House of Commons

Defence Committee

Oral evidence: Armed Forces Readiness, HC 1317

Tuesday 6 June 2023

Ordered by the House of Commons to be published on 6 June 2023.

Watch the meeting

Members present: Mr Tobias Ellwood (Chair); Sarah Atherton; Robert Courts; Dave Doogan; Richard Drax; Mr Mark Francois; Emma Lewell-Buck; Gavin Robinson; Derek Twigg.

Questions 1 – 71

Witnesses

I: Dr Simon Anglim, Teaching Fellow, King's College London; Professor Justin Bronk, Senior Research Fellow, RUSI; Nick Childs, Senior Fellow for Naval Forces and Maritime Security, International Institute for Strategic Studies.

HOUSE OF COMMONS

Examination of witnesses

Witnesses: Dr Simon Anglim, Professor Justin Bronk and Nick Childs.

Chair: Welcome to this Defence Select Committee hearing on Tuesday 6 June, where we will be focusing on armed forces readiness. This is the first of a series of three sessions where we will be looking at the armed forces, whether they are sufficiently capable, and whether they are resourced and ready to protect the United Kingdom and our allies. We will be looking at the main gaps in capability and our readiness, and what we need to do to fill them, and asking the wider question as to whether our armed forces are still a tier one fighting force. Simply put, it is about whether we are ready to fight tonight or, indeed, respond to a sovereign or international tripwire.

To help us navigate through these questions, I am delighted to welcome Dr Simon Anglim, teaching fellow at King's College London; Professor Justin Bronk—welcome back—senior research fellow at RUSI; and Nick Childs, senior fellow for naval forces and maritime security at the International Institute for Strategic Studies. Sirs, welcome this morning. I appreciate you giving us your time to work through these issues.

Q1 **Gavin Robinson:** Good morning, gentlemen. What are the best key components of readiness for our UK armed forces and how best do we assess or measure readiness?

Dr Anglim: I have to start with a caveat. I am part of the peer review process for the new defence Command Paper, the refresh of the Command Paper based on the situation in Ukraine. This is covered by a non-disclosure agreement. Moreover, the process actually involves some highly esteemed personal friends and colleagues of mine. I do not really want to be seen as letting them down on a personal level. It is unlikely, but there may be some stuff that I have to back gently away from during the course of the morning. However, this is not one of those questions.

Military readiness means that your forces have the numbers, the equipment and the training to fight and win against serious military opposition, either on their own or alongside certain key allies, and they can do this when required. It can be contextual. You can be more ready for some scenarios than others, but there are key components of this you really need to be thinking about all the time.

You need sufficient numbers of people, of armoured vehicles and so on to generate sufficient mass at any one time. This is tied very closely to things such as acquisition, recruitment, doctrine and training. Those assets need to be deployable. In other words, those people need to have done sufficient training to make them into competent soldiers and operators of the equipment you have given them.

On another level, you need the systems. You need the systems and infrastructure in place to get them to where you need them to be when

you need them to be there, and to maintain and supply them once they are there. It is a very helpful mental tool to think of modern armed forces as systems in which the fighting units are the cutting edge, and the role of the system is to maximise their contribution by putting them where they can have maximum strategic effect. There is no system of systems. There is just the system and its components.

I am led to believe that we might be touching on deterrence later on. At this early stage, I would say that there is a symbiotic relationship between readiness and deterrence. Deterrence is all about showing somebody that, if they do something, they are going to incur cost that they cannot afford. If you are dealing with authoritarian regimes, such as some we could all name, a major cost will be a military defeat that is so major and obvious that the regime cannot spin it, so the foundations of that regime start to crumble.

Good examples would be Argentina after the Falklands War and the Soviet Union after Afghanistan. If we can show this sort of system that we are ready to impose that sort of cost on them and we show them that in advance, our deterrent posture is then a hell of a lot stronger than it might be otherwise. That is my take on the question.

Professor Bronk: In the air domain, the concept of readiness is probably a little bit more flexible than in the other domains, partly because aircraft, if they can fly—so, if they are serviceable—can theoretically be moved quite long distances at very short notice. You just take off and land somewhere else. In the air domain, the key part of the question is "ready for what?"

To take the RAF, if, for example, you were to ask whether the RAF is currently capable of responding at high readiness—so at very short notice—to requirements to deploy forces for presence, signalling or, essentially, non-contested operations, the answer would probably be yes. It is highly ready and, indeed, the evidence is all around us. It does this all the time; it is on however many concurrent ops right now.

However, if the question is what its readiness is, i.e. how long it would take for it to be ready to go for high-intensity warfighting against a peer, the answer would be rather more negative. The key component there is not just the aircraft but, crucially, how ready the system is as a whole to spin into action at that scale. How current are the air crew, the air traffic controllers, the air battle managers, the mission commanders—all that stuff? How practised and current are they in the skills required to do those tasks properly?

In that sense, readiness for warfighting is not quite diametrically opposed, but close to opposed, to the readiness and degree to which you use the force for lots of small presence and signalling operations. The activity that you do in that space is taking away from the regular training activity that would allow you to maintain a high rate of warfighting readiness.

If you look at the forces in Europe that prioritise warfighting readiness the most, which at the moment would probably be Finland and Sweden, as well as Poland to a degree, in terms of air forces, they do very little other than train for their warfighting roles. Compared to a force such as the RAF or the Armée de l'Air, they would spend much less time doing expeditionary operations or sending detachments overseas. That is because they are spending their time training for that warfighting role. That means that, if you told them, "You are fighting the Russians tomorrow", a much higher proportion of their force would be trained and ready to perform those much more complex, much higher-demand mission sets.

Nick Childs: Picking up from a naval perspective, to reinforce the broad themes of my two colleagues, one issue is that readiness has been redefined and reassessed as the focus of concern has shifted. The components, in the naval sense, are along broadly similar lines, which are to do with availability, particularly of platforms, the combat preparedness of those platforms and their sustainability. Arguably, only when all three of those are at their top level are you delivering true readiness in the sense of being able to fulfil prescribed missions at the highest end when required.

How do you measure those? Basically, from a naval perspective, you would be talking about manpower or crewing, equipment, training and sustainability. In terms of turning those into areas to focus on, on the availability front you would be talking about the speed of being able to put to sea, at least safely, and the number of days that you can sustain at sea. Then you come to the combat preparedness. Here, echoing others, this is where things are changing dramatically and proving most challenging.

In the more benign environments in the past, you would be talking about basic maritime skills with limited equipment capabilities in order to deliver a presence at a relatively low level of maritime security demand. Now you are talking about much more complex requirements for high-intensity warfare. At the same time, particularly in a naval context, there is a concern that, when you are out at sea, you are also engaged in a continuum or a dynamic of competition, so you have to have all those skillsets available. Work is being done on that, but delivering it remains a challenge.

Finally, there is the sustainability question, where one is talking about things such as stocks of ammunition, stocks of spares and personnel. Crucially, to deliver at the highest end in a credible way, it needs to be delivered across the force, rather than the approach there has been in the past of donoring and cannibalising from some elements of the force in order to be able to deliver some elements of presence and capability at a certain level going forward. It is a much more whole-of-force requirement in order, particularly, to sustain at the highest level.

Q2 **Gavin Robinson:** Thank you, all three. That is a good opener, and it deals with the conceptual aspects and assumptions. We know that in 2015, defence planning assumptions were classified. From that perspective, how easy is it to move beyond what we imagine should be the case, and we might like to see is the case, to carry out an effective and productive assessment of defence readiness?

Dr Anglim: Assumptions and judgments you make about the world, yourself and the enemy, as it were, are a very important part of any strategy. Some of these things can be so culturally ingrained that we are not even aware that we are assuming or judging.

As for the classification, I cannot work out why they did it. I am completely mystified as to why they did it. Some of these assumptions are out there in the public domain, if you look at other documents. For instance, look at the integrated review and the original Command Paper. There are clear assumptions and judgments that you can see there; for example, there are certain states out there that do not wish us well and Russia is the most immediate of these. We are going to be operating alongside certain key allies, the most important of which is the United States. It is there if you look for it.

You can infer what a lot of these assumptions are from looking at these documents as well. For example, there appears to be an assumption that the UK is not going to be involved in an article 5 scenario any time soon. That seems to be underpinning certainly quite a bit of acquisition for the Army. That stems from an even bigger, quite invidious assumption, which is that right now, we are in a situation where, for us, all wars are optional. We can not only pick and choose the wars we fight, but the types of wars we fight.

These assumptions and judgments can be inferred, so I do not know why they went to the length of actually classifying them. As I say, it is not helpful from all sorts of optics.

Q3 **Gavin Robinson:** In terms of the ability to accurately assess, is there information being held back as part of that classification that goes beyond the assumptions you are talking about and other documents that would materially affect your understanding of readiness?

Dr Anglim: I do not know.

Professor Bronk: Numbers such as force elements at readiness—for example, in the air domain, how many jets with how many crews are ready to go for, nominally, warfighting at short notice or for deployment—are classified and, to be honest, rightly so. They are an immediate measure of what an opponent might have to face.

Indeed, in that particular case, one of the key threats from the Russian Federation, should things ever spiral in Ukraine, let alone in three to five years' time in a different context, would be long-range precision attack with bombers launching lots of cruise missiles from the Arctic. The RAF,

alongside a Type 45, if it was in the right place and had missiles—two very big assumptions—would have to respond very quickly to try to shoot down as many of those as possible before they made landfall. Therefore, classifying those numbers on a day-to-day basis is really important.

You can assess, for example, by looking at the number of aircraft available and the number of squadrons we maintain, which are matters of public record. Indeed, you can certainly look at, say, the number of aircraft in the non-frontline squadrons, such as 29 Squadron, which is the OCU for the Typhoon force, which has far more aircraft that a typical front line. Just by going through those numbers alone, you can get a rough idea of the maximum number of aircraft any squadron would have and then look at the number of concurrent operations.

Average that across the force. You are doing Operation Shader in Cyprus. You are usually doing a Baltic air policing or another rotation air policing. You have aircraft in the Falklands, four of them. You will generally have aircraft and pilots preparing for Red Flag or Red Flag-Alaska. Most of the year there will be some preparations for that, so aircraft will be out of the line for what is, essentially, supplementary maintenance. They will be having 50 or 120-hour checks, so that they can then go to those two or three-week exercises without having to worry about running out of hours before their next inspection. That means that they are out of the line for a couple of weeks before they go and then they are going.

Then you can add in any other things that you are doing, tours in the Indian subcontinent or the deployment to Australia, or wherever, for defence, diplomacy and industrial show. You very quickly end up with a very small number of aeroplanes that each squadron can have, just mathematically, ready to train or use for unplanned contingencies, but, more to the point, just daily training, going back to that readiness point day to day.

For example, if a pilot goes and does an eastern European reassurance patrol—so they take off from the UK, fly maybe two and a half hours, spend two hours on patrol and fly two and a half hours back—that is nearly the average of maybe 10 or 12 hours that a pilot might get per month, in one flight, but that flight has no training value of any sort, except perhaps tanking. You are just transiting and then sitting on a CAP. Again, you do not have to be able to drill into the deep numbers to be able to understand where the drivers of very limited warfighting readiness are, at least in the air.

Nick Childs: I am slightly conflicted, in a sense, looking at this. Just because of the fact that we are in a more dangerous world and are having to deal with a more urgent set of requirements, I can understand why, to some extent, you might want to claw back the classification that we have been used to in the post-Cold War era precisely for operational reasons. On the other hand, there is this issue that, as the goalposts

have moved and, frankly, the levels of ambition have moved, there are growing questions, with limited resources, about how this all adds up.

I have just come back from the Shangri-La Dialogue in Singapore, which the institute runs. One question that the Secretary of State, Ben Wallace, was asked was, "How are you balancing this issue of the priority of the Euro-Atlantic theatre and the Indo-Pacific ambition?" Part of his response was that this is not necessarily a binary question. That is an interesting statement, but, for a lot of reasons, probably needs to be unpacked.

One of those is for oversight requirements, but there is also a deterrent and a reassurance issue. Those are the questions that allies are asking: "Does it add up in terms of the commitments, for example, to the Euro-Atlantic or to the Indo-Pacific?" Simon made the point about the level of commitment of the UK into an article 5 arrangement, for example, and at least an assessment and an assumption from documentation that the UK would not go there alone; it would go there with allies.

The allies, from the United States downwards, are also being challenged with these same requirements to balance and add up. There is an assumption, for example, in the Euro-Atlantic that if a China contingency arrived, a lot of US assets would depart. It is a reassurance and a deterrence issue as well.

Q4 **Richard Drax:** Mr Childs, picking up on your readiness point, can I paraphrase you as saying that it is quite hard to define? Now that the threat is bigger, as clearly it is, with Russia and China, for example, if the balloon went up tonight and the Royal Navy, which you selected, was asked to put to sea, I wonder how many fully bombed, fully crewed ships would actually leave port—I suspect not many of the 19.

Would it be better or more appropriate to define that readiness and make it much tougher by saying, "Out of the 19, we must have 10 fully functional, fully armed, fully equipped and ready to go, 24 hours a day"? Do we just wait for the balloon to go up and say, "Who is available? Oh dear, we only have five"? How do you define readiness?

Nick Childs: That is one of the elastic issues that there has been in the past: readiness, as my colleagues have said, to do what? As far as the high end is concerned, as we know, it is not 19 at the moment; it is 17 and possibly going to go down a bit more. This may need to be in the classified space, but one issue is that you would be operating in a different way. You would be operating, for example, not as single ships but more as a task group deployment.

A key issue is what you want to deliver into a high-end scenario. If it is a carrier task group, either in the Euro-Atlantic or in the Indo-Pacific, what does that mean you need to have available on a constant basis or a very high-end basis? That is not just the capital ships and the escorts; it is also the afloat support. It may well be that, for certain scenarios, you are

talking about a niche capability. The critical thing is what the niche capability you want to deliver is. It could be submarines, for example.

Chair: That was very comprehensive.

Q5 **Mr Francois:** Gentlemen, if you were cynics, you would say that the reason for classifying the defence planning assumptions is in order to make it much more difficult for people such as us and the Public Accounts Committee to assess how ready our armed forces are to fight a war. If those assumptions are private, it is much more difficult to hold them to account, is it not?

Let me see whether I can ask each of you a direct question. Jens Stoltenberg, the widely respected Secretary-General of NATO, said in an interview a few months ago that it was not inconceivable that the Ukraine war could spread and that NATO could become involved. We now have to regard that as a realistic possibility against which our armed forces would have to plan.

Let us not talk in euphemisms. Let us not talk about peer adversaries. Let us talk about Russia. If Russia were to attack the United Kingdom tonight, are our armed forces ready at short notice to fight a major war? That is the bottom line question, is it not?

Dr Anglim: Yes. I talk about Russia quite a bit. This will be a long answer, Chair. Apologies for this. A core assumption, as I said, lying behind the original Command Paper—as I say, it is not actually stated, but it can be inferred—is that we are not going to be facing an article 5 scenario any time soon. It does not look as if the situation in Ukraine is changing that in any way.

If the United Kingdom was attacked tonight, it would be a case of our armed forces that are committed to NATO that would respond. Right now, the British Army says that it can put a single heavy division into the field, and it is a rather under-strength division. It has two brigades instead of the requisite three. Consider for a moment the Polish army. That has four divisions and four independent regiments. The Turkish army has five divisions and over 20 independent brigades. It has deployed divisional-sized forces in relatively limited operations in Syria.

The UK looks upon a single division as a major commitment. We have just one brigade deployed in the Baltic right now and it is going to take days, if not weeks, to bring that up to divisional strength. Bear in mind that if the Russians cross the border into the Baltic, that second brigade is going to be under attack all the way from the UK into the Baltic area. Our lines of communication are certainly going to be hit, and hit very hard.

Q6 **Mr Francois:** It is not a brigade. It is a brigade minus.

Dr Anglim: It is, yes. It is, in theory, a brigade, but de facto somewhat less than a brigade.

Q7 **Mr Francois:** In war, "in theory" does not help you much.

Dr Anglim: It does not. All the documents identify Russia as the major direct threat to the UK right now. Russia is a major land power. It needs to be deterred on land. If the worst comes to the worst, it needs to be defeated on land. It has failed in its objectives right now because the Ukrainians at the moment are proving rather better in land fighting than it is, but this has been at an extremely heavy cost.

Q8 **Mr Francois:** I am very sorry to cut across you, but the nature of the beast of these hearings is that we have only limited time. I think that your key point, if I may, was that it is not a defence planning assumption that we would have to fight an article 5 war. We spend nearly £50 billion a year on defence now—the thick end of 50 billion quid. You are telling the Committee that it is not a central planning assumption that we would have to fight a major war.

Dr Anglim: It seems to be a central planning assumption that we will not have to fight a major war now. If you look at the run-in times for equipment, they will be arriving at some point during this decade.

Q9 **Mr Francois:** We are not ready to fight one now.

Dr Anglim: We are not ready to fight one now, no.

Q10 **Mr Francois:** Professor Bronk, where are we on the RAF?

Professor Bronk: Funnily enough, we would be in slightly better shape if Russia were to choose to attack the UK right now than you might think, because Russia is pretty much totally committed in Ukraine and has no spare capacity. It has also run down its missile stocks very significantly. It can produce about 40 a month for long-range missiles.

In that sense, if you asked the question, "Russia attacks us conventionally tonight"—madness, but if it did so—we would probably be all right, especially because the Americans would then come steamrolling in. My concern is much more that, in three years' time, with Ukraine frozen somewhere, Russia will continue its mobilisation and its war economy on current to build back up to a much larger, if not better equipped, point than it was before Ukraine. If nothing else, it will feel very vulnerable. Then something goes down in the Indo-Pacific and the Americans cannot come and help us.

That is what I am really concerned about, and that is what the planning assumption perhaps ought to be. That would be your non-discretionary article 5 problem. The most likely time Russia might choose to do something to re-establish conventional deterrence, break article 5 and so on, is when the Americans are involved and over their heads in the Indo-Pacific. That is my concern.

In terms of lead times, you would have to be making those procurement decisions for, particularly, munitions, spares and new engineers to enable flying, training and joint training at a much greater level now. To

reinforce Simon's point, if the planning assumption was that we might have to fight a European defensive war under NATO in three to five years' time, I do not think you would see the investment and planning decisions being made that you see today.

Q11 **Mr Francois:** I will just push back quickly. If you look at the armed forces continuous attitude survey that came out yesterday, the RAF is not in good shape. There are no airborne early warning aircraft in service, and there are very limited numbers of munitions and very limited numbers of pilots relative to the number of combat aircraft. That suggests that we could put up a good fight for a few weeks, but we would be quite pressed to maintain that for a sustained period over several months or longer. Is that about right?

Professor Bronk: That is fair. The big thing on munitions is also that they are not the right kind of munitions. We have a reasonable number of munitions for permissive or semi-permissive environments—for, essentially, very precisely blowing up technicals, killing snipers on rooftops and things.

If you talk about the munitions we would need to fight our way in to establish air superiority over an area contested by Russia, we have far fewer of those. Those are expensive munitions. We would have to make prioritisation decisions away from current activities to resource buying those on a large scale, or spend far more on air.

On the Russian point, yes, we would have to beat them on the ground, but, ultimately, our armies will never be resourced or the size required to beat them land for land. Our strategy is predicated, as is the entire western military instrument, on air superiority. Put bluntly, we have a Russia problem if we cannot establish air superiority over where we have to fight. If we can, we do not have a Russia problem in conventional terms. Fixing air superiority, in terms of the suppression and destruction of enemy air defences at scale requirement, would seem to be the priority, at least from where I sit.

Q12 **Mr Francois:** Mr Childs, could the Royal Navy fight tonight?

Nick Childs: In terms of fighting tonight, the Royal Navy could deliver some key capabilities at pretty short notice, for example in the anti-submarine space, with submarines, with escorts, with frigates and in conjunction with the RAF maritime patrol aircraft capability. It would be in very small numbers, but they are key capabilities that could contribute for a period of time.

In terms of something more ambitious, such as the carrier strike capability, that remains a work in progress. There are sufficient numbers of gaps still in that capability, in terms of putting the whole package together, to make it a potentially uncertain capability that you could put in place now.

Q13 **Mr Francois:** You said "work in progress". One of the carriers is out of

action.

Nick Childs: Yes, one of the carriers is out of action. That is a virtue of having two. The other one is the carrier at high readiness, but there are questions over aircraft that you could put there, the airborne early warning capability aboard, the actual weapons capability and integration of stand-off weapons that would make a difference in terms of being able to take the fight to the enemy.

Mr Francois: If I am Vladimir Putin, you are not frightening me.

Chair: Article 5 is an interesting development also. The takeaway from this discussion is that we are not expecting article 5 to be triggered. If we did, we would be heavily reliant on the United States.

Q14 **Mrs Lewell-Buck:** As you will all know, our readiness has not been publicly available since around 2013. A previous version of this Committee, in 2010, I think found that the readiness of our armed forces had dropped as more than half of the force elements had serious or critical weaknesses. I wanted to revisit, Dr Anglim, the comment you made at the start of the session, where you said that in relation to deterrence, it is all about showing someone that there are going to be costs. How do you show someone that there will be costs if our readiness is not available publicly?

Dr Anglim: You do not, or the message is diluted.

Professor Bronk: The other point I would stress on deterrence is this. If you are going to rely on concepts such as multi-domain operations or very clever ways of sequencing capabilities together, in theory at least, you had better hope that your opponents understand them. You might have a wonderful concept that allows you to theoretically generate a significantly greater combat force than the individual elements together might suggest, but deterrence happens in the mind of your adversary and on their timeframe. If they do not understand your concepts, they are not going to be deterred by the theoretical force.

Q15 **Mrs Lewell-Buck:** We are not deterring our enemies at the moment, then.

Professor Bronk: So far, we have deterred the Russians. They are obviously and quite openly careful to try to avoid a direct clash with NATO forces. Again, the backbone of that capability, from C2, through munitions, through enablers, is the United States.

Q16 **Mrs Lewell-Buck:** Can I ask the panel whether anyone thinks that our readiness should be publicly available?

Dr Anglim: Yes.

Professor Bronk: At the granular end, no, I do not think so. I think that it would be a gift.

Nick Childs: The way to make it publicly available is to demonstrate it. That is the key—actually being able to demonstrate the capability in terms of presence, complex operations and the ability to do that on a sustained basis. It is continuous strategic messaging, which is a deliverable that can be shown. We are getting movement on that, but there is still a long way to go.

Mrs Lewell-Buck: Those were good, succinct answers. Thank you.

Q17 **Sarah Atherton:** Can I get your opinions on the way the MoD measures readiness? Do you think that that whole process is correct? Simon, you mentioned that it is not factored in that we could conduct a major combat operation under NATO article 5, and yet that is one of the NSOs' defence framework specifications. Is there something going wrong here? Is the measurement wrong? Do you have any opinions on that?

Professor Bronk: The incentives are wrong. Certainly in the Air Force and to a degree in the Army—I have less exposure to the Navy, so I cannot really speak to that—you have a generation of senior leaders who have only ever experienced, in command positions at least, managing decline. They have only ever experienced continual reductions in capability. What you have as an incentive structure, or at least a perceived incentive structure, was essentially summed up by one of them at an event by saying, "If we are not busy, we will be cut".

Essentially, by accident or design, you have ended up with a series of armed forces leaders at multiple levels who believe that their forces must be perceived to be doing things all over the place all the time. Otherwise, not only will they not get additional investment to plug gaps or increase capability, but they will risk being cut. That drives a catastrophic impact over time on warfighting readiness.

Going all over the place, doing lots of little things, means you cannot generate the capacity to train to those large-scale skills and train for warfighting at scale. For example, the basic unit of fighting power for any air force is a four-ship, because most of the tactics in the air require four aircraft working together. Then you would layer those up together in various ways.

If your squadrons cannot run four-ships on a regular basis, ideally multiple times a day, to do their day-to-day training at a high level when they fly live, automatically that would indicate that those skills cannot be practised live, at least on any regular basis. How would you get to that point? You have multiple detachments of a couple of aircraft all over the place and you have small squadrons, because you want to have lots of nominal squadron numbers so that you can manage the form cycle to have a consistently very high level of low-quantity output.

A lot of military leaders understand the trade-offs and the problems extremely well. Their perspective is that, if they say to the Government, "We cannot do this brilliant new idea you have come up with to

demonstrate commitment to alliances here or there", they will see their budgets cut and allocated to forces that say, "Here we have a force package that could do this, this and this".

Q18 **Chair:** To conclude this section on readiness, many on this Committee would say that our Navy, Army and Air Force are now all too small, given the threats that are coming over the horizon. Here, we are exploring whether the force elements at readiness—this rosy phrase that the military use to say, "What is available to be able to fight tonight?"—are also suboptimal.

The question that I think we are hinting at here is whether this should be public. There are mixed views from the panel, understandably. In the United States, though, Congress is able to assess what is going on. I do not know whether that is done in public or in private, but there is scrutiny about what is ready to go—force elements at readiness.

Could I put it to the panel that, in order to make an assessment, this Committee should, in a private session, be given access to the force elements at readiness of all three services, so we can privately scrutinise what is going on? My fear is that—you just summarised it there as well—if it is not being used, and there are these assumptions that we are not going to go to war and article 5 is not going to be triggered, it is okay to allow our forces to be depleted. There is nobody placing pressure on the Government to say, "We are not ready to fight", because we are excluded from it and these things are not public. Would you agree that this Committee should have access in private?

Dr Anglim: Yes, I fully endorse that.

Professor Bronk: In the air, I would suggest that you need to carefully clarify your question. What the US does, which is really clever, on assessing air readiness is to have a grading system for each and every squadron based on readiness to conduct their core warfighting mission. When, for example, they deploy to do a close air support and ISR deployment to the Middle East, let us say, that decreases their readiness on their core warfighting readiness criteria.

Congress gets a list of how ready all the different elements of the air force are, among many other bits of information, to actually conduct their peer warfighting task. One of Defence Secretary Mattis's initiatives, for example, was to say, "I want a much higher proportion of the force to be at two days' readiness to go and do their core warfighting task". One of the problems with that was that the Air Force said, "If you want that, we are going to have to massively reduce operational commitments around the world". That requires being at home and training properly at scale to do warfighting, which is not what you are going to the Middle East to do.

Q19 **Chair:** It is the principle of scrutiny that I am interested in, bearing in mind that if you sit in a tent just off Portsmouth, you can make your own assessment, your intelligence picture, as to what our surface fleet is actually up to.

Professor Bronk: Yes, indeed. It is just that if you get the numbers on force elements at readiness for the RAF, for example, that will give you an idea of fleet health, but will not give you an idea of warfighting readiness.

Chair: True, but go back to the Gulf War where we had 36 squadrons, and today we have only six. That itself gives you an indication of our ability to fight tonight. Let us now focus on the three separate services. We are going to turn to the Army first.

Q20 **Sarah Atherton:** Simon, you mentioned the assumptions and inferences made with the readiness planning process. You have already mentioned the inability to field a proper warfighting division; you have also mentioned munitions stocks. I am quite concerned about our reserves. They make up 30% of the fighting force and yet they are unable to mobilise within NATO timelines. These are some of the considerations that I am assuming the MoD makes when it measures and calculates the readiness of the British Army. Is there enough weighting put on those assumptions within that calculation and what are the weaknesses in this process?

Dr Anglim: Do you mean upon the reserves?

Q21 **Sarah Atherton:** I mean in general around the British Army. I have a concern about the reserves. Is the MoD appropriately factoring the concerns that you have mentioned and I have mentioned into the readiness calculation?

Dr Anglim: I am not at all sure. I am afraid that that is the best answer I can give you.

Q22 **Sarah Atherton:** Are there any weaknesses that you see in the general process of calculating readiness when it applies to the British Army? When the MoD says, "This is the British Army and this is its readiness state", are you confident in that?

Dr Anglim: It depends on what you are getting ready for. In terms of dealing with, say, terrorism or sub-threshold threats, yes. Our Army and Royal Marines special forces are accounted among the best in the world. They are on rapid alert status. While, of course, this is highly classified, I am pretty sure that they make damn sure that their people have all the training and equipment that is necessary for them to be deployed within days of the order being given. Yes, I would say that they are certainly ready to go.

Our specialist expeditionary forces, such as 16 Air Assault Brigade and 3 Commando Brigade, can be deployed rapidly as well. We have seen it recently in Kabul and then in Khartoum. They did a very good job on the ground when they were there, despite many other factors being in place. When it comes to out-of-area and expeditionary stuff, yes, we have units that are on high readiness, on high alert and deployable very quickly.

When it comes to the NATO scenario, I am not at all sure, to be honest. As I have just mentioned, we cannot put a complete heavy division into the field in Europe. If we wanted to put a heavy division into the field in Europe right now, we would probably end up having to borrow a brigade from an understanding ally. We might have to borrow artillery and air defence assets from understanding allies as well. My money would be on the Danes—the best small army in NATO.

A lot of the heavy equipment for this heavy division is, if not obsolete, approaching obsolescence. It is good that we are upgrading Challenger. Challenger is now a rather elderly system. It is a good system, but it is an elderly system. It was rather mechanically temperamental in the first place, to judge from the testimony of people who have had to use it. A lot of the new equipment has quite long run-in times. Of course, we run into issues with things such as Ajax as well.

Mr Francois: One or two, yes.

Dr Anglim: We run into issues with acquisition as well. To follow on from the point that Mr Francois made, we could fight in a NATO scenario, but could we win? That is the question. Right now, we have a deployable division that is not. We have no way of replacing equipment if it is lost due to enemy action or mechanical breakdown.

By the way, I have it on very good authority that there are quite large numbers of armoured vehicles out of action per year due to breakdown. Those figures are probably classified, so I would not want to guess at what they are, but some systems have a bit of a reputation for being temperamental, as I have said. We have no way of replacing those systems, so we have a force that could be potentially wiped out in a day of the sort of fighting that we have seen in Ukraine. Yes, we are ready to fight, but are we ready to win, even as part of NATO?

Q23 **Sarah Atherton:** I was going to ask you a question about the defence Command Paper refresh, but I think I will go to Professor Justin Bronk on that. We are about to see the refresh imminently. I am not quite sure when. Are we likely to see, or are you expecting to see, anything of interest in there that will impact on British Army readiness?

Professor Bronk: There are some band-aids in the sense of, for example, buying a reasonably small number of Archer self-propelled howitzers from Sweden. It is a very good system; it is quite an expensive system. That is to address some of the obsolescence of fires issue created not just by having given our howitzers to the Ukrainians, but also by the fairly poor state of the howitzers to begin with. There are purchases of ammunition, for example, to replenish some of the stocks. That is all encouraging.

The basic problem with the DCP refresh is twofold. First, the IR and the IR refresh both lay out reasonably coherently, and quite well, the broad challenges and ambitions that the UK is faced with and has. The problem

is that there is almost no prioritisation laid out. If everything is a priority and an ambition, nothing is a priority. Either you have to spend 2.5% to 3% of GDP to have full spectrum forces that can concurrently provide a reference force as a backbone of European NATO, while also doing expeditionary things for signalling, diplomacy and all sorts around the world, or you have to ruthlessly prioritise.

For example, like last time I was with the Committee, there is often this phrase, "Hard choices need to be made". One of those was to retire C-130 early, a fleet that does fantastic work all over the world and is incredibly useful, along with retiring Puma early in the air.

That, naturally and rightly, produced an enormous amount of objection, controversy and all that, but that is a hard choice to retire a useful capability for low-intensity operations all over the place that we use every day in order to fund a small degree of modernisation and trying to up the high end. Essentially, you would have to do that on a much larger scale if you wanted to, within current funding, really configure the force for warfighting. I am not sure that the political debate has caught up with what the ask is to have forces truly capable of high-intensity combat.

If you specifically tasked the MoD and said, "Your primary role now is to provide a backbone of European deterrence against Russia, with credible warfighting capabilities in Europe in the next three to five years", you would see an enormous change in the way that it plans its force structure and its planning, but you would also find a lot of objections from people saying, "You are cutting this fleet. You are cutting this cap badge. You are cutting this operation, which is really valuable for this". You say, "Exactly, or you have to spend 2.5% to 3% of GDP on defence". Even then, you will have a lead time of five to 10 years to build that force. It is a big ask that is being put forward.

Q24 **Mr Francois:** Mr Childs, let us get into some of the meat of naval capability—carriers first. They are an extremely expensive capability at £3 billion-plus per warship. That is even before you have paid for the air group. At the moment, one of the two carriers is out of action. She has spent more time in port and maintenance, HMS Prince of Wales, than she has at sea since she was commissioned. The Navy does not have an airborne early warning system that works because Crowsnest is horrendously delayed. From a taxpayer point of view, is it not very disappointing that we have spent a king's ransom on these two carriers and now we have one that is unavailable?

Nick Childs: Absolutely, it is certainly not ideal. You are right: it is an extremely expensive capability. One would say that this is a strategic investment that is meant to last 50 years.

Q25 **Mr Francois:** Yes, but one of them has not lasted 50 weeks.

Nick Childs: One issue around this is that these are generational decisions. We built two aircraft carriers for the first time in a quarter of a

century. You could argue that these are teething troubles on the way to regenerating what will be a vital capability, but you are absolutely right. These issues need to be fixed in terms of the reliability of the carriers themselves.

There remain gaps in the overall capability. Crowsnest is one. Numbers of aircraft is another. You can evolve the carrier strike capability going forward with, for example, the incorporation of uncrewed systems, integrating weapons to provide a stand-off capability and providing the escorts as well. All those are significant outlays but they will deliver if you sustain the investment for that. That is one of the key concerns going forward.

They will deliver a very key capability, which, frankly, is in significant demand with our allies in the Euro-Atlantic theatre and potentially in the Indo-Pacific as well. It has to be a sustained level of investment and political commitment to deliver that capability.

Q26 **Mr Francois:** Let us move on to SSNs. Because the Astute class was so very badly delayed, we had to run on the Trafalgars at great expense. We now have, I think, four Astutes in service, a fifth in trials and one Trafalgar filling the gap, so we have five SSNs theoretically available to go to sea. The number that could actually go to sea at any one time is classified, but it is a very small number indeed. How are we supposed to meet our NATO commitments when we have such poor SSN availability?

Nick Childs: Fundamentally, I do not think that even seven is the right number. There are issues around delivering on the capabilities in the Euro-Atlantic area and the fact that, as a result of the AUKUS process, the UK has also now essentially made a commitment to forward deploy an SSN into the Indo-Pacific region for a significant period of time. That stretches the force more. That can be delivered more effectively with improved reliability of the platforms themselves, but also, frankly, with things such as manpower and crewing in order to provide a force of personnel that will enable you to improve the availability of the platforms you have.

It is an interesting point that, as part of the AUKUS process for the Australians, they have developed a stepladder of bringing in more capabilities before a new generation of SSNs come about. In order to improve the subsurface capabilities for the Royal Navy, more needs to be looked at on how you could potentially supplement the SSN force that you will have in the future with other capabilities as well.

Q27 **Mr Francois:** Do not misunderstand me. The Astute is arguably the most effective attack submarine in the world. That is why the Committee is frustrated that we do not have more of them available at any one time, just to be clear about our motivation.

Let us move on to surface escorts. For many years, the MoD and the Royal Navy had 19 surface escorts. It has been like that for years. We are

now, as you said earlier, down to 17, because we have retired two of the oldest Type 23s. We have six Type 45s, which are plagued by propulsion problems. On the CG-21 deployment, one of them broke down not once but twice. They are having to be taken off the line for the PIP—power improvement project. We support that, but that means they cannot be out at sea, by definition.

Then we have 11 Type 23s, which have given very loyal service but are old and tired. In simple terms, it costs you more and more to get them through their MOT, as it were. They are very expensive to maintain. If we had to fight tonight, of those 17 surface escorts, how many could put to sea? Even assuming you had the crews, all the supplies and all the weapons ready to go, which we do not, how many physically could leave port to fight?

Nick Childs: In terms of the precise numbers, that is a difficult one to calculate as of now. You are right; there are multiple issues: the limited number of platforms we have, the increased obsolescence of a lot of them and the challenges of bringing forward new platforms to help boost the numbers.

Availability has increased in spite of these issues. We have, for example, seen in recent times that four of the Type 45s have been at sea. A couple have been in operations and on exercises recently. A proportion of those are at sea now, and you would have to look into those that are alongside and what level of readiness they are at.

Q28 **Mr Francois:** Obviously some ships are at sea at any one time. We understand that. In a crisis, we would struggle to have escorts in double figures at sea, would we not? We would really struggle.

Nick Childs: Surging from the fleet now, it would be a moot point as to whether tonight you would have double figures.

Q29 **Mr Francois:** The Navy, as a top-level budget holder, has been persistently overspending for years. In simple terms, it has been having to rob Peter to pay Paul, particularly from the Army to subsidise the Navy. In return, we have appalling availability. How can that possibly be justified?

Nick Childs: The availability has been a challenge. I would not put the whole blame for that at the door of the Navy. This is a long-term problem that has been in the works for probably a couple of decades in terms of particularly the block obsolescence of the frigate force. You talk about robbing Peter to pay Paul. A large part of that has been because the priority for a significant part of that time was elsewhere, with the Army, for operations such as Iraq and Afghanistan.

There have been efforts to deliver improved capability of the forces and units that are there now, but that has involved, in part, robbing Peter to pay Paul within the fleet in terms of stores, key equipment to cannibalise and sometimes personnel. It will be a difficult problem to fix. It is not a

quick solution, partly because there has essentially been a block holiday in terms of ordering new capabilities. Up to a point, you can deliver increased availability.

Mr Francois: No, we ordered the Type 26 frigate years ago. That is meant to replace the 23s. It has taken 11 years to bring HMS Glasgow into service. It is not that we did not order the ships. It is that the shipyards could not deliver them.

Q30 **Dave Doogan:** Just to quantify Mr Francois's points a little further, in 2022 the entire Type 45 fleet spent 363 days at sea, which, divided by six ships, gives 60 days per ship at sea per year, which is 16% of the year. As Mr Francois and I both appreciate, you do not have your ships at sea 365 days a year. Obviously that is not the goal. Nevertheless, on Type 23 the entire fleet spent 955 days at sea. Divided by 13 ships, that is 73 days, which is 20% of the year. These are pretty disastrous levels of availability for very expensive capital equipment. Is that a fair assessment?

Nick Childs: It underscores the challenges, particularly in terms of a new platform that was, frankly, full of new equipment, some of which has been challenging to deliver on a reliable basis, plus a set of increasingly obsolescent forces in the Type 23 fleet. You would have to start drilling into where the priorities have been, and where the capabilities have been most required, as to what that has delivered in terms of an operational capability.

For example, much has been made of the high availability of the key frontline frigate forward deployed into the Gulf. That has been delivered on a much higher level of capability, because significant investment has been prioritised for that, from support to spares to a different crewing system. That implies the requirement to add sufficient extra capability into that. In the long run, fundamentally the key will be delivering the new platforms and the new capabilities on time, absolutely.

Q31 **Dave Doogan:** The difficulty with committees like these is we always have a tendency to focus on the challenges and the problems. That is in some respects what we are here to do. That is necessarily focusing on propulsion issues on Type 45, keeping 23 in service for so long, why it is taking so long to allow industry to run 31 and 26 into service, and challenges with the Prince of Wales. Is there a really good example that the Navy might be able to give committees like this about something it has got right, something it has done really well, about bringing in a capability?

Nick Childs: You could argue that there has been a significant difference between the experience of the Type 26, which arguably you could say has been down to a whole range of issues, including trying to deliver a perfect frigate and all the challenges that has produced, and the Type 31. There is a significant difference in the timelines and statistics on that. The key in terms of the future is whether that can be sustained. We have an order

in for five Type 31s. Somebody was asking earlier about what the keys for the defence Command Paper are going forward. One of those keys from a naval perspective is whether the ambition out there to grow the fleet, which has been declared, will be maintained given all the stresses, strains and requirements for other priorities.

Q32 **Dave Doogan:** Just to be clear then, the examples of sound procurement priorities and discipline would be, "Let us wait and see what happens with 31 and 26".

Nick Childs: I know there are disputes now around the framework of the programme for delivering the Type 31, but at the moment it looks as if it will deliver at a fairly high pace. The key is that the programme for five is not going to regrow the fleet. Only regrowing the fleet and modernising that will in the long term give you all those elements of readiness that you need in order to up your availability.

Q33 **Mr Francois:** With the Type 31, it has already bust the budget. The MoD is now in a formal dispute with Babcock about the cost of the ships. Even that one is going wrong. Can the Navy not keep to budget on anything?

Nick Childs: It may not be an ideal situation.

Mr Francois: It sure is not.

Nick Childs: But it is making progress going forward. You are right; these question marks need to be addressed in order to deliver in the long term. For example, as you say, the programme is under pressure just in terms of the original contract, but we also have had the First Sea Lord apparently suggest that the Royal Navy intends to fit MK 41 launchers to the Type 31 programme, which objectively is potentially a good thing and something that I think the Committee would support, but there remain question marks about what the trade-offs of that will be.

Q34 **Mr Francois:** In fairness to the First Sea Lord, including on the maintenance of what are now the King's ships, he is very heavily dependent on contractors. Very often, to be fair to the naval service itself, it is the contractors that perennially let them down, is it not?

Nick Childs: Absolutely.

Q35 **Mr Francois:** This is what naval officers tell us in private again and again.

Nick Childs: Whether or not it is a result of the shift towards contractualisation in and of itself, there is an issue around the fact that the entire industrial base has atrophied, which has meant that the premium for any changes to requirements, in particular increasing demand for availability and readiness, immediately puts a strain on the whole system. Contractual limitations are clearly a part of that. The problem is that the construct at the moment is one in which issues of ownership are blurred between where the fault lies on certain issues around MoD customer, DE&S as the interface, and the contractors, in

terms of whether they were realistically able to deliver what they promised on things such as refits.

The challenge is needing to change the mindset in terms of what that relationship should be going forward to provide a reliable partnership. Only by having a reliable partnership, including the industrial base, will we be able to deliver the sustained capability in the long term. Part of that mindset is one of the key lessons around the whole of the Ukraine conflict, which that is the "just in time" and "just enough" commercial efficiency criteria, which have often been applied, are not going to work for high intensity.

Mr Francois: To save time, we have a parallel inquiry looking specifically at what is wrong with procurement. So that we can cover other matters, we can just leave it there for a moment.

Q36 **Chair:** We are coming to the end of the Army, Air Force and Navy. We tend to go for high-octane, rather Gucci bits of kit. If you are an RAF pilot, what do you want more of in the RAF? Fast jets. If you are a captain in the Navy, what do you want more of? Frigates, destroyers and maybe aircraft carriers. If you are an Army officer, there would be a bit more variation. I am being really crude and rude to the three services, but whether you are a cavalry officer or an infanteer, you would choose different bits of kit that you would favour.

My question is this. Have we become too bespoke? Do we need to have a wider, more capable air force, for example, with A-10s rather than F-35s, to do more constabulary duty policing, or to have more corvettes? Maybe that is where the Type 31 might go. Given where the world is going and this concept of readiness, as we are now discussing, do we need more general capabilities, rather than having the very best, the state-of-the-art assets that we are proud to have but, like the F-35, we do not have very many of?

Professor Bronk: On the air side of things, going broader would make the problem worse. One of the issues, for example, with the Typhoon force is that it is having to essentially stay current across far too many mission sets, because it has taken on the role of the Tornado GR4 in terms of the strike, the CAS and all of that stuff, in addition to air superiority, air policing and all of that. That means, functionally, with the number of flying hours and available training hours in the sim that pilots have, and the operational commitments that must be done, that they cannot possibly be good at everything. Indeed, as a result, they are not particularly excellent at any mission.

That is in stark contrast to the situation in the early part of the 2010s, when Typhoon was somewhat mature but was only doing air superiority, where that fleet was specifically and very highly valued by the Americans, because it was superb at air superiority. Therefore the F-22 community at the pinnacle of USAF air dominance wanted the RAF Typhoon force alongside it in any high-intensity war, because it was superb at that

mission set and the jet was very well suited for it. That is no longer the case, because those pilots are now trying to be current across all sorts of mission sets and they just cannot be fantastic at air superiority on however many hours a month.

Equally, if you are going to constabulary, which is what we are buying Protector for, and you are going to do close air support or ISR in permissive airspace in low intensity, do it with Reaper or Protector. That is by far the most efficient, effective way of doing it. That is why the Protector force has been procured—so that we can not spend vast amounts of very expensive fast jet hours burning holes in the sky over sandy places. The sooner we stop doing that unnecessarily, the better for the force and for the Exchequer.

The biggest issue with high-intensity warfare now is that it is so lethal and so demanding that the generic force of gifted amateurs that can try and span everything, which is essentially what Britain has always tried to be very good at and in the past has been excellent at, does not really work any more. You need to be very good at one or two things.

Chair: I will halt you there. Let us now focus in more detail on the RAF. You make some interesting points about the drones, which maybe Robert will want to pick up as to how that is now advancing our capability.

Q37 **Robert Courts:** Professor Bronk, if we perhaps drill down into the details on those points around air force readiness that you mentioned, can I just pick up your last point there around training and around training readiness for high-intensity mission sets? Is that a lesson we are learning from Ukraine—that we are not as ready as we should be for such high-intensity mission sets?

Professor Bronk: It is not a lesson to anyone on the RAF front line. They already were very aware of it. What has changed is that suddenly the political side is actually looking at the realities of high-intensity deterrence and warfighting, and then asking the military, which in private is going, "Er". The pilots knew it. Interestingly, Mr Ellwood, to your point, if you ask RAF fast jet pilots what they want more of, the answer is not jets. The answer is engineers and spares, so that they can actually fly the jets they have.

Chair: I have never claimed to speak for the RAF pilot. I was just being provocative.

Robert Courts: I am going to come to that in a second.

Professor Bronk: One of the interesting points is why we are here. The Defence Secretary mentioned at one point having fewer pilots than F-35s, for example, in the force. The reason for that is not actually the pilot training pipeline, although there are problems there. It is that, because of the lack of engineers and spares on the squadrons, they cannot fly the jets enough to keep the pilots they have current and qualified. They cannot ingest more from the pipeline in order to train them up to be

squadron pilot level, because they do not have enough to keep their current people going. Therefore, everyone is backing up in the training pipeline.

This is the pinch point for the RAF. In addition to munitions, there are air-based vulnerabilities, which need to be addressed by hardening, dispersal or air defence. You must have one or two of those three.

Chair: It would be nice.

Professor Bronk: It would be nice. Essentially, it is engineering and spares. Every time we continue to overcommit the force each year, as we have been doing for a decade, more and more engineers leave because they just go, "I cannot do this 12 hours a day, six days a week any more".

Noticeably, that has got much worse since they started doing high-end operations for eastern European deterrence patrols from home base because, while maintainers will take a good deal of incredibly long, incredibly hard days when they are deployed in Cyprus, Amari or wherever, when they are asked to do it from home plate, it is not just that it is more often. It is that then, after those 12-hour shifts, instead of going and collapsing in their barrack or tent, they are going home and being shouted out by their significant other saying, "Why did you not pick the kids up today? You said you would do it today. This is the third time this week. I had to leave work to go and do this". It is just the level of stress that is breaking the force.

Q38 **Robert Courts:** It is a wider attrition and dropout rate.

Professor Bronk: The more people leave, the higher the burden becomes on those who remain. Really, it is engineers for the fast jet fleet.

Mr Francois: You are absolutely spot on.

Q39 **Robert Courts:** We probably all entirely agree with that. It is absolutely the centre of everything that we are concerned about and worried about.

Can I go back to the training point again? You have made that comment, which I was very struck by, about how the Typhoon force used to be very highly appreciated by the F-22 community, and less so now, because it sounds like you are saying we are seen as being a jack of all trades, master of none. That is a concern. We have a more mature weapons platform than the Typhoon now. Is this down to the fact that we just have too small numbers and you would want to have a squadron that operates one on air superiority and another on ground attack? Is it fundamentally that, as the Typhoon forces absorb the old Tornado GR set, or is it a training failure?

Professor Bronk: The RAF has not gone down the route that some air forces have of having units that are specialised in particular roles. For example, in Sweden everybody does air superiority, but one wing will specialise on close air support, one on anti-ship, one on electronic

warfare. The RAF has chosen not to do that, partly because we have a force that has a very large number of operational commitments on an extremely high tempo all the time. They have been at war for the better part of 20 years. Therefore, they cannot specialise individual squadrons on individual tasks at this level of intensity. That might be one model, but you would have to change the way the force is committed to ongoing operations in terms of scale.

Q40 **Robert Courts:** Is that a solution that would be advisable?

Professor Bronk: It would certainly help to reduce the number of training tasks that each individual squadron was expected to train people to. Of course, then you would have a less flexible force overall.

Dr Anglim: What Justin has just said about the RAF is very much echoed in the Army. The Army has plenty of small arms ammunition for small arms training, but stocks of heavy ammunition for armoured fighting vehicles training are a lot more restricted, as are the number of hours that are allowed to drive those vehicles per month. That has implications for both training and readiness. If you asked the Army for what it wanted, I suspect once again it would be more mechanics to keep these vehicles going, more ammunition to train with and possibly more access to training areas.

Q41 **Robert Courts:** Professor Bronk, can I just pick up some of the other points you have made? You mentioned dispersal. I am particularly concerned about that and about the main operating base concept, where we have a very small number of bases in which all our assets are. All of the tanker transport is at Brize Norton. The fighters are between Coningsby and Lossiemouth. Much of the ISR is at Lossie and a bit at Waddington. There is huge vulnerability there. Can you just address that and how that affects our readiness?

Professor Bronk: The superbase or main operating base concept and the consolidation do improve readiness in the sense of aircraft, because they have enabled the consolidation of the maintenance and supply chain, and the contractorisation models of having everything as close to the base as you can.

Peacetime efficiency is almost diametrically opposed to wartime resilience in almost any context. Those decisions to consolidate have been driven exclusively by a desire and, indeed, in most cases a mandate from the Government of each day to maintain a higher level of frontline assets than could reasonably be sustained by the funding available. Every time people ask for efficiency savings, while there has no doubt been fat to take out and an inefficient process, generally speaking—particularly in later and later stages where more efficiency is predicted and, therefore, required in the budget—you just end up cutting down into all these resilience measures.

You end up with a sustainment system that is very efficient in peacetime. Our cost of flying our Typhoon is much lower than for most European users, but it is vulnerable and there are limits to how far you could disperse that. Something like a Swedish or Finnish model, where you operate from all sorts of dispersed bases and highways, we probably cannot do. There are elements that we could certainly take usefully, like a more mature tolerance for risk and the way that we assess risk, for example allowing aircraft to be armed, rearmed and serviced at more locations without requiring months and months of process from the MAA.

Q42 **Robert Courts:** Can I just ask you to focus on that? I am sorry to interrupt, but it is right on the point I wanted to ask you about. I want to understand what this would mean if you were going to increase this wartime resilience—this wider dispersal. It is one thing if you are talking about cargo. You could see that being dispersed to civilian aircraft. It is quite something else when you are talking about armed aircraft. What would that mean if we are actually going to make a difference in dispersal for resilience measures?

Professor Bronk: The RAF is currently trying to look into an implementation of a version of the American agile combat employment model. Essentially, the American model in Europe involves your wing—so your three squadrons, let us say, from Lakenheath—at 24 hours' notice to disperse to a range of airports and airbases around Europe and then do realistic exercising or warfighting for 72 hours or so. That is possible for them because, even if their main base gets absolutely smashed in the meantime, there will be lots of additional supplies and things coming across from the continental United States on a fleet of gargantuan transport aircraft.

For us, that is a bit trickier because, yes, if we rejigged the entire sustainment and operating model, and stopped doing a lot of other things to create capacity to exercise, we could get towards the point where we could disperse a lot more, for example to previously used RAF bases that are now owned by the Army but maintain runways, such as Leuchars. We would still have very little back end for if Coningsby, Lossie or wherever got smashed in the meantime, because your aircraft might have got away but your sustainment chain would not have.

To be honest, the more I look at it, the more I suspect the actual answer may be to harden and have a small measure of air defence. If you look at what would annoy the Russians from their planning point of view, the limitation for the Russians is the launch platforms for their missiles. They risk losing their very scarce bombers and submarines if they launch. It is about trying to make it so that trade-off is not worth it for them any more.

At the moment, there is a lack of hardened aircraft shelters. We have demolished quite a few of them and let a lot of them get very decrepit from the Cold War because they were seen post-Gulf War as not relevant. That is only if an air force can hover tactical fighters above them and

drop JDAMs or Paveways. The Russians cannot do that. It is very expensive, scarce, long-range missiles that are not perfectly accurate.

In many cases, the most cost-effective way of remedying this might be to build a load of new hardened aircraft shelters so that, at least for the Russians, each missile that gets through is only killing one aeroplane rather than lots. You could harden and disperse some of your support arrangements. For example, if you have one battery of Sky Sabre dispersed across a couple of the bases, again, suddenly those Russian missile salvos are being cut in half or two-thirds. All of a sudden, that might not even be a particularly enticing target for the Russians any more. The problem, as ever, is that this is money that would have to come from somewhere.

Q43 **Robert Courts:** It does not help you with runways though, does it? If I am understanding your point correctly, you can harden the aircraft shelters. That is easier with some fleets than it is with others. You can provide some air defence. If they take out a runway, you are on the ground.

Professor Bronk: To be honest, the runway issue is less difficult, especially because the Russians are generally using unitary warheads. If you ask how long it takes the USAF units at Lakenheath and Mildenhall, which are happy to cover—they have excess capacity—you would be talking hours to get the runway fixed. The great benefit of an airbase as opposed to something like a carrier, which is much harder to find and hit, is that airbases do not sink when they are hit. You can actually repair and resurface them. For example, if you look at the Syrian airbase Shayrat, it was hit by 58 Tomahawks and they were generating sorties out of there within three hours.

Q44 **Robert Courts:** Is there a need to focus on fewer mission sets?

Professor Bronk: Yes.

Q45 **Robert Courts:** We need to be focusing on the high-end Russia-facing, rather than all the other things that we have been talking about over the last 20 years—the constabulary and all of that.

Professor Bronk: Yes, if the Government want to have capability there. There is one thing I would urge the Committee to ask on any high-end mission set that the Government or the MoD say is too expensive or too difficult. While we will fight as a European NATO alliance, if the Americans are occupied elsewhere and we, with the second largest budget, are not able to cover it, which allies are covering it, are good enough at it that we can credibly rely on them to do it and, politically, are likely to be able to do it in the crucial first few weeks?

For example, if Germany said it was covering long-range strike and destruction of enemy air defences, which it is not, I would have political reservations about planning on an assumption that it would politically be able to fulfil those mission sets in the crucial first few weeks of a war,

even if it had the military capability, just because of the realities of the German political system.

Q46 **Robert Courts:** You have mentioned that for the Germans. What about our capability, from a suppression and destruction of enemy air defence perspective?

Professor Bronk: The F-35 is purpose-designed for that mission, in that it can get close enough to very effectively employ weapons with a degree of stand-off, such as the GBU-53/B, which is a glide bomb, or our SPEAR 3, which again is designed specifically for this mission set. Normally there are not technological silver bullets for problems. In this particular case, if the main problem is destruction of enemy air defences, which I would suggest it is with Russia at least, we have the ideal aircraft in the F-35 and we have designed the ideal weapon to be used by it for that mission set in SPEAR 3.

The problem is that we have not bought nearly enough of either of them or resourced them at the level of engineering and spares to train properly; nor, interestingly, have we given them the mission prioritisation, because the F-35 force is triple or quadruple-hatted in terms of how many parts of UK defence are accounting on it for how many mission outputs in the case of a war. As the Chair said, there are not very many of them.

Q47 **Robert Courts:** It comes out of the overtasking again, does it not? Fewer people are being asked to do more and more. On the basis of people, one thing that you have said, and rightly so, is that peacetime efficiencies have been driven by the main operating base concept of concentrating force. I accept that. The other aspect that we have not talked about is people and training: the whole force concept. That is one thing, again, for efficiency in peacetime. Does that have any drawback for readiness and operational capability in a warfighting scenario?

Professor Bronk: It is probably reasonable to say that the RAF, much like the Army to a degree, although perhaps even more so, has not really figured out how to use the reserves sustainably and on a uniform basis, rather than specific reservists, who are often very well employed and a key part of the force, particularly full-time volunteer reservists. In terms of systemically using the reserves as part of the force, the RAF has not necessarily got its head around exactly how that should work.

Q48 **Robert Courts:** You are talking about the reserves. That is very important. Can I just ask you about a civilian contractor perspective? I am not talking about reservists but civilian contractors and their involvement.

Professor Bronk: Again, it comes down to how much you are willing to pay in those contracts to have guarantees that industrial contractors will take risk when you need them to. It is one thing that there is the efficiency side of it, although, for example, the TyTAN project for Typhoon sustainment has certainly shown that with changing incentive

structures you can drive more co-operative and successfully collaborative behaviours between industry and the services. For example with Covid, when lockdown started there was a certainly an initial experience on quite a few bases where the RAF showed up for work and almost none of the contractors did.

Q49 **Robert Courts:** What about readiness being generated in urgency, at pace—working hours and all those sorts of things?

Professor Bronk: On working hours, again it depends. How much risk have we taken to keep costs down in the way those contracts are drafted? Ultimately, you can have a contract that says you can surge your capacity at very short notice in wartime; you can deploy them to combat zones; you can make them work when there are cruise missiles or ballistic missiles coming in, but I guarantee you that will be a very expensive contract. Then industry is taking on that risk and that insurance risk for its employees in peacetime, so you will have to pay for that. I have not seen the contracts, but I imagine that there may not—certainly not across the board—be a lot of those provisions in place.

Q50 **Robert Courts:** I want to talk about training in a bit more detail in a second. Before we do that, of all the things we have discussed so far, such as suppression of enemy air defences, our main operating bases, whole force and civilian contractors, is there any one that is of most concern to you with regard to readiness, or is it another one we have not talked about?

Professor Bronk: NATO-wide, it is definitely suppression and destruction of enemy air defences, because it really is as simple as this: if we can roll back and destroy the Russian air defence system, we do not have a problem with Russian conventional forces in Europe. It really is that simple, and the answer is that, currently, European forces cannot do so. The Dutch and the Italians, for example, are looking to build DEAD capability within their F-35 forces, but particularly for the Dutch it is a relatively small force that will have to cover all of their mission sets, because it is the only one they have. The Italians have an enormous number of demands on their budget, the same as we do with a very similar force structure. Again, it is this question: if not us, do we think there is enough across the alliance?

For us, I would say it is suitable munitions for contested air space, for both Typhoon and F-35 at scale, so SPEAR 3 essentially. If you wanted a stop-gap quickly, you would buy something like small diameter bombs from the US, as everybody else is. It is also training. It is just that the force has been so active for so long that the warfighting skills just are not there. If you go and talk to the pilots, the constant, unerring theme is that we are, as they will put it, completely behind the drag curve on all the high-intensity mission sets. We are just not able to train to them. For example, one of the answers is the sim and it has to be part of the answer. Apart from anything else, a lot of the capabilities you cannot

train live in the real world, especially not over the North Sea, because of nice Russian fishing trawlers.

For example, one of the core RAF Typhoon defence of the UK mission sets is intercepting cruise missiles. Cruise missiles fly fairly low. The Russians tend to launch them at night—look at Ukraine—and they will launch them from Arctic grids. One could reasonably assume that a lot of that mission set would have to take place at night, potentially in very bad weather, at low level over the sea. There is no sim on earth that can simulate accurately the visual difficulties and danger of that task. You just have to be practised at it. How much of the Typhoon force has regularly been in practice or, in terms of a lot of the junior pilots, is even qualified to do that role? I do not know, but I would guess it is quite a small proportion.

Q51 **Robert Courts:** You are thinking exactly the same way as I am. That is exactly what I wanted to talk about in a bit more detail now, which is training. We have talked about the high-end mission ready sets, but I just want to talk about synthetic training as well. We all understand there are some benefits to this. There are things you can do in a sim that you cannot do in real life. You can link systems up together. We all get that. The Typhoon force is running at 60% or 70% on sims approximately.

Professor Bronk: It varies between the two bases.

Q52 **Robert Courts:** I think the ambition is to go up to about 80%. There is a report you wrote recently, but I just want to put this to you and ask you to explain it a bit more, if that is okay. You have said, "Every fighter pilot interviewed for this study thought that 80% was too high as a proportion of synthetic to live flying, and that the simulator should be used to enhance rather than replace the value of live flying training. Despite the benefits of conducting many complex training tasks primarily in the simulator, from an operational effectiveness point of view, the universal view was that if the planning priority were warfighting readiness, then the synthetic/live flying balance across European air forces would be different". Can you explain why that would be and what it would be?

Professor Bronk: Essentially, the reason we are going higher and higher on sim to live flying is simply and only cost. It is just cost. If it was a case of, "Here is a blank cheque, within reason; get the force to the state of warfighting readiness you deem necessary", you would probably sit somewhere around 50:50. That seems to be where the USAF goes to with a lot of its really high-readiness units.

If you will excuse the anecdotal side of it, I was lucky enough to do a tactical sortie in an F-18 last week. As someone who is not particularly used to it, the ability to work under sustained G is indescribably impressive. I certainly could not do it in terms of making complex tactical decisions in split second timeframes, while managing sensors, proximity to wingman, communications and everything else. The physical brutality of working under G, with very rapid altitude and, therefore, pressure, speed and acceleration changes, is something that you cannot

understand unless you have done it. If you are very rarely live flying, there are a whole host of mission sets where it is just not a credible way to keep up those skills in terms of the basic airmanship required for a lot of stuff.

When you talk to fighter pilots, it varies slightly depending on community and country, but if you ask where the concern for flight safety starts to set in, it tends to be about 70:30. A lot of that 70% that you would be doing in the sim is for tactical training of really high-end mission sets. It is not for basic airmanship, which is always a factor.

Q53 **Mr Francois:** Professor, we visited RAF Marham as a committee a few month ago. Its motto is "Deter". You could have fooled us. If I tell you they spent longer briefing us on plant-based food substitutes than the F-35, you might not believe me, but it is true. There is 3 billion quid's worth of aircraft sitting on the pad.

In terms of readiness to fight, during the Cold War we used to have a TACEVAL process—tactical evaluation—which was like a military Ofsted, as you know but for the benefit of anyone watching. These people would turn up. They would say, "We are an inspection team. War broke out 15 minutes ago. That hangar is on fire. That aircraft has been blown up". They would put the whole station and all the squadrons through a wartime scenario, sometimes lasting more than a week. When we asked at Marham, "Do you do that?" we were told, "Oh, we do not do that any more".

In terms of mindset as well as capability, it seems as if the RAF is not ready for a full-scale war. Is there merit in going back to some kind of TACEVAL process, which was a very well-honed rehearsal during the Cold War? We were ready to fight at a moment's notice. Should we not go back to something like that?

Professor Bronk: There would be huge benefit to going back to a rigorous TACEVAL process, the proviso being that the results you would get in years 1, 2, 3 and maybe even 4 would probably be rather sobering and embarrassing.

Mr Francois: Okay, but it is better to know the truth than to bluff, right?

Professor Bronk: That is right.

Q54 **Dave Doogan:** Professor Bronk, do we still use the terminology "aircraft on the ground" and "urgent operational requirement" for aircraft on the front line that are not available because of a spares shortage or a malfunction of some description?

Professor Bronk: I would have expected "long-term maintenance" or something like that.

Q55 **Dave Doogan:** Are you familiar with the percentage availability of front-line aircraft at Lossiemouth and Coningsby?

HOUSE OF COMMONS

Professor Bronk: Yes, but it is probably not something I can talk about specific numbers on.

Q56 **Dave Doogan:** That is fair enough. Could I just pedal back to something you said earlier on with regard to the pressure on the Typhoon fleet, which is to potentially interdict Russian cruise muscles being launched from a bombers in the Arctic? If they got past the Typhoons, hopefully there might be a 45 in the vicinity that might be able to take a shot at it. If they got past that, are you saying that we do not have any ground-based anti-air defences in the United Kingdom? I think many members of the public would be surprised by that.

Professor Bronk: The Army has purchased the Sky Sabre system. It has had some teething troubles. The system as a whole should have no issue being very capable against cruise missiles. The very comparable German IRIS-T SLM system worked very well. We have seen the fragmentation patterns on Kh-101s. It worked very well against Russian cruise missiles, including those with reduced radar cross-section features and low-flying capabilities.

In terms of technical capabilities against cruise missiles, the system we have bought for the Army should be fine. The problem is that we have an incredibly small number of them—I think two batteries at the minute, but I could be wrong on that. The Army requires that cover, not just against cruise missiles but also against rockets, UAVs and things, wherever it deploys forward. Having those systems defending main operating bases would mean the Army, in terms of what we currently have, would not be able to use those assets itself.

In terms of ballistic missile defence, we have the Aster 30 on the Type 45s, and I believe that is it. The Americans could be potentially expected to bring Patriot in quite quickly to defend Mildenhall and Lakenheath in a crisis, but ballistic missile defence tends to have very small cover footprint compared to the advertised range of a system. We do not have an equivalent capability ourselves, partly because it is incredibly expensive.

Q57 **Dave Doogan:** Dr Anglim, are you familiar with the Army's procurement of Sky Sabre?

Dr Anglim: No.

Chair: Can I just echo your comments on the F-18? I went up in the rear seat of a Typhoon and it is straightaway a different experience from being in the simulator, which many of us have absolutely done. You get thrown around; there is the pressure and so forth; you do not feel very well. After three hours of being briefed not to pull the ejector seat, I had a real urge to give it a tug, but I did not and we came back safely. The experience was so profoundly different from a simulator. We have lost sight of that as we seek to cut budgets further.

Let us turn all this into the here and now, the reality, and focus a little bit

on Ukraine.

Q58 **Derek Twigg:** I would just like to put a strategic question first. The question I want to ask is what you think are the key lessons that are significant for readiness from Ukraine. On a strategic level, can I just ask you this? We have had a lot of details today on tactics, weaponry, equipment, shortages and so forth. In terms of what has happened in Ukraine, should we now as the UK be preparing our Armed Forces to fight an article 5 war, where 16 months ago that was not on the agenda? Do you think it should be on the agenda now because of what has happened to Ukraine? Secondly, as a result of that, what sort of expenditure would we need to commit to get to that level?

Dr Anglim: The first and obvious lesson from Ukraine is that the days of mass tank battles on the European continent are emphatically not over—far from it. Massive forces and firepower still matter. All the information, management and cyber whizzbangs in the world are completely irrelevant if you cannot have your forces controlling the ground that you need to control. You are exerting physical control over the ground that you need to achieve or further your aims. Another lesson is that we need to have a very serious debate about the future of tactical air power.

Q59 **Derek Twigg:** Sorry, I do not mean to stop you. Let us start at the strategic level.

Dr Anglim: You can probably infer from what I have said already that, yes, we should be developing a NATO-capable army.

Q60 **Derek Twigg:** What we can contribute to NATO should be based on the possibility of an article 5 war.

Dr Anglim: As it always should be, yes.

Q61 **Derek Twigg:** But it has not been up until now.

Dr Anglim: I am not at all sure.

Derek Twigg: It has not, has it?

Dr Anglim: It has not really, no.

Q62 **Derek Twigg:** What would we need to spend, in your view, to get to that level?

Dr Anglim: I am not going to be plucking any figures out.

Q63 **Derek Twigg:** Are we spending enough now?

Dr Anglim: No, and I am not plucking any figures out of the air.

Q64 **Derek Twigg:** What the Government have committed is not enough.

Dr Anglim: It is not enough, no.

Q65 **Derek Twigg:** Professor Bronk, I will come back to the specific issues in a second, but I want the strategic question answered, if you do not mind.

Professor Bronk: Yes, we absolutely do need to be planning on it, but we also need to be clear on the timeframe. The window of vulnerability is probably late 2026 to about the end of 2028. That is first and foremost because that is the maximum window of vulnerability for a Chinese-American clash in the Pacific.

Q66 **Derek Twigg:** This depends on what China has said in terms of Taiwan and what it may or may not do.

Professor Bronk: The Pentagon assesses, broadly speaking, that China will be ready or will think it is ready for invading Taiwan, or any other clash within the first island chain, in about 2027. A lot of the capabilities development that they are doing to answer some of the higher-end Chinese capabilities will not be ready until the end of the decade. Therefore there is that window of vulnerability. We must plan on the danger that, if the Americans are more than occupied, they will not just be unable to reinforce Europe; they will be pulling things out, as Nick said, in all domains, because the threat is really huge in the Indo-Pacific.

I would ask people in the country as well: how secure would you feel against Russia in Europe, given it will continue to mobilise long after Ukraine fighting stops, if the United States is not coming to save us?

Q67 **Derek Twigg:** That is exactly what I am getting at. In terms of expenditure, what is your view?

Professor Bronk: It depends if you want to keep doing things as we are doing all over the world. If you want to keep doing what we are currently doing and get ready for warfighting in three to five years' time, it is probably closer to 3% of GDP as a ballpark figure. If you were to say, "This is now all hands on deck. We need to get the force we currently have as ready as we can, but we are prepared to pull the plug on all sorts of things and go right down to just getting ready for the big fight, as it were, and buying weapons stocks," you could probably do it with a relatively modest uplift, but you would have to cut so much in terms of what people are used to seeing as the standard pattern of activity to do it.

Q68 **Derek Twigg:** Nick Childs, again on the strategic question, I am sure you have some specific issues you want to bring as well.

Nick Childs: Yes, absolutely, that has to be the bottom line and the challenge.

Q69 **Derek Twigg:** We are all agreed it has to be towards article 5.

Nick Childs: Ukraine has shifted the goalposts on what that actually means, which, particularly if you want to keep a balance in terms of defence capability, implies there needs to be—and there has not yet been to the fullest extent—a paradigm shift in what you are prepared to invest, both in the urgent requirements and in the strategic capabilities that you

need to deploy, including some of those where Europe has a deficit that the US is currently filling.

Q70 **Derek Twigg:** On the expenditure, do you agree with 3%?

Nick Childs: That should perhaps be the new minimum benchmark, at least.

Q71 **Derek Twigg:** Dr Anglim, I will come back to you. We have had two of the points you have made about tank fighting, air defence and so forth. Do you want to say a bit more about that and then we will go on?

Dr Anglim: As I mentioned in the paper that was circulated to the Committee before this meeting, we could be reaching a point where the Army needs to decide what it is going to do, whether it is going to be this global Britain expeditionary force that they talk about a lot in their own literature or whether it is going to be a force that is aimed at contributing to NATO and actually preparing to fight those major battles in Europe, as General Sanders has identified. The choice is going to have to be made, given the size of the Army and the constraints that are on budgets.

In terms of that 3%, that is 3% of what? The single most telling line in the whole integrated review, both the old version and the new one, is the 2.5% depending on economic circumstances. Right now, we have a situation where 0.1% growth is treated like a mini triumph, we have the highest rates of inflation since I was at school and we have a cost of living crisis. That is the context in which the Committee is having to work right now. That, at the moment, is the context in which the Armed Forces are going to have to operate, for want of a better term.

Chair: It is really interesting hearing leaders say 2.5% subject to economic circumstances, when it is often the war and the insecurity that is leading to inflation, as we are seeing in Ukraine. Therefore, the economic circumstances are not going well. Are we going to wait for Ukraine to die down and then spend more on our defences? That is the cart before the horse.

If I can draw this to a conclusion, thank you so much indeed to Dr Simon Anglim, Professor Justin Bronk and Nick Childs. It really has been an informative session. As we lead up to the NATO summit in Vilnius, I do understand that there is going to be a huge push to move to an aspirational 2.5%, given the increasing dangers that we face in Europe. There seems to be clearly an ambition from Britain to step forward and do the right thing. When we looked at the aspects of readiness, one that perhaps we missed is political appetite. It is the desire from the very top to say, "Yes, we are going to craft our defence posture to match the threats that are coming over the horizon, to make sure that we have invested so our Army, Air Force and Navy are able to fight tonight".

Gentlemen, thank you very much indeed for your time today. It has been very useful indeed. Thank you to my Committee members and, indeed, to the staff. That concludes this session today.