

Nick Childs: I suppose my key takeaway would be to underscore that Ukraine has highlighted that it is more than just a land and air war. There is a maritime component to all this, and it has underscored a sense—through what has happened in the Red Sea but also the ripple effects beyond, including issues like food security and so on—that everything is connected.

A key thing to remember is that in order to deliver areas that are now very much the focus of resilient sustainment, looking to ways in which the UK can most contribute in a maritime context—from the Euro-Atlantic space, dare I say it, out to the Indo-Pacific—is key, because Ukraine has underscored the way that everything is connected.

In terms of the differential of win or lose, the lose question would represent a key alarm bell about the scale of the global challenge potentially faced. Particularly in the IISS, one is aware that everyone is looking at what is happening in Ukraine, from our neighbourhood out to the Indo-Pacific, so the potential ramifications of change on a global basis are very significant. That is the key concern, and it really does open the aperture of what this means for global stability and the potential for where the next hotspot might occur.

The Chair: Thank you both very much. It has really helped and will help in our report, and we are very grateful for your time. I am sorry it took a bit longer but, as I have said before, we will send you a transcript. We are delighted you came. Thank you.